

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION, DEPARTMENT OF PARK AND PLANNING
M-NCPPC PERMIT NO. 2019-032
PARK C44
REVIEWED BY Meredith Neely
APPROVED BY [Signature]
CHIEF, CONSTRUCTION SECTION
DATE APPROVED 12/29/2020
THIS IS NOT A PERMIT TO BEGIN CONSTRUCTION
This approval is for technical review only. For permit information, contact Jay Childs, Construction Supervisor at (301) 495-2514

CITY OF TAKOMA PARK

DEPARTMENT OF PUBLIC WORKS

TAKOMA BRANCH STREAM RESTORATION AT SLIGO MILL NCA

INDEX OF SHEETS

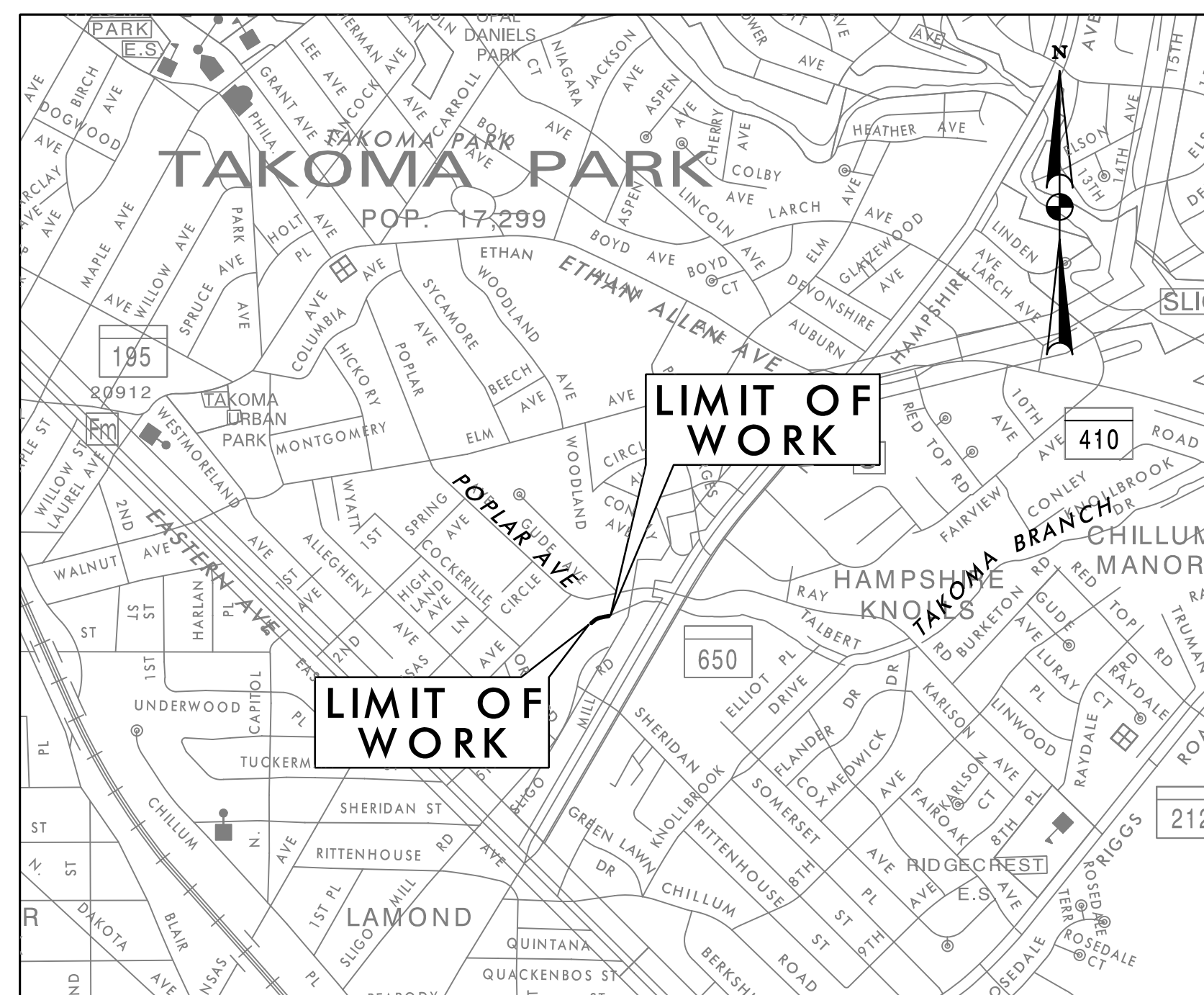
SHEET NO.	SHEET NAME	DESCRIPTION
1	GN-01 /SC-01 /SC0001	TITLE SHEET
2	AB-01	INDEX OF SHEETS, GENERAL NOTES, ABBREVIATIONS
3	GS-01	SURVEY CONTROL AND GEOMETRY SHEET
4	EC-01	EXISTING CONDITIONS PLAN
5	SR-01	STREAM RESTORATION PLAN
6	DP-01	STREAM RESTORATION PROFILE AND CROSS SECTIONS
7	DD-01	STREAM RESTORATION DETAILS I
8	DD-02	STREAM RESTORATION DETAILS II
9	EN-01 /SC-02 /SC0002	EROSION AND SEDIMENT CONTROL NOTES & SOC
10	EN-02 /SC-03 /SC0003	EROSION AND SEDIMENT CONTROL DETAILS
11	ES-01 /SC-04 /SC0004	EROSION AND SEDIMENT CONTROL PLAN
12	FC-KEY	FOREST CONSERVATION KEY SHEET
13-17	FC-01 - FC-05	FOREST CONSERVATION PLAN I-V
18	LD-01	LANDSCAPE PLAN
19	LD-02	LANDSCAPE NOTES & DETAILS

RELATED REQUIRED PERMITS

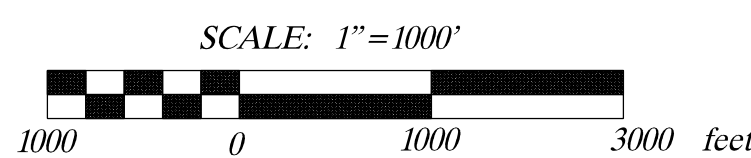
To be completed by the consultant and placed on the first sheet of the Sediment Control/Stormwater Management plan set for all projects

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

TYPE OF PERMIT	REQ'D	NOT REQ'D	PERMIT NO.	EXPIRATION DATE	WORK RESTRICTION DATES
MCDPS Floodplain district	X		376061		
WATERWAYS/WETLAND(S)	X		2019-61012	9/30/21	3/1 - 6/15, INCLUSIVE (ANY YEAR)
a. Corps of Engineers					
b. MDE	X		19-NT-3139	3/9/25	3/1 - 6/15, INCLUSIVE (ANY YEAR)
c. MDE Water Quality Certification	X		19-NT-3139	3/9/25	3/1 - 6/15, INCLUSIVE (ANY YEAR)
MDE Dam Safety		X			
DPS Roadside Trees Protection Plan		X		APPROVAL DATE	
NPDES NOTICE OF INTENT		X			DATE FILED NA
DNR Roadside Tree Care Permit		X		APPROVAL DATE	
OTHERS (Please List):					
MNCPPC Park Construction Permit	X		2019.32	1/1/21	
Montgomery County Tree Canopy Conservation Law Approval		X			
Montgomery County Forest Conservation Law	X		SC2020004	APPROVAL DATE 3/24/20	



LENGTH OF PROJECT: TAKOMA BRANCH = 138 LINEAR FEET MONTGOMERY COUNTY



HORIZONTAL DATUM	NAD 8311
VERTICAL DATUM	NAVD 88

OWNER NAME	LEGAL DESCRIPTION	SUBDIVISION	LOT	BLOCK	PARCEL	LIBER	FOLIO
RAMIN RAD	GIBBS & KOSACKS ADD	0025	25	16A	--	41972	0091
M-NCPPC	PAR A SLIGO MILL TOWNES	0025	--	--	721	21966	0298
M-NCPPC	V J 180-28 (PG) PAR A POPLAR MILL	0025	--	--	--	20412	0317
M-NCPPC	TAKOMA PARK	0025	--	--	681	45091	0160

NO.	DATE	DESCRIPTION

RK&K
P: 410.728.2900
700 E. Pratt Street, Suite 500 | Baltimore, MD 21202
Engineers | Construction Managers | Planners | Scientists
www.rk&k.com
Responsive People | Creative Solutions

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. 32596, EXPIRATION DATE: 1/16/2022

TREE CANOPY REQUIREMENTS TABLE	
To be completed by the consultant and placed on the first sheet of the Sediment Control/Stormwater Management plan set for all projects.	
Exempt: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If exempt under Section 55-5 of the Code, please check the applicable exemption category below.	
Total Property Area	Total Disturbed Area
221,973 square feet	9,931 square feet
Shade Trees Required	Shade Trees Proposed to be Planted
0	0
Fee in Lieu (Trees Required - Trees Planted) x \$250	\$ N/A
Required Number of Shade Trees	
Area (sq. ft.) of the Limits of Disturbance	Number of Shade Trees Required
FROM TO	
1 6,000	3
6,001 8,000	6
8,001 12,000	9
12,001 14,000	12
14,001 40,000	15
If the square footage of the limits of disturbance is more than 40,000, then the number of shade trees required must be calculated using the following formula: (Number of Square Feet in Limits of Disturbance ÷ 40,000) × 15	
EXEMPTION CATEGORIES:	
<input checked="" type="checkbox"/> 55-5(a) any activity that is subject to Article II of Chapter 22A;	<input type="checkbox"/> maintenance has obtained all required permits;
<input type="checkbox"/> 55-5(b) any commercial logging or timber harvesting operation with an approved exemption from Article II of Chapter 22A;	<input type="checkbox"/> 55-5(h) any stream restoration project if the person performing the work has obtained all necessary permits;
<input type="checkbox"/> 55-5(f) any activity conducted by the County Parks Department;	<input type="checkbox"/> 55-5(i) cutting or clearing any tree to comply with applicable provisions of any federal, state, or local law governing safety of dams;
<input type="checkbox"/> 55-5(g) routine or emergency maintenance of an existing stormwater management facility, including an existing access road, if the person performing the	<input type="checkbox"/> OTHER: Specify per Section 55-5 of the Code.

MISS UTILITY
THE CONTRACTOR SHALL CALL "MISS UTILITY" AT 1-800-257-7777, 48 HOURS PRIOR TO THE START OF WORK. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL UNDERGROUND UTILITIES IN THE AREA OF PROPOSED WORK ARE LOCATED PRIOR TO COMMENCING CONSTRUCTION WORK. THE CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH REQUIREMENTS OF CHAPTER 36A OF THE MONTGOMERY COUNTY CODE.
THE CONTRACTOR IS ALSO RESPONSIBLE FOR LOCATING ALL PRIVATE UTILITIES (NOT LOCATED BY MISS UTILITY) WITHIN M-NCPPC PROPERTY AT THEIR EXPENSE. ALL UTILITIES SHOWN ON THE PLANS ARE PROVIDED FOR INFORMATION ONLY AND SHALL BE CONSIDERED APPROXIMATE. M-NCPPC SHALL NOT BE RESPONSIBLE FOR LOCATING UNDERGROUND UTILITIES. ANY UTILITIES OR OTHER UNDERGROUND FACILITIES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED/REPLACED AT THE CONTRACTOR'S SOLE EXPENSE.

AASHTO DESIGN CRITERIA

THIS PROJECT WAS DESIGNED IN ACCORDANCE WITH THE 2011 PUBLICATION OF AASHTO'S "A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS."

STANDARD SPECIFICATIONS BOOK, BOOK OF STANDARDS AND MUTCD

ALL WORK ON THIS PROJECT SHALL CONFORM TO: THE MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION'S SPECIFICATIONS ENTITLED 2018 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS REVISIONS THEREOF OR ADDITIONS THERETO; THE SPECIAL PROVISIONS INCLUDED IN THE CONTRACT DOCUMENTS; THE MARYLAND STATE HIGHWAY ADMINISTRATION BOOK OF STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES AND THE LATEST MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

RIGHT OF WAY

RIGHT OF WAY LINES SHOWN ON THESE PLANS ARE FOR INFORMATION AND GUIDANCE ONLY. NO GUARANTEE IS MADE OF THE ACCURACY OF SAID LOCATIONS.

UTILITIES

THE LOCATION OF UTILITIES SHOWN ON THE PLANS ARE FOR INFORMATION AND GUIDANCE ONLY. NO GUARANTEE IS MADE OF THE ACCURACY OF SAID LOCATIONS.

ENVIRONMENTAL INFORMATION

SEDIMENT AND EROSION CONTROL REGULATIONS WILL BE STRICTLY ENFORCED DURING CONSTRUCTION.

FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1), AND SEVEN DAYS (7) AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

OWNER / APPLICANT:
DARYL BRAITHWAITE
31 OSWEGO AVENUE
TAKOMA PARK, MD 20910
P: (301) 891-7615
F: (301) 585-2405

Printed Name and Title

**FINAL (100%) DESIGN
JULY 2020**

TECHNICAL REVIEW OF SEDIMENT CONTROL	ADMINISTRATIVE REVIEW	
Jean Kapusnick 1/6/2021	Jean Kapusnick 1/6/2021	DPS approval of a sediment control or stormwater management plan is for demonstrated compliance with minimum environmental runoff treatment standards and does not create or imply any right to divert or concentrate runoff onto any adjacent property without that property owner's permission. It does not release the design engineer or other responsible person of professional liability or ethical responsibility for the adequacy of the drainage design as it affects uphill or downhill properties.
TECHNICAL REVIEW OF STORMWATER MANAGEMENT	SMALL LOT DRAINAGE APPROVAL	284931
	N/A: <input checked="" type="checkbox"/> OR	SEDIMENT CONTROL PERMIT NO.
		SM. FILE NO.
		STORMWATER MANAGEMENT: Reviewed for Sediment Control Only
MCDPS APPROVAL OF THIS PLAN WILL EXPIRE TWO YEARS FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED.	NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED FOR A MCDPS ACCESS PERMIT.	

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LEGEND

- SAN. SEWER MANHOLE
- SURVEY TRAVERSE
- FENCE LINE
- WATERS OF THE U.S.
- 100-YEAR FLOODPLAIN
- 18" TWIN OAK TREES
- EXISTING RIGHT OF WAY LINE
- SPECIMEN TREE
- WOODS LINE
- EXISTING STORM DRAIN PIPE
- ROOTWADS
- ROOTWADS WITH STONE TOE
- RIFFLE GRADE CONTROL
- J-HOOK
- PLUNGE POOL
- CROSS VANE
- ROCK SILL
- FLOODPRONE BENCH

GENERAL NOTES FOR WORK ON M-NCPPC PROPERTY

1. ALL NOTES SHOWN ON THE DRAWINGS ARE TYPICAL UNLESS OTHERWISE SHOWN OR NOTED.
2. A PRE-CONSTRUCTION MEETING SHALL BE CONDUCTED BY THE M-NCPPC CONSTRUCTION MANAGER PRIOR TO START OF ANY CONSTRUCTION RELATED ACTIVITY AT THE PROJECT SITE. CONTACT JAY CHILDS (301-495-2574) TO SCHEDULE.
3. NO CLEARING, GRUBBING, OR GRADING SHALL COMMENCE UNTIL THE LIMITS OF DISTURBANCE ARE STAKED IN THE FIELD AND ARE APPROVED BY THE M-NCPPC CONSTRUCTION MANAGER AS WELL AS ANY OTHER APPLICABLE PERMITTING AGENCIES. AFTER THE LIMITS ARE APPROVED, NO DISTURBANCE WILL BE ALLOWED OUTSIDE OF THE APPROVED LIMITS. ANY ITEMS DISTURBED OUTSIDE OF THE APPROVED LIMITS, WILL BE REPLACED AT THE CONTRACTORS OWN EXPENSE.
4. THE ENTIRE LOD SHALL BE FENCED AS DIRECTED BY THE PARK CONSTRUCTION MANAGER. WHERE SILT FENCE, SUPER SILT FENCE, OR TREE PROTECTION FENCE IS NOT REQUIRED, ORANGE BLAZE SAFETY FENCE MAY BE USED.
5. FIELD RUN TOPOGRAPHIC SURVEY PROVIDED BY RK&K IN JANUARY 2018. SURVEY IS IN MARYLAND STATE PLANE DATUM, NAD83 AND NAVD83. BOUNDARIES SHOWN ARE DERIVED FROM DEED AND PLAT INFORMATION.
6. M-NCPPC RESERVES THE RIGHT TO ADJUST AND MODIFY THE LIMITS OF DISTURBANCE IN THE FIELD TO MINIMIZE IMPACTS OF WORK.
7. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR MAINTAINING SAFE FACILITY ACCESS THROUGHOUT CONSTRUCTION AND PROVIDE ANY APPROPRIATE DETOURS, TEMPORARY FACILITIES, AND SIGNAGE AS REQUESTED BY THE M-NCPPC CONSTRUCTION MANAGER.
8. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS SHOWN ON THE DRAWINGS AND REPORT TO M-NCPPC'S CONSTRUCTION MANAGER ANY ERROR OR INCONSISTENCY WITH THE ACTUAL CIRCUMSTANCES IN THE FIELD BEFORE COMMENCING WORK.
9. THE CONTRACTOR SHALL STAKE-OUT THE LOCATION OF FACILITIES AND MEET WITH THE M-NCPPC CONSTRUCTION MANAGER TO REVIEW THE LOCATION. M-NCPPC RESERVES THE RIGHT TO ADJUST THE LOCATIONS AS NECESSARY.
10. SITE RESTORATION AND REPAIR/REPLACEMENT OF DAMAGED INFRASTRUCTURE SHALL BE IN ACCORDANCE WITH M-NCPPC DETAILS, STANDARDS, AND SPECIFICATIONS AT THE DIRECTION OF THE M-NCPPC INSPECTOR AT NO COST TO M-NCPPC.
11. TREE PROTECTION FENCING SHALL BE PER TREE PROTECTION FENCE DETAIL SHOWN ON PLANS. TREE PROTECTION FENCE SHALL BE INSTALLED BY THE CONTRACTOR AND INSPECTED BY M-NCPPC CONSTRUCTION MANAGER PRIOR TO START OF CONSTRUCTION.
12. ALL PLANTING SUBSTITUTIONS SHALL BE APPROVED BY M-NCPPC CONSTRUCTION MANAGER. PLANT MATERIALS AND LOCATIONS MUST BE INSPECTED BY M-NCPPC PRIOR TO INSTALLATION.
13. PROVIDE DEER PROTECTION FENCING PER M-NCPPC'S SPECIFICATIONS FOR ALL LANDSCAPE AND REFORESTATION TREES AND SHRUBS TO PREVENT DAMAGE FROM DEER. TUBEX SHALL NOT BE USED AS A SUBSTITUTE.
14. STAGING AREAS AND ACCESS ROUTES SHALL BE DETERMINED IN FIELD AND APPROVED BY THE M-NCPPC CONSTRUCTION MANAGER TO MINIMIZE IMPACTS.
15. M-NCPPC MAY INSPECT CONDITION OF TREES THROUGHOUT CONSTRUCTION AND REQUIRE REPAIR, REMOVAL, AND/OR REPLACEMENT OF ANY DAMAGED TREES AT NO COST TO M-NCPPC.
16. CONSTRUCTION MANAGER MAY AUTHORIZE SPECIAL TREE AND TREE ROOT PROTECTION MEASURES OTHER THAN SHOWN ON THESE PLANS DURING CONSTRUCTION. THESE MAY INCLUDE, BUT NOT BE LIMITED TO 12-INCH THICK MULCH LAYER ACCESS BEDDING, MATTING, ADDITIONAL TREE PROTECTION FENCING, AND ADDITIONAL SEDIMENT CONTROLS.
17. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR IDENTIFYING THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO START OF CONSTRUCTION RELATED WORK AND SHALL COORDINATE THE WORK WITH M-NCPPC CONSTRUCTION MANAGER. THE CONTRACTOR SHALL MAINTAIN PROPER CLEARANCES BETWEEN ALL EXISTING AND PROPOSED UTILITIES AT ALL TIMES AS REQUIRED BY THE UTILITY COMPANIES.
18. UTILITIES SHOWN HEREON ARE BASED ON BEST AVAILABLE INFORMATION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE ACCURACY OF THIS INFORMATION. ANY COST ASSOCIATED WITH THE REPAIR OR REPLACEMENT OF UTILITIES DAMAGED BY THE CONTRACTOR SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. ANY DAMAGE MADE TO THE UTILITY SHALL BE REPAIRED ON AN EMERGENCY BASIS PER THE LATEST SPECIFICATIONS OF THE CONCERNED UTILITY AND COMPLETED WORK SHALL BE APPROVED BY THE CONCERNED UTILITY. ANY DAMAGE SHALL BE REPORTED AND DOCUMENTED IMMEDIATELY TO THE M-NCPPC CONSTRUCTION MANAGER. REPAIR APPROVALS SHALL BE PROVIDED TO THE M-NCPPC CONSTRUCTION MANAGER.
19. DISCREPANCIES, OMISSIONS, AMBIGUITIES, OR CONFLICTS IN OR AMONG THE MNCPPC CONSTRUCTION DOCUMENTS OR DOUBT ABOUT THEIR MEANING SHALL BE BROUGHT TO THE ATTENTION OF THE MNCPPC CONSTRUCTION MANAGER FOR DIRECTION BEFORE PROCEEDING WITH WORK. IF CONFLICTS EXIST, THE MOST STRINGENT REQUIREMENT SHALL GOVERN UNLESS OTHERWISE STATED IN WRITING BY THE MNCPPC CONSTRUCTION MANAGER.
20. PRIOR TO VEGETATIVE STABILIZATION, ALL DISTURBED AREAS MUST BE TOPSOILED PER THE MONTGOMERY COUNTY "STANDARDS AND SPECIFICATIONS FOR TOPSOIL". IF ON-SITE MATERIALS DO NOT MEET REQUIREMENTS OF TOPSOIL, COORDINATE WITH M-NCPPC REGARDING TILLING-IN OF CERTIFIED COMPOST TO ON-SITE SOILS IN ORDER TO MEET SPECIFICATIONS.
21. NEITHER METAL SOD STAKES NOR TURF REINFORCEMENT MATTING WITH PLASTIC MONOFILAMENT ARE PERMITTED ON PARKLAND.
22. PAVEMENT REMOVAL SHALL INCLUDE REMOVAL OF GRAVEL SUBBASE AND SCARIFICATION OF SUBGRADE, UNLESS OTHERWISE DIRECTED BY M-NCPPC.
23. THIS SITE IS LOCATED IN THE SLIGO CREEK WATERSHED OF MONTGOMERY COUNTY. RUNOFF FROM THIS SITE DRAINS INTO SLIGO CREEK.

GENERAL NOTES

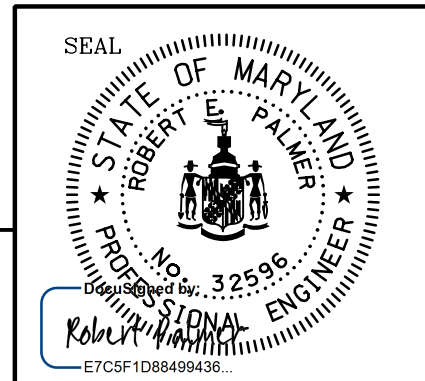
1. RIGHT OF WAY LINES ARE SHOWN FOR ASSISTANCE IN INTERPRETING PLANS. THESE LINES DO NOT REPRESENT THE OFFICIAL PROPERTY ACQUISITION LINES. FOR OFFICIAL RIGHT OF WAY AND EASEMENT INFORMATION, SEE THE APPROPRIATE RIGHT OF WAY PLAT.
2. TOPOGRAPHIC SURVEY WAS PERFORMED BY RK&K IN JANUARY 2018.
3. THE CONTRACTOR SHALL CALL "MISS UTILITY" AT LEAST 48 HOURS IN ADVANCE OF ANY EXCAVATION WORK AT 1-800-257-7777.
4. REPAIRS TO UTILITIES OR PROPERTY DAMAGED AS A RESULT OF THE CONTRACTOR'S NEGLIGENCE OR METHOD OF OPERATION MUST BE MADE AT THE CONTRACTOR'S EXPENSE BEFORE PROCEEDING WITH CONSTRUCTION.
5. CONSTRUCTION EQUIPMENT SHALL HAVE TREADS /TIRES CLEANED PRIOR TO LEAVING THE LOD. ALL MATERIAL REMOVAL /LOAD OUT SHALL BE LIFTED FROM THE LOD. ALL SEDIMENT SPILLED, DROPPED OR TRACKED ONTO THE ROAD MUST BE REMOVED IMMEDIATELY BY VACUUMING, SCRAPING OR SWEEPING.
6. ALL WORK ON THIS PROJECT SHALL CONFORM TO THE MARYLAND STATE HIGHWAY ADMINISTRATION'S 2018 STANDARD SPECIFICATION FOR CONSTRUCTION AND MATERIALS, REVISIONS THEREOF OR ADDITIONS THERETO, AND THE LATEST VERSION OF THE MARYLAND MUTCD.

ABBREVIATIONS

A.A.S.H.T.O. American Association of State Highway Transportation Officials	IN Inch	R.C.P. Reinforced Cement Pipe
ABAND Abandoned	I.S.T. Inlet Sediment Trap	R.C.C.P. Reinforced Cement Concrete Pipe
ADT Average Daily Traffic	INV Invert	R.Q.D. Rock Quality Designation
AHD Ahead	J.B. Junction Box	R.M. Roommat
APPROX Approximate	K K Inlet	S South
AUX Auxiliary	L Length	SAN. Sanitary Sewer
BL or BL Baseline	L.F. Linear Feet	SB Southbound
BK Back /Book	L.L. Liquid Limit	S.D. Storm Drain
BIT. Bituminous	LOD Limit of Disturbance	S.D.D. Surface Drain Ditch
B.C. Bituminous Concrete	L.P. Light Pole	S.E. Super Elevation
B.M. Bench Mark	LT. Left	SF Silt Fence
BOT. Bottom	M-NCPPC Maryland-National Capital Park and Planning Commission	S.F. Square Feet
C.C. Center of Curve	MAC Macadam	SHLD. Shoulder
CAB. Utility Cabinet	M.C. Moisture Content	SHT. Sheet
CATV Cable Television	MAX. Maximum	S.P.P. Structural Plate Pipe
Q.B.R. California Bearing Ratio	M.D.D. Maximum Dry Content	S.P.T. Standard Penetration Testing
CL Centerline	MOD Modified	SSD Stopping Sight Distance
CL Class	MIN. Minimum	SSF Super Silt Fence
CLF Chainlink Fence	N North	STD. Standard
CMP Corrugated Metal Pipe	NB Northbound	STA. Station
CMPA Corrugated Metal Pipe Arch	NE Northeast	SO. Single Opening
C.O. Cleanout	N.P. Non-Plastic	S.Y. Square Yards
COMB Combination	O.C. On Center	SWM Stormwater Management
CONC Concrete	OHE Overhead Electric	T Tangent
CONSTR Construction	O.M. Optimum Moisture	T Telephone
COR Corner	PAV/T Pavement	T.C. Top of Cover
CORR Correction	P.C. Point of Curvature	T.G. Top of Grate
DC Degree of Curve	P.C.Q. Point of Compound Curvature	T or TL Traverse Line
D.H.V. Design Hourly Volume	P/C Point of Crown	T.M. Top of Manhole
D.I. Drop Inlet	P Plate	TRAV. Traverse
DIA. Diameter	PED Utility Pedestal	TS Temporary Swale
D.O. Double Opening	PGE Profile Grade Elevation	T.S. Top of Slab
DPS Department of Permitting Services	PGL Profile Grade Line	T.S. Topsoil
E East	PGL Profile Ground Line	TYP. Typical
E Electric	P/R Point of Rotation	U.D. Under Drain
E External Distance	P.I. Plasticity Index	U.G. Underground
EA Each	P.I. Point of Intersection	U.P. Utility Pole
EB Eastbound	P.O.C. Point On Curve	U.S.D.A. United States Department of Agriculture
ELEV Elevation	P.O.T. Point On Tangent of Agriculture
E.R.C.C.P. Elliptical Reinforced Cement Concrete Pipe	PROP Proposed	VCL Vertical Clearance
ES End Section	P.R.C. Point of Reverse Curve	V.C.L. Vertical Curve Length
EX. or EXIST. Existing	PT. Point	W Water
FT Feet	P.T. Point of Tangency	W West
F or FL Flowline	P.V.C. Point of Vertical Curve	WB Westbound
F.B.D. Flat Bottom Ditch	PVC Polyvinyl Chloride	WB Wetland Buffer
F.H. Fire Hydrant	PVI Point of Vertical Intersection	W.M. Water Meter
FWD Forward	PVBC Point of Vertical Reverse Curve	W.S. Wrapped Steel
G Gas	PVT Point of Vertical Tangency	W.S.S.C. Washington Suburban Sanitation Commission
G.V. Gas Valve	R Radius	W.V. Water Valve
H.B. Handbox	RELOC Relocated	X-SLOPE Cross Slope
H.D.P.E. High Density Polyethylene Pipe	R.F. Rock Fragments	
HDWL Headwall	RT Right	
H.E.R.C.P. Horizontal Elliptical Reinforced Concrete Pipe	RW or R'W Right of Way	
H.P. High Point		

\\basr\03\2010\2010\0031_TakomaPK\Task_14_Takoma Branch SR\CADD\Plans\p48-001_001\001_TakomaBranch.dgn Thursday, August 20, 2020 AT 09:19 AM

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Responsive People | Creative Solutions

DESIGN BY: NSR
DRAWN BY: NSR
CHECK BY: REP

JULY 2020

DEPARTMENT OF PUBLIC WORKS

CITY OF TAKOMA PARK

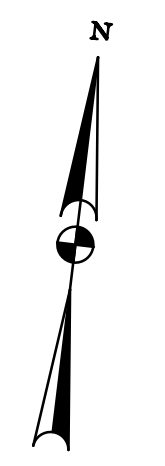
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M-NCPPC	TAKOMA PARK	0025	--	--	681	45091	0160

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GENERAL NOTES

SCALE: NTS. SHEET 2 OF 19



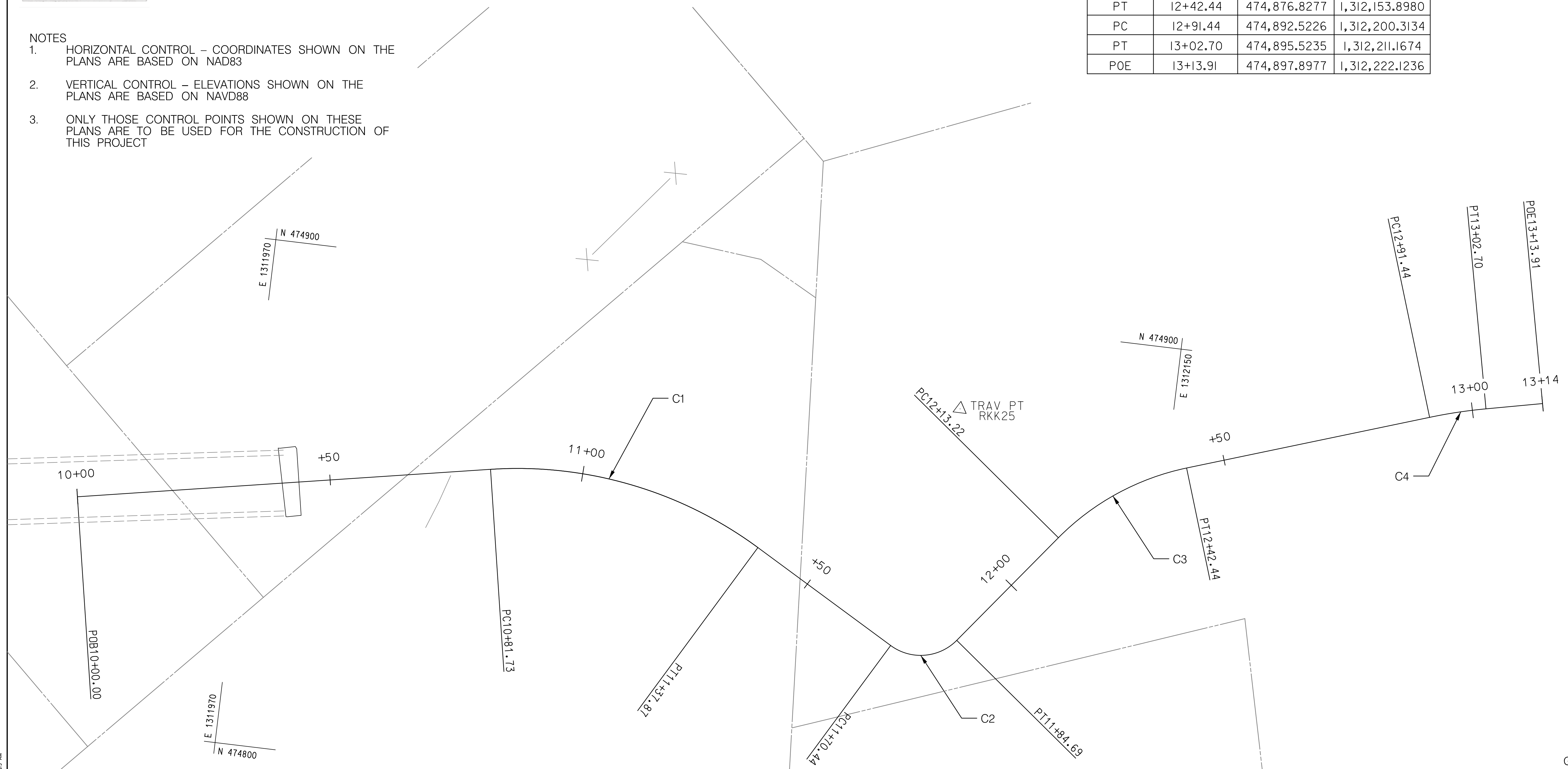
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TRAVERSE POINTS				
TRAVERSE	NORTHING	EASTING	ELEVATION	DESCRIPTION
JPHI*	474,906.8014	1,312,366.7263	153.49'	REBAR & CAP
JPH2*	475,012.2733	1,312,522.1661	129.43'	REBAR & CAP
RKK25	474,883.0534	1,312,108.0979	151.11'	REBAR & CAP
RKK150*	475,087.5106	1,312,641.7917	136.32'	REBAR & CAP
RKK151*	475,033.4910	1,312,191.7733	147.40'	X-CUT

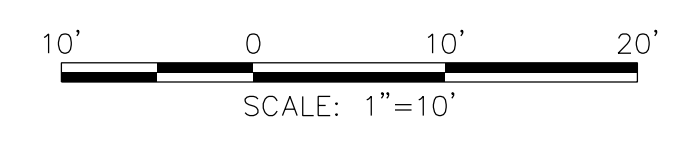
CURVE DATA						
POINT	Δ	Dc	R	T	L	E
C1	40° 12' 39.55"	71° 37' 11.0"	80.00'	29.28'	56.15'	5.19'
C2	81° 41' 29.09"	572° 57' 28.06"	10.00'	8.65'	14.26'	3.22'
C3	33° 29' 17.72"	114° 35' 29.61"	50.00'	15.04'	29.22'	2.21'
C4	6° 27' 20.30"	57° 17' 44.81"	100.00'	5.64'	11.27'	0.16'

BASELINE CONTROL POINTS			
POINT	STATION	NORTHING	EASTING
POB	10+00.00	474,844.9137	1,311,937.1995
PC	10+81.73	474,860.0745	1,312,017.5100
PT	11+37.87	474,851.0772	1,312,071.7691
PC	11+70.44	474,835.0324	1,312,100.1043
PT	11+84.69	474,837.6011	1,312,112.9301
PC	12+13.22	474,860.1278	1,312,130.4220
PT	12+42.44	474,876.8277	1,312,153.8980
PC	12+91.44	474,892.5226	1,312,200.3134
PT	13+02.70	474,895.5235	1,312,211.1674
POE	13+13.91	474,897.8977	1,312,222.1236

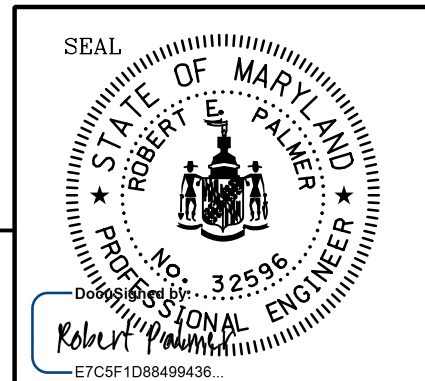
- NOTES
- HORIZONTAL CONTROL - COORDINATES SHOWN ON THE PLANS ARE BASED ON NAD83
 - VERTICAL CONTROL - ELEVATIONS SHOWN ON THE PLANS ARE BASED ON NAVD88
 - ONLY THOSE CONTROL POINTS SHOWN ON THESE PLANS ARE TO BE USED FOR THE CONSTRUCTION OF THIS PROJECT



\\basr\03\2020\2010\0031_TakomaPark\Task 14_Takoma Branch SR\CAD\Plans\p65-P001_01\fall_TakomaBranch.dgn
 Thursday, August 20, 2020 AT 09:15 AM



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DESIGN BY: NSR
 DRAWN BY: NSR
 CHECK BY: REP
 JULY 2020

DEPARTMENT OF PUBLIC WORKS
CITY OF TAKOMA PARK
 31 OSWEGO AVENUE
 TAKOMA PARK, MD 20910

OWNER NAME	LEGAL DESCRIPTION	SUBDIVISION	LOT	BLOCK	PARCEL	LIBER	FOLIO
RAMIN RAD	GIBBS & KOSACKS ADD	0025	25	16A	--	41972	0091
M-NCPPC	PAR A SLIGO MILL TOWNES	0025	--	--	721	21966	0298
M-NCPPC	V J 180-28 (PG) PAR A POPLAR MILL	0025	--	--	--	20412	0317
M-NCPPC	TAKOMA PARK	0025	--	--	681	45091	0160

GS-01

TAKOMA BRANCH STREAM RESTORATION AT SLIGO MILL NCA
 SURVEY CONTROL AND GEOMETRY SHEET

SCALE: 1"=10' SHEET 3 OF 19

POPLAR AVENUE



THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION, DEPARTMENT OF PARK AND PLANNING

M-NCPPC PERMIT NO. **2019-032**

PARK: **C44**

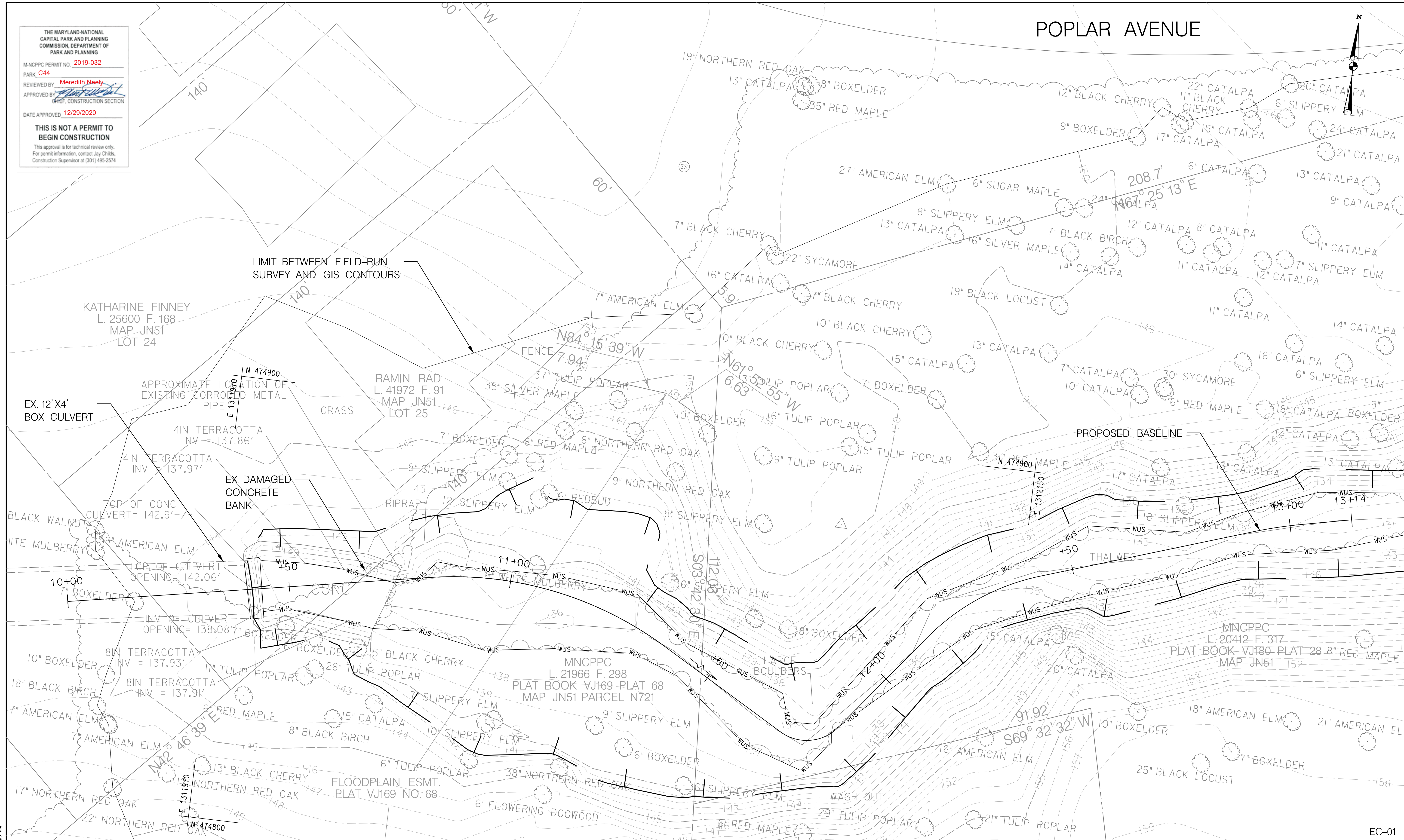
REVIEWED BY: **Meredith Neely**

APPROVED BY: *[Signature]*

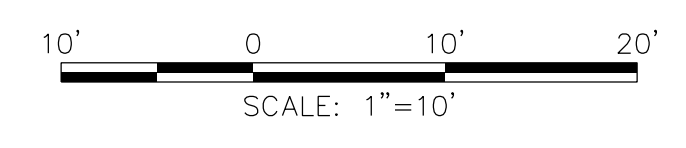
DATE APPROVED: **12/29/2020**

THIS IS NOT A PERMIT TO BEGIN CONSTRUCTION

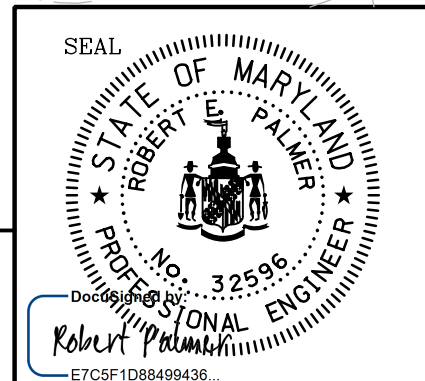
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\\basr\03\2010\2010\0031_TakomaPK\Task 14_Takoma Branch SR\CADD\Plans\pcc-0001_001.dwg, Thursday, August 20, 2020, AT 09:15 AM



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DRAWN BY: NSR
CHECK BY: REP

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M-NCPPC	V J 180-28 (PG) PAR A POPLAR MILL	0025	--	--	--	20412	0317
M-NCPPC	TAKOMA PARK	0025	--	--	681	45091	0160

TAKOMA BRANCH STREAM RESTORATION AT SLIGO MILL NCA

EXISTING CONDITIONS PLAN

SCALE: 1"=10' SHEET 4 OF 19

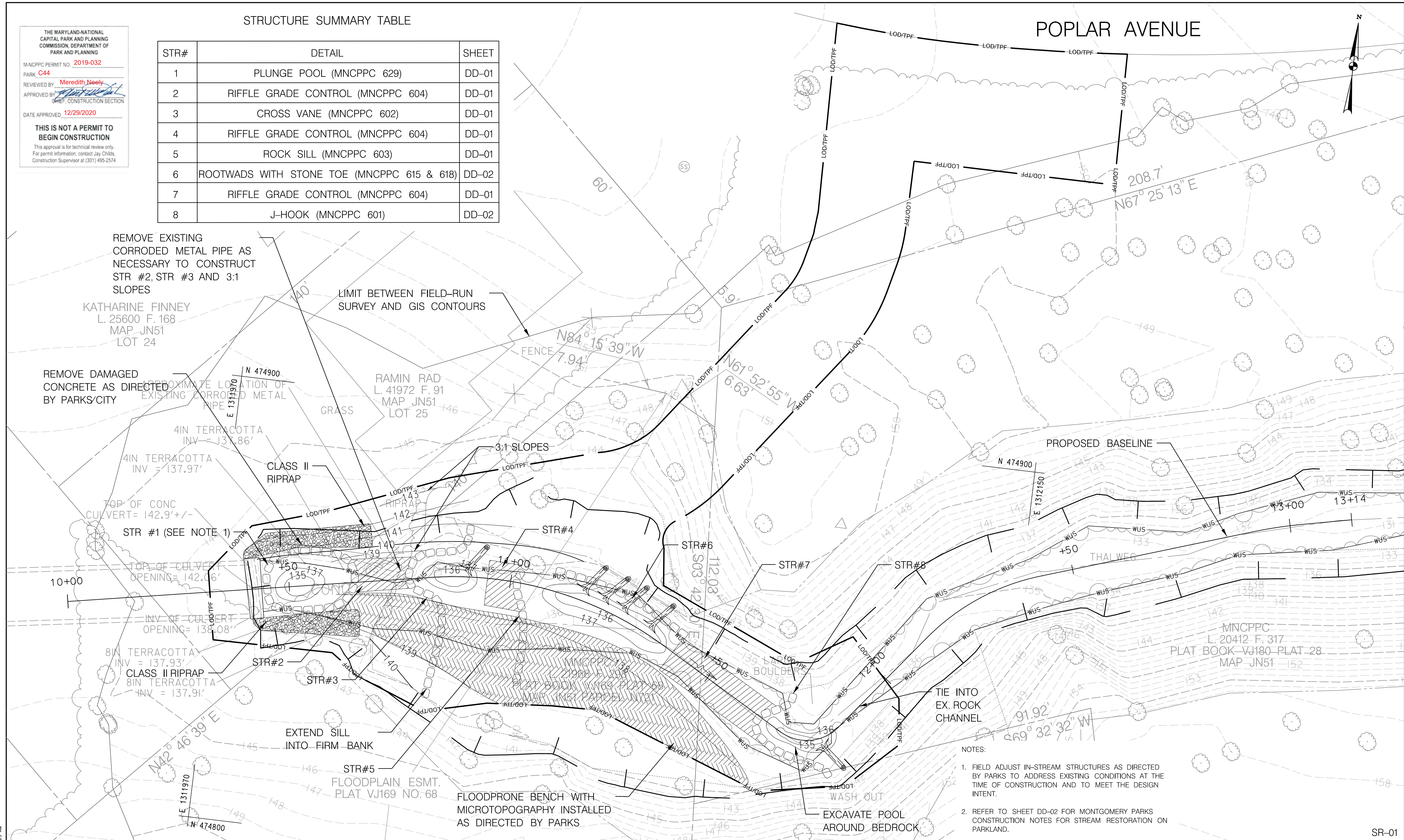
EC-01

STRUCTURE SUMMARY TABLE

STR#	DETAIL	SHEET
1	PLUNGE POOL (MNCPPC 629)	DD-01
2	RIFFLE GRADE CONTROL (MNCPPC 604)	DD-01
3	CROSS VANE (MNCPPC 602)	DD-01
4	RIFFLE GRADE CONTROL (MNCPPC 604)	DD-01
5	ROCK SILL (MNCPPC 603)	DD-01
6	ROOTWADS WITH STONE TOE (MNCPPC 615 & 618)	DD-02
7	RIFFLE GRADE CONTROL (MNCPPC 604)	DD-01
8	J-HOOK (MNCPPC 601)	DD-02

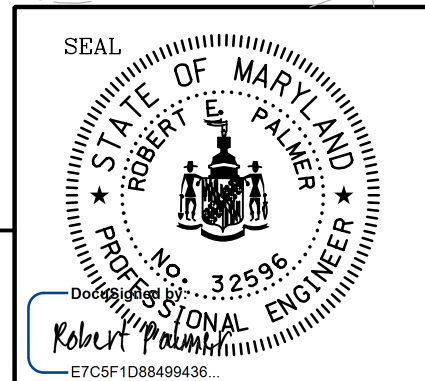
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION, DEPARTMENT OF PARK AND PLANNING
 M-NCPPC PERMIT NO. 2019-032
 PARK C44
 REVIEWED BY: Meredith Neely
 APPROVED BY: [Signature]
 CHIEF, CONSTRUCTION SECTION
 DATE APPROVED: 12/29/2020
THIS IS NOT A PERMIT TO BEGIN CONSTRUCTION
 This approval is for technical review only. For permit information, contact Jay Childs, Construction Supervisor at (301) 495-2574

POPLAR AVENUE



- NOTES:
- FIELD ADJUST IN-STREAM STRUCTURES AS DIRECTED BY PARKS TO ADDRESS EXISTING CONDITIONS AT THE TIME OF CONSTRUCTION AND TO MEET THE DESIGN INTENT.
 - REFER TO SHEET DD-02 FOR MONTGOMERY PARKS CONSTRUCTION NOTES FOR STREAM RESTORATION ON PARKLAND.

SR-01



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 CHECK BY: REP
 JULY 2020
 DEPARTMENT OF PUBLIC WORKS
CITY OF TAKOMA PARK
 31 OSWEGO AVENUE
 TAKOMA PARK, MD 20910

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M-NCPPC	TAKOMA PARK	0025	--	--	681	45091	0160

TAKOMA BRANCH STREAM RESTORATION AT SLIGO MILL NCA
 STREAM RESTORATION PLAN
 SCALE: 1"=10' SHEET 5 OF 19

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\\basr\03\2010\2010\0031_TakomaPK\Task_14_Takoma Branch SR\CADD\Plans\SR-POOL_Outfall_TakomaBranch.dgn
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THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION, DEPARTMENT OF PARK AND PLANNING

M-NCPPC PERMIT NO. 2019-032

PARK C44

REVIEWED BY Meredith Neely

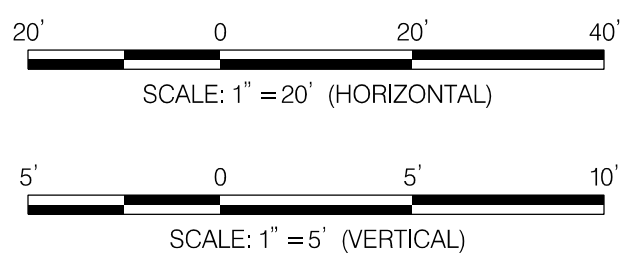
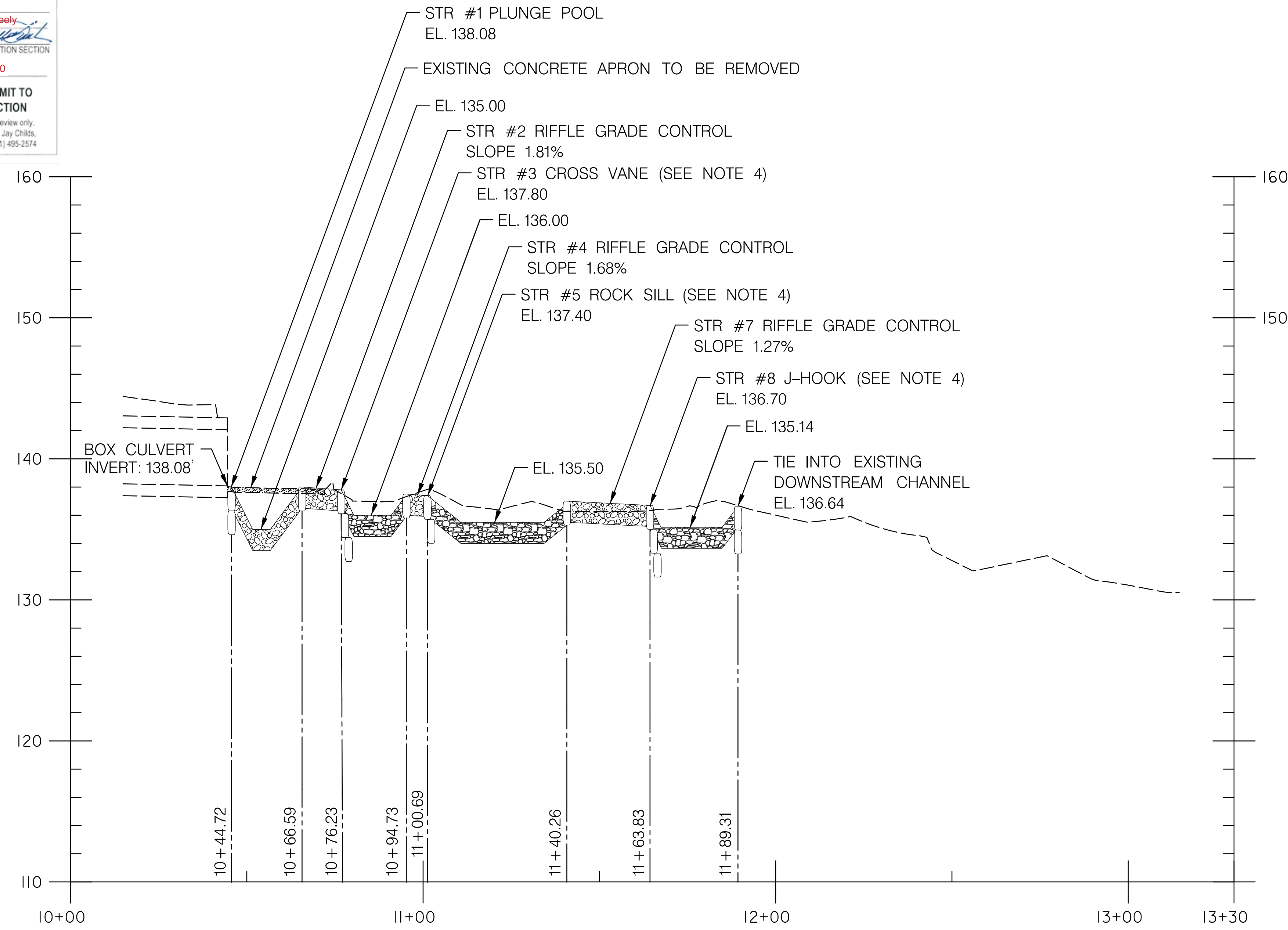
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CHIEF, CONSTRUCTION SECTION

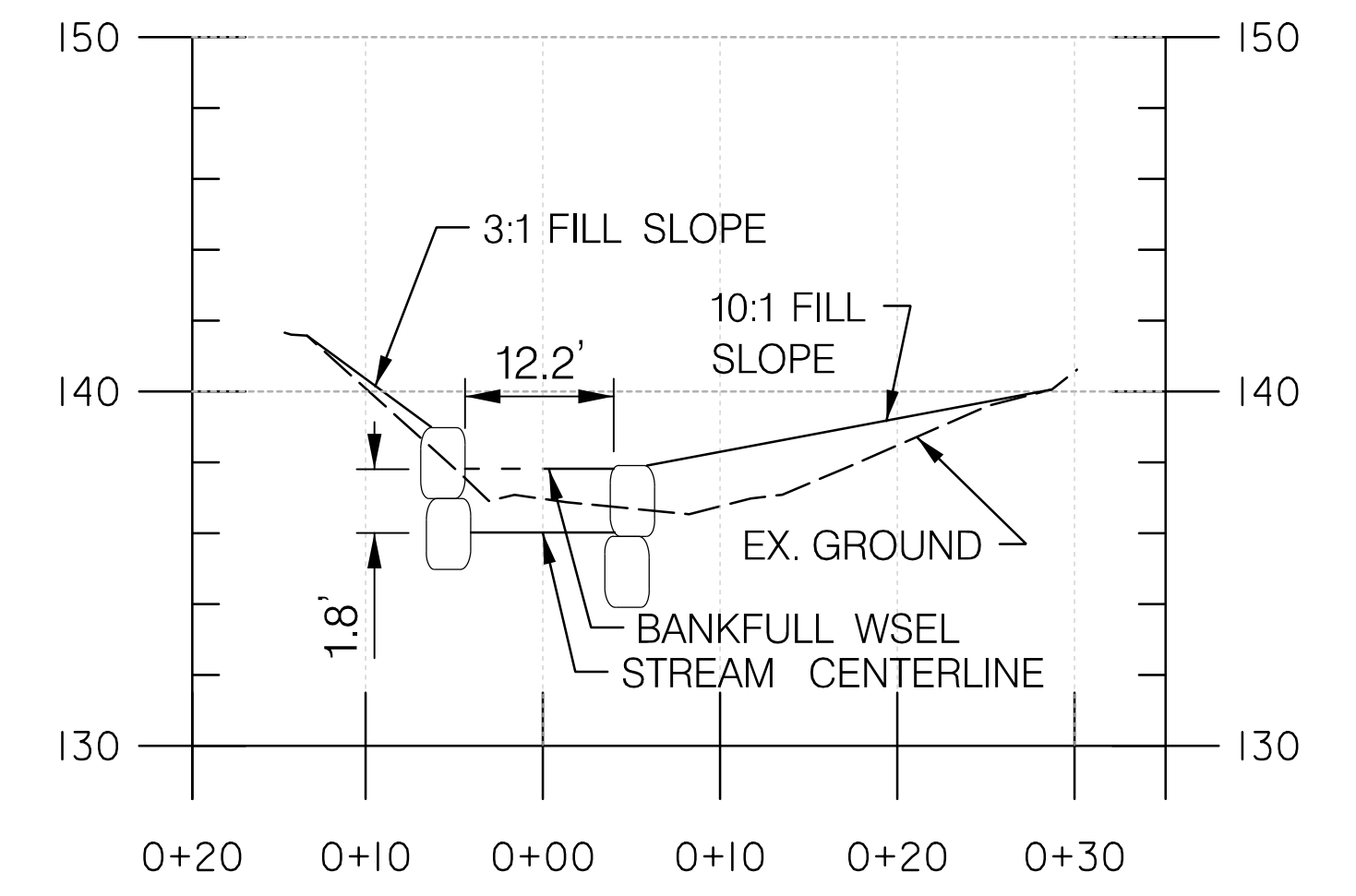
DATE APPROVED 12/29/2020

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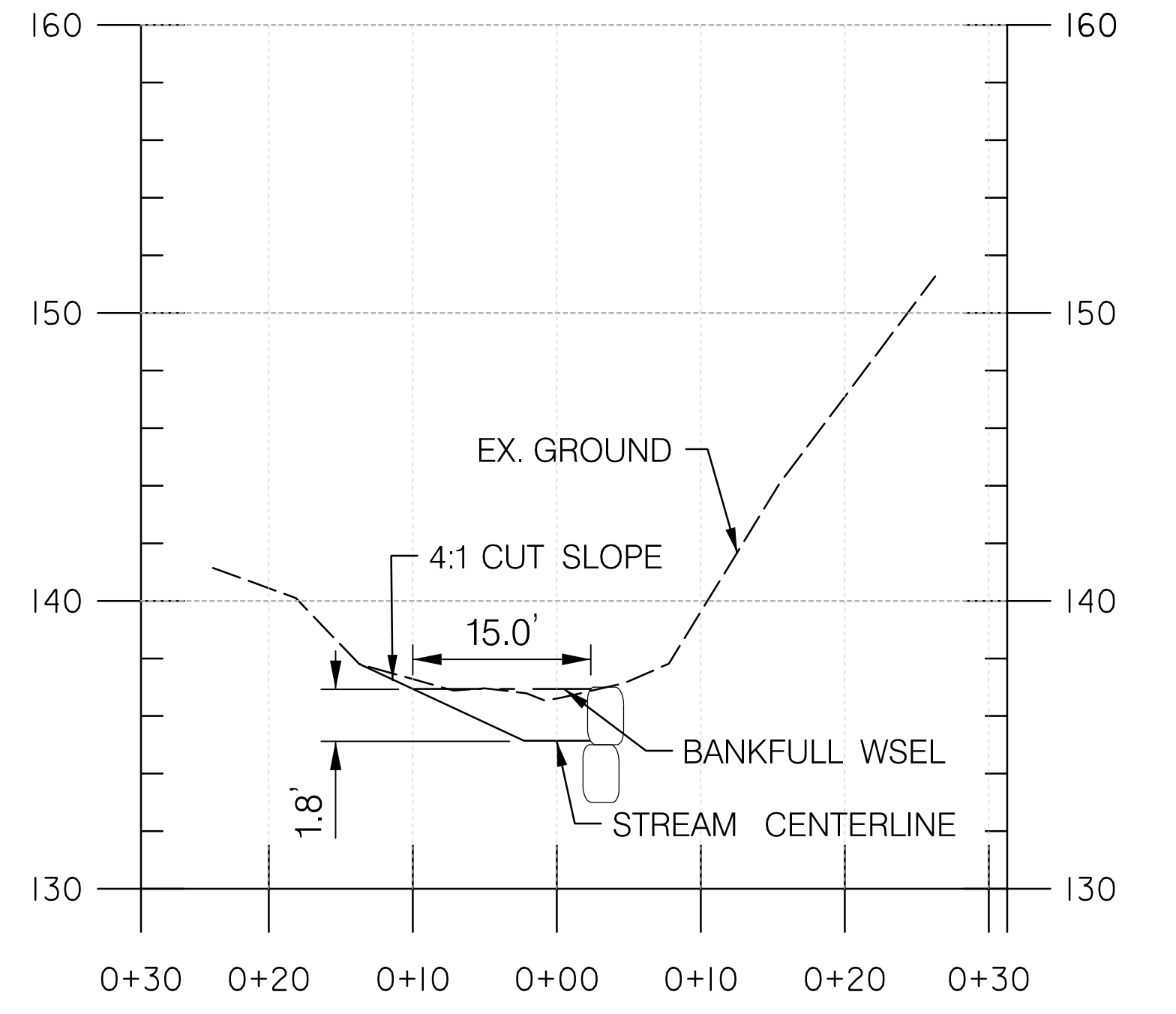
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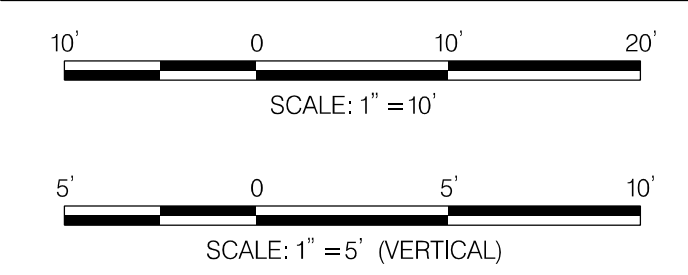
PROFILE ALONG BASELINE OF CONSTRUCTION



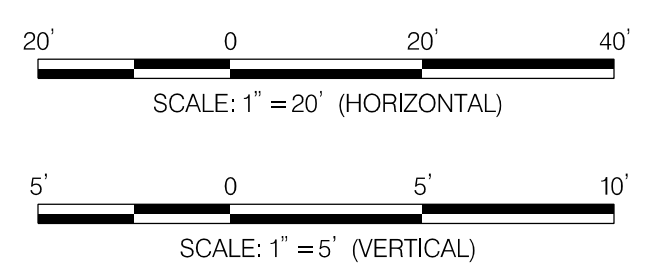
STRUCTURE 3 SECTION



STRUCTURE 8 SECTION



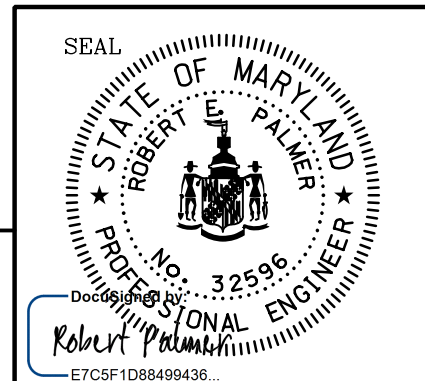
- NOTES:
- SEE SHEET DD-01 & DD-02 FOR IN-STREAM STRUCTURE DETAILS AND SPECIFICATIONS.
 - INSTALL ROOTWADSWOODY MATERIAL INTO POOLS AS DIRECTED BY PARKS (NOT SHOWN FOR CLARITY).
 - ROCKS SHOWN ON PROFILE ARE SYMBOLIC AND DO NOT REPRESENT INDIVIDUAL STONES. SEE SHEET DD-02 FOR ROCK SIZING AND DIMENSIONS.
 - EMBED FOOTER BOULDERS MIN. 1.5' BELOW POOL BOTTOM.



LEGEND

- IMBRICATED STONE
- CHANNEL BED STABILITY MIX (BSM) TYPE 'D'
- NATURAL STREAM BED MATERIAL

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DEPARTMENT OF PUBLIC WORKS
CITY OF TAKOMA PARK
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M-NCPPC	PAR A SLIGO MILL TOWNES	0025	--	--	721	21966	0298
M-NCPPC	V J 180-28 (PG) PAR A POPLAR MILL	0025	--	--	--	20412	0317
M-NCPPC	TAKOMA PARK	0025	--	--	681	45091	0160

TAKOMA BRANCH STREAM RESTORATION AT SLIGO MILL NCA
STREAM RESTORATION PROFILE AND CROSS SECTIONS

SCALE: AS SHOWN SHEET 6 OF 19

\\bdrsr\03\2010\2010\0031_TakomaPark\Task 14_Takoma Branch SR\CADD\Plans\gdp-P001_Outfall_TakomaBranch.dgn Thursday, August 20, 2020 AT 09:15 AM

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION, DEPARTMENT OF PARK AND PLANNING

M-NCPPC PERMIT NO. **2019-032**

PARK **C44**

REVIEWED BY: **Meredith Neely**

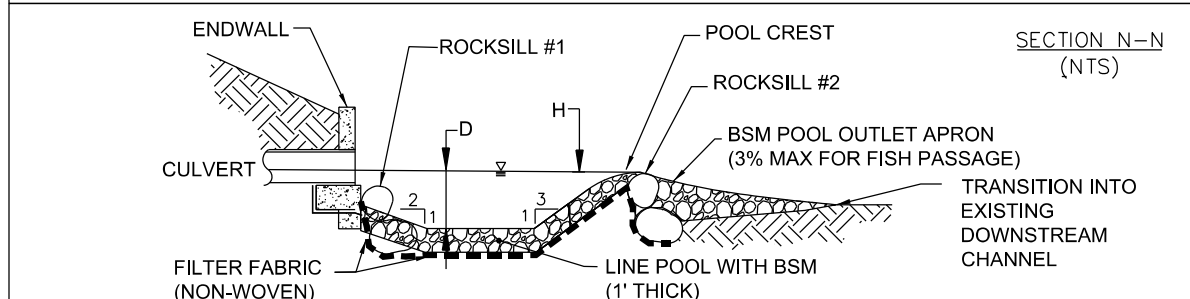
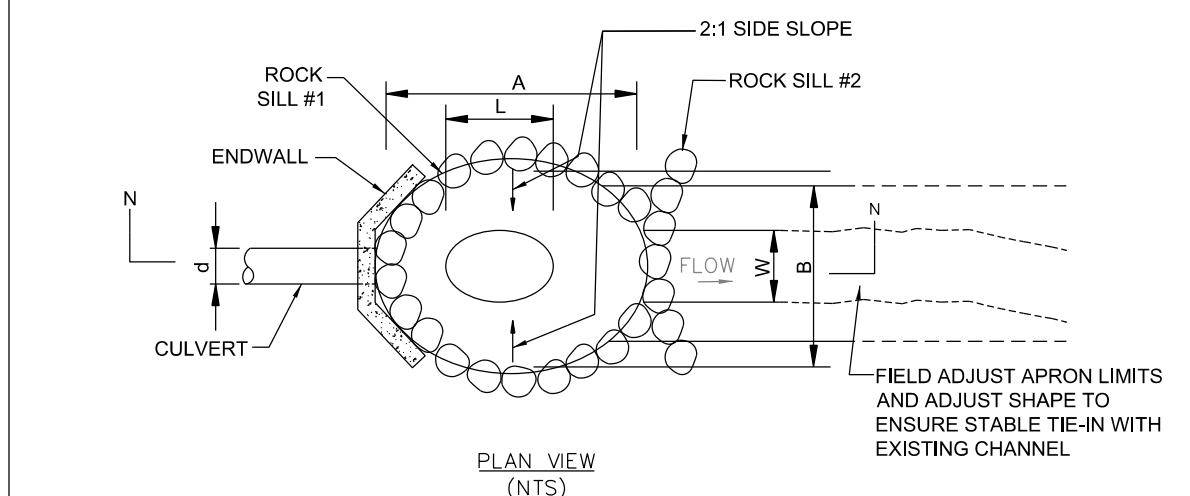
APPROVED BY: *[Signature]*

DATE APPROVED: **12/29/2020**

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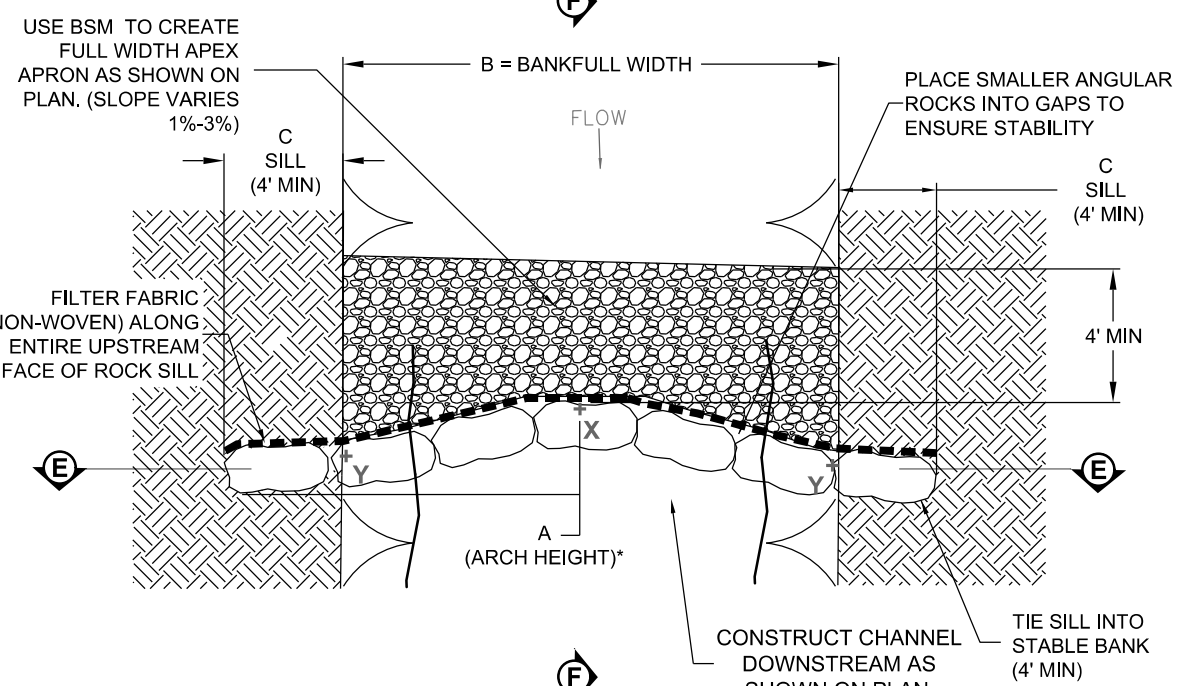
DETAIL 629: PLUNGE POOL DETAIL



SIZE VARIABLE:	d	A	B	L	W	D	H	R
DESCRIPTION:	CULVERT WIDTH	POOL TOP LENGTH	POOL TOP WIDTH	POOL BOTTOM LENGTH	POOL BOTTOM WIDTH	POOL DEPTH	BACKWATER (ABOVE CULVERT INVERT)	ROCKSILL #2 HEIGHT ABOVE INVERT
SIZING GUIDE:	BOX	2d-4d	1.5d-3d	1.5d-3d	0.5d-1.5d	1.5'-3'	0-1.5'	0-1.5'
STR #1	12'x4'	20'	12'	5'	3'	36"	0"	0"

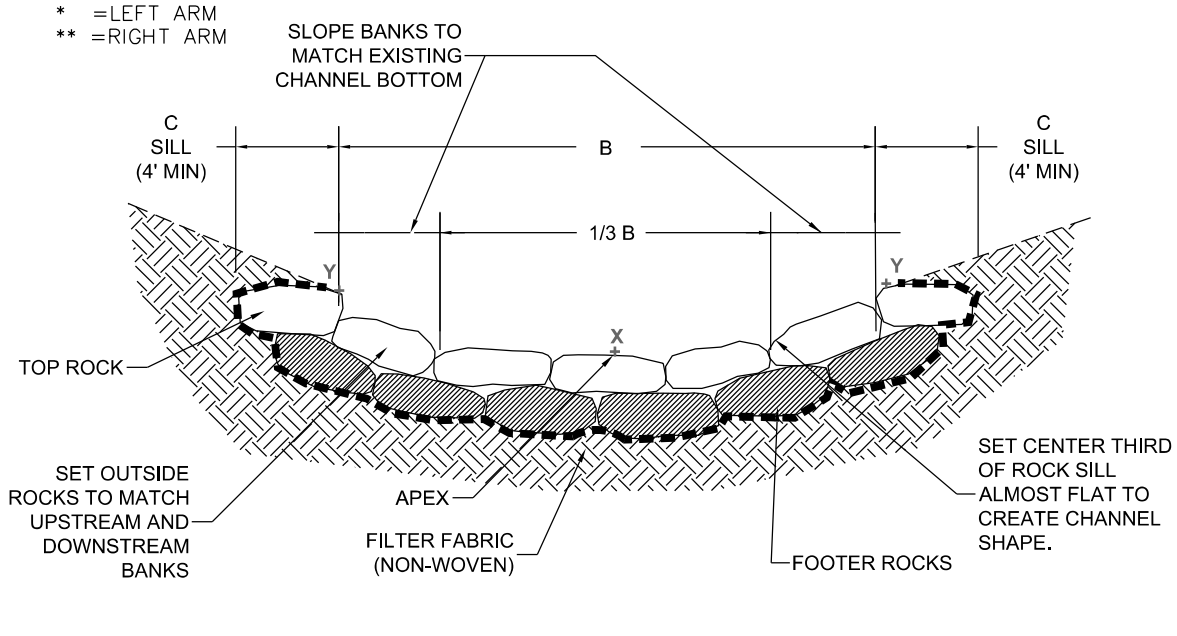
- PLUNGE POOL NOTES:**
- PLUNGE POOL IS A MODIFIED MDE D-4.2 PLUNGE POOL SUITED FOR IN-STREAM SCOUR PROTECTION.
 - FIELD ADJUST PLUNGE POOL DIMENSIONS WITH COORDINATION WITH PARKS TO MINIMIZE NATURAL RESOURCE IMPACTS.
 - ADJUST THE PLUNGE POOL OUTLET TO ENSURE STABLE TRANSITION AND FISH PASSAGE THROUGH EXISTING CHANNEL.
 - TOP OF ROCK SILL #2 SHOULD NOT EXTEND ABOVE MORE THAN 2/3 CULVERT HEIGHT.
 - ALL STONE ABOVE BACKFILL ELEVATION SHALL BE BACKFILLED WITH TOP SOIL AND VEGETATED.
 - BACKWATER DEPTH VARIES DEPENDING ON CULVERT SIZE, SLOPE, AND UPSTREAM CONDITIONS.
 - MULTIPLE PLUNGE POOLS MAY BE USED IN SERIES AS CONDITIONS PERMIT.
 - EXTEND ENDWALL HEIGHT TO REDUCE PIPE LENGTH TO EXTENT PRACTICAL.

DETAIL 603: ROCK SILL DETAIL

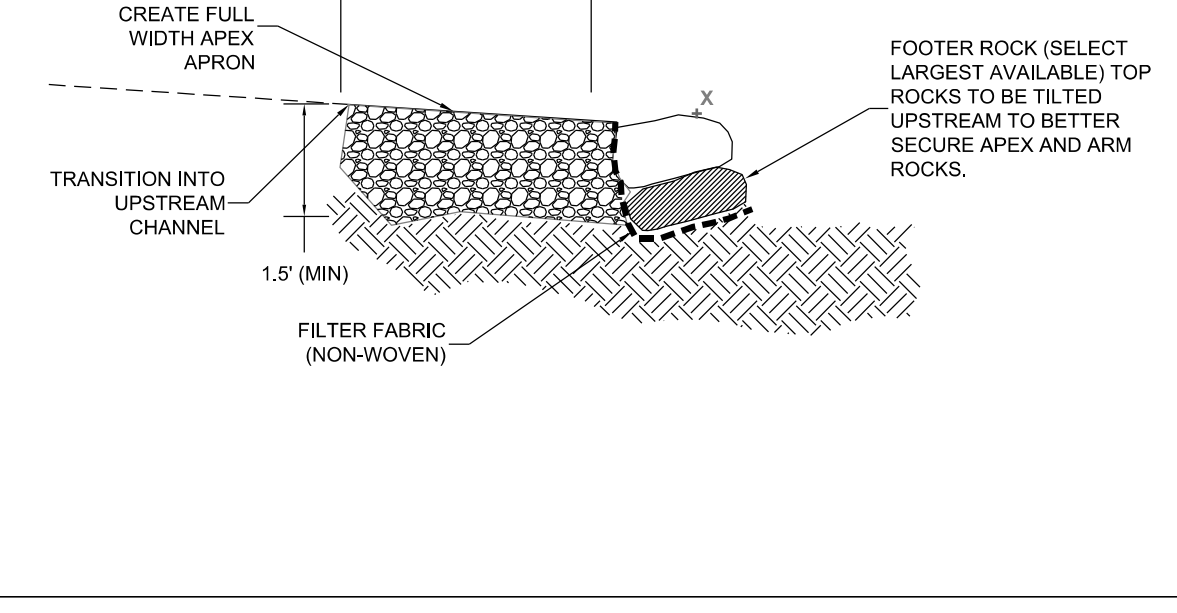


*NOTE: VANE ARM SHALL BE SHALLOW (5° OR 1:12) WHERE RIFFLE IS PLACED UPSTREAM OR WITHIN RIFFLE. VANE ARM SHALL BE MORE ARCHED (UP TO 20° OR 1:3) WHERE POOL IS PLACED DOWNSTREAM OF ROCK SILL.

STR. #	STA.	POINT "X" C/L OFFSET (FT)	A (ARCH HEIGHT) (FT)	B (BANKFULL WIDTH) (FT)	X (MSL) (FT)	Y (MSL) (FT)
STR #5*	11+00.69	0	2.5	15	137.40	139.00
STR #6**	11+00.69	0	2.5	15	137.40	138.00

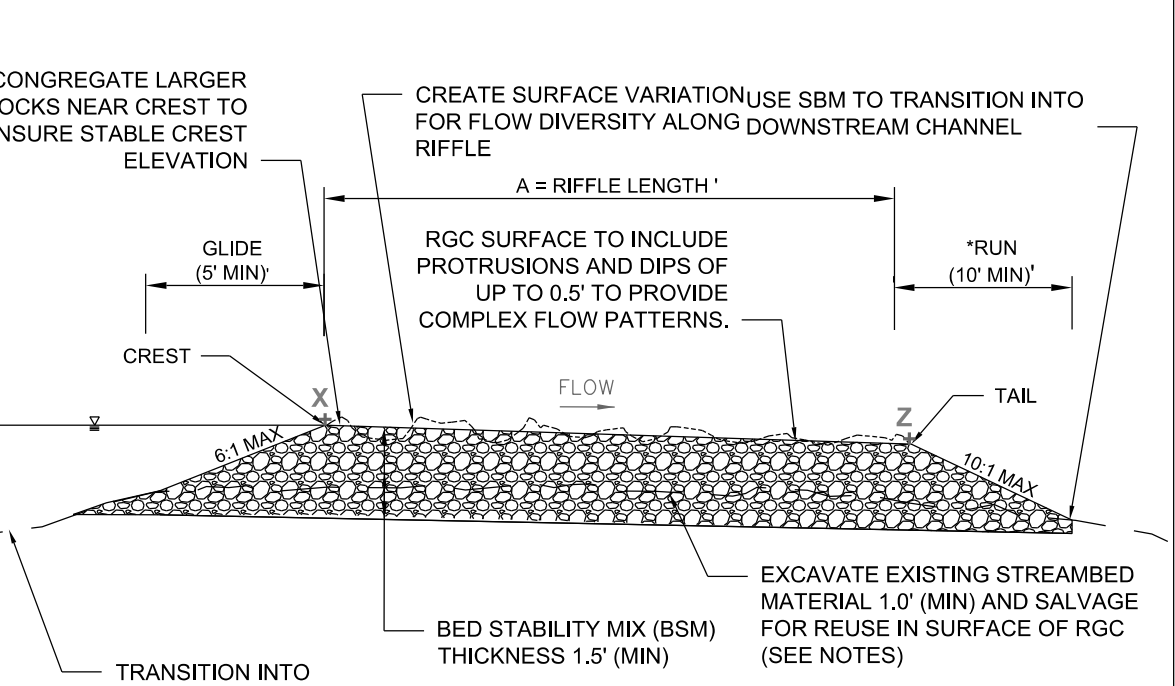


STR. #	CREST STA.	CREST ELEVATION	A (FT)	B (BANKFULL WIDTH) (FT)	D (FT)	X (MSL) (FT)	Z (MSL) (FT)	BED STABILITY MIX TYPE
STR #2	10+66.59	138.00	14.57	15	5	138.00	137.80	D
STR #4	10+94.73	137.80	5.96	15	5	137.80	137.40	D
STR #7	11+40.26	137.00	23.57	15	5	137.00	136.70	D



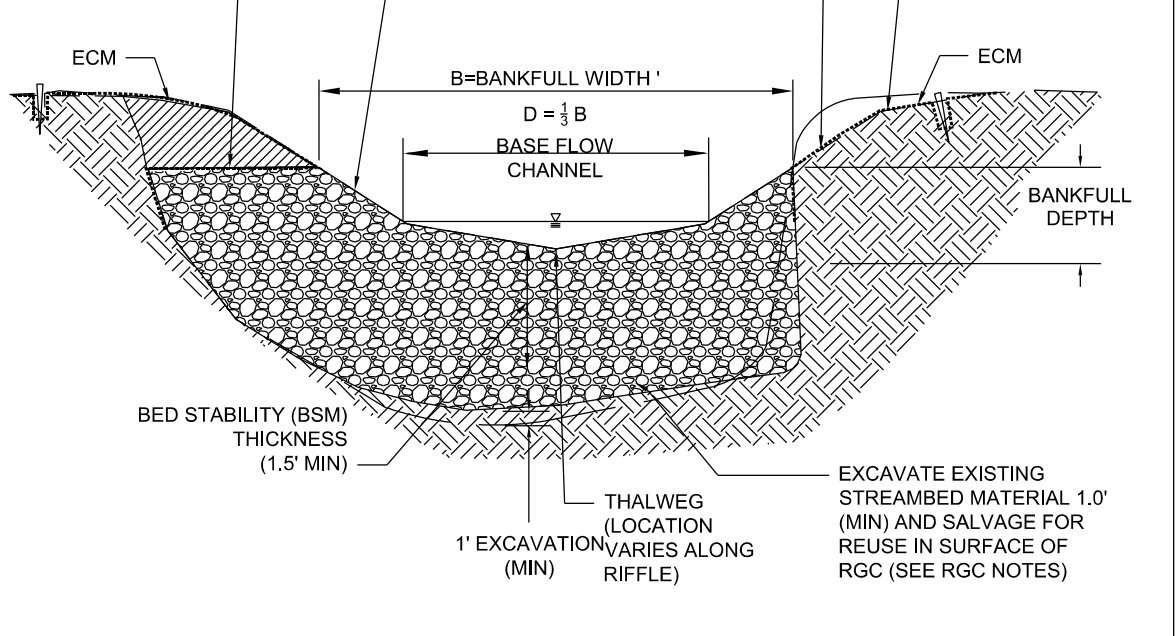
- RS NOTES:**
- CONTRACTOR SHALL LAY OUT CRITICAL POINTS OF STRUCTURE TO REVIEW WITH CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION. ALL DIMENSIONS AND ELEVATIONS SHALL BE FIELD ADJUSTED IN COORDINATION WITH THE CONSTRUCTION MANAGER TO ENSURE PROPER ORIENTATION, STABLE INSTALLATION, FISH PASSAGE, AND SMOOTH TIE-IN TO ADJACENT FEATURES.
 - IMPORTED ROCKS SHALL BE IMBRICATED WITH RECTANGULAR BLOCK SHAPE. APPROPRIATELY SIZED SALVAGED ROCK CAN BE UTILIZED WITH APPROVAL FROM CONSTRUCTION MANAGER.
 - THE ELEVATION DIFFERENCE BETWEEN ELEVATION "X" AND ELEVATION "Y" SHALL BE APPROXIMATELY BANKFULL, BUT NO LESS THAN 0.4' (SEE STRUCTURE TABLE FOR ACTUAL ELEVATION DIFFERENCE).
 - STATION REFERENCE POINT "X" IS LOCATED AT CHANNEL CENTERLINE UNLESS OTHERWISE SPECIFIED ON PLANS.
 - FOOTER ROCKS NOT SHOWN IN PLAN VIEW FOR CLARITY. FOOTER ROCKS SHALL UTILIZE LARGEST MATERIAL AVAILABLE. FOOTER ROCKS SHALL BE PLACED SO TOP SURFACE ANGLES TO THE UPSTREAM/OUTSIDE EDGE OF STRUCTURE IN ORDER TO BETTER ALLOW FOR SECURE PLACEMENT OF TOP ROCKS.
 - STONE PLACEMENT SHALL BE FIELD ADJUSTED TO CREATE ARCHED SHAPE WITH ABUNDANT SURFACE CONTACT BETWEEN ALL STONES TO ENSURE STONE WILL REMAIN IN PLACE OVER FULL RANGE OF FLOW CONDITIONS.
 - TIE IN SILLS SHALL EXTEND 4' MINIMUM INTO STABLE CHANNEL BANK.
 - PLACE FILTER FABRIC (NON-WOVEN) ON UPSTREAM SIDE OF SILL. FABRIC SHALL COVER THE UPSTREAM FACE OF THE ENTIRE SILL. ENSURE FILTER FABRIC (NON-WOVEN) IS SECURED BY SETTING IT UNDERNEATH THE FOOTER ROCKS, WRAPPING IT ALL THE WAY UP AROUND THE TOP ROCKS, AND SECURING IT USING BSM ON THE BACK SIDE TO HOLD IT IN PLACE.
 - ROCKS SHALL BE TIGHT FITTING WITH NO VOIDS/GAPS ALONG APEX AND VANE ARMS. PLACE SMALLER ANGULAR STONE IN ANY REMAINING SPACES TO ESTABLISH SURFACE FLOW AND INTERCONNECTION OF ROCKS.
 - STREAMBED MATERIAL TO BE SALVAGED FROM EXISTING CHANNEL, AND ONLY FURNISHED AS NECESSARY. IF SITE DOES NOT PROVIDE ENOUGH SALVAGED MATERIAL, FURNISHED STREAMBED MATERIAL SHALL BE BURED WITH SALVAGED MATERIAL RESERVED FOR SURFACE LAYER.
 - NUMBER OF VANE ROCKS SHOWN FOR GRAPHICAL PURPOSES ONLY. ACTUAL NUMBER OF ROCKS FOR THE STRUCTURE SHALL DEPEND ON ROCK SIZE AND STREAM WIDTH.
 - BACKFILL UPSTREAM SIDES OF APEX AND VANE ARMS WITH BSM.
 - FOOTER ROCKS NOT SHOWN IN PLAN VIEW FOR CLARITY. FOOTER ROCKS SHALL UTILIZE LARGEST MATERIAL AVAILABLE. FOOTER ROCKS SHALL BE PLACED SO TOP SURFACE ANGLES TO THE UPSTREAM IN ORDER TO BETTER ALLOW FOR SECURE PLACEMENT OF TOP ROCKS.
 - NO SINGLE DROP FROM A STRUCTURE APEX TO THE NEXT STRUCTURE APEX AND/OR RIFFLE CREST SHALL EXCEED 0.5'. ANY EXCEPTIONS MUST BE APPROVED BY CONSTRUCTION MANAGER.
 - COMPLETED STRUCTURE WILL HAVE FLOW OVER THE APEX DURING BASEFLOW CONDITIONS WITH CONSISTENT ARM SLOPES UP FROM THE APEX TO A STABLE SILL TIE-IN AT BANKFULL INTO EXISTING GROUND.
 - STONE OF SERPENTINE ORIGIN IS NOT PERMITTED.

DETAIL 604: RIFFLE GRADE CONTROL DETAIL



*NOTE: RIFFLE GRADE CONTROL (RGC) TABLE

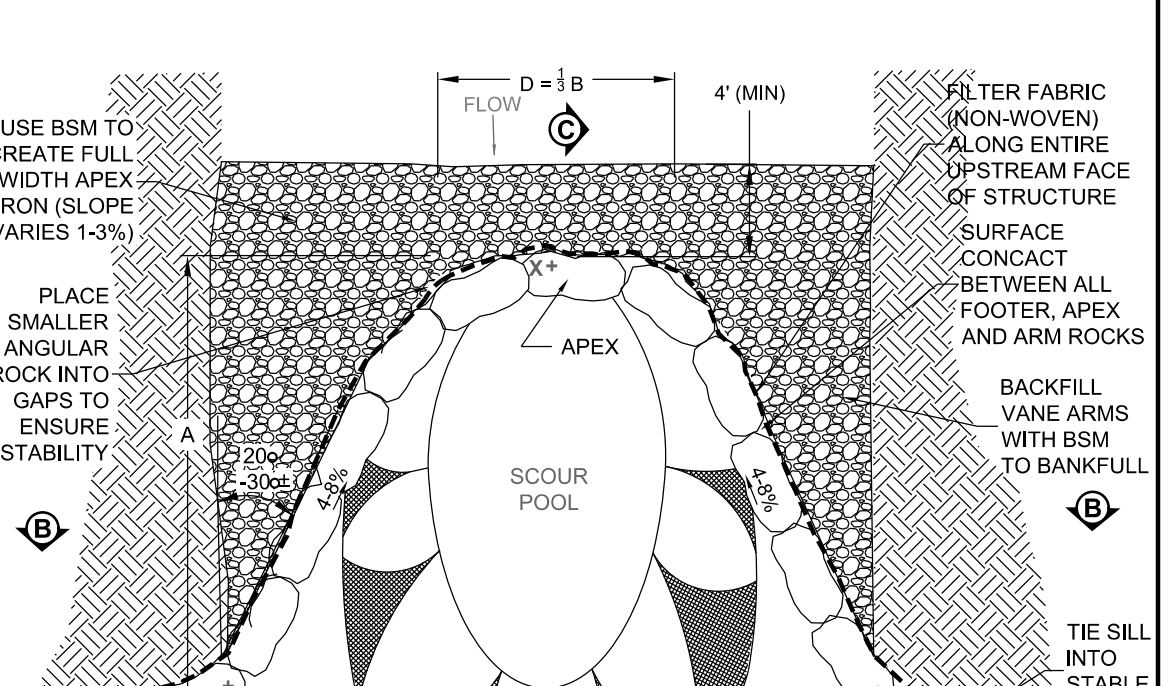
STR. #	CREST STA.	CREST ELEVATION	A (FT)	B (BANKFULL WIDTH) (FT)	D (FT)	X (MSL) (FT)	Z (MSL) (FT)	BED STABILITY MIX TYPE
STR #2	10+66.59	138.00	14.57	15	5	138.00	137.80	D
STR #4	10+94.73	137.80	5.96	15	5	137.80	137.40	D
STR #7	11+40.26	137.00	23.57	15	5	137.00	136.70	D



STR. #	CREST STA.	CREST ELEVATION	A (FT)	B (BANKFULL WIDTH) (FT)	D (FT)	X (MSL) (FT)	Z (MSL) (FT)	BED STABILITY MIX TYPE
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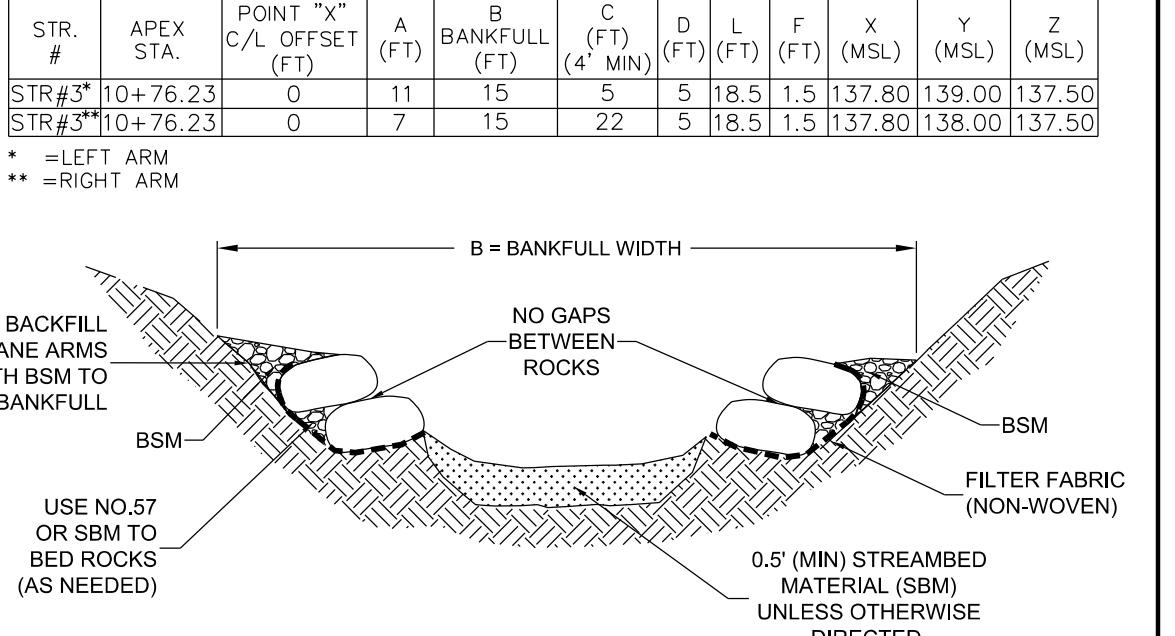
- RGC NOTES:**
- CONTRACTOR SHALL LAY OUT CRITICAL POINTS OF STRUCTURE TO REVIEW WITH CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION. ALL DIMENSIONS AND ELEVATIONS SHALL BE FIELD ADJUSTED IN COORDINATION WITH THE CONSTRUCTION MANAGER TO ENSURE PROPER ORIENTATION, STABLE INSTALLATION, FISH PASSAGE, AND SMOOTH TIE-IN TO ADJACENT FEATURES.
 - WHERE EXISTING CHANNEL GRADES ARE BELOW THICKNESS OF RGC, BACKFILL WITH COMMON BORROW AND COMPACT UP TO 3" BELOW FINISHED GRADE. USE BSM AND/OR APPROVED SALVAGED MATERIAL FOR THE TOP 30" OF RGC.
 - SATISFACTORY SOIL TYPES FOR COMPACTED FILL INCLUDE ASTM D 2487 SOIL CLASSIFICATION GROUPS GM, GP, GM, SW, SP AND SM OR A COMBINATION OF THESE SOIL GROUPS. SOIL SHALL BE FREE DEBRIS, WASTE, FROZEN MATERIALS, AND OTHER DELETERIOUS MATTER.
 - INSTALL AND COMPACT BSM IN LIFTS NOT TO EXCEED 18".
 - SET LARGEST MATERIAL FIRST IN A CHECKERBOARD PATTERN. FINAL TOP ELEVATIONS OF LARGE BOULDERS SHALL BE 0.5' +/- FROM FINISHED THALWEG IN ORDER TO PROVIDE FLOW VARIETY THROUGHOUT THE RIFFLE. BOULDERS TO BE AT LEAST 2/3 BURED - REFER TO RANDOM BOULDER REPLACEMENT DETAIL AS APPLICABLE FOR BANKFULL WIDTHS > 12' UNIFORM.
 - USE NEXT SIZE CLASS (CLASS II) STONE TO BACKFILL VOIDS BETWEEN LARGEST STONES.
 - WASH STREAMBED MATERIAL AND/OR BANK-RUN GRAVEL INTO EACH LIFT TO FILL ROCK VOIDS AND ENSURE SURFACE FLOW. SAVE SALVAGED NATIVE STREAMBED MATERIAL TO BE USED IN UPPEMOST LIFT.
 - ENSURE MATERIAL LOCKS TOGETHER AND CREATES STABLE TRANSITIONS INTO SURROUNDING FEATURES.
 - SHAPE CHANNEL BED TO FORM A BASEFLOW CHANNEL, APPROXIMATELY 1/3 BANKFULL WIDTH AND THALWEG. USE BSM TO SLOPE SIDES UP TO MEET ADJACENT BANKS AT BANKFULL.
 - COMPLETED STRUCTURE WILL HAVE SURFACE FLOW DURING BASEFLOW CONDITIONS WITH STABLE SILL TIE-INS AT BANKFULL AND TO UPSTREAM AND DOWNSTREAM CHANNEL.
 - STONE OF SERPENTINE ORIGIN IS NOT PERMITTED.

DETAIL 602: CROSS VANE DETAIL



*NOTE: CROSS VANE (CV) STRUCTURE TABLE

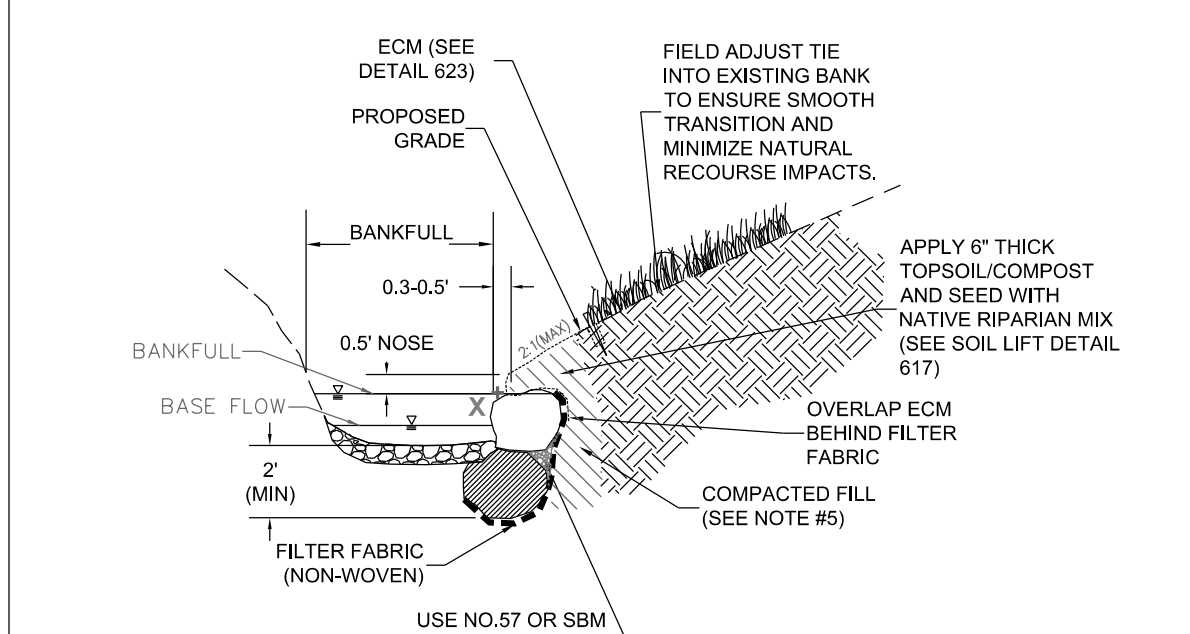
STR. #	APEX STA.	C/L OFFSET (FT)	A (FT)	B (BANKFULL WIDTH) (FT)	C (FT)	D (FT)	L (FT)	F (FT)	X (MSL) (FT)	Y (MSL) (FT)	Z (MSL) (FT)
STR #3*	10+76.23	0	11	15	5	5	18.5	1.5	137.80	139.00	137.50
STR #7**	10+76.23	0	7	15	22	5	18.5	1.5	137.80	138.00	137.50



STR. #	CREST STA.	CREST ELEVATION	A (FT)	B (BANKFULL WIDTH) (FT)	D (FT)	X (MSL) (FT)	Z (MSL) (FT)	BED STABILITY MIX TYPE
STR #2	10+66.59	138.00	14.57	15	5	138.00	137.80	D
STR #4	10+94.73	137.80	5.96	15	5	137.80	137.40	D
STR #7	11+40.26	137.00	23.57	15	5	137.00	136.70	D

- CV NOTES:**
- CONTRACTOR SHALL LAY OUT CRITICAL POINTS OF STRUCTURE TO REVIEW WITH CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION. ALL DIMENSIONS AND ELEVATIONS SHALL BE FIELD ADJUSTED IN COORDINATION WITH THE CONSTRUCTION MANAGER TO ENSURE PROPER ORIENTATION, STABLE INSTALLATION, FISH PASSAGE, AND SMOOTH TIE-IN TO ADJACENT FEATURES.
 - IMPORTED ROCKS SHALL BE IMBRICATED WITH RECTANGULAR BLOCK SHAPE. APPROPRIATELY SIZED SALVAGED ROCK CAN BE UTILIZED WITH APPROVAL FROM CONSTRUCTION MANAGER.
 - THE ELEVATION DIFFERENCE BETWEEN ELEVATION "X" AND ELEVATION "Y" SHALL BE APPROXIMATELY BANKFULL, BUT NO LESS THAN 0.4' (SEE STRUCTURE TABLE FOR ACTUAL ELEVATION DIFFERENCE).
 - STATION REFERENCE POINT "X" IS LOCATED AT CHANNEL CENTERLINE UNLESS OTHERWISE SPECIFIED ON PLANS.
 - FOOTER ROCKS NOT SHOWN IN PLAN VIEW FOR CLARITY. FOOTER ROCKS SHALL UTILIZE LARGEST MATERIAL AVAILABLE. FOOTER ROCKS SHALL BE PLACED SO TOP SURFACE ANGLES TO THE UPSTREAM/OUTSIDE EDGE OF STRUCTURE IN ORDER TO BETTER ALLOW FOR SECURE PLACEMENT OF TOP ROCKS.
 - STONE PLACEMENT SHALL BE FIELD ADJUSTED TO CREATE ARCHED SHAPE WITH ABUNDANT SURFACE CONTACT BETWEEN ALL STONES TO ENSURE STONE WILL REMAIN IN PLACE OVER FULL RANGE OF FLOW CONDITIONS.
 - TIE IN SILLS SHALL EXTEND 4' MINIMUM INTO STABLE CHANNEL BANK.
 - PLACE FILTER FABRIC (NON-WOVEN) ON UPSTREAM SIDE OF SILL. FABRIC SHALL COVER THE UPSTREAM FACE OF THE ENTIRE SILL. ENSURE FILTER FABRIC (NON-WOVEN) IS SECURED BY SETTING IT UNDERNEATH THE FOOTER ROCKS, WRAPPING IT ALL THE WAY UP AROUND THE TOP ROCKS, AND SECURING IT USING BSM ON THE BACK SIDE TO HOLD IT IN PLACE.
 - ROCKS SHALL BE TIGHT FITTING WITH NO VOIDS/GAPS ALONG APEX AND VANE ARMS. PLACE SMALLER ANGULAR STONE IN ANY REMAINING SPACES TO ESTABLISH SURFACE FLOW AND INTERCONNECTION OF ROCKS.
 - STREAMBED MATERIAL TO BE SALVAGED FROM EXISTING CHANNEL, AND ONLY FURNISHED AS NECESSARY. IF SITE DOES NOT PROVIDE ENOUGH SALVAGED MATERIAL, FURNISHED STREAMBED MATERIAL SHALL BE BURED WITH SALVAGED MATERIAL RESERVED FOR SURFACE LAYER.
 - NUMBER OF VANE ROCKS SHOWN FOR GRAPHICAL PURPOSES ONLY. ACTUAL NUMBER OF ROCKS FOR THE STRUCTURE SHALL DEPEND ON ROCK SIZE AND STREAM WIDTH.
 - BACKFILL UPSTREAM SIDES OF APEX AND VANE ARMS WITH BSM.
 - FOOTER ROCKS NOT SHOWN IN PLAN VIEW FOR CLARITY. FOOTER ROCKS SHALL UTILIZE LARGEST MATERIAL AVAILABLE. FOOTER ROCKS SHALL BE PLACED SO TOP SURFACE ANGLES TO THE UPSTREAM IN ORDER TO BETTER ALLOW FOR SECURE PLACEMENT OF TOP ROCKS.
 - NO SINGLE DROP FROM A STRUCTURE APEX TO THE NEXT STRUCTURE APEX AND/OR RIFFLE CREST SHALL EXCEED 0.5'. ANY EXCEPTIONS MUST BE APPROVED BY CONSTRUCTION MANAGER.
 - COMPLETED STRUCTURE WILL HAVE FLOW OVER THE APEX DURING BASEFLOW CONDITIONS WITH CONSISTENT ARM SLOPES UP FROM THE APEX TO A STABLE SILL TIE-IN AT BANKFULL INTO EXISTING GROUND.
 - STONE OF SERPENTINE ORIGIN IS NOT PERMITTED.

DETAIL 615: STONE TOE DETAIL

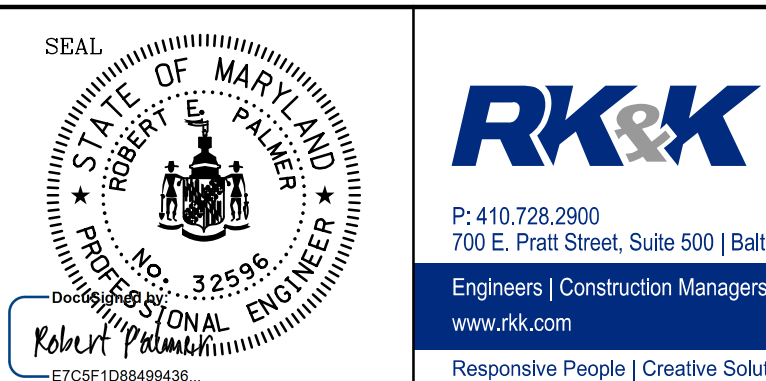


STR. #	POINT "X" C/L OFFSET (FT)	U/S STA.	U/S TOP OF ROCK ELEV. (X) (MSL)	U/S THALWEG INVERT (MSL)	D/S TOP OF ROCK ELEV. (X) (MSL)	D/S THALWEG INVERT (MSL)
STR #6	0	11+09.20	137.40	135.90	137.00	135.50

STR. #	POINT "X" C/L OFFSET (FT)	U/S STA.	U/S TOP OF ROCK ELEV. (X) (MSL)	U/S THALWEG INVERT (MSL)	D/S TOP OF ROCK ELEV. (X) (MSL)	D/S THALWEG INVERT (MSL)
STR #6	0	11+09.20	137.40	135.90	137.00	135.50

- STONE TOE NOTES:**
- CONTRACTOR SHALL LAY OUT CRITICAL POINTS OF STRUCTURE TO REVIEW WITH CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION. ALL DIMENSIONS AND ELEVATIONS SHALL BE FIELD ADJUSTED IN COORDINATION WITH THE CONSTRUCTION MