MONTGOMERY COLLEGE - CATHERINE AND ISIAH LEGGETT MATH AND SCIENCE BUILDING TAKOMA PARK / SILVER SPRING

7600 TAKOMA AVENUE
TAKOMA PARK, MD 20912

WSSC GRID 209NW01
TAX MAP JN32
PARCEL 3

City of Takoma Park

DEPARTMENT OF PUBLIC WORKS
Telephone: 301-891-7633
FAX: 301-585-2405

31 Oswego Avenue
Silver Spring, MD 20910

May 14, 2019

Mr. Mike Wychulis, PE
Morton Thomas & Associates
800 King Farm Blvd. 6th Floor
Rockville, MD 20850

RE: 7600 Takoma Avenue
Montgomery County Community College Building Addition
Stormwater Management Concept Plan SWC 19-12-18

Dear Mr. Wychulis:

The referenced Concept Approval application and response package submitted on April 3, 2019 were found generally acceptable. However, the following issues must be addressed prior to issuing the permit.

1. An approved Tree Protection Plan must be submitted with the SWM Permit Application Package.
2. The SWM #2, #3, and #4 cross sections (C-23 & C-25) indicate infiltrating micro-bioretentions adjacent to the proposed building. The MDE Manual requires that micro-bioretention practices should be locate down gradient and setback at least ten (10) feet from structures. Micro-bioretention variants (e.g., planter boxes) that must be located adjacent to structures should include an impermeable liner. Please modify to include liner or other provisions to adjust.
3. Construction Inspection Check-off lists for SWM facilities and a maintenance schedule developed for the life of the facility should be included in the plans. Please use the attached check-off list for projects in the City of Takoma Park.

Please refer to Takoma Code Title 16 for a complete description of Stormwater Management Plan Permit requirements. These include documents listed below:

1. An executed SWM Permit application
2. Three (3) copies of the final SWM plans
3. Declaration of Covenants Inspection/Maintenance of Stormwater Management System
4. Construction cost estimate of SWM facilities (optional)
5. An approved Sediment and Erosion Control plan set from MoCo DPS.
6. A letter designating the inspection during construction and as-built certification entity for the project.

Upon completion of the project, an as-built plan of the SWM facilities and certification by a professional engineer must be submitted to the City. I appreciate the opportunity to be of service. Should you require additional assistance, please call the undersigned at 301-891-7620.

Sincerely yours,

Ali Khalidun, PE
City Engineer

Enclosure: Declaration of Covenant form

cc: File
Daryl Braithwaite
Jan van Zhstphen

TREE CANOPY REQUIREMENTS TABLE

To be completed by the consultant and placed on the first sheet of the Sediment Control/Stormwater Management plan set for all projects

Exempt: Yes ☑ No ☐ If exempt under Section 55-5 of the Code, please check the applicable exemption category below.

Total Property Area	Total Disturbed Area
336,324 square feet	140,296 square feet
Shade Trees Required	**Shade Trees Proposed to be Planted**
53	X
Fee in Lieu (Trees Required - Trees Planted) x $250	$ X

Required Number of Shade Trees

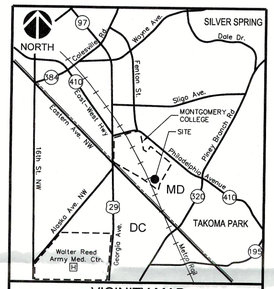
Area (sq.ft.) of the Limits of Disturbance FROM	TO	Number of Shade Trees Required
1	6,000	3
6,001	8,000	6
8,001	12,000	9
12,001	14,000	12
14,001	40,000	15

If the square footage of the limits of disturbance is more than 40,000, then the number of shade trees required must be calculated using the following formula:

(Number of Square Feet in Limits of Disturbance ÷ 40,000) x 15

EXEMPTION CATEGORIES:

o 55-5(a) any activity that is subject to Article II of Chapter 22A;
o 55-5(b) any commercial logging or timber harvesting operation with an approved exemption from Article II of Chapter 22A;
o 55-5(f) any activity conducted by the County Parks Department;
o 55-5(g) routine or emergency maintenance of an existing stormwater management facility, including an existing access road, if the person performing the maintenance has obtained all required permits;
o 55-5(h) any stream restoration project if the person performing the work has obtained all necessary permits;
o 55-5(i) cutting or clearing any tree to comply with applicable provisions of any federal, state, or local law governing safety of dams;
☑ OTHER: Projects with the limits of the City of Takoma Park are exempt from Montgomery County Tree Canopy Regulations.



VICINITY MAP
SCALE 1"=2000'
MONT CO. MAP PAGE 5408 GRID G-3

RELATED REQUIRED PERMITS

To be completed by the consultant and placed on the first sheet of the Sediment Control/Stormwater Management plan set for all projects.

IT IS THE RESPONSIBILITY OF PERMITTEE/OWNER OF THIS SITE TO OBTAIN ALL REQUIRED PERMITS PRIOR TO ISSUANCE OF THE APPROVED SEDIMENT CONTROL PERMIT

TYPE OF PERMIT	REQ'D	NOT REQ'D	PERMIT #	EXPIRATION DATE	WORK RESTRICTION DATES
MCDPS Floodplain District		✓			
WATERWAYS/WETLAND(S):		✓			
a. Corps of Engineers		✓			
b. MDE		✓			
c. MDE Water Quality Certification		✓			
MDE Dam Safety		✓			
*DPS Roadside Trees Protection Plan		✓		Approval Date	
N.P.D.E.S NOTICE OF INTENT	✓				DATE FILED: 11/21/19
FEMA LOMR (Required Post Construction)		✓			
OTHERS (Please List):					
WSSC SITE UTILITY	✓		SU-2201-2020		
City of Takoma Park Stormwater Management	✓				
City of Takoma Park Work in Public Right-of-Way	✓				
City of Takoma Park Tree Removal Permit	✓				
City of Takoma Park Tree Protection Plan	✓				

PROPERTY ADDRESS

MONTGOMERY COLLEGE
7600 TAKOMA AVE.
TAKOMA PARK, MD 20912

PROPERTY OWNER/APPLICANT

MONTGOMERY COLLEGE
9221 CORPORATE BLVD.
ROCKVILLE, MD 20850
ATTN: MARVIN D. MILLS, JR.
PH: (240) 567-7357
FAX: (240) 567-7379

CERTIFICATION OF THE QUANTITIES

"I HEREBY CERTIFY THAT THE ESTIMATED TOTAL AMOUNT OF EXCAVATION AND FILL AS SHOWN ON THESE PLANS HAS BEEN COMPUTED TO 6,500 CUBIC YARDS OF EXCAVATION, 500 CUBIC YARDS OF FILL AND THE TOTAL AREA TO BE DISTURBED AS SHOWN ON THESE PLANS HAS BEEN DETERMINED TO BE 140,296 SQUARE FEET."

DESIGN ENGINEER SIGNATURE — DATE 11/22/19
MICHAEL WYCHULIS, P.E. — PRINTED NAME
32561 — MD REGISTRATION NO.

NOTE: THE ABOVE SITE INFORMATION HAS BEEN PROVIDED SOLELY FOR USE BY MC-DPS IN REVIEWING SEDIMENT CONTROL AND IS NOT TO BE RELIED UPON BY ANY CONTRACTOR IN PREPARING BIDS. THE CONTRACTOR SHALL MAKE ITS OWN DETERMINATION OF QUANTITIES, VOLUMES AND/OR AREAS USED IN ESTABLISHING ITS BIDS.

DESIGN CERTIFICATION

"I HEREBY CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE "2011 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL", MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES EXECUTIVE REGULATIONS 5-90, 7-02AM, 36-90, AND MONTGOMERY COUNTY DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION "STORM DRAIN DESIGN CRITERIA DATED NOVEMBER, 2013."

DESIGN ENGINEER SIGNATURE — DATE 11/22/19
MICHAEL WYCHULIS, P.E. — PRINTED NAME
32561 — MD REGISTRATION NO.

OWNER'S/DEVELOPER'S CERTIFICATION

"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 DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING PROJECT."

SIGNATURE — DATE 11-25-19
TERRENCE EVELYN, INTERIM CAMPUS FACILITIES DIRECTOR — PRINTED NAME AND TITLE

APPLICATION NO.:
STORMWATER MANAGEMENT
Takoma Park, MD
[ ] Permit [ ] Waiver
[ ] Exemption [ ] Variance
[ ] Approved [ ] Not Approved
[ ] Approved as Noted [ ] Revise & Resubmit
Approval in consistent with any provision of Takoma Park Municipal Code Title 16 most current Ordinance which is not specifically noted and identified as an authorized deviation from the Ordinance does not relieve the applicant of responsibility for compliance with all provisions of the Ordinance.
City Engineer — Date 9/14/2020

DWG #	CIVIL/SITE DRAWING LIST DESCRIPTION	MCDPS SC	TPPW SWM
C-00	CIVIL/SITE COVER SHEET	1 OF 7	1 OF 7
C-01	GMP 2 CIVIL/SITE COVER SHEET		
C-02	EXISTING CONDITIONS PLAN		
C-03	SITE CLEARING AND DEMOLITION PLAN		
C-04	EROSION AND SEDIMENT CONTROL PLAN – INITIAL PHASE	2 OF 7	
C-05	EROSION AND SEDIMENT CONTROL PLAN – INTERIM PHASE	3 OF 7	
C-06	EROSION AND SEDIMENT CONTROL DETAILS	5 OF 7	
C-07	EROSION AND SEDIMENT CONTROL NOTES	6 OF 7	
C-08	EROSION AND SEDIMENT CONTROL NOTES	7 OF 7	
C-09	ROUGH GRADING AND DRAINAGE PLAN		
C-10	STORM DRAIN PROFILES		
C-11	STORM DRAIN PROFILES		
C-12	SITE UTILITY PLAN		
C-13	SITE UTILITY PROFILES		
C-14	WSSC SITE UTILITY PLAN		
C-15	WSSC SITE UTILITY PLAN		
C-16	WSSC SITE UTILITY PROFILES		
C-17	TEMPORARY TRAFFIC CONTROL PLAN PHASE 1		
C-18	TEMPORARY TRAFFIC CONTROL PLAN PHASE 2		
C-19	TEMPORARY TRAFFIC CONTROL PLAN PHASE 3		
C-20	TEMPORARY TRAFFIC CONTROL NOTES		
F-01	FOREST CONSERVATION EXEMPTION – TREE PROTECTION PLAN		
F-02	FOREST CONSERVATION EXEMPTION – TREE PROTECTION PLAN		
C-21	GMP 3-4 CIVIL/SITE COVER SHEET		
C-22	EXISTING CONDITIONS PLAN		
C-23	EROSION AND SEDIMENT CONTROL PLAN – FINAL PHASE	4 OF 7	
C-24	GRADING AND DRAINAGE PLAN		
C-25	STORM DRAIN PROFILES		
C-26	DETAILED GRADING PLAN		
C-27	DETAILED GRADING PLAN		
C-28	SITE IMPROVEMENT PLAN		
C-29	DETAILED SITE IMPROVEMENT PLAN		
C-30	DETAILED SITE IMPROVEMENT PLAN		
C-31	DETAILED RIGHT OF WAY IMPROVEMENT PLAN		
C-32	DETAILED RIGHT OF WAY IMPROVEMENT PLAN		
C-33	SITE IMPROVEMENT DETAILS		
C-34	TEMPORARY TRAFFIC CONTROL PLAN PHASE 4		
C-35	TEMPORARY TRAFFIC CONTROL PLAN PHASE 5		
C-36	STORMWATER MANAGEMENT PLAN		2 OF 7
C-37	STORMWATER MANAGEMENT ENLARGEMENT		3 OF 7
C-38	STORMWATER MANAGEMENT ENLARGEMENT		4 OF 7
C-39	STORMWATER MANAGEMENT ENLARGEMENT		5 OF 7
C-40	STORMWATER MANAGEMENT ENLARGEMENT		6 OF 7
C-41	STORMWATER MANAGEMENT SPECIFICATIONS, NOTES AND DETAILS		7 OF 7

TPPW SWM SHEET 1 OF 7
MCDPS SC SHEET 1 OF 7

TECHNICAL REVIEW OF SEDIMENT CONTROL	ADMINISTRATIVE REVIEW
Reviewed Date	Reviewed Date
TECHNICAL REVIEW OF STORMWATER MANAGEMENT	**SMALL LOT DRAINAGE APPROVAL**
	N/A: ☐ OR
Reviewed Date	Reviewed Date

MCDPS APPROVAL OF THIS PLAN WILL EXPIRE TWO YEARS FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED.

NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.

DPS approval of a sediment control or stromwater management plan is for demonstrated compliance with minimum environmental runnoff treatment standards and does not create or imply any right to divert or concentrate runoff onto any adjacent property without that property owner's permission. It does not relieve the design engineer or other responsible person of professional liability or ethical responsibility for the adequacy of the drainage design as it affects uphill or downhill properties.

285464
SEDIMENT CONTROL PERMIT NO.

SM. FILE NO.
STORMWATER MANAGEMENT:
-

Seal:

811 Know what's below. Call before you dig.

MISS UTILITY
48 HOURS BEFORE YOU DIG
CALL "MISS UTILITY" AT 811
OR LOG ON TO www.missutility.net

X:\ROCKVILLE\17-0948.001 - MONTGOMERY COLLEGE MATH AN\05-CAD\C00-GI-1-170948001.DWG, 9/4/2020 11:06 AM, MWYCHULIS
Plot Date: 6/25/2019 10:42:09 AM Author

Catherine and Isiah Leggett Math and Science Building

Montgomery College
Takoma Park / Silver Spring Campus
7600 Takoma Avenue
Takoma Park, MD 20912

Montgomery College Project #: FP16-077
Montgomery College Building #319
MHEC Project # CC-01-MC16-458

USING AGENCY APPROVAL

NAME DATE

TITLE

DGS APPROVAL

PROJECT MANAGER DATE

CHIEF OF PM&D DATE

SMITHGROUP

1700 NEW YORK AVENUE NW
SUITE 100
WASHINGTON, DC 20006
202.842.2100
www.smithgroup.com

AMT Engineering
CIVIL ENGINEERS
800 King Farm Boulevard, 4th Floor
Rockville, MD 20850
301-881-2545

Cagley & Associates
STRUCTURAL ENGINEERS
6141 Executive Boulevard
Rockville, MD 20852
301-881-9050

Mahan Rykiel
LANDSCAPE ARCHITECTS
3300 Clipper Mill Road, Suite 200
Baltimore, MD 21211
410-235-6001

Spexsys
AV, IT, SECURITY
7257 Parkway Drive, Suite 260
Hanover, MD 21076
410-712-0390

DWG FILE:
DRAWN BY:
CHECKED BY:

ISSUED FOR	REV	DATE
TAKOMA PARK SWM PERMIT		09 SEPT 2020
GMP2 BID - ADDENDUM 3		27 MAY 2020
GMP2 BID - ADDENDUM 1		06 DEC 2019
GMP2 BID		28 OCT 2019
DESIGN DEVELOPMENT		27 SEP 2019
SCHEMATIC DESIGN SUBMISSION		23 JAN 2019

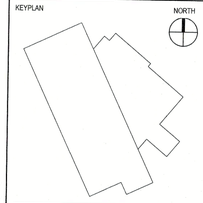
SEALS AND SIGNATURES

9-2-20
STATE OF MARYLAND — MICHAEL CHARLES WYCHULIS — 32561 — PROFESSIONAL ENGINEER

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.

MICHAEL C. WYCHULIS, P.E.
LICENSE NO. 32561 EXPIRATION DATE: 01/06/22

KEYPLAN



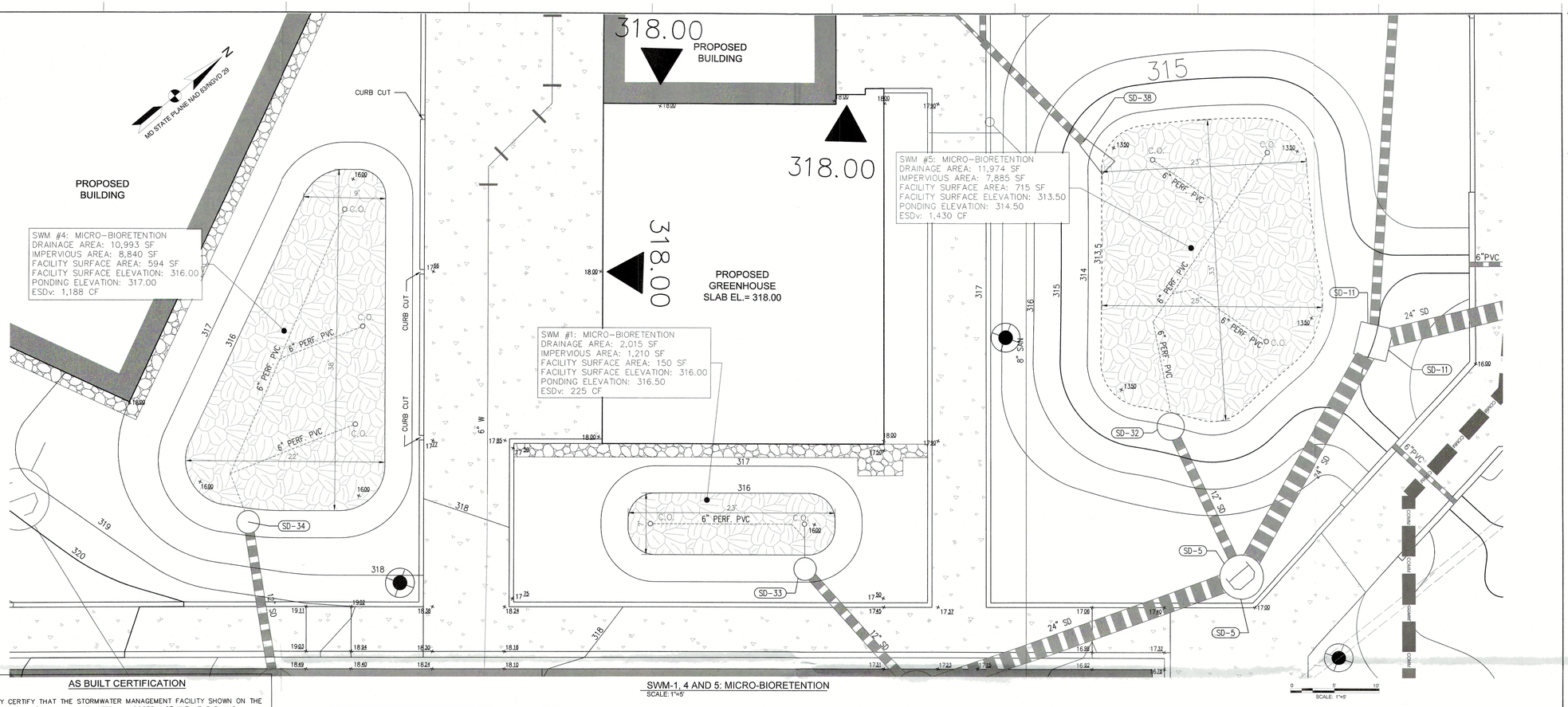
SHEET TITLE

CIVIL/SITE COVER SHEET

PROJECT NUMBER

SHEET NUMBER

C-00



SWM-1, 4 AND 5: MICRO-BIORETENTION
SCALE: 1"=5'

AS BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE STORMWATER MANAGEMENT FACILITY SHOWN ON THE PLANS HAS (HAVE) BEEN CONSTRUCTED IN ACCORDANCE WITH THE PLANS APPROVED BY THE CITY OF ROCKVILLE, EXCEPT AS NOTED IN RED ON THE "AS BUILT" DRAWINGS.

NAME _____ SIGNATURE _____

MARYLAND REGISTRATION NUMBER _____ DATE _____

CITY OF ROCKVILLE REVIEW NO. _____ FACILITY IDENTIFICATION (NUMBER AND/OR TYPE) _____

"CERTIFY" MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED ON SUFFICIENT AND APPROPRIATE ONSITE INSPECTIONS AND MATERIAL TESTS CONDUCTED DURING CONSTRUCTION.

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. _____, EXPIRATION DATE

AS-BUILT CERTIFICATION REQUIREMENTS:

- THE CONTRACTOR SHALL PREPARE AND MAINTAIN A SET OF "RED LINED" AS-BUILT PLANS FOR ALL MATERIALS, DIMENSIONS, LENGTHS, DEPTHS AND ELEVATIONS RELATING TO THE CONSTRUCTION OF THE STORMWATER MANAGEMENT FACILITIES AS SPECIFIED ON THE CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL ALSO COORDINATE AND ARRANGE FOR ALL REQUIRED INSPECTIONS THROUGHOUT THE CONSTRUCTION OF THE STORMWATER MANAGEMENT FACILITIES.
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD A MINIMUM OF 1 WEEK IN ADVANCE OF THE PROPOSED CONSTRUCTION.
- THE CONTRACTOR SHALL ENSURE THAT THE STORMWATER MANAGEMENT FACILITIES ARE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL PROVIDE THE ENGINEER OF RECORD WITH THE "RED LINED" AS-BUILT PLANS FOR REVIEW AND ACCEPTANCE PRIOR TO FINAL STABILIZATION.

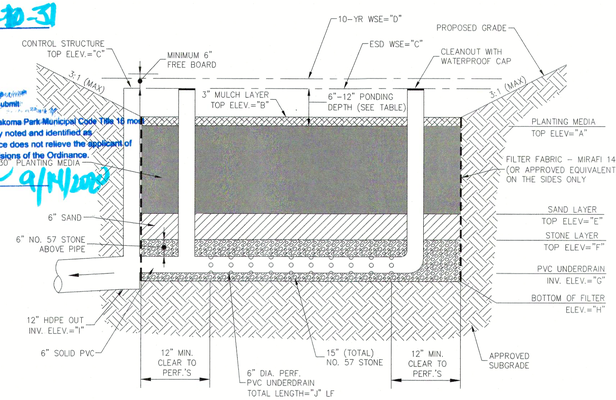
APPLICATION NO. SWP20-10-31
STORMWATER MANAGEMENT
Takoma Park, MD

[ ] Permit [ ] Waiver
[ ] Exemption [ ] Variance

[ ] Approved [ ] Not Approved
[ ] Approved as Noted [ ] Revise & Resubmit

Approval inconsistent with any provision of Takoma Park Municipal Code Title 19 and current Ordinance which is not specifically noted and identified as an authorized deviation from the Ordinance does not relieve the applicant of responsibility for compliance with all provisions of the Ordinance.

City Engineer Date 9/14/2020



1 MICRO-BIORETENTION - TYPICAL SECTION
NOT TO SCALE

MICRO-BIORETENTION DESIGN TABLE			
ELEV.	SWM #1	SWM #4	SWM #5
A	316.00	316.00	313.50
B	316.25	316.25	313.75
C	316.50	317.00	314.50
D	316.55	317.15	314.67
E	313.50	313.50	311.00
F	313.00	313.00	310.50
G	312.00	312.00	309.50
H	311.75	311.75	309.25
I	311.25	310.75	308.75
J	18'	42'	53'
SURFACE AREA	150 SF	594 SF	715 SF
FILTER MEDIA DEPTH	2.5'	2.5'	2.5'
PONDING DEPTH	0.5'	1.0'	1.0'

ELEV. A = TOP OF PLANTING MEDIA
ELEV. B = TOP OF MULCH LAYER
ELEV. C = PONDING DEPTH/ESD WATER SURFACE ELEVATION
ELEV. D = 10-YR WATER SURFACE ELEVATION
ELEV. E = TOP OF SAND LAYER
ELEV. F = TOP OF STONE LAYER
ELEV. G = BOTTOM OF UNDERDRAIN
ELEV. H = BOTTOM OF FILTER
ELEV. I = OUTLET PIPE ELEVATION
J = TOTAL LENGTH OF UNDERDRAIN

AS-BUILT DATA FOR STORMWATER MANAGEMENT FACILITIES TO BE COMPLETED BY THE CERTIFYING DESIGN ENGINEER

TYPE OF FACILITY: MICRO-BIORETENTION	SWM #1		SWM #4		SWM #5	
	DESIGN	*AS-BUILT	DESIGN	*AS-BUILT	DESIGN	*AS-BUILT
FILTER BED AREA (LxW)/ SURFACE AREA (SF)	23'x7' / 150 SF		38'x22'x9' / 594 SF		33'x25' / 715 SF	
PLANTING MEDIA TOP ELEVATION	316.00		316.00		313.50	
OUTLET PIPE SIZE / ELEVATION	12" HDPE / 311.25		12" HDPE / 310.75		12" HDPE / 308.75	
UNDERDRAIN PIPE SIZE / ELEVATION	6" PVC / 312.00		6" PVC / 312.00		6" PVC / 309.50	
MICRO-BIORETENTION VOLUME	638 CF		2,525 CF		3,039 CF	
MULCH THICKNESS	3"		3"		3"	
PLANTING MEDIA THICKNESS	30"		30"		30"	
SAND THICKNESS	6"		6"		6"	
UNDERDRAIN GRAVEL THICKNESS	15"		15"		15"	
OVERFLOW INLET DIAMETER/TOP ELEVATION	24"/ 316.50		24" / 317.00		24" / 314.50	
UNDERDRAIN LENGTH	18'±		42'±		56'±	
DATE AS-BUILT ACCEPTED BY DPW:						

CONSTRUCTION INSPECTION
CHECK-OFF LIST FOR BIOFILTRATION FACILITY (BF)

STAGE	DESIGN ENGINEER (DE)			GEOTECHNICAL ENGINEER (GEO)			City Designated INSPECTOR			MNCP&PC & OTHER		
* MANDATORY NOTIFICATION: Inspection and approval by the party indicated is required at these points prior to proceeding with construction. The permittee is required to give the required inspection parties twenty-four (24) hours notice. The Designated Inspector (DI) may waive an inspection, provided the design engineer (DE) and/or geotechnical engineer (GEO) make the required inspection per a prior scheduled arrangement which has been confirmed with the Designated Inspector. Work completed without the necessary party's approval may result in the permittee having to remove and reconstruct the unapproved work. The permittee must maintain a "record set" of approved SCSM plans on-site.	INITIALS/DATE			INITIALS/DATE			INITIALS/DATE			INITIALS/DATE		
	SWM #1	SWM #4	SWM #5	SWM #1	SWM #4	SWM #5	SWM #1	SWM #4	SWM #5	SWM #1	SWM #4	SWM #5
1. Pre-construction meeting & field review of tree save flagging (DE) and (M-NCP&PC)	*	*	*	*	*	*	*	*	*	*	*	*
2. Sediment control installation							*	*	*			
3. Grade and stabilize drainage area to biofiltration facility				*	*	*	*	*	*			
4. Excavate biofiltration facility (DE) or (GEO)	*	*	*	*	*	*	*	*	*			
5. Install sand, gravel, observation wells, and any other required pipe (DE) or (GEO).	*	*	*	*	*	*	*	*	*			
6. Install planting soil and mulch layer (DE) or (GEO)	*	*	*	*	*	*	*	*	*			
7. Install perimeter stabilization and placement of final cover. Place silt fence around bioretention facility.	*	*	*	*	*	*	*	*	*			
8. Install permanent landscaping/vegetative stabilization (DE) or (GEO)	*	*	*	*	*	*						
9. Submit record drawing and documentation to CTP – City Engineer including a completed check-off list and all delivery tickets (DE).	*	*	*									
10. Unclock any storm drain draining to facility with DPS inspector's written approval. Install any necessary trash racks on flow splitter structures.							*	*	*			
11. Other items	*	*	*	*	*	*	*	*	*			
12. Final inspection (DE) and (GEO)	*	*	*	*	*	*	*	*	*			

NOTES:
1. Permittee to supply Design Engineer with delivery tickets for all materials used in bioretention facility construction.
2. See construction specifications on this plan for detailed requirements.
3. A copy of this completed checklist must be submitted as part of the stormwater management as-built package.

Designated Inspector Telephone: MNCPPC Inspection Telephone: (301)495-4571

BIOFILT.table 05/13
Modified from DPS

MISS UTILITY
48 HOURS BEFORE YOU DIG
CALL "MISS UTILITY" AT 811
OR LOG ON TO www.missutility.net
Know what's below. Call before you dig.

TPPW SWM SHEET 3 OF 7

Catherine and Isiah Leggett Math and Science Building

Montgomery College
Takoma Park / Silver Spring Campus
7600 Takoma Avenue
Takoma Park, MD 20912

Montgomery College Project #: FP16-077
Montgomery College Building #319
MHEC Project # CC-01-MC16-458

USING AGENCY APPROVAL

NAME DATE

TITLE

DGS APPROVAL

PROJECT MANAGER DATE

CHIEF OF PM&D DATE

SMITHGROUP
1700 NEW YORK AVENUE NW
SUITE 100
WASHINGTON, DC 20006
202.842.2100
www.smithgroup.com

AMT Engineering
CIVIL ENGINEERS
800 King Farm Boulevard, 4th Floor
Rockville, MD 20850
301-881-2545

Cagley & Associates
STRUCTURAL ENGINEERS
6141 Executive Boulevard
Rockville, MD 20852
301-881-9050

Mahan Rykiel
LANDSCAPE ARCHITECTS
3300 Clipper Mill Road, Suite 200
Baltimore, MD 21211
410-235-6001

Spexsys
AV, IT, SECURITY
7251 Parkway Drive, Suite 260
Hanover, MD 21076
410-712-0390

DWG FILE:
DRAWN BY:
CHECKED BY:

ISSUED FOR	REV	DATE
TAKOMA PARK SWM PERMIT		09 SEPT 2020
GMP2 BID - ADDENDUM 3		27 MAY 2020
GMP2 BID - ADDENDUM 1		06 DEC 2019
GMP2 BID		28 OCT 2019
DESIGN DEVELOPMENT		27 SEP 2019
SCHEMATIC DESIGN SUBMISSION		23 JAN 2019

SEALS AND SIGNATURES

STATE OF MARYLAND MICHAEL C. WYCHULIS 32561 PROFESSIONAL ENGINEER 9-4-20

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.

MICHAEL C. WYCHULIS, P.E.
LICENSE NO. 32561 EXPIRATION DATE: 01/06/22

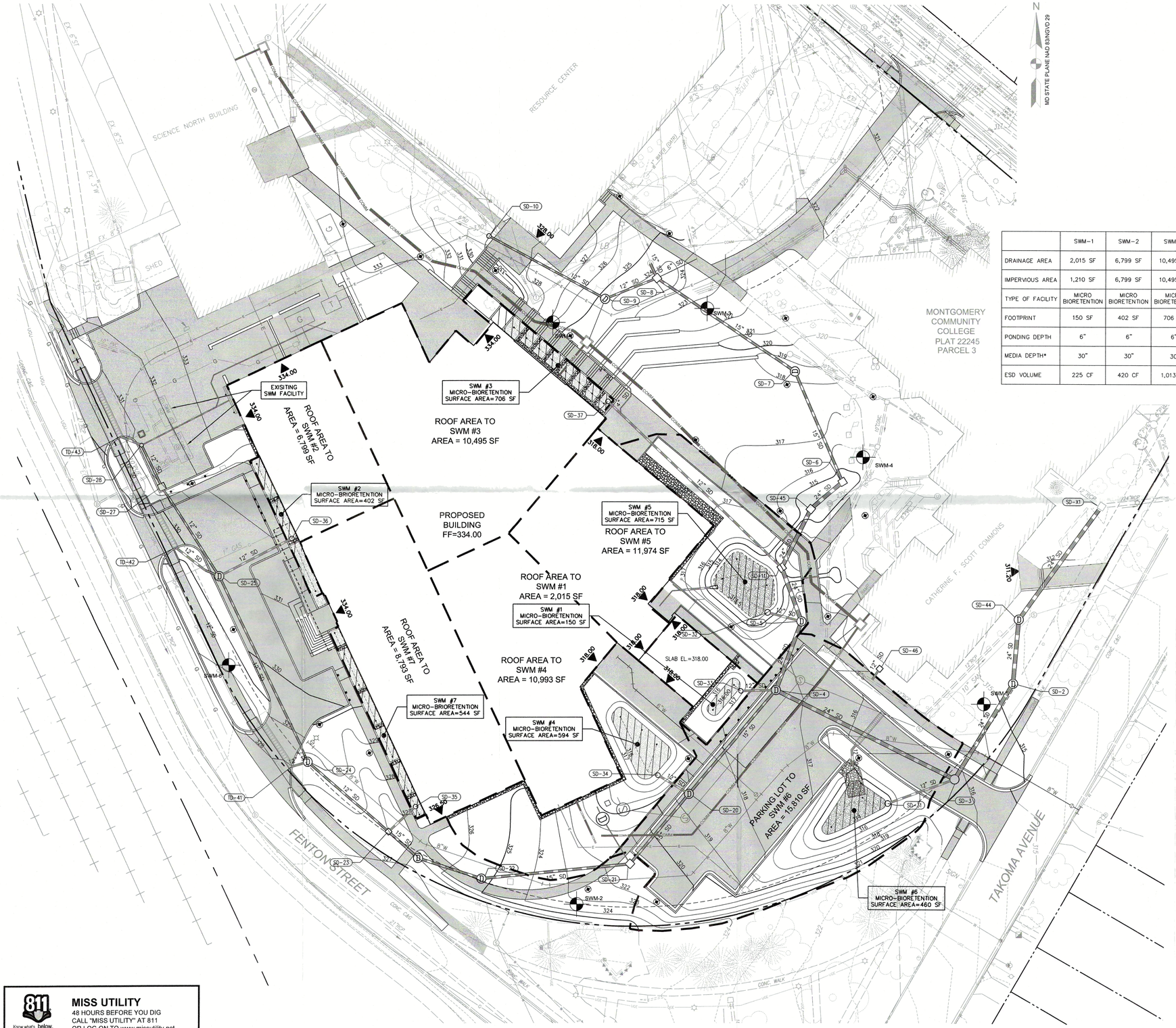
KEYPLAN NORTH

SHEET TITLE
SWM ENLARGEMENT

PROJECT NUMBER

SHEET NUMBER
C-38

X:\ROCKVILLE\17-0946.001 - MONTGOMERY COLLEGE MATH AN\05-CAD\C38-CV\4-1709945001.DWG, 9/4/2020 11:10 AM, hilevine
Plot Date: 6/25/2019 10:42:09 AM
Author



	SWM-1	SWM-2	SWM-3	SWM-4	SWM-5	SWM-6	SWM-7
DRAINAGE AREA	2,015 SF	6,799 SF	10,495 SF	10,993 SF	11,974 SF	15,810 SF	8,793 SF
IMPERVIOUS AREA	1,210 SF	6,799 SF	10,495 SF	8,840 SF	7,855 SF	10,105 SF	8,793 SF
TYPE OF FACILITY	MICRO BIORETENTION	MICRO BIORETENTION	MICRO BIORETENTION	MICRO BIORETENTION	MICRO BIORETENTION	MICRO BIORETENTION	MICRO BIORETENTION
FOOTPRINT	150 SF	402 SF	706 SF	594 SF	715 SF	460 SF	544 SF
PONDING DEPTH	6"	6"	6"	12"	12"	12"	6"
MEDIA DEPTH*	30"	30"	30"	30"	30"	30"	30"
ESD VOLUME	225 CF	420 CF	1,013 CF	1,188 CF	1,430 CF	920 CF	750 CF

TOTAL ESD VOLUME PROVIDED: 5,946 CF
TOTAL ESD VOLUME REQUIRED: 2,673 CF
IMPERVIOUS AREA REQUIRING TREATMENT: 0.78 AC.
IMPERVIOUS AREA TREATED: 1.52 AC.

BORING NUMBER	SOIL CLASSIFICATION AT TEST DEPTH	INFILTRATION TEST RATE (IN/HR)
SWM-1	SC	2.10
SWM-2	SC	1.20
SWM-3	SC	2.10
SWM-4	SC	0.14
SWM-5	CL	0.20
SWM-6	SC	1.10

PER MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) STORMWATER MANAGEMENT DESIGN MANUAL, AN INFILTRATION RATE GREATER THAN 0.52"/HR IS CONSIDERED SUITABLE.

APPLICATION NO.:
STORMWATER MANAGEMENT
Takoma Park, MD
Permit [ ] Waiver
Exemption [ ] Variance
Approved [ ] Not Approved
Approved as Noted [ ] Revise & Resubmit
Approval is consistent with any provision of Takoma Park Municipal Code Title 16 most current Ordinance which is not specifically noted and identified as a duly authorized deviation from the Ordinance does not relieve the applicant of responsibility for compliance with all provisions of the Ordinance.
9/14/2020
Engineer Date
Ali Khalilian

MISS UTILITY
48 HOURS BEFORE YOU DIG
CALL "MISS UTILITY" AT 811
OR LOG ON TO www.missutility.net

TPPW SWM SHEET 2 OF 7

X:\ROCKVILLE\17-0946.001 - MONTGOMERY COLLEGE MATH AN\05-CAD\C37-CW1-17094600.1 DWG, 9/4/2020 11:08 AM, HLEVINE
Plot Date: 6/25/2019 10:42:09 AM Author

Catherine and Isiah Leggett Math and Science Building

Montgomery College
Takoma Park / Silver Spring Campus
7600 Takoma Avenue
Takoma Park, MD 20912

Montgomery College Project #: FP16-077
Montgomery College Building #319
MHEC Project # CC-01-MC16-458

USING AGENCY APPROVAL

NAME DATE

TITLE

DGS APPROVAL

PROJECT MANAGER DATE

CHIEF OF PM&D DATE

SMITHGROUP

1700 NEW YORK AVENUE NW
SUITE 100
WASHINGTON, DC 20006
202.842.2100
www.smithgroup.com

AMT Engineering
CIVIL ENGINEERS
800 King Farm Boulevard, 4th Floor
Rockville, MD 20850
301-881-2545

Cagley & Associates
STRUCTURAL ENGINEERS
6141 Executive Boulevard
Rockville, MD 20852
301-881-9050

Mahan Rykiel
LANDSCAPE ARCHITECTS
3300 Clipper Mill Road, Suite 200
Baltimore, MD 21211
410-235-6001

Spexsys
AV, IT, SECURITY
7257 Parkway Drive, Suite 260
Hanover, MD 21076
410-712-0390

DWG FILE:
DRAWN BY:
CHECKED BY:

ISSUED FOR	REV	DATE
TAKOMA PARK SWM PERMIT		09 SEPT 2020
GMP2 BID - ADDENDUM 3		27 MAY 2020
GMP2 BID - ADDENDUM 1		06 DEC 2019
GMP2 BID		28 OCT 2019
DESIGN DEVELOPMENT		27 SEP 2019
SCHEMATIC DESIGN SUBMISSION		23 JAN 2019

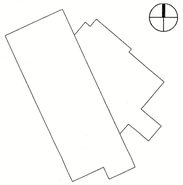
SEALS AND SIGNATURES

9-4-20
STATE OF MARYLAND
MICHAEL CHARLES WYCHULIS
32561
PROFESSIONAL ENGINEER

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.

MICHAEL C. WYCHULIS, P.E.
LICENSE NO. 32561 EXPIRATION DATE: 01/06/22

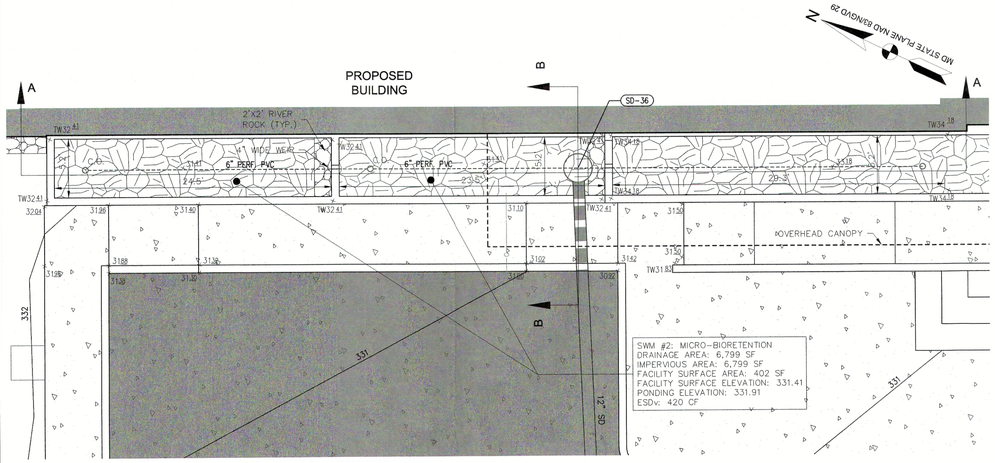
KEYPLAN



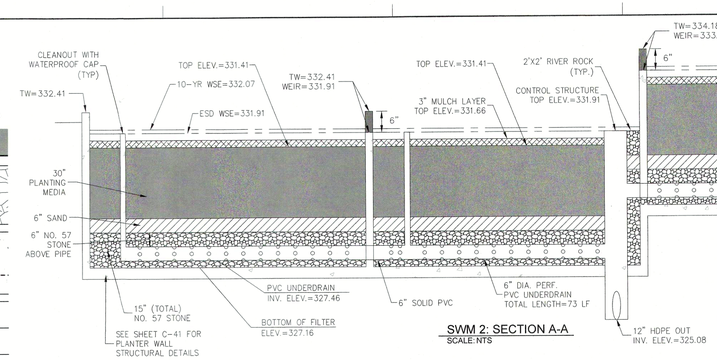
SHEET TITLE
STORMWATER MANAGEMENT PLAN

PROJECT NUMBER

SHEET NUMBER
C-37



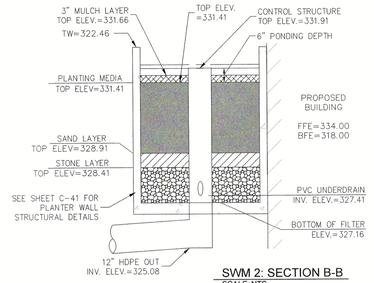
SWM-2: MICRO-BIORETENTION
SCALE: 1"=5'



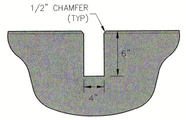
SWM 2: SECTION A-A
SCALE: NTS

STORMWATER MANAGEMENT PLANTER WALL INSTALLATION NOTE

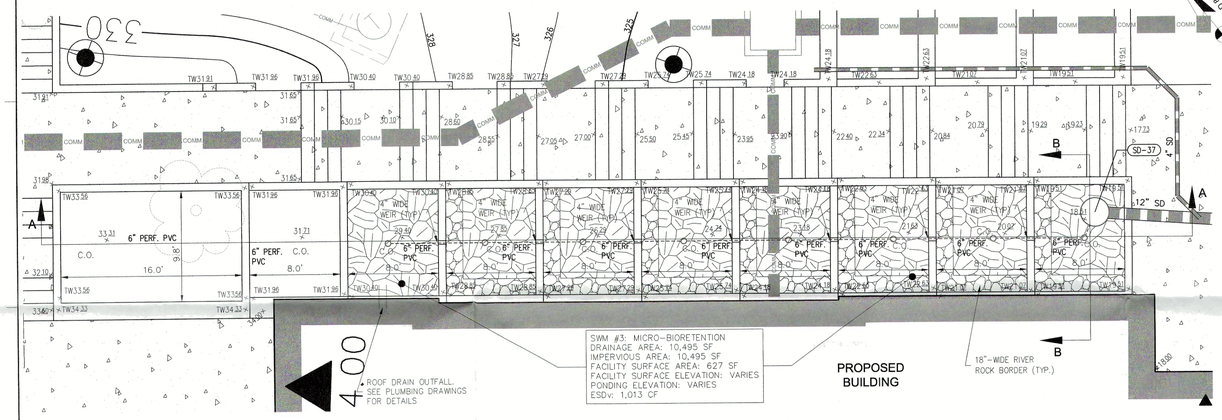
- CONTRACTOR TO CONFIRM LISTED TOP OF WALL ELEVATIONS IN FIELD AND ENSURE COORDINATION WITH BRICK COURSING ON BUILDING FACE. PLANTER WALLS SHALL SIT JUST BELOW ANY GIVEN COURSE OF BRICKS WITHOUT VARIATION OR ADJUSTMENT TO THE ARCHITECTURAL DESIGN INTENT OF THE BRICK FACING.



SWM 2: SECTION B-B
SCALE: NTS



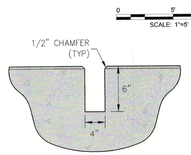
WEIR DETAIL
SCALE: NTS



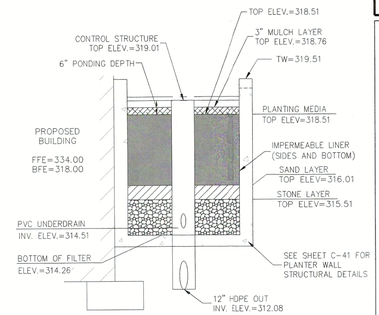
SWM-3: MICRO-BIORETENTION
SCALE: 1"=5'

STORMWATER MANAGEMENT PLANTER WALL INSTALLATION NOTE

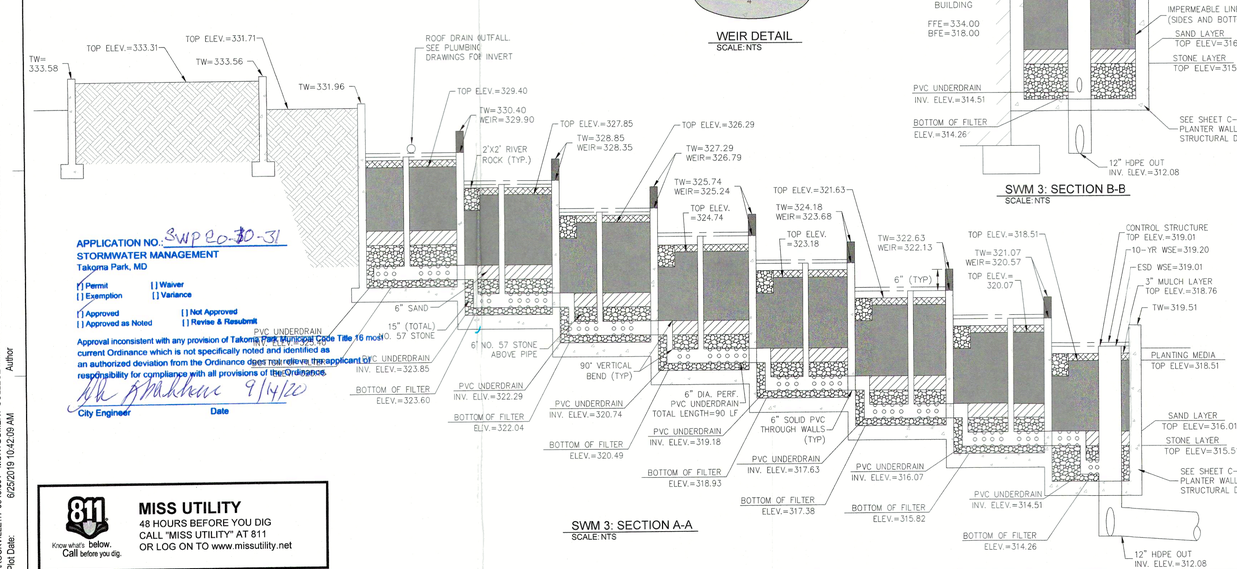
- CONTRACTOR TO CONFIRM LISTED TOP OF WALL ELEVATIONS IN FIELD AND ENSURE COORDINATION WITH BRICK COURSING ON BUILDING FACE. PLANTER WALLS SHALL SIT JUST BELOW ANY GIVEN COURSE OF BRICKS WITHOUT VARIATION OR ADJUSTMENT TO THE ARCHITECTURAL DESIGN INTENT OF THE BRICK FACING.



WEIR DETAIL
SCALE: NTS



SWM 3: SECTION B-B
SCALE: NTS



SWM 3: SECTION A-A
SCALE: NTS

APPLICATION NO.: SWP20-030-31
STORMWATER MANAGEMENT
Takoma Park, MD

[ ] Permit [ ] Waiver
[ ] Exemption [ ] Variance

[ ] Approved [ ] Not Approved
[ ] Approved as Noted [ ] Revise & Resubmit

Approval inconsistent with any provision of Takoma Park Municipal Code Title 16 most current Ordinance which is not specifically noted and identified as an authorized deviation from the Ordinance does not relieve the applicant of responsibility for compliance with all provisions of the Ordinance.

City Engineer — Date: 9/14/20

MISS UTILITY
48 HOURS BEFORE YOU DIG
CALL "MISS UTILITY" AT 811
OR LOG ON TO www.missutility.net
811 Know what's below. Call before you dig.

AS-BUILT DATA FOR STORMWATER MANAGEMENT FACILITIES TO BE COMPLETED BY THE CERTIFYING DESIGN ENGINEER

TYPE OF FACILITY: MICRO-BIORETENTION	SWM #2		SWM #3	
	DESIGN	*AS-BUILT	DESIGN	*AS-BUILT
FILTER BED AREA (LxW)/ SURFACE AREA (SF)	77.5'x5.2' / 402 SF		64.0'x9.8' / 627 SF	
PLANTING MEDIA TOP ELEVATION	331.41		VARIES	
OUTLET PIPE SIZE / ELEVATION	12" HDPE / 325.08		12" HDPE / 312.08	
UNDERDRAIN PIPE SIZE / ELEVATION	6" PVC / 327.41		6" PVC / 314.51	
MICRO-BIORETENTION VOLUME	1,190 CF		2,869 CF	
MULCH THICKNESS	3"		3"	
PLANTING MEDIA THICKNESS	30"		30"	
SAND THICKNESS	6"		6"	
UNDERDRAIN GRAVEL THICKNESS	15"		15"	
OVERFLOW INLET DIAMETER/TOP ELEVATION	24"/ 331.91		24" / 319.01	
UNDERDRAIN LENGTH	42'±		72'±	
DATE AS-BUILT ACCEPTED BY DPW:				

AS BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE STORMWATER MANAGEMENT FACILITY SHOWN ON THE PLANS HAS (HAVE) BEEN CONSTRUCTED IN ACCORDANCE WITH THE PLANS APPROVED BY THE CITY OF ROCKVILLE, EXCEPT AS NOTED IN RED ON THE "AS BUILT" DRAWINGS.

NAME _____ SIGNATURE _____

MARYLAND REGISTRATION NUMBER _____ DATE _____

CITY OF ROCKVILLE REVIEW NO. _____ FACILITY IDENTIFICATION (NUMBER AND/OR TYPE) _____

"CERTIFY" MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED ON SUFFICIENT AND APPROPRIATE ONSITE INSPECTIONS AND MATERIAL TESTS CONDUCTED DURING CONSTRUCTION.

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. _____, EXPIRATION DATE _____

AS-BUILT CERTIFICATION REQUIREMENTS:

- THE CONTRACTOR SHALL PREPARE AND MAINTAIN A SET OF "RED LINED" AS-BUILT PLANS FOR ALL MATERIALS, DIMENSIONS, LENGTHS, DEPTHS AND ELEVATIONS RELATING TO THE CONSTRUCTION OF THE STORMWATER MANAGEMENT FACILITIES AS SPECIFIED ON THE CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL ALSO COORDINATE AND ARRANGE FOR ALL REQUIRED INSPECTIONS THROUGHOUT THE CONSTRUCTION OF THE STORMWATER MANAGEMENT FACILITIES.
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD A MINIMUM OF 1 WEEK IN ADVANCE OF THE PROPOSED CONSTRUCTION.
- THE CONTRACTOR SHALL ENSURE THAT THE STORMWATER MANAGEMENT FACILITIES ARE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL PROVIDE THE ENGINEER OF RECORD WITH THE "RED LINED" AS-BUILT PLANS FOR REVIEW AND ACCEPTANCE PRIOR TO FINAL STABILIZATION.

CONSTRUCTION INSPECTION
CHECK-OFF LIST FOR BIOFILTRATION FACILITY (BF)

STAGE	DESIGN ENGINEER (DE)		GEOTECHNICAL ENGINEER (GEO)		City Designated INSPECTOR		MNCP&PC & OTHER	
	INITIALS/DATE		INITIALS/DATE		INITIALS/DATE		INITIALS/DATE	
* **MANDATORY NOTIFICATION**: Inspection and approval by the party indicated is required at these points prior to processing with construction. The permittee is required to give the required inspection parties twenty-four (24) hours notice. The Designated Inspector (DI) may waive an inspection, provided the design engineer (DE) and/or geotechnical engineer (GEO) make the required inspection per a prior scheduled arrangement which has been confirmed with the Designated Inspector. Work completed without the necessary party's approval may result in the permittee having to remove and reconstruct the unapproved work. The permittee must maintain a "record set" of approved SCRM plans on-site.	SWM #2	SWM #3	SWM #2	SWM #3	SWM #2	SWM #3	SWM #2	SWM #3
1. Pre-construction meeting & field review of tree save flagging (DE) and (M-NCP&PC)	*	*	*	*	*	*	*	*
2. Sediment control installation			*	*	*	*		
3. Grade and stabilize drainage area to biofiltration facility			*	*	*	*		
4. Excavate biofiltration facility (DE) or (GEO)	*	*	*	*	*	*		
5. Install sand, gravel, observation wells, and any other required pipe (DE) or (GEO)	*	*	*	*	*	*		
6. Install planting soil and mulch layer (DE) or (GEO)	*	*	*	*	*	*		
7. Install perimeter stabilization and placement of final cover: Place silt fence around bioretention facility.	*	*	*	*	*	*		
8. Install permanent landscaping/vegetative stabilization (DE) or (GEO).	*	*	*	*				
9. Submit record drawing and documentation to CTP – City Engineer including a completed check-off list and all delivery tickets (DE).	*	*						
10. Unblock any storm drain draining to facility with DPS inspector's written approval. Install any necessary trash racks on flow splitter structures.					*	*		
11. Other items	*	*	*	*	*	*		
12. Final Inspection (DE) and (GEO)	*	*	*	*	*	*		

NOTES:
1. Permittee to supply Design Engineer with delivery tickets for all materials used in bioretention facility construction.
2. See construction specifications on this plan for detailed requirements.
3. A copy of this completed checklist must be submitted as part of the stormwater management as-built package.

Designated Inspector Telephone _____ MNCPPC Inspection Telephone: (301)495-4571

BIOFILT:table 05/13
Modified from DPS

Catherine and Isiah Leggett Math and Science Building

Montgomery College
Takoma Park / Silver Spring Campus
7600 Takoma Avenue
Takoma Park, MD 20912

Montgomery College Project #: FP16-077
Montgomery College Building #319
MHEC Project # CC-01-MC16-458

USING AGENCY APPROVAL

NAME DATE

TITLE

DGS APPROVAL

PROJECT MANAGER DATE

CHIEF OF PM&D DATE

SMITHGROUP

1700 NEW YORK AVENUE NW
SUITE 100
WASHINGTON, DC 20006
202.842.2100
www.smithgroup.com

AMT Engineering
CIVIL ENGINEERS
800 King Farm Boulevard, 4th Floor
Rockville, MD 20850
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Baltimore, MD 21211
410-235-6001

Spexsys
AV, IT, SECURITY
7257 Parkway Drive, Suite 260
Hanover, MD 21076
410-712-0390

DWG FILE:
DRAWN BY:
CHECKED BY:

ISSUED FOR	REV	DATE
TAKOMA PARK SWM PERMIT		09 SEPT 2020
GMP2 BID - ADDENDUM 3		27 MAY 2020
GMP2 BID - ADDENDUM 1		06 DEC 2019
GMP2 BID		28 OCT 2019
DESIGN DEVELOPMENT		27 SEP 2019
SCHEMATIC DESIGN SUBMISSION		23 JAN 2019

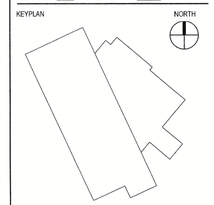
SEALS AND SIGNATURES

9-2-20
STATE OF MARYLAND
MICHAEL CHARLES WYCHULIS
32561
PROFESSIONAL ENGINEER

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.

MICHAEL C. WYCHULIS, P.E.
LICENSE NO: 32561 EXPIRATION DATE: 01/06/22

KEYPLAN



SHEET TITLE

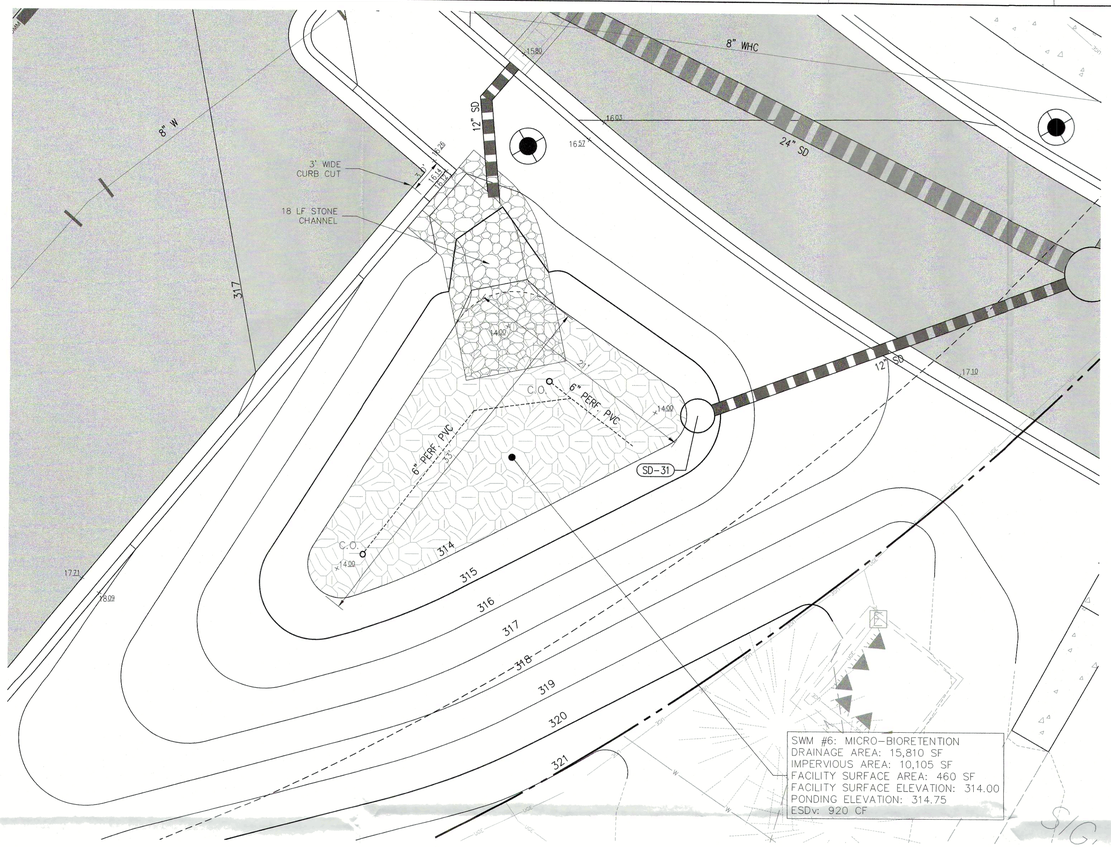
SWM ENLARGEMENT

PROJECT NUMBER

C-39

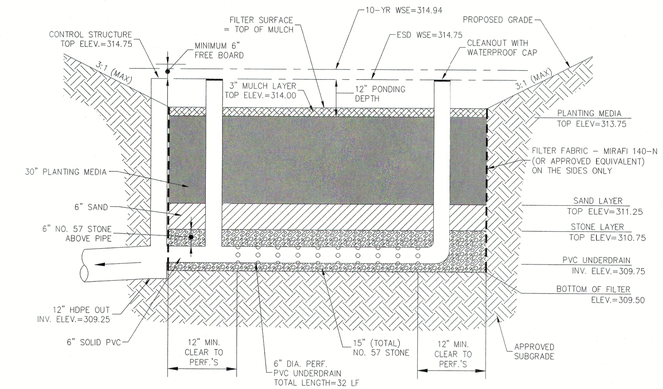
SHEET NUMBER

X:\ROCKVILLE\17-0946.001 - MONTGOMERY COLLEGE MATH AN\05-CAD\C39-CW4-170946001.DWG, 9/4/2020 11:13 AM, HLEVINE
Plot Date: 6/25/2019 10:42:09 AM Author

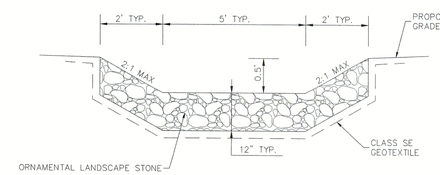


SWM-6: MICRO-BIORETENTION
SCALE: 1"=5'

N
MD STATE PLANE NAD 83/NGVD 29

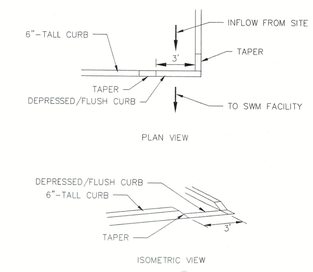


1 MICRO-BIORETENTION - TYPICAL SECTION
NOT TO SCALE



ORNAMENTAL STONE SHALL CONSIST OF SMOOTH "RIVER ROCK", 2½"–4" IN DIAMETER. 12" DEEP STONE SHALL BE PLACED AS SHOWN ABOVE.

2 STONE CHANNEL - TYPICAL SECTION
NOT TO SCALE



4 CURB CUT DETAIL
N.T.S.

CONSTRUCTION INSPECTION
CHECK-OFF LIST FOR BIOFILTRATION FACILITY (BF)

	STAGE	DESIGN ENGINEER (DE)	GEOTECHNICAL ENGINEER (GEO)	City Designated INSPECTOR	MNCP&PC & OTHER
	* **MANDATORY NOTIFICATION:** Inspection and approval by the party indicated is required at these points prior to proceeding with construction. The permittee is required to give the required inspection parties twenty-four (24) hours notice. The Designated Inspector (DI) may waive an inspection, provided the design engineer (DE) and/or geotechnical engineer (GEO) make the required inspection per a prior scheduled arrangement which has been confirmed with the Designated Inspector. Work completed without the necessary party's approval may result in the permittee having to remove and reconstruct the unapproved work. The permittee must maintain a "record set" of approved SCSM plans on-site.	INITIALS/DATE	INITIALS/DATE	INITIALS/DATE	INITIALS/DATE
		SWM #6	SWM #6	SWM #6	SWM #6
1.	Pre-construction meeting & field review of tree save flagging (DE) and (M-NCP&PC)	*	*	*	*
2.	Sediment control installation			*	
3.	Grade and stabilize drainage area to biofiltration facility		*	*	
4.	Excavate biofiltration facility (DE) or (GEO)	*	*	*	
5.	Install sand, gravel, observation wells, and any other required pipe (DE) or (GEO)	*	*	*	
6.	Install planting soil and mulch layer (DE) or (GEO)	*	*	*	
7.	Install perimeter stabilization and placement of final cover. Place silt fence around bioretention facility.	*	*	*	
8.	Install permanent landscaping/vegetative stabilization (DE) or (GEO)	*	*		
9.	Submit record drawing and documentation to CTP – City Engineer including a completed check-off list and all delivery tickets (DE).	*			
10.	Unblock any storm drain draining to facility with DPS inspector's written approval. Install any necessary trash racks on flow splitter structures.			*	
11.	Other items	*	*	*	
12.	Final inspection (DE) and (GEO)	*	*	*	

NOTES:
1. Permittee to supply Design Engineer with delivery tickets for all materials used in bioretention facility construction.
2. See construction specifications on this plan for detailed requirements.
3. A copy of this completed checklist must be submitted as part of the stormwater management as-built package.

Designated inspector Telephone: MNCPPC Inspection Telephone: (301)495-4571

BIOFILT.table:05/13
Modified from: DPS

AS-BUILT DATA FOR STORMWATER MANAGEMENT FACILITIES TO BE COMPLETED BY THE CERTIFYING DESIGN ENGINEER

TYPE OF FACILITY: MICRO-BIORETENTION	SWM #6	
	DESIGN	*AS-BUILT
FILTER BED AREA (LxW)/ SURFACE AREA (SF)	33'x21' / 460 SF	
FILTER BED SURFACE ELEVATION	314.00	
OUTLET PIPE SIZE / ELEVATION	12" HDPE / 309.25	
UNDERDRAIN PIPE SIZE / ELEVATION	6" PVC / 309.50	
MICRO-BIORETENTION VOLUME	1,955 CF	
MULCH THICKNESS	3"	
PLANTING MEDIA THICKNESS	30"	
SAND THICKNESS	6"	
UNDERDRAIN GRAVEL THICKNESS	15"	
OVERFLOW INLET DIAMETER/TOP ELEVATION	24"/ 314.75	
UNDERDRAIN LENGTH	32'±	
DATE AS-BUILT ACCEPTED BY DPW:		

AS BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE STORMWATER MANAGEMENT FACILITY SHOWN ON THE PLANS HAS (HAVE) BEEN CONSTRUCTED IN ACCORDANCE WITH THE PLANS APPROVED BY THE CITY OF ROCKVILLE, EXCEPT AS NOTED IN RED ON THE "AS BUILT" DRAWINGS.

NAME _____ SIGNATURE _____

MARYLAND REGISTRATION NUMBER _____ DATE _____

CITY OF ROCKVILLE REVIEW NO. _____ FACILITY IDENTIFICATION (NUMBER AND/OR TYPE) _____

"CERTIFY" MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED ON SUFFICIENT AND APPROPRIATE ONSITE INSPECTIONS AND MATERIAL TESTS CONDUCTED DURING CONSTRUCTION.

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. _____, EXPIRATION DATE

AS-BUILT CERTIFICATION REQUIREMENTS:

- THE CONTRACTOR SHALL PREPARE AND MAINTAIN A SET OF "RED LINED" AS-BUILT PLANS FOR ALL MATERIALS, DIMENSIONS, LENGTHS, DEPTHS AND ELEVATIONS RELATING TO THE CONSTRUCTION OF THE STORMWATER MANAGEMENT FACILITIES AS SPECIFIED ON THE CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL ALSO COORDINATE AND ARRANGE FOR ALL REQUIRED INSPECTIONS THROUGHOUT THE CONSTRUCTION OF THE STORMWATER MANAGEMENT FACILITIES.
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD A MINIMUM OF 1 WEEK IN ADVANCE OF THE PROPOSED CONSTRUCTION.
- THE CONTRACTOR SHALL ENSURE THAT THE STORMWATER MANAGEMENT FACILITIES ARE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL PROVIDE THE ENGINEER OF RECORD WITH THE "RED LINED" AS-BUILT PLANS FOR REVIEW AND ACCEPTANCE PRIOR TO FINAL STABILIZATION.

APPLICATION NO. SWP20-10-31 (2019)
STORMWATER MANAGEMENT
Takoma Park, MD

[✓] Permit [ ] Waiver
[ ] Exemption [ ] Variance

[✓] Approved [ ] Not Approved
[ ] Approved as Noted [ ] Revise & Resubmit

Approval inconsistent with any provision of Takoma Park Municipal Code Title 16 most current Ordinance which is not specifically noted and identified as an authorized deviation from the Ordinance does not relieve the applicant of responsibility for compliance with all provisions of the Ordinance.

City Engineer 9/14/2020 Date

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CALL "MISS UTILITY" AT 811
OR LOG ON TO www.missutility.net
Know what's below. Call before you dig.

X:\ROCKVILLE\17-0946.001 - MONTGOMERY COLLEGE MATH AN\05-CAD\C40-CW4-17094B001.DWG, 9/4/2020 11:18 AM, NSIMPSON
Plot Date: 6/25/2019 10:42:09 AM Author

TPPW SWM SHEET 5 OF 7

Catherine and Isiah Leggett Math and Science Building

Montgomery College
Takoma Park / Silver Spring Campus
7600 Takoma Avenue
Takoma Park, MD 20912

Montgomery College Project #: FP16-077
Montgomery College Building #319
MHEC Project # CC-01-MC16-458

USING AGENCY APPROVAL

NAME DATE

TITLE

DGS APPROVAL

PROJECT MANAGER DATE

CHIEF OF PM&D DATE

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1700 NEW YORK AVENUE NW
SUITE 100
WASHINGTON, DC 20006
202.842.2100
www.smithgroup.com

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CIVIL ENGINEERS
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301-881-2545

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Spexsys
AV, IT, SECURITY
7257 Parkway Drive, Suite 260
Hanover, MD 21076
410-712-0390

DWG FILE:
DRAWN BY:
CHECKED BY:

ISSUED FOR	REV	DATE
TAKOMA PARK SWM PERMIT		09 SEPT 2020
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DESIGN DEVELOPMENT		27 SEP 2019
SCHEMATIC DESIGN SUBMISSION		23 JAN 2019

SEALS AND SIGNATURES:

9-4-20
STATE OF MARYLAND
MICHAEL CHARLES WYCHULIS
No. 32561
PROFESSIONAL ENGINEER

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.

MICHAEL C. WYCHULIS, P.E.
LICENSE NO. 32561 EXPIRATION DATE: 01/06/22

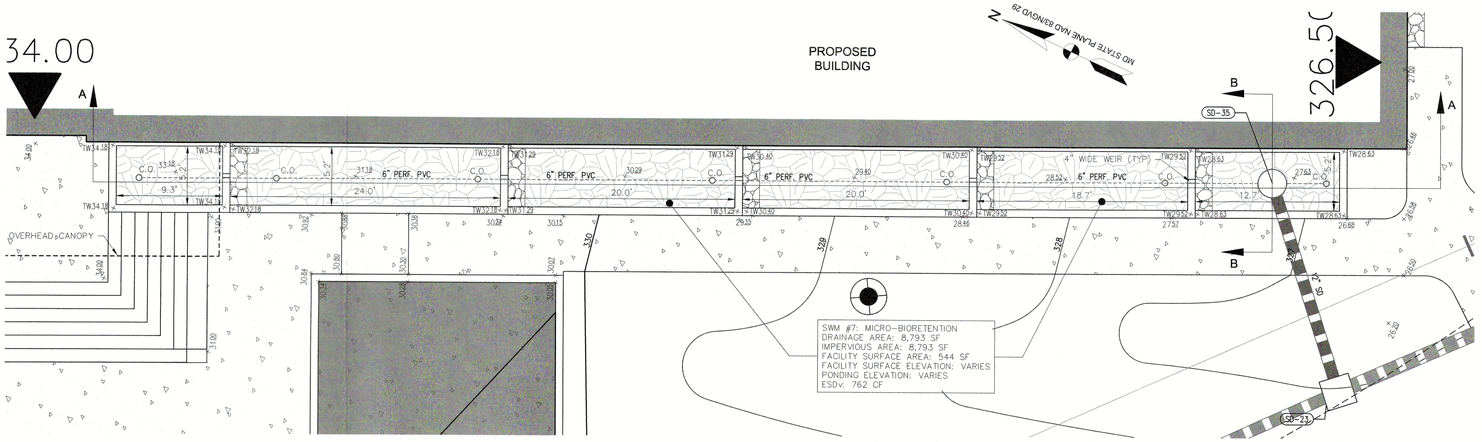
KEYPLAN NORTH

SHEET TITLE

SWM ENLARGEMENT

PROJECT NUMBER

SHEET NUMBER **C-40**



SWM-7: MICRO-BIORETENTION
SCALE: 1"=5'

SCALE: 1"=5'

STORMWATER MANAGEMENT PLANTER WALL INSTALLATION NOTE

- CONTRACTOR TO CONFIRM LISTED TOP OF WALL ELEVATIONS IN FIELD AND ENSURE COORDINATION WITH BRICK COURSING ON BUILDING FACE. PLANTER WALLS SHALL SIT JUST BELOW ANY GIVEN COURSE OF BRICKS WITHOUT VARIATION OR ADJUSTMENT TO THE ARCHITECTURAL DESIGN INTENT OF THE BRICK FACING.

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STORMWATER MANAGEMENT
Takoma Park, MD

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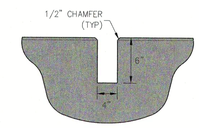
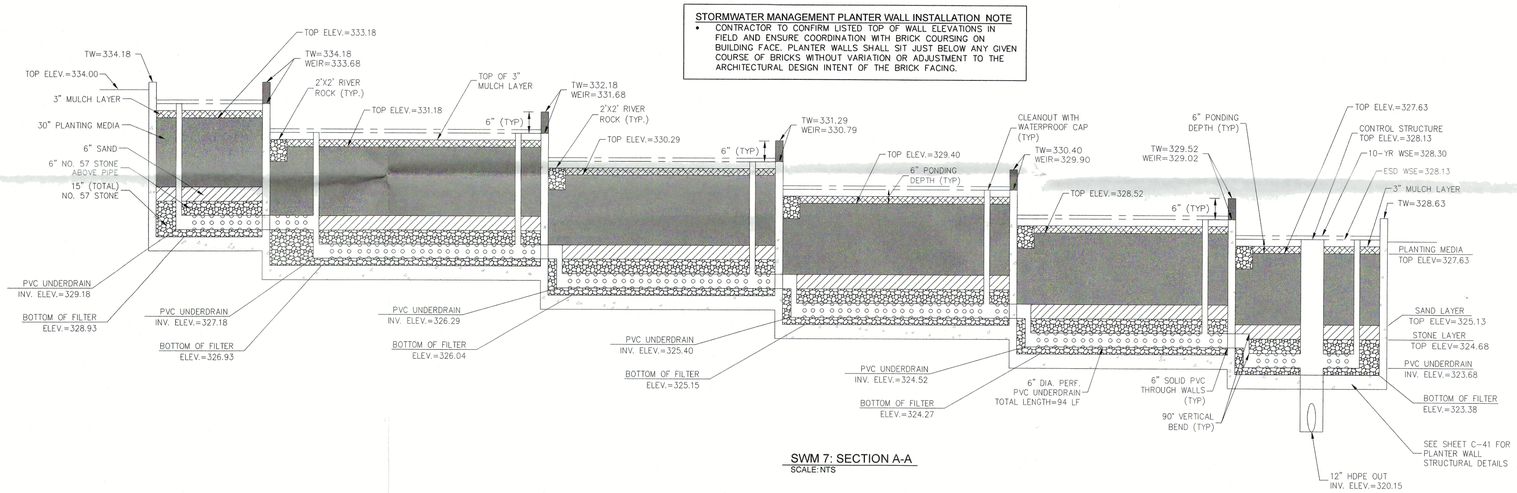
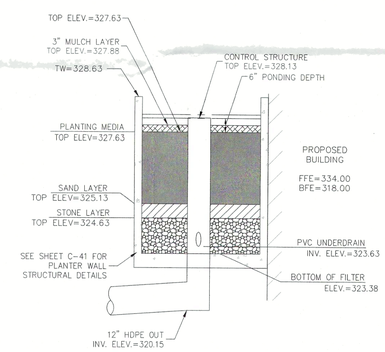
City Engineer — Date 9/14/2020



WEIR DETAIL
SCALE: NTS



SWM 7: SECTION A-A
SCALE: NTS



SWM 7: SECTION B-B
SCALE: NTS

CONSTRUCTION INSPECTION
CHECK-OFF LIST FOR BIOFILTRATION FACILITY (BF)

	STAGE	DESIGN ENGINEER (DE)	GEOTECHNICAL ENGINEER (GEO)	City Designated INSPECTOR	MNCPPC & OTHER
	* **MANDATORY NOTIFICATION:** Inspection and approval by the party indicated is required at these points prior to proceeding with construction. The permittee is required to give the required inspection parties twenty-four (24) hours notice. The Designated Inspector (DI) may waive an inspection, provided the design engineer (DE) and/or geotechnical engineer (GEO) make the required inspection per a prior scheduled arrangement which has been confirmed with the Designated Inspector. Work completed without the necessary party's approval may result in the permittee having to remove and reconstruct the unapproved work. The permittee must maintain a "record set" of approved SC/SM plans on-site.	INITIALS/DATE	INITIALS/DATE	INITIALS/DATE	INITIALS/DATE
		SWM #7	SWM #7	SWM #7	SWM #7
1.	Pre-construction meeting & field review of tree save flagging (DE) and (M-NCPPC)	*	*	*	*
2.	Sediment control installation			*	
3.	Grade and stabilize drainage area to biofiltration facility		*	*	
4.	Excavate biofiltration facility (DE) or (GEO)	*	*	*	
5.	Install sand, gravel, observation wells, and any other required pipe (DE) or (GEO)	*	*	*	
6.	Install planting soil and mulch layer (DE) or (GEO)	*	*	*	
7.	Install perimeter stabilization and placement of final cover. Place silt fence around bioretention facility.	*	*	*	
8.	Install permanent landscaping/vegetative stabilization (DE) or (GEO)	*	*		
9.	Submit record drawing and documentation to CTP – City Engineer including a completed check-off list and all delivery tickets (DE).	*			
10.	Unblock any storm drain draining to facility with DPS inspector's written approval. Install any necessary trash racks on flow splitter structures.			*	
11.	Other items	*	*	*	
12.	Final inspection (DE) and (GEO)	*	*	*	

NOTES:
1. Permittee to supply Design Engineer with delivery tickets for all materials used in bioretention facility constructed.
2. See construction specifications on this plan for detailed requirements.
3. A copy of this completed checklist must be submitted as part of the stormwater management as-built package.

Designated Inspector Telephone: MNCPPC Inspection Telephone: (301)495-4571

BIOFILT:table:05/13
Modified from DPS

AS-BUILT DATA FOR STORMWATER MANAGEMENT FACILITIES TO BE COMPLETED BY THE CERTIFYING DESIGN ENGINEER

TYPE OF FACILITY: MICRO-BIORETENTION	SWM #7	
	DESIGN	*AS-BUILT
FILTER BED AREA (LxW)/ SURFACE AREA (SF)	104.6'x5.2' / 544 SF	
PLANTING MEDIA TOP ELEVATION	327.63	
OUTLET PIPE SIZE / ELEVATION	12" HDPE / 320.15	
UNDERDRAIN PIPE SIZE / ELEVATION	6" PVC / 323.63	
MICRO-BIORETENTION VOLUME	2,125 CF	
MULCH THICKNESS	3"	
PLANTING MEDIA THICKNESS	30"	
SAND THICKNESS	6"	
UNDERDRAIN GRAVEL THICKNESS	15"	
OVERFLOW INLET DIAMETER/TOP ELEVATION	24"/ 328.13	
UNDERDRAIN LENGTH	94'±	
DATE AS-BUILT ACCEPTED BY DPW:		

AS BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE STORMWATER MANAGEMENT FACILITY SHOWN ON THE PLANS HAS (HAVE) BEEN CONSTRUCTED IN ACCORDANCE WITH THE PLANS APPROVED BY THE CITY OF ROCKVILLE, EXCEPT AS NOTED IN RED ON THE "AS BUILT" DRAWINGS.

NAME _____ SIGNATURE _____

MARYLAND REGISTRATION NUMBER _____ DATE _____

CITY OF ROCKVILLE REVIEW NO. _____ FACILITY IDENTIFICATION (NUMBER AND/OR TYPE) _____

"CERTIFY" MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED ON SUFFICIENT AND APPROPRIATE ONSITE INSPECTIONS AND MATERIAL TESTS CONDUCTED DURING CONSTRUCTION.

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. _____ EXPIRATION DATE _____

AS-BUILT CERTIFICATION REQUIREMENTS:

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NAME DATE

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PROJECT MANAGER DATE

CHIEF OF PM&D DATE

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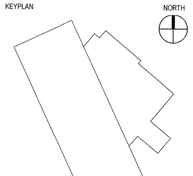
KEYPLAN



NORTH

SHEET TITLE

SWM ENLARGEMENT

PROJECT NUMBER

SHEET NUMBER

C-41

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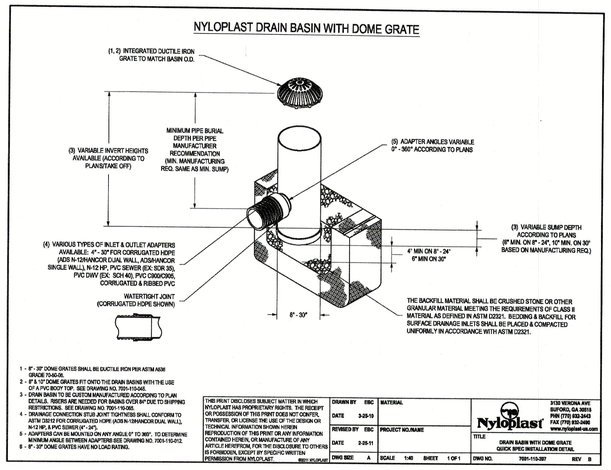

1 PLASTIC DRAIN BASIN w/ DOMED GRATE

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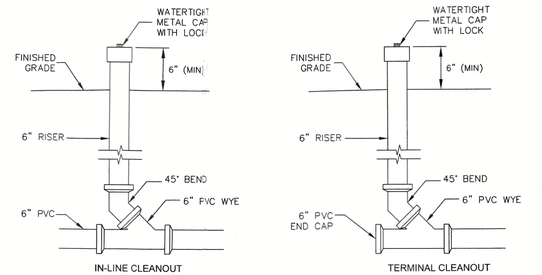

2 CLEAN-OUT - TYPICAL DETAIL

NOT TO SCALE

STORMWATER MANAGEMENT PLANTER WALL INSTALLATION NOTE

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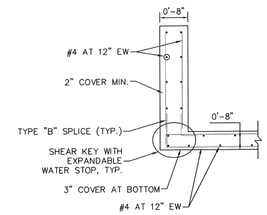

PLANTER WALL STRUCTURAL MATERIAL NOTES:

1. ALL CONCRETE SHALL BE 4,500 PSI.
2. ALLOWABLE BEARING PRESSURE IS 3,000 PSF.
3. WALL FRICTION ANGLE IS 30 DEGREES.
4. FRICTION COEFFICIENT IS 0.30.
5. REBAR Fy IS 60,000 PSI.
6. CONCRETE UNIT WEIGHT IS 150 LB/CF.
7. BACKFILL UNIT WEIGHT = 120 LB/CF.

NOTES:

1. PROVIDE CONTROL JOINTS AT 15' O.C. AND AT EVERY WALL CORNER.
2. AT ALL CONTROL JOINTS INTERRUPT EVERY OTHER HORIZONTAL BAR AND PROVIDE CHAMFER WITH JOINT SEALANT FILL.
3. AT ALL CONSTRUCTION JOINTS (WALL AND FOOTING) PROVIDE SHEAR KEY, EXPANDABLE WATERSTOP, AND WRAPPED HORIZONTAL BARS.

3 BIORETENTION PLANTER WALL - STRUCTURAL DETAIL

NOT TO SCALE

MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION

DESCRIPTION	METHOD	FREQUENCY	TIME OF YEAR
SOIL			
INSPECT AND REPAIR EROSION	VISUAL	MONTHLY	MONTHLY
ORGANIC LAYER			
REMULCH ANY VOID AREAS	BY HAND	WHENEVER NEEDED	WHENEVER NEEDED
REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER (OPTIONAL)	BY HAND	ONCE EVERY TWO TO THREE YEARS	SPRING
ANY ADDITIONAL MULCH ADDED (OPTIONAL)	BY HAND	ONCE A YEAR	SPRING
PLANTS			
REMOVAL AND REPLACEMENT OF ALL DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT	SEE PLANTING SPECIFICATIONS	TWICE A YEAR	3/15 TO 4/30 AND 10/1 TO 11/30
TREAT ALL DISEASED TREES AND SHRUBS	MECHANICAL OR BY HAND	N/A	VARIES, DEPENDS ON INSECT OR DISEASE INFESTATION
WATERING OF PLANT MATERIAL SHALL TAKE PLACE AT THE END OF EACH DAY FOR FOURTEEN CONSECUTIVE DAYS AFTER PLANTING HAS BEEN COMPLETED	BY HAND	IMMEDIATELY AFTER PROJECT COMPLETION	N/A
REPLACE STAKES AFTER ONE YEAR	BY HAND	ONCE A YEAR	ONLY REMOVE STAKES IN THE SPRING
REPLACE ANY DEFICIENT STAKES OR WIRES	BY HAND	N/A	WHENEVER NEEDED

AS-BUILT CERTIFICATION REQUIREMENTS:

- THE CONTRACTOR SHALL PREPARE AND MAINTAIN A SET OF "RED LINED" AS-BUILT PLANS FOR THE CONSTRUCTION OF THE SWM FACILITY(S).
- THE CONTRACTOR SHALL ALSO COORDINATE AND ARRANGE FOR ALL REQUIRED INSPECTIONS THROUGHOUT THE CONSTRUCTION OF THE SWM FACILITY(S).
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD A MINIMUM OF 1 WEEK IN ADVANCE OF THE PROPOSED CONSTRUCTION.
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MC DPS MICRO-BIORETENTION SPECIFICATIONS

1. THE UNDERDRAIN CONSISTS OF 6-INCH DIAMETER SCHEDULE 40 OR STRONGER PERFORATED PVC PIPE AT 0.00% SLOPE. THE UNDERDRAIN PIPE WILL BE PLACED WITHIN THE GRAVEL LAYER. A MINIMUM OF 3-INCHES OF GRAVEL MUST BE PLACED UNDER THE PIPE, WITH A MINIMUM OF 6-INCHES OF GRAVEL OVER THE PIPE. PERFORATIONS MUST BE 3/8 INCH IN DIAMETER AND MUST BE LOCATED 4 INCHES ON CENTER, EVERY 90 DEGREES AROUND THE PIPE. PERFORATED PIPE MUST BEGIN AT LEAST 12-INCHES INSIDE THE FILTER MEDIA. FILTER FABRIC MUST **NOT** BE WRAPPED AROUND THE UNDERDRAIN PIPE. AN ACCEPTABLE ALTERNATIVE TO PERFORATED PIPE IS 6-INCH DIAMETER SCHEDULE 40 SLOTTED PVC PIPE WITH 0.125-INCH SLOTS. SLOTS SHALL BE 0.125-INCHES WIDE AND A MINIMUM OF 1.9-INCHES IN LENGTH, WITH A MINIMUM OF 4 SLOTS PER ROW AND 4 ROWS PER LINEAR FOOT OF PIPE.
2. ACCESS FOR CLEANING ALL UNDERDRAIN PIPING IS NEEDED. WATERTIGHT CLEAN-OUTS FOR EACH PIPE SHALL BE LEVEL WITH THE TOP OF THE MULCH. ALL CLEAN-OUTS SHOULD BE 6" IN DIAMETER AND HAVE A REMOVABLE WATERPROOF CAP. CLEANOUTS MUST BE CAPPED IMMEDIATELY AFTER FILTER MEDIA IS IN PLACE.
3. THE GRAVEL LAYER SURROUNDING THE UNDERDRAIN PIPE(S) MUST MEET MSHA SIZE #7 (TABLE 901A), AND MUST PROVIDE A MINIMUM OF 6-INCHES COVER OVER THE PIPE(S), AND MINIMUM 3-INCHES UNDER THE PIPE. NO GEOTEXTILE OR FILTER FABRIC IS ALLOWED TO BE PLACED HORIZONTALLY ANYWHERE WITHIN THE FILTER MEDIA .
4. A MINIMUM 6-INCH FINE AGGREGATE SAND LAYER SHALL BE PROVIDED BELOW THE PLANTING MEDIA. ASTM C33 OR AASHTO M6 FINE AGGREGATE CONCRETE SAND IS REQUIRED PER MONTGOMERY COUNTY SAND SPECIFICATIONS.
5. THE PLANTING MEDIA SHALL BE 24"-48" THICK AND SHALL CONSIST OF 1/3 PERLITE OR SOLITE, 1/3 COMPOST AND 1/3 TOPSOIL. THE PERLITE SHALL BE COARSE GRADE HORTICULTURAL PERLITE. THE COMPOST SHALL BE HIGH GRADE COMPOST FREE OF STONES AND PARTIALLY COMPOSTED WOODY MATERIAL. THE SOIL SHALL MEET THE FOLLOWING MINIMUM CRITERIA: CONTAIN NO MORE THAN 10% CLAY, 30-55% SILTS AND 35-60% SAND. THE SOIL SHALL BE FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN 2-INCHES. THE FIRST LAYER OF THE PLANTING MEDIA SHALL BE LIGHTLY TILLED TO MIX IT INTO THE SAND LAYER, SO AS NOT TO CREATE A DEFINITIVE BOUNDARY. THE PLANTING MATERIAL SHALL BE FLOODED AFTER PLACEMENT. ANY SETTLEMENT THAT OCCURS SHALL BE FILLED BACK TO THE DESIGN ELEVATION.
6. THE MULCH LAYER IS AN IMPORTANT PART OF THE MICRO-BIORETENTION DEVICE. MUCH OF THE POLLUTANT REMOVAL CAPACITY OF THE MICRO-BIORETENTION SYSTEM IS WITHIN THE MULCH LAYER. THE SURFACE MULCH LAYER WILL CONSIST OF STANDARD DOUBLE SHREDDED AGED HARDWOOD MULCH. THE MULCH SHOULD BE APPLIED UNIFORMLY TO A DEPTH OF 3 INCHES. YEARLY REPLENISHING MAY BE NECESSARY. PINE BARK IS NOT ACCEPTABLE.
7. PLANTS, THROUGH THEIR POLLUTANT UPTAKE AND EVAPO-TRANSPIRATION OF STORMWATER RUNOFF, PLAY A KEY ROLE IN THE OVERALL EFFECTIVENESS OF THE MICRO-BIORETENTION DEVICE. BOTH THE NUMBER AND TYPE OF TREE AND SHRUB PLANTINGS FOR THE SYSTEM MAY VARY, ESPECIALLY WHERE AESTHETICS OR OTHER CONSIDERATIONS ARE CRITICAL TO SITE DEVELOPMENT. WHILE NATIVE PLANTS ARE ENCOURAGED, THEY ARE NOT ALWAYS APPROPRIATE IN ALL SITUATIONS. WHILE NO HARD PLANTING RULE EXISTS, THE PLANTS SHOULD BE A MIX OF TREES, SHRUBS AND HERBACEOUS MATERIALS. HOWEVER, THERE SHOULD BE 2 TO 3 SHRUBS PLANTED PER TREE AND HERBACEOUS PLANTINGS SHALL MAKE UP 40% OF THE TOTAL NUMBER OF PLANTS. TREES SHALL BE A MINIMUM OF 1 ½ IN. CALIPER, SHRUBS SHALL BE MINIMUM 2 GAL. SIZE AND HERBACEOUS PLANTS SHALL BE A MINIMUM 1 GAL SIZE. MATURE PLANT CANOPY SHOULD COVER 85% OF THE MICRO-BIORETENTION DEVICE. ALTERNATIVE PLANTING SCHEMES, INCLUDING USE OF GRASSES, MAY BE CONSIDERED IN SOME SITUATIONS, SO LONG AS THE PLANTING PLAN IS DESIGNED BY A REGISTERED LANDSCAPE ARCHITECT REGISTERED IN THE STATE OF MARYLAND, HOWEVER LAWN GRASSES ARE NOT APPROPRIATE FOR THESE FACILITIES. ALL PLANTINGS SHALL BE IN ACCORDANCE WITH THE MONTGOMERY COUNTY LANDSCAPE GUIDELINES. ALL LANDSCAPE PLANS MUST BE SEALED BY A REGISTERED LANDSCAPE ARCHITECT. SINCE THE PLANTS ARE AN INTEGRAL PART OF THE MICRO-BIORETENTION SYSTEM, NO CHANGES TO THE APPROVED LANDSCAPE PLAN WILL BE ALLOWED UNLESS AN ALTERNATE PLANT LIST, PREPARED BY A REGISTERED LANDSCAPE ARCHITECT, HAS BEEN APPROVED BY DPS PRIOR TO INSTALLATION. SINCE PLANT AVAILABILITY CAN CHANGE, DPS SUGGESTS INCLUDING AN ALTERNATE PLANT LIST ON THE LANDSCAPING PLANS.
8. PROVIDE APPROVED FILTER CLOTH (MIRAFI 140N OR APPROVED EQUIVALENT) ON THE SIDES OF THE TRENCH ONLY. DO NOT PLACE ANY GEOTEXTILE OR FILTER FABRIC ON THE BOTTOM OF THE TRENCH, OR HORIZONTALLY ANYWHERE WITHIN THE FACILITY.

MONTGOMERY COUNTY SAND SPECIFICATIONS

WASHED ASTM C33 FINE AGGREGATE CONCRETE SAND IS UTILIZED FOR STORMWATER MANAGEMENT APPLICATIONS IN MONTGOMERY COUNTY. IN ADDITION TO THE ASTM C33 SPECIFICATION, SAND MUST MEET ALL OF THE FOLLOWING CONDITIONS:

1. SAND MUST MEET GRADATION REQUIREMENTS FOR ASTM C-33 FINE AGGREGATE CONCRETE SAND. AASHTO M-6 GRADATION IS ALSO ACCEPTABLE.
2. SAND MUST BE SILICA BASED. NO LIMESTONE BASED PRODUCTS MAY BE USED. IF THE MATERIAL IS WHITE OR GRAY IN COLOR, IT IS PROBABLY NOT ACCEPTABLE.
3. SAND MUST BE CLEAN, NATURAL, UNWASHED SAND DEPOSITS MAY NOT BE USED. LIKEWISE, SAND THAT HAS BECOME CONTAMINATED BY IMPROPER STORAGE OR INSTALLATION PRACTICES WILL BE REJECTED.
4. MANUFACTURED SAND OR STONE DUST IS NOT ACCEPTABLE UNDER ANY CIRCUMSTANCE.

APPLICATION NO.: SWP20-70-31
STORMWATER MANAGEMENT
Takoma Park, MD
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Takoma Park / Silver Spring Campus
7600 Takoma Avenue
Takoma Park, MD 20912

Montgomery College Project #: FP16-077
Montgomery College Building #319
MHEC Project # CC-01-MC16-458

USING AGENCY APPROVAL

NAME DATE

TITLE

DGS APPROVAL

PROJECT MANAGER DATE

CHIEF OF PM&D DATE

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Mahan Rykiel
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Spexsys
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7257 Parkway Drive, Suite 260
Hanover, MD 21076
410-712-0350

DWG FILE:

DRAWN BY:

CHECKED BY:

ISSUED FOR	REV	DATE
TAKOMA PARK SWM PERMIT		09 SEPT 2020
GMP2 BID - ADDENDUM 3		27 MAY 2020
GMP2 BID - ADDENDUM 1		06 DEC 2019
GMP2 BID		28 OCT 2019
DESIGN DEVELOPMENT		27 SEP 2019
SCHEMATIC DESIGN SUBMISSION		23 JAN 2019

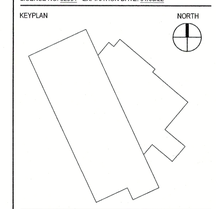
SEALS AND SIGNATURES

9-9-20
STATE OF MARYLAND
MICHAEL CHARLES WYCHULIS
32561
PROFESSIONAL ENGINEER

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.

MICHAEL C. WYCHULIS, P.E.
LICENSE NO. 32561 EXPIRATION DATE: 01/06/22

KEYPLAN



SHEET TITLE

SWM SPECIFICATIONS, NOTES AND DETAILS

PROJECT NUMBER

SHEET NUMBER

C-42