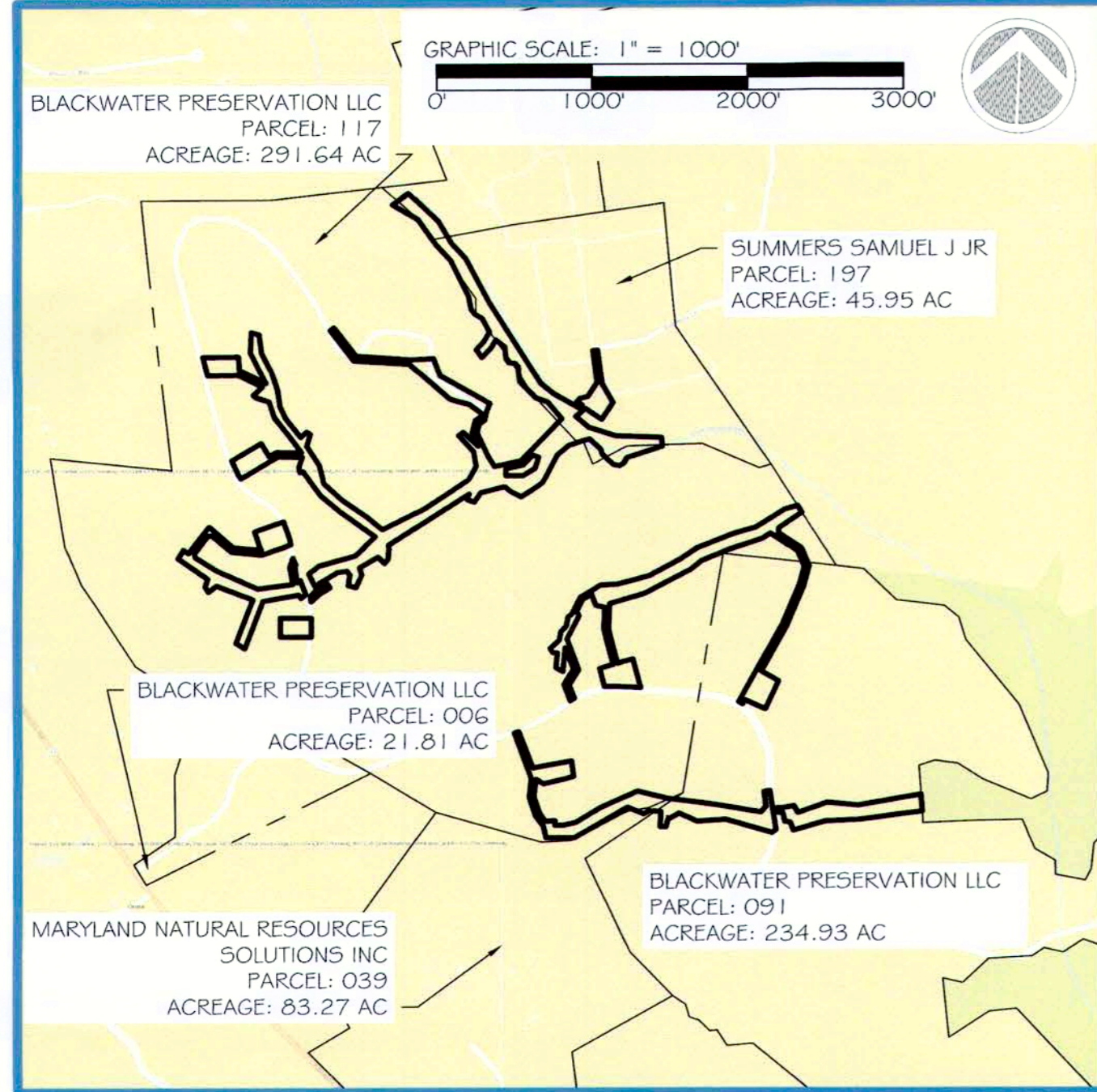


## VICINITY MAP



LATITUDE: N 38° 38' 37.52"  
LONGITUDE: W 76° 45' 52.12"

TABLE 1. GENERAL INFORMATION TABLE

LAYER CATEGORY	LAYER NAME	VALUE
ZONING	ZONE	O-S (OPEN SPACE)
ZONING	AVIATION POLICY AREA	N/A
ADMINISTRATIVE	TAX GRID	167-E4, E3, F3, F4 & 173-D1, F1
ADMINISTRATIVE	WSSC GRID	2235E12, 13 & 2245E13
ADMINISTRATIVE	TRAFFIC ANALYSIS ZONE (PGC)	2753
ADMINISTRATIVE	TRAFFIC ANALYSIS ZONE (COG)	773
ADMINISTRATIVE	PLANNING AREA	6-87A
ADMINISTRATIVE	GENERAL PLAN TIER (2002)	RURAL
ADMINISTRATIVE	ELECTION DISTRICT (2014)	8, AQUASCO
ADMINISTRATIVE	CONCILIAMIC DISTRICT (2014)	9
ADMINISTRATIVE	POLICY ANALYSIS ZONE (PAZ)	N/A

Woodland Conservation Worksheet for Governmental and Linear Projects in Prince George's County	
<b>SECTION 1-Establishing Site Information</b>	
1 Property Description or Name:	Black Swamp Creek Stream Restoration
2 Project Location:	17910 Aquasco Road Brandywine, MD 20613
3 TCP2 Number:	TCP2-014-2019-01
4 NRI Number:	NRI-157-2018-01 & NRI-130-2019
5 Zone:	O-S
6 Gross Tract:	714.27 acres
7 Project Area/Limits:	35.48 acres
<b>SECTION 2-Determining Requirements</b>	
8 Existing Woodland in Project Limits = WCT	22.06 or 62.18%
9 Woodland Cleared in Project Limits	22.06
10 Total area of woodland cleared (subject to 1:1 replacement)	22.06
11 Off-Site Woodland Conservation Provided (afforestation)	0.00
12 Off-Site Woodland Conservation Provided (preservation)	0.00
13 Woodland Conservation Requirement:	22.06 acres
<b>SECTION 3-Meeting the Requirements</b>	
14 Woodland Preserved	0.00
15 Afforestation /Reforestation	25.55
16 Natural Regeneration	0.00
17 Landscape Credit	0.00
18 Specimen/Historic Tree Credit (CRZ area *2.0)	0.00
19 Forest Enhancement Credit (Area *25)	0.00
20 Street Tree Credit (Existing or 10-year canopy coverage)	0.00
21 Prior Credit for Off-Site Woodland Conservation	0.00
22 Current Credit for Off-Site Woodland Conservation	0.00
23 Off-Site Woodland Conservation provided (afforestation)	0.00
24 Off-Site Woodland Conservation provided (preservation)	0.00
25 Area Approved for Fee-in-lieu/PFA	0.00 Fee amount: \$0.00
26 Area Approved for Fee-in-lieu/non-PFA	0.00 Fee amount: \$0.00
27 Woodland Conservation Provided	25.55 acres
28 Prepared by:	Signed: [Signature] Date: 8/10/2020

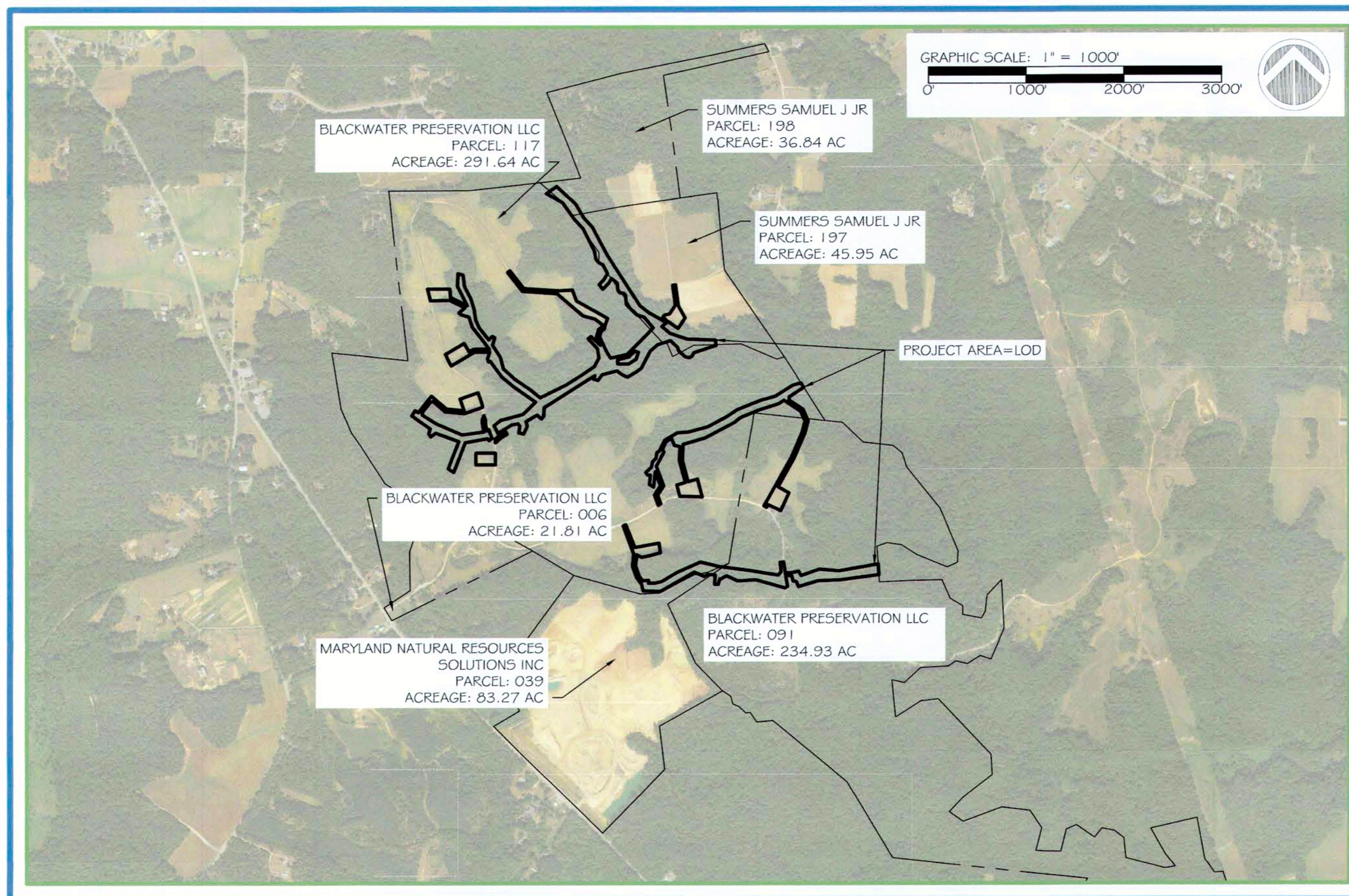
TABLE 2. WOODLAND CONSERVATION SUMMARY TABLE

SHEET	100-YEAR FLOODPLAIN IN PROJECT AREA (FP)	NET PROJECT AREA (NPA)	PROJECT AREA = LOD	EX. WOODLAND (NPA)	EX. WOODLAND 100-YR FLOODPLAIN IN PROJECT AREA	WOODLAND CLEARED NET-PROJECT (C-NPA)	WOODLAND CLEARED OFF-FLOODPLAIN (C-FP)	WOODLAND CLEARED OFF-SITE (C-OS)	WOODLAND PRESERV. AREA (WPA)	WOODLAND REFOREST AREA (WRA)	WOODLAND RETAINED/NOT CREDITED (WR-NC)	WOODLAND RETAINED/ CLEARED (WR-AC)
5	3.07	2.62	5.69	0.96	2.18	0.96	2.18	0.00	0.00	3.83	0.00	0.00
6	4.11	1.65	5.76	1.11	3.11	1.11	3.11	0.00	0.00	5.00	0.00	0.00
7	2.15	0.79	2.94	0.06	1.71	0.06	1.71	0.00	0.00	2.01	0.00	0.00
8	0.18	3.12	3.30	1.43	0.12	1.43	0.12	0.00	0.00	1.76	0.00	0.00
9	0.80	0.04	0.84	0.04	0.65	0.04	0.65	0.00	0.00	0.80	0.00	0.00
10	2.27	1.37	3.64	0.41	1.68	0.41	1.68	0.00	0.00	2.57	0.00	0.00
11	0.00	3.27	3.27	1.85	0.00	1.85	0.00	0.00	0.00	2.00	0.00	0.00
12	0.22	2.14	2.36	1.59	0.18	1.59	0.18	0.00	0.00	1.90	0.00	0.00
13	1.51	2.20	3.71	1.31	1.13	1.31	1.13	0.00	0.00	2.77	0.00	0.00
14	1.87	2.10	3.97	1.25	1.29	1.25	1.29	0.00	0.00	2.91	0.00	0.00
TOTAL	16.18	19.30	35.48	10.01	12.05	10.01	12.05	0.00	0.00	25.55	0.00	0.00

NOTE: ACRES ROUNDED TO THE NEAREST ONE-HUNDREDTH OF AN ACRE.

# BLACK SWAMP CREEK STREAM RESTORATION TYPE 2 TREE CONSERVATION PLAN DOE CLEAN WATER PARTNERSHIP PRINCE GEORGE'S COUNTY, MARYLAND

## AERIAL PHOTOGRAPH-PROJECT OVERVIEW



APPLICANT:  
NAME: RES  
ADDRESS: 5367 TELEPHONE ROAD  
WARRENTON, VA 20187  
CONTACT: REID COOK  
PHONE NUMBER: 703.393.4844  
EMAIL: RCOOK@RES.US

CLIENT:  
NAME: CORVIAS PRINCE GEORGE'S  
COUNT STORMWATER PARTNERS, LLC  
ADDRESS: 1801 MCCORMICK DRIVE,  
SUITE 280  
LARGO, MARYLAND 20774  
CONTACT: SRIKANTH GORUGANTULA

SITE DATA:  
TAX ID: 0845776, 0835686,  
0833202, 0843839, 0843821, &  
0830638  
ADDRESS: 17910 AQUASCO ROAD  
BRANDYWINE, MD 20613  
ACREAGE: 714.27 AC. +/-  
PARCEL: 117, 091, 006, 197, 198,  
& 039

SHEET INDEX:  
1 - COVERSHEET  
2 - TCP2 SPECIMEN TREE INVENTORY  
3 - NOTES  
4 - KEY SHEET  
5-14 - TCP2 DESIGN  
15 - TCP2 DETAILS  
16 - TCP2 PLANTING NOTES

## Qualified Professional Certification

This plan complies with the current requirements of Subtitle 25 and the Woodland and Wildlife Conservation Technical Manual.

Signature:

Date: 8/10/2020

Michael Penry, LA  
5367 Telephone Road, Warrenton, VA 20187  
540-905-4467; mpeny@res.us

TABLE 3. SITE STATISTICS TABLE

GROSS ACREAGE OF PARCELS	714.27 AC
PROJECT AREA=LOD	35.48 AC
PROJECT AREA ON PARCELS 117, 006, & 091 (BLACKWATER PROPERTY)	29.67 AC
PROJECT AREA ON PARCELS 197 & 198 (SUMMERS PROPERTY)	5.66 AC
PROJECT AREA ON PARCEL 039 (MARYLAND NATURAL RES. SOL. INC)	0.15 AC
100-YEAR FLOODPLAIN IN PROJECT AREA	16.18 AC
NET PROJECT AREA	19.30 AC
EXISTING WOODLAND IN PROJECT AREA	22.06 AC
WOODLAND CLEARED IN PROJECT AREA	22.06 AC
WOODLAND REFORESTATION IN PROJECT AREA	25.55 AC

## Property Owners Awareness Certificate

I/ We David Michael hereby acknowledge that we are aware of this Type 2 Tree Conservation Plan (TCP2) and that we understand the requirements as set forth in this TCP2.  
Owner or Owners Representative David Michael Date: 8-5-2020  
I/ We \_\_\_\_\_ hereby acknowledge that we are aware of this Type 2 Tree Conservation Plan (TCP2) and that we understand the requirements as set forth in this TCP2.  
Contract Purchaser \_\_\_\_\_ Date \_\_\_\_\_

## Property Owners Awareness Certificate

I/ We Samuel Summers hereby acknowledge that we are aware of this Type 2 Tree Conservation Plan (TCP2) and that we understand the requirements as set forth in this TCP2.  
Owner or Owners Representative Samuel Summers Date: 8-7-2020  
I/ We \_\_\_\_\_ hereby acknowledge that we are aware of this Type 2 Tree Conservation Plan (TCP2) and that we understand the requirements as set forth in this TCP2.  
Contract Purchaser \_\_\_\_\_ Date \_\_\_\_\_

## Property Owners Awareness Certificate

I/ We HGS, LLC hereby acknowledge that we are aware of this Type 2 Tree Conservation Plan (TCP2) and that we understand the requirements as set forth in this TCP2.  
Owner or Owners Representative Don Seaborn Date: 8-10-20  
I/ We \_\_\_\_\_ hereby acknowledge that we are aware of this Type 2 Tree Conservation Plan (TCP2) and that we understand the requirements as set forth in this TCP2.  
Contract Purchaser \_\_\_\_\_ Date \_\_\_\_\_

PROPERTY OWNERS:  
NAME: BLACKWATER PRESERVATION LLC  
ADDRESS: 10100 BUSINESS PARKWAY  
LANHAM, MD 20706  
PARCELS: 117, 006, & 091  
CONTACT: DAVID MICHAEL  
PHONE NUMBER: 240-687-3746  
EMAIL: DMICHAEL@NAIMICHAEL.COM

NAME: SAMUEL J. SUMMERS, JR  
ADDRESS: 15001 BADEN WESTWOOD RD  
BRANDYWINE, MD 20613  
PARCELS: 197 & 198  
CONTACT: SAMUEL J. SUMMERS, JR  
PHONE NUMBER: 240-299-9975  
EMAIL: SJSJ623@GMAIL.COM

NAME: MARYLAND NATURAL RESOURCES  
SOLUTIONS INC.  
ADDRESS: 7500 OLD GORGETOWN RD  
BETHESDA, MD 20814  
PARCEL: 039

Prince George's County Planning Department, M-NCPPC Environmental Planning Section TREE CONSERVATION PLAN APPROVAL TCP2 - 014 - 2019 - 01			
Approved by	Date	DRD #	Reason for Revision
00 Kim Finch	7/19/2019	NA	Off-site woodland conservation bank
01 Kim Finch	8/17/2020	NA	Stream restoration project
02			
03			
04			
05			
06			

## BLACK SWAMP CREEK STREAM RESTORATION - TCP2

PROJECT MANAGER:	JC	JOB NUMBER:	000755-0755
DESIGNED:	BW/CP	DESIGN TYPE:	TCP2
DRAWN:	JC/AW/CP	PLAN DATE:	08/07/2020



5367 TELEPHONE ROAD, WARRENTON, VIRGINIA 20187  
P: 703.393.4844 | F: 703.393.2934

WWW.RES.US

JOB NUMBER: 000755-0755

BLACK SWAMP CREEK STREAM RESTORATION TCP2

TABLE 4. SPECIMEN TREE INVENTORY

NUMBER	COMMONE NAME	SCIENTIFIC NAME	DBH (IN)	CONDITION RATING	CONDITION COMMENTS	DISPOSITION	PRESERVATION COMMENTS
1	AMERICAN BEECH	FAGUS GRANDIFOLIA	31	FAIR	ATYPICAL FORM & EXPOSED ROOTS, LEANING	REMOVE	
2	WHITE OAK	QUERCUS ALBA	32	GOOD	DEAD BRANCHES	SAVE	LESS THAN 50% WITHIN THE LOD, WILL INSTALL MULCH AND TIMBER MATS TO PROTECT CRZ WITHIN LOD
3	TULIP POPLAR	LIRIODENDRON TULIPIFERA	32.5	FAIR	ATYPICAL FORM	REMOVE	
4	RED OAK	QUERCUS RUBRA	31.5	FAIR	LEANING, DEAD BRANCHES	REMOVE	
5	RED OAK	QUERCUS RUBRA	30	GOOD	DEAD BRANCHES	SAVE	LESS THAN 50% WITHIN THE LOD, WILL INSTALL MULCH AND TIMBER MATS TO PROTECT CRZ WITHIN LOD
6	RED OAK	QUERCUS RUBRA	31	FAIR	LEANING, DEAD BRANCHES	SAVE	LESS THAN 50% WITHIN THE LOD, WILL INSTALL MULCH AND TIMBER MATS TO PROTECT CRZ WITHIN LOD
7	AMERICAN BEECH	FAGUS GRANDIFOLIA	31.5	FAIR	CAVITIES, EXPOSED ROOTS	REMOVE	
8	RED OAK	QUERCUS RUBRA	30	GOOD	DEAD BRANCHES	SAVE	OUTSIDE LOD
9	WHITE OAK	QUERCUS ALBA	30	FAIR	MISSING BARK, DEAD BRANCHES, CAVITY	REMOVE	
10	RED OAK	QUERCUS RUBRA	30	GOOD	DEAD BRANCHES	SAVE	OUTSIDE LOD
11	RED MAPLE	ACER RUBRUM	32	POOR	ATYPICAL FORM, DOUBLE TRUNK, DEAD BRANCHES, FLAG IS WHERE MEASURED	REMOVE	
12	AMERICAN BEECH	FAGUS GRANDIFOLIA	32.5	FAIR	CAVITIES, EXPOSED ROOTS	REMOVE	
13	TULIP POPLAR	LIRIODENDRON TULIPIFERA	32	GOOD	DEAD BRANCHES	SAVE	LESS THAN 50% WITHIN THE LOD, WILL INSTALL MULCH AND TIMBER MATS TO PROTECT CRZ WITHIN LOD
14	RED OAK	QUERCUS RUBRA	30	FAIR	DEAD BRANCHES,	SAVE	OUTSIDE LOD
15	AMERICAN BEECH	FAGUS GRANDIFOLIA	34	POOR	LIGHTNING STRIKE, HOLLOW TRUNK, BARK LOSS	SAVE	LESS THAN 50% WITHIN THE LOD, WILL INSTALL MULCH AND TIMBER MATS TO PROTECT CRZ WITHIN LOD
16	TULIP POPLAR	LIRIODENDRON TULIPIFERA	30.5	GOOD	BARK LOSS	SAVE	LESS THAN 50% WITHIN THE LOD, WILL INSTALL MULCH AND TIMBER MATS TO PROTECT CRZ WITHIN LOD
17	TULIP POPLAR	LIRIODENDRON TULIPIFERA	30	GOOD	ATYPICAL FORM	SAVE	OUTSIDE LOD
18	AMERICAN BEECH	FAGUS GRANDIFOLIA	30	GOOD	DEAD BRANCHES	SAVE	OUTSIDE LOD
19	AMERICAN BEECH	FAGUS GRANDIFOLIA	38	GOOD		SAVE	LESS THAN 50% WITHIN THE LOD, WILL INSTALL MULCH AND TIMBER MATS TO PROTECT CRZ WITHIN LOD
20	AMERICAN BEECH	FAGUS GRANDIFOLIA	35	FAIR	TRIPLE, DEFORMED	REMOVE	
21	AMERICAN BEECH	FAGUS GRANDIFOLIA	30	POOR	DID NOT MEASURE, BEES, DEAD LEADER, CAVITIES	REMOVE	
22	RED MAPLE	ACER RUBRUM	31.5	FAIR	ATYPICAL FORM, DEAD BRANCHES	SAVE	LESS THAN 50% WITHIN THE LOD, WILL INSTALL MULCH AND TIMBER MATS TO PROTECT CRZ WITHIN LOD
23	RED MAPLE	ACER RUBRUM	30	POOR	CAVITIES, ATYPICAL FORM, EXPOSED ROOTS	SAVE	OUTSIDE LOD
24	TULIP POPLAR	LIRIODENDRON TULIPIFERA	30	POOR	DEAD BRANCHES, EXPOSED ROOTS	REMOVE	
25	TULIP POPLAR	LIRIODENDRON TULIPIFERA	37	POOR	ATYPICAL FORM,	SAVE	OUTSIDE LOD
26	WHITE OAK	QUERCUS ALBA	36	POOR	ATYPICAL FORM, CAVITIES	SAVE	OUTSIDE LOD
27	AMERICAN BEECH	FAGUS GRANDIFOLIA	35	POOR	CAVITIES	SAVE	OUTSIDE LOD
28	TULIP POPLAR	LIRIODENDRON TULIPIFERA	34	FAIR	ATYPICAL FORM	SAVE	LESS THAN 50% WITHIN THE LOD, WILL INSTALL MULCH AND TIMBER MATS TO PROTECT CRZ WITHIN LOD
29	RED OAK	QUERCUS RUBRA	39	FAIR	ATYPICAL FORM	REMOVE	
30	WHITE OAK	QUERCUS ALBA	38	FAIR	ATYPICAL FORM, DEAD BRANCHES	SAVE	LESS THAN 50% WITHIN THE LOD, WILL INSTALL MULCH AND TIMBER MATS TO PROTECT CRZ WITHIN LOD
31	AMERICAN BEECH	FAGUS GRANDIFOLIA	30	POOR	SWALLOWING A RED OAK	SAVE	LESS THAN 50% WITHIN THE LOD, WILL INSTALL MULCH AND TIMBER MATS TO PROTECT CRZ WITHIN LOD
32	AMERICAN BEECH	FAGUS GRANDIFOLIA	36	FAIR	CAVITIES	SAVE	LESS THAN 50% WITHIN THE LOD, WILL INSTALL MULCH AND TIMBER MATS TO PROTECT CRZ WITHIN LOD
33	AMERICAN BEECH	FAGUS GRANDIFOLIA	30	GOOD	CAVITIES	SAVE	LESS THAN 50% WITHIN THE LOD, WILL INSTALL MULCH AND TIMBER MATS TO PROTECT CRZ WITHIN LOD
34	RED OAK	QUERCUS RUBRA	30	POOR	ATYPICAL, DEAD BRANCHES	SAVE	LESS THAN 50% WITHIN THE LOD, WILL INSTALL MULCH AND TIMBER MATS TO PROTECT CRZ WITHIN LOD
35	TULIP POPLAR	LIRIODENDRON TULIPIFERA	32	GOOD	DEAD BRANCHES	SAVE	LESS THAN 50% WITHIN THE LOD, WILL INSTALL MULCH AND TIMBER MATS TO PROTECT CRZ WITHIN LOD
36	TULIP POPLAR	LIRIODENDRON TULIPIFERA	30	FAIR	DEAD BRANCHES	SAVE	OUTSIDE LOD
37	WHITE OAK	QUERCUS ALBA	30	FAIR	DEAD BRANCHES	REMOVE	
38	RED OAK	QUERCUS RUBRA	34	GOOD		SAVE	LESS THAN 50% WITHIN THE LOD, WILL INSTALL MULCH AND TIMBER MATS TO PROTECT CRZ WITHIN LOD
39	TULIP POPLAR	LIRIODENDRON TULIPIFERA	36	GOOD	BARK LOSS	REMOVE	
40	TULIP POPLAR	LIRIODENDRON TULIPIFERA	34	GOOD		SAVE	LESS THAN 50% WITHIN THE LOD, WILL INSTALL MULCH AND TIMBER MATS TO PROTECT CRZ WITHIN LOD
41	TULIP POPLAR	LIRIODENDRON TULIPIFERA	32	FAIR		SAVE	OUTSIDE LOD
42	TULIP POPLAR	LIRIODENDRON TULIPIFERA	32	GOOD		SAVE	OUTSIDE LOD
43	SCARLET OAK	QUERCUS COCCINEA	31	FAIR		SAVE	LESS THAN 50% WITHIN THE LOD, WILL INSTALL MULCH AND TIMBER MATS TO PROTECT CRZ WITHIN LOD
44	AMERICAN BEECH	FAGUS GRANDIFOLIA	35	FAIR	ATYPICAL FORM	SAVE	OUTSIDE LOD
45	TULIP POPLAR	LIRIODENDRON TULIPIFERA	35	FAIR	ATYPICAL FORM	SAVE	OUTSIDE LOD
46	BLACK LOCUST	ROBINIA PSEUDOACACIA	34	POOR	DEAD LEADER	SAVE	OUTSIDE LOD
47	TULIP POPLAR	LIRIODENDRON TULIPIFERA	32	FAIR	ATYPICAL FORM	SAVE	OUTSIDE LOD
48	CHESTNUT OAK	QUERCUS PRINUS	30	FAIR	DEAD BRANCHES	SAVE	OUTSIDE LOD
49	AMERICAN BEECH	FAGUS GRANDIFOLIA	30	POOR	UNSTABLE POSITION	SAVE	LESS THAN 50% WITHIN THE LOD, WILL INSTALL MULCH AND TIMBER MATS TO PROTECT CRZ WITHIN LOD
50	AMERICAN BEECH	FAGUS GRANDIFOLIA	30	GOOD		REMOVE	
51	SWAMP CHESTNUT OAK	QUERCUS MICHAUXII	31	FAIR	UNSTABLE POSITION, DEAD BRANCHES	REMOVE	
52	TULIP POPLAR	LIRIODENDRON TULIPIFERA	32	GOOD	DEAD BRANCHES	SAVE	OUTSIDE LOD
53	TULIP POPLAR	LIRIODENDRON TULIPIFERA	32	GOOD	DEAD BRANCHES	SAVE	OUTSIDE LOD
54	TULIP POPLAR	LIRIODENDRON TULIPIFERA	32	POOR	HOLLOW, CAVITIES, UNSTABLE	SAVE	LESS THAN 50% WITHIN THE LOD, WILL INSTALL MULCH AND TIMBER MATS TO PROTECT CRZ WITHIN LOD
55	TULIP POPLAR	LIRIODENDRON TULIPIFERA	30	FAIR	UNSTABLE, DEAD BRANCHES	SAVE	LESS THAN 50% WITHIN THE LOD, WILL INSTALL MULCH AND TIMBER MATS TO PROTECT CRZ WITHIN LOD


56	TULIP POPLAR	LIRIODENDRON TULIPIFERA	38	FAIR	UNSTABLE, ATYPICAL FORM	SAVE	OUTSIDE LOD
57	AMERICAN BEECH	FAGUS GRANDIFOLIA	34	POOR	ATYPICAL FORM, UNSTABLE	SAVE	OUTSIDE LOD
58	AMERICAN BEECH	FAGUS GRANDIFOLIA	35	POOR	HOLLOW	SAVE	LESS THAN 50% WITHIN THE LOD, WILL INSTALL MULCH AND TIMBER MATS TO PROTECT CRZ WITHIN LOD
59	AMERICAN BEECH	FAGUS GRANDIFOLIA	30	FAIR	ATYPICAL FORM	SAVE	OUTSIDE LOD
60	AMERICAN BEECH	FAGUS GRANDIFOLIA	35	FAIR	ATYPICAL FORM	SAVE	LESS THAN 50% WITHIN THE LOD, WILL INSTALL MULCH AND TIMBER MATS TO PROTECT CRZ WITHIN LOD
61	AMERICAN BEECH	FAGUS GRANDIFOLIA	36	FAIR	ATYPICAL FORM, UNSTABLE	REMOVE	
62	AMERICAN BEECH	FAGUS GRANDIFOLIA	30	GOOD		SAVE	OUTSIDE LOD
63	TULIP POPLAR	LIRIODENDRON TULIPIFERA	30	POOR	UNSTABLE, DEAD BRANCHES	SAVE	OUTSIDE LOD
64	CHESTNUT OAK	QUERCUS PRINUS	34	FAIR	DEAD BRANCHES	SAVE	OUTSIDE LOD
65	AMERICAN BEECH	FAGUS GRANDIFOLIA	32	FAIR	UNSTABLE	REMOVE	
66	AMERICAN BEECH	FAGUS GRANDIFOLIA	32	POOR	BROKEN LEADER	SAVE	LESS THAN 50% WITHIN THE LOD, WILL INSTALL MULCH AND TIMBER MATS TO PROTECT CRZ WITHIN LOD
67	AMERICAN BEECH	FAGUS GRANDIFOLIA	31	FAIR	UNSTABLE	SAVE	LESS THAN 50% WITHIN THE LOD, WILL INSTALL MULCH AND TIMBER MATS TO PROTECT CRZ WITHIN LOD
68	AMERICAN BEECH	FAGUS GRANDIFOLIA	34	FAIR	ATYPICAL FORM	SAVE	OUTSIDE LOD

NOTE: ALL SPECIMEN, CHAMPION, AND HISTORIC TREES WITHIN 100 FEET OF THE PROPOSED LOD WERE SURVEY LOCATED.


NOTE: THIS PLAN IS APPROVED IN ACCORDANCE WITH THE FOLLOWING VARIANCE(S) FROM THE STRICT REQUIREMENTS OF SUBTITLE 25 APPROVED BY THE PLANNING DIRECTOR ON AUGUST 6, 2020:  
A. THE REMOVAL OF THE FOLLOWING 17 SPECIMEN TREES (SECTION 25-122(b)(1)(G)):  
5T-1, 5T-3, 5T-4, 5T-7, 5T-9, 5T-11, 5T-12, 5T-20, 5T-21, 5T-24, 5T-29, 5T-37, 5T-39, 5T-50, 5T-51, 5T-61, 5T-65

Qualified Professional Certification

This plan complies with the Subtitle 25 requirements of Subtitle 25 and the Woodland and Wildlife Conservation Technical Manual (2011)

Signature:  Date: 8/10/2020

Michael Perry, LA  
5367 Telephone Road, Warrenton, Oregon 97146  
540-905-4467; mpeny@res.us



Prince George's County Planning Department, M-NCPPC Environmental Planning Section				
TREE CONSERVATION PLAN APPROVAL TCP2 - 014 - 2019 - 01				
Approved by		Date	DRD #	Reason for Revision
00	Kim Finch	7/19/2019	NA	Off-site woodland conservation bank
01	Kim Finch	8/17/2020	NA	Stream restoration project
02				
03				
04				
05				
06				

PROJECT MANAGER:	RC
DESIGNED:	BW/CP/SS/JC
DRAWN:	JCAW/CP
JOB NUMBER:	0755
DESIGN TYPE:	TCP2
DATE:	08/07/2020
SHEET NO:	

PROJECT: BLACK SWAMP CREEK  
CLIENT: CORVIAS PRINCE GEORGE'S COUNTY  
STORMWATER PARTNERS, LLC  
TCP2 SPECIMEN  
TREE INVENTORY  
PRINCE GEORGE'S COUNTY, MARYLAND

REVISIONS:  


PROJECT STATUS:



HGS, LLC - A RES COMPANY  
5367 TELEPHONE ROAD, WARRENTON, VIRGINIA 20187  
P: 703.393.4844 | F: 703.393.2934  
WWW.RES.US

TABLE 5. SOILS FOUND ON SITE					
SYMBOL	NAME/DESCRIPTION	K-FACTOR	HYDRIC	HYDROLOGIC GROUP	DRAINAGE CLASS
BaB	BELTSVILLE SILT LOAM, 2 TO 5 PERCENT SLOPES	0.37	YES	C	MODERATELY WELL DRAINED
BaC	BELTSVILLE SILT LOAM, 5 TO 10 PERCENT SLOPES	0.43	YES	C	MODERATELY WELL DRAINED
BgB	BELTSVILLE-GROSSTOWN-WOODSTOWN COMPLEX, 0 TO 5 PERCENT SLOPES	0.37	NO	C	MODERATELY WELL DRAINED
CrD	CROOM GRAVELLY SANDY LOAM, 10 TO 15 PERCENT SLOPES	0.17	NO	C	WELL DRAINED
CwC	CROOM-MARR COMPLEX, 5 TO 10 PERCENT SLOPES	0.15	NO	C	WELL DRAINED
CwD	CROOM-MARR COMPLEX, 10 TO 15 PERCENT SLOPES	0.15	NO	C	WELL DRAINED
CwE	CROOM-MARR COMPLEX, 15 TO 25 PERCENT SLOPES	0.15	NO	C	WELL DRAINED
CwG	CROOM-MARR COMPLEX, 25 TO 60 PERCENT SLOPES	0.15	NO	C	WELL DRAINED
DoB	DOWNER-HAMMONTOWN COMPLEX, 2 TO 5 PERCENT SLOPES	0.10	NO	A	WELL DRAINED
DoC	DOWNER-HAMMONTOWN COMPLEX, 5 TO 10 PERCENT SLOPES	0.10	NO	A	WELL DRAINED
GgC	GROSSTOWN GRAVELLY SILT LOAM, 5 TO 10 PERCENT SLOPES	0.24	NO	A	WELL DRAINED
GwD	GROSSTOWN-WOODSTOWN-BELTSVILLE COMPLEX, 5 TO 15 PERCENT SLOPES	0.37	NO	C	MODERATELY WELL DRAINED
HgB	HOGHOLE-GROSSTOWN COMPLEX, 0 TO 5 PERCENT SLOPES	0.02	NO	A	WELL DRAINED
MnB	MARR-DODON COMPLEX, 2 TO 5 PERCENT SLOPES	0.20	NO	B	WELL DRAINED
MnC	MARR-DODON COMPLEX, 5 TO 10 PERCENT SLOPES	0.20	NO	C	WELL DRAINED
MnD	MARR-DODON COMPLEX, 10 TO 15 PERCENT SLOPES	0.20	NO	C	WELL DRAINED
MnE	MARR-DODON COMPLEX, 15 TO 25 PERCENT SLOPES	0.20	NO	B	WELL DRAINED
Fx	POTOBAC-ISSUE COMPLEX, FREQUENTLY FLOODED	0.28	YES	B/D	POORLY DRAINED
SaaC	SASSAFRAS SANDY LOAM, 5 TO 10 PERCENT SLOPES, NORTHERN COASTAL PLAIN	0.20	YES	B	WELL DRAINED
UdgB	UDORTHENTS, RECLAIMED GRAVEL PITS, 0 TO 5 PERCENT SLOPES	0.15	NO	C	WELL DRAINED
UdgD	UDORTHENTS, RECLAIMED GRAVEL PITS, 5 TO 15 PERCENT SLOPES	0.15	NO	C	WELL DRAINED
UdgE	UDORTHENTS, RECLAIMED GRAVEL PITS, 15 TO 25 PERCENT SLOPES	0.15	NO	C	WELL DRAINED
WDF	WESTPHALIA AND DODON SOILS, 25 TO 40 PERCENT SLOPES	0.17	NO	C	WELL DRAINED

PROJECT NARRATIVE:

THE BLACK SWAMP CREEK STREAM RESTORATION SITE IS LOCATED EAST OF AQUASCO ROAD IN BRANDYWINE, MD AND IS SURROUNDED BY RESIDENTIAL PROPERTIES TO THE NORTH AS WELL AS UNDEVELOPED SITES TO THE SOUTH, EAST AND WEST. BLACK SWAMP CREEK AND SEVERAL UNNAMED TRIBUTARIES FLOWING INTO IT, CROSS THE SITE. THE BANKS OF THE STREAMS HAVE ERODED AND THERE ARE HEAD CUTS LOCATED THROUGH OUT THE SITE. THERE ARE MEANDERING SECTIONS OF STREAM WITH UNDERCUT BANKS AND EXTRA DEPOSITION OF BEDLOAD MATERIAL, AS WELL AS STRAIGHTENED PORTIONS OF STREAM WITH NO BED MATERIAL AT ALL. MANY OF THE CHANNELS ARE INCISED AND IN SOME SECTIONS THE STREAM HAS DOWNCUT INTO THE CLAY LAYER. THE OBJECTIVE OF THE PROJECT IS TO STABILIZE THE STREAM SYSTEM USING NATURAL CHANNEL DESIGN PRINCIPLES AND PREVENT FURTHER EROSION OF THE STREAM BANKS BY UTILIZING STREAM STRUCTURES. IMPACTS TO EXISTING WETLANDS AND FOREST WILL BE KEPT TO THE MINIMUM EXTENT POSSIBLE.

TREE COVER SUMMARY:

THE PROPOSED STUDY AREA IS BASED ON A 100' OFFSET OF THE LIMITS OF DISTURBANCE DUE TO THE LINEAR NATURE OF THIS PROJECT. THE MAJORITY OF THE STUDY AREA IS CURRENTLY FORESTED. THE LIMITS OF DISTURBANCE AS SHOWN ON THIS PLAN REPRESENT THE PROPOSED PROJECT LIMITS FOR THE PURPOSES OF THIS ANALYSIS, AND INCLUDES AREAS NEEDED FOR ACCESS AND THE PROPOSED CHANNEL GRADING. WITHIN THE LIMITS OF DISTURBANCE, THE MAJORITY OF TREES /VEGETATION WILL BE CLEARED DURING CONSTRUCTION. SPECIMEN TREES NOT BEING CLEARED WILL BE PROTECTED WITH TEMPORARY TREE PROTECTION FENCING AND MULCH/TIMBER MATS WHERE WORK MUST OCCUR WITHIN THE CRITICAL ROOT ZONE OF THE TREE. IF THE CRITICAL ROOT ZONE EXTENDS INTO THE STREAM CHANNEL/AREAS OF GRADING, ROOT PRUNING WILL BE USED TO MINIMIZE THE IMPACT TO THE SPECIMEN TREES.

GENERAL SURVEY NOTES:

1. BOUNDARY INFORMATION IS APPROXIMATE ONLY. NO BOUNDARY SURVEY PERFORMED.
2. TOPOGRAPHIC INFORMATION SHOWN HERE TAKEN FROM FIELD RUN TOPOGRAPHIC SURVEY FOR DEWBERRY ENGINEERS INC. BETWEEN APRIL AND AUGUST 2019, INTEGRATED WITH PRINCE GEORGE'S COUNTY GIS INFORMATION.
3. HORIZONTAL DATUM, ESTABLISHED BY GPS SURVEY METHODS, IS MARYLAND COORDINATE SYSTEM (NAD83/NRS 2011).
4. VERTICAL DATUM, ESTABLISHED BY GPS SURVEY METHODS, IS NAVD 88.
5. SCOPE OF THE TOPOGRAPHIC INFORMATION IS LIMITED TO THE AREAS AS SHOWN. AREAS OUTSIDE OF THAT SHOWN NOT SUBJECT TO, NOR PART OF SURVEYED DATA.

WETLAND AND STREAM NOTES:

A WETLAND DELINEATION WAS COMPLETED ON THE PROPERTY SHOWN HEREON. LIMITS OF WETLANDS AND STREAMS DEPICTED ON THIS MAP WERE DELINEATED BY RES AND SURVEY LOCATED BY DEWBERRY. THE WETLAND DELINEATION WAS ONLY PERFORMED INSIDE THE PROJECT LIMITS AND DOES NOT DEPICT THE FULL EXTENT OF THESE FEATURES. WETLANDS WERE DELINEATED IN MARCH, 2019 IN ACCORDANCE WITH PROCEDURES OUTLINED IN THE U.S. ARMY CORPS OF ENGINEERS WETLAND DELINEATION MANUAL, AS WELL AS THE REGIONAL SUPPLEMENT TO THE U.S. ARMY CORPS OF ENGINEERS WETLAND DELINEATION MANUAL ATLANTIC AND GULF COASTAL PLAIN REGION (VERSION 2.0). OTHER WATERS OF THE U.S. ARE DELINEATED BASED ON THE PRESENCE OF AN ORDINARY HIGH WATER MARK, AS DEFINED BY THE U.S. ARMY CORPS OF ENGINEERS DEFINITION OF A WATER OF THE U.S.



Angela D. Aboubrooks  
County Executive

THE PRINCE GEORGE'S COUNTY GOVERNMENT  
Department of the Environment



Joseph P. Gill  
Director

July 31, 2020

Ms. Andree Green Checkley, Planning Director  
Maryland-National Capital Park and Planning Commission  
Prince George's County Planning Department  
14741 Governor Oden Bowie Drive  
Upper Marlboro, Maryland 20772

Dear Ms. Checkley:

Under the Clean Water Partnership (CWP), the Black Swamp Creek Stream Restoration Project, DoE Permit #4537-2019, TCP2-014-2019-01, is being undertaken by Prince George's County and Resources Environmental Solutions (RES), LLC on private properties located at 17910 Aquasco Road in Brandywine.

This project is subject to federal, state, and local permitting requirements. The Department of the Environment (DoE) will issue a permit for the site work. A Sediment and Erosion Control Plan has been approved by the Prince George's Soil Conservation District and a Type 2 Tree Conservation Plan, TCP2-014-2019-01 is under review by the Environmental Planning Section of the Planning Department.

A Letter of Authorization, 19-WT-0354/201961814, has been issued by the Wetlands and Waterways Program, Water and Science Administration, Maryland Department of the Environment, subject to conditions. Because Black Swamp Creek is a Use 1 waterway, in-stream work may not be conducted from March 1 through June 15, inclusive, of any year (COMAR 26.08.02.08).

The initiation of construction by August 15, 2020 is anticipated so the project can move forward before by March 1, 2021, when in-stream work will be prohibited until June 15, 2021. DoE requests that the recordation of the required easement for the protection of woodland conservation be deferred and agrees to submit recorded woodland conservation easements for any on-site woodland conservation as shown on TCP2-014-2020-01 to the Environmental Planning Section, Prince George's Planning Department by February 1, 2021.

We appreciate the opportunity to work with your staff on efforts to enhance the County's water quality and look forward to continued coordination on this effort. Should you need additional information, please feel free to contact me at (301) 883-5812.

Sincerely,

Joseph P. Gill  
Director

cc: Jeffrey M. DeHan, Associate Director  
Stormwater Management Division, DoE

1801 McCormick Drive, Largo, Maryland 20774

TREE CONSERVATION PLAN TYPE 2- GENERAL NOTES:

1. THIS PLAN IS SUBMITTED FOR PERMIT PURPOSES.
2. CUTTING OR CLEARING OF WOODLAND NOT IN CONFORMANCE WITH THIS PLAN OR WITHOUT THE EXPRESSED WRITTEN CONSENT OF THE PLANNING DIRECTOR OR DESIGNEE SHALL BE SUBJECT TO A \$9.00 PER SQUARE FOOT MITIGATION FEE.
3. A PRE-CONSTRUCTION MEETING IS REQUIRED PRIOR TO THE ISSUANCE OF GRADING PERMITS. THE DEPARTMENT OF PERMITTING, INSPECTION AND ENFORCEMENT SHALL BE CONTACTED PRIOR TO THE START OF ANY WORK ON THE SITE TO CONDUCT A PRE-CONSTRUCTION MEETING WHERE IMPLEMENTATION OF WOODLAND CONSERVATION MEASURES SHOWN ON THIS PLAN WILL BE DISCUSSED IN DETAIL.
4. THE DEVELOPER OR BUILDER OF THE LOTS OR PARCELS SHOWN ON THIS PLAN SHALL NOTIFY FUTURE BUYERS OF ANY WOODLAND CONSERVATION AREAS THROUGH THE PROVISION OF A COPY OF THIS PLAN AT TIME OF CONTRACT SIGNING. FUTURE PROPERTY OWNERS ARE ALSO SUBJECT TO THIS REQUIREMENT.
5. THE OWNERS OF THE PROPERTY SUBJECT TO THIS TREE CONSERVATION PLAN ARE SOLELY RESPONSIBLE FOR CONFORMANCE TO THE REQUIREMENTS CONTAINED HEREIN.
6. THE PROPERTY IS WITHIN THE RURAL TIER AND IS ZONED OPEN SPACE (O-S).
7. THE PROPERTY IS ABUTTING AQUASCO ROAD, MD ROUTE 381, A DESIGNATED SCENIC ROAD IN THE VICINITY OF THE PROPERTY.
8. THE SITE IS NOT ADJACENT TO A ROADWAY CLASSIFIED AS ARTERIAL OR GREATER.
9. THIS PLAN IS NOT GRANDFATHERED UNDER CB-27-2010, SECTION 25-119(G).

TREE CONSERVATION PLAN TYPE 2- ADDITIONAL NOTES:

- A. PARCELS 1 97 AND 198 ARE SUBJECT TO A HISTORIC AGRICULTURAL RESOURCE PRESERVATION PROGRAM DEED OF EASEMENT GRANTED TO THE PRINCE GEORGES COUNTY PLANNING BOARD OF THE MARYLAND NATIONAL CAPITAL PARK AND PLANNING COMMISSION RECORDED IN THE LAND RECORDS L 40542 F. 05. PLACEMENT OF ANY ADDITIONAL EASEMENT OVER THE HARP! REQUIRES THE PERMISSION OF THE PRINCE GEORGES COUNTY PLANNING BOARD.
- B. PARCELS 1 17, 091 AND 006 ARE SUBJECT TO A DECLARATION OF COVENANTS FOR A WOODLAND CONSERVATION BANK FOR THE BENEFIT OF PRINCE GEORGES COUNTY, MARYLAND RECORDED IN THE LAND RECORDS AT L 42440 F.305. IMPACTS TO THE EXISTING EASEMENT MAY REQUIRE REVISIONS TO THE EASEMENT TO ELIMINATE OVERLAPPING WITH OTHER REQUIRED EASEMENTS FOR THIS IMPLEMENTATION OF THIS PROJECT.
- C. PRIOR TO THE ISSUANCE OF ANY PERMITS WHICH IMPACT WETLANDS, WETLAND BUFFERS, STREAMS OR WATERS OF THE U.S., THE APPLICANT SHALL SUBMIT TO THE M-NCPPC PLANNING DEPARTMENT COPIES OF ALL FEDERAL AND STATE WETLAND PERMITS, EVIDENCE THAT APPROVAL CONDITIONS HAVE BEEN COMPLIED WITH, AND ASSOCIATED MITIGATION PLANS.
- D. IF ON-SITE MITIGATION PLANTING IS PROVIDED FOR FEDERAL OR STATE WETLANDS PERMITS AND PLACED IN A REQUIRED EASEMENT, IT CANNOT BE CREDITED AS WOODLAND CONSERVATION FOR LOCAL WOODLAND CONSERVATION REQUIREMENTS. ANY WOODLAND CONSERVATION REQUIREMENT THAT CANNOT BE MET ON-SITE SHALL BE PROVIDED AS OFF-SITE WOODLAND CONSERVATION.

AFFORESTATION AND REFORESTATION NOTES

- A. ALL AFFORESTATION AND REFORESTATION BONDS, BASED ON SQUARE FOOTAGE, SHALL BE POSTED WITH THE COUNTY PRIOR TO THE ISSUANCE OF ANY PERMITS. THESE BONDS WILL BE RETAINED AS SURETY UNTIL ALL REQUIRED ACTIVITIES HAVE BEEN SATISFIED OR THE REQUIRED TIMEFRAME FOR MAINTENANCE HAS PASSED, WHICHEVER IS LONGER.
- B. SEEDLING PLANTING IS TO OCCUR FROM NOVEMBER THROUGH MAY ONLY. NO PLANTING SHALL BE DONE WHILE GROUND IS FROZEN. PLANTING WITH LARGER CALIPER STOCK OR CONTAINERIZED STOCK MAY BE DONE AT ANY TIME PROVIDED A DETAILED MAINTENANCE SCHEDULE IS PROVIDED.
- C. IF PLANTING CANNOT OCCUR DUE TO PLANTING CONDITIONS, THE DEVELOPER OR PROPERTY OWNER SHALL INSTALL THE FENCING AND SIGNAGE IN ACCORDANCE WITH THE APPROVED TYPE 2 TREE CONSERVATION PLAN. PLANTING SHALL THEN BE ACCOMPLISHED DURING THE NEXT PLANTING SEASON. IF PLANTING IS DELAYED BEYOND THE TRANSFER OF THE PROPERTY TITLE TO THE HOMEOWNER, THE DEVELOPER OR BUILDER SHALL OBTAIN A SIGNED STATEMENT FROM THE PURCHASER INDICATING THAT THEY UNDERSTAND THAT THE REFORESTATION AREA IS LOCATED ON THEIR PROPERTY AND THAT REFORESTATION WILL OCCUR DURING THE NEXT PLANTING SEASON. A COPY OF THAT DOCUMENT SHALL BE PRESENTED TO THE GRADING INSPECTOR AND THE COUNTY.
- D. REFORESTATION AREAS SHALL NOT BE MOWED. THE MANAGEMENT OF COMPETING VEGETATION AROUND INDIVIDUAL TREES AND THE REMOVAL OF NOXIOUS, INVASIVE, AND NON-NATIVE VEGETATION WITHIN THE REFORESTATION AREAS IS ACCEPTABLE.
- E. ALL REQUIRED TEMPORARY TREE PROTECTION FENCING SHALL BE INSTALLED PRIOR TO THE CLEARING AND GRADING OF THE SITE AND SHALL REMAIN IN PLACE UNTIL THE PERMANENT TREE PROTECTION FENCING IS INSTALLED WITH THE REQUIRED PLANTING. THE TEMPORARY FENCING IS NOT REQUIRED TO BE INSTALLED IF THE PERMANENT FENCING IS INSTALLED PRIOR TO CLEARING AND GRADING OF THE SITE. FAILURE TO INSTALL AND MAINTAIN TEMPORARY OR PERMANENT TREE PROTECTIVE FENCING IS A VIOLATION OF THIS TCP2.
- F. AFFORESTATION/REFORESTATION AREAS SHALL BE POSTED WITH NOTIFICATION SIGNAGE, AS SHOWN ON THE PLANS, AT THE SAME TIME AS THE PERMANENT PROTECTION FENCING INSTALLATION. THESE SIGNS SHALL REMAIN IN PERPETUITY.
- G. THE COUNTY INSPECTOR SHALL BE NOTIFIED PRIOR TO SOIL PREPARATION OR INITIATION OF ANY TREE PLANTING ON THIS SITE.
- H. AT TIME OF ISSUANCE OF THE FIRST PERMIT, THE FOLLOWING INFORMATION SHALL BE SUBMITTED TO THE M-NCPPC PLANNING DEPARTMENT REGARDING THE CONTRACTOR RESPONSIBLE FOR IMPLEMENTATION OF THIS PLAN: CONTRACTOR NAME; BUSINESS NAME (IF DIFFERENT); ADDRESS; AND PHONE NUMBER. RESULTS OF ANNUAL SURVIVAL CHECKS FOR EACH OF THE REQUIRED FOUR YEARS AFTER TREE PLANTING SHALL BE REPORTED TO THE M-NCPPC, PLANNING DEPARTMENT.
- I. FAILURE TO ESTABLISH THE AFFORESTATION OR REFORESTATION WITHIN THE PRESCRIBED TIME FRAME WILL RESULT IN THE FORFEITURE OF THE REFORESTATION BOND AND/OR A VIOLATION OF THIS PLAN INCLUDING THE ASSOCIATED \$9.00 PER SQUARE FOOT PENALTY UNLESS THE COUNTY INSPECTOR APPROVES A WRITTEN EXTENSION.

POST DEVELOPMENT NOTES

- A. IF THE DEVELOPER OR BUILDER NO LONGER HAS AN INTEREST IN THE PROPERTY AND THE NEW OWNER DESIRES TO REMOVE A HAZARDOUS TREE OR PORTION THEREOF, THE NEW OWNER SHALL OBTAIN A WRITTEN STATEMENT FROM A CERTIFIED ARBORIST OR LICENSED TREE EXPERT IDENTIFYING THE HAZARDOUS CONDITION AND THE PROPOSED CORRECTIVE MEASURES PRIOR TO HAVING THE WORK CONDUCTED. AFTER PROPER DOCUMENTATION HAS BEEN COMPLETED PER THE HANDOUT "GUIDANCE FOR PRINCE GEORGES COUNTY PROPERTY OWNERS, PRESERVATION OF WOODLAND CONSERVATION AREAS", THE ARBORIST OR TREE EXPERT MAY THEN REMOVE THE TREE. THE STUMP SHALL BE CUT AS CLOSE TO THE GROUND AS POSSIBLE AND LEFT IN PLACE. THE REMOVAL OR GRINDING OF THE STUMPS IN THE WOODLAND CONSERVATION AREA IS NOT PERMITTED. IF A TREE OR PORTIONS THEREOF ARE IN IMMINENT DANGER OF STRIKING A STRUCTURE, PARKING AREA, OR OTHER HIGH USE AREA AND MAY RESULT IN PERSONAL INJURY OR PROPERTY DAMAGE THEN THE CERTIFICATION IS NOT REQUIRED AND THE PERMITTEE SHALL TAKE CORRECTIVE ACTION IMMEDIATELY. THE CONDITION OF THE AREA SHALL BE FULLY DOCUMENTED THROUGH PHOTOGRAPHS PRIOR TO CORRECTIVE ACTION BEING TAKEN. THE PHOTOS SHALL BE SUBMITTED TO THE INSPECTOR FOR DOCUMENTATION OF THE DAMAGE. TREE WORK TO BE COMPLETED WITHIN A ROAD RIGHT-OF-WAY REQUIRES A PERMIT FROM THE MARYLAND DEPARTMENT OF NATURAL RESOURCES UNLESS THE TREE REMOVAL IS SHOWN WITHIN THE APPROVED LIMITS OF DISTURBANCE ON A TCP2. THE WORK IS REQUIRED TO BE CONDUCTED BY A LICENSED TREE EXPERT.
- B. THE REMOVAL OF NOXIOUS, INVASIVE, AND NON-NATIVE PLANT SPECIES FROM ANY WOODLAND PRESERVATION AREA SHALL BE DONE WITH THE USE OF HAND-HELD EQUIPMENT ONLY (PRUNERS OR A CHAIN SAW). THESE PLANTS MAY BE CUT NEAR THE GROUND AND MATERIAL LESS THAN TWO INCHES DIAMETER MAY BE REMOVED FROM THE AREA AND DISPOSED OF APPROPRIATELY. ALL MATERIAL FROM THESE NOXIOUS, INVASIVE, AND NON-NATIVE PLANTS GREATER THAN TWO (2) INCHES DIAMETER SHALL BE CUT TO ALLOW CONTACT WITH THE GROUND, THUS ENCOURAGING DECOMPOSITION.
- C. THE USE OF BROADCAST SPRAYING OF HERBICIDES IS NOT PERMITTED. HOWEVER, THE USE OF HERBICIDES TO DISCOURAGE RE-SPROUTING OF INVASIVE, NOXIOUS, OR NON-NATIVE PLANTS IS PERMITTED IF DONE AS AN APPLICATION OF THE CHEMICAL DIRECTLY TO THE CUT STUMP IMMEDIATELY FOLLOWING CUTTING OF PLANT TOPS. THE USE OF ANY HERBICIDE SHALL BE DONE IN ACCORDANCE WITH THE LABEL INSTRUCTIONS.
- D. THE USE OF CHAINSAWS IS EXTREMELY DANGEROUS AND SHOULD NOT BE CONDUCTED WITH POORLY MAINTAINED EQUIPMENT, WITHOUT SAFETY EQUIPMENT, OR BY INDIVIDUALS NOT TRAINED IN THE USE OF THIS EQUIPMENT FOR THE PRUNING AND/OR CUTTING OF TREES.

Qualified Professional Certification

This plan complies with the requirements of Subtitle 25 and the Woodland and Wildlife Conservation Technical Manual.

Signature:

Date:

Michael Penny, LA  
5367 Telephone Road, Warrenton, OR 97146  
540-905-4467; mpenny@res.us



Prince George's County Planning Department, M-NCPPC Environmental Planning Section TREE CONSERVATION PLAN APPROVAL TCP2 - 014 - 2019 - 01			
Approved by	Date	DRD #	Reason for Revision
00 Kim Finch	7/19/2019	NA	Off-site woodland conservation bank
01 Kim Finch	8/17/2020	NA	Stream restoration project
02			
03			
04			
05			
06			

PROJECT: BLACK SWAMP CREEK  
CLIENT: CORVIAS PRINCE GEORGE'S COUNTY  
STORMWATER PARTNERS, LLC

NOTES

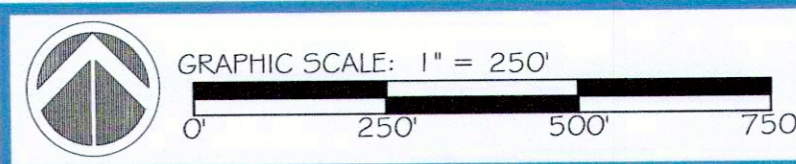
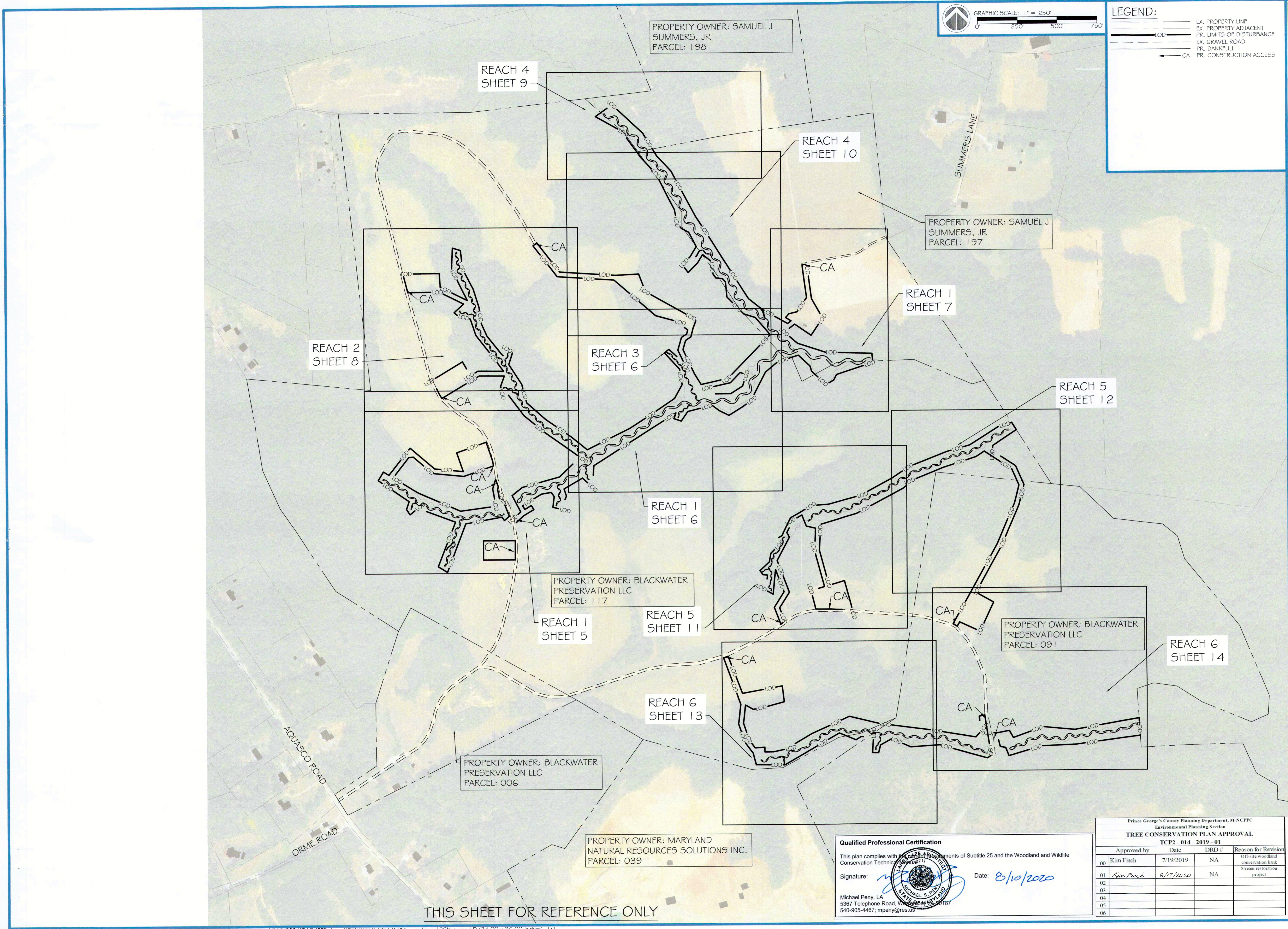
REVISIONS:  
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PROJECT STATUS:

PROJECT MANAGER: RC  
DESIGNED: BWCP/SSJC  
DRAWN: JCIAW/CP  
JOB NUMBER: 0755  
DESIGN TYPE: TCP2  
DATE: 08/07/2020  
SHEET NO: 3 OF 16



PRINCE GEORGE'S COUNTY, MARYLAND



**LEGEND:**

- EX. PROPERTY LINE
- EX. PROPERTY ADJACENT
- PR. LIMITS OF DISTURBANCE
- EX. GRAVEL ROAD
- PR. BANKFULL
- PR. CONSTRUCTION ACCESS
- LOD
- CA



HGS, LLC - A RES COMPANY  
5367 TELEPHONE ROAD, WARRENTON, VIRGINIA 20187  
P: 703.395.1000  
WWW.RES.US

PROJECT: BLACK SWAMP CREEK  
CLIENT: CORVIAS PRINCE GEORGE'S COUNTY  
STORMWATER PARTNERS, LLC

## KEY SHEET

PRINCE GEORGE'S COUNTY, MARYLAND


REVISIONS:

PROJECT STATUS:


PROJECT MANAGER: RC  
DESIGNED: BW/CPSS/JC  
DRAWN: JCIAW/CP  
JOB NUMBER: 0755  
DESIGN TYPE: TCP2  
DATE: 08/07/2020  
SHEET NO: 4 OF 16

**Qualified Professional Certification**

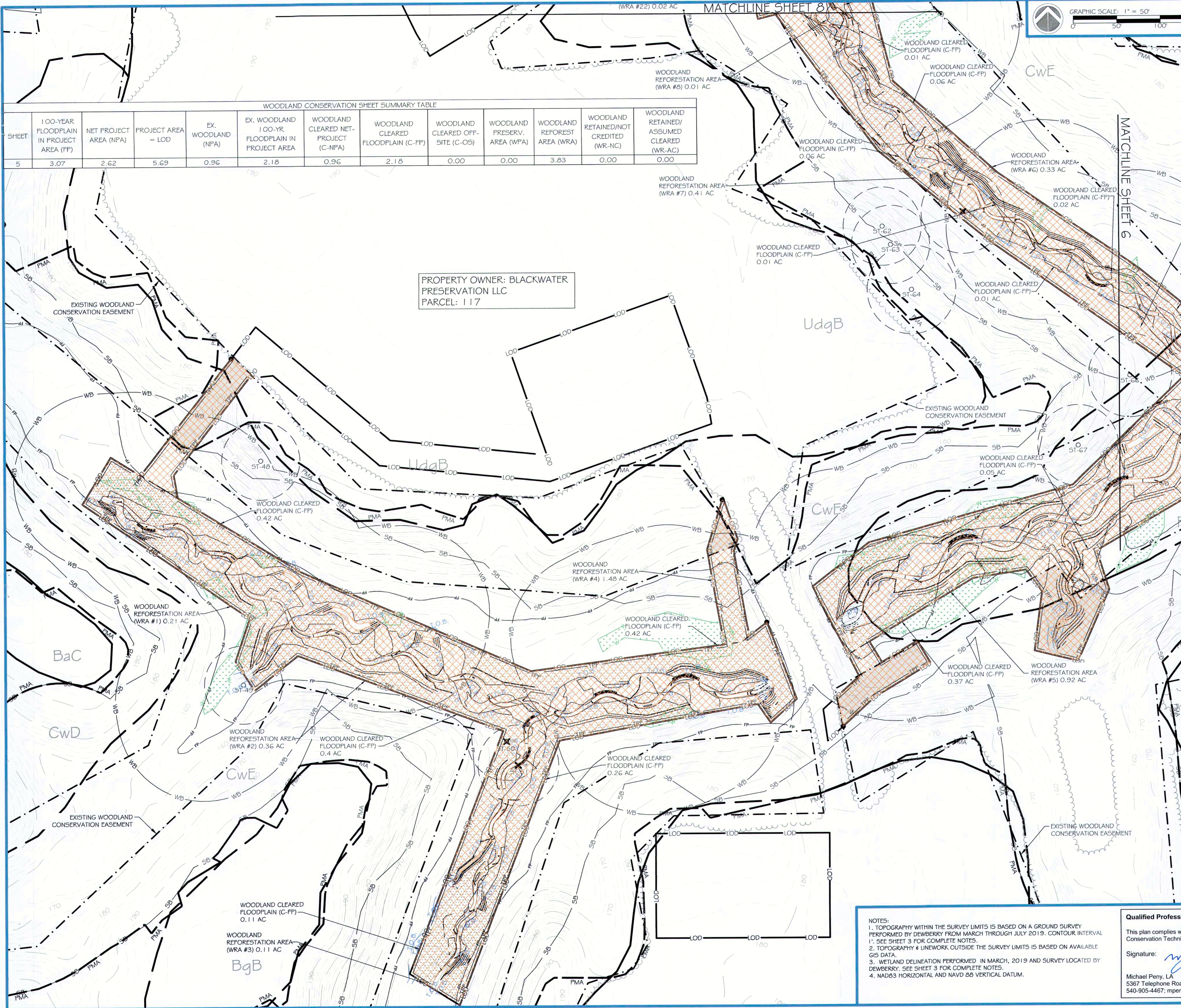
This plan complies with the requirements of Subtitle 25 and the Woodland and Wildlife Conservation Technical Manual.

Signature:  Date: 8/10/2020

Michael Penny, LA  
5367 Telephone Road, Warrenton, VA 20187  
540-905-4467; mpenny@res.us



Prince George's County Planning Department, MNCPPC Environmental Planning Section TREE CONSERVATION PLAN APPROVAL TCP2 - 014 - 2019 - 01			
Approved by	Date	DRD #	Reason for Revision
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01 Kim Finch	8/17/2020	NA	Stream restoration project
02			
03			
04			
05			
06			



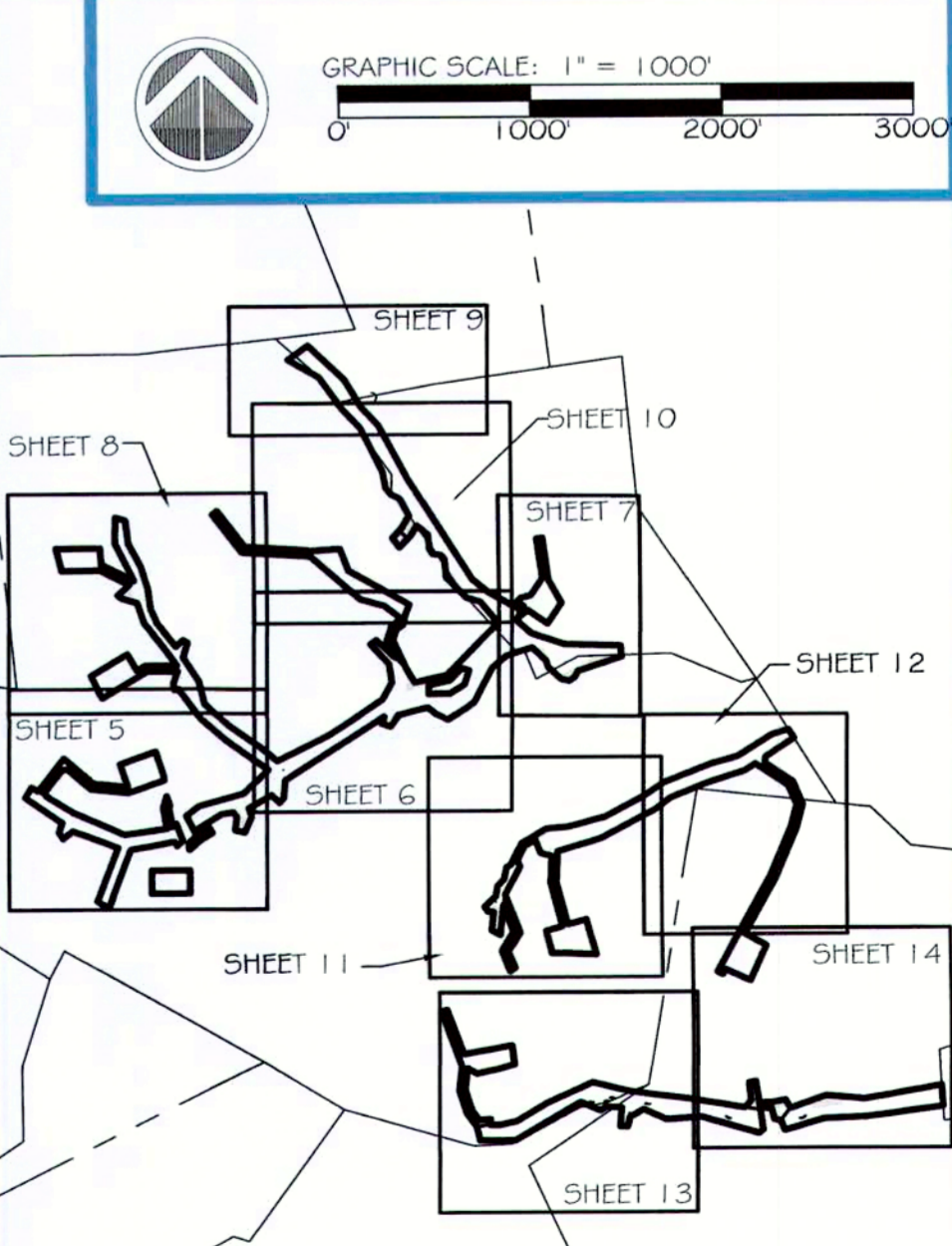
WOODLAND CONSERVATION SHEET SUMMARY TABLE											
SHEET	100-YEAR FLOODPLAIN IN PROJECT AREA (FP)	NET PROJECT AREA (NPA)	PROJECT AREA = LOD	EX. WOODLAND (NPA)	EX. WOODLAND 100-YR FLOODPLAIN IN PROJECT AREA	WOODLAND CLEARED NET-PROJECT (C-NPA)	WOODLAND CLEARED FLOODPLAIN (C-FP)	WOODLAND CLEARED OFF-SITE (C-OS)	WOODLAND PRESERV. AREA (WPA)	WOODLAND REFOREST. AREA (WRA)	WOODLAND RETAINED/NOT CREDITED (WR-NC)
5	3.07	2.62	5.69	0.96	2.18	0.96	2.18	0.00	0.00	3.83	0.00

PROPERTY OWNER: BLACKWATER PRESERVATION LLC  
PARCEL: 117

**LEGEND:**

- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- EX. FORESTED WETLAND
- EX. STREAM CENTERLINE
- EX. STREAM TOP OF BANK
- EX. SPECIMEN TREE WITH CRITICAL ROOT ZONE - SAVE
- EX. SPECIMEN TREE WITH CRITICAL ROOT ZONE - REMOVE
- EX. TREELINE
- EX. SOILS BOUNDARY
- EX. PROPERTY LINE
- EX. PROPERTY ADJACENT EXISTING WOODLAND CONSERVATION EASEMENT
- EX. STREAM BUFFER
- EX. WETLAND BUFFER
- EX. PRIMARY MANAGEMENT AREA
- EX. COUNTY 100-YR FLOODPLAIN
- PR. LIMITS OF DISTURBANCE
- PR. MAJOR CONTOUR
- PR. MINOR CONTOUR
- PR. ROCK STRUCTURE
- PR. LOG STRUCTURE
- PR. WOOD TOE REVETMENT
- PR. TEMPORARY TREE PROTECTION FENCING
- PROPOSED STREAM RESTORATION EASEMENT
- PR. CLEARED FLOODPLAIN AREA
- PR. WOODLAND REFORESTATION AREA
- PROPOSED IMPACTS TO EXISTING WOODLAND CONSERVATION EASEMENT
- EX. RIPRAP
- EX. BUILDING
- PR. REFORESTATION SIGN

Prince George's County Planning Department, MNCPPC Environmental Planning Section TREE CONSERVATION PLAN APPROVAL TCP2 - 014 - 2019 - 01			
Approved by	Date	DRD #	Reason for Revision
00 Kim Finch	7/19/2019	NA	Off-site woodland conservation bank
01 Kim Finch	8/17/2020	NA	Stream restoration project
02			
03			
04			
05			
06			



**NOTES:**  
1. TOPOGRAPHY WITHIN THE SURVEY LIMITS IS BASED ON A GROUND SURVEY PERFORMED BY DEWBERRY FROM MARCH THROUGH JULY 2019. CONTOUR INTERVAL 1'. SEE SHEET 3 FOR COMPLETE NOTES.  
2. TOPOGRAPHY & LINEWORK OUTSIDE THE SURVEY LIMITS IS BASED ON AVAILABLE GIS DATA.  
3. WETLAND DELINEATION PERFORMED IN MARCH, 2019 AND SURVEY LOCATED BY DEWBERRY. SEE SHEET 3 FOR COMPLETE NOTES.  
4. NAD83 HORIZONTAL AND NAVD 88 VERTICAL DATUM.

**Qualified Professional Certification**

This plan complies with the requirements of Subtitle 25 and the Woodland and Wildlife Conservation Technical Code.

Signature: Date: 8/10/2020

Michael Perry, LA  
5367 Telephone Road, WARENTON, OR 97146  
540-905-4467; mperry@res.us

HGS, LLC - A RES COMPANY  
5367 TELEPHONE ROAD, WARENTON, VIRGINIA 20187  
P: 703.393.4844 F: 703.393.2934  
WWW.RES.US

PROJECT: BLACK SWAMP CREEK  
CLIENT: CORVIAS PRINCE GEORGE'S COUNTY  
STORMWATER PARTNERS, LLC

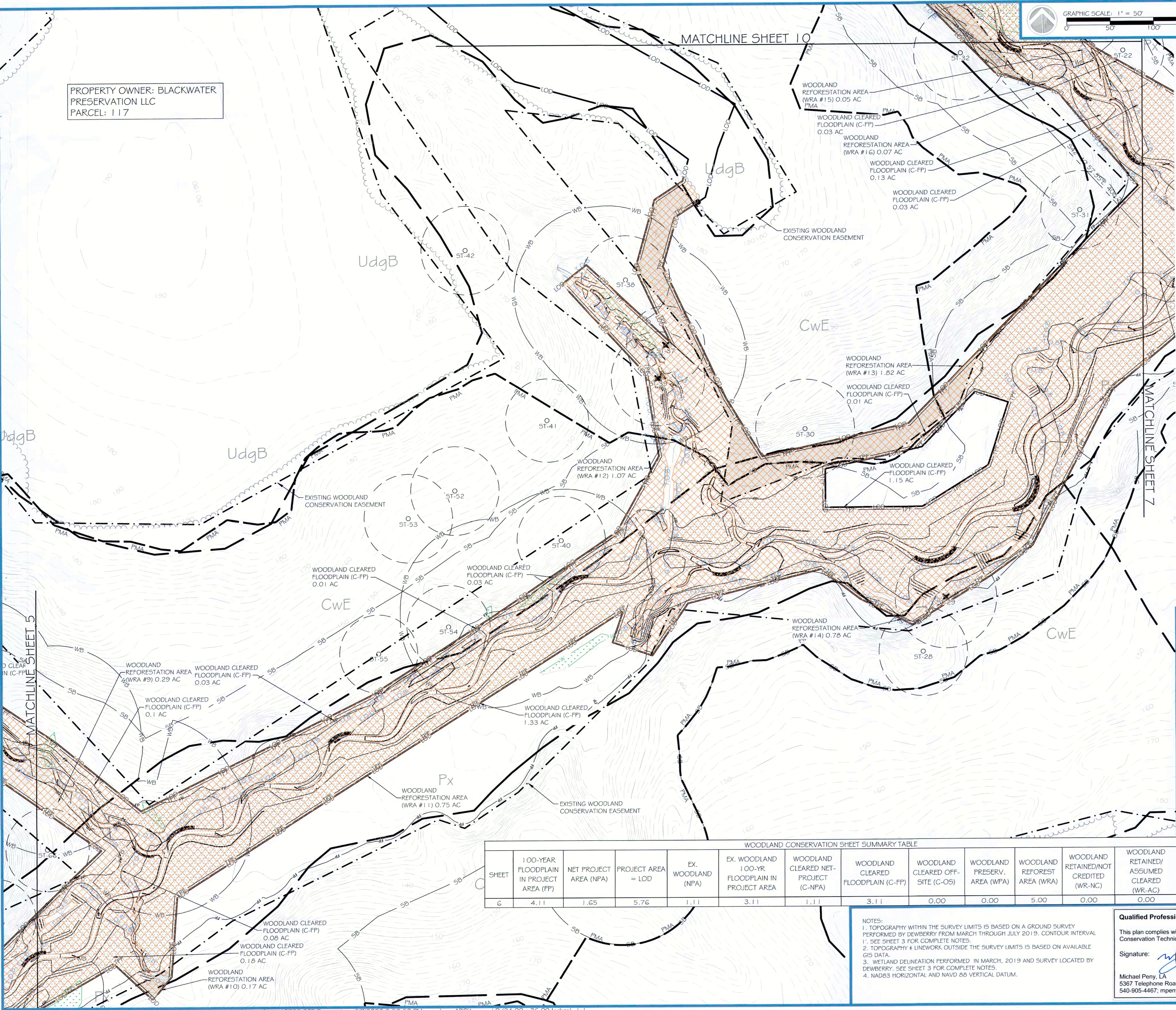
**TCP2 DESIGN**

PRINCE GEORGE'S COUNTY, MARYLAND

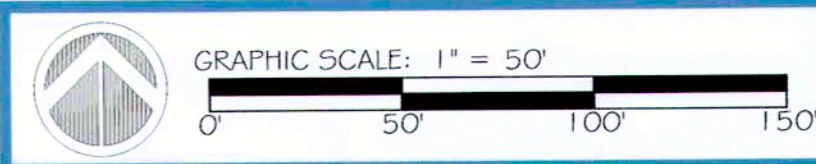
REVISIONS:  
X

PROJECT STATUS:

PROJECT MANAGER: RC  
DESIGNED: BW/CP/SS/JC  
DRAWN: JC/AW/CP  
JOB NUMBER: 0755  
DESIGN TYPE: TCP2  
DATE: 08/07/2020  
SHEET NO: 5 OF 16



PROPERTY OWNER: BLACKWATER  
PRESERVATION LLC  
PARCEL: 117

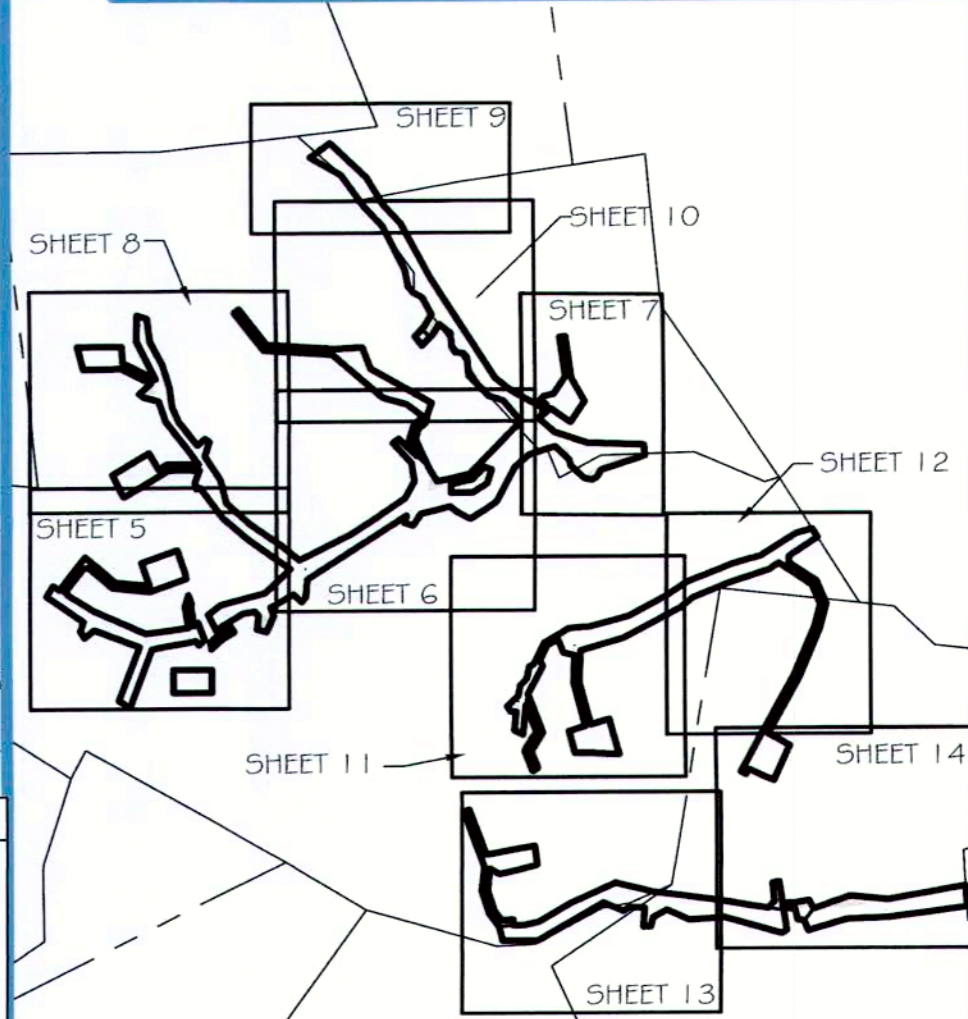
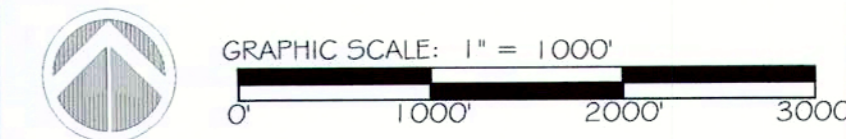


**LEGEND:**

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- EX. COUNTY 100-YR FLOODPLAIN
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- PR. TEMPORARY TREE PROTECTION FENCING
- PROPOSED STREAM RESTORATION EASEMENT
- PR. CLEARED FLOODPLAIN AREA
- PR. WOODLAND REFORESTATION AREA
- PROPOSED IMPACTS TO EXISTING WOODLAND CONSERVATION EASEMENT
- EX. RIPRAP
- EX. BUILDING
- PR. REFORESTATION SIGN

Prince George's County Planning Department, M-NCPPC  
Environmental Planning Section  
**TREE CONSERVATION PLAN APPROVAL**  
TCP2 - 014 - 2019 - 01

Approved by	Date	DRD #	Reason for Revision
00 Kim Finch	7/19/2019	NA	Off-site woodland conservation bank
01 Kim Finch	8/17/2020	NA	Stream restoration project
02			
03			
04			
05			
06			



**WOODLAND CONSERVATION SHEET SUMMARY TABLE**

SHEET	100-YEAR FLOODPLAIN IN PROJECT AREA (FP)	NET PROJECT AREA (NPA)	PROJECT AREA = LOD	EX. WOODLAND (NPA)	EX. WOODLAND 100-YR FLOODPLAIN IN PROJECT AREA	WOODLAND CLEARED NET-PROJECT (C-NPA)	WOODLAND CLEARED FLOODPLAIN (C-FP)	WOODLAND CLEARED OFF-SITE (C-OS)	WOODLAND PRESERV. AREA (WPA)	WOODLAND REFOREST. AREA (WRA)	WOODLAND RETAINED/NOT CREDITED (WR-NC)	WOODLAND RETAINED/ASSUMED CLEARED (WR-AC)
6	4.11	1.65	5.76	1.11	3.11	1.11	3.11	0.00	0.00	5.00	0.00	0.00

**NOTES:**  
1. TOPOGRAPHY WITHIN THE SURVEY LIMITS IS BASED ON A GROUND SURVEY PERFORMED BY DEWBERRY FROM MARCH THROUGH JULY 2019. CONTOUR INTERVAL 1'. SEE SHEET 3 FOR COMPLETE NOTES.  
2. TOPOGRAPHY & LINEWORK OUTSIDE THE SURVEY LIMITS IS BASED ON AVAILABLE GIS DATA.  
3. WETLAND DELINEATION PERFORMED IN MARCH, 2019 AND SURVEY LOCATED BY DEWBERRY. SEE SHEET 3 FOR COMPLETE NOTES.  
4. NAD83 HORIZONTAL AND NAVD 83 VERTICAL DATUM.

**Qualified Professional Certification**

This plan complies with the requirements of Subtitle 25 and the Woodland and Wildlife Conservation Technical Code.

Signature: Date: 8/10/2020

Michael Perry, LA  
5367 Telephone Road, WOODMAN, MD 21791  
540-905-4467; mpery@res.us

HGS, LLC - A RES COMPANY  
5367 TELEPHONE ROAD, WOODMAN, VIRGINIA 20187  
P: 703.393.4644 | F: 703.393.2934  
WWW.RES.US

PROJECT: BLACK SWAMP CREEK  
CLIENT: CORVIAS PRINCE GEORGES COUNTY  
STORMWATER PARTNERS, LLC

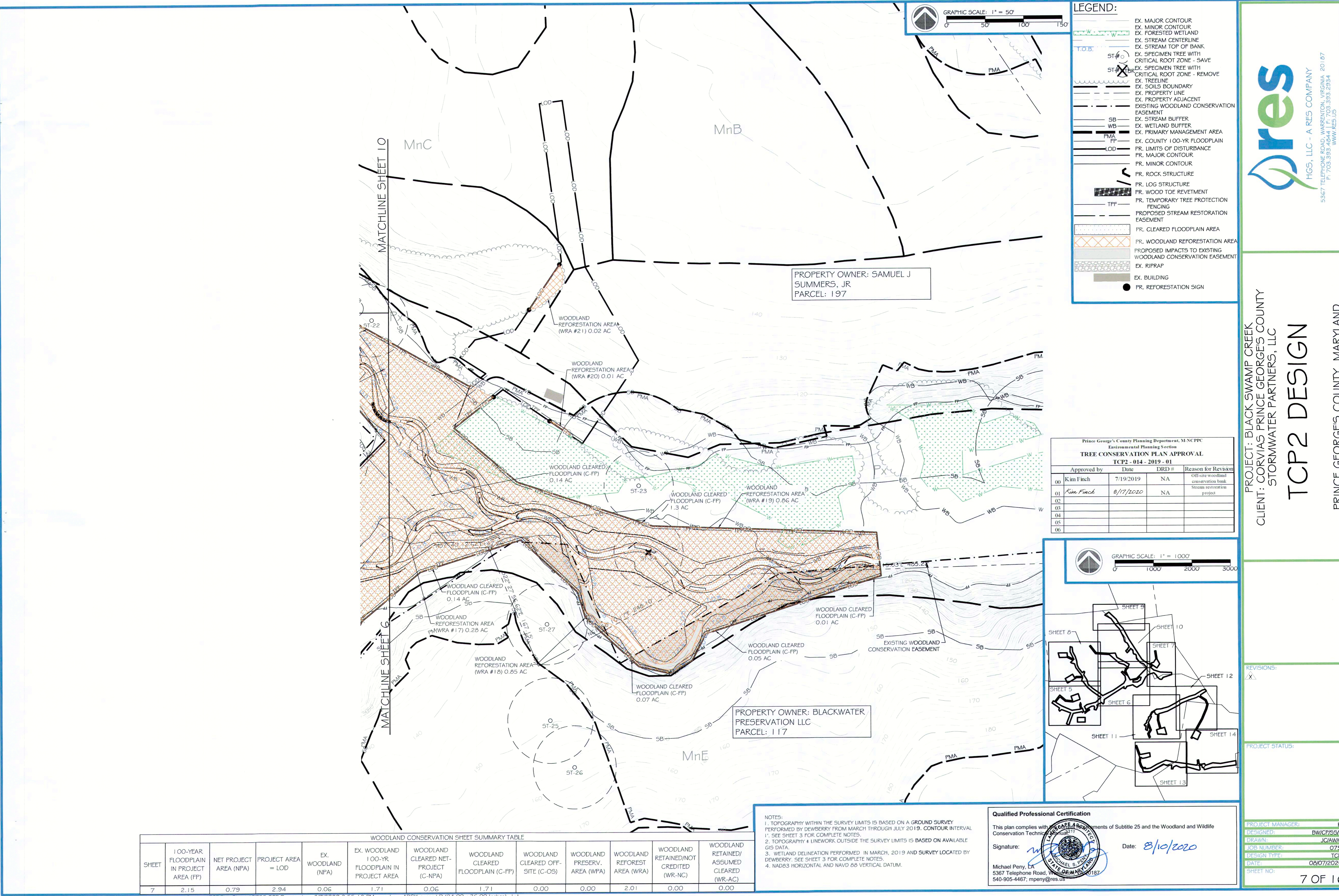
**TCP2 DESIGN**

PRINCE GEORGES COUNTY, MARYLAND

REVISIONS:  
X

PROJECT STATUS:

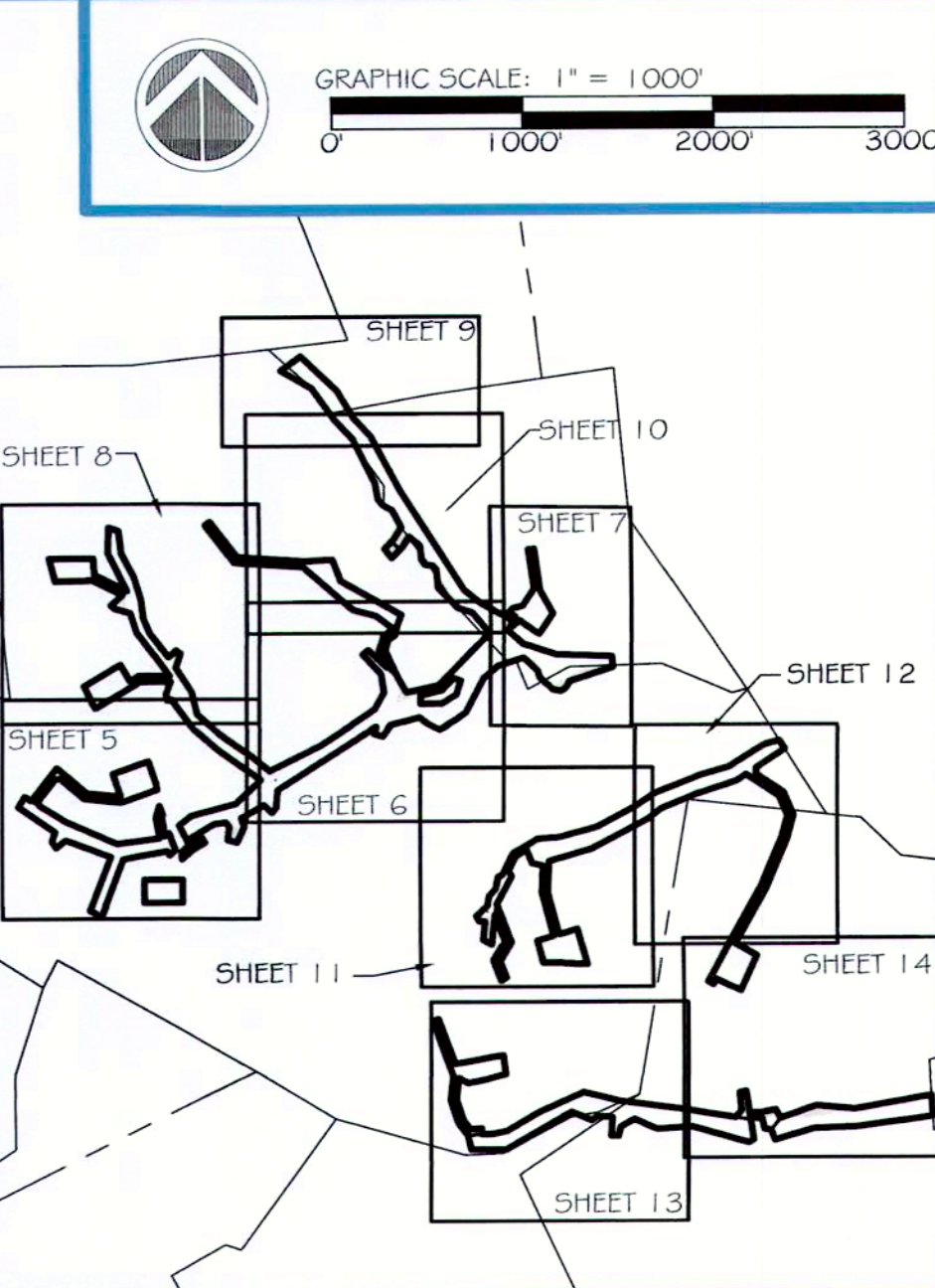
PROJECT MANAGER: RC  
DESIGNED: BW/CPS/UC  
DRAWN: JC/AV/CPC  
JOB NUMBER: 0755  
DESIGN TYPE: TCP2  
DATE: 08/07/2020  
SHEET NO: 6 OF 16



**LEGEND:**

- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- EX. FORESTED WETLAND
- EX. STREAM CENTERLINE
- EX. STREAM TOP OF BANK
- EX. SPECIMEN TREE WITH CRITICAL ROOT ZONE - SAVE
- EX. SPECIMEN TREE WITH CRITICAL ROOT ZONE - REMOVE
- EX. TREELINE
- EX. SOILS BOUNDARY
- EX. PROPERTY LINE
- EX. PROPERTY ADJACENT EXISTING WOODLAND CONSERVATION EASEMENT
- EX. STREAM BUFFER
- EX. WETLAND BUFFER
- EX. PRIMARY MANAGEMENT AREA
- EX. COUNTY 100-YR FLOODPLAIN
- PR. LIMITS OF DISTURBANCE
- PR. MAJOR CONTOUR
- PR. MINOR CONTOUR
- PR. ROCK STRUCTURE
- PR. LOG STRUCTURE
- PR. WOOD TOE REVETMENT
- PR. TEMPORARY TREE PROTECTION FENCING
- PROPOSED STREAM RESTORATION EASEMENT
- PR. CLEARED FLOODPLAIN AREA
- PR. WOODLAND REFORESTATION AREA
- PROPOSED IMPACTS TO EXISTING WOODLAND CONSERVATION EASEMENT
- EX. RIPRAP
- EX. BUILDING
- PR. REFORESTATION SIGN

Prince George's County Planning Department, MNCPPC Environmental Planning Section TREE CONSERVATION PLAN APPROVAL TCP2 - 014 - 2019 - 01			
Approved by	Date	DRD #	Reason for Revision
00 Kim Finch	7/19/2019	NA	Off-site woodland conservation bank
01 Kim Finch	8/17/2020	NA	Stream restoration project
02			
03			
04			
05			
06			



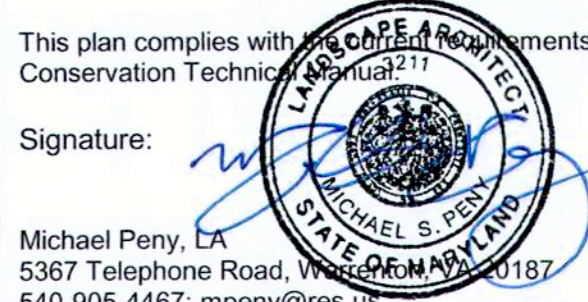
WOODLAND CONSERVATION SHEET SUMMARY TABLE												
SHEET	100-YEAR FLOODPLAIN IN PROJECT AREA (FP)	NET PROJECT AREA (NPA)	PROJECT AREA = LOD	EX. WOODLAND (NPA)	EX. WOODLAND 100-YR FLOODPLAIN IN PROJECT AREA	WOODLAND CLEARED NET-PROJECT (C-NPA)	WOODLAND CLEARED FLOODPLAIN (C-FP)	WOODLAND CLEARED OFF-SITE (C-OS)	WOODLAND PRESERV. AREA (WPA)	WOODLAND REFOREST. AREA (WRA)	WOODLAND RETAINED/NOT CREDITED (WR-NC)	WOODLAND RETAINED/ASSUMED CLEARED (WR-AC)
7	2.15	0.79	2.94	0.06	1.71	0.06	1.71	0.00	0.00	2.01	0.00	0.00

NOTES:  
1. TOPOGRAPHY WITHIN THE SURVEY LIMITS IS BASED ON A GROUND SURVEY PERFORMED BY DEWBERRY FROM MARCH THROUGH JULY 2019. CONTOUR INTERVAL 1'. SEE SHEET 3 FOR COMPLETE NOTES.  
2. TOPOGRAPHY & LINEWORK OUTSIDE THE SURVEY LIMITS IS BASED ON AVAILABLE GIS DATA.  
3. WETLAND DELINEATION PERFORMED IN MARCH, 2019 AND SURVEY LOCATED BY DEWBERRY. SEE SHEET 3 FOR COMPLETE NOTES.  
4. NAD83 HORIZONTAL AND NAVD 88 VERTICAL DATUM.

**Qualified Professional Certification**

This plan complies with the requirements of Subtitle 25 and the Woodland and Wildlife Conservation Technical Manual.

Signature:



Date: 8/10/2020

Michael Penry, PE  
5367 Telephone Road, Warrenton, OR 97146  
540-905-4467; mpenry@res.us

PROJECT: BLACK SWAMP CREEK  
CLIENT: CORVIAS PRINCE GEORGE'S COUNTY  
STORMWATER PARTNERS, LLC

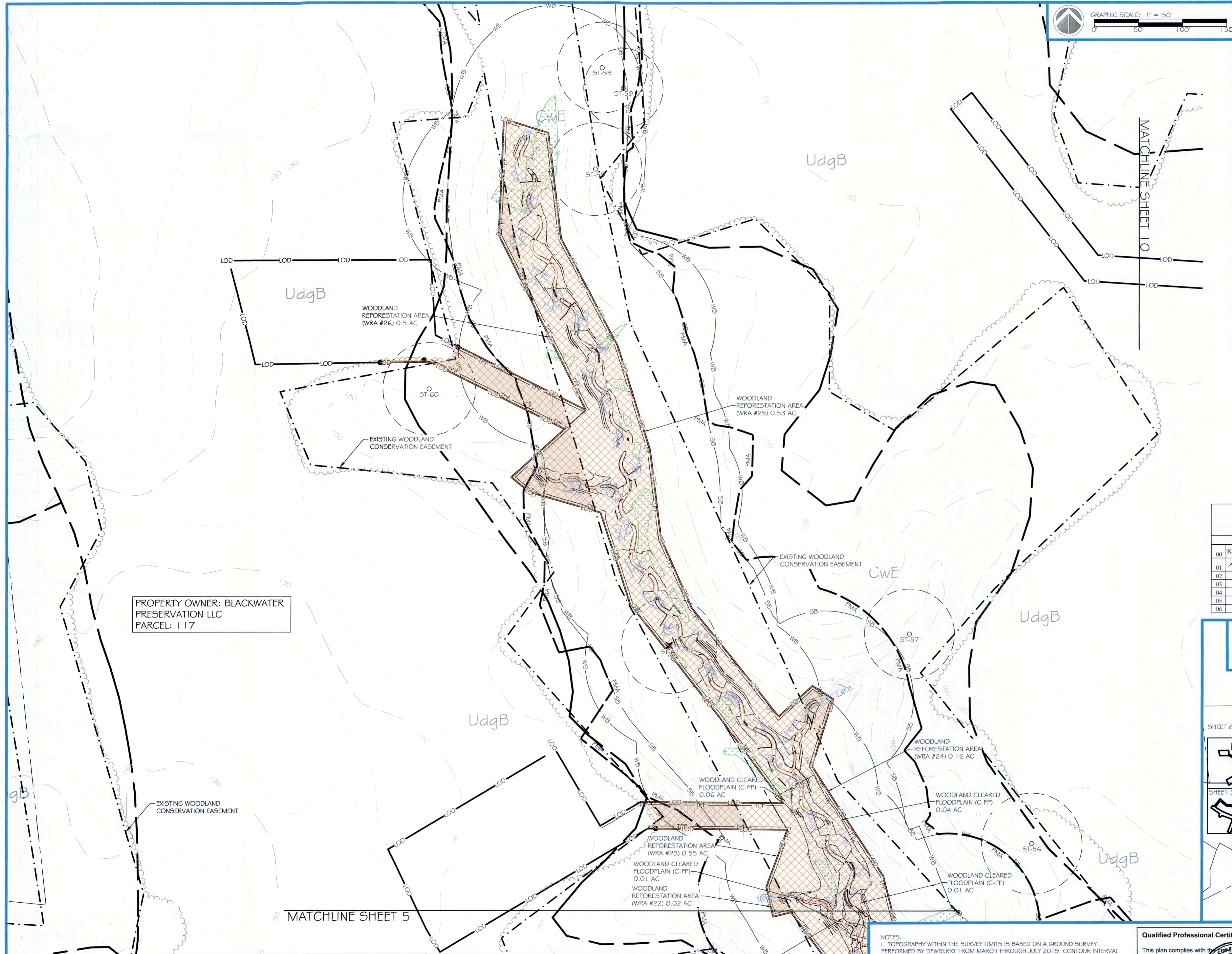
**TCP2 DESIGN**

REVISIONS:  
X

PROJECT STATUS:

PROJECT MANAGER: RC  
DESIGNED: BW/CPS/JC  
DRAWN: JC/AW/CPS  
JOB NUMBER: 0755  
DESIGN TYPE: TCP2  
DATE: 08/07/2020  
SHEET NO: 7 OF 16

**res**  
HGS, LLC - A RES COMPANY  
5367 TELEPHONE ROAD, WARRENTON, VIRGINIA 20187  
P: 703.393.4644 | F: 703.393.2934  
WWW.RES.US



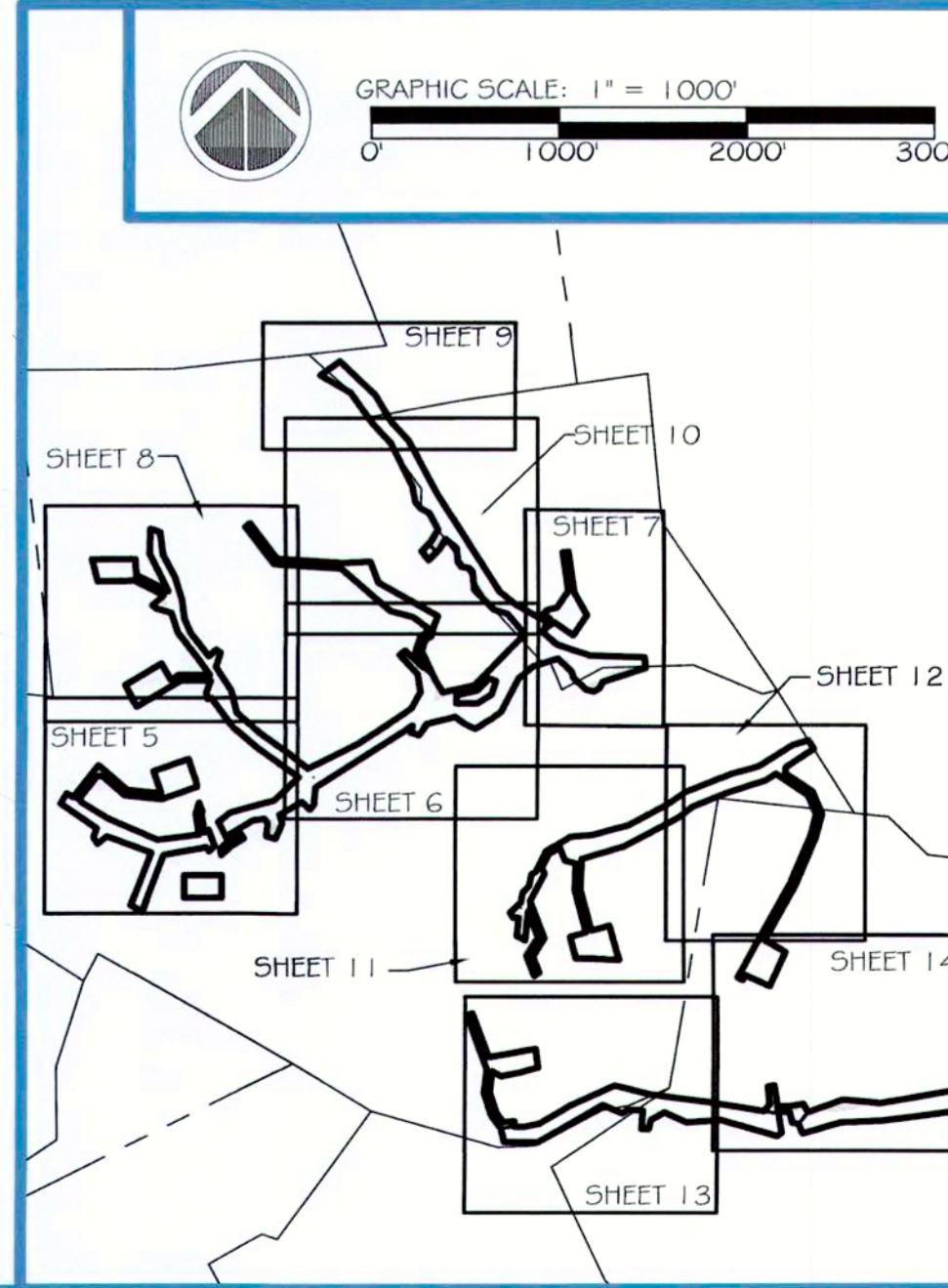
PROPERTY OWNER: BLACKWATER  
PRESERVATION LLC  
PARCEL: 117

**LEGEND:**

- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- EX. FORESTED WETLAND
- EX. STREAM CENTERLINE
- EX. STREAM TOP OF BANK
- EX. SPECIMEN TREE WITH CRITICAL ROOT ZONE - SAVE
- EX. SPECIMEN TREE WITH CRITICAL ROOT ZONE - REMOVE
- EX. TREELINE
- EX. SOILS BOUNDARY
- EX. PROPERTY LINE
- EX. PROPERTY ADJACENT
- EXISTING WOODLAND CONSERVATION EASEMENT
- EX. STREAM BUFFER
- EX. WETLAND BUFFER
- EX. PRIMARY MANAGEMENT AREA
- EX. COUNTY 100-YR FLOODPLAIN
- PR. LIMITS OF DISTURBANCE
- PR. MAJOR CONTOUR
- PR. MINOR CONTOUR
- PR. ROCK STRUCTURE
- PR. LOG STRUCTURE
- PR. WOOD TOE REVETMENT
- PR. TEMPORARY TREE PROTECTION FENCING
- PROPOSED STREAM RESTORATION EASEMENT
- PR. CLEARED FLOODPLAIN AREA
- PR. WOODLAND REFORESTATION AREA
- PROPOSED IMPACTS TO EXISTING WOODLAND CONSERVATION EASEMENT
- EX. RIPRAP
- EX. BUILDING
- PR. REFORESTATION SIGN

Prince George's County Planning Department, M-NCPPC  
Environmental Planning Section  
**TREE CONSERVATION PLAN APPROVAL**  
TCP2-014-2019-01

Approved by	Date	DRD #	Reason for Revision
00 Kim Finch	7/19/2019	NA	Off-site woodland conservation bank
01 Kim Finch	8/17/2020	NA	Stream restoration project
02			
03			
04			
05			
06			



WOODLAND CONSERVATION SHEET SUMMARY TABLE

SHEET	100-YEAR FLOODPLAIN IN PROJECT AREA (FP)	NET PROJECT AREA (NPA)	PROJECT AREA = LOD	EX. WOODLAND (NPA)	EX. WOODLAND 100-YR FLOODPLAIN IN PROJECT AREA	WOODLAND CLEARED NET-PROJECT (C-NPA)	WOODLAND CLEARED FLOODPLAIN (C-FP)	WOODLAND CLEARED OFF-SITE (C-OS)	WOODLAND PRESERV. AREA (WPA)	WOODLAND REFOREST. AREA (WRA)	WOODLAND RETAINED/NOT CREDITED (WR-NC)	WOODLAND RETAINED/ASSUMED CLEARED (WR-AC)
8	0.18	3.12	3.30	1.43	0.12	1.43	0.12	0.00	0.00	1.76	0.00	0.00

NOTES:  
1. TOPOGRAPHY WITHIN THE SURVEY LIMITS IS BASED ON A GROUND SURVEY PERFORMED BY DEWBERRY FROM MARCH THROUGH JULY 2019. CONTOUR INTERVAL 1'. SEE SHEET 3 FOR COMPLETE NOTES.  
2. TOPOGRAPHY & LINEWORK OUTSIDE THE SURVEY LIMITS IS BASED ON AVAILABLE GIS DATA.  
3. WETLAND DELINEATION PERFORMED IN MARCH, 2019 AND SURVEY LOCATED BY DEWBERRY. SEE SHEET 3 FOR COMPLETE NOTES.  
4. NAD83 HORIZONTAL AND NAVD 88 VERTICAL DATUM.

**Qualified Professional Certification**

This plan complies with the requirements of Subtitle 25 and the Woodland and Wildlife Conservation Technical Regulations.

Signature: Date: 8/10/2020

Michael Penry, LA  
5367 Telephone Road, Warrenton, OR 97146  
540-905-4467; mpenry@res.us

PROJECT: BLACK SWAMP CREEK  
CLIENT: CORVIAS PRINCE GEORGE'S COUNTY  
STORMWATER PARTNERS, LLC

# TCP2 DESIGN

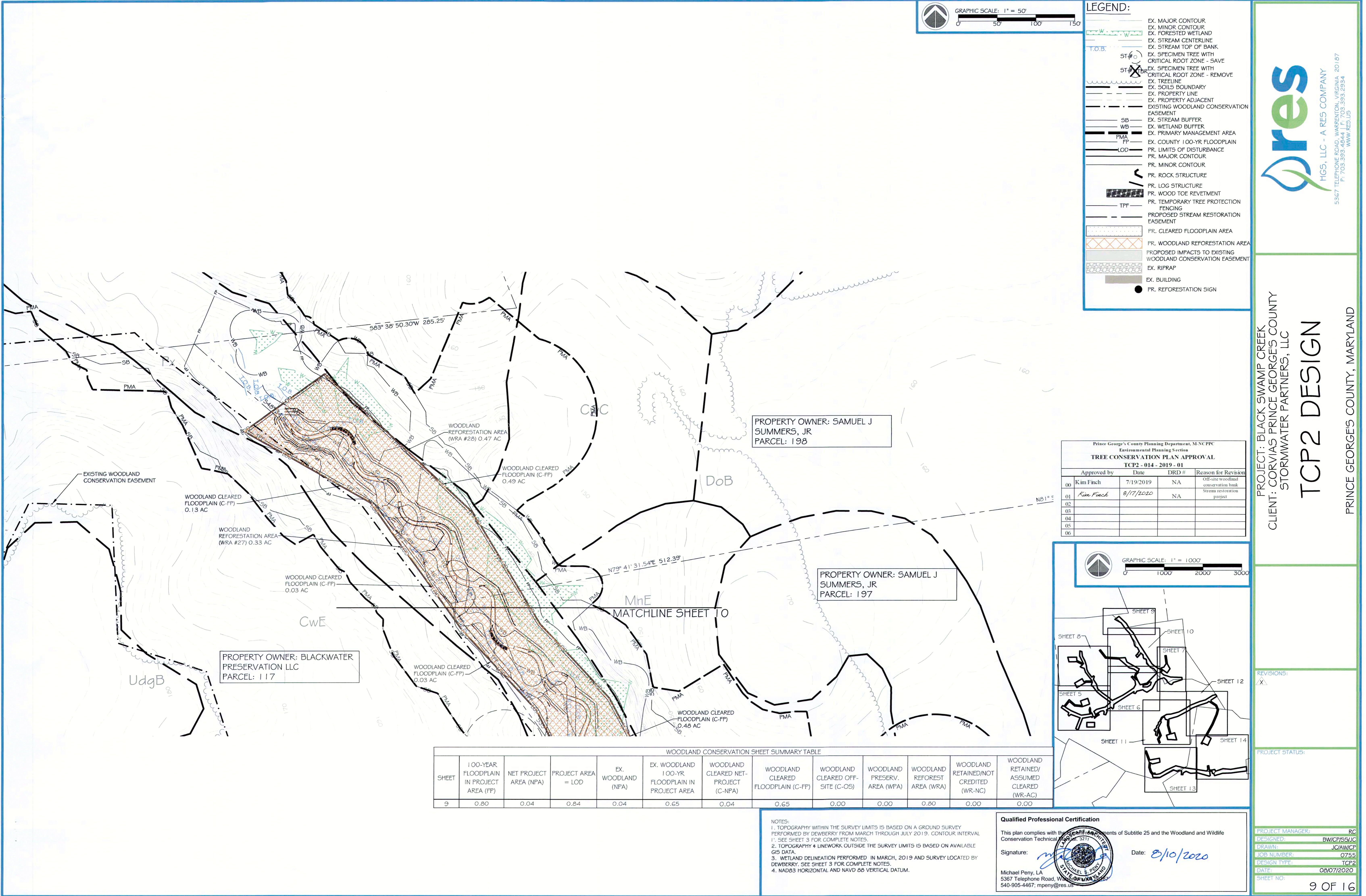
PRINCE GEORGE'S COUNTY, MARYLAND

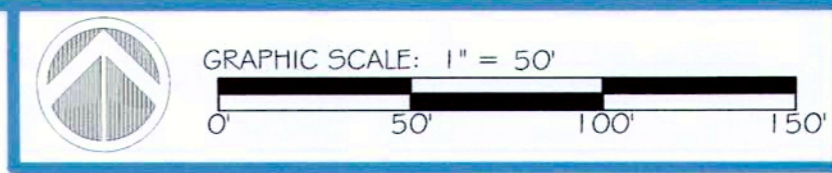
REVISIONS:  
X

PROJECT STATUS:

PROJECT MANAGER: RC  
DESIGNED: BW/CP/SS/UC  
DRAWN: JC/AV/CP  
JOB NUMBER: 0755  
DESIGN TYPE: TCP2  
DATE: 08/07/2020  
SHEET NO: 8 OF 16

HGS, LLC - A RES COMPANY  
5367 TELEPHONE ROAD, WARRENTON, VIRGINIA 20187  
P: 703.393.4844 | F: 703.393.2934  
WWW.RES.US



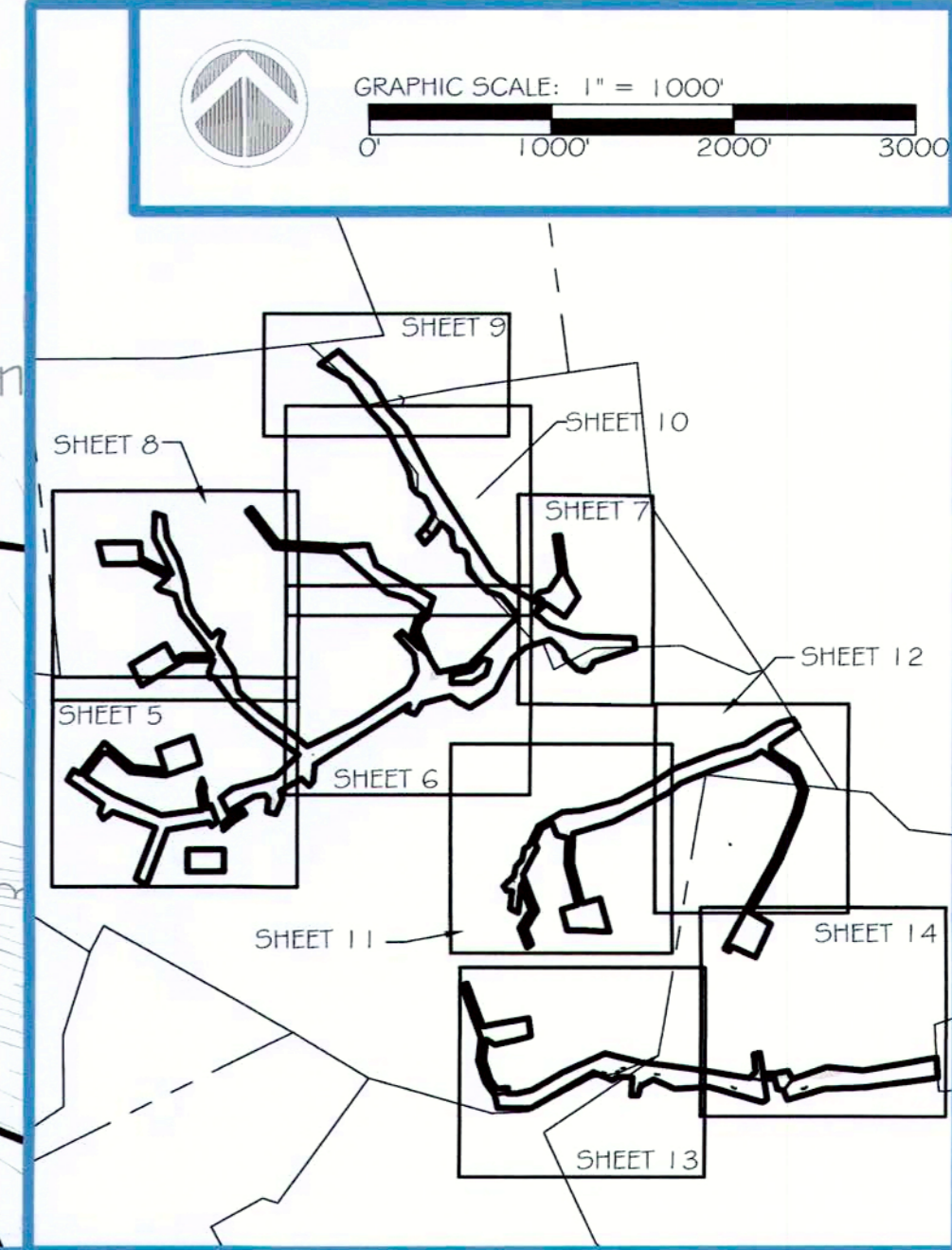
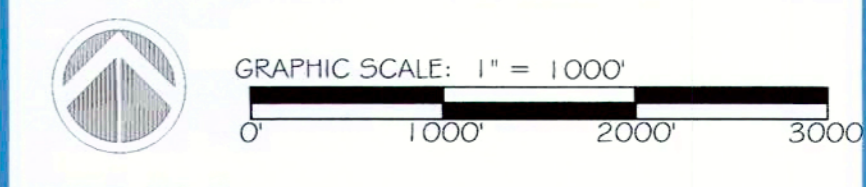


LEGEND:

[Symbol]	EX. MAJOR CONTOUR
[Symbol]	EX. MINOR CONTOUR
[Symbol]	EX. FORESTED WETLAND
[Symbol]	EX. STREAM CENTERLINE
[Symbol]	EX. STREAM TOP OF BANK
[Symbol]	EX. SPECIMEN TREE WITH CRITICAL ROOT ZONE - SAVE
[Symbol]	EX. SPECIMEN TREE WITH CRITICAL ROOT ZONE - REMOVE
[Symbol]	EX. TREELINE
[Symbol]	EX. SOILS BOUNDARY
[Symbol]	EX. PROPERTY LINE
[Symbol]	EX. PROPERTY ADJACENT EXISTING WOODLAND CONSERVATION EASEMENT
[Symbol]	EX. STREAM BUFFER
[Symbol]	EX. WETLAND BUFFER
[Symbol]	EX. PRIMARY MANAGEMENT AREA
[Symbol]	EX. COUNTY 100-YR FLOODPLAIN
[Symbol]	PR. LIMITS OF DISTURBANCE
[Symbol]	PR. MAJOR CONTOUR
[Symbol]	PR. MINOR CONTOUR
[Symbol]	PR. ROCK STRUCTURE
[Symbol]	PR. LOG STRUCTURE
[Symbol]	PR. WOOD TOE REVETMENT
[Symbol]	PR. TEMPORARY TREE PROTECTION FENCING
[Symbol]	PROPOSED STREAM RESTORATION EASEMENT
[Symbol]	PR. CLEARED FLOODPLAIN AREA
[Symbol]	PR. WOODLAND REFORESTATION AREA
[Symbol]	PROPOSED IMPACTS TO EXISTING WOODLAND CONSERVATION EASEMENT
[Symbol]	EX. RIPRAP
[Symbol]	EX. BUILDING
[Symbol]	PR. REFORESTATION SIGN

Prince George's County Planning Department, M-NCPPC  
Environmental Planning Section  
**TREE CONSERVATION PLAN APPROVAL**  
TCP2 - 014 - 2019 - 01

Approved by	Date	DRD #	Reason for Revision
00 Kim Finch	7/19/2019	NA	Off-site woodland conservation bank
01 Kim Finch	8/17/2020	NA	Stream restoration project
02			
03			
04			
05			
06			



WOODLAND CONSERVATION SHEET SUMMARY TABLE

SHEET	100-YEAR FLOODPLAIN IN PROJECT AREA (FP)	NET PROJECT AREA (NPA)	PROJECT AREA = LOD	EX. WOODLAND (NPA)	EX. WOODLAND 100-YR FLOODPLAIN IN PROJECT AREA	WOODLAND CLEARED NET-PROJECT (C-NPA)	WOODLAND CLEARED FLOODPLAIN (C-FP)	WOODLAND CLEARED OFF-SITE (C-OS)	WOODLAND PRESERV. AREA (WPA)	WOODLAND REFOREST. AREA (WRA)	WOODLAND RETAINED/NOT CREDITED (WR-NC)	WOODLAND RETAINED/ ASSUMED CLEARED (WR-AC)
10	2.27	1.37	3.64	0.41	1.68	0.41	1.68	0.00	0.00	2.57	0.00	0.00

NOTES:  
1. TOPOGRAPHY WITHIN THE SURVEY LIMITS IS BASED ON A GROUND SURVEY PERFORMED BY DEWBERRY FROM MARCH THROUGH JULY 2019. CONTOUR INTERVAL 1'. SEE SHEET 3 FOR COMPLETE NOTES.  
2. TOPOGRAPHY & LINEWORK OUTSIDE THE SURVEY LIMITS IS BASED ON AVAILABLE GIS DATA.  
3. WETLAND DELINEATION PERFORMED IN MARCH, 2019 AND SURVEY ASSUMED BY DEWBERRY. SEE SHEET 3 FOR COMPLETE NOTES.  
4. NAD83 HORIZONTAL AND NAVD 88 VERTICAL DATUM.

**Qualified Professional Certification**

This plan complies with the requirements of Subtitle 25 and the Woodland and Wildlife Conservation Technical Regulations.

Signature: Date: 8/10/2020

Michael S. Penry, L.A.  
5367 Telephone Road, Vienna, VA 22181  
540-905-4467; mpenry@res.us

PROJECT: BLACK SWAMP CREEK  
CLIENT: CORVIAS PRINCE GEORGE'S COUNTY  
STORMWATER PARTNERS, LLC

# TCP2 DESIGN

PRINCE GEORGE'S COUNTY, MARYLAND

REVISIONS:

1	X
---	---

PROJECT STATUS:

PROJECT MANAGER: RC

DESIGNED: BW/CP/SS/UC

DRAWN: JCA/W/CP

JOB NUMBER: 0755

DESIGN TYPE: TCP2

DATE: 08/07/2020

SHEET NO: 10 OF 16

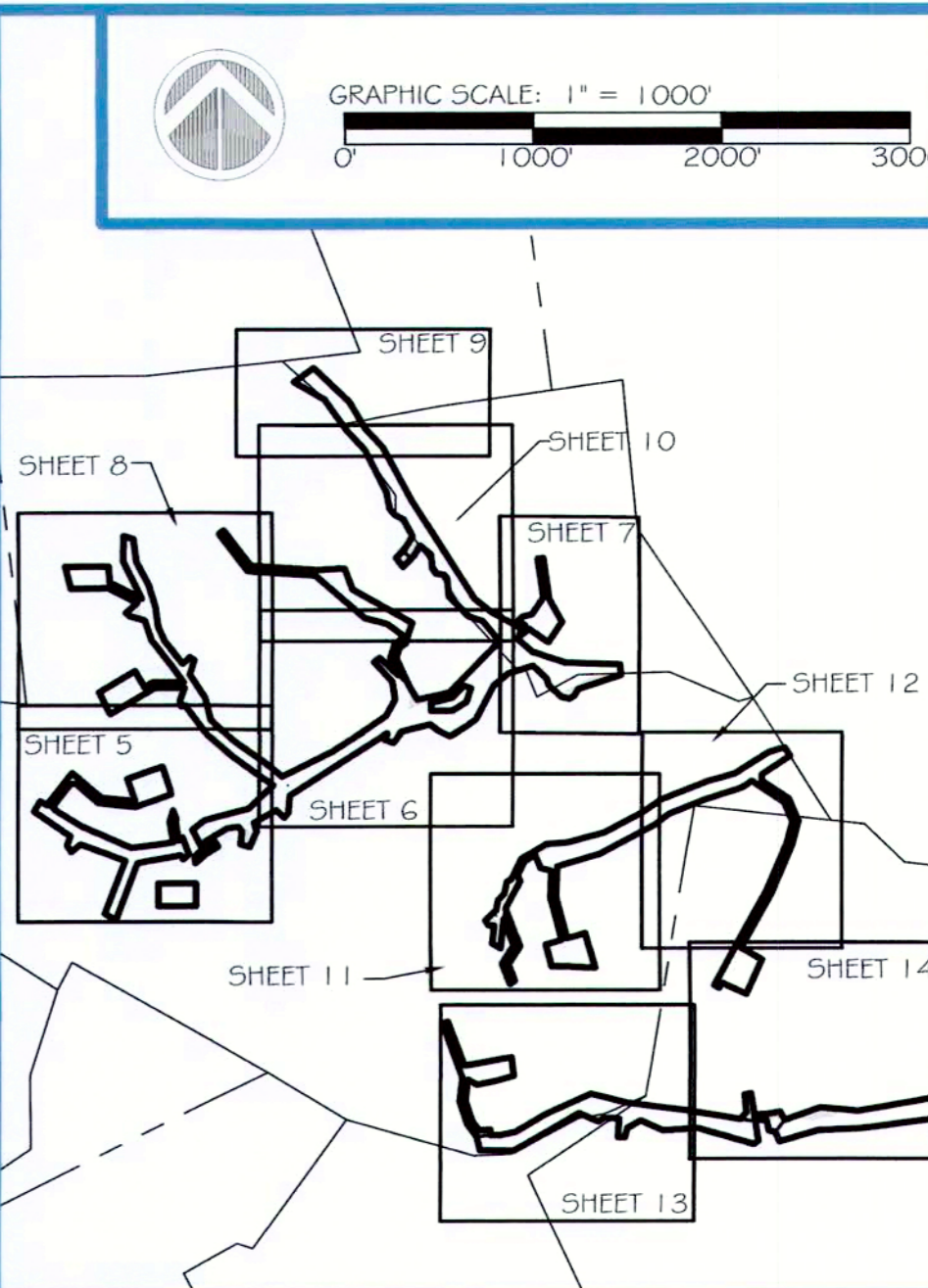
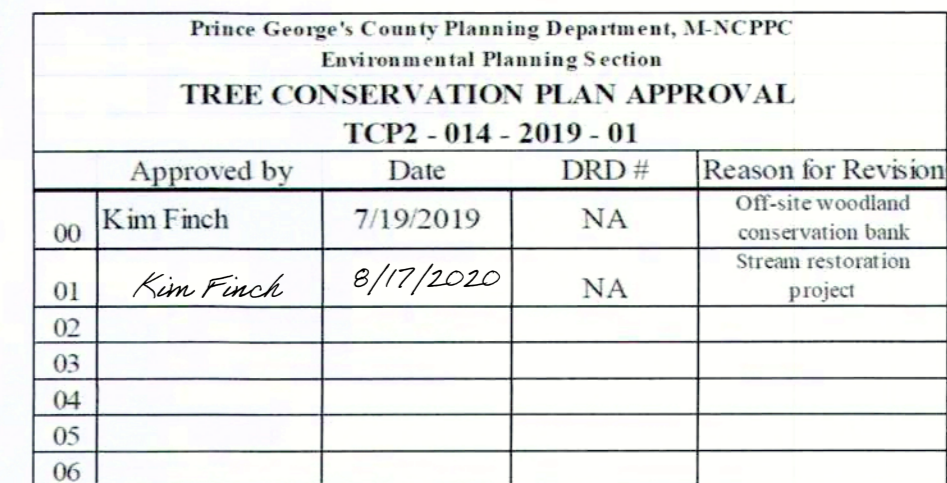
**res**

HCS, LLC - A RES COMPANY

5367 TELEPHONE ROAD, WARRENTON, VIRGINIA 20187  
P: 703.393.4944 | F: 703.393.2934  
WWW.RES.US

GRAPHIC SCALE: 1" = 50'

	EX. MAJOR CONTOUR
	EX. MINOR CONTOUR
	EX. FORESTED WETLAND
	EX. STREAM CENTERLINE
	EX. STREAM TOP OF BANK
	EX. SPECIMEN TREE WITH CRITICAL ROOT ZONE - SAVE
	EX. SPECIMEN TREE WITH CRITICAL ROOT ZONE - REMOVE
	EX. TREELINE
	EX. SOILS BOUNDARY
	EX. PROPERTY LINE
	EX. PROPERTY ADJACENT
	EXISTING WOODLAND CONSERVATION EASEMENT
	EX. STREAM BUFFER
	EX. WETLAND BUFFER
	EX. PRIMARY MANAGEMENT AREA
	EX. COUNTY 100-YR FLOODPLAIN
	FR. LIMITS OF DISTURBANCE
	PR. MAJOR CONTOUR
	PR. MINOR CONTOUR
	PR. ROCK STRUCTURE
	PR. LOG STRUCTURE
	PR. WOOD TOE REVETMENT
	PR. TEMPORARY TREE PROTECTION FENCING
	PROPOSED STREAM RESTORATION EASEMENT
	PR. CLEARED FLOODPLAIN AREA
	PR. WOODLAND REFORESTATION AREA
	PROPOSED IMPACTS TO EXISTING WOODLAND CONSERVATION EASEMENT
	EX. RIFRAP
	EX. BUILDING
	PR. REFORESTATION SIGN



NOTES:

1. TOPOGRAPHY WITHIN THE SURVEY LIMITS IS BASED ON A GROUND SURVEY PERFORMED BY DEWBERRY FROM MARCH THROUGH JULY 2019. CONTOUR INTERVAL 1'. SEE SHEET 3 FOR COMPLETE NOTES.
2. TOPOGRAPHY & LINEWORK OUTSIDE THE SURVEY LIMITS IS BASED ON AVAILABLE GIS DATA.
3. WETLAND DELINEATION PERFORMED IN MARCH, 2019 AND SURVEY LOCATED BY DEWBERRY. SEE SHEET 3 FOR COMPLETE NOTES.
4. NAD83 HORIZONTAL AND NAVD 88 VERTICAL DATUM.

### Qualified Professional Certification

This plan complies with the current requirements of Subtitle 25 and the Woodland and Wildlife

Signature: \_\_\_\_\_

Date: 8/10/2020

Michael Peny, LA  
5367 Telephone Road, Warrenton, OR 97146  
540-905-4467; mpeny@res.us

PROJECT: BLACK SWAMP CREEK  
CLIENT: CORVIAS PRINCE GEORGE'S COUNTY  
STORMWATER PARTNERS, LLC

# TCP2 DESIGN

PRINCE GEORGE'S COUNTY, MARYLAND



HGS, LLC - A RES COMPANY

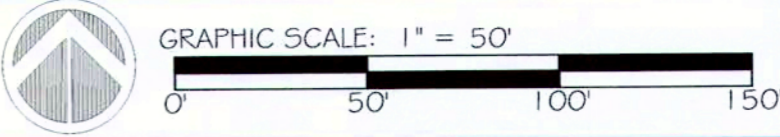
5367 TELEPHONE ROAD, WARRENTON, VIRGINIA 20187  
P: 703.393.4844 | F: 703.393.2934

REVISIONS:

PROJECT STATUS:

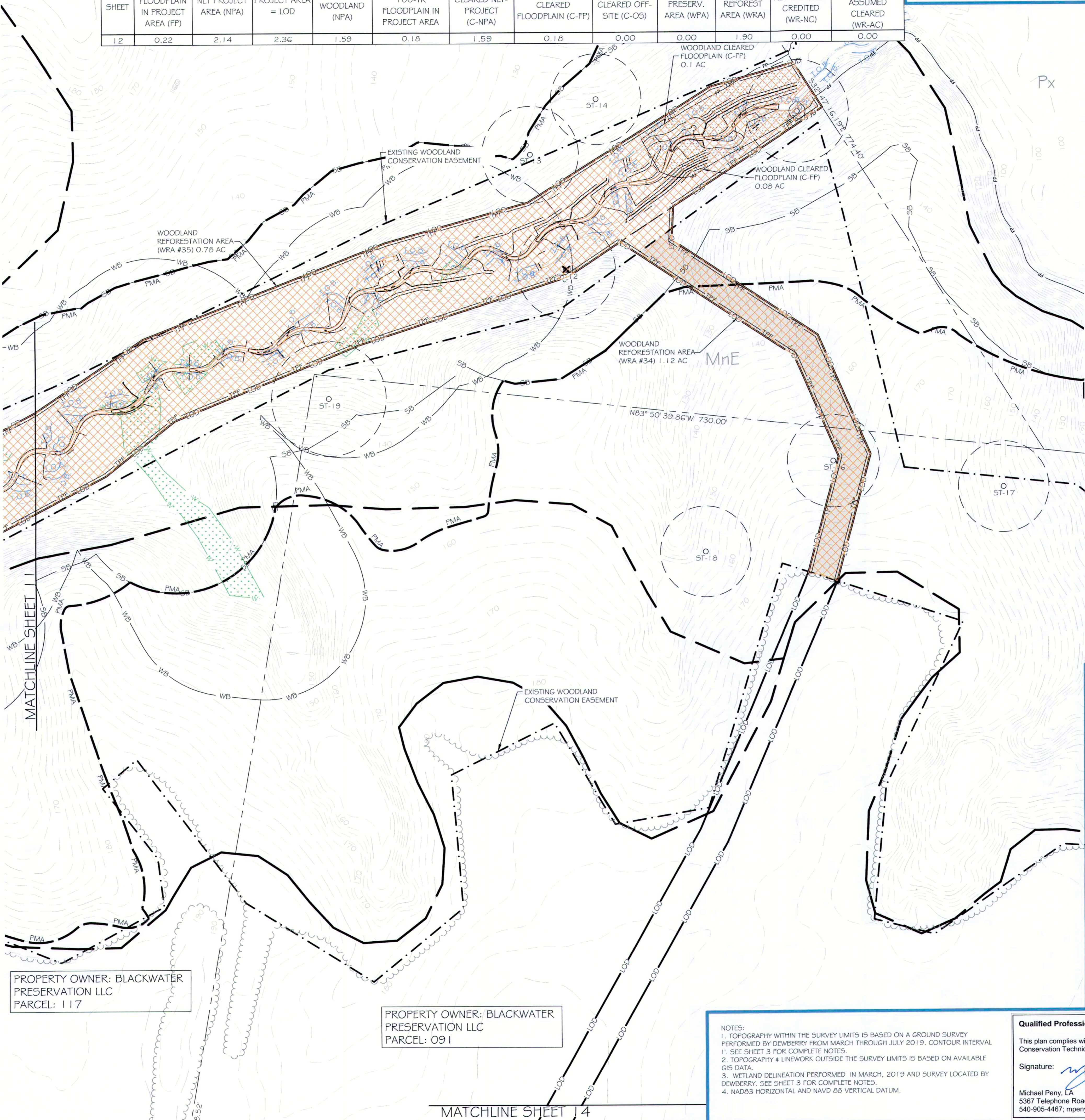
PROJECT MANAGER:	RO
DESIGNED:	BW/CP/SS/JC
DRAWN:	JC/AW/CF
JOB NUMBER:	0755
DESIGN TYPE:	TCP2
DATE:	08/07/2020
SHEET NO:	

WOODLAND CONSERVATION SHEET SUMMARY TABLE												
SHEET	100-YEAR FLOODPLAIN IN PROJECT AREA (FP)	NET PROJECT AREA (NPA)	PROJECT AREA = LOD	EX. WOODLAND (NPA)	EX. WOODLAND 100-YR FLOODPLAIN IN PROJECT AREA	WOODLAND CLEARED NET-PROJECT (C-NPA)	WOODLAND CLEARED FLOODPLAIN (C-FP)	WOODLAND CLEARED OFF-SITE (C-OS)	WOODLAND PRESERV. AREA (WPA)	WOODLAND REFOREST. AREA (WRA)	WOODLAND RETAINED/NOT CREDITED (WR-NC)	WOODLAND RETAINED/ASSUMED CLEARED (WR-AC)
12	0.22	2.14	2.36	1.59	0.18	1.59	0.18	0.00	0.00	1.90	0.00	0.00

