MONTGOMERY COUNTY DEPARTMENT OF ENVIRONMENTAL PROTECTION

GAME PRESERVE

POND RETROFIT PROJECT
ASSET NO. 11200
CONTRACT NO. 8803000101-CD
Task Order 18

INDEX OF SHEETS

MCPDWT (FULL SET)	MCDPS	
1		TITLE SHEET
2–3		EXISTING CONDITIONS PLAN
4		GEOMETRIC LAYOUT
5–6		STORMWATER MANAGEMENT PLAN
7		STORMDRAIN PROFILES AND DRAINAGE DETAILS
8		STORMWATER MANAGEMENT PROFILES
9		STORMWATER MANAGEMENT DETAILS
10		STORMWATER MANAGEMENT SPECIFICATIONS
11		STORMWATER MANAGEMENT CONSTRUCTION CHECK LISTS
12–13		EROSION & SEDIMENT CONTROL NOTES
14–15		EROSION & SEDIMENT CONTROL DETAILS
16		EROSION & SEDIMENT CONTROL COMPOSITE PLAN – PHASE 1
17–18		EROSION & SEDIMENT CONTROL PLAN – PHASE 1
19		EROSION & SEDIMENT CONTROL COMPOSITE PLAN – PHASE 2
20–21		EROSION & SEDIMENT CONTROL PLAN – PHASE 2
22		EROSION & SEDIMENT CONTROL COMPOSITE PLAN – PHASE 3
23–24		EROSION & SEDIMENT CONTROL PLAN – PHASE 3
25		SOIL BORING LOGS
26–27		LANDSCAPE PLAN

MCDPS REVIEW IS FOR SEDIMENT CONTROL AND SAFE CONVEYANCE OF FLOW ONLY.

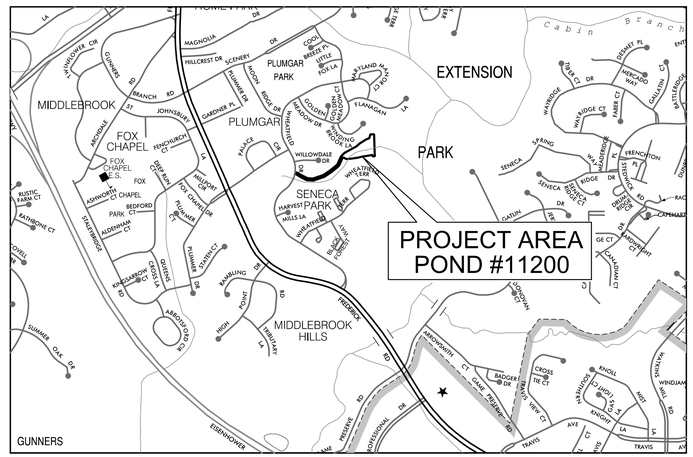
THE LOCATION OF THE UNDERGROUND AND SURFACE UTILITIES SHOWN ON THE PLANS ARE FOR INFORMATION AND GUIDANCE ONLY. NO GUARANTEE IS MADE AS TO THE ACCURACY OF SAID LOCATIONS. CONTRACTOR SHALL CALL "MISS UTILITY" AT 1-800-257-777, 48 HOURS PRIOR TO START OF WORK. THE EXCAVATOR MUST NOTIFY LL PUBLIC UTILITY COMPANIES WITH UNDERGROUND FACILITIES IN THE AREA F PROPOSED EXCAVATION. THE EXCAVATOR IS RESPONSIBLE FOR COMPLIANCE WITH REQUIREMENTS OF CHAPTER 36A OF THE MONTGOMERY OUNTY CODE.

CONVENTIONAL SYMBOLS
EXISTING CONSTRUCTION

100 YEAR FLOODPLAIN
RIGHT OF WAY LINE
PROPERTY LINE
CONCRETE CURB AND GUTTER
EDGE OF WOODED AREAS
TREE (FREE STANDING)
SIGN
FIRE HYDRANT
LIGHT POLE
UTILITY POLE
STORM DRAIN
SANITARY — 8" SAN
WATER — 24"W
GAS
ELECTRICAL HAND BOX - SIGNALS — H.B.
ELECTRIC (UNDERGROUND)

PROPOSED CONSTRUCTION

℄ CONSTRUCTION — 101 +50 102
CURB & GUTTER
TRAVERSE POINT
LIMIT OF DISTURBANCE — LOD
STORM DRAIN PIPE



VICINITY MAP

SCALE : 1"= 1,000'

DESIGN CERTIFICATION

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE "1994 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL," MONGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES EXECUTIVE REGULATIONS 5-90, 7-02AM AND 36-90.

I FURTHER CERTIFY THAT THE ESTIMATED TOTAL AMOUNTS OF EXCAVATION AND FILL AS SHOWN ON THESE PLANS HAVE BEEN COMPUTED TO BE 10 CUBIC YARDS OF EXCAVATION AND 190 CUBIC YARDS OF FILL AND THE TOTAL AREA TO BE DISTURBED AS SHOWN ON THESE PLANS HAS BEEN DETERMINED TO BE A MAXIMUM OF 23,522 SQUARE FEET OR 0.54 ACRES.

DENNIS A. SANTEUFEMIO P.E.
P.E. # 40778

DATE

OWNER'S/DEVELOPER'S CERTIFICATION

I/WE HEREBY CERTIFY THAT ALL CLEARING, GRADING, 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 THE PROJECT.

DATE — OWNER

60% SEMI-FINAL DESIGN

GENERAL NOTES

1. THE CONTRACTOR WILL IMMEDIATELY INFORM THE COUNTY OF ANY DISCREPANCIES FOUND BETWEEN THE PROJECT PLANS AND CONTRACT SPECIFICATIONS.
2. FOR CONSTRUCTION, ALL HORIZONTAL SHALL BE BASED ON NAD 83/91, NAVD 88 DATUM.
3. TYPES OF STORM DRAIN STRUCTURES REFER TO THE "DESIGN STANDARDS" OF MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION, UNLESS OTHERWISE NOTED.
4. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS TO STORM DRAIN STRUCTURES, WHEN NECESSARY, TO MEET EXISTING CONDITIONS, AS APPROVED BY MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES RIGHT OF WAY INSPECTOR.
5. INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS, BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATIONS AND ELEVATIONS OF THE LINES BY DIGGING TEST PITS BY HAND AT ALL UTILITY CROSSINGS, WELL IN ADVANCE OF TRENCHING. IF CLEARANCES ARE LESS THAN SHOWN OR SIX (6) INCHES, WHICHEVER IS LESS, THE CONTRACTOR SHALL CONTACT THE COUNTY.
6. REPAIRS TO UTILITIES OR PROPERTY DAMAGE AS A RESULT OF THE CONTRACTOR'S NEGLIGENCE OR METHOD OF OPERATION MUST BE MADE AT THE CONTRACTOR'S EXPENSE BEFORE PROCEEDING WITH CONSTRUCTION.
7. CALL "MISS UTILITY" AT 1-800-257-7777 FORTY-EIGHT (48) HOURS PRIOR TO BEGINNING EXCAVATION TO DETERMINE THE EXACT LOCATION OF EXISTING UTILITIES.
8. CLEARING IS TO BE LIMITED TO THE "LIMIT OF WORK" AS SHOWN ON THE PLANS.
9. THE CONTRACTOR SHALL OBTAIN A ROADSIDE TREE PERMIT FOR ANY MAINTENANCE, TREATMENT, PERMIT REQUIREMENTS MAY BE OBTAINED FROM THE DEPARTMENT OF NATURAL RESOURCES, PLANTING, REMOVAL, OR ROOT CUTTING ON TREES WITHIN THE PUBLIC RIGHT OF WAY. MARYLAND FOREST, PARK AND WILDLIFE SERVICE, TELEPHONE 301-854-6060.
10. CONTACT THE WASHINGTON SUBURBAN SANITARY COMMISSION SYSTEM MAINTENANCE ENGINEER BEFORE EXCAVATING BENEATH OR IN THE VICINITY OF EXISTING WATER OR SEWER LINES. BACKFILL TO BE DONE UNDER SUPERVISION OF W.S.S.C. CALL 301-699-4420.
11. CONTACT WASHINGTON GAS DISPATCH OFFICER AT (703)750-4831 BEFORE EXCAVATING BENEATH OR IN THE VICINITY OF EXISTING GAS MAIN AND SERVICE LATERALS.

DEPARTMENT OF PERMITTING SERVICES

Isiah Leggett, *County Executive* — Diane R. Schwartz Jones, *Director*

May 14, 2014

Amy Hribar, P.E.
McCormick Taylor, Inc.
509 S. Exeter Street, 4th floor
Baltimore, Maryland 21202

Re: Stormwater Management ***CONCEPT*** Request
for Game Preserve SWM Retrofit Asset #11200
(Plumgar II Regional)
SM File #: 262399
Tract Size/Zone: 2.42 Ac. / Residential
Total Concept Area: 2.42 Ac.
Parcel: Par A1
Watershed: Great Seneca Creek

Dear Ms. Hribar:

Based on a review by the Department of Permitting Services (DPS) Review Staff, the stormwater management concept for the above mentioned site is **acceptable**. The stormwater management concept consists of retrofitting an existing stormwater management structure to achieve what the Montgomery County Department of Environmental Protection (MCDEP) believes will be an additional environmental benefit. This project is not associated with new development; therefore it is not subject to minimum stormwater management treatment criteria. DPS will not review it for conformance with any such standards. Safe conveyance through the facility must be demonstrated.

The following **items and conditions** will need to be addressed **prior to approval of** the detailed sediment control/stormwater management plan:

1. A detailed review of the design and conveyance computations will occur at the time of detailed plan review.
2. An engineered sediment control plan must be submitted for this project.
3. A dam breach analysis must be approved by the Maryland Department of the Environment (MDE) prior to submission of detailed construction plans to DPS for review. If the breach analysis indicates that the pond is or will be considered a moderate or high hazard facility, DPS will urge MCDEP to consider removal of the pond, or to abandon the retrofit project. MCDEP and DPS have agreed not to allow construction of ponds that are considered to be moderate or high hazard facilities.
4. The pond retrofit must be designed to meet all applicable NRCS MD-378 criteria.
5. Approvals must be obtained from WSSC for the land disturbance within their right-of-way and the property owner of Parcel G, Seneca Park for the land disturbance on their property.

This list may not be all-inclusive and may change based on available information at the time.

255 Rockville Pike, 2nd Floor • Rockville, Maryland 20850 • 240-777-6300 • 240-777-6256 TTY
www.montgomerycountymd.gov

montgomerycountymd.gov/311 — 311 — 240-773-3556 TTY

Amy Hribar, P.E.
May 14, 2014
Page 2

Payment of a stormwater management contribution in accordance with Section 2 of the Stormwater Management Regulation 4-90 **is not required**.

This letter must appear on the sediment control/stormwater management plan at its initial submittal. The concept approval is based on all stormwater management structures being located outside of the Public Utility Easement, the Public Improvement Easement, and the Public Right of Way unless specifically approved on the concept plan. Any divergence from the information provided to this office, or additional information received during the development process, or a change in an applicable Executive Regulation may constitute grounds to rescind or amend any approval actions taken, and to reevaluate the site for additional or amended stormwater management requirements. If there are subsequent additions or modifications to the development, a separate concept request shall be required.

If you have any questions regarding these actions, please feel free to contact Mike Geier at 240-777-6342.

Sincerely,

Mark C. Etheridge, Manager
Water Resources Section
Division of Land Development Services

MCE: jb CN262399 Game Preserve Asset 11200.mjg.doc

cc: SM File # 262399

ESD Acres: n/a
STRUCTURAL Acres: n/a
WAIVED Acres: n/a

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	REQD	NOT REQD	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					
N.P.D.E.S. NOTICE OF INTENT			N/A	N/A	DATE FILED
OTHERS (Please List):					

OWNER/CONTACT/ADDRESS:

MR. PHILIP JONES, P.E.
DEPARTMENT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, STE 120
ROCKVILLE MD 20850-4166
240-777-7738

DPS PERMIT NO.

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES
FINAL APPROVAL
DATE
BY

•SUBJECT TO DEDICATION OF RIGHT OF WAY AND EASEMENTS PER COUNTY CODE SECTION 50.

McCORMICK TAYLOR
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

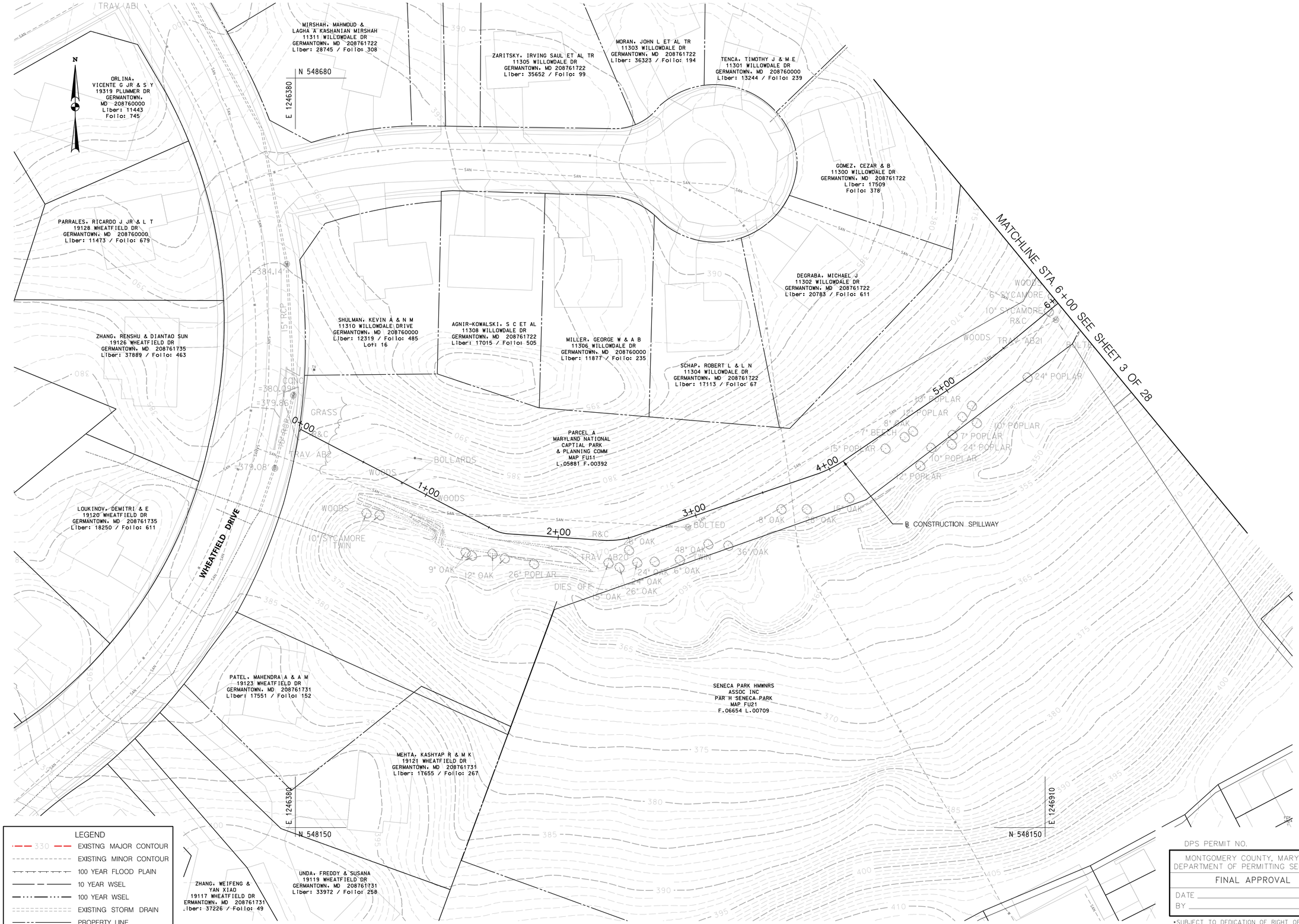
GAME PRESERVE SWM RETROFITS
GAITHERSBURG (9TH) ELECTION DISTRICT
PARCEL A1, SUBDIVISION SENECA PARK NORTH, LIBER 04772 FOLIO 00528
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PHILIP JONES, P.E.
(240) 777-7738

DESIGN	ACF
DRAFT	MER
APPROVED	DAS
DATE	MARCH '15
SCALE	

SHEET 1 OF 27

FILE: 13S182/18 - Cabin Branch SWM Retrofit\Design\Engineering\PlanSet\11200\pDx-1001_Cabin Branch pond 11200.dgn
PLOTTED: Thursday, April 23, 2015 AT 11:10 AM



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McCORMICK TAYLOR
509 South Exeter Street
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(410) 662-7400

EXISTING CONDITIONS PLAN

GAME PRESERVE SWM RETROFITS

GAITHERSBURG (9TH) ELECTION DISTRICT

PARCEL A1, SUBDIVISION SENECA PARK NORTH, LIBER 04772 FOLIO 00528

MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF
ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PHILIP JONES, P.E.
(240) 777-7738

DESIGN	ACF
DRAFT	MER
APPROVED	DAS
DATE	MARCH '15
SCALE	1"=30'

SHEET 2 OF 27

FILE: 1351826.15 - Cabin Branch SWM Retrofit\Design\Engineering\PlanSet\11200\gEC-P001_Cabin Branch pond 11200.dgn
PLOTTED: Thursday, April 23, 2015 AT 11:10 AM

DPS PERMIT NO.

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BY _____

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McCORMICK TAYLOR
509 South Exeter Street
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(410) 662-7400

EXISTING CONDITIONS PLAN

GAME PRESERVE SWM RETROFITS

GAITHERSBURG (9TH) ELECTION DISTRICT

PARCEL A1, SUBDIVISION SENECA PARK NORTH, LIBER 04772 FOLIO 00528

MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PHILIP JONES, P.E.
(240) 777-7738

DESIGN	ACF
DRAFT	MER
APPROVED	DAS
DATE	MARCH '15
SCALE	1"=30'

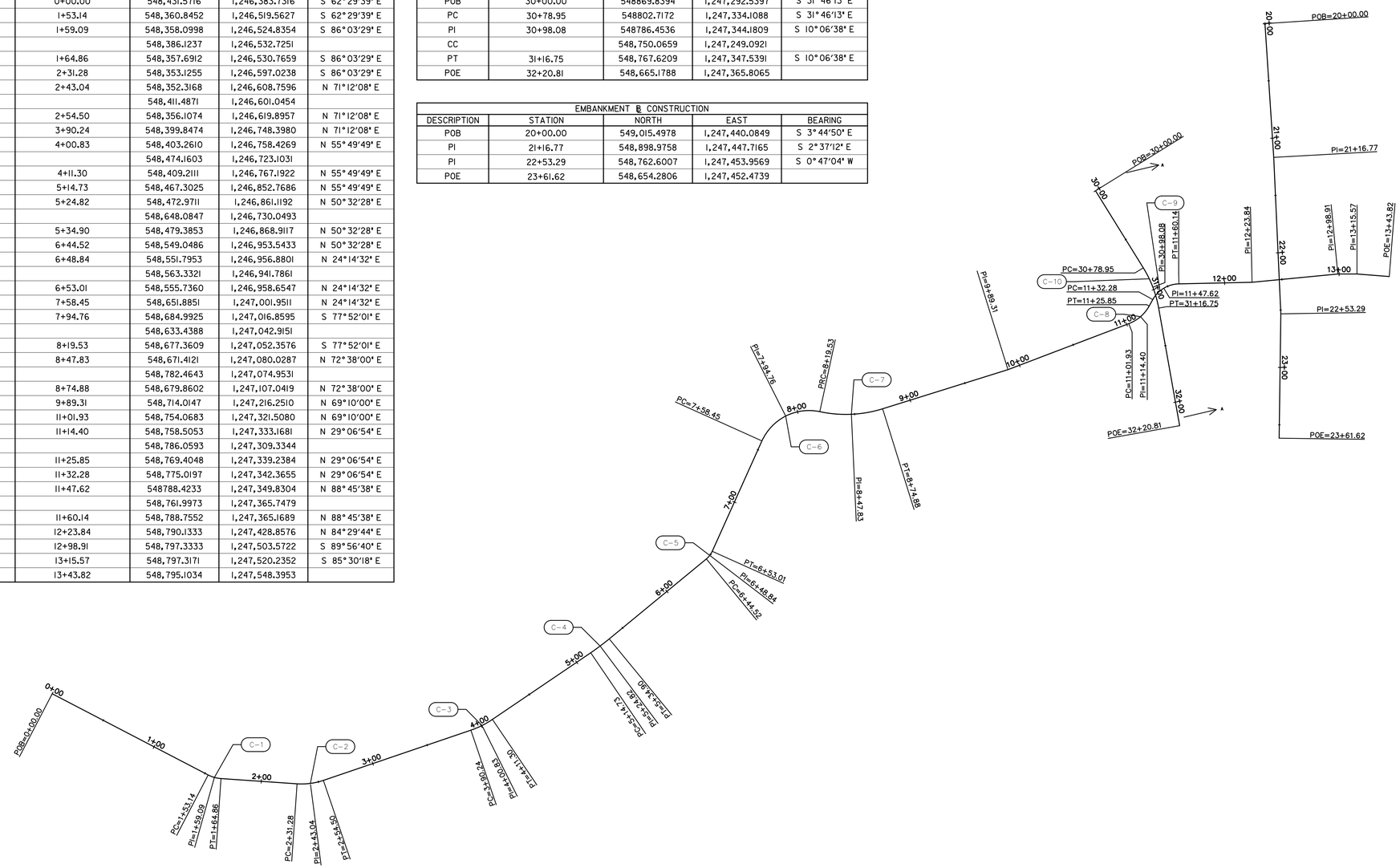
SHEET 3 OF 27

FILE: 1151921B - Catlin Branch SWM Retrofit\Design\Engineering\PlanSet\11200\pEC-P002_Catlin Branch pond 11200.dgn
PLOTTED: Thursday, April 23, 2015 AT 11:10 AM

CROSS SECTION @ CONSTRUCTION				
DESCRIPTION	STATION	NORTH	EAST	BEARING
POB	0+00.00	548,431.5716	1,246,383.7316	S 62°29'39" E
PC	1+53.14	548,360.8452	1,246,519.5627	S 62°29'39" E
PI	1+59.09	548,358.0998	1,246,524.8354	S 86°03'29" E
CC		548,386.1237	1,246,532.7251	
PT	1+64.86	548,357.6912	1,246,530.7659	S 86°03'29" E
PC	2+31.28	548,353.1255	1,246,597.0238	S 86°03'29" E
PI	2+43.04	548,352.3168	1,246,608.7596	N 71°12'08" E
CC		548,411.4871	1,246,601.0454	
PT	2+54.50	548,356.1074	1,246,619.8957	N 71°12'08" E
PC	3+90.24	548,399.8474	1,246,748.3980	N 71°12'08" E
PI	4+00.83	548,403.2610	1,246,758.4269	N 55°49'49" E
CC		548,474.1603	1,246,723.1031	
PT	4+11.30	548,409.2111	1,246,767.1922	N 55°49'49" E
PC	5+14.73	548,467.3025	1,246,852.7686	N 55°49'49" E
PI	5+24.82	548,472.9711	1,246,861.1192	N 50°32'28" E
CC		548,648.0847	1,246,730.0493	
PT	5+34.90	548,479.3853	1,246,868.9117	N 50°32'28" E
PC	6+44.52	548,549.0486	1,246,953.5433	N 50°32'28" E
PI	6+48.84	548,551.7953	1,246,956.8801	N 24°14'32" E
CC		548,563.3321	1,246,941.7861	
PT	6+53.01	548,555.7360	1,246,958.6547	N 24°14'32" E
PC	7+58.45	548,651.8851	1,247,001.9511	N 24°14'32" E
PI	7+94.76	548,684.9925	1,247,016.8595	S 77°52'01" E
CC		548,633.4388	1,247,042.9151	
PRC	8+19.53	548,677.3609	1,247,052.3576	S 77°52'01" E
PI	8+47.83	548,671.4121	1,247,080.0287	N 72°38'00" E
CC		548,782.4643	1,247,074.9531	
PT	8+74.88	548,679.8602	1,247,107.0419	N 72°38'00" E
PI	9+89.31	548,714.0147	1,247,216.2510	N 69°10'00" E
PC	11+01.93	548,754.0683	1,247,321.5080	N 69°10'00" E
PI	11+14.40	548,758.5053	1,247,333.1681	N 29°06'54" E
CC		548,786.0593	1,247,309.3344	
PT	11+25.85	548,769.4048	1,247,339.2384	N 29°06'54" E
PC	11+32.28	548,775.0197	1,247,342.3655	N 29°06'54" E
PI	11+47.62	548788.4233	1,247,349.8304	N 88°45'38" E
CC		548,761.9973	1,247,365.7479	
PT	11+60.14	548,788.7552	1,247,365.1689	N 88°45'38" E
PI	12+23.84	548,790.1333	1,247,428.8576	N 84°29'44" E
PI	12+98.91	548,797.3333	1,247,503.5722	S 89°56'40" E
PI	13+15.57	548,797.3171	1,247,520.2352	S 85°30'18" E
POE	13+43.82	548,795.1034	1,247,548.3953	

CROSS SECTION @ CONSTRUCTION				
DESCRIPTION	STATION	NORTH	EAST	BEARING
POB	30+00.00	548869.8394	1,247,292.5397	S 31°46'13" E
PC	30+78.95	548802.7172	1,247,334.1088	S 31°46'13" E
PI	30+98.08	548786.4536	1,247,344.1809	S 10°06'38" E
CC		548,750.0659	1,247,249.0921	
PT	31+16.75	548,767.6209	1,247,347.5391	S 10°06'38" E
POE	32+20.81	548,665.1788	1,247,365.8065	

EMBANKMENT @ CONSTRUCTION				
DESCRIPTION	STATION	NORTH	EAST	BEARING
POB	20+00.00	549,015.4978	1,247,440.0849	S 3°44'50" E
PI	21+16.77	548,898.9758	1,247,447.7165	S 2°37'12" E
PI	22+53.29	548,762.6007	1,247,453.9569	S 0°47'04" W
POE	23+61.62	548,654.2806	1,247,452.4739	



SPILLWAY @ CURVE DATA								
CURVE NO.	DELTA	Dc	R	T	L	E	CENTER OF CURVE	
							NORTHING	EASTING
C-1	23°33'50"	201°02'16"	28.50'	5.94'	11.72'	0.61	548386.1237	1246532.7251
C-2	22°44'22"	97°56'29"	58.50'	11.76'	23.22'	1.17	548411.4871	1246601.0454
C-3	15°22'19"	72°59'18"	78.50'	10.59'	21.06'	0.71	548474.1603	1246723.1031
C-4	5°17'22"	26°13'20"	218.50'	10.09'	20.17'	0.23	548648.0847	1246730.0493
C-5	26°17'55"	309°42'25"	18.50'	4.32'	8.49'	0.5	548563.3321	1246941.7861
C-6	77°53'27"	127°32'04"	44.93'	36.31'	61.07'	12.84	548633.4388	1247042.9151
C-7	29°29'59"	53°17'46"	107.50'	28.30'	55.35'	3.66	548782.4643	1247074.9531
C-8	40°03'06"	167°23'23"	34.23'	12.48'	23.93'	2.2	548786.0593	1247309.3344
C-9	59°38'44"	214°04'36"	26.76'	15.34'	27.86'	4.09	548761.9973	1247365.7479

SPILLWAY @ CURVE DATA								
CURVE NO.	DELTA	Dc	R	T	L	E	CENTER OF CURVE	
							NORTHING	EASTING
C-10	21°39'34"	57°17'45"	100.00'	19.13'	37.80'	1.81	548750.0659	1247249.0921

DPS PERMIT NO.

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES

FINAL APPROVAL

DATE _____

BY _____

*SUBJECT TO DEDICATION OF RIGHT OF WAY AND EASEMENTS PER COUNTY CODE SECTION 50.

McCORMICK TAYLOR
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

GEOMETRIC LAYOUT SHEET

GAME PRESERVE SWM RETROFITS

GAITHERSBURG (9TH) ELECTION DISTRICT

PARCEL A1, SUBDIVISION SENECA PARK NORTH, LIBER 04772 FOLIO 00528

MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF
ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PHILIP JONES, P.E.
(240) 777-7738

DESIGN	AGB
DRAFT	MER
APPROVED	DAS
DATE	MARCH '15
SCALE	1"=20'

SHEET 4 OF 27

FILE: 1151812\18 - Cabin Branch SWM Retrofit\Design\Engineering\PlanSet\11200\G55-0001_Cabin Branch pond 11200.dgn
PLOTTED: Thursday, April 23, 2015 AT 11:10 AM

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509 South Exeter Street
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(410) 662-7400

STORMWATER MANAGEMENT PLAN

GAME PRESERVE SWM RETROFITS

GAITHERSBURG (9TH) ELECTION DISTRICT

PARCEL A1, SUBDIVISION SENECA PARK NORTH, LIBER 04772 FOLIO 00528

MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF
ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PHILIP JONES, P.E.
(240) 777-7738

DESIGN	ACF
DRAFT	MER
APPROVED	DAS
DATE	MARCH '15
SCALE	1"=30'

SHEET 5 OF 27

FILE: I:\51852\18 - Cabin Branch SWM Retrofit\Design\Engineering\PlanSet\11200\g5R-P001_Cabin Branch pond 11200.dgn
PLOTTED: Thursday, April 23, 2015 AT 11:10 AM

CLASS I RIPRAP FOR SLOPE AND CHANNEL PROTECTION		
882 SY	SPILLWAY - STA 10+03, 0' RT	FOREBAY WEIR
115 SY	SPILLWAY - STA 11+965, 88' LT	EW-1

REMOVAL OF EXISTING PIPE ANY SIZE		
92 LF	SPILLWAY - STA 6+00, 8' RT TO STA 6+12, 9' RT	12IN TERRA.

REMOVAL OF EXISTING STRUCTURE		
	SPILLWAY - STA 11+59, 71' LT	12IN TERRA. ENDWALL
1 LS	SPILLWAY - STA 11+75, 8' RT	36IN CMP RISER
	SPILLWAY - STA 11+88, 76' LT	24IN HEADWALL

LEGEND

- 330 — EXISTNG MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- 350 — PROPOSED MAJOR CONTOUR
- 351 — PROPOSED MINOR CONTOUR
- 100 YEAR FLOOD PLAIN
- PROPERTY LINE
- LOD — LIMIT OF DISTURBANCE
- EXISTING STORM DRAIN
- 24" RCP
- CLASS I RIPRAP
- SOIL BORING LOCATION

POND GRADING TABLE				
NO	STATION	OFFSET	NORTHING	EASTING
1	8+93.81	0.31 LT	548685.8094	1247125.0165
2	9+21.27	33.23 LT	548725.4243	1247141.3937
3	9+23.57	21.46 LT	548714.8745	1247147.1123
4	9+30.48	52.22 LT	548746.2930	1247144.5260
5	9+32.95	67.01 LT	548761.1505	1247142.4633
6	9+81.03	29.67 LT	548739.8578	1247199.4970
7	9+98.60	14.60 LT	548730.9691	1247219.7447
8	10+03.79	38.97 LT	548755.5882	1247215.9261
9	10+07.28	54.19 LT	548771.0519	1247213.7792
10	10+21.17	22.58 LT	548746.4557	1247238.0046
11	10+29.41	28.39 LT	548754.8134	1247243.6319
12	10+40.19	34.55 LT	548764.4051	1247251.5213
13	10+90.11	52.62 LT	548799.0472	1247291.7486
14	11+36.50	50.61 LT	548809.7834	1247304.8962
15	11+58.18	54.31 LT	548842.7109	1247358.0646
16	11+73.13	99.31 LT	548888.3225	1247376.0045

POND GRADING TABLE				
NO	STATION	OFFSET	NORTHING	EASTING
17	11+87.38	34.67 LT	548824.0072	1247391.6479
18	12+18.20	72.39 LT	548862.3829	1247421.6495
19	9+16.87	38.67 RT	548655.4825	1247158.6568
20	9+20.40	33.31 RT	548661.6514	1247160.4274
21	9+23.01	21.60 RT	548673.6097	1247159.4282
22	9+56.09	47.43 RT	548658.8289	1247198.7062
23	9+87.08	30.80 RT	548683.9552	1247223.3154
24	9+94.51	52.64 RT	548666.6652	1247239.8416
25	10+00.58	13.14 RT	548705.7448	1247231.4594
26	10+08.78	3.48 RT	548717.6897	1247235.6940
27	10+26.45	21.88 RT	548706.7765	1247258.7536
28	11+17.85	52.82 RT	548727.2397	1247373.5099
29	11+85.75	40.42 RT	548748.8981	1247391.6479
30	11+94.56	92.49 RT	548697.0290	1247401.5843
31	12+19.93	63.50 RT	548726.5631	1247426.3179

DPS PERMIT NO.

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES
FINAL APPROVAL
DATE _____
BY _____

•SUBJECT TO DEDICATION OF RIGHT OF WAY AND EASEMENTS PER COUNTY CODE SECTION 50.

McCORMICK TAYLOR
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

STORMWATER MANAGEMENT PLAN

GAME PRESERVE SWM RETROFITS

GAITHERSBURG (9TH) ELECTION DISTRICT

PARCEL A1, SUBDIVISION SENECA PARK NORTH, LIBER 04772 FOLIO 00528

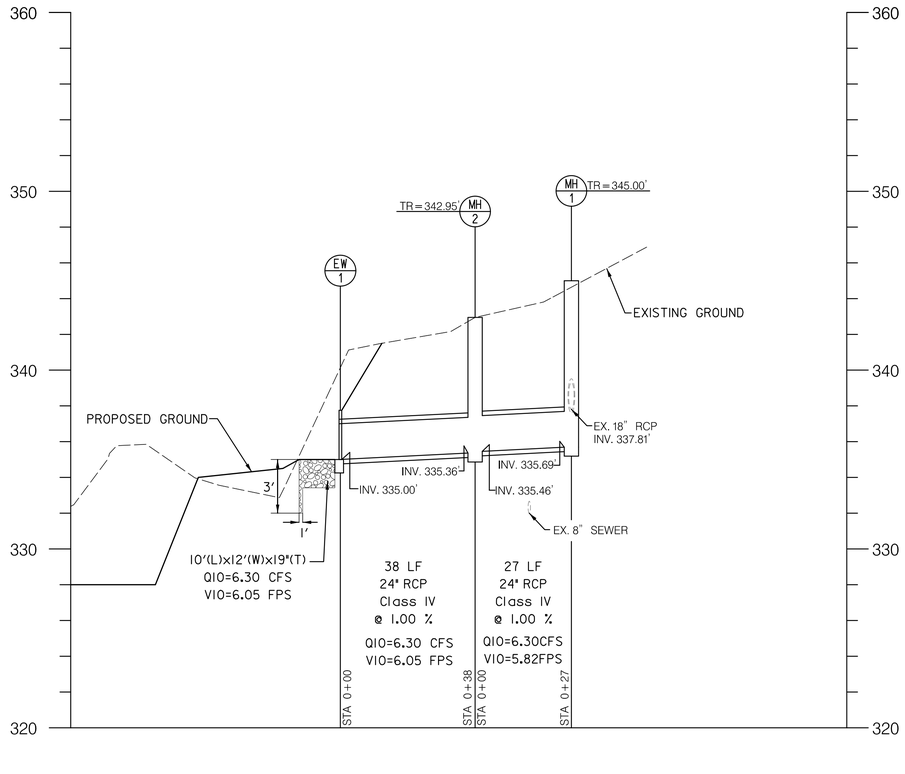
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PHILIP JONES, P.E.
(240) 777-7738

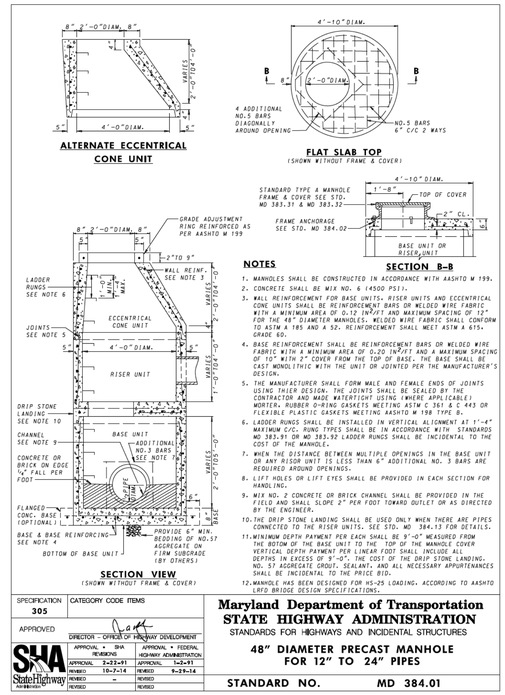
DESIGN	ACF	
DRAFT	MER	
APPROVED	DAS	
DATE	MARCH '15	
SCALE	1"=50'	

SHEET 6 OF 27

FILE: I:\51152\18 - Cabin Branch SWM Retrofit\Design\Engineering\PlanSet\11200\pSR-P002_Cabin Branch pond 11200.dgn
PLOTTED: Thursday, April 23, 2015 AT 11:10 AM



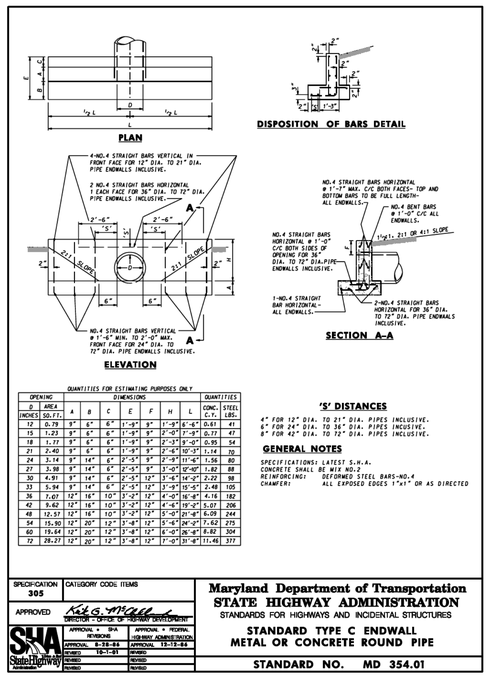
EW-1 TO MH-1
HORIZ: 1" = 20'
VERT: 1" = 4'



NOTES

1. MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH AASHTO M 199.
2. CONCRETE SHALL BE MIX NO. 6 (4500 PSI).
3. WALL REINFORCEMENT FOR BASE UNITS, RISER UNITS AND ECCENTRICAL CONE UNITS SHALL BE REINFORCEMENT BARS OR WELDED WIRE FABRIC WITH A MINIMUM AREA OF 0.12 IN^2/FT AND MAXIMUM SPACING OF 12" FOR THE 48" DIAMETER MANHOLES. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 AND A 52. REINFORCEMENT SHALL MEET ASTM A 615, GRADE 60.
4. BASE REINFORCEMENT SHALL BE REINFORCEMENT BARS OR WELDED WIRE FABRIC WITH A MINIMUM AREA OF 0.20 IN^2/FT AND A MAXIMUM SPACING OF 10" WITH 2" COVER FROM THE TOP OF BASE. THE BASE SHALL BE CAST MONOLITHIC WITH THE UNIT OR JOINTED PER THE MANUFACTURER'S DESIGN.
5. THE MANUFACTURER SHALL FORM MALE AND FEMALE ENDS OF JOINTS USING THIER DESIGN. THE JOINTS SHALL BE SEALED BY THE CONTRACTOR AND MADE WATERTIGHT USING (WHERE APPLICABLE) MORTER, RUBBER O-RING GASKETS MEETING ASTM C 361 & C 443 OR FLEXIBLE PLASTIC GASKETS MEETING AASHTO M 198 TYPE B.
6. LADDER RUNGS SHALL BE INSTALLED IN VERTICAL ALIGNMENT AT 1'-4" MAXIMUM C/C. RUNG TYPES SHALL BE IN ACCORDANCE WITH STANDARDS MD 383.91 OR MD 383.92 LADDER RUNGS SHALL BE INCIDENTAL TO THE COST OF THE MANHOLE.
7. WHEN THE DISTANCE BETWEEN MULTIPLE OPENINGS IN THE BASE UNIT OR ANY RISOR UNIT IS LESS THAN 6" ADDITIONAL NO. 3 BARS ARE REQUIRED AROUND OPENINGS.
8. LIFT HOLES OR LIFT EYES SHALL BE PROVIDED IN EACH SECTION FOR HANDLING.
9. MIX NO. 2 CONCRETE OR BRICK CHANNEL SHALL BE PROVIDED IN THE FIELD AND SHALL SLOPE 2" PER FOOT TOWARD OUTLET OR AS DIRECTED BY THE ENGINEER.
10. THE DRIP STONE LANDING SHALL BE USED ONLY WHEN THERE ARE PIPES CONNECTED TO THE RISER UNITS. SEE STD. MD 384.13 FOR DETAILS.
11. MINIMUM DEPTH PAVMENT PER EACH SHALL BE 9'-0" MEASURED FROM THE BOTTOM OF THE BASE UNIT TO THE TOP OF THE MANHOLE COVER VERTICAL DEPTH PAVMENT PER LINEAR FOOT SHALL INCLUDE ALL DEPTHS IN EXCESS OF 9'-0". THE COST OF THE DRIP STONE LANDING, NO. 57 AGGREGATE GROUT, SEALANT, AND ALL NECESSARY APPURTENANCES SHALL BE INCIDENTAL TO THE PRICE BID.
12. MANHOLE HAS BEEN DESIGNED FOR HS-25 LOADING, ACCORDING TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

SPECIFICATION 305	CATEGORY CODE ITEMS	Maryland Department of Transportation STATE HIGHWAY ADMINISTRATION STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES 48" DIAMETER PRECAST MANHOLE FOR 12" TO 24" PIPES
APPROVED	DIRECTOR – OFFICE OF HIGHWAY DEVELOPMENT	
SHA State Highway Administration	APPROVAL + SHA REVISIONS: APPROVAL 3-22-91, REVISED 10-7-14, REVISED –, REVISED	APPROVAL + FEDERAL HIGHWAY ADMINISTRATION: APPROVAL 1-2-91, REVISED 9-29-14, REVISED, REVISED
		STANDARD NO. MD 384.01



QUANTITIES FOR ESTIMATING PURPOSES ONLY

OPENING D (INCHES)	OPENING AREA (SQ.FT.)	DIMENSIONS A	B	C	E	F	H	L	QUANTITIES CONC. C.Y.	QUANTITIES STEEL LBS.
12	0.79	9"	6"	6"	1'-9"	9"	1'-9"	6'-6"	0.61	41
15	1.23	9"	6"	6"	1'-9"	9"	2'-0"	7'-9"	0.77	47
18	1.77	9"	6"	6"	1'-9"	9"	2'-3"	9'-0"	0.95	54
21	2.40	9"	6"	6"	1'-9"	9"	2'-6"	10'-3"	1.14	70
24	3.14	9"	14"	6"	2'-3"	9"	2'-9"	11'-6"	1.36	80
27	3.98	9"	14"	6"	2'-3"	9"	3'-0"	12'-9"	1.82	88
30	4.91	9"	14"	6"	2'-3"	12"	3'-6"	14'-0"	2.22	98
33	5.94	9"	14"	6"	2'-3"	12"	3'-9"	15'-6"	2.48	105
36	7.07	12"	16"	10"	3'-2"	12"	4'-0"	16'-8"	4.16	182
42	9.62	12"	16"	10"	3'-2"	12"	4'-6"	19'-0"	5.07	206
48	12.57	12"	16"	10"	3'-2"	12"	5'-0"	21'-6"	6.09	244
54	15.90	12"	20"	12"	3'-8"	12"	5'-6"	24'-0"	7.62	275
60	19.64	12"	20"	12"	3'-8"	12"	6'-0"	26'-6"	8.82	304
72	28.27	12"	20"	12"	3'-8"	12"	7'-0"	31'-6"	11.46	377

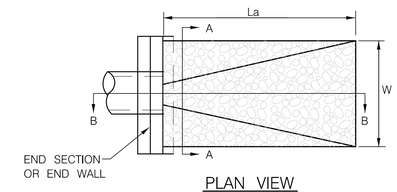
'S' DISTANCES

4" FOR 12" DIA. TO 21" DIA. PIPES INCLUSIVE.
6" FOR 24" DIA. TO 36" DIA. PIPES INCLUSIVE.
8" FOR 42" DIA. TO 72" DIA. PIPES INCLUSIVE.

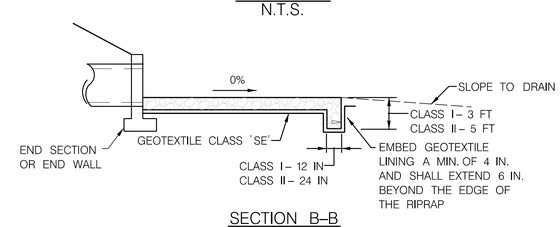
GENERAL NOTES

SPECIFICATIONS: LATEST S.H.A.
CONCRETE SHALL BE MIX NO.2
REINFORCING: DEFORMED STEEL BARS-NO.4
CHAMFER: ALL EXPOSED EDGES 1"x1" OR AS DIRECTED

SPECIFICATION 305	CATEGORY CODE ITEMS	Maryland Department of Transportation STATE HIGHWAY ADMINISTRATION STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES STANDARD TYPE C ENDWALL METAL OR CONCRETE ROUND PIPE
APPROVED	DIRECTOR – OFFICE OF HIGHWAY DEVELOPMENT	
SHA State Highway Administration	APPROVAL + SHA REVISIONS: APPROVAL 8-28-84, REVISED 10-1-03, REVISED, REVISED	APPROVAL + FEDERAL HIGHWAY ADMINISTRATION: APPROVAL 12-12-84, REVISED, REVISED, REVISED
		STANDARD NO. MD 354.01

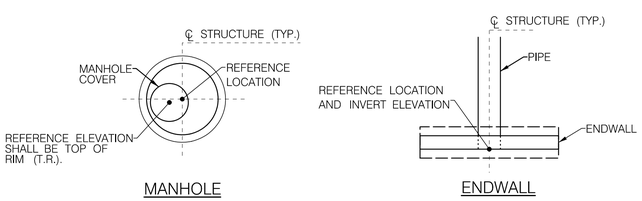


PLAN VIEW
N.T.S.



SECTION B-B
N.T.S.

RIPRAP OUTLET PROTECTION TYPICAL DETAIL
N.T.S.



DRAINAGE STRUCTURE STAKEOUT LOCATION DETAILS
N.T.S.

RIPRAP OUTLET PROTECTION SCHEDULE

OUTLET STRUCTURE ID	La (LF)	W (LF)	CLASS	T (IN)	H (FT)	Z1 (H:1)	Z2 (H:1)	TYPE	RIPRAP QTY (SY)	CUTOFF WALL QTY (LF)
EW-1	10	12	CLASS I	19	1.2	3:1	3:1	ROP I	12	12

PIPE SCHEDULE

STRUCTURE FROM	STRUCTURE TO	SIZE (IN)	TYPE	LENGTH (LF)
MH-1	MH-2	24	RCP, CLASS IV	27
MH-2	EW-1	24	RCP, CLASS IV	38

DRAINAGE STRUCTURE SCHEDULE

STRUCTURE ID	STATION	OFFSET (LF)	BASELINE	TYPE	STANDARD SHA NO.	TOP	INVERT	VERTICAL DEPTH (TOTAL) (LF)	REMARKS
MH-1	12+06.07	147.77 LT	SPILLWAY	48 INCH PRECAST MANHOLE FOR 12 TO 24 INCH PIPES	MD 384.01	345.00	335.69	3.90	24 INCH PIPE
MH-2	12+14.71	122.28 LT	SPILLWAY	48 INCH PRECAST MANHOLE FOR 12 TO 24 INCH PIPES	MD 384.01	342.95	335.36	3.34	24 INCH PIPE
EW-1	11+95.63	88.50 LT	SPILLWAY	STANDARD TYPE C ENDWALL	MD 354.01		335.00		24 INCH PIPE

DPS PERMIT NO.

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES
FINAL APPROVAL
DATE
BY

*SUBJECT TO DEDICATION OF RIGHT OF WAY AND EASEMENTS PER COUNTY CODE SECTION 50.

McCORMICK TAYLOR
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

STORM DRAIN PROFILES AND DRAINAGE DETAILS

GAME PRESERVE SWM RETROFITS

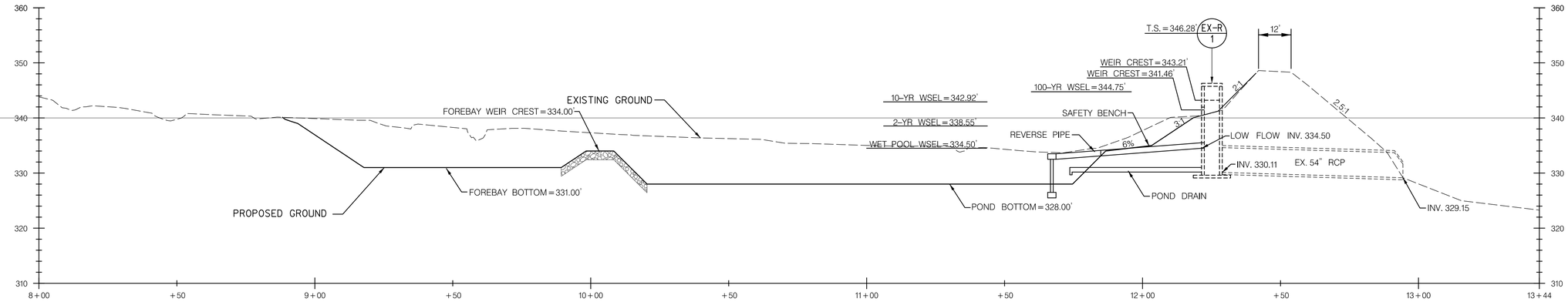
GAITHERSBURG (9TH) ELECTION DISTRICT
PARCEL A1, SUBDIVISION SENECA PARK NORTH, LIBER 04772 FOLIO 00528
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PHILIP JONES, P.E.
(240) 777-7738

DESIGN	AGB	DRAFT	MER	APPROVED	DAS	DATE	MARCH '15	SCALE	AS NOTED

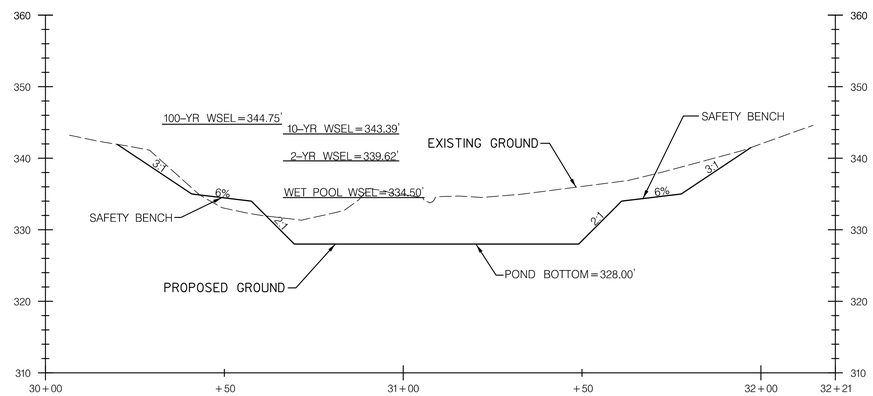
SHEET 7 OF 27

FILE: I:\51852\18 - Cabin Branch SWM Retrofit\Design\Engineering\PlanSet\11200\p2P-V002_CabinBranch pond 11200.dgn
PLOTTED: Thursday, April 23, 2015 AT 11:10 AM



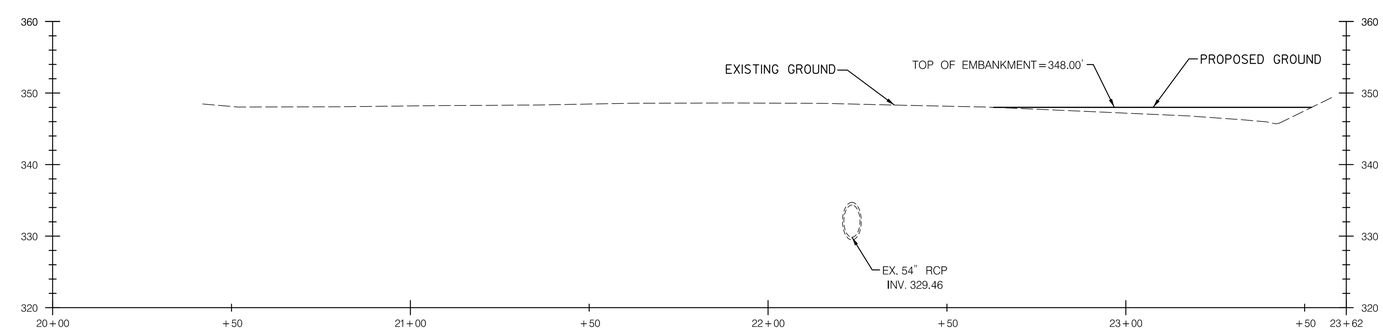
℄ CONSTRUCTION SPILLWAY PROFILE

HORIZ: 1" = 20'
VERT: 1" = 10'



℄ CONSTRUCTION CROSS-SECTION PROFILE

HORIZ: 1" = 20'
VERT: 1" = 10'



℄ CONSTRUCTION EMBANKMENT PROFILE

HORIZ: 1" = 20'
VERT: 1" = 10'

DPS PERMIT NO.

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES
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(410) 662-7400

STORMWATER MANAGEMENT PROFILES

GAME PRESERVE SWM RETROFITS

GAITHERSBURG (9TH) ELECTION DISTRICT

PARCEL A1, SUBDIVISION SENECA PARK NORTH, LIBER 04772 FOLIO 00528

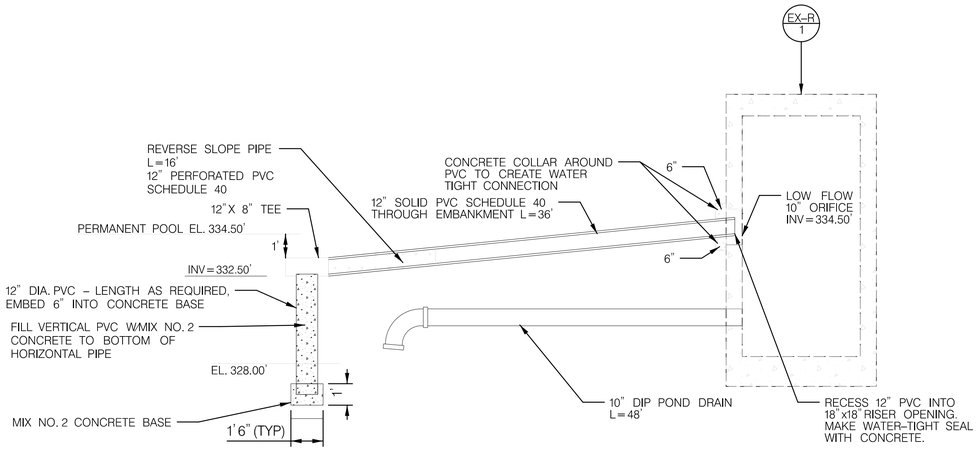
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PHILIP JONES, P.E.
(240) 777-7738

DESIGN	ABB
DRAFT	MER
APPROVED	DAS
DATE	MARCH '15
SCALE	AS NOTED

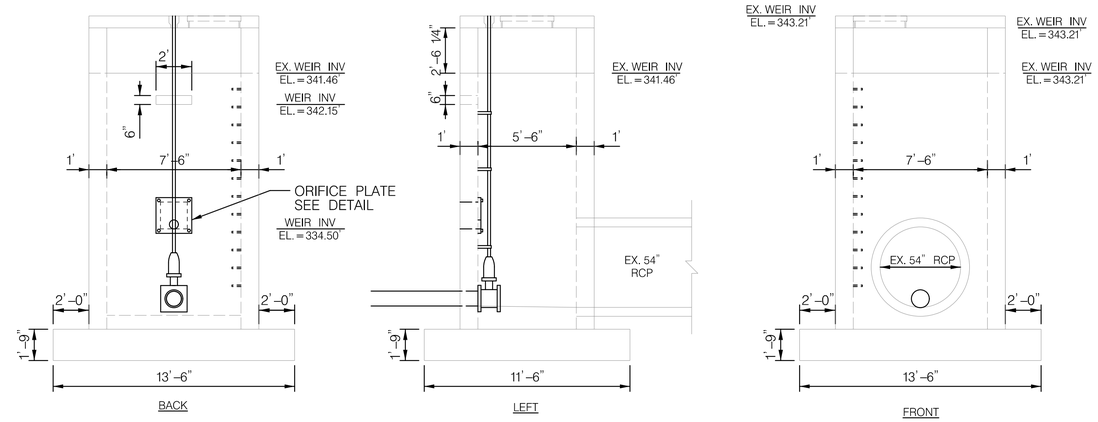
SHEET 8 OF 27

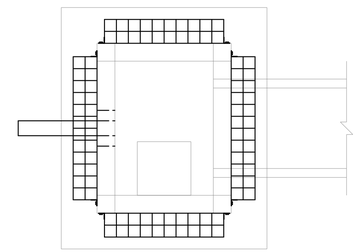
FILE: I:\5158218 - Cabin Branch SWM Retrofit\Design\Engineering\Plan\Sell11200\p0P-v001_CabinBranch pond 11200.dgn
PLOTTED: Thursday, April 23, 2015 AT 11:10 AM



REVERSE SLOPE PIPE DETAIL

NOT TO SCALE





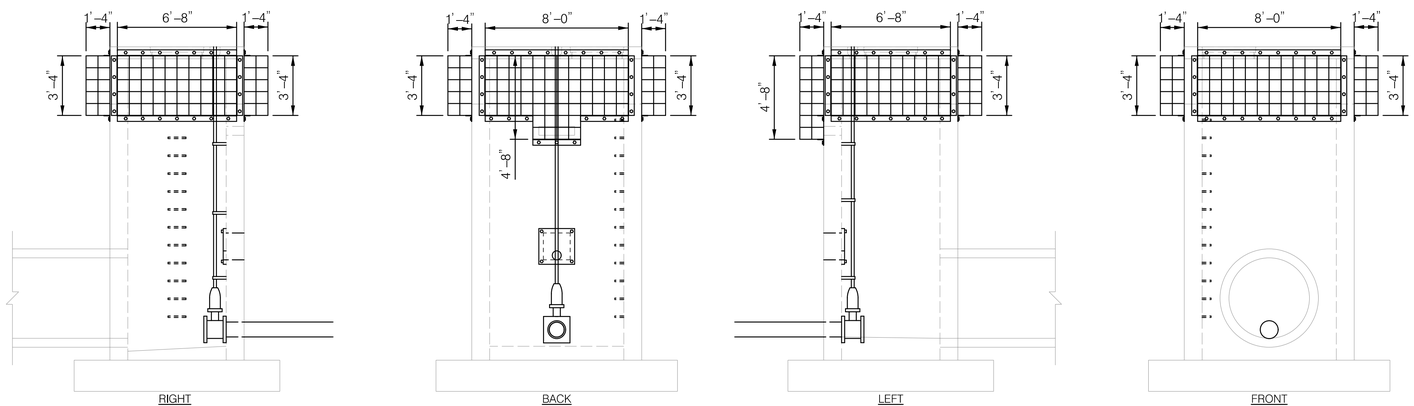
PLAN

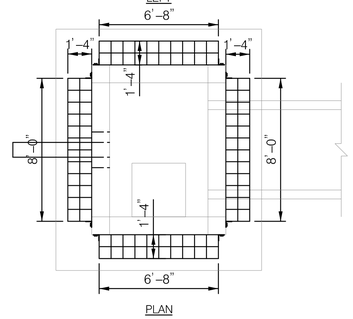
RISER ELEVATION

SCALE: 1" = 2'

RISER CONSTRUCTION NOTES:

1. AFTER DRILLING THE PROPOSED 1' X 1' ORIFICE, THE CONTRACTOR SHALL COAT ANY EXPOSED REINFORCEMENT WITH ZINC RICH PRIMER (FX-406 BY SIMPSON STONG-TIE OR APPROVED EQUAL).
2. BONDING AGENT (FX-752 BY SIMSON STRONG-TIE OR APPROVED EQUAL) SHALL BE USED PRIOR TO PLACING NEW CONCRETE AGAINST EXISTING CONCRETE SURFACES.
3. CONCRETE RISER WEIR SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH RISER MODIFICATION. PAYMENT WILL BE FULL COMPENSATION FOR ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS REQUIRED TO SATISFACTORILY CONSTRUCT THE PROPOSED CONCRETE WIER, INSTALL REBAR, AND CONNECTION PLATES.





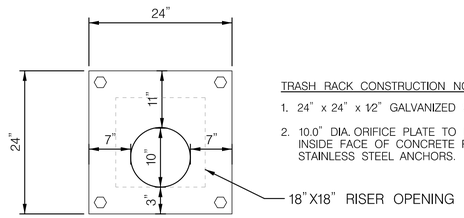
PLAN

TRASH RACK DETAIL

SCALE: 1" = 2'

TRASH RACK CONSTRUCTION NOTES:

1. FRAME SHALL BE CONSTRUCTED OF 4" X 4" X 1/4" STEEL ANGLE WITH THE CORNERS MITRED AND BUTT WELDED.
2. THE FRAME SHALL BE PAINTED WITH TWO COATS OF COLD GALVANIZED COMPOUND IN "BATTLESHIP GREY".
3. BARS SHALL BE #6 REBAR AT 6" CC EACH WAY, HOT-DIPPED GALVANIZED AND FILLET WELDED TO THE ANGLE FRAME.
4. ALL STEEL SHALL BE ASTM A-36.
5. TRASH RACK SHALL BE BOLTED ONTO THE OUTSIDE FACE OF THE RISER USING 3/8" DIA. STAINLESS STEEL EXPANSION BOLTS, @ 11" CC MIN. 4" FROM EDGE OF CONCRETE RISER. DRILL ANGLE FRAME TO ALLOW PASSAGE OF BOLTS.
6. ENSURE A 1' CLEARANCE BETWEEN TRASH RACK AND DAM EMBANKMENT SLOPE.



ORIFICE PLATE

NOT TO SCALE

TRASH RACK CONSTRUCTION NOTES:

1. 24" x 24" x 1/2" GALVANIZED STEEL PLATE ORIFICE.
2. 10.0" DIA. ORIFICE PLATE TO BE BOLTED TO THE INSIDE FACE OF CONCRETE RISER USING 1/2" STAINLESS STEEL ANCHORS.

DPS PERMIT NO.

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES

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509 South Exeter Street
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STORM WATER MANAGEMENT DETAILS

GAME PRESERVE SWM RETROFITS

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PARCEL A1, SUBDIVISION SENECA PARK NORTH, LIBER 04772 FOLIO 00528

MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF
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255 ROCKVILLE PIKE, RM. 120
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MR. PHILIP JONES, P.E.
(240) 777-7738

DESIGN	AGB
DRAFT	MER
APPROVED	DAS
DATE	MARCH '15
SCALE	

SHEET 9 OF 27

FILE: 1151826\18 - Cabin Branch SWM Retrofit\Design\Engineering\PlanSet\11200\pSR-0001_Cabin Branch Pond 11200.dgn
PLOTTED: Thursday, April 23, 2015 AT 11:10 AM

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES
STORMWATER MANAGEMENT POND CONSTRUCTION SPECIFICATIONS
REVISED JANUARY 2009

THESE SPECIFICATIONS ARE APPROPRIATE TO ALL PONDS WITHIN THE SCOPE OF THE STANDARD FOR PRACTICE MD–378. ALL REFERENCES TO ASTM, MSHA, AND AASHTO SPECIFICATIONS APPLY TO THE MOST RECENT VERSION.

A. CONSTRUCTION INSPECTION BY DESIGNATED ENGINEER

THE CONSTRUCTION OF THE POND AND EMBANKMENT SHALL BE UNDER THE SUPERVISION OF A REGISTERED PROFESSIONAL ENGINEER. THE ENGINEER MUST SUBMIT WRITTEN CERTIFICATION THAT THE POND AND EMBANKMENT HAVE BEEN BUILT IN ACCORDANCE WITH THE APPROVED PLANS TO THE DEPARTMENT OF PERMITTING SERVICES (DPS) ALONG WITH A RECORD DRAWING, SOIL COMPACTION TESTS, CONCRETE TESTS, AND OTHER REQUIRED CONSTRUCTION DOCUMENTATION. THIS SHOULD BE DONE IMMEDIATELY FOLLOWING THE COMPLETION OF THE PROJECT, UNLESS OTHERWISE DESIGNATED ON THE PLANS. THE ENGINEER SHALL HAVE THE RESPONSIBILITY AND AUTHORITY TO MAKE MINOR CHANGES IN THE PLANS IN ORDER TO COMPENSATE FOR UNUSUAL SOIL CONDITIONS ENCOUNTERED DURING CONSTRUCTION AS LONG AS CHANGES DO NOT ADVERSELY AFFECT THE INTEGRITY OF THE DAM. MAJOR CHANGES TO THE DESIGN, WHICH MAY RESULT FROM SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION, MUST BE REVIEWED AND APPROVED BY THE DESIGN ENGINEER, DPS, AND THE MONTGOMERY SOIL CONSERVATION DISTRICT PRIOR TO INITIATION OF CONSTRUCTION.

B. SITE PREPARATION

AREAS DESIGNATED FOR BORROW AREAS, EMBANKMENT, AND STRUCTURAL WORKS SHALL BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL. ALL TREES, VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED. CHANNEL BANKS AND SHARP BREAKS SHALL BE SLOPED TO NO STEEPER THAN 1:1. ALL TREES SHALL BE CLEARED AND GRUBBED WITHIN 15 FEET OF THE TOE OF THE EMBANKMENT.

AREAS TO BE COVERED BY THE RESERVOIR WILL BE CLEARED OF ALL TREES, BRUSH, LOGS, FENCES, RUBBISH, AND OTHER OBJECTIONABLE MATERIAL UNLESS OTHERWISE DESIGNATED ON THE PLANS. TREES, BRUSH, AND STUMPS SHALL BE CUT APPROXIMATELY LEVEL WITH THE GROUND SURFACE. FOR DRY STORMWATER MANAGEMENT PONDS, A MINIMUM OF A 25–FOOT RADIUS AROUND THE INLET STRUCTURE SHALL BE CLEARED.

ALL CLEARED AND GRUBBED MATERIAL SHALL BE DISPOSED OF OUTSIDE AND BELOW THE LIMITS OF THE DAM AND RESERVOIR AS DIRECTED BY THE OWNER OR HIS REPRESENTATIVE. A SUFFICIENT QUANTITY OF TOPSOIL WILL BE STOCKPILED IN A SUITABLE LOCATION FOR USE ON THE EMBANKMENT AND OTHER DESIGNATED AREAS.

C. EARTH FILL

MATERIAL – THE FILL MATERIAL SHALL BE TAKEN FROM APPROVED DESIGNATED BORROW AREAS. IT SHALL BE FREE OF ROOTS, STUMPS, WOOD, RUBBISH, STONES GREATER THAN 4 INCHES, FROZEN OR OTHER OBJECTIONABLE MATERIALS. FILL MATERIAL FOR THE CENTER OF THE EMBANKMENT, AND CUT OFF TRENCH SHALL CONFORM TO UNIFIED SOIL CLASSIFICATION GC, SC, CH, OR CL AND MUST HAVE AT LEAST 30% PASSING THE #200 SIEVE. CONSIDERATION MAY BE GIVEN TO THE USE OF OTHER MATERIALS IN THE EMBANKMENT IF DESIGNED BY A GEOTECHNICAL ENGINEER. SUCH SPECIAL DESIGNS MUST HAVE CONSTRUCTION SUPERVISED BY A GEOTECHNICAL ENGINEER. MATERIALS USED IN THE OUTER SHELL OF THE EMBANKMENT MUST HAVE THE PABILITY TO SUPPORT VEGETATION OF THE QUALITY REQUIRED TO PREVENT EROSION OF THE EMBANKMENT. 2

PLACEMENT – AREAS ON WHICH FILL IS TO BE PLACED SHALL BE SCARIFIED PRIOR TO PLACEMENT OF FILL. FILL MATERIALS SHALL BE PLACED IN MAXIMUM 8 INCH THICK (BEFORE COMPACTION) LAYERS WHICH ARE TO BE CONTINUOUS OVER THE ENTIRE LENGTH OF THE FILL. THE MOST PERMEABLE BORROW MATERIAL SHALL BE PLACED IN THE DOWNSTREAM PORTION OF THE EMBANKMENT. THE PRINCIPAL SPILLWAY MUST BE INSTALLED CONCURRENTLY WITH FILL PLACEMENT AND NOT EXCAVATED INTO THE EMBANKMENT.

COMPACTION – THE MOVEMENT OF THE HAULING AND SPREADING EQUIPMENT OVER THE FILL SHALL BE CONTROLLED SO THAT THE ENTIRE SURFACE OF EACH LIFT SHALL BE TRAVERSED BY NOT LESS THAN ONE TREAD TRACK OF THE EQUIPMENT OR COMPACTION SHALL BE ACHIEVED BY A MINIMUM OF FOUR COMPLETE PASSES OF A SHEEPSFOOT, RUBBER TIRED OR VIBRATORY ROLLER. FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SUCH THAT THE REQUIRED DEGREE OF COMPACTION WILL BE OBTAINED WITH THE EQUIPMENT USED. THE FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SO THAT IF FORMED INTO A BALL, IT WILL NOT CRUMBLE; YET, NOT BE SO WET THAT WATER CAN BE SQUEEZED OUT.

THE DENSITY OF EACH LIFT SHALL NOT BE LESS THAN 95% OF MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT WITHIN +2% OF THE OPTIMUM. EACH LAYER OF FILL SHALL BE COMPACTED AS NECESSARY TO OBTAIN THAT DENSITY, AND IS TO BE CERTIFIED BY THE ENGINEER AT THE TIME OF CONSTRUCTION. ALL COMPACTION IS TO BE DETERMINED BY AASHTO METHOD T–99 (STANDARD PROCTOR).

CUT OFF TRENCH – THE CUTOFF TRENCH SHALL BE EXCAVATED INTO IMPERVIOUS MATERIAL ALONG OR PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE BOTTOM WIDTH OF THE TRENCH SHALL BE GOVERNED BY THE EQUIPMENT USED FOR EXCAVATION WITH THE MINIMUM WIDTH BEING FOUR FEET. THE DEPTH SHALL BE AT LEAST FOUR FEET BELOW EXISTING GRADE OR AS SHOWN ON THE PLANS. THE SIDE SLOPES OF THE TRENCH SHALL BE ONE TO ONE OR FLATTER. THE BACKFILL SHALL BE COMPACTED WITH CONSTRUCTION EQUIPMENT, ROLLERS, OR HAND TAMPERS TO ASSURE MAXIMUM DENSITY AND MINIMUM PERMEABILITY.

EMBANKMENT CORE
THE CORE SHALL BE PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE TOP WIDTH OF THE CORE SHALL BE MINIMUM OF FOUR FEET. THE HEIGHT SHALL EXTEND UP TO AT LEAST THE 10–YEAR WATER ELEVATION OR AS SHOWN ON THE PLANS. THE SIDE SLOPES SHALL BE 1 TO 1 OR FLATTER. THE CORE SHALL BE COMPACTED WITH CONSTRUCTION EQUIPMENT, ROLLERS, OR HAND TAMPERS TO ASSURE MAXIMUM DENSITY AND MINIMUM PERMEABILITY. IN ADDITION, THE CORE SHALL BE PLACED CONCURRENTLY WITH THE OUTER SHALL OF THE EMBANKMENT.

D. STRUCTURE BACKFILL

BACKFILL ADJACENT TO PIPES OR STRUCTURES SHALL BE OF THE TYPE AND QUALITY CONFORMING TO THAT SPECIFIED FOR THE ADJOINING FILL MATERIAL. THE FILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED FOUR INCHES IN THICKNESS AND COMPACTED BY HAND TAMPERS OR OTHER MANUALLY DIRECTED COMPACTION EQUIPMENT. THE MATERIAL MUST FILL COMPLETELY ALL SPACES UNDER AND ADJACENT TO THE PIPE. AT NO TIME DURING THE BACKFILLING OPERATION SHALL DRIVEN EQUIPMENT BE ALLOWED TO OPERATE CLOSER THAN FOUR FEET, MEASURED HORIZONTALLY, TO ANY PART OF A STRUCTURE. UNDER NO CIRCUMSTANCES SHALL EQUIPMENT BE DRIVEN OVER ANY PART OF A CONCRETE STRUCTURE OR PIPE, UNLESS THERE IS A COMPACTED FILL OF 24 INCHES OR GREATER OVER THE STRUCTURE OR PIPE.

STRUCTURE BACKFILL MAY BE FLOWABLE FILL MEETING THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 313 AS MODIFIED. THE MIXTURE SHALL HAVE A 100–200 PSI; 28 DAY UNCONFINED COMPRESSIVE STRENGTH. THE FLOWABLE FILL SHALL HAVE A MINIMUM PH OF 4.0 AND A MINIMUM RESISTIVITY OF 2,000 OHM–CM. MATERIAL SHALL BE PLACED SUCH THAT A MINIMUM OF SIX INCHES (MEASURED PERPENDICULAR TO THE OUTSIDE OF THE PIPE) OF FLOWABLE FILL SHALL BE UNDER (BEDDING), OVER AND, ON THE SIDES OF THE PIPE. IT ONLY NEEDS TO EXTEND UP TO THE SPRING LINE FOR RIGID CONDUITS. AVERAGE SLUMP 3 OF THE FILL SHALL BE 7 INCHES TO ASSURE FLOWABILITY OF THE MATERIAL. ADEQUATE MEASURES SHALL BE TAKEN (SAND BAGS, ETC.) TO PREVENT FLOATING THE PIPE. WHEN USING FLOWABLE FILL, ALL METAL PIPE SHALL BE BITUMINOUS COATED. ANY ADJOINING SOIL FILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED FOUR INCHES IN THICKNESS AND COMPACTED BY HAND TAMPERS OR OTHER MANUALLY DIRECTED COMPACTION EQUIPMENT. THE MATERIAL SHALL COMPLETELY FILL ALL VOIDS ADJACENT TO THE FLOWABLE FILL ZONE. AT NO TIME DURING THE BACK FILLING OPERATION SHALL DRIVEN EQUIPMENT BE ALLOWED TO OPERATE CLOSER THAN FOUR FEET, MEASURED HORIZONTALLY, TO ANY PART OF A STRUCTURE. UNDER NO CIRCUMSTANCES SHALL EQUIPMENT BE DRIVEN OVER ANY PART OF A STRUCTURE OR PIPE UNLESS THERE IS A COMPACTED FILL OF 24 INCHES OR GREATER OVER THE STRUCTURE OR PIPE. BACKFILL MATERIAL OUTSIDE THE STRUCTURAL BACKFILL (FLOWABLE FILL) ZONE SHALL BE OF THE TYPE AND QUALITY CONFORMING TO THAT SPECIFIED FOR THE CORE OF THE EMBANKMENT OR OTHER EMBANKMENT MATERIALS.

E. PIPE CONDUITS

ALL PIPES SHALL BE CIRCULAR IN CROSS SECTION.

CORRUGATED METAL PIPE – ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR CORRUGATED METAL PIPE:

1. MATERIALS * (POLYMER COATED STEEL PIPE) * STEEL PIPES WITH POLYMERIC COATINGS SHALL HAVE A MINIMUM COATING THICKNESS OF 0.01 INCH (10 MIL) ON BOTH SIDES OF THE PIPE. THIS PIPE AND ITS APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATION M–245 & M–246 WITH WATERTIGHT COUPLING BANDS OR FLANGES.

MATERIALS * (ALUMINUM COATED STEEL PIPE) * THIS PIPE AND ITS APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATION M–274 WITH WATERTIGHT COUPLING BANDS OR FLANGES. ALUMINUM COATED STEEL PIPE, WHEN USED WITH FLOWABLE FILL OR WHEN SOIL AND/OR WATER CONDITIONS WARRANT THE NEED FOR INCREASED DURABILITY, SHALL BE FULLY BITUMINOUS COATED PER REQUIREMENTS OF AASHTO SPECIFICATION M–190 TYPE A. ANY ALUMINUM COATING DAMAGED OR OTHERWISE REMOVED SHALL BE REPLACED WITH COLD APPLIED BITUMINOUS COATING COMPOUND. ALUMINUM SURFACES THAT ARE TO BE IN CONTACT WITH CONCRETE SHALL BE PAINTED WITH ONE COAT OF ZINC CHROMATE PRIMER OR TWO COATS OF ASPHALT.

MATERIALS * (ALUMINUM PIPE) * THIS PIPE AND ITS APPURTENANCES SHALL CONFIRM TO THE REQUIREMENTS OF AASHTO SPECIFICATION M–196 OR M–211 WITH WATERTIGHT COUPLING BANDS OR FLANGES. ALUMINUM PIPE, WHEN USED WITH FLOWABLE FILL OR WHEN SOIL AND/OR WATER CONDITIONS WARRANT FOR INCREASED DURABILITY, SHALL BE FULLY BITUMINOUS COATED PER REQUIREMENTS OF AASHTO SPECIFICATION M–190 TYPE A. ALUMINUM SURFACES THAT ARE TO BE IN CONTACT WITH CONCRETE SHALL BE PAINTED WITH ONE COAT OF ZINC CHROMATE PRIMER OR TWO COATS OF ASPHALT. HOT DIP GALVANIZED BOLTS MAY BE USED FOR CONNECTIONS. THE PH OF THE SURROUNDING SOILS SHALL BE BETWEEN 4 AND 9.

2. COUPLING BANDS, ANTI–SEEP COLLARS, END SECTIONS, ETC., MUST BE COMPOSED OF THE SAME MATERIAL AS THE PIPE. METALS MUST BE INSULATED FROM DISSIMILAR MATERIALS WITH USE OF RUBBER OR PLASTIC INSULATING MATERIALS AT LEAST 24 MILS IN THICKNESS.

3. CONNECTIONS – ALL CONNECTIONS WITH PIPES MUST BE COMPLETELY WATERTIGHT. THE DRAIN PIPE OR BARREL CONNECTIONS TO THE RISER SHALL BE WELDED ALL AROUND WHEN THE PIPE AND RISER ARE METAL. ANTI–SEEP COLLARS SHALL BE CONNECTED TO THE PIPE IN SUCH A MANNER AS TO BE COMPLETELY WATERTIGHT. DIMPLE BANDS ARE NOT CONSIDERED TO BE WATERTIGHT.

ALL CONNECTIONS SHALL USE A RUBBER OR NEOPRENE GASKET WHEN JOINING PIPE SECTIONS. THE END OF EACH PIPE SHALL BE RE–ROLLED AN ADEQUATE NUMBER OF CORRUGATIONS TO ACCOMMODATE 4 THE BAND WIDTH. PIPE ENDS MUST BE MATCHED AND NUMBERED BY THE MANUFACTURER. THE FOLLOWING TYPE CONNECTIONS ARE ACCEPTABLE FOR PIPES LESS THAN 24 INCHES IN DIAMETER; FLANGES ON BOTH ENDS OF THE PIPE WITH A CIRCULAR 3/8 INCH CLOSED CELL NEOPRENE GASKET, PREPUNCHED TO THE FLANGE BOLT CIRCLE, SANDWICHED BETWEEN ADJACENT FLANGES; A 12–INCH WIDE STANDARD LAP TYPE BAND WITH 12–INCH WIDE BY 3/8 INCH THICK, CLOSED CELL CIRCULAR NEOPRENE GASKET; AND A 12–INCH WIDE HUGGER TYPE BAND WITH O–RING GASKETS HAVING A MINIMUM DIAMETER OF *–INCH GREATER THAN THE CORRUGATION DEPTH. PIPES 24 INCHES IN DIAMETER AND LARGER SHALL BE CONNECTED BY A 24–INCH LONG ANNULAR CORRUGATED BAND USING A MINIMUM OF 4 (FOUR) RODS AND LUGS, 2 ON EACH CONNECTING PIPE END, PER CURRENT DPS BAND DETAIL. A 24–INCH WIDE BY 3/8–INCH THICK CLOSED CELL CIRCULAR NEOPRENE GASKET WILL BE INSTALLED WITH 12 INCHES ON THE END OF EACH PIPE. FLANGED JOINTS WITH 3/8–INCH CLOSED CELL GASKETS THE FULL WIDTH OF THE FLANGE IS ALSO ACCEPTABLE.

HELICALLY CORRUGATED PIPE SHALL HAVE EITHER CONTINUOUSLY WELDED SEAMS OR HAVE LOCK SEAMS WITH INTERNAL CAULKING OR A NEOPRENE BEAD.

4. BEDDING – THE PIPE SHALL BE FIRMLY AND UNIFORMLY BEDDED THROUGHOUT ITS ENTIRE LENGTH. WHERE ROCK OR SOFT, SPONGY OR OTHER UNSTABLE SOIL IS ENCOUNTERED, ALL SUCH MATERIAL SHALL BE REMOVED AND REPLACED WITH SUITABLE EARTH COMPACTED TO PROVIDE ADEQUATE SUPPORT.

5. BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL."

6. OTHER DETAILS (ANTI–SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

REINFORCED CONCRETE PIPE – ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR REINFORCED CONCRETE PIPE:

1. MATERIALS – RCP SHALL HAVE BELL AND SPIGOT JOINTS WITH RUBBER GASKETS AND SHALL MEET ASTM DESIGNATION C–361. PIPES MUST BE LABELED IN FULL ACCORDANCE WITH ASTM C–361, INCLUDING THE ASTM C–361 DESIGNATION ON THE INSIDE OF EACH SECTION OF PIPE, AND ALL PIPES MUST BE CLEARLY MARKED BY THE MANUFACTURER PRIOR TO DELIVERY TO THE JOB SITE. PIPES WITH MULTIPLE DESIGNATIONS WILL BE REJECTED.

2. BEDDING – REINFORCED CONCRETE PIPE CONDUITS SHALL BE LAID IN A CONCRETE BEDDING/CRADLE FOR THEIR ENTIRE LENGTH. THIS BEDDING/CRADLE SHALL CONSIST OF HIGH SLUMP CONCRETE PLACED UNDER THE PIPE AND UP THE SIDES OF THE PIPE AT LEAST 50% OF ITS OUTSIDE DIAMETER WITH A MINIMUM THICKNESS OF 6–INCHES. WHERE A CONCRETE CRADLE IS NOT NEEDED FOR STRUCTURAL REASONS, FLOWABLE FILL MAY BE USED AS DESCRIBED IN THE *STRUCTURE BACKFILL* SECTION OF THIS STANDARD. GRAVEL BEDDING IS NOT PERMITTED.

3. LAYING PIPE – BELL AND SPIGOT PIPE SHALL BE PLACED WITH THE BELL END UPSTREAM. JOINTS SHALL BE MADE IN ACCORDANCE WITH RECOMMENDATIONS OF THE MANUFACTURER OF THE MATERIAL. AFTER THE JOINTS ARE SEALED FOR THE ENTIRE LINE, THE BEDDING SHALL BE PLACED SO THAT ALL SPACES UNDER THE PIPE ARE FILLED. CARE SHALL BE EXERCISED TO PREVENT ANY DEVIATION FROM THE ORIGINAL LINE AND GRADE OF THE PIPE. THE FIRST JOINT MUST BE LOCATED WITHIN FOUR FEET FROM THE RISER.

4. BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL."

5. OTHER DETAILS (ANTI–SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

PLASTIC PIPE – THE FOLLOWING CRITERIA SHALL APPLY FOR PLASTIC PIPE:

1. MATERIALS – PVC PIPE SHALL BE PVC–1120 OR PVC–1220 CONFORMING TO ASTM D–1785 OR ASTM D–2241. CORRUGATED HIGH DENSITY POLYETHYLENE (HDPE) PIPE, COUPLINGS AND FITTINGS SHALL CONFORM TO THE FOLLOWING: 4 * 10 INCH PIPE SHALL MEET THE REQUIREMENT OF AASHTO M252 TYPE S, AND 12 THROUGH 24 INCH SHALL MEET THE REQUIREMENTS OF AASHTO M294 TYPE S.

2. JOINTS AND CONNECTIONS TO ANTI–SEEP COLLARS SHALL BE COMPLETELY WATERTIGHT.

3. BEDDING – THE PIPE SHALL BE FIRMLY AND UNIFORMLY BEDDED THROUGHOUT ITS ENTIRE LENGTH. WHERE ROCK OR SOFT, SPONGY OR OTHER UNSTABLE SOIL IS ENCOUNTERED, ALL SUCH MATERIAL SHALL BE REMOVED AND REPLACED WITH SUITABLE EARTH COMPACTED TO PROVIDE ADEQUATE SUPPORT.

4. BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL."

5. OTHER DETAILS (ANTI–SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

F. DRAINAGE DIAPHRAGMS

WHEN A DRAINAGE DIAPHRAGM IS USED, A REGISTERED PROFESSIONAL ENGINEER WILL SUPERVISE THE DESIGN AND CONSTRUCTION INSPECTION.

G. CONCRETE

CONCRETE DESIGN SHALL MEET THE REQUIREMENTS OF ACI 350, ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES, WITH FREEZING AND THAWING EXPOSURES. CONCRETE SHALL BE A TYPE II OR IIA CEMENT, WITH A 28 DAY COMPRESSIVE STRENGTH OF 4500 PSI FOR CAST IN PLACE AND 5000 PSI FOR PRE–CAST STRUCTURES. CONCRETE SHALL ALSO MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 420, MIX NO. 6.

H. ROCK RIP–RAP

ROCK RIP–RAP SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATION FOR CONSTRUCTION AND MATERIALS, SECTION 311.

GEOTEXTILE SHALL BE PLACED UNDER ALL RIP–RAP AND SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 921.09, CLASS C.

I. CARE OF WATER DURING CONSTRUCTION

ALL WORK ON PERMANENT STRUCTURES SHALL BE CARRIED OUT IN AREAS FREE FROM WATER. THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN ALL TEMPORARY DIKES, LEVEES, COFFERDAMS, DRAINAGE CHANNELS, AND STREAM DIVERSIONS NECESSARY TO PROTECT THE AREAS TO BE OCCUPIED BY THE PERMANENT WORKS. THE CONTRACTOR SHALL ALSO FURNISH, INSTALL, OPERATE, AND MAINTAIN ALL NECESSARY PUMPING AND OTHER EQUIPMENT REQUIRED FOR REMOVAL OF WATER FROM THE VARIOUS PARTS OF THE WORK AND FOR MAINTAINING THE EXCAVATIONS, FOUNDATION, AND OTHER PARTS OF THE WORK FREE FROM WATER AS REQUIRED OR DIRECTED BY THE ENGINEER FOR CONSTRUCTING EACH PART OF THE WORK. AFTER HAVING SERVED THEIR PURPOSE, ALL TEMPORARY PROTECTIVE WORKS SHALL BE REMOVED OR LEVELED, AND GRADED TO THE EXTENT REQUIRED TO 6 PREVENT OBSTRUCTION IN ANY DEGREE WHATSOEVER OF THE FLOW OF WATER TO THE SPILLWAY OR OUTLET WORKS, AND SO AS NOT TO INTERFERE IN ANY WAY WITH THE OPERATION OR MAINTENANCE OF THE STRUCTURE. STREAM DIVERSIONS SHALL BE MAINTAINED UNTIL THE FULL FLOW CAN BE PASSED THROUGH THE PERMANENT WORKS. THE REMOVAL OF WATER FROM THE REQUIRED EXCAVATION AND THE FOUNDATION SHALL BE ACCOMPLISHED IN A MANNER AND TO THE EXTENT THAT WILL MAINTAIN STABILITY OF THE EXCAVATED SLOPES AND BOTTOM OF REQUIRED EXCAVATIONS AND WILL ALLOW SATISFACTORY PERFORMANCE OF ALL CONSTRUCTION OPERATIONS. DURING THE PLACING AND COMPACTING OF MATERIAL IN REQUIRED EXCAVATIONS THE WATER LEVEL AT THE LOCATIONS BEING REFILLED SHALL BE MAINTAINED BELOW THE BOTTOM OF THE EXCAVATION AT SUCH LOCATIONS WHICH MAY REQUIRE DRAINING THE WATER TO SUMPS FROM WHICH THE WATER SHALL BE PUMPED.

J. STABILIZATION

ALL BORROW AREAS SHALL BE GRADED TO PROVIDE PROPER DRAINAGE AND LEFT IN A SIGHTLY CONDITION. ALL EXPOSED SURFACES OF THE EMBANKMENT, SPILLWAY, SPOIL AND BORROW AREAS, AND BERMS SHALL BE STABILIZED BY SEEDING, LIMING, FERTILIZING AND MULCHING IN ACCORDANCE WITH THE MARYLAND SOIL CONSERVATION SERVICE STANDARDS AND SPECIFICATIONS FOR CRITICAL AREA PLANTING (MD–342) OR AS SHOWN ON THE ACCOMPANYING DRAWINGS.

K. EROSION AND SEDIMENT CONTROL

CONSTRUCTION OPERATIONS WILL BE CARRIED OUT IN SUCH A MANNER THAT EROSION WILL BE CONTROLLED AND WATER AND AIR POLLUTION MINIMIZED. STATE AND LOCAL LAWS CONCERNING POLLUTION ABATEMENT WILL BE FOLLOWED. CONSTRUCTION PLANS SHALL DETAIL EROSION AND SEDIMENT CONTROL MEASURES TO BE EMPLOYED DURING THE CONSTRUCTION PROCESS.

DPS PERMIT NO.

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES
FINAL APPROVAL
DATE ____________
BY ____________

*SUBJECT TO DEDICATION OF RIGHT OF WAY AND EASEMENTS PER COUNTY CODE SECTION 50.

McCORMICK TAYLOR
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

STORMWATER MANAGEMENT SPECIFICATIONS
GAME PRESERVE SWM RETROFITS
GAITHERSBURG (9TH) ELECTION DISTRICT
PARCEL A1, SUBDIVISION SENECA PARK NORTH, LIBER 04772 FOLIO 00528
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PHILIP JONES, P.E.
(240) 777-7738

DESIGN ACF
DRAFT MER
APPROVED DAS
DATE MARCH '15
SCALE

FILE: I:\5182\18 - Cabin Branch SWM Retrofit\Design\Engineering\PlanSet\11200\pSW-N001_Cabin Branch pond 11200.dgn
PLOTTED: Thursday, April 23, 2015 AT 11:10 AM

CONSTRUCTION INSPECTION
CHECK-OFF LIST FOR STORMWATER MANAGEMENT PONDS

STAGE	DESIGN ENGINEER (DE)	GEOTECHNICAL ENGINEER (GEO)	COUNTY INSPECTOR	MNCPPC & OTHER
* **MANDATORY NOTIFICATION**: Inspection and approval by the parties 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 (DPS telephone 240/777-6210). The DPS inspector may waive an inspection, provided the design engineer and/or geotechnical engineer makes the required inspection per a prior scheduled arrangement which has been confirmed with the DPS 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
1. Pre-construction meeting & field review of tree save flagging/tree protection	*	*	*	*
2. Sediment control installation			*	
3. Dewatering (GEO) and stream diversion (DE)	*	*	*	
4. Clearing, grubbing, subgrade preparation		*	*	
5. Core trench excavation and dewatering, if required (GEO)		*	*	
6. Core trench dimensions, location (DE) or (GEO), backfill and compaction tests (GEO)	*	*	*	
7. Construction of principal spillway and riser: 7a. - Barrel class. (ASTM C361) (DE) - Pipe certification from supplier (DE) - Pipe assembled in place on acceptable subgrade (GEO) - Watertight joints (DE) - Articulated joint 4 feet from riser (DE) - Lifts, compaction, soil material (GEO) - Location, dimensions (DE)	*	*	*	
7b. - Concrete cradle dimensions (DE) - Concrete strength tests (GEO)	*	*	*	
7c. - Anti-seep collars (location, collar dimensions and re-bar size) (DE) - Concrete strength tests (GEO)	*	*	*	
7d. - Filter diaphragm gradation and dimensions (if applicable) (GEO)		*	*	
7e. - Riser footing subgrade (GEO), dimensions, re-bar (DE) - Concrete strength tests (GEO)	*	*	*	

SWMPOND.table:01/03 - Page 1 of 2

7f. Precast Riser: - Shop drawings approved by DE, accepted by County - Visual inspection of riser (no cracks, spaulding, exposed steel, incorrect dimensions, honeycombing) (DE) - Certification from supplier (DE) - Watertight joints (DE) - Wall and opening dimensions per plan (DE)	*		*	
7g. Cast-In-Place Riser: - Wall and opening dimensions per plan (DE) - Re-bar size, number, spacing acceptable (DE) - Concrete testing and certification (GEO) - Watertight joints (DE) - Extreme weather provisions (DE)	*	*	*	
7h. Valve/orifice plate installation (DE). Note: may be delayed for SC purposes.	*		*	
8. Backfilling of principal spillway (GEO)		*	*	
9. Underdrain (if applicable) location (DE), pipe size (DE), filter cloth (DE), gravel (DE), field adjustments (GEO).	*	*	*	
10. Channelization work and pond outfall protection (DE) or (GEO)	*		*	
11. Diversion of stream through principal spillway (DE)	*	*	*	
12. Construction of embankment - Lifts, compaction, soil material (GEO) - Location, dimension (DE)	*		*	
13. Construction of emergency spillway in cut (DE)	*		*	
14. Field verification of constructed contours (DE)	*		*	
15. Permanent vegetative stabilization, delivery tickets from supplier			*	
16. Submit record drawing and documentation (DE) and (GEO)	*			
17. Other items. (Set valve(s) to design opening values, if required) (DE)	*		*	
18. Final inspection (DE) and (GEO)	*	*	*	

NOTES:
1. Permittee to supply Design Engineer with delivery tickets for all materials used in Pond construction, for submission with the as-built package. DPS Inspection Telephone: (240) 777-6210
2. See construction specifications this plan for detailed requirements.
3. A copy of this completed checklist must be submitted as part of the stormwater management as-built package. MNCP&PC Inspection Telephone: (301) 495-4571

SWMPOND.table:01/03 - Page 2 of 2

DPS PERMIT NO.

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES
FINAL APPROVAL
DATE _____
BY _____

•SUBJECT TO DEDICATION OF RIGHT OF WAY AND EASEMENTS PER COUNTY CODE SECTION 50.

McCORMICK TAYLOR
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

STORMWATER MANAGEMENT CONSTRUCTION CHECKLISTS
GAME PRESERVE SWM RETROFITS
GAITHERSBURG (9TH) ELECTION DISTRICT
PARCEL A1, SUBDIVISION SENECA PARK NORTH, LIBER 04772 FOLIO 00528
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PHILIP JONES, P.E.
(240) 777-7738

DESIGN	ACF
DRAFT	MER
APPROVED	DAS
DATE	MARCH '15
SCALE	

SHEET 11 OF 27

FILE: 13518218 - Cabin Branch SWM Retrofit\Design\Engineering\PlanSet\11200\pSW-N002_Cabin Branch pond 11200.dgn
PLOTTED: Thursday, April 23, 2015 AT 11:10 AM

MONTGOMERY COUNTY GOVERNMENT
STANDARD EROSION AND SEDIMENT CONTROL NOTES (REV. MAY 2013)

1. THE PERMITTEE SHALL NOTIFY THE DEPARTMENT OF PERMITTING SERVICES (DPS) FORTY–EIGHT (48) HOURS BEFORE COMMENCING ANY LAND DISTURBING ACTIVITY AND, UNLESS WAIVED BY THE DEPARTMENT, SHALL BE REQUIRED TO HOLD A PRE–CONSTRUCTION MEETING BETWEEN THEM OR THEIR REPRESENTATIVE, THEIR ENGINEER AND AN AUTHORIZED REPRESENTATIVE OF THE DEPARTMENT.

2. THE PERMITTEE MUST OBTAIN INSPECTION AND APPROVAL BY DPS AT THE FOLLOWING POINTS:
A. AT THE REQUIRED PRE–CONSTRUCTION MEETING.
B. FOLLOWING INSTALLATION OF SEDIMENT CONTROL MEASURES AND PRIOR TO ANY OTHER LAND DISTURBING ACTIVITY.
C. DURING THE INSTALLATION OF A SEDIMENT BASIN OR STORMWATER MANAGEMENT STRUCTURE AT THE REQUIRED INSPECTION POINTS (SEE INSPECTION CHECKLIST ON PLAN). NOTIFICATION PRIOR TO COMMENCING CONSTRUCTION IS MANDATORY.
D. PRIOR TO REMOVAL OR MODIFICATION OF ANY SEDIMENT CONTROL STRUCTURE(S).
E. PRIOR TO FINAL ACCEPTANCE.

3. THE PERMITTEE SHALL CONSTRUCT ALL EROSION AND SEDIMENT CONTROL MEASURES PER THE APPROVED PLAN AND CONSTRUCTION SEQUENCE, SHALL HAVE THEM INSPECTED AND APPROVED BY THE DEPARTMENT PRIOR TO BEGINNING ANY OTHER LAND DISTURBANCES, 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 THE DEPARTMENT.

4. THE PERMITTEE SHALL PROTECT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS TO PREVENT THE DEPOSITION OF MATERIALS ONTO TRAVERSED PUBLIC THOROUGHFARE(S). ALL MATERIALS DEPOSITED ONTO PUBLIC THOROUGHFARE(S) SHALL BE REMOVED IMMEDIATELY.

5. THE PERMITTEE SHALL INSPECT PERIODICALLY AND MAINTAIN CONTINUOUSLY IN EFFECTIVE OPERATING CONDITION, ALL EROSION AND SEDIMENT CONTROL MEASURES UNTIL SUCH TIME AS THEY ARE REMOVED WITH PRIOR PERMISSION FROM THE DEPARTMENT. THE PERMITTEE IS RESPONSIBLE FOR IMMEDIATELY REPAIRING OR REPLACING ANY SEDIMENT CONTROL MEASURES WHICH HAVE BEEN DAMAGED OR REMOVED BY THE PERMITTEE OR ANY OTHER PERSON.

6. 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.ALL AREAS DISTURBED OUTSIDE OF THE PERIMETER SEDIMENT CONTROL SYSTEM MUST BE MINIMIZED AND STABILIZED IMMEDIATELY. MAINTENANCE MUST BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION.

7.THE PERMITTEE SHALL APPLY SOD, SEED, AND ANCHORED STRAW MULCH, OR OTHER APPROVED STABILIZATION MEASURES TO ALL DISTURBED AREAS WITHIN SEVEN (7) CALENDAR DAYS AFTER STRIPPING AND GRADING ACTIVITIES HAVE CEASED ON THAT AREA. MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION. ACTIVE CONSTRUCTION AREAS SUCH AS BORROW OR STOCKPILE AREAS, ROADWAY IMPROVEMENTS, AND AREAS WITHIN FIFTY (50) FEET OF A BUILDING UNDER CONSTRUCTION MAY BE EXEMPT FROM THIS REQUIREMENT, PROVIDED THAT EROSION AND SEDIMENT CONTROL MEASURES ARE INSTALLED AND MAINTAINED TO PROTECT THOSE AREAS.

8. PRIOR TO REMOVAL OF SEDIMENT CONTROL MEASURES, THE PERMITTEE SHALL STABILIZE ALL CONTRIBUTORY DISTURBED AREAS WITH REQUIRED SOIL AMENDMENTS AND TOPSOIL, USING SOD OR AN APPROVED PERMANENT SEED MIXTURE AND AN APPROVED ANCHORED MULCH. WOOD FIBER MULCH MAY ONLY BE USED IN SEEDING SEASON WHEN 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 WITHIN SEVEN (7) CALENDAR DAYS OF ESTABLISHMENT. WHEN PROPERTY IS BROUGHT TO FINISHED GRADE DURING THE MONTHS OF NOVEMBER THROUGH FEBRUARY, AND PERMANENT STABILIZATION IS FOUND TO BE IMPRACTICAL, AN APPROVED TEMPORARY SEED AND STRAW ANCHORED MULCH SHALL BE APPLIED TO DISTURBED AREAS. THE FINAL PERMANENT STABILIZATION OF SUCH PROPERTY SHALL BE COMPLETED PRIOR TO THE FOLLOWING APRIL 15.

9. THE SITE PERMIT, WORK, MATERIALS, APPROVED SCSM PLANS, AND TEST REPORTS SHALL BE AVAILABLE AT THE SITE FOR INSPECTION BY DULY AUTHORIZED OFFICIALS OF MONTGOMERY COUNTY.

10. SURFACE DRAINAGE FLOWS OVER UNSTABILIZED CUT AND FILL SLOPES SHALL BE CONTROLLED BY EITHER PREVENTING DRAINAGE FLOWS FROM TRAVERSING THE SLOPES OR BY INSTALLING MECHANICAL DEVICES TO LOWER THE WATER DOWN SLOPE WITHOUT CAUSING EROSION. DIKES SHALL BE INSTALLED AND MAINTAINED AT THE TOP OF CUT OR FILL SLOPES UNTIL THE SLOPE AND DRAINAGE AREA TO IT ARE FULLY STABILIZED, AT WHICH TIME THEY MUST BE REMOVED AND FINAL GRADING DONE TO PROMOTE SHEET FLOW DRAINAGE. MECHANICAL DEVICES MUST BE PROVIDED AT POINTS OF CONCENTRATED FLOW WHERE EROSION IS LIKELY TO OCCUR.

11. PERMANENT SWALES OR OTHER POINTS OF CONCENTRATED WATER FLOW SHALL BE STABILIZED WITHIN 3 CALENDAR DAYS OF ESTABLISHMENT WITH SOD OR SEED WITH AN APPROVED EROSION CONTROL MATTING OR BY OTHER APPROVED STABILIZATION MEASURES.

12. SEDIMENT CONTROL DEVICES SHALL BE REMOVED, WITH PERMISSION OF THE DEPARTMENT, WITHIN THIRTY (30) CALENDAR DAYS FOLLOWING ESTABLISHMENT OF PERMANENT STABILIZATION IN ALL CONTRIBUTORY DRAINAGE AREAS. STORMWATER MANAGEMENT STRUCTURES USED TEMPORARILY FOR SEDIMENT CONTROL SHALL BE CONVERTED TO THE PERMANENT CONFIGURATION WITHIN THIS TIME PERIOD AS WELL.

13. NO PERMANENT CUT OR FILL SLOPE WITH A GRADIENT STEEPER THAN 3:1 WILL BE PERMITTED IN LAWN MAINTENANCE AREAS OR ON RESIDENTIAL LOTS. A SLOPE GRADIENT OF UP TO 2:1 WILL BE PERMITTED IN NON– MAINTENANCE AREAS PROVIDED THAT THOSE AREAS ARE INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN WITH A LOW–MAINTENANCE GROUND COVER SPECIFIED FOR PERMANENT STABILIZATION. SLOPE GRADIENT STEEPER THAN 2:1 WILL NOT BE PERMITTED WITH VEGETATIVE STABILIZATION.

14. THE PERMITTEE SHALL INSTALL A SPLASHBLOCK AT THE BOTTOM OF EACH DOWNSPOUT UNLESS THE DOWNSPOUT IS CONNECTED BY A DRAIN LINE TO AN ACCEPTABLE OUTLET.

15. FOR FINISHED GRADING, THE PERMITTEE SHALL PROVIDE ADEQUATE GRADIENTS SO AS TO PREVENT WATER FROM STANDING ON THE SURFACE OF LAWNS MORE THAN TWENTY–FOUR (24) HOURS AFTER THE END OF A RAINFALL, EXCEPT IN DESIGNATED DRAINAGE COURSES AND SWALE FLOW AREAS, WHICH MAY DRAIN AS LONG AS FORTY–EIGHT (48) HOURS AFTER THE END OF A RAINFALL.

16. SEDIMENT TRAPS OR BASINS ARE NOT PERMITTED WITHIN 20 FEET OF A BUILDING WHICH IS EXISTING OR UNDER CONSTRUCTION. NO BUILDING MAY BE CONSTRUCTED WITHIN 20 FEET OF A SEDIMENT TRAP OR BASIN.

17. ALL INLETS IN NON–SUMP AREAS SHALL HAVE ASPHALT BERMS INSTALLED AT THE TIME OF BASE PAVING ESTABLISHMENT.

18.THE SEDIMENT CONTROL INSPECTOR HAS THE OPTION OF REQUIRING ADDITIONAL SEDIMENT CONTROL MEASURES, AS DEEMED NECESSARY.

19. ALL TRAP ELEVATIONS ARE RELATIVE TO THE OUTLET ELEVATION, WHICH MUST BE ON EXISTING UNDISTURBED GROUND.

20.VEGETATIVE STABILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

21.SEDIMENT TRAP(S)/BASIN(S) SHALL BE CLEANED OUT AND RESTORED TO THE ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO THE POINT OF ONE–HALF (1/2) THE WET STORAGE DEPTH OF THE TRAP/BASIN (1/4 THE WET STORAGE DEPTH FOR ST–III) OR WHEN REQUIRED BY THE SEDIMENT CONTROL INSPECTOR.

22.SEDIMENT REMOVED FROM TRAPS/BASINS SHALL BE PLACED AND STABILIZED IN APPROVED AREAS, BUT NOT WITHIN A FLOODPLAIN.

23. ALL SEDIMENT BASINS AND TRAPS MUST BE SURROUNDED WITH A WELDED WIRE SAFETY FENCE. THE FENCE MUST BE AT LEAST 42 INCHES HIGH, HAVE POSTS SPACED NO FARTHER APART THAN 8 FEET, HAVE MESH OPENINGS NO GREATER THE TWO INCHES IN WIDTH AND FOUR INCHES IN HEIGHT, WITH A MINIMUM OF 14 GAUGE WIRE. SAFETY FENCE MUST BE MAINTAINED IN GOOD CONDITION AT ALL TIMES.

24. NO EXCAVATION IN THE AREAS OF EXISTING UTILITIES IS PERMITTED UNLESS THEIR LOCATION HAS BEEN DETERMINED. CALL "MISS UTILITY" AT 1–800–257–7777, 48 HOURS PRIOR TO THE START OF WORK.

25.OFF–SITE SPOIL OR BORROW AREAS MUST HAVE PRIOR APPROVAL BY DPS.

26.SEDIMENT TRAP/BASIN DEWATERING FOR CLEANOUT OR REPAIR MAY ONLY BE DONE WITH THE DPS INSPECTOR'S PERMISSION. THE INSPECTOR MUST APPROVE THE DEWATERING METHOD FOR EACH APPLICATION. THE FOLLOWING METHODS MAY BE CONSIDERED:

A. PUMP DISCHARGE MAY BE DIRECTED TO ANOTHER ON–SITE SEDIMENT TRAP OR BASIN, PROVIDED IT IS OF SUFFICIENT VOLUME AND THE PUMP INTAKE IS FLOATED TO PREVENT AGITATION OR SUCTION OF DEPOSITED SEDIMENTS; OR

B. THE PUMP INTAKE MAY UTILIZE A REMOVABLE PUMPING STATION AND MUST DISCHARGE INTO AN UNDISTURBED AREA THROUGH A NON–EROSIVE OUTLET; OR

C. THE PUMP INTAKE MAY BE FLOATED AND DISCHARGE INTO A DIRT BAG (12 OZ. NON–WOVEN FABRIC), OR APPROVED EQUIVALENT, LOCATED IN AN UNDISTURBED BUFFER AREA.

REMEMBER: DEWATERING OPERATION AND METHOD MUST HAVE PRIOR APPROVAL BY THE DPS INSPECTOR.

27. THE PERMITTEE MUST NOTIFY THE DEPARTMENT OF ALL UTILITY CONSTRUCTION ACTIVITIES WITHIN THE PERMITTED LIMITS OF DISTURBANCE PRIOR TO THE COMMENCEMENT OF THOSE ACTIVITIES.

28. TOPSOIL MUST BE APPLIED TO ALL PERVIOUS AREAS WITHIN THE LIMITS OF DISTURBANCE PRIOR TO PERMANENT STABILIZATION IN ACCORDANCE WITH MDE *STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS*.

TEMPORARY SEEDING SPECIFICATIONS

1. TEMPORARY SEEDING: SHALL BE DONE BETWEEN MARCH 1 – MAY 15 AND AUGUST 15 – OCTOBER 15. ALL OTHER DISTURBED AREAS REQUIRING STABILIZATION NOT WITHIN THE SEEDING DATES SHALL BE MULCHED.

2. ALL TEMPORARY SEEDED AREAS SHALL BE MULCHED IMMEDIATELY AFTER SEEDING. MULCH MATERIALS SHOULD BE UNWEATHERED, UNCHOPPED, SMALL GRAIN STRAW SPREAD AT A RATE OF 2 TONS PER ACRE. THE MULCH SHALL BE ANCHORED IMMEDIATELY AFTER PLACEMENT WITH ASPHALT, PEG AND TWINE, PLASTIC NETTINGS OR BY A MULCH ANCHORING TOOL.

3. LIME AND FERTILIZER SHALL BE REQUIRED FOR TEMPORARY SEEDING IN ACCORDANCE WITH THE FOLLOWING PROCEDURES:
   1. PULVERIZED DOLOMITIC LIMESTONE IS TO BE APPLIED AT THE RATE OF 100 LBS. PER 1,000 SQ. FT.
   2. FERTILIZER SHALL BE 10–10–10 OR EQUIVALENT AND APPLIED AT THE RATE OF 15 LBS. PER 1,000 SQ. FT.

PERMANENT SEEDING AND SODDING SPECIFICATIONS

1. ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED.

2. SOIL PREPARATION: WEEDS AND UNDESIRABLE GRASSES GROWING ON EXISTING GRADE THAT IS TO BE SEEDED AND/OR SODDED MUST BE CUT AND REMOVED BEFORE SOIL PREPARATION BEGINS. BEFORE SEEDING OR SODDING ALL SOILS SHALL BE LOOSENED BY MEANS OF FILLING AND/OR DISCING. ALL TRASH, DEBRIS, ROOTS, BRUSH, WIRE, ROCKS, STONE AND OTHER FOREIGN DEBRIS OVER ONE INCH IN DIAMETER SHALL BE REMOVED PRIOR TO SEEDING AND/OR SODDING, TO A DEPTH OF FOUR (4) INCHES.

3. TOPSOIL: THE MINIMUM ORGANIC CONTENT IN THE MSHA SPECIFICATION REFERENCED SHALL BE INCREASED TO 10%. ORGANIC MATTER SHALL BE ADDED USING COMPOST MATERIAL MEETING THE STANDARD REQUIREMENTS IN THE SPECS.

4. SEEDED PREPARATION: THE TOP LAYER OF SOIL SHALL BE LOOSENED BY DISCLING OR RAKING (SHALL BE DONE ON CONTOUR) AT A DEPTH OF AT LEAST 3", BEFORE SEEDING OCCURS. APPLY 100LBS PER 1,000 SQ.FT. OF LIME AND 15 LB. PER 1,000 SQ.FT. OF 10–10–10 FERTILIZER OR EQUIVALENT. THOROUGHLY MIX INTO SOIL TO A MINIMUM OF 3".

5. SEEDING: USE 40% KENTUCKY BLUEGRASS, 10% ANNUAL RYE AND 25% RED FESCUE AT THE RATE OF 250 LB. PER ACRE.

6. MULCHING: USE CLEAN, UNWEATHERED, UNCHOPPING SMALL GRAIN STRAW AT THE RATE OF 1.5 TO 2 TONS PER ACRE ANCHORED DOWN WITH CUTBACK ASPHALT AT THE RATE OF 5–8 GALLONS PER 1000 SQ. FT.

7. DISCING AND HARROWING SHALL BE DONE ON CONTOUR.

8. SOD SHALL BE STATE APPROVED SOD INSPECTED AND APPROVED BY MD. DEPT. OF AGRICULTURE. ALL SOD SHALL BE LAID ON SITE NO MORE THAN 36 HOURS AFTER HARVEST, AND SHALL BE A MIXTURE OF 60% (MIN.) TALL FESCUE AND 40% (MIN.) KENTUCKY BLUEGRASS.

9. SOD PEGS OR STAKES BE UNTREATED WOOD PEGS DRIVEN THROUGH, AND FLUSH WITH SOD. ALL SLOPES WITH A GRADE 3 TO 1 OR STEEPER SHALL BE PEGGED AT A MINIMUM OF 4 PEGS PER SQUARE YARD OF SOD.

10.SODDING, SEEDING AND MULCHING MAY BE DONE IMMEDIATELY AFTER FINAL GRADING, PROVIDED THAT THE BED HAS REMAINED IN GOOD, FRIABLE CONDITION AND HAS NOT BECOME MUDDY OR HARD. IF IT HAS BECOME HARD, IT SHALL BE FILLED TO FRIABLE CONDITION AGAIN.

11.SEED SHALL BE WORKED INTO THE TOP 3" OF SOIL BY MEANS OF RAKING, WIRE DRAG OR OTHER APPROVED EQUIPMENT. DURING PERIODS OF HIGH TEMPERATURE AND/OR DROUGHT. THE SOIL SHALL BE WATERED IMMEDIATELY PRIOR TO LAYING THE SOD. ALL SOD SHALL BE LAID AT RIGHT ANGLES TO SLOPES. NO SOD SHALL BE APPLIED TO FROZEN GROUND AND NO FROZEN SOD IS TO BE LAID. WATERING SHALL COMMENCE IMMEDIATELY DURING OR AFTER THE LAYING OPERATION, AND SHALL BE SUFFICIENT TO THOROUGHLY WET THE SOD ROOTS AND THE SOIL BELOW.

12.PERMANENT SEEDING: SHALL BE DONE MARCH 1 – MAY 15 AND AUGUST 15 – OCTOBER 15. IRRIGATION FOR PERMANENT SEEDING SHALL BE DONE BETWEEN MAY 15 AND AUGUST 14.

13.SEDIMENT CONTROL DEVICES (DITCHES, DIKES, TRAPS, ETC.) ARE TO REMAIN IN PLACE UNTIL CONTRIBUTING WATERSHED HAS BEEN STABILIZED. MAINTENANCE TO SEDIMENT CONTROL DEVICES DURING THE UNDER GOING GRADING, CONSTRUCTION AND DEVELOPMENT SHOULD BE DONE AS NECESSARY. REMOVAL OF THESE DEVICES SHALL BE WITH THE APPROVAL OF THE MONTGOMERY COUNTY SEDIMENT CONTROL INSPECTOR.

DPS PERMIT NO.

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES
FINAL APPROVAL
DATE _____
BY _____

*SUBJECT TO DEDICATION OF RIGHT OF WAY AND EASEMENTS PER COUNTY CODE SECTION 50.

McCORMICK TAYLOR
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

EROSION AND SEDIMENT CONTROL GENERAL NOTES
GAME PRESERVE SWM RETROFITS
GAITHERSBURG (9TH) ELECTION DISTRICT
PARCEL A1, SUBDIVISION SENECA PARK NORTH, LIBER 04772 FOLIO 00528
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PHILIP JONES, P.E.
(240) 777-7738

DESIGN	ASB	DATE	MARCH '15
DRAFT	MER	SCALE	NONE
APPROVED	DAS		

SHEET 12 OF 27

FILE: I:\31\12218 - Cabin Branch SWM Retrofit\Design\Engineering\Plans\Set\11200\pES-N001_Cabin Branch pond 11200.dgn
PLOTTED: Thursday, April 23, 2015 AT 11:10 AM

STANDARDS AND SPECIFICATIONS FOR TOPSOIL

DEFINITION

PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION.

PURPOSE

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 SOIL GRADATION.

CONDITIONS WHERE PRACTICE APPLIES

THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES.

FOR THE PURPOSE OF THESE STANDARDS AND SPECIFICATIONS, AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN FOR ADEQUATE STABILIZATION. AREAS HAVING SLOPES STEEPER THAN 2:1 SHALL HAVE THE APPROPRIATE STABILIZATION SHOWN ON THE PLANS.

CONSTRUCTION AND MATERIAL SPECIFICATIONS

TOPSOIL SALVAGED FROM THE EXISTING SITE MAY BE USED PROVIDED THAT IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS.

TOPSOIL SPECIFICATIONS – SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:

1. TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY DPS. REGARDLESS, TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS, AND SHALL CONTAIN LESS THAN 5 % BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1 1/2 " IN DIAMETER. THE SUBSOIL SHALL BE TILLED TO A MINIMUM DEPTH OF 6 INCHES BEFORE PLACEMENT OF TOPSOIL.

CONSTRUCTION AND MATERIAL SPECIFICATIONS

WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 4–8 TONS/ACRE (200–400 LBS PER 1000 SQ FT) PRIOR TO THE PLACEMENT OF TOPSOIL. LIME SHALL BE DISTRIBUTED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL.

TOPSOIL SHALL BE TESTED AND AMENDED AS PER SOIL TEST RECOMMENDATIONS.

TOPSOIL APPLICATION.

1. WHEN TOPSOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES.
2. TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4–8 INCH LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4 INCHES. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
3. TOPSOIL SHALL NOT BE PLACED WHILE THE TOPSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

SITE INFORMATION * (NOT FOR BIDDING PURPOSES)

TOTAL AREA OF SITE	2.42	ACRES
AREA DISTURBED	2.42	ACRES
AREA TO BE ROOFED OR PAVED	0.00	ACRES
TOTAL CUT	6194	CU. YDS.
TOTAL FILL	220	CU. YDS.
OFFSITE WASTE/BORROW AREA LOCATION (IF KNOWN)		ACRES

SEQUENCE OF CONSTRUCTION

NOTES:

1. CONTRACTOR IS TO OBTAIN WRITTEN APPROVAL FROM MCDPS INSPECTOR, PRIOR TO THE REMOVAL OF ANY SEDIMENT CONTROL DEVICES.
2. ONCE THE SEDIMENT CONTROL DEVICES ARE INSTALLED FOR EACH PHASE, THE CONTRACTOR MUST OBTAIN WRITTEN APPROVAL FROM THE MCDPS INSPECTOR BEFORE PROCEEDING WITH ANY ADDITIONAL CLEARING, GRUBBING OR GRADING.
3. THE PROJECT SITE SHALL BE ACCESSED THROUGH THE DESIGNATED ACCESS POINTS ILLUSTRATED ON THE EROSION AND SEDIMENT CONTROL PLANS.
4. THE PROJECT BOUNDARIES ARE ILLUSTRATED ON THE PLANS AS THE LIMIT OF DISTURBANCE (LOD). THE CONTRACTOR SHALL PERFORM ALL ACTIVITIES RELATED TO THIS CONTRACT WITHIN THE LOD AS ILLUSTRATED ON THE PLANS.
5. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ACCESS TO AND MAINTAINING ALL EROSION AND SEDIMENT CONTROL DEVICES DURING CONSTRUCTION.
6. AT THE END OF EACH DAY, THE CONTRACTOR SHALL STABILIZE ANY DISTURBED AREA NOT DRAINING TO AN APPROVED ESC DEVICE.
7. EACH DAY THE CONTRACTOR SHALL DEWATER ANY STANDING WATER WITHIN THE WORK AREA AND MAINTAIN THE SUMP PITS AS NECESSARY.
8. PERMANENT STABILIZATION AS SHOW ON THE LANDSCAPE PLAN MAY BE DONE DURING ANY PHASE WITH APPROVAL FROM THE ENGINEER AND MCDPS INSPECTOR.

PHASE 1

1. PRIOR TO CLEARING AND GRUBBING, INSTALLING SEDIMENT CONTROL MEASURES, OR GRADING, A PRECONSTRUCTION MEETING MUST BE CONDUCTED ON–SITE WITH THE MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES (MCDPS) SEDIMENT CONTROL INSPECTOR (240) 777–6210 (48 HOURS NOTICE) AND THE MNCPPC, PLANNING DEPARTMENT, PLANS ENFORCEMENT INSPECTOR (301)495–4571 (48 HOURS NOTICE), THE OWNERS REPRESENTATIVE, AND THE SITE ENGINEER.
2. THE LIMITS OF DISTURBANCE MUST BE FIELD MARKED PRIOR TO CLEARING AND GRUBBING, INSTALLATION OF SEDIMENT CONTROL MEASURES, CONSTRUCTION, OR OTHER LAND DISTURBING ACTIVITIES.
3. THE CONTRACTOR MUST OBTAIN WRITTEN APPROVAL FORM THE MNCPPC INSPECTOR, CERTIFYING THAT THE LIMITS OF DISTURBANCE AND TREE PROTECTION MEASURES ARE CORRECTLY MARKED AND INSTALLED PRIOR TO COMMENCING ANY CLEARING.
4. CLEAR AND GRUB FOR INSTALLATION OF STABILIZED CONSTRUCTION ENTRANCE (SCE–1), MULCH ACCESS ROAD, AND PERIMETER SEDIMENT CONTROL DEVICES.
5. INSTALL DIVERSION FENCE (DF–1), TEMPORARY STONE OUTLET STRUCTURE (TSOS–1), SILT FENCE (SF–1 TO SF–10), MOUNTABLE BERM (MB–1) WITH CLEAR WATER DIVERSION PIPE (CWDP–1), AND PROVIDE MULCHING FOR ACCESS ROAD.
6. CONTRACTOR SHALL INSTALL SUMP PIT (SP–1) WITH PUMP AND DEWATER THE POND. ALL SEDIMENT LADEN RUNOFF MUST BE FILTERED THROUGH AN APPROVED SEDIMENT CONTROL DEVICE PRIOR TO DISCHARGING THE SITE.
7. WITH A THREE DAY NOAA DRY FORECAST AND THE POND DEWATERED CLEAR AND GRUB AS NECESSARY TO INSTALL SILT FENCE (SF–1 TO SF–2) AND TEMPORARY BARRIER DIVERSION (TBD–1).
8. GRADE SIDE SLOPE AND EXCAVATE CLEAR WATER CHANNEL AS SHOWN ON THE PLANS. STABILIZE ALL DISTURBED AREAS AT THE END OF EACH DAY. STABILIZE SIDE SLOPE AND CHANNEL WITH TYPE SOIL STABILIZATION MATTING. DEWATER ALL SEDIMENT LADEN RUNOFF FROM CHANNEL EXCAVATION AREA UTILIZING FILTER BAG (FB–1) AND PUMP AS SHOWN ON THE PLANS.
9. WITH CHANNEL EXCAVATED AND STABILIZED, PROVIDE TWO RISER OUTFALLS FOR THE CLEAN WATER DIVERSION CHANNEL. REMOVE THE EXISTING 10–INCH LOW FLOW PIPE FROM RISER. INSTALL A PERFORATED PIPE AT THE 10"OPENING AND BACKFILL WITH STONE FOR DRAINAGE. THE CONTRACTOR IS TO CUT THE PROPOSED 18" LOW FLOW OPENING IN THE RISER AS SHOWN ON THE DETAIL PLANS. THIS OPENING SHALL REMAIN COMPLETELY OPEN FOR CLEAN WATER DIVERSION. INSTALL TEMPORARY RIPRAP AT RISER AS SHOWN ON THE PLANS.

PHASE 2

1. CLEAR AND GRUB FOR INSTALLATION OF DIVERSION FENCE (DF–2). CONSTRUCT THE PROPOSED DRAINAGE SYSTEM FROM MH–1 TO EW–1. INSTALL SAND BAGS (SB–2) AND CLEAN WATER DIVERSION PUMP AROUND PRACTICE AS SHOWN ON THE PLANS. INSTALL FILTER BAG (FB–2) AS SHOWN ON THE PLANS.
2. CONTRACTOR SHALL DEWATER THE POND. ALL SEDIMENT LADEN RUNOFF MUST BE FILTERED THROUGH FILTER BAG (FB–2) PRIOR TO DISCHARGING THE SITE.
3. WITH A THREE DAY NOAA DRY FORECAST AND THE POND DEWATERED CLEAR AND GRUB AS NECESSARY TO PERFORM POND GRADING AS SHOWN ON PLANS.
4. COMPLETE PHASE 2 GRADING.

PHASE 3

1. WITH THE APPROVAL OF THE ENGINEER AND MCDPS INSPECTOR THE CONTRACTOR MAY COMMENCE FINAL GRADING.
2. WITH THREE DAY NOAA DRY FORECAST, DEWATER THE POND AND REMOVE THE TEMPORARY BARRIER DIVERSION (TB–1) AND COMPLETE FINAL GRADING TO REMOVE CLEAN WATER DIVERSION CHANNEL. STABILIZE ALL DISTURBED AREAS AT THE END OF EACH DAY.
3. CONTRACTOR SHALL PERMANENTLY BULKHEAD THE EXISTING 10"LOW FLOW ORIFICE IN THE RISER. COMPLETE THE INSTALLATION OF THE PROPOSED 12"REVERSE SLOPE PIPE AS SHOWN ON THE PLANS.
4. UPON COMPLETION OF GRADING PERMANENTLY STABILIZE THE AREA AS SHOWN ON THE LANDSCAPING PLAN.

DPS PERMIT NO.

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES

FINAL APPROVAL

DATE _____

BY _____

•SUBJECT TO DEDICATION OF RIGHT OF WAY AND EASEMENTS PER COUNTY CODE SECTION 50.

McCORMICK TAYLOR
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

EROSION AND SEDIMENT CONTROL GENERAL NOTES

GAME PRESERVE SWM RETROFITS

GAITHERSBURG (9TH) ELECTION DISTRICT

PARCEL A1, SUBDIVISION SENECA PARK NORTH, LIBER 04772 FOLIO 00528

MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PHILIP JONES, P.E.
(240) 777-7738

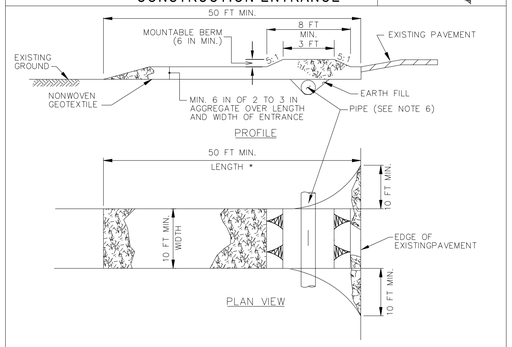
DESIGN	AGB
DRAFT	MER
APPROVED	DAS
DATE	MARCH '15
SCALE	NONE

SHEET 13 OF 27

FILE: 1:\5182\18 - Cabin Branch SWM Retrofit\Design\Engineering\PlanSet\11200\pES-N002_Cabin Branch pond 11200.dgn
PLOTTED: Thursday, April 23, 2015 AT 11:10 AM

DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL SCE



CONSTRUCTION SPECIFICATIONS

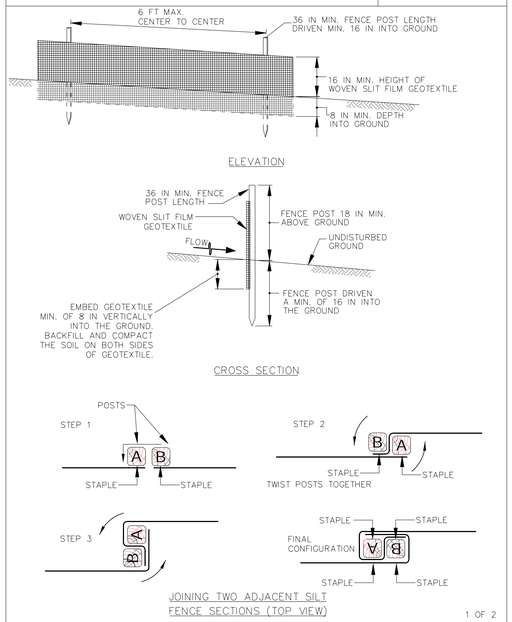
1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
4. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	201 1	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-1 SILT FENCE

STANDARD SYMBOL —SF—



1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-1 SILT FENCE

STANDARD SYMBOL —SF—

CONSTRUCTION SPECIFICATIONS

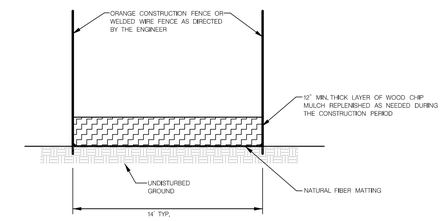
1. USE WOOD POSTS 1¾ X 1¾ ± 1/16 INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
2. USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
3. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.
4. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
5. EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
6. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
7. EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
8. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

MULCH ACCESS ROAD DETAIL

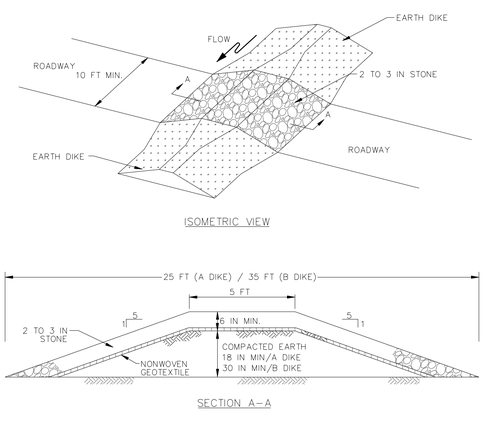


NOTES:

1. ACCESS ROUTES TO BE VERIFIED BY ENGINEER AT PRE-CONSTRUCTION MEETING. REVISIONS TO THE ALIGNMENT THAT MINIMIZE TREE DISTURBANCE ARE ENCOURAGED AND REQUIRE REVIEW AND APPROVAL BY THE ENGINEER.
2. NATURAL FIBER MATTING SHALL BE PLACED WITH SEAMS PARALLEL TO THE FLOW OF TRAFFIC, OVERLAP FABRIC BY 18" MINIMUM AT SEAMS.
3. NATURAL FIBER MATTING MAY BE ELIMINATED AT DIRECTION OF ENGINEER.
4. CONTRACTOR SHALL MAINTAIN MULCH MAT THROUGHOUT CONSTRUCTION PERIOD. UPON COMPLETION OF THE PROJECT, MULCH CAN REMAIN IN PLACE AT A MAXIMUM DEPTH OF 2".
5. SCARIFICATION OF COMPACTED MULCH TO OCCUR UPON REMOVAL OF HAUL ROAD, AT DIRECTION OF THE ENGINEER.
6. THE HAUL ROAD IS DESIGNED TO PREVENT COMPACTION OF EXISTING SOILS USING LOW PRESSURE EQUIPMENT WHICH EXERTS NO MORE THAN 8 PSI. IF THE CONTRACTOR INTENDS TO USE ANY EQUIPMENT WITH HIGHER LOADS, ADDITIONAL PROTECTION MEASURES MUST BE PROVIDED, AT NO ADDITIONAL COST TO THE ADMINISTRATION, AND THOSE MEASURES MUST BE APPROVED BY THE ENGINEER PRIOR TO IMPLEMENTATION.

DETAIL C-8 MOUNTABLE BERM

STANDARD SYMBOL MB



CONSTRUCTION SPECIFICATIONS

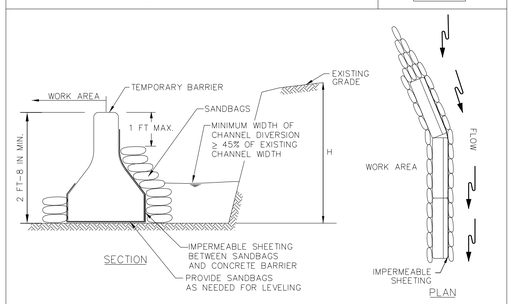
1. USE MINIMUM WIDTH OF 10 FEET TO ALLOW FOR VEHICULAR PASSAGE.
2. PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, OVER THE EARTH MOUND PRIOR TO PLACING STONE.
3. PLACE 2 TO 3 INCH STONE OR EQUIVALENT RECYCLED CONCRETE AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE MOUNTABLE BERM.
4. MAINTAIN LINE, GRADE, AND CROSS SECTION. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN SPECIFIED DIMENSIONS. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. MAINTAIN POSITIVE DRAINAGE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL C-7 TEMPORARY BARRIER DIVERSION

STANDARD SYMBOL TBD



CONSTRUCTION SPECIFICATIONS

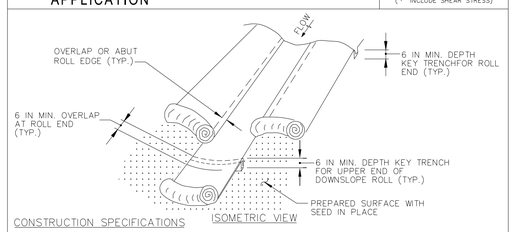
1. FOR SANDBAGS USE MATERIALS THAT ARE RESISTANT TO ULTRA-VIOLET RADIATION, TEARING, AND PUNCTURE AND WOVEN TIGHTLY ENOUGH TO PREVENT LEAKAGE OF FILL MATERIAL.
2. USE BARRIER MADE OF CONCRETE OR OTHER APPROVED MATERIAL.
3. USE 10 MIL OR THICKER, UV RESISTANT, IMPERMEABLE SHEETING OR OTHER APPROVED MATERIAL THAT IS IMPERMEABLE AND RESISTANT TO PUNCTURING AND TEARING.
4. ESTABLISH TOP ELEVATION AT H/2 + 1 FOOT FOR PROJECTS OF DURATION LESS THAN 2 WEEKS OR AS SPECIFIED ON APPROVED PLAN.
5. INSTALL DIVERSION STRUCTURE FROM UPGRADE TO DOWNGRADE.
6. PLACE IMPERMEABLE SHEETING SUCH THAT UPGRADE PORTION OVERLAPS DOWNGRADE PORTION BY A MINIMUM OF 18 INCHES.
7. USE SANDBAG BASE FOR LEVELING AND TO ESTABLISH MINIMUM TOP ELEVATION OF THE BARRIER AS REQUIRED.
8. DISPOSE OF ALL EXCAVATED MATERIALS IN AN APPROVED DISPOSAL AREA OUTSIDE OF THE 100-YEAR FLOODPLAIN.
9. DEWATER WORK AREA USING AN APPROVED EROSION AND SEDIMENT CONTROL PRACTICE AS SPECIFIED ON APPROVED PLAN.
10. KEEP ABUTMENTS BETWEEN CONCRETE BARRIERS WATER TIGHT. REPLACE SANDBAGS AND IMPERMEABLE SHEETING IF TORN.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL B-4-6-A TEMPORARY SOIL STABILIZATION MATTING CHANNEL APPLICATION

STANDARD SYMBOL TSSMC – * lb/ft² (* INCLUDE SHEAR STRESS)



CONSTRUCTION SPECIFICATIONS

1. USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
2. USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM) NATURAL OR MAN-MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND BE SMOLDER RESISTANT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
3. SECURE MATTING USING STEEL STAPLES, WOOD STAKES, OR BIODEGRADABLE EQUIVALENT. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTOM.
4. PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
5. UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTERLINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MAT SMOOTHLY AND FIRMLY ON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.
6. KEY-IN UPSTREAM END OF EACH MAT ROLL BY DIGGING A 6 INCH (MINIMUM) TRENCH AT THE UPSTREAM END OF THE MATTING, PLACING THE ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END.
7. OVERLAP OR ABUT THE ROLL EDGES PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MAT.
8. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
9. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

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. 40778, EXPIRATION DATE: 07 / 05 / 2015.

DPS PERMIT NO.

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES
FINAL APPROVAL
DATE _____
BY _____

*SUBJECT TO DEDICATION OF RIGHT OF WAY AND EASEMENTS PER COUNTY CODE SECTION 50.

McCORMICK TAYLOR
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

EROSION AND SEDIMENT CONTROL DETAILS
GAME PRESERVE SWM RETROFITS
GAITHERSBURG (9TH) ELECTION DISTRICT
PARCEL A1, SUBDIVISION SENECA PARK NORTH, LIBER 04772 FOLIO 00528
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PHILIP JONES, P.E.
(240) 777-7738

DESIGN ABB	DRAFT MER	APPROVED DAS	DATE MARCH '15	SCALE NONE

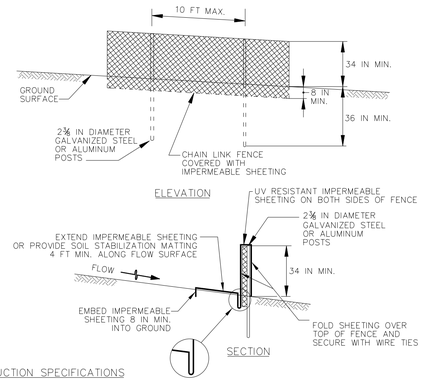
SHEET 14 OF 27

FILE: 13518218 - Cabin Branch SWM Retrofit\Design\Engineering\PlanSet\11200\pES-D001_Cabin Branch pond 11200.dgn
PLOTTED: Thursday, April 23, 2015 AT 11:10 AM

DETAIL C-9 DIVERSION FENCE

STANDARD SYMBOL — DF —

MAXIMUM DRAINAGE AREA = 2 ACRES



CONSTRUCTION SPECIFICATIONS

1. USE 42 INCH HIGH, 9 GAUGE OR THICKER CHAIN LINK FENCING (2⅜ INCH MAXIMUM OPENING).
2. USE 2⅜ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. THE POSTS DO NOT NEED TO BE SET IN CONCRETE.
3. FASTEN CHAIN LINK FENCE SECURELY TO THE FENCE POSTS WITH WIRE TIES.
4. SECURE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING TO CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT TOP, MID SECTION, AND BELOW GROUND SURFACE.
5. EXTEND SHEETING A MINIMUM OF 4 FEET ALONG FLOW SURFACE AND EMBED END A MINIMUM OF 8 INCHES INTO GROUND. SOIL STABILIZATION MATTING MAY BE USED IN LIEU OF IMPERMEABLE SHEETING ALONG FLOW SURFACE.
6. WHEN TWO SECTIONS OF SHEETING ADJOIN EACH OTHER, OVERLAP BY 6 INCHES AND FOLD WITH SEAM FACING DOWNGRADE.
7. KEEP FLOW SURFACE ALONG DIVERSION FENCE AND POINT OF DISCHARGE FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. MAINTAIN POSITIVE DRAINAGE. REPLACE IMPERMEABLE SHEETING IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

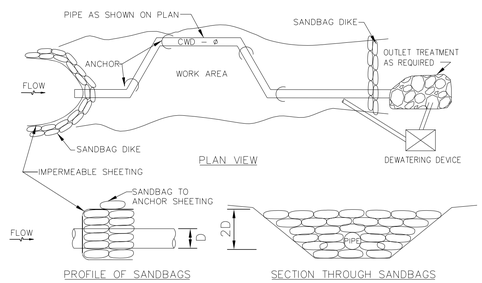
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL C-6 CLEAR WATER DIVERSION PIPE

STANDARD SYMBOL CWD – 12

DESIGNATION CWD-12 REFERS TO 12 INCH CLEAR WATER DIVERSION.



CONSTRUCTION SPECIFICATIONS

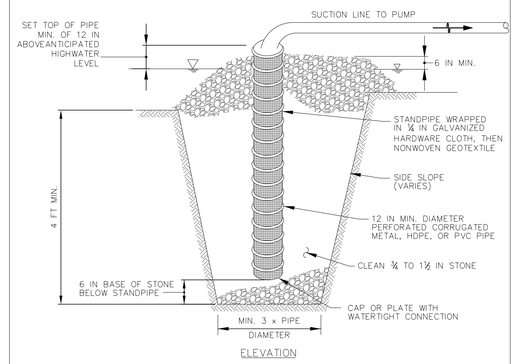
1. FLEXIBLE PIPE IS PREFERRED. HOWEVER, CORRUGATED METAL PIPE OR EQUIVALENT PVC PIPE CAN BE USED. MAKE ALL JOINTS WATERTIGHT.
2. FOR SANDBAGS USE MATERIALS THAT ARE RESISTANT TO ULTRA-VIOLENT RADIATION, TEARING, AND PUNCTURE AND WOVEN TIGHTLY ENOUGH TO PREVENT LEAKAGE OF FILL MATERIAL.
3. USE 10 MIL OR THICKER, UV RESISTANT, IMPERMEABLE SHEETING OR OTHER APPROVED MATERIAL THAT IS IMPERMEABLE AND RESISTANT TO PUNTURING AND TEARING.
4. PLACE IMPERMEABLE SHEETING SUCH THAT UPGRADE PORTION OVERLAPS DOWNGRADE PORTION BY A MINIMUM OF 18 INCHES.
5. SET HEIGHT OF SANDBAG DIKE AT TWICE THE PIPE DIAMETER. MAINTAIN HEIGHT ALONG LENGTH OF SANDBAG DIKE. PLACE DOUBLE ROW OF SANDBAGS.
6. AT A MINIMUM, SECURELY ANCHOR DIVERSION PIPE AT EACH DOWNGRADE JOINT.
7. SET OUTLET END OF DIVERSION PIPE LOWER THAN INLET END.
8. PROVIDE OUTLET PROTECTION AS REQUIRED ON APPROVED PLAN.
9. DEWATER WORK AREA USING AN APPROVED EROSION AND SEDIMENT CONTROL PRACTICE AS SPECIFIED ON APPROVED PLAN.
10. KEEP POINT OF DISCHARGE FREE OF EROSION. MAINTAIN WATER TIGHT CONNECTIONS AND POSITIVE DRAINAGE. REPLACE SANDBAGS AND IMPERMEABLE SHEETING IF TORN.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL F-2 SUMP PIT

STANDARD SYMBOL ⊠SP



CONSTRUCTION SPECIFICATIONS

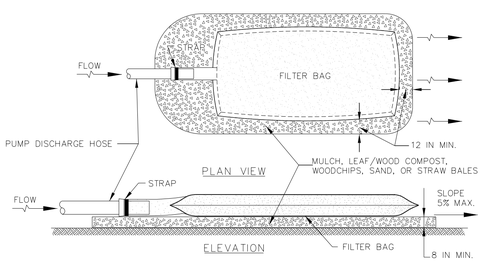
1. USE 12 INCH OR LARGER DIAMETER CORRUGATED METAL, HDPE, OR PVC PIPE WITH 1 INCH DIAMETER PERFORATIONS, 6 INCHES ON CENTER. BOTTOM OF PIPE MUST BE CAPPED WITH WATERTIGHT SEAL.
2. WRAP PIPE WITH ¼ INCH GALVANIZED HARDWARE CLOTH AND WRAP NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, OVER THE HARDWARE CLOTH.
3. EXCAVATE PIT TO THREE TIMES THE PIPE DIAMETER AND FOUR FEET IN DEPTH. PLACE ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE, 6 INCHES IN DEPTH PRIOR TO PIPE PLACEMENT.
4. SET TOP OF PIPE MINIMUM 12 INCHES ABOVE ANTICIPATED WATER SURFACE ELEVATION.
5. BACKFILL PIT AROUND THE PIPE WITH ¾ TO 1½ INCH CLEAN STONE OR EQUIVALENT RECYCLED CONCRETE AND EXTEND STONE A MINIMUM OF 6 INCHES ABOVE ANTICIPATED WATER SURFACE ELEVATION.
6. DISCHARGE TO A STABLE AREA AT A NONEROSIVE RATE.
7. A SUMP PIT REQUIRES FREQUENT MAINTENANCE. IF SYSTEM CLOGS, REMOVE PERFORATED PIPE AND REPLACE GEOTEXTILE AND STONE. KEEP POINT OF DISCHARGE FREE OF EROSION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL F-4 FILTER BAG

STANDARD SYMBOL ⊠FB



CONSTRUCTION SPECIFICATIONS

1. TIGHTLY SEAL SLEEVE AROUND THE PUMP DISCHARGE HOSE WITH A STRAP OR SIMILAR DEVICE.
2. PLACE FILTER BAG ON SUITABLE BASE (E.G., MULCH, LEAF/WOOD COMPOST, WOODCHIPS, SAND, OR STRAW BALES) LOCATED ON A LEVEL OR 5% MAXIMUM SLOPING SURFACE. DISCHARGE TO A STABILIZED AREA. EXTEND BASE A MINIMUM OF 12 INCHES FROM EDGES OF BAG.
3. CONTROL PUMPING RATE TO PREVENT EXCESSIVE PRESSURE WITHIN THE FILTER BAG IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS. AS THE BAG FILLS WITH SEDIMENT, REDUCE PUMPING RATE.
4. REMOVE AND PROPERLY DISPOSE OF FILTER BAG UPON COMPLETION OF PUMPING OPERATIONS OR AFTER BAG HAS REACHED CAPACITY, WHICHEVER OCCURS FIRST. SPREAD THE DEWATERED SEDIMENT FROM THE BAG IN AN APPROVED UPLAND AREA AND STABILIZE WITH SEED AND MULCH BY THE END OF THE WORK DAY. RESTORE THE SURFACE AREA BENEATH THE BAG TO ORIGINAL CONDITION UPON REMOVAL OF THE DEVICE.
5. USE NONWOVEN GEOTEXTILE WITH DOUBLE STITCHED SEAMS USING HIGH STRENGTH THREAD. SIZE SLEEVE TO ACCOMMODATE A MAXIMUM 4 INCH DIAMETER PUMP DISCHARGE HOSE. THE BAG MUST BE MANUFACTURED FROM A NONWOVEN GEOTEXTILE THAT MEETS OR EXCEEDS MINIMUM AVERAGE ROLL VALUES (MARV) FOR THE FOLLOWING:

GRAB TENSILE	250 LB	ASTM D-4632
PUNCTURE	150 LB	ASTM D-4833
FLOW RATE	70 GAL/MIN/FT^2	ASTM D-4491
PERMITTIVITY (SEC^{-1})	1.2 SEC^{-1}	ASTM D-4491
UV RESISTANCE	70% STRENGTH @ 500 HOURS	ASTM D-4355
APPARENT OPENING SIZE (AOS)	0.15-0.18 MM	ASTM D-4751
SEAM STRENGTH	90%	ASTM D-4632

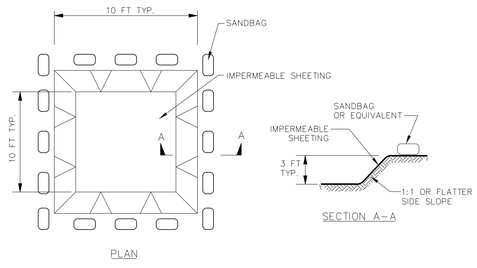
6. REPLACE FILTER BAG IF BAG CLOGS OR HAS RIPS, TEARS, OR PUNCTURES. DURING OPERATION KEEP CONNECTION BETWEEN PUMP HOSE AND FILTER BAG WATER TIGHT. REPLACE BEDDING IF IT BECOMES DISPLACED.

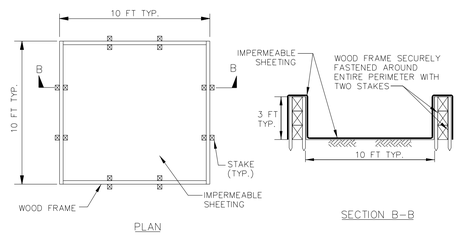
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL H-6 ONSITE CONCRETE WASHOUT STRUCTURE

STANDARD SYMBOL CWS





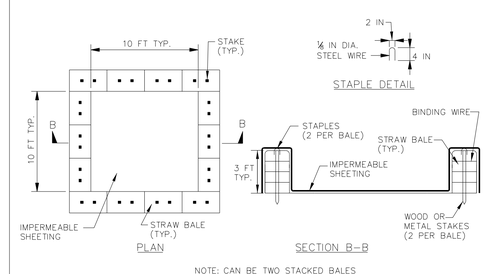
1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL H-6 ONSITE CONCRETE WASHOUT STRUCTURE

STANDARD SYMBOL CWS



NOTE: CAN BE TWO STACKED BALES OR PARTIALLY EXCAVATED TO REACH 3 FT DEPTH

WASHOUT STRUCTURE WITH STRAW BALES

CONSTRUCTION SPECIFICATIONS

1. LOCATE WASHOUT STRUCTURE A MINIMUM OF 50 FEET AWAY FROM OPEN CHANNELS, STORM DRAIN INLETS, SENSITIVE AREAS, WETLANDS, BUFFERS AND WATER COURSES AND AWAY FROM CONSTRUCTION TRAFFIC.
2. SIZE WASHOUT STRUCTURE FOR VOLUME NECESSARY TO CONTAIN WASH WATER AND SOLIDS AND MAINTAIN AT LEAST 4 INCHES OF FREEBOARD. TYPICAL DIMENSIONS ARE 10 FEET X 10 FEET X 3 FEET DEEP.
3. PREPARE SOIL BASE FREE OF ROCKS OR OTHER DEBRIS THAT MAY CAUSE TEARS OR HOLES IN THE LINER. FOR LINER, USE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING, FREE OF HOLES AND TEARS OR OTHER DEFECTS THAT COMPROMISE IMPERMEABILITY OF THE MATERIAL.
4. PROVIDE A SIGN FOR THE WASHOUT IN CLOSE PROXIMITY TO THE FACILITY.
5. KEEP CONCRETE WASHOUT STRUCTURE WATER TIGHT. REPLACE IMPERMEABLE LINER IF DAMAGED (E.G., RIPPED OR PUNCTURED). EMPTY OR REPLACE WASHOUT STRUCTURE THAT IS 75 PERCENT FULL, AND DISPOSE OF ACCUMULATED MATERIAL PROPERLY. DO NOT REUSE PLASTIC LINER. WET-VACUUM STORED LIQUIDS THAT HAVE NOT EVAPORATED AND DISPOSE OF IN AN APPROVED MANNER. PRIOR TO FORECASTED RAINSTORMS, REMOVE LIQUIDS OR COVER STRUCTURE TO PREVENT OVERFLOWS. REMOVE HARDENED SOLIDS, WHOLE OR BROKEN UP, FOR DISPOSAL OR RECYCLING. MAINTAIN RUNOFF DIVERSION AROUND EXCAVATED WASHOUT STRUCTURE UNTIL STRUCTURE IS REMOVED.

2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

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. 40778, EXPIRATION DATE: 06 / 21 / 2015.

DPS PERMIT NO.

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES
FINAL APPROVAL
DATE _____
BY _____

*SUBJECT TO DEDICATION OF RIGHT OF WAY AND EASEMENTS PER COUNTY CODE SECTION 50.

McCORMICK TAYLOR
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

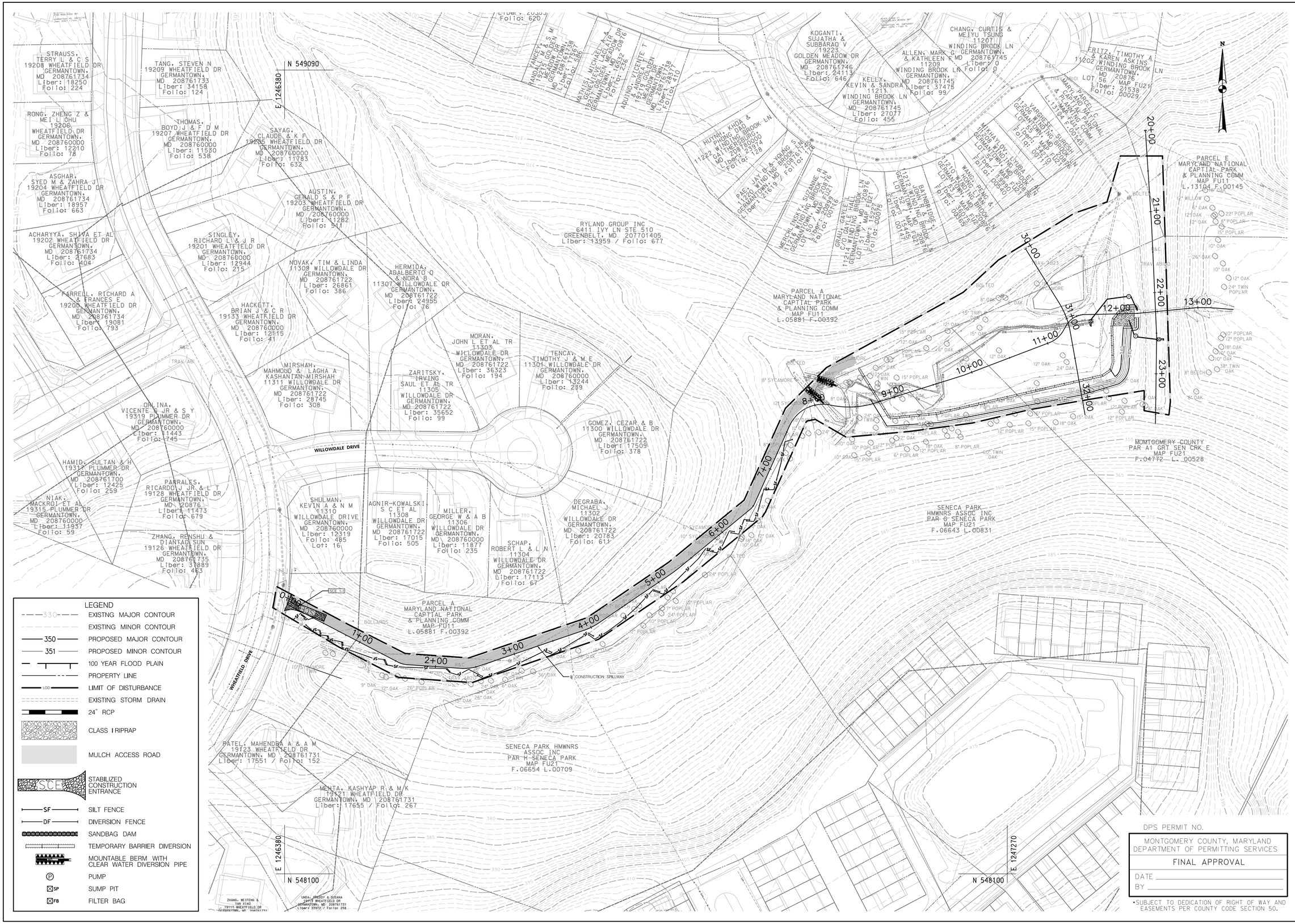
EROSION AND SEDIMENT CONTROL DETAILS
GAME PRESERVE SWM RETROFITS
GAITHERSBURG (9TH) ELECTION DISTRICT
PARCEL A1, SUBDIVISION SENECA PARK NORTH, LIBER 04772 FOLIO 00528
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PHILIP JONES, P.E.
(240) 777-7738

DESIGN ABB	DRAFT MER	APPROVED DAS	DATE MARCH '15
SCALE NONE			

SHEET 15 OF 27

FILE: 13518218 - Cabin Branch SWM Retrofit\Design\Engineering\PlanSet\11200\pES-D002_Cabin Branch pond 11200.dgn
PLOTTED: Thursday, April 23, 2015 AT 11:10 AM



LEGEND

- 330 — EXISTNG MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- 350 — PROPOSED MAJOR CONTOUR
- 351 — PROPOSED MINOR CONTOUR
- 100 YEAR FLOOD PLAIN
- PROPERTY LINE
- LOD — LIMIT OF DISTURBANCE
- EXISTING STORM DRAIN
- 24" RCP
- CLASS I RIPRAP
- MULCH ACCESS ROAD
- SCE — STABILIZED CONSTRUCTION ENTRANCE
- SF — SILT FENCE
- DF — DIVERSION FENCE
- SANDBAG DAM
- TEMPORARY BARRIER DIVERSION
- MOUNTABLE BERM WITH CLEAR WATER DIVERSION PIPE
- P — PUMP
- SP — SUMP PIT
- FB — FILTER BAG

DPS PERMIT NO.

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES

FINAL APPROVAL

DATE _____

BY _____

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McCORMICK TAYLOR
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

EROSION AND SEDIMENT CONTROL COMPOSITE PLAN - PHASE 1

GAME PRESERVE SWM RETROFITS

GAITHERSBURG (9TH) ELECTION DISTRICT

PARCEL A1, SUBDIVISION SENECA PARK NORTH, LIBER 04772 FOLIO 00528

MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF
ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PHILIP JONES, P.E.
(240) 777-7738

DESIGN	AGB
DRAFT	MER
APPROVED	DAS
DATE	MARCH '15
SCALE	1"=50'

SHEET 16 OF 27

FILE: 13S182.18 - Cabin Branch SWM Retrofit\Design\Engineering\PlanSet\11200\ES-P001_Cabin Branch pond 11200.dgn
PLOTTED: Thursday, April 23, 2015 AT 11:10 AM

STABILIZED CONSTRUCTION ENTRANCE	
35 TONS	SPILLWAY - STA 0+23, 4' LT

SILT FENCE		
18 LF	SPILLWAY - STA 0+15, 13' LT TO STA 0+25, 4' LT	SF 1-1
17 LF	SPILLWAY - STA 0+21, 4' RT TO STA 0+35, 1' RT	SF 1-2
24 LF	SPILLWAY - STA 0+31, 12' RT TO STA 0+53, 13' RT	SF 1-3
17 LF	SPILLWAY - STA 0+50, 12' RT TO STA 0+64, 13' RT	SF 1-4
26 LF	SPILLWAY - STA 0+62, 12 RT TO STA 0+84, 13'RT	SF 1-5
68 LF	SPILLWAY - STA 0+81, 11' RT TO STA 1+42, 9' RT	SF 1-6
87 LF	SPILLWAY - STA 1+37, 6' RT TO STA 2+18, 5' RT	SF 1-7
50 LF	SPILLWAY - STA 2+14, 2' RT TO STA 2+54, 14' RT	SF 1-8
101 LF	SPILLWAY - STA 2+49, 10' RT TO STA 3+44, 13' RT	SF 1-9
67 LF	SPILLWAY - STA 3+38, 11' RT TO STA 3+98, 11' RT	SF 1-10
113 LF	SPILLWAY - STA 3+94, 7' RT TO STA 4+95, 11' RT	SF 1-11
99 LF	SPILLWAY - STA 4+89, 5' RT TO STA 5+77, 11' RT	SF 1-12
13 LF	SPILLWAY - STA 5+72, 6' RT TO STA 6+00, 8' RT	SF 1-13

MULCH ACCESS ROAD	
595 LF	SPILLWAY - STA 0+00, 6' LT TO STA 6+00, 6' LT

LEGEND

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- PROPOSED MAJOR CONTOUR
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- PROPERTY LINE
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- DIVERSION FENCE
- SANDBAG DAM
- TEMPORARY BARRIER DIVERSION
- MOUNTABLE BERM WITH CLEAR WATER DIVERSION PIPE
- PUMP
- SUMP PIT
- FILTER BAG

DPS PERMIT NO.

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EROSION AND SEDIMENT CONTROL PLAN - PHASE 1

GAME PRESERVE SWM RETROFITS

GAITHERSBURG (9TH) ELECTION DISTRICT

PARCEL A1, SUBDIVISION SENECA PARK NORTH, LIBER 04772 FOLIO 00528

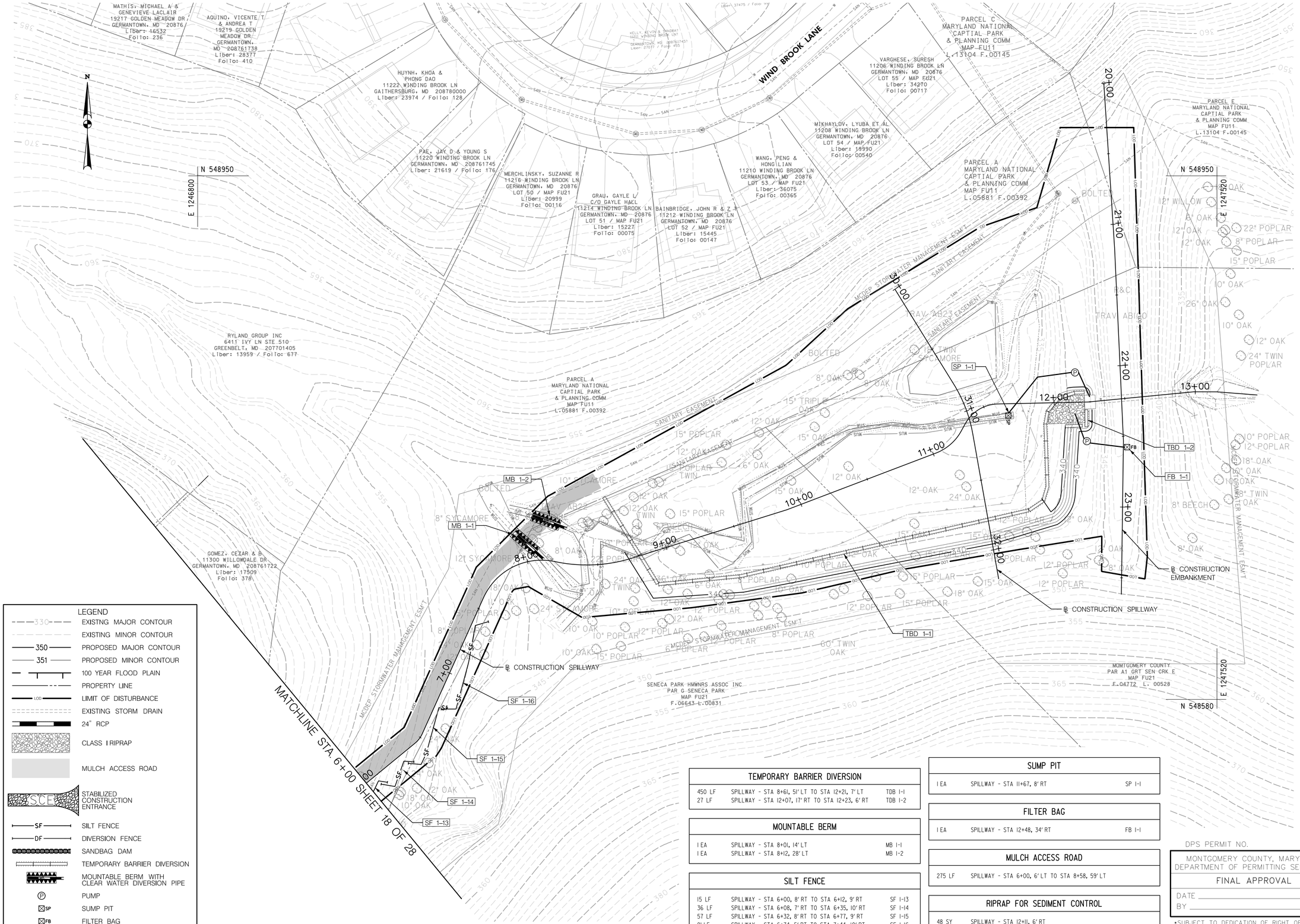
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF
ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PHILIP JONES, P.E.
(240) 777-7738

DESIGN	ADB	DATE	MARCH '15
DRAFT	MER	SCALE	1"=30'
APPROVED	DAS		

SHEET 17 OF 27

FILE: 135192/18 - Catlin Branch SWM Retrofit\Design\Engineering\PlanSet\11200\pES-P002_Catlin Branch pond 11200.dgn
PLOTTED: Thursday, April 23, 2015 AT 11:11 AM



LEGEND

- EXISTNG MAJOR CONTOUR (330)
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR (350)
- PROPOSED MINOR CONTOUR (351)
- 100 YEAR FLOOD PLAIN
- PROPERTY LINE
- LIMIT OF DISTURBANCE (LOD)
- EXISTING STORM DRAIN
- 24" RCP
- CLASS I RIPRAP
- MULCH ACCESS ROAD
- STABILIZED CONSTRUCTION ENTRANCE (SCE)
- SILT FENCE (SF)
- DIVERSION FENCE (DF)
- SANDBAG DAM
- TEMPORARY BARRIER DIVERSION
- MOUNTABLE BERM WITH CLEAR WATER DIVERSION PIPE
- PUMP (P)
- SUMP PIT (SP)
- FILTER BAG (FB)

TEMPORARY BARRIER DIVERSION

450 LF	SPILLWAY - STA 8+61, 51' LT TO STA 12+21, 7' LT	TDB 1-1
27 LF	SPILLWAY - STA 12+07, 17' RT TO STA 12+23, 6' RT	TDB 1-2

MOUNTABLE BERM

1 EA	SPILLWAY - STA 8+01, 14' LT	MB 1-1
1 EA	SPILLWAY - STA 8+12, 28' LT	MB 1-2

SILT FENCE

15 LF	SPILLWAY - STA 6+00, 8' RT TO STA 6+12, 9' RT	SF 1-13
36 LF	SPILLWAY - STA 6+08, 7' RT TO STA 6+35, 10' RT	SF 1-14
57 LF	SPILLWAY - STA 6+32, 8' RT TO STA 6+77, 9' RT	SF 1-15
81 LF	SPILLWAY - STA 6+74, 5' RT TO STA 7+44, 10' RT	SF 1-16

SUMP PIT

1 EA	SPILLWAY - STA 11+67, 8' RT	SP 1-1

FILTER BAG

1 EA	SPILLWAY - STA 12+48, 34' RT	FB 1-1

MULCH ACCESS ROAD

275 LF	SPILLWAY - STA 6+00, 6' LT TO STA 8+58, 59' LT

RIPRAP FOR SEDIMENT CONTROL

48 SY	SPILLWAY - STA 12+11, 6' RT

DPS PERMIT NO.

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES
FINAL APPROVAL
DATE _____
BY _____

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Baltimore, Maryland 21202
(410) 662-7400

EROSION AND SEDIMENT CONTROL PLAN - PHASE 1

GAME PRESERVE SWM RETROFITS

GAITHERSBURG (9TH) ELECTION DISTRICT

PARCEL A1, SUBDIVISION SENECA PARK NORTH, LIBER 04772 FOLIO 00528

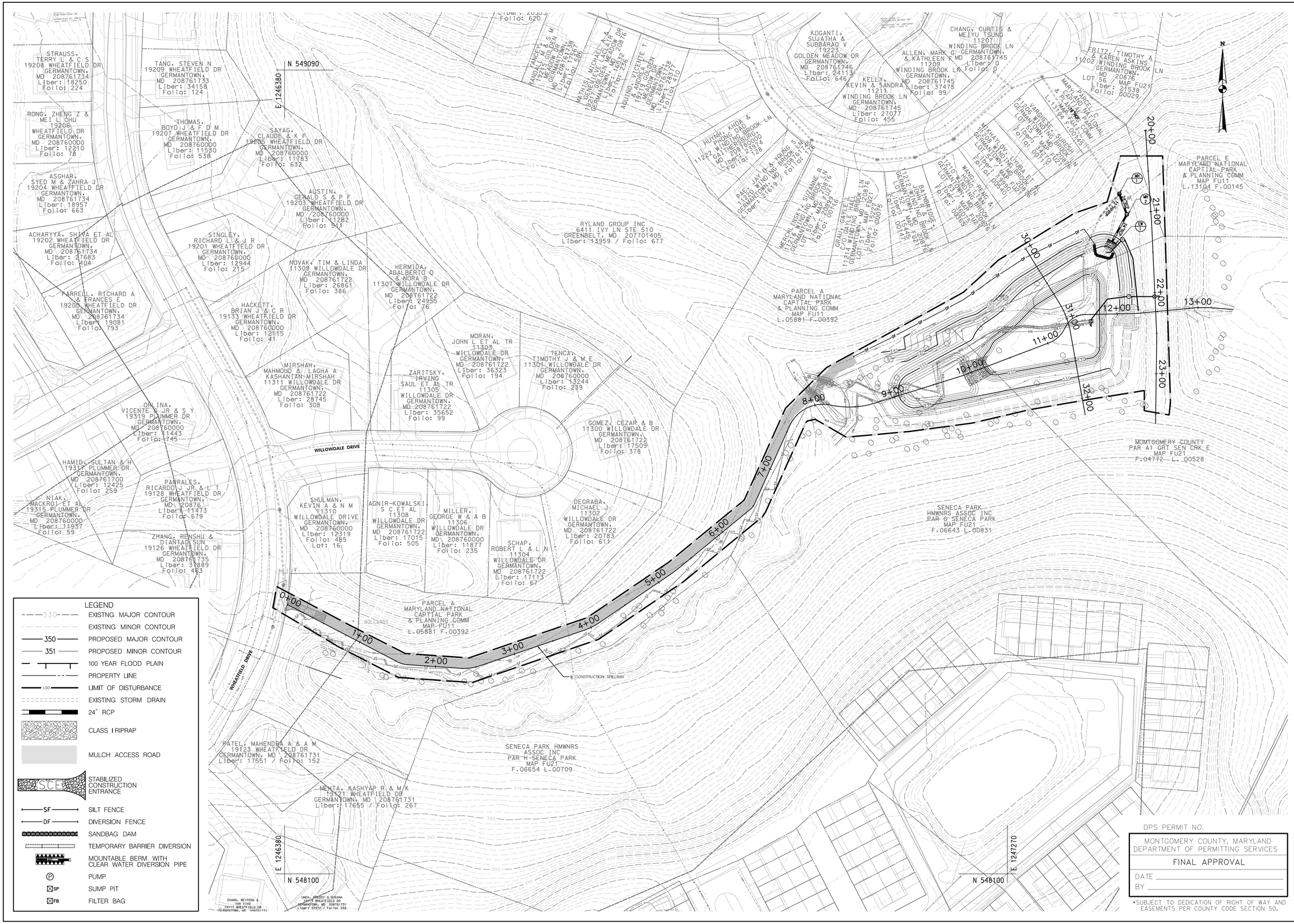
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PHILIP JONES, P.E.
(240) 777-7738

DESIGN	ADB	DATE	MARCH '15
DRAFT	MER	SCALE	1"=30'
APPROVED	DAS		

SHEET 18 OF 27

FILE: 1351826/18 - Calain Branch SWM Retrofit\Design\Engineering\PlanSet\11200\pES-P003_Calain Branch pond 11200.dgn
PLOTTED: Thursday, April 23, 2015 AT 11:11 AM



LEGEND

- 330 — EXISTNG MAJOR CONTOUR
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- 350 — PROPOSED MAJOR CONTOUR
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- 100 YEAR FLOOD PLAIN
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- SCE — STABILIZED CONSTRUCTION ENTRANCE
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- MOUNTABLE BERM WITH CLEAR WATER DIVERSION PIPE
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DPS PERMIT NO.

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES

FINAL APPROVAL

DATE _____

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McCORMICK TAYLOR
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

EROSION AND SEDIMENT CONTROL COMPOSITE PLAN- PHASE 2

GAME PRESERVE SWM RETROFITS

GAITHERSBURG (9TH) ELECTION DISTRICT

PARCEL A1, SUBDIVISION SENECA PARK NORTH, LIBER 04772 FOLIO 00528

MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PHILIP JONES, P.E.
(240) 777-7738

DESIGN	AGB
DRAFT	MER
APPROVED	DAS
DATE	MARCH '15
SCALE	1"=50'

SHEET 19 OF 27

FILE: 1351852\18 - Cabin Branch SWM Retrofit\Design\Engineering\Plan\Sed\11200\pES-P004_Cabin Branch pond 11200.dgn
PLOTTED: Thursday, April 23, 2015 AT 11:11 AM

NOTE:
MAINTAIN ALL PHASE 1 EROSION AND SEDIMENT CONTROL AS SHOWN ON THIS PLAN AND AS STATED IN THE SEQUENCE OF CONSTRUCTION.

DPS PERMIT NO.

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES

FINAL APPROVAL

DATE _____

BY _____

•SUBJECT TO DEDICATION OF RIGHT OF WAY AND EASEMENTS PER COUNTY CODE SECTION 50.

McCORMICK TAYLOR
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

EROSION AND SEDIMENT CONTROL PLAN - PHASE 2

GAME PRESERVE SWM RETROFITS

GAITHERSBURG (9TH) ELECTION DISTRICT

PARCEL A1, SUBDIVISION SENECA PARK NORTH, LIBER 04772 FOLIO 00528

MONTGOMERY COUNTY, MARYLAND

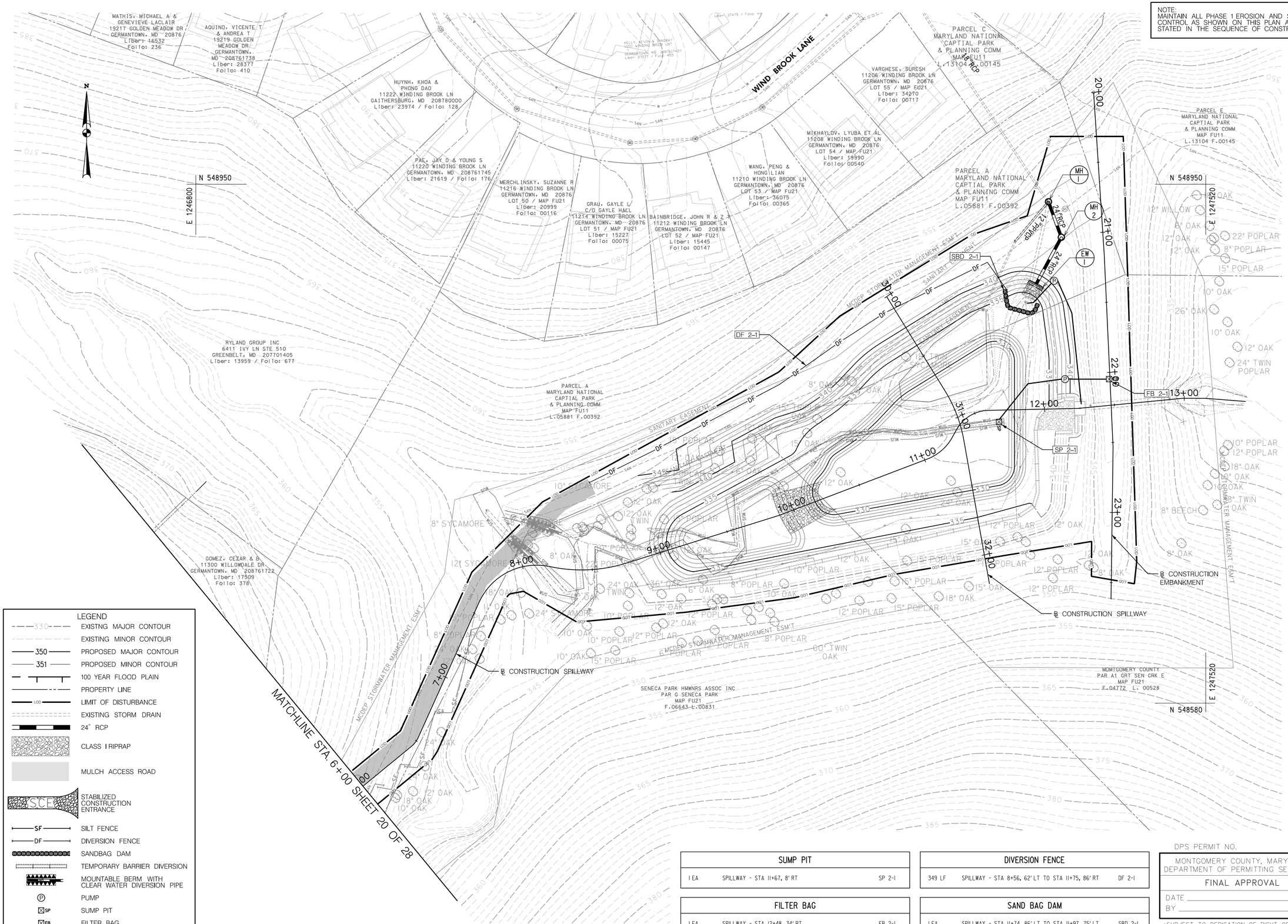
CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PHILIP JONES, P.E.
(240) 777-7738

DESIGN	ADB
DRAFT	MER
APPROVED	DAS
DATE	MARCH '15
SCALE	1"=30'

SHEET 20 OF 27

FILE: 135192/18 - Catlin Branch SWM Retrofit\Design\Engineering\PlanSet\11200\pES-P005_Catlin Branch pond 11200.dgn
PLOTTED: Thursday, April 23, 2015 AT 11:11 AM

NOTE:
MAINTAIN ALL PHASE 1 EROSION AND SEDIMENT CONTROL AS SHOWN ON THIS PLAN AND AS STATED IN THE SEQUENCE OF CONSTRUCTION.



LEGEND

- EXISTNG MAJOR CONTOUR (330)
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR (350)
- PROPOSED MINOR CONTOUR (351)
- 100 YEAR FLOOD PLAIN
- PROPERTY LINE
- LIMIT OF DISTURBANCE (LOD)
- EXISTING STORM DRAIN
- 24" RCP
- CLASS I RIPRAP
- MULCH ACCESS ROAD
- STABILIZED CONSTRUCTION ENTRANCE (SCE)
- SILT FENCE (SF)
- DIVERSION FENCE (DF)
- SANDBAG DAM
- TEMPORARY BARRIER DIVERSION
- MOUNTABLE BERM WITH CLEAR WATER DIVERSION PIPE
- PUMP (P)
- SUMP PIT (SP)
- FILTER BAG (FB)

SUMP PIT		
1 EA	SPILLWAY - STA 11+67, 8' RT	SP 2-1

FILTER BAG		
1 EA	SPILLWAY - STA 12+48, 34' RT	FB 2-1

DIVERSION FENCE		
349 LF	SPILLWAY - STA 8+56, 62' LT TO STA 11+75, 86' RT	DF 2-1

SAND BAG DAM		
1 EA	SPILLWAY - STA 11+74, 86' LT TO STA 11+97, 75' LT	SBD 2-1

DPS PERMIT NO.

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES

FINAL APPROVAL

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McCORMICK TAYLOR
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

EROSION AND SEDIMENT CONTROL PLAN - PHASE 2

GAME PRESERVE SWM RETROFITS

GAITHERSBURG (9TH) ELECTION DISTRICT

PARCEL A1, SUBDIVISION SENECA PARK NORTH, LIBER 04772 FOLIO 00528

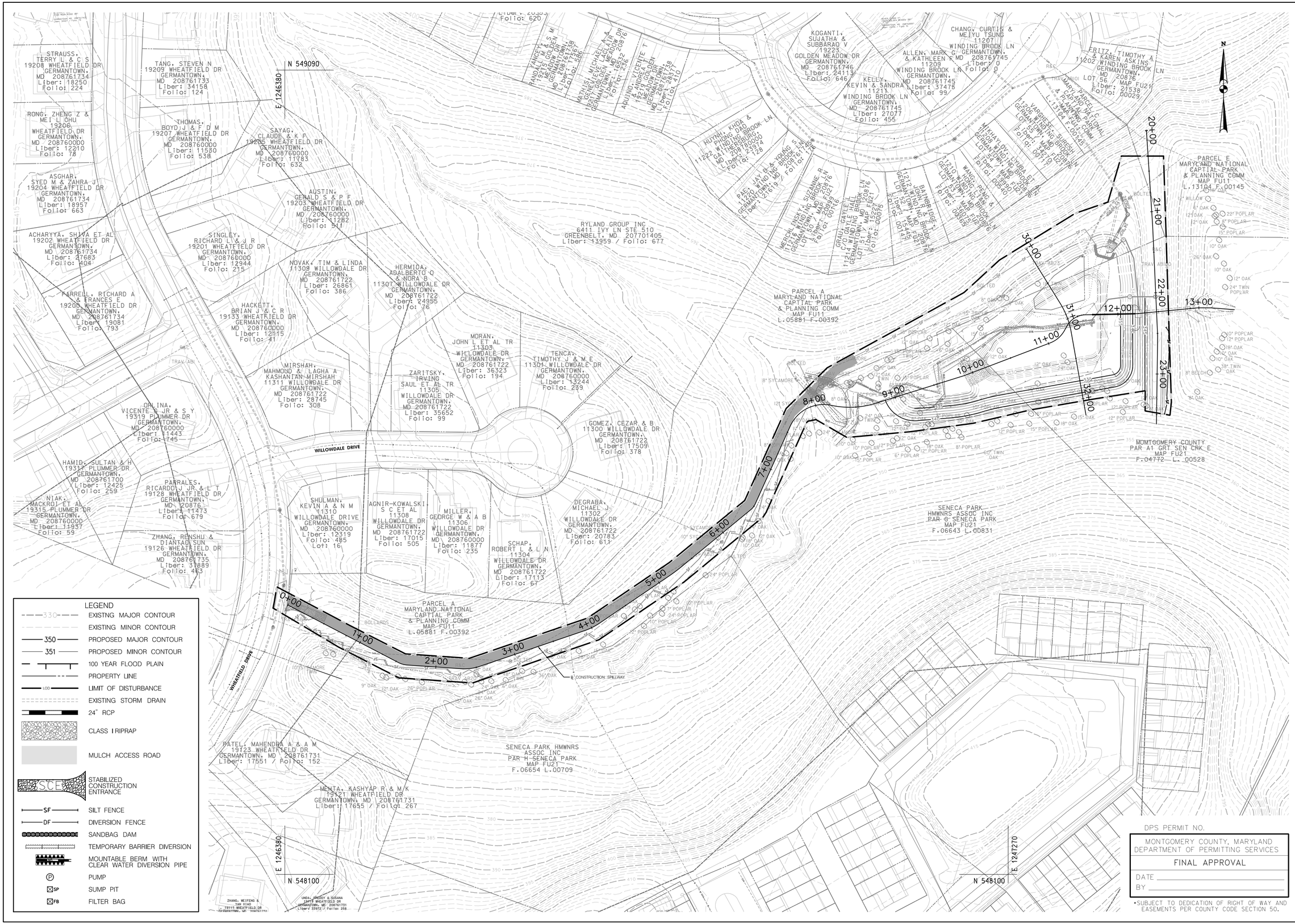
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PHILIP JONES, P.E.
(240) 777-7738

DESIGN	ADB
DRAFT	MER
APPROVED	DAS
DATE	MARCH '15
SCALE	1"=30'

SHEET 21 OF 27

FILE: 1351218 - Cabin Branch SWM Retrofit\Design\Engineering\PlanSet\11200\pES-P009_Cabin Branch pond 11200.dgn
PLOTTED: Thursday, April 23, 2015 AT 11:11 AM



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EROSION AND SEDIMENT CONTROL COMPOSITE PLAN- PHASE 2

GAME PRESERVE SWM RETROFITS

GAITHERSBURG (9TH) ELECTION DISTRICT

PARCEL A1, SUBDIVISION SENECA PARK NORTH, LIBER 04772 FOLIO 00528

MONTGOMERY COUNTY, MARYLAND

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255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PHILIP JONES, P.E.
(240) 777-7738

DESIGN	AGB
DRAFT	MER
APPROVED	DAS
DATE	MARCH '15
SCALE	1"=50'

SHEET 22 OF 27

FILE: 1351952/18 - Cabin Branch SWM Retrofit\Design\Engineering\PlanSet\11200\pES-P007_Cabin Branch pond 11200.dgn
PLOTTED: Thursday, April 23, 2015 AT 11:11 AM

NOTE:
MAINTAIN ALL PHASE 1 AND 2 EROSION AND SEDIMENT CONTROL AS SHOWN ON THIS PLAN AND AS STATED IN THE SEQUENCE OF CONSTRUCTION.

LEGEND

- EXISTNG MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- 100 YEAR FLOOD PLAIN
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- LIMIT OF DISTURBANCE
- EXISTING STORM DRAIN
- 24" RCP
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- PUMP
- SUMP PIT
- FILTER BAG

DPS PERMIT NO.

MONTGOMERY COUNTY, MARYLAND
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DATE
BY

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McCORMICK TAYLOR
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

EROSION AND SEDIMENT CONTROL PLAN - PHASE 3

GAME PRESERVE SWM RETROFITS

GAITHERSBURG (9TH) ELECTION DISTRICT

PARCEL A1, SUBDIVISION SENECA PARK NORTH, LIBER 04772 FOLIO 00528

MONTGOMERY COUNTY, MARYLAND

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255 ROCKVILLE PIKE, RM. 120
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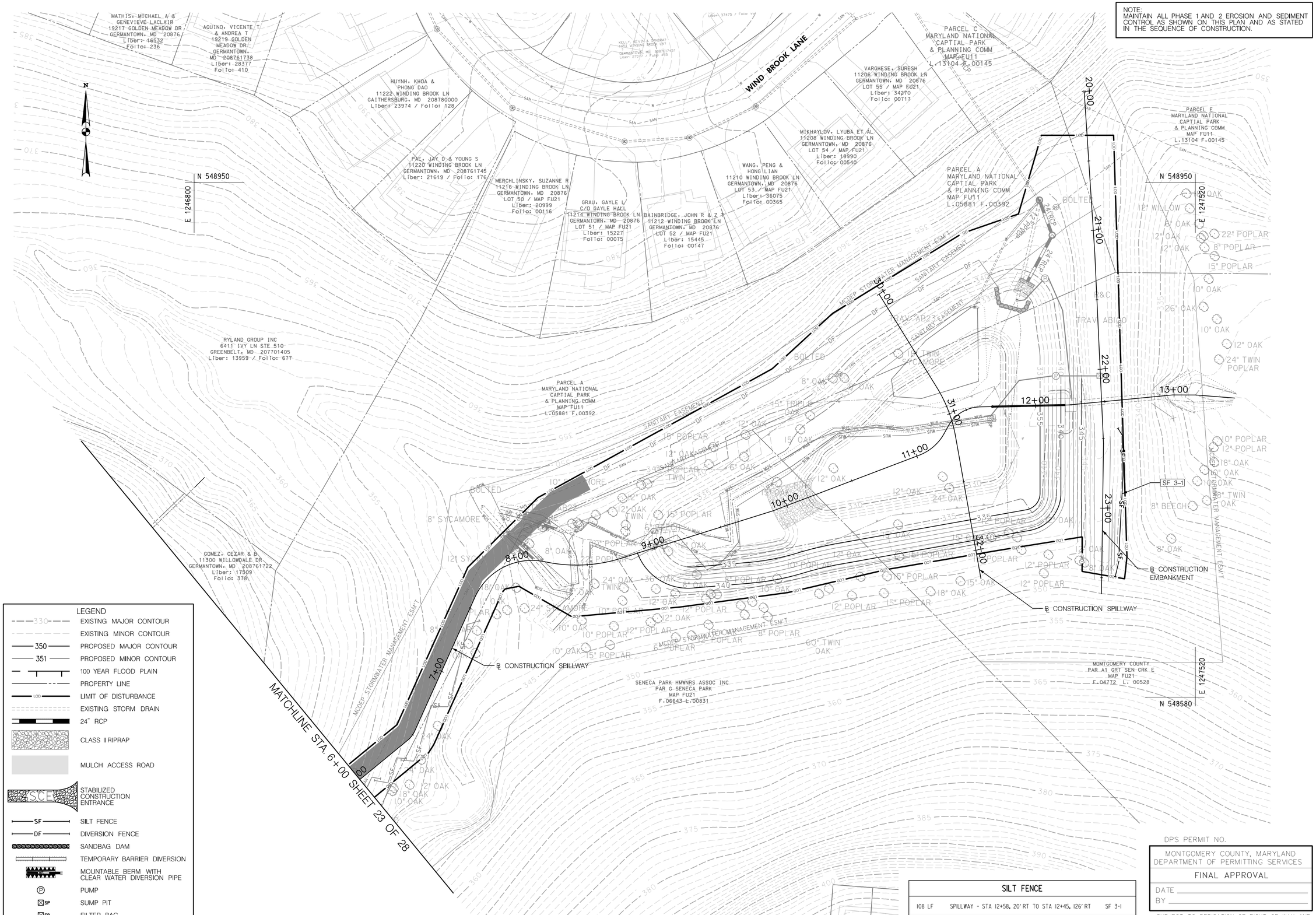
MR. PHILIP JONES, P.E.
(240) 777-7738

DESIGN	ADB
DRAFT	MER
APPROVED	DAS
DATE	MARCH '15
SCALE	1"=30'

SHEET 23 OF 27

FILE: 135192/18 - Catlin Branch SWM Retrofit\Design\Engineering\PlanSet\11200\pES-P008_Catlin Branch pond 11200.dgn
PLOTTED: Thursday, April 23, 2015 AT 11:11 AM

NOTE:
MAINTAIN ALL PHASE 1 AND 2 EROSION AND SEDIMENT CONTROL AS SHOWN ON THIS PLAN AND AS STATED IN THE SEQUENCE OF CONSTRUCTION.



SILT FENCE		
108 LF	SPILLWAY - STA 12+58, 20' RT TO STA 12+45, 126' RT	SF 3-1

DPS PERMIT NO.

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES

FINAL APPROVAL

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EROSION AND SEDIMENT CONTROL PLAN - PHASE 3

GAME PRESERVE SWM RETROFITS

GAITHERSBURG (9TH) ELECTION DISTRICT

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(240) 777-7738

DESIGN	AGB		
DRAFT	MER		
APPROVED	DAS	DATE	MARCH '15
		SCALE	1"=30'

SHEET 24 OF 27

FILE: 105182/18 - Cabin Branch SWM Retrofit\Design\Engineering\Plan\Sect11200\pES-P009_Cabin Branch pond 11200.dgn
PLOTTED: Thursday, April 23, 2015 AT 11:11 AM

LOG OF BOREHOLE B-1

Project No. 11-201 | Sheet 1 of 1

CLIENT: McCormick Taylor
PROJECT: Montgomery County Task # 18
ARCHITECT/ENGINEER:
SITE: Maryland

SURFACE ELEV.: 339.0 ft.

Depth (ft)	Description	Elev.	Blows/6" N-Value RQD	Number	Type	In. Recovered In. Driven	Moisture (%)	Dry Density (pcf)	Qu (TSF)	% Passing #200 Sieve	Remarks/ Additional Data
0.3	4" Topsoil	338.7									
	Very soft to firm brown FINE SANDY SILT (ML) (Possible Fill)		1-1-1 N=2	1	SS	18/18 100%	31			58	
			2-3-4 N=7	2	SS	18/18 100%	23				LL = NP PL = NP PI = 0
5.5	Very dense greenish gray SILTY SAND (SM) (Decomposed Rock)	333.5									
			9-20-51/3"	3	SS	16/15 107%	15				
			51/0"	4	SS	0/2 0%					
10.0		329.0									

Auger refusal @ 8.5 ft

Upon completion of the field study, borehole was backfilled with bentonite and auger cutting mixture.

WATER LEVEL OBSERVATIONS

WL		1	@ drilling
WL		1.5	@ 0 hr
WL		1	@ 24 hrs

AB Consultants, Inc.
9450 Annapolis Road
Lanham, MD 20706
Phone: 301-306-3091
Fax: 301-306-3092

STARTED:	4/2/13	FINISHED:	4/2/13
DRILL CO.:	Recon	DRILL RIG:	D-50 ATV
DRILLER:	CG	ASS'T DRILLER:	
LOGGED BY:		APPROVED:	

BORING LOG ABB 11-201 MD COUNTY TASK # 18.GPJ AB CONS.GDT 5/14/13

LOG OF BOREHOLE B-2

Project No. 11-201 | Sheet 1 of 1

CLIENT: McCormick Taylor
PROJECT: Montgomery County Task # 18
ARCHITECT/ENGINEER:
SITE: Maryland

SURFACE ELEV.: 335.0 ft.

Depth (ft)	Description	Elev.	Blows/6" N-Value RQD	Number	Type	In. Recovered In. Driven	Moisture (%)	Dry Density (pcf)	Qu (TSF)	% Passing #200 Sieve	Remarks/ Additional Data
0.2	3" Topsoil	334.8									
	Very loose to medium dense brown FINE SANDY SILT (ML) (Possible Fill)		1-1-1 N=2	1	SS	18/18 100%	33				
3.5	Medium dense gray and brown SILTY SAND (SM) with rock fragments	331.5									
			6-6-6 N=12	2	SS	18/18 100%	15				
			6-6-7 N=13	3	SS	12/18 67%	17			46	
			9-9-10 N=19	4	SS	12/18 67%	15				
10.0		325.0									

End of Boring @ 10 ft

Upon completion of the field study, borehole was backfilled with bentonite and auger cutting mixture.

WATER LEVEL OBSERVATIONS

WL		4	@ drilling
WL		3	@ 0 hr
WL		3	@ 24 hrs

AB Consultants, Inc.
9450 Annapolis Road
Lanham, MD 20706
Phone: 301-306-3091
Fax: 301-306-3092

STARTED:	4/2/13	FINISHED:	4/2/13
DRILL CO.:	Recon	DRILL RIG:	D-50 ATV
DRILLER:	CG	ASS'T DRILLER:	
LOGGED BY:		APPROVED:	

BORING LOG ABB 11-201 MD COUNTY TASK # 18.GPJ AB CONS.GDT 5/14/13

LOG OF BOREHOLE B-3

Project No. 11-201 | Sheet 1 of 1

CLIENT: McCormick Taylor
PROJECT: Montgomery County Task # 18
ARCHITECT/ENGINEER:
SITE: Maryland

SURFACE ELEV.: 348.0 ft.

Depth (ft)	Description	Elev.	Blows/6" N-Value RQD	Number	Type	In. Recovered In. Driven	Moisture (%)	Dry Density (pcf)	Qu (TSF)	% Passing #200 Sieve	Remarks/ Additional Data
0.3	4" Top soil	347.7									
	Loose to medium dense brown FINE SANDY SILT (ML) with rock fragments (Possible Fill)		2-4-4 N=8	1	SS	18/18 100%	21				
			4-5-7 N=12	2	SS	18/18 100%	18				LL = NP PL = NP PI = 0
			3-4-5 N=9	3	SS	18/18 100%	18			55	
			3-5-5 N=10	4	SS	18/18 100%	16				
			4-4-5 N=9	5	SS	18/18 100%	19				
17.5	Medium dense gray and brown SILTY SAND (SM) with rock fragments	330.5									
			7-11-10 N=21	6	SS	18/18 100%	16				
			4-6-6 N=12	7	SS	18/18 100%	21				
25.0		323.0									

End of Boring @ 25 ft

Upon completion of the field study, borehole was backfilled with bentonite and auger cutting mixture.

WATER LEVEL OBSERVATIONS

WL	Dry	@ drilling
WL	Dry, caved in 17 ft	@ 0 hr
WL	Dry, caved in 16.5 ft	@ 24 hrs

AB Consultants, Inc.
9450 Annapolis Road
Lanham, MD 20706
Phone: 301-306-3091
Fax: 301-306-3092

STARTED:	4/2/13	FINISHED:	4/2/13
DRILL CO.:	Recon	DRILL RIG:	D-50 ATV
DRILLER:	CG	ASS'T DRILLER:	
LOGGED BY:		APPROVED:	

BORING LOG ABB 11-201 MD COUNTY TASK # 18.GPJ AB CONS.GDT 5/14/13

LOG OF BOREHOLE B-4

Project No. 11-201 | Sheet 1 of 1

CLIENT: McCormick Taylor
PROJECT: Montgomery County Task # 18
ARCHITECT/ENGINEER:
SITE: Maryland

SURFACE ELEV.: 348.0 ft.

Depth (ft)	Description	Elev.	Blows/6" N-Value RQD	Number	Type	In. Recovered In. Driven	Moisture (%)	Dry Density (pcf)	Qu (TSF)	% Passing #200 Sieve	Remarks/ Additional Data
0.2	3" Topsoil	347.8									
	Medium dense to loose reddish brown FINE SANDY SILT (ML) with rock fragments (Possible Fill)		4-6-6 N=12	1	SS	18/18 100%	17				
			2-4-5 N=9	2	SS	18/18 100%	18				
			4-5-6 N=11	3	SS	18/18 100%	17				
			4-5-5 N=10	4	SS	18/18 100%	18				
			3-3-2 N=5	5	SS	18/18 100%	22				
20.0	Medium dense gray SILTY SAND (SM) with rock fragments	328.0									
			4-4-5 N=9	6	SS	18/18 100%	20				
			7-9-9 N=18	7	SS	18/18 100%	18			43	
25.0		323.0									

End of Boring @ 25 ft

Upon completion of the field study, borehole was backfilled with bentonite and auger cutting mixture.

WATER LEVEL OBSERVATIONS

WL	Dry	@ drilling
WL	Dry, caved in 18 ft	@ 0 hr
WL	Dry, caved in 17.5 ft	@ 24 hrs

AB Consultants, Inc.
9450 Annapolis Road
Lanham, MD 20706
Phone: 301-306-3091
Fax: 301-306-3092

STARTED:	4/1/13	FINISHED:	4/1/13
DRILL CO.:	Recon	DRILL RIG:	D-50 ATV
DRILLER:	CG	ASS'T DRILLER:	
LOGGED BY:		APPROVED:	

BORING LOG ABB 11-201 MD COUNTY TASK # 18.GPJ AB CONS.GDT 5/14/13

LOG OF BOREHOLE B-5

Project No. 11-201 | Sheet 1 of 1

CLIENT: McCormick Taylor
PROJECT: Montgomery County Task # 18
ARCHITECT/ENGINEER:
SITE: Maryland

SURFACE ELEV.: 348.0 ft.

Depth (ft)	Description	Elev.	Blows/6" N-Value RQD	Number	Type	In. Recovered In. Driven	Moisture (%)	Dry Density (pcf)	Qu (TSF)	% Passing #200 Sieve	Remarks/ Additional Data
0.2	3" Topsoil	347.8									
	Medium dense to loose brown FINE SANDY SILT (ML) with rock fragments (Possible Fill)		5-6-6 N=12	1	SS	18/18 100%	17				
			5-6-7 N=13	2	SS	18/18 100%	18				
			4-4-5 N=9	3	SS	18/18 100%	20				
			4-4-4 N=8	4	SS	18/18 100%	21				LL = NP PL = NP PI = 0
			2-2-2 N=4	5	SS	18/18 100%	23			52	
20.0	Very loose gray SILTY SAND (SM) with rock fragments	328.0									
			2-2-3 N=5	6	SS	18/18 100%	21				
			2-2-7 N=9	7	SS	18/18 100%	27				
25.0		323.0									

End of Boring @ 25 ft

Upon completion of the field study, borehole was backfilled with bentonite and auger cutting mixture.

WATER LEVEL OBSERVATIONS

WL	Dry	@ drilling
WL	Dry, caved in 16 ft	@ 0 hr
WL	Dry, caved in 15.5 ft	@ 24 hrs

AB Consultants, Inc.
9450 Annapolis Road
Lanham, MD 20706
Phone: 301-306-3091
Fax: 301-306-3092

STARTED:	4/1/13	FINISHED:	4/1/13
DRILL CO.:	Recon	DRILL RIG:	D-50 ATV
DRILLER:	CG	ASS'T DRILLER:	
LOGGED BY:		APPROVED:	

BORING LOG ABB 11-201 MD COUNTY TASK # 18.GPJ AB CONS.GDT 5/14/13

DPS PERMIT NO.

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES

FINAL APPROVAL

DATE _____

BY _____

*SUBJECT TO DEDICATION OF RIGHT OF WAY AND EASEMENTS PER COUNTY CODE SECTION 50.

McCORMICK TAYLOR
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

SOIL BORING LOGS

GAME PRESERVE SWM RETROFITS

GAITHERSBURG (9TH) ELECTION DISTRICT

PARCEL A1, SUBDIVISION SENECA PARK NORTH, LIBER 04772 FOLIO 00528

MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF
ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PHILIP JONES, P.E.
(240) 777-7738

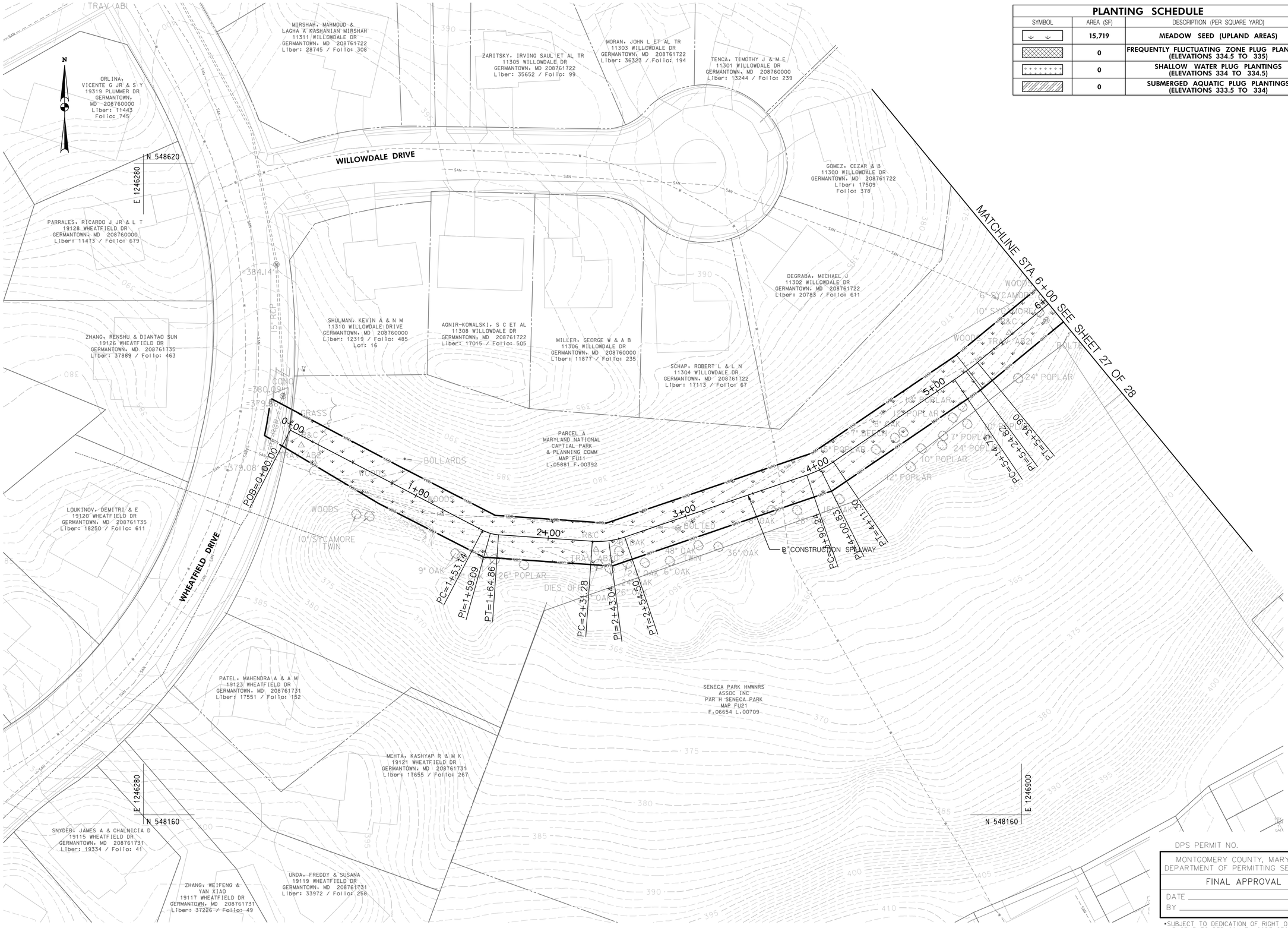
DESIGN	AGB		
DRAFT	MER		
APPROVED	DAS		
DATE	MARCH '15	SCALE	

SHEET 25 OF 27

FILE: I:\5182\18 - Cabin Branch SWM Retrofit\Design\Engineering\Plan\Soil\11200\SSB-P001_Cabin Branch Pond 11200.dgn
PLOTTED: Thursday, April 23, 2015 AT 11:11 AM

PLANTING SCHEDULE

SYMBOL	AREA (SF)	DESCRIPTION (PER SQUARE YARD)
	15,719	MEADOW SEED (UPLAND AREAS)
	0	FREQUENTLY FLUCTUATING ZONE PLUG PLANTINGS (ELEVATIONS 334.5 TO 335)
	0	SHALLOW WATER PLUG PLANTINGS (ELEVATIONS 334 TO 334.5)
	0	SUBMERGED AQUATIC PLUG PLANTINGS (ELEVATIONS 333.5 TO 334)



McCORMICK TAYLOR
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

LANDSCAPE PLAN

GAME PRESERVE SWM RETROFITS

GAITHERSBURG (9TH) ELECTION DISTRICT

PARCEL A1, SUBDIVISION SENECA PARK NORTH, LIBER 04772 FOLIO 00528

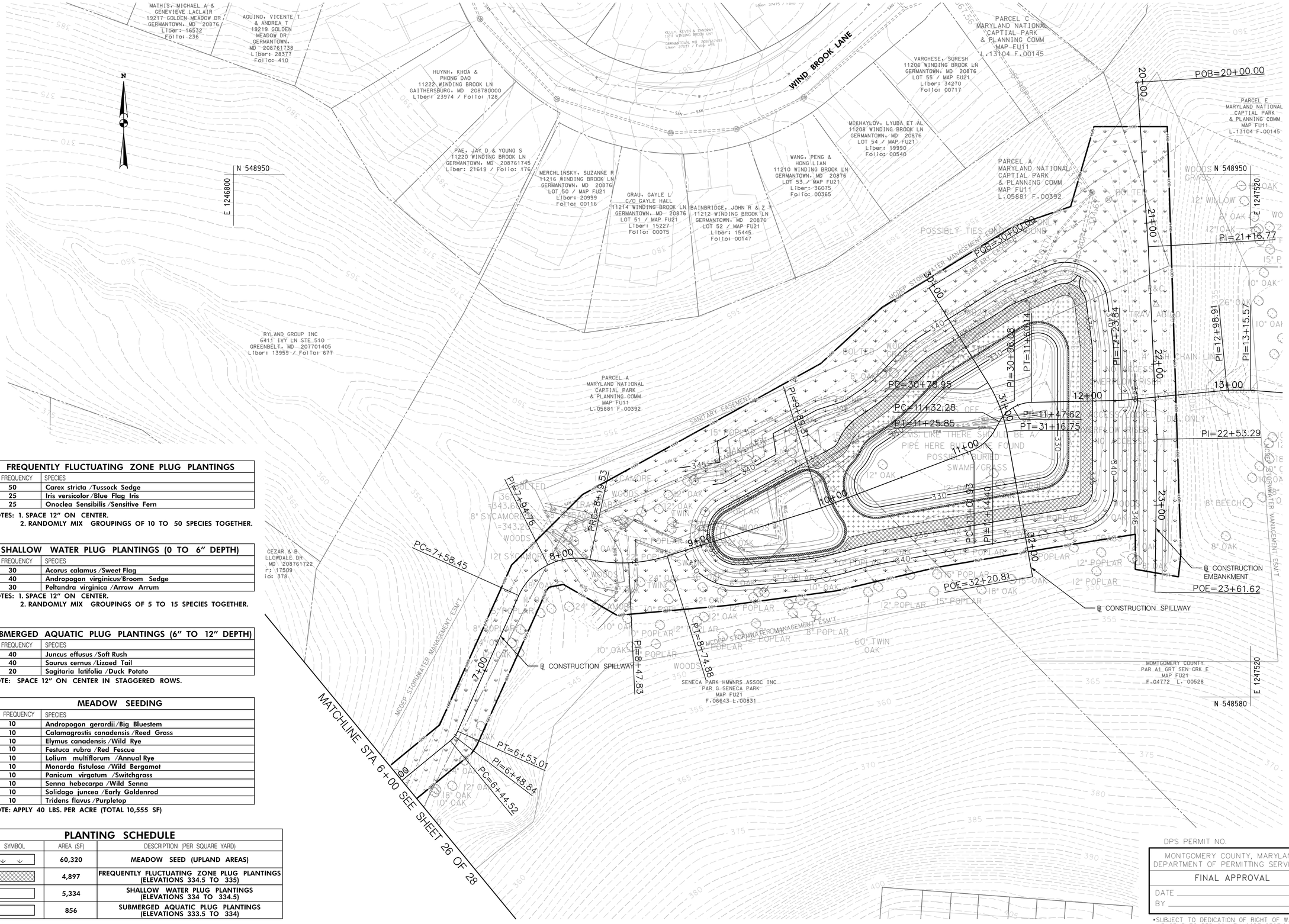
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PHILIP JONES, P.E.
(240) 777-7738

DESIGN	KKM
DRAFT	MER
APPROVED	DAS
DATE	MARCH '15
SCALE	1"=50'

SHEET 26 OF 27

FILE: I:\51182\18 - Cabin Branch SWM Retrofit\Design\Engineering\Plan\Set\11200\pLS-P001_Cabin Branch pond 11200.dgn
PLOTTED: Thursday, April 23, 2015 AT 11:11 AM



FREQUENTLY FLUCTUATING ZONE PLUG PLANTINGS

% FREQUENCY	SPECIES
50	Carex stricta /Tussock Sedge
25	Iris versicolor /Blue Flag Iris
25	Onoclea Sensibilis /Sensitive Fern

NOTES: 1. SPACE 12" ON CENTER.
2. RANDOMLY MIX GROUPINGS OF 10 TO 50 SPECIES TOGETHER.

SHALLOW WATER PLUG PLANTINGS (0 TO 6" DEPTH)

% FREQUENCY	SPECIES
30	Acorus calamus /Sweet Flag
40	Andropogon virginicus/Broom Sedge
30	Peltandra virginica /Arrow Arrum

NOTES: 1. SPACE 12" ON CENTER.
2. RANDOMLY MIX GROUPINGS OF 5 TO 15 SPECIES TOGETHER.

SUBMERGED AQUATIC PLUG PLANTINGS (6" TO 12" DEPTH)

% FREQUENCY	SPECIES
40	Juncus effusus /Soft Rush
40	Saurus cernus /Lizaed Tail
20	Sagitaria latifolia /Duck Potato

NOTE: SPACE 12" ON CENTER IN STAGGERED ROWS.

MEADOW SEEDING

% FREQUENCY	SPECIES
10	Andropogon gerardii/Big Bluestem
10	Calamagrostis canadensis /Reed Grass
10	Elymus canadensis /Wild Rye
10	Festuca rubra /Red Fescue
10	Lolium multiflorum /Annual Rye
10	Monarda fistulosa /Wild Bergamot
10	Panicum virgatum /Switchgrass
10	Senna hebecarpa /Wild Senna
10	Solidago juncea /Early Goldenrod
10	Tridens flavus /Purpletop

NOTE: APPLY 40 LBS. PER ACRE (TOTAL 10,555 SF)

PLANTING SCHEDULE

SYMBOL	AREA (SF)	DESCRIPTION (PER SQUARE YARD)
	60,320	MEADOW SEED (UPLAND AREAS)
	4,897	FREQUENTLY FLUCTUATING ZONE PLUG PLANTINGS (ELEVATIONS 334.5 TO 335)
	5,334	SHALLOW WATER PLUG PLANTINGS (ELEVATIONS 334 TO 334.5)
	856	SUBMERGED AQUATIC PLUG PLANTINGS (ELEVATIONS 333.5 TO 334)

DPS PERMIT NO.

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES
FINAL APPROVAL
DATE
BY

*SUBJECT TO DEDICATION OF RIGHT OF WAY AND EASEMENTS PER COUNTY CODE SECTION 50.

McCORMICK TAYLOR
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

LANDSCAPE PLAN

GAME PRESERVE SWM RETROFITS

GAITHERSBURG (9TH) ELECTION DISTRICT

PARCEL A1, SUBDIVISION SENECA PARK NORTH, LIBER 04772 FOLIO 00528

MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. PHILIP JONES, P.E.
(240) 777-7738

DESIGN	KKM
DRAFT	MER
APPROVED	DAS
DATE	MARCH '15
SCALE	1"=30'

SHEET 27 OF 27

FILE: 1351826.15 - Cabin Branch SWM Retrofit\Design\Engineering\PlanSet\11200\ga-S-P002_Cabin Branch pond 11200.dgn
PLOTTED: Thursday, April 23, 2015 AT 11:11 AM