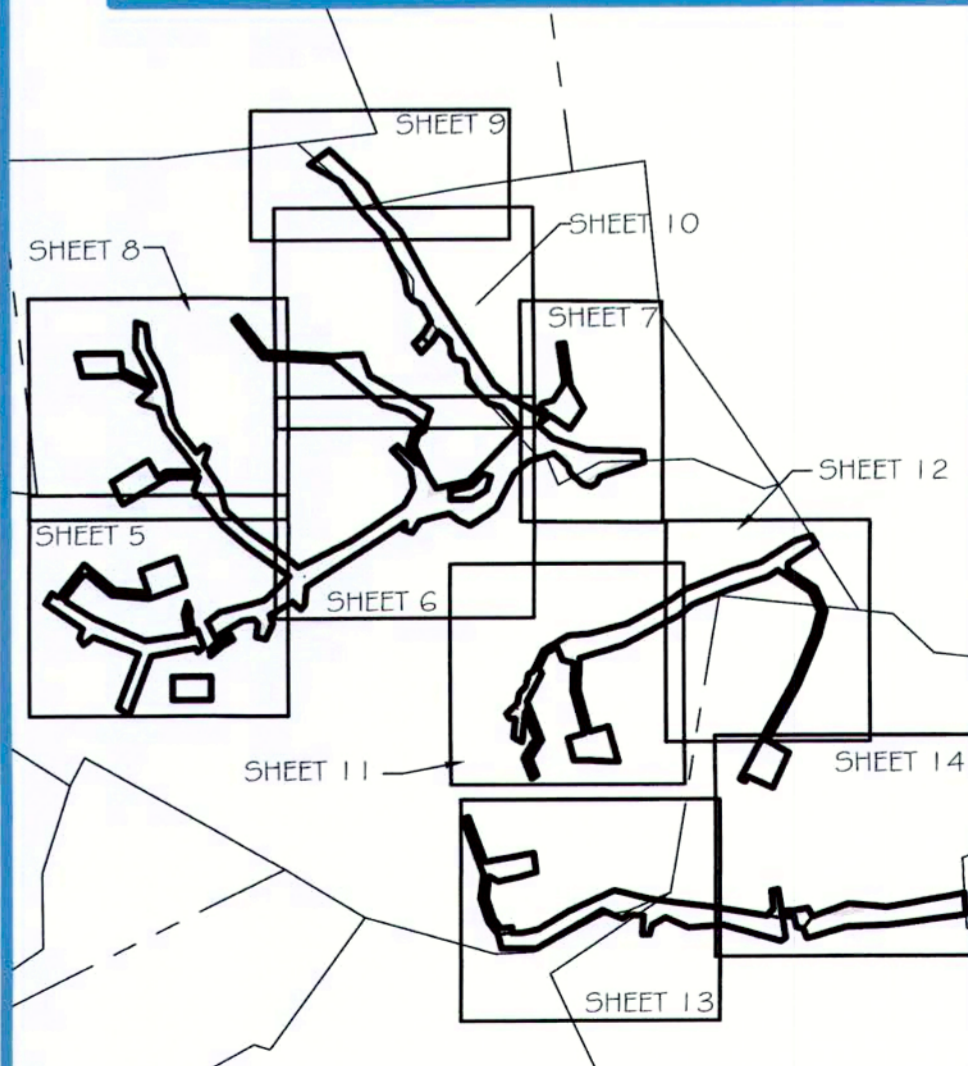
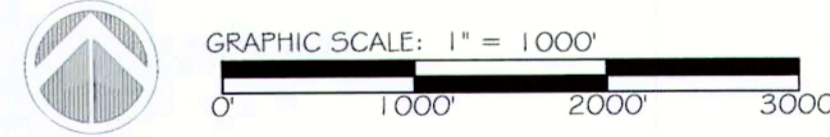


**LEGEND:**

- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- EX. FORESTED WETLAND
- EX. STREAM CENTERLINE
- EX. STREAM TOP OF BANK
- EX. SPECIMEN TREE WITH CRITICAL ROOT ZONE - SAVE
- EX. SPECIMEN TREE WITH CRITICAL ROOT ZONE - REMOVE
- EX. TREELINE
- EX. SOILS BOUNDARY
- EX. PROPERTY LINE
- EX. PROPERTY ADJACENT EXISTING WOODLAND CONSERVATION EASEMENT
- EX. STREAM BUFFER
- EX. WETLAND BUFFER
- EX. PRIMARY MANAGEMENT AREA
- EX. COUNTY 100-YR FLOODPLAIN
- PR. LIMITS OF DISTURBANCE
- PR. MAJOR CONTOUR
- PR. MINOR CONTOUR
- PR. ROCK STRUCTURE
- PR. LOG STRUCTURE
- PR. WOOD TOE REVETMENT
- PR. TEMPORARY TREE PROTECTION FENCING
- PROPOSED STREAM RESTORATION EASEMENT
- PR. CLEARED FLOODPLAIN AREA
- PR. WOODLAND REFORESTATION AREA
- PROPOSED IMPACTS TO EXISTING WOODLAND CONSERVATION EASEMENT
- EX. RIPRAP
- EX. BUILDING
- PR. REFORESTATION SIGN



Prince George's County Planning Department, MNCPPC Environmental Planning Section TREE CONSERVATION PLAN APPROVAL TCP2 - 014 - 2019 - 01			
Approved by	Date	DRD #	Reason for Revision
00 Kim Finch	7/19/2019	NA	Off-site woodland conservation bank
01 Kim Finch	8/17/2020	NA	Stream restoration project
02			
03			
04			
05			
06			



PROPERTY OWNER: BLACKWATER PRESERVATION LLC  
PARCEL: 117

PROPERTY OWNER: BLACKWATER PRESERVATION LLC  
PARCEL: 091

NOTES:  
1. TOPOGRAPHY WITHIN THE SURVEY LIMITS IS BASED ON A GROUND SURVEY PERFORMED BY DEWBERRY FROM MARCH THROUGH JULY 2019. CONTOUR INTERVAL 1'. SEE SHEET 3 FOR COMPLETE NOTES.  
2. TOPOGRAPHY & LINEWORK OUTSIDE THE SURVEY LIMITS IS BASED ON AVAILABLE GIS DATA.  
3. WETLAND DELINEATION PERFORMED IN MARCH, 2019 AND SURVEY LOCATED BY DEWBERRY. SEE SHEET 3 FOR COMPLETE NOTES.  
4. NAD83 HORIZONTAL AND NAVD 88 VERTICAL DATUM.

**Qualified Professional Certification**

This plan complies with the requirements of Subtitle 25 and the Woodland and Wildlife Conservation Technical Code.

Signature: Date: 8/10/2020

Michael Penny, LA  
5367 Telephone Road, Warrenton, OR 97146  
540-905-4467; mpenny@res.us

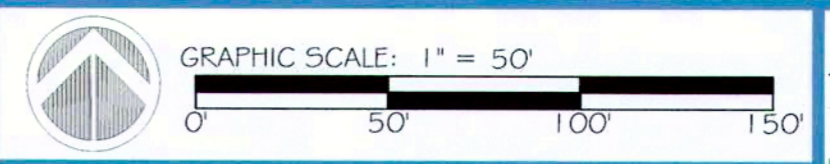
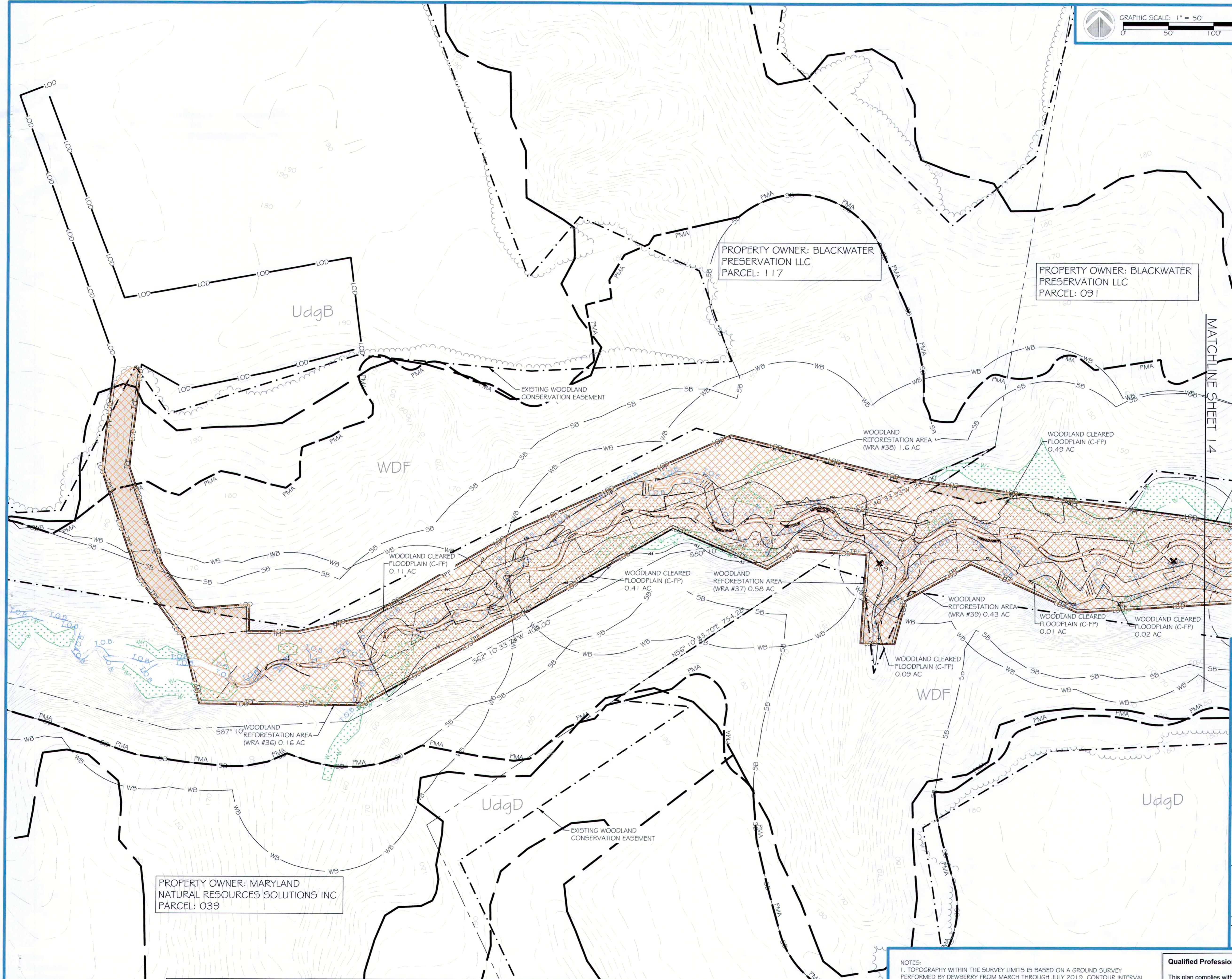
PROJECT: BLACK SWAMP CREEK  
CLIENT: CORVIAS PRINCE GEORGE'S COUNTY  
STORMWATER PARTNERS, LLC  
**TCP2 DESIGN**

REVISIONS:  
X

PROJECT STATUS:

PROJECT MANAGER: RC  
DESIGNED: BWCP/SS/JC  
DRAWN: JC/AM/CP  
JOB NUMBER: 0755  
DESIGN TYPE: TCP2  
DATE: 08/07/2020  
SHEET NO: 12 OF 16

**res**  
HGS, LLC - A RES COMPANY  
5367 TELEPHONE ROAD, WARRENTON, VIRGINIA 20187  
P: 703.393.4644 | F: 703.393.2934  
WWW.RES.US

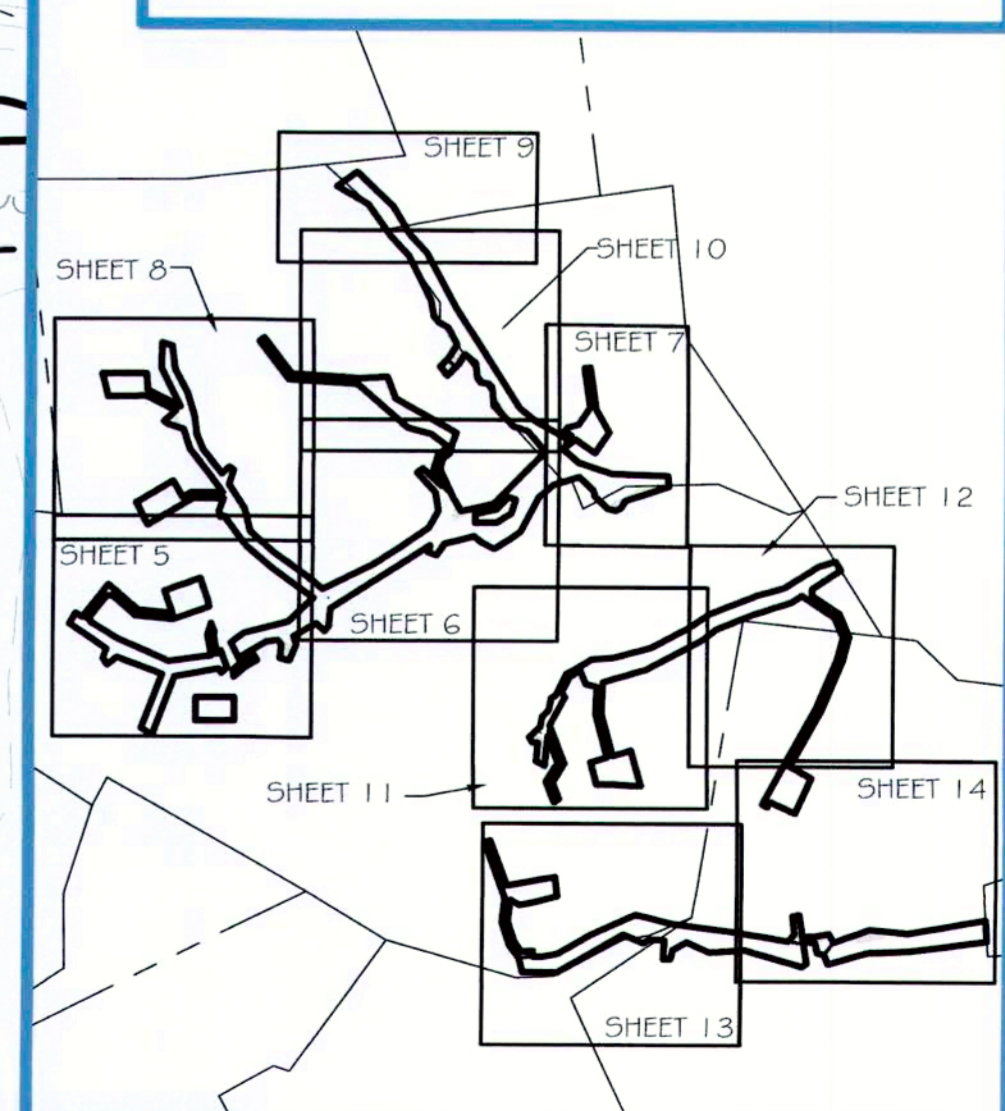
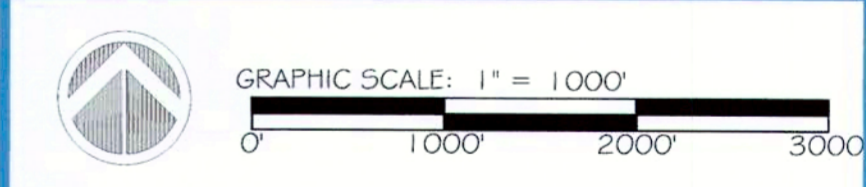


**LEGEND:**

- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- EX. FORESTED WETLAND
- EX. STREAM CENTERLINE
- EX. STREAM TOP OF BANK
- EX. SPECIMEN TREE WITH CRITICAL ROOT ZONE - SAVE
- EX. SPECIMEN TREE WITH CRITICAL ROOT ZONE - REMOVE
- EX. TREELINE
- EX. SOILS BOUNDARY
- EX. PROPERTY LINE
- EX. PROPERTY ADJACENT
- EXISTING WOODLAND CONSERVATION EASEMENT
- SB - EX. STREAM BUFFER
- WB - EX. WETLAND BUFFER
- PMA - EX. PRIMARY MANAGEMENT AREA
- FP - EX. COUNTY 100-YR FLOODPLAIN
- LOD - PR. LIMITS OF DISTURBANCE
- PR. MAJOR CONTOUR
- PR. MINOR CONTOUR
- PR. ROCK STRUCTURE
- PR. LOG STRUCTURE
- PR. WOOD TOE REVETMENT
- TPF - PR. TEMPORARY TREE PROTECTION FENCING
- PROPOSED STREAM RESTORATION EASEMENT
- PR. CLEARED FLOODPLAIN AREA
- PR. WOODLAND REFORESTATION AREA
- PROPOSED IMPACTS TO EXISTING WOODLAND CONSERVATION EASEMENT
- EX. RIPRAP
- EX. BUILDING
- PR. REFORESTATION SIGN

Prince George's County Planning Department, M-NCPPC  
Environmental Planning Section  
**TREE CONSERVATION PLAN APPROVAL**  
TCP2 - 014 - 2019 - 01

Approved by	Date	DRD #	Reason for Revision
00 Kim Finch	7/19/2019	NA	Off-site woodland conservation bank
01 Kim Finch	8/17/2020	NA	Stream restoration project
02			
03			
04			
05			
06			



PROPERTY OWNER: MARYLAND NATURAL RESOURCES SOLUTIONS INC  
PARCEL: 039

PROPERTY OWNER: BLACKWATER PRESERVATION LLC  
PARCEL: 117

PROPERTY OWNER: BLACKWATER PRESERVATION LLC  
PARCEL: 091

WOODLAND CONSERVATION SHEET SUMMARY TABLE

SHEET	100-YEAR FLOODPLAIN IN PROJECT AREA (FP)	NET PROJECT AREA (NPA)	PROJECT AREA = LOD	EX. WOODLAND (NPA)	EX. WOODLAND 100-YR FLOODPLAIN IN PROJECT AREA	WOODLAND CLEARED NET-PROJECT (C-NPA)	WOODLAND CLEARED FLOODPLAIN (C-FP)	WOODLAND CLEARED OFF-SITE (C-OS)	WOODLAND PRESERV. AREA (WPA)	WOODLAND REFOREST. AREA (WRA)	WOODLAND RETAINED/NOT CREDITED (WR-NC)	WOODLAND RETAINED/CLEARED (WR-AC)
13	1.51	2.20	3.71	1.31	1.13	1.31	1.13	0.00	0.00	2.77	0.00	0.00

**NOTES:**  
1. TOPOGRAPHY WITHIN THE SURVEY LIMITS IS BASED ON A GROUND SURVEY PERFORMED BY DEWBERRY FROM MARCH THROUGH JULY 2019. CONTOUR INTERVAL 1'. SEE SHEET 3 FOR COMPLETE NOTES.  
2. TOPOGRAPHY & LINEWORK OUTSIDE THE SURVEY LIMITS IS BASED ON AVAILABLE GIS DATA.  
3. WETLAND DELINEATION PERFORMED IN MARCH, 2019 AND SURVEY LOCATED BY DEWBERRY. SEE SHEET 3 FOR COMPLETE NOTES.  
4. NAD83 HORIZONTAL AND NAVD 88 VERTICAL DATUM.

**Qualified Professional Certification**

This plan complies with the requirements of Subtitle 25 and the Woodland and Wildlife Conservation Technical Regulations.

Signature:   
Michael Penz, LA  
5367 Telephone Road, Warrenton, OR 97146  
540-905-4467, mpenz@res.us

Date: 8/10/2020

PROJECT: BLACK SWAMP CREEK  
CLIENT: CORVIAS PRINCE GEORGES COUNTY  
STORMWATER PARTNERS, LLC  
**TCP2 DESIGN**  
PRINCE GEORGES COUNTY, MARYLAND

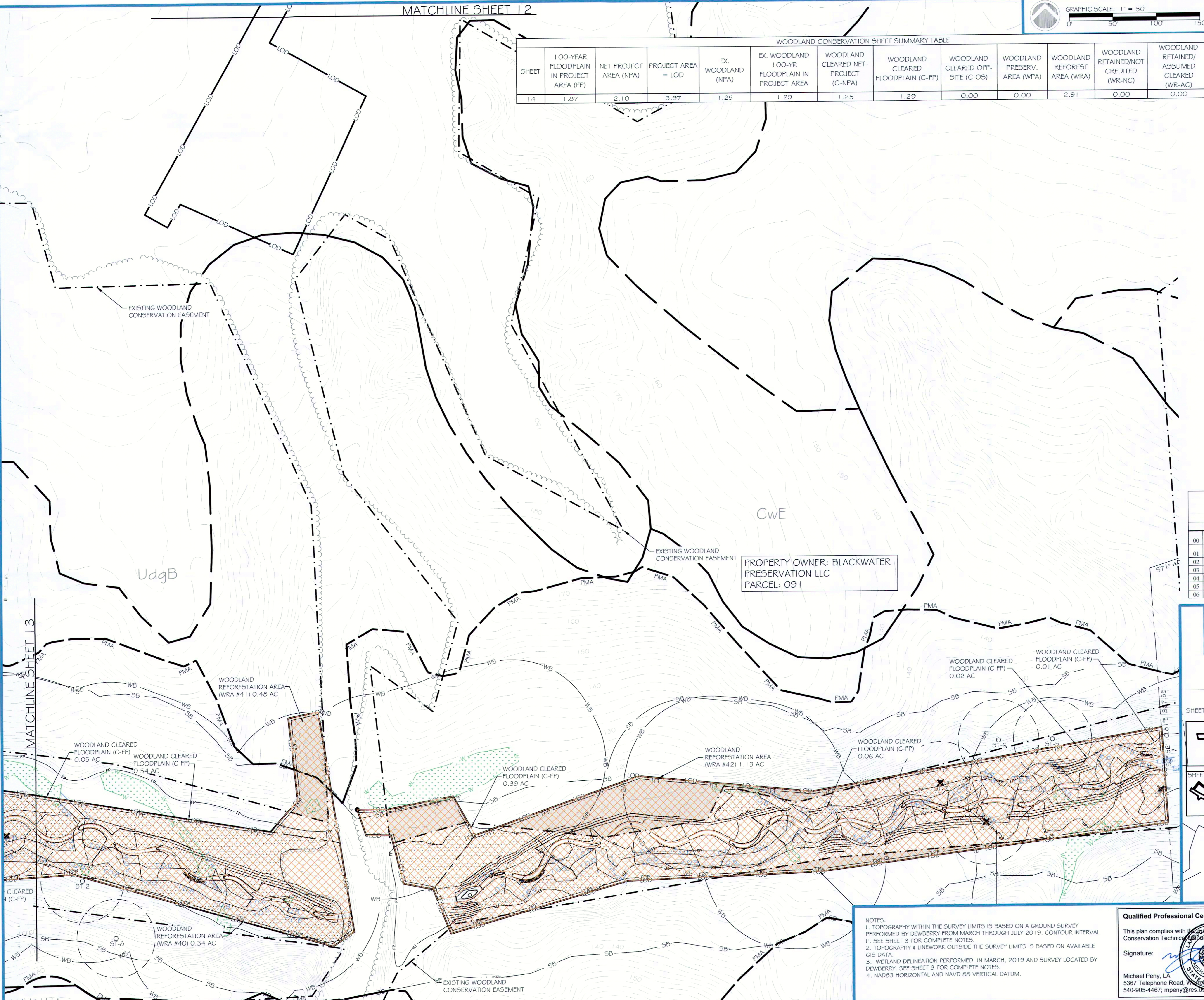
**REVISIONS:**

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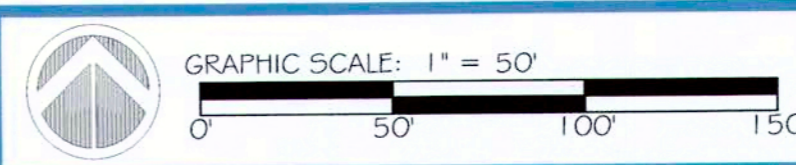
**PROJECT STATUS:**

**PROJECT MANAGER:** RC  
**DESIGNED:** BWCPSS/JC  
**DRAWN:** JC/AMCP  
**JOB NUMBER:** 0755  
**DESIGN TYPE:** TCP2  
**DATE:** 08/07/2020  
**SHEET NO:** 13 OF 16

HGS, LLC - A RES COMPANY  
5367 TELEPHONE ROAD, WARRENTON, OREGON 97146  
P: 703.333.4444 F: 703.333.2334 WWW.RES.US



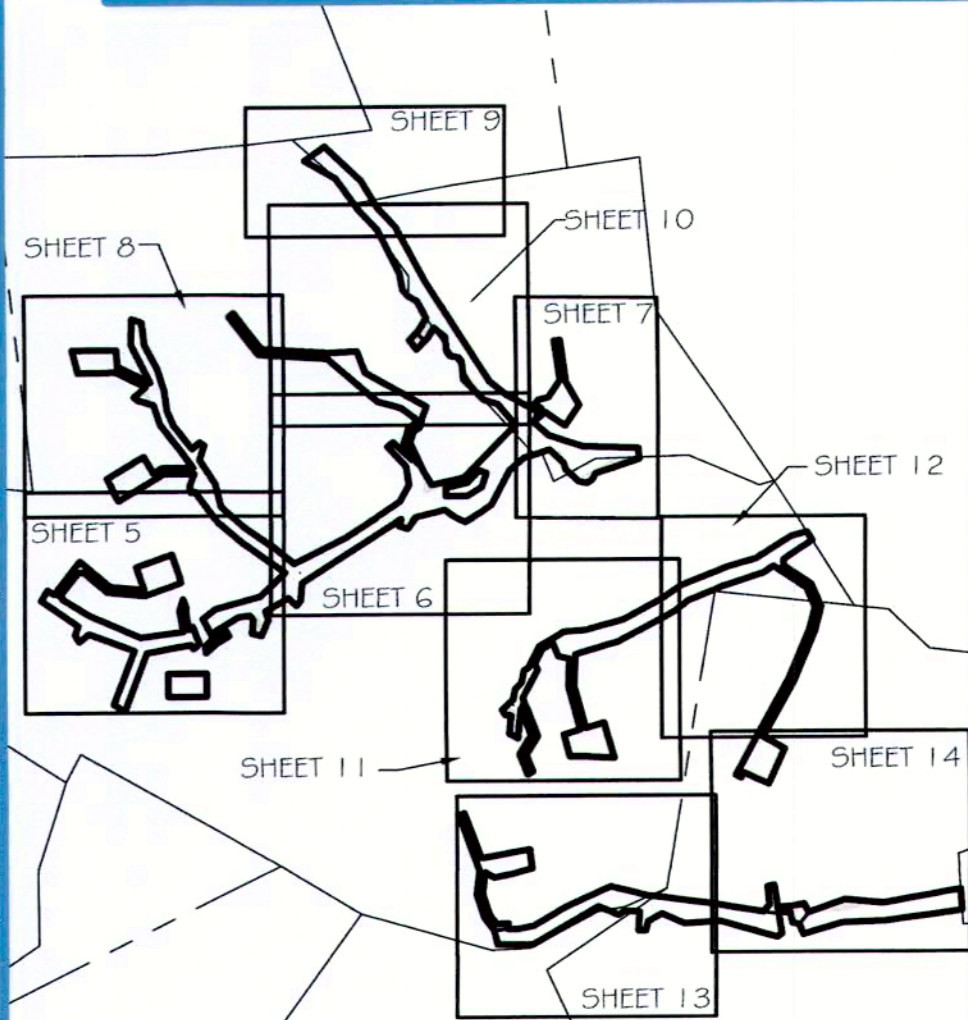
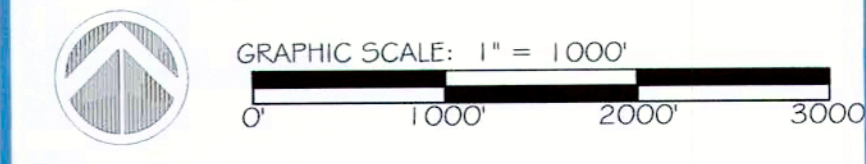
WOODLAND CONSERVATION SHEET SUMMARY TABLE												
SHEET	100-YEAR FLOODPLAIN IN PROJECT AREA (FP)	NET PROJECT AREA (NPA)	PROJECT AREA = LOD	EX. WOODLAND (NFA)	EX. WOODLAND 100-YR FLOODPLAIN IN PROJECT AREA	WOODLAND CLEARED NET-PROJECT (C-NPA)	WOODLAND CLEARED FLOODPLAIN (C-FP)	WOODLAND CLEARED OFF-SITE (C-OS)	WOODLAND PRESERV. AREA (WPA)	WOODLAND REFOREST. AREA (WRA)	WOODLAND RETAINED/NOT CREDITED (WR-NC)	WOODLAND RETAINED/ ASSUMED CLEARED (WR-AC)
14	1.87	2.10	3.97	1.25	1.29	1.25	1.29	0.00	0.00	2.91	0.00	0.00



**LEGEND:**

- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- EX. FORESTED WETLAND
- EX. STREAM CENTERLINE
- EX. STREAM TOP OF BANK
- EX. SPECIMEN TREE WITH CRITICAL ROOT ZONE - SAVE
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Prince George's County Planning Department, MNCPPC Environmental Planning Section TREE CONSERVATION PLAN APPROVAL TCP2 - 014 - 2019 - 01			
Approved by	Date	DRD #	Reason for Revision
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01 Kim Finch	8/17/2020	NA	Stream restoration project
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1. TOPOGRAPHY WITHIN THE SURVEY LIMITS IS BASED ON A GROUND SURVEY PERFORMED BY DEWBERRY FROM MARCH THROUGH JULY 2019. CONTOUR INTERVAL 1'. SEE SHEET 3 FOR COMPLETE NOTES.
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4. NAD83 HORIZONTAL AND NAVD 88 VERTICAL DATUM.

**Qualified Professional Certification**

This plan complies with the requirements of Subtitle 25 and the Woodland and Wildlife Conservation Technical Regulations.

Signature: Date: 8/10/2020

Michael Perry, LA  
5367 Telephone Road, Warrenton, Oregon 97146  
504-905-4467; mperny@res.us

res  
HGS, LLC - A RES COMPANY  
5367 TELEPHONE ROAD, WARRENTON, OREGON 97146  
P: 703.393.4844 | F: 703.393.2934  
WWW.RES.US

PROJECT: BLACK SWAMP CREEK  
CLIENT: CORVIAS PRINCE GEORGE'S COUNTY  
STORMWATER PARTNERS, LLC

**TCP2 DESIGN**

PRINCE GEORGE'S COUNTY, MARYLAND

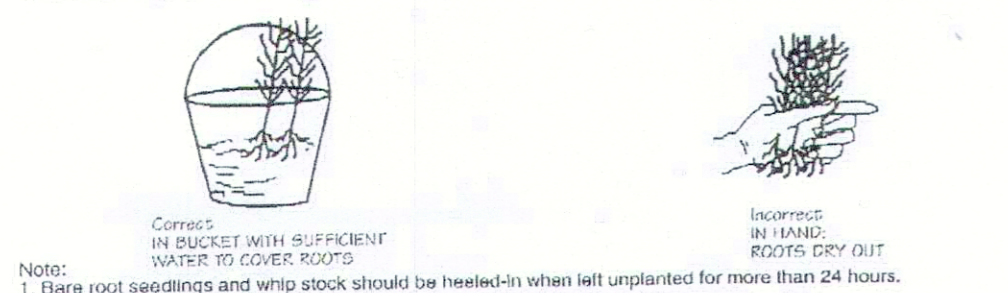
REVISIONS:

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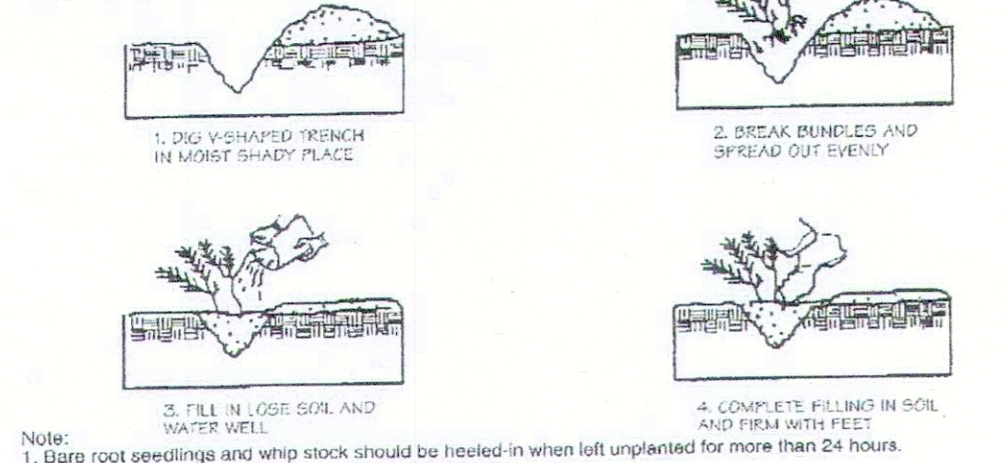
PROJECT STATUS:

PROJECT MANAGER: RC  
DESIGNED: BW/CP/SS/IC  
DRAWN: JC/AW/CP  
JOB NUMBER: 0755  
DESIGN TYPE: TCP2  
DATE: 08/07/2020  
SHEET NO: 14 OF 16

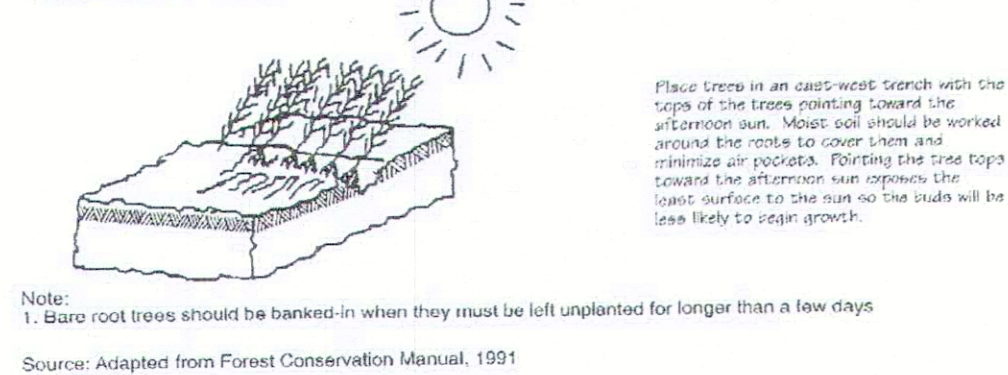
Handling Seedlings in the Field



Seedlings and Whips

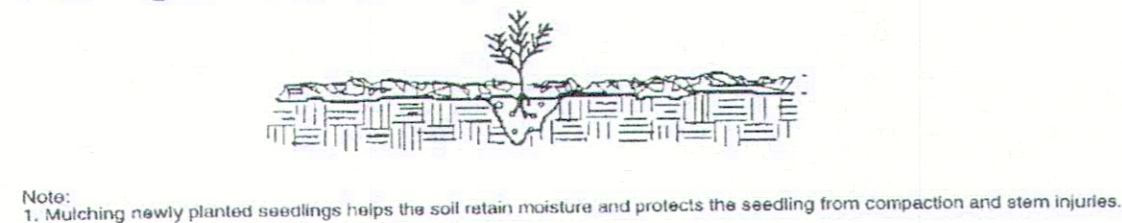


Bare Root Trees

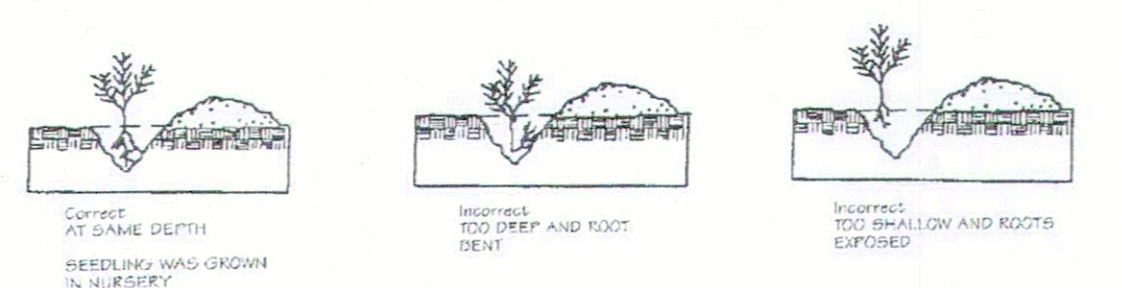


Handling Bare Root Stock

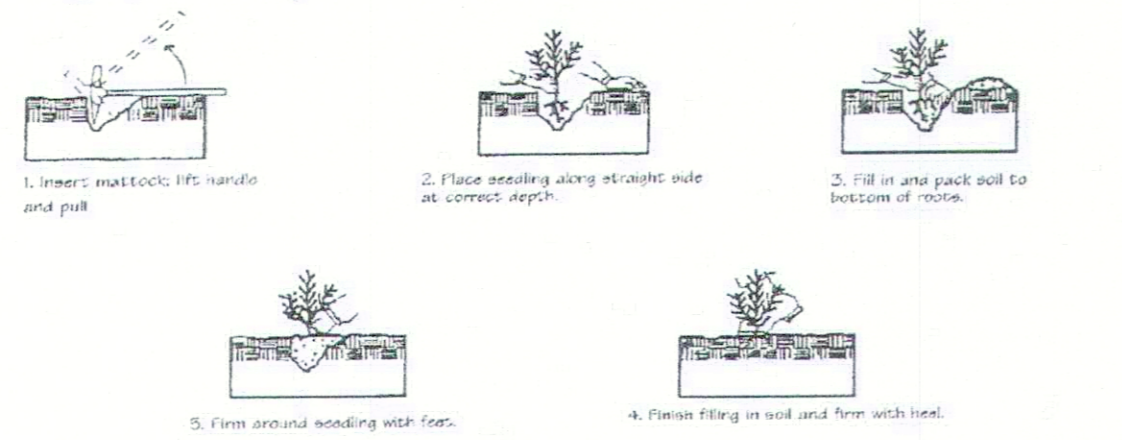
Seedling and Whip Planting



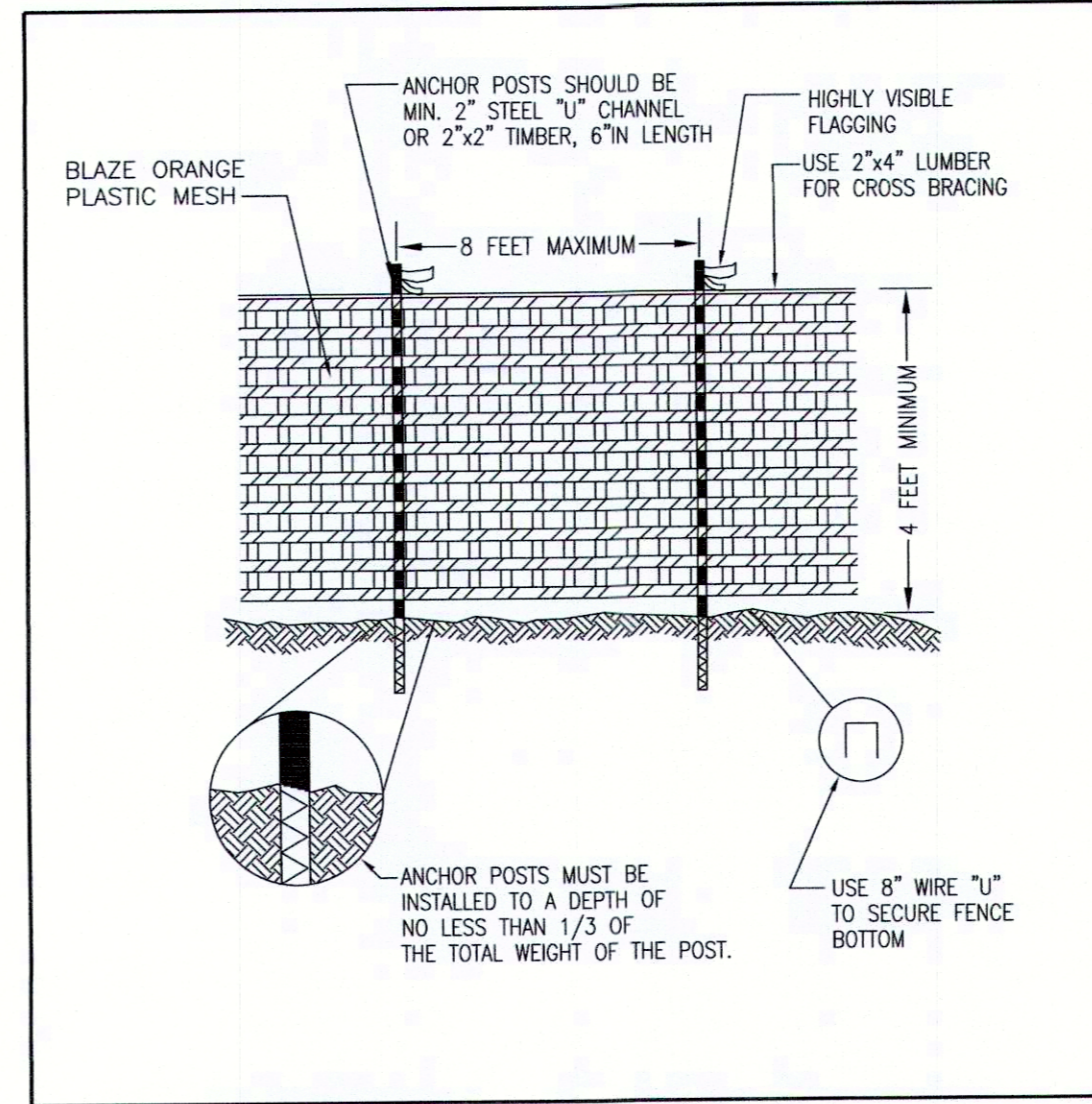
Correct and Incorrect Planting Depth



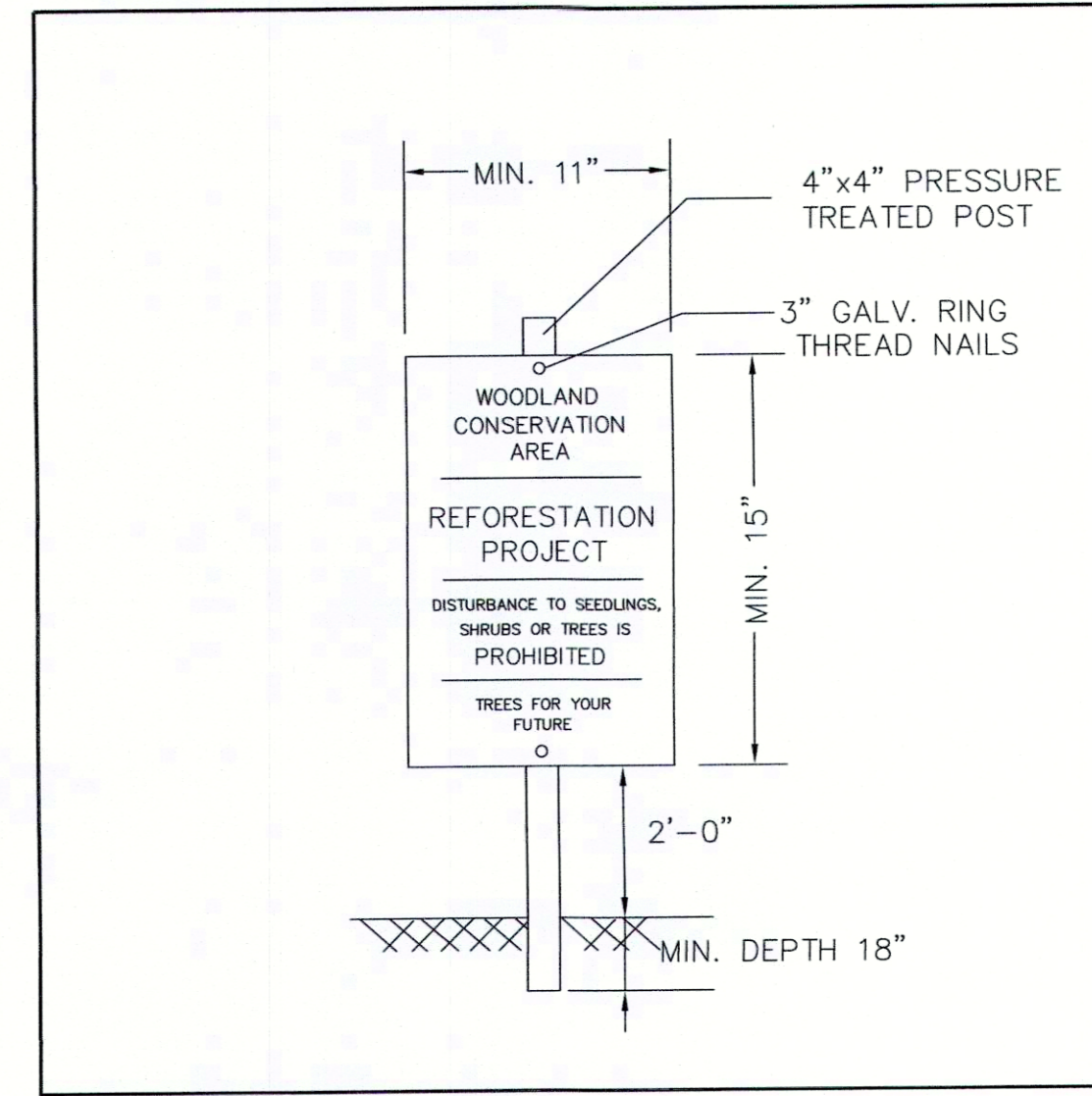
Mattock Planting



Seedling and Whip Planting Techniques

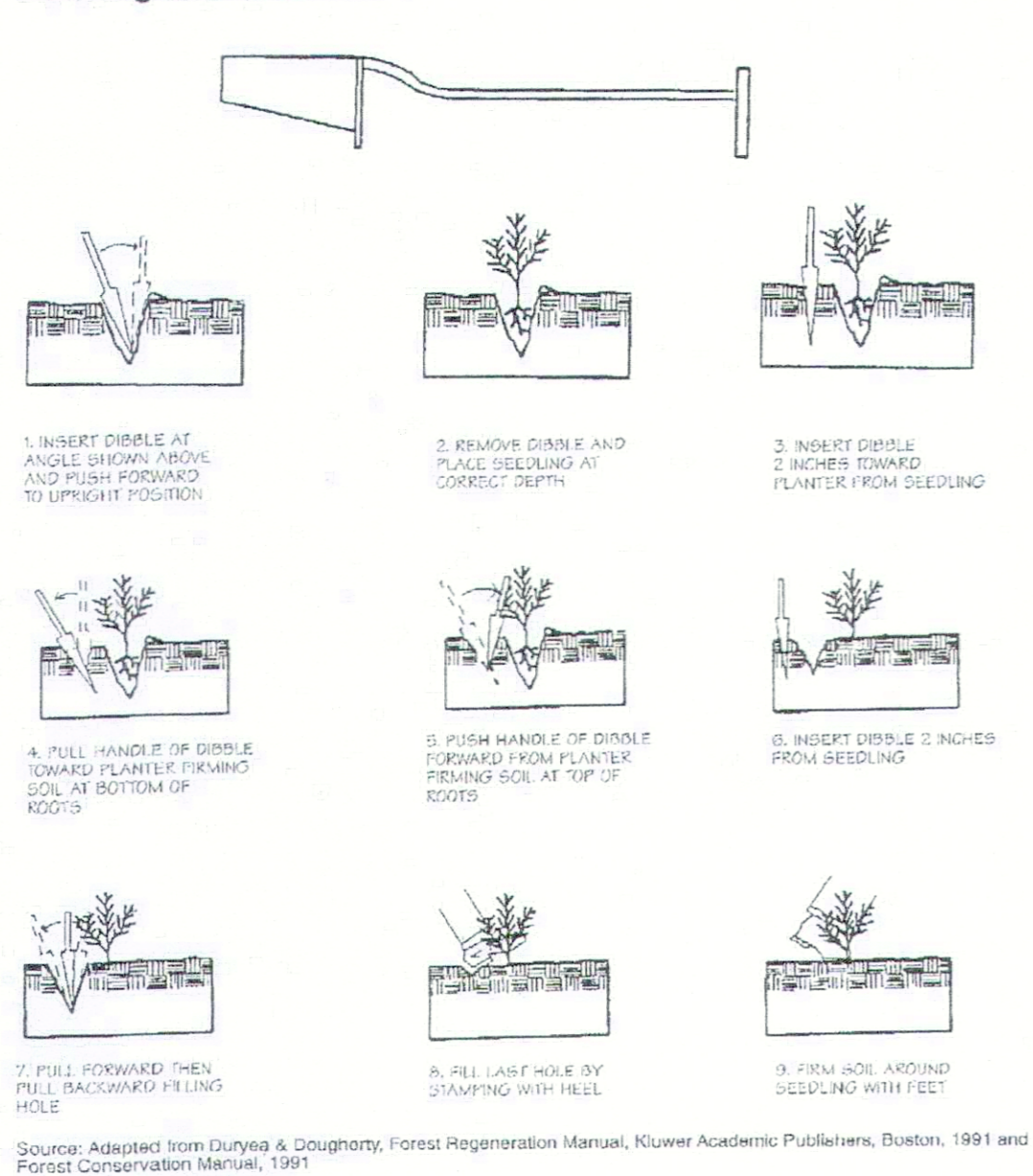


TYPE 1 (TEMPORARY) TREE PROTECTION FENCE DETAIL FOR WOODLAND PRESERVATION AREAS

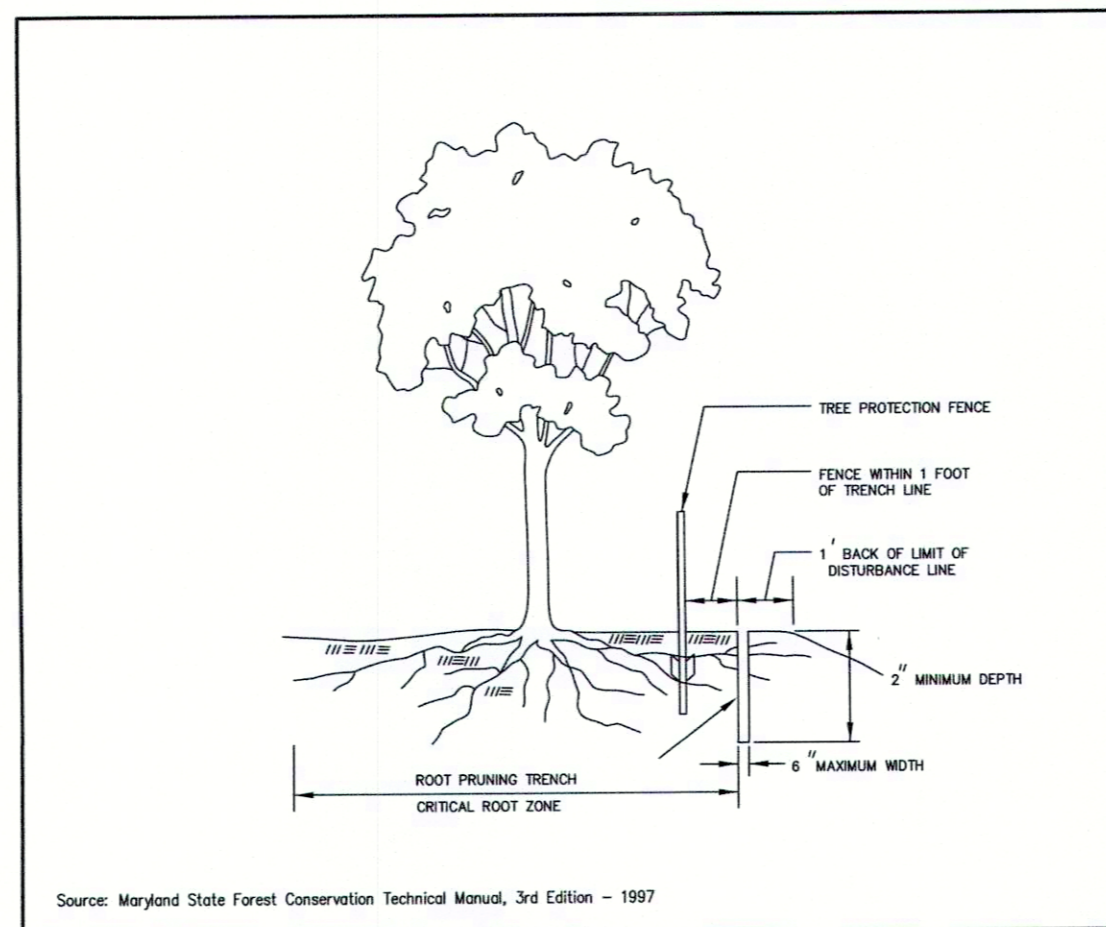


REFORESTATION AREA SIGN

Planting With Dibble Bar

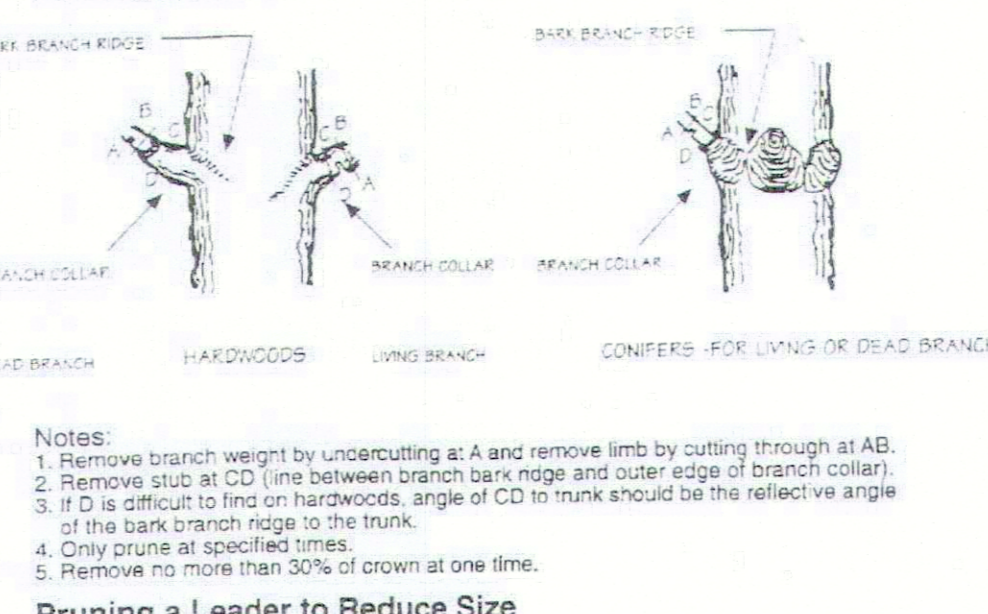


Seedling Planting Techniques



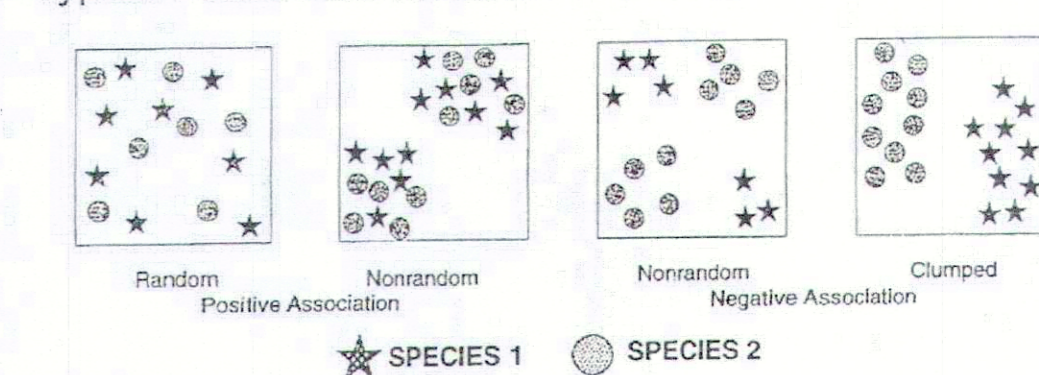
ROOT PRUNING

Pruning a Branch

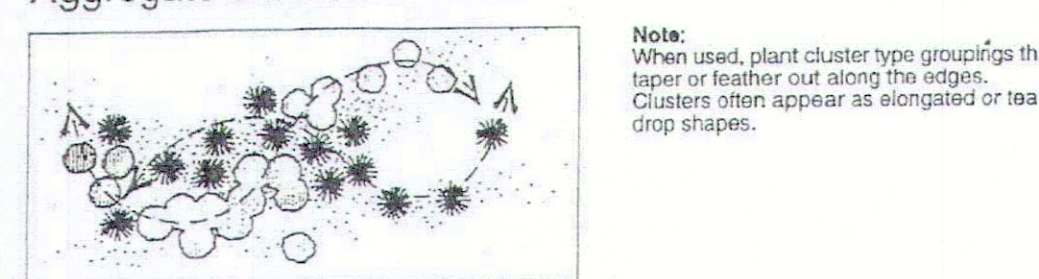


Tree Pruning

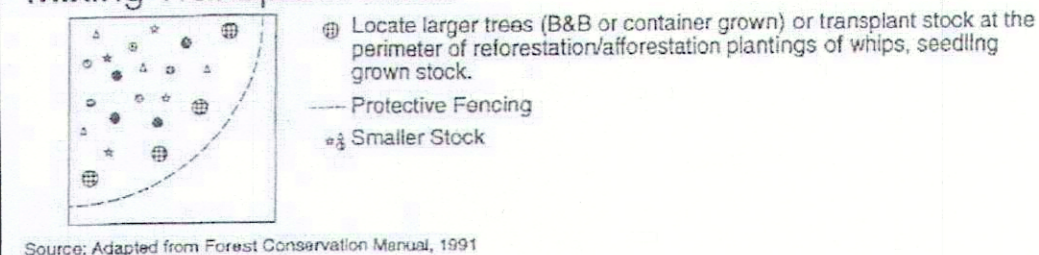
Typical Forest Tree Distribution Patterns



Aggregate Distribution Drift



Mixing Transplant Stock



Planting Distribution Patterns

Qualified Professional Certification



Prince George's County Planning Department, M-NCPPC Environmental Planning Section TREE CONSERVATION PLAN APPROVAL TCP2 - 014 - 2019 - 01			
Approved by	Date	DRD #	Reason for Revision
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PLANTING MATERIAL-WOODLAND REFORESTATION AREA

RIPARIAN PLANTING LIST

PLANTING DENSITY: 700 STEMS/ACRE APPROXIMATE PLANTING AREA: 23.72 ACRES

BOTANICAL NAME	COMMON NAME	PERCENT OF MIX	# OF STEMS	PLANTING STOCK TYPE & SIZE
<i>Acer negundo</i>	Box elder	5%	900	Bareroot, 12-24"
<i>Acer rubrum</i>	Maple, red	5%	900	Bareroot, 12-24"
<i>Acer saccharinum</i>	Maple, silver	10%	1700	Bareroot, 12-24"
<i>Cornus racemosa</i>	Grey dogwood	5%	900	Bareroot, 12-24"
<i>Linodendron tulipifera</i>	Tuliptree	10%	1700	Bareroot, 12-24"
<i>Platanus occidentalis</i>	Sycamore	15%	2600	Bareroot, 12-24"
<i>Populus deltoides</i>	Cottonwood	10%	1700	Bareroot, 12-24"
<i>Prunus serotina</i>	Cherry, black	5%	900	Bareroot, 12-24"
<i>Quercus phellos</i>	Oak, willow	5%	900	Bareroot, 12-24"
<i>Robinia pseudoacacia</i>	Locust, black	15%	2600	Bareroot, 12-24"
<i>Sassafras albidum</i>	Sassafras	5%	900	Bareroot, 12-24"
<i>Viburnum acerfolium</i>	Maple-leaf viburnum	5%	900	Bareroot, 12-24"
<i>Viburnum dentatum</i>	Arrowwood	5%	900	Bareroot, 12-24"
TOTALS		100%	17500	

FORESTED WETLAND PLANTING LIST

PLANTING DENSITY: 700 STEMS/ACRE APPROXIMATE PLANTING AREA: 1.83 ACRES

BOTANICAL NAME	COMMON NAME	PERCENT OF MIX	# OF STEMS	PLANTING STOCK TYPE & SIZE
<i>Acer rubrum</i>	Maple, red	10%	125	Bareroot, 12-24"
<i>Alnus serrulata</i>	Hazel alder	5%	75	Bareroot, 12-24"
<i>Aronia melanocarpa</i>	Black chokeberry	10%	125	Bareroot, 12-24"
<i>Carpinus caroliniana</i>	Ironwood	10%	125	Bareroot, 12-24"
<i>Cornus amomum</i>	Silky dogwood	5%	75	Bareroot, 12-24"
<i>Lindera benzoin</i>	Common spicebush	15%	200	Bareroot, 12-24"
<i>Physocarpus amurensis</i>	Common ninebark	5%	75	Bareroot, 12-24"
<i>Platanus occidentalis</i>	Sycamore	20%	250	Bareroot, 12-24"
<i>Populus deltoides</i>	Cottonwood	10%	125	Bareroot, 12-24"
<i>Quercus phellos</i>	Oak, willow	10%	125	Bareroot, 12-24"
TOTALS		100%	1300	

RIPARIAN HERBACEOUS SEED MIX

APPROX. ACRES= 23.72

SCIENTIFIC NAME	COMMON NAME	INDICATOR STATUS	PERCENT (%)	APPLICATION RATE (LBS/ACRE)
<i>Carex vulpinoidea</i>	Fox Sedge	OBL	10.0%	5.0
<i>Dichanthelium clandestinum</i>	Deer Tongue	FAC	15.0%	7.5
<i>Panicum virgatum</i>	Switchgrass	FAC	15.0%	7.5
<i>Schedonorus pratensis</i>	Meadow fescue	FACU	25.0%	12.5
<i>Tridens flavus</i>	Purpletop	FACU	10.0%	5.0
<i>Elymus virginicus</i>	Virginia Wild Rye	FACW	10.0%	5.0
<i>Rubus cirta</i>	Blackeyed Susan	FACU	12.0%	5.0
<i>Monarda fistulosa</i>	Wild Bergamot	FACU	3.0%	2.0
TOTAL			100.0%	49.5

\*To be applied as needed in disturbed upland areas

FORESTED WETLAND HERBACEOUS SEED MIX

APPROX. ACRES= 1.83

SCIENTIFIC NAME	COMMON NAME	INDICATOR STATUS	PERCENT (%)	APPLICATION RATE (LBS/ACRE)
<i>Bidens aristosa</i>	Showy Tickseed (NC)	FACW	3%	1.5
<i>Carex frankii</i>	Franks sedge	OBL	10%	5.0
<i>Carex lunata</i>	Lund (Shallow) Sedge	OBL	2%	1.0
<i>Carex vulpinoidea</i>	Fox Sedge	OBL	10%	5.0
<i>Echinochloa muncata</i>	Rough banyardgrass	FACW	10%	5.0
<i>Elymus riparius</i>	Riverbank Wildrye	FACW	20%	10.0
<i>Elymus virginicus</i>	Va Wildrye	FACW	20%	10.0
<i>Juncus effusus</i>	Soft (Common) Rush	FACW	4%	2.0
<i>Panicum clandestinum</i>	Deer Tongue	FACW	20%	10.0
<i>Eupatorium coelestinum</i>	Mistflower	FAC	1%	0.5
TOTAL LBS			100%	50

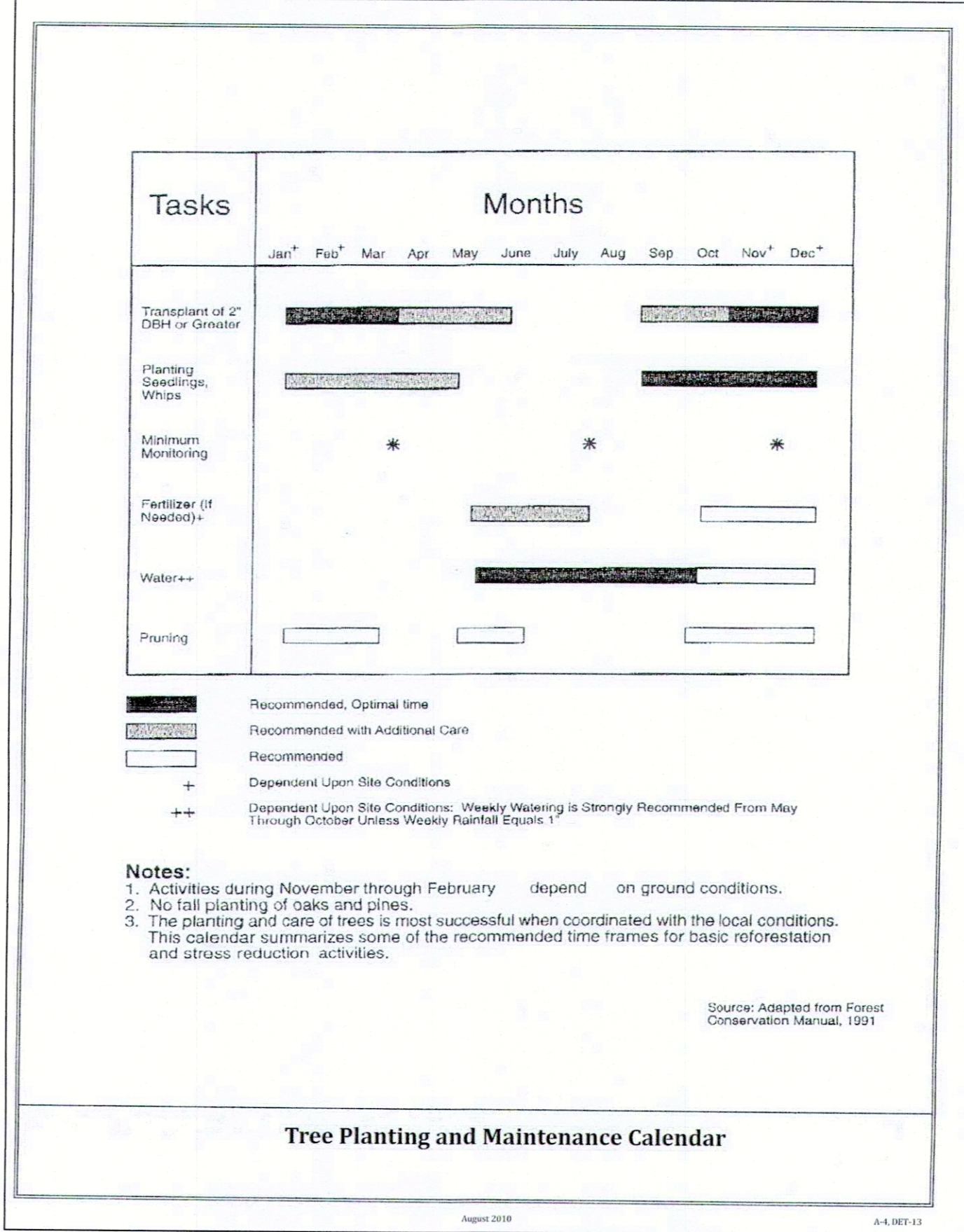
\*To be applied as needed in disturbed wetland areas

PLANTING SCHEDULE-WOODLAND REFORESTATION AREA

REFORESTATION AREA IDENTIFIER	ACREAGE	SIZE	NUMBER REQUIRED PER ACRE	PLANTING CREDITS
(WRA #1)	0.21	BARE ROOT SEEDLINGS	700	147
(WRA #2)	0.36	BARE ROOT SEEDLINGS	700	252
(WRA #3)	0.11	BARE ROOT SEEDLINGS	700	77
(WRA #4)	1.48	BARE ROOT SEEDLINGS	700	1036
(WRA #5)	0.92	BARE ROOT SEEDLINGS	700	644
(WRA #6)	0.33	BARE ROOT SEEDLINGS	700	231
(WRA #7)	0.41	BARE ROOT SEEDLINGS	700	287
(WRA #8)	0.01	BARE ROOT SEEDLINGS	700	7
(WRA #9)	0.29	BARE ROOT SEEDLINGS	700	203
(WRA #10)	0.17	BARE ROOT SEEDLINGS	700	119
(WRA #11)	0.75	BARE ROOT SEEDLINGS	700	525
(WRA #12)	1.07	BARE ROOT SEEDLINGS	700	749
(WRA #13)	1.82	BARE ROOT SEEDLINGS	700	1274
(WRA #14)	0.78	BARE ROOT SEEDLINGS	700	546
(WRA #15)	0.05	BARE ROOT SEEDLINGS	700	35
(WRA #16)	0.07	BARE ROOT SEEDLINGS	700	49
(WRA #17)	0.28	BARE ROOT SEEDLINGS	700	196
(WRA #18)	0.85	BARE ROOT SEEDLINGS	700	595
(WRA #19)	0.86	BARE ROOT SEEDLINGS	700	602
(WRA #20)	0.01	BARE ROOT SEEDLINGS	700	7
(WRA #21)	0.02	BARE ROOT SEEDLINGS	700	14
(WRA #22)	0.02	BARE ROOT SEEDLINGS	700	14
(WRA #23)	0.55	BARE ROOT SEEDLINGS	700	385
(WRA #24)	0.16	BARE ROOT SEEDLINGS	700	112
(WRA #25)	0.53	BARE ROOT SEEDLINGS	700	371
(WRA #26)	0.5	BARE ROOT SEEDLINGS	700	350
(WRA #27)	0.33	BARE ROOT SEEDLINGS	700	231
(WRA #28)	0.47	BARE ROOT SEEDLINGS	700	329
(WRA #29)	0.48	BARE ROOT SEEDLINGS	700	336
(WRA #30)	0.87	BARE ROOT SEEDLINGS	700	609
(WRA #31)	1.22	BARE ROOT SEEDLINGS	700	854
(WRA #32)	0.09	BARE ROOT SEEDLINGS	700	63
(WRA #33)	1.91	BARE ROOT SEEDLINGS	700	1337
(WRA #34)	1.12	BARE ROOT SEEDLINGS	700	784
(WRA #35)	0.78	BARE ROOT SEEDLINGS	700	546
(WRA #36)	0.16	BARE ROOT SEEDLINGS	700	112
(WRA #37)	0.58	BARE ROOT SEEDLINGS	700	406
(WRA #38)	1.6	BARE ROOT SEEDLINGS	700	1120
(WRA #39)	0.43	BARE ROOT SEEDLINGS	700	301
(WRA #40)	0.34	BARE ROOT SEEDLINGS	700	238
(WRA #41)	0.48	BARE ROOT SEEDLINGS	700	336
(WRA #42)	1.13	BARE ROOT SEEDLINGS	700	791
(WRA #43)	0.95	BARE ROOT SEEDLINGS	700	665
TOTAL REFORESTATION AREA:	25.55		TOTAL SITE PLANTING CREDITS:	17885

FOUR-YEAR MANAGEMENT PLAN FOR RE/AFFORESTATION AREAS  
FIELD CHECK THE RE-AFFORESTATION AREA ACCORDING TO THE FOLLOWING SCHEDULE:

- YEAR 1: SITE PREPARATION AND TREE PLANTING  
SURVIVAL CHECK ONCE ANNUALLY (SEPTEMBER-NOVEMBER) SEE NOTE 1)  
WATERING IS NEEDED (2 X MONTH)  
CONTROL OF UNDESIRABLE VEGETATION AS NEEDED (1 X IN JUNE AND 1 X IN SEPTEMBER MIN.)
- YEAR 2-3: REINFORCEMENT PLANTING IS NEEDED (SEE NOTE 2)  
SURVIVAL CHECK ONCE ANNUALLY (SEPTEMBER-NOVEMBER)  
CONTROL OF UNDESIRABLE VEGETATION IF NEEDED (1 X IN MAY AND 1 X IN AUGUST MIN.)  
REINFORCEMENT PLANTING IF NEEDED. (SEE NOTE 2)
- YEAR 4: SURVIVAL CHECK (SEPTEMBER - NOVEMBER)  
1. SURVIVAL CHECK: CHECK PLANTED STOCK AGAINST PLANT LIST (OR AS-BUILT) BY WALKING THE SITE AND TAKING INVENTORY. PLANTS MUST SHOW VITALITY. SUBMIT FIELD DATA FORMS (CONDITION CHECK SHEETS) TO OWNER AFTER EACH INSPECTION. REMOVE ALL DEAD PLANTS.  
2. REINFORCEMENT PLANTING: REPLACE DEAD OR MISSING PLANTS IN SUFFICIENT QUANTITY TO BRING THE TOTAL NUMBER OF LIVE PLANTS TO AT LEAST 75% OF THE NUMBER ORIGINALLY PLANTED. IF A PARTICULAR SPECIES SUFFERS UNUSUALLY HIGH MORTALITY, REPLACE WITH AN ALTERNATIVE PLANT TYPE.  
3. MISCELLANEOUS: FERTILIZATION OR WATERING DURING YEARS 1 THROUGH 3 WILL BE DONE ON AN AS NEEDED BASIS. SPECIAL RETURN OPERATIONS OR RECOMMENDATIONS WILL BE CONDUCTED ON AN AS NEEDED BASIS.



Size	Number Required per Acre	Approximate Spacing feet on center	Survivability Requirement At the end of the second growing season
Bare Root Seedlings or Whips	700	8 x 8	75% 525
Container Grown Seedling Tubes (Minimum Cavity Width 1.5")	500	10 x 10	75% 375
Container Grown 1, 2, 3 Gallon	400	12 x 12	75% 300
Container Grown 5, 7 Gallon or 1" Caliper B & B	300	15 x 15	85% 255
Container Grown 15, 25 Gallon or 1.5 - 2" Caliper B & B	150	20 x 20	100% 150

Notes:

- These stocking and survival requirements are the minimum numbers estimated to meet the definition of forest from bare land.
- In certain circumstances, any combination of the above mentioned stocking options, dry seeding, tree shelters, transplants, and/or natural regeneration may be appropriate strategies to fulfill the requirements of an approved TCP. They will be evaluated on a case-by-case basis by the approving authority.
- Spacing does not imply that trees or shrubs must be planted in a grid pattern.

**Site Stocking**

PLANTING SPECIFICATION NOTES

- QUANTITY: (SEE PLANTING SCHEDULE)
- TYPE: (SEE PLANTING SCHEDULE AND PLANTING PLAN FOR DETAILED PLANTING LISTS)
- PLANT QUALITY STANDARDS: THE PLANTS SELECTED SHALL BE HEALTHY AND STURDY REPRESENTATIVES OF THEIR SPECIES. SEEDLINGS SHALL HAVE A MINIMUM TOP GROWTH OF 18". THE DIAMETER OF THE ROOT COLLAR (THE PART OF THE ROOT JUST BELOW GROUND LEVEL) SHALL BE AT LEAST 3/8". THE ROOTS SHALL BE WELL DEVELOPED AND AT LEAST 8" LONG, NO MORE THAN TWENTY-FIVE PERCENT (25%) OF THE ROOT SYSTEM (BOTH PRIMARY AND AUXILIARY/FIBROUS ROOTS SHALL BE PRESENT. PLANTS THAT DO NOT HAVE AN ABUNDANCE OF WELL DEVELOPED TERMINAL BUDS ON THE LEADERS AND BRANCHES SHALL BE REJECTED. PLANTS SHALL BE SHIPPED BY THE NURSERY IMMEDIATELY AFTER LIFTING FROM THE FIELD OR REMOVAL FROM THE GREEN HOUSE, AND PLANTED IMMEDIATELY UPON RECEIPT BY THE LANDSCAPE CONTRACTOR. IF THE PLANTS CANNOT BE PLANTED IMMEDIATELY AFTER DELIVERY TO THE REFORESTATION SITE, THEY SHALL BE STORED IN THE SHADE WITH THEIR ROOT MASSES PROTECTED FROM DIRECT EXPOSURE TO SUN AND WIND BY THE USE OF STRAW, PEAT MOSS, COMPOST, OR OTHER SUITABLE MATERIAL AND SHALL BE MAINTAINED THROUGH PERIODIC WATERING, UNTIL THE TIME OF PLANTING.
- PLANT HANDLING: THE QUANTITY OF SEEDLINGS TAKEN TO THE FIELD SHALL NOT EXCEED THE QUANTITY THAT CAN BE PLANTED IN A DAY. SEEDLINGS, ONCE REMOVED FROM THE NURSERY OR TEMPORARY STORAGE AREA SHALL BE PLANTED IMMEDIATELY.
- TIMING OF PLANTING: THE BEST TIME TO PLANT SEEDLINGS IS WHILE THEY ARE DORMANT, PRIOR TO SPRING BUDDING. THE MOST SUITABLE MONTHS FOR PLANTING ARE MARCH AND APRIL, WHEN THE SOIL IS MOIST, BUT MAY BE PLANTED FROM MARCH THROUGH NOVEMBER. NO PLANTING SHALL BE DONE WHILE GROUND IS FROZEN. PLANTING SHALL OCCUR WITHIN ONE GROWING SEASON OF THE ISSUANCE OF GRADING/BUILDING PERMITS AND/OR REACHING THE FINAL GRADES AND STABILIZATION OF PLANTING AREAS.
- SEEDLING PLANTING: TREE SEEDLINGS SHALL BE HAND PLANTED USING A DIBBLE BAR OR SHARP-SHOOTER SHOVEL. IT IS IMPORTANT THAT THE SEEDLING BE PLACED IN THE HOLE SO THAT THE ROOTS CAN SPREAD OUT NATURALLY; THEY SHOULD NOT BE TWISTED, BALLED UP OR BENT. MOIST SOIL SHOULD THEN BE PACKED FIRMLY AROUND THE ROOTS. SEEDLINGS SHOULD BE PLANTED AT A DEPTH WHERE THEIR ROOTS LIE JUST BELOW THE GROUND SURFACE. AIR POCKETS SHOULD NOT BE LEFT AFTER CLOSING THE HOLE WHICH WOULD ALLOW THE ROOTS TO DRY OUT. SEE PLANTING DETAILS FOR FURTHER EXPLANATION. IF THE CONTRACTOR WISHES TO PLANT BY ANOTHER METHOD, THE PREPARER OF THIS TREE CONSERVATION PLAN MUST BE CONTACTED AND GIVE HIS APPROVAL BEFORE PLANTING MAY BEGIN.
- SPACING: SEE PLANT SCHEDULE AND/OR PLANTING PLAN FOR SPACING REQUIREMENTS. ALSO REFER TO THE PLANTING LAYOUT DETAIL FOR A DESCRIPTION OF THE GENERAL PLANTING THEORY.
- SOIL: UPON THE COMPLETION OF ALL GRADING OPERATIONS, A SOIL TEST SHALL BE CONDUCTED TO DETERMINE WHAT SOIL PREPARATION AND SOIL AMENDMENTS, IF ANY, ARE NECESSARY TO CREATE GOOD TREE GROWING CONDITIONS. SOIL SAMPLES SHALL BE TAKEN AT A RATE THAT PROVIDES ONE SOIL SAMPLE FOR EACH AREA THAT APPEARS TO HAVE A DIFFERENT SOIL TYPE (IF THE ENTIRE AREA APPEARS UNIFORM, THEN ONLY ONE SAMPLE IS NECESSARY), AND SUBMITTED FOR TESTING TO A PRIVATE COMPANY. THE COMPANY OF CHOICE SHALL MAKE RECOMMENDATIONS FOR IMPROVING THE EXISTING SOIL. THE SOIL WILL BE TESTED AND RECOMMENDED FOR CORRECTIONS OF SOIL TEXTURE, PH, MAGNESIUM, PHOSPHORUS, POTASSIUM, CALCIUM AND ORGANIC MATTER. SOIL COMPACTION CORRECTIONS WILL BE CONDUCTED AS DEEMED NECESSARY.
- SOIL IMPROVEMENT MEASURES: THE SOIL SHALL THEN BE IMPROVED ACCORDING TO THE RECOMMENDATIONS MADE BY THE TESTING COMPANY.
- FENCING AND SIGNAGE: FINAL PROTECTIVE FENCING SHALL BE PLACED ON THE VISIBLE AND/OR DEVELOPMENT SIDE OF PLANTING AREAS. THE FINAL PROTECTIVE FENCE SHALL BE INSTALLED UPON COMPLETION OF PLANTING OPERATIONS UNLESS IT WAS INSTALLED DURING THE INITIAL STAGES OF DEVELOPMENT. SIGNS SHALL BE POSTED PER THE SIGNAGE DETAIL ON THIS SHEET.
- PLANTING METHOD: CONSULT THE PLANTING DETAIL(S) SHOWN ON THIS PLAN. APPLY A MINIMUM DEPTH OF 3" OF TOPSOIL.
- MULCHING: APPLY TWO-INCH THICK LAYER OF WOODCHIP OR SHREDDED HARDWOOD MULCH (AS NOTED) TO EACH PLATING SITE (SEE DETAIL SHOWN ON THIS PLAN).
- GROUND COVER ESTABLISHMENT: ALL DISTURBED AREAS OUTSIDE OF THE STREAM ARE TO BE PERMANENTLY SEEDED UPON THE REMOVAL OF TEMPORARY STABILIZATION PRACTICES. CONSULT THE PLANTING PLAN FOR STANDARDS, SPECIFICATIONS, AND SPECIFIC SEED MIXES.
- MOWING: NO MOWING SHALL BE ALLOWED IN ANY PLANTING AREA.
- SURVIVAL CHECK FOR BOND RELEASE: THE SEEDLING PLANTING IS TO BE CHECKED AT THE END OF EACH YEAR FOR FOUR YEARS TO ASSURE THAT NO LESS THAN 75% OF THE ORIGINAL PLANTED QUANTITY SURVIVES. IF THE MINIMUM NUMBER HAS NOT BEEN PROVIDED THE AREA MUST BE SUPPLEMENTED WITH ADDITIONAL SEEDLINGS TO REACH THE REQUIRED NUMBER AT TIME OF PLANTING.
- SOURCE OF SEEDLINGS: TBD.
- PLANTING MANAGEMENT PLAN: ALL LONG-TERM MANAGEMENT WILL BE PERFORMED BY THE CLEAN WATER PARTNERSHIP. FOLLOW-UP CARE AND MAINTENANCE (WATERING, FERTILIZATION, WEEDING, SUPPORT PLANTINGS, ETC.) WILL OCCUR AS APPROPRIATE.
- FERTILIZATION AND WATERING:  
EACH CONTAINER PLANT SHALL BE FERTILIZED WITH 20-10-5 CONTROLLED RELEASE TABLETS. FORMULATIONS VARY CONSIDERABLY BY MANUFACTURER, AND OTHER FORMULATIONS ARE ACCEPTABLE, PROVIDED THE TABLETS ARE NOT WATER-SOLUBLE. THE TABLETS SHALL BE BURIED NEAR THE PLANTS ROOT SYSTEM. THE PLANT STOCK SHALL BE FERTILIZED AT THE FOLLOWING RATES:  
STOCK TABLETS  
PLUGS AND QUARTS ONE 5 GRAM TABLET  
BAREROOT, TUBELINGS AND SEEDLINGS ONE 10 GRAM TABLET

DURING PLANTING THE CONTRACTOR SHALL WATER EACH PLANT WITH THE FOLLOWING MINIMUM QUANTITIES OF WATER, UNLESS OWNER DETERMINES THERE IS SUFFICIENT SOIL MOISTURE ON SITE:

TREES 1 GALLON OF WATER  
SHRUBS 1 GALLON OF WATER  
PLUGS 1 PINT OF WATER

TEMPORARY TREE PROTECTION FENCING (TPP) (PER DETAIL):

A FENCE BARRIER IS TO BE PLACED AROUND THE TREES AND VEGETATED AREAS WHICH WILL NOT BE DISTURBED TO PROTECT THE TREES AND OTHER VEGETATION FROM CONSTRUCTION EQUIPMENT AND SOIL COMPACTION. THERE ARE SPECIMEN TREES CLOSE TO THE L.O.D. THAT ARE TO NOT BE REMOVED OR DISTURBED AND ARE CALLED OUT ON THE PLANS.

PROJECT: BLACK SWAMP CREEK  
CLIENT: CORVIAS PRINCE GEORGE'S COUNTY  
STORMWATER PARTNERS, LLC

TCP2

PLANTING NOTES  
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A

PROJECT STATUS:

PROJECT MANAGER: RC  
DESIGNED: BW/CP/SS/JC  
DRAWN: JC/AV/CP  
JOB NUMBER: 0755  
DESIGN TYPE: TCP2  
DATE: 08/07/2020  
SHEET NO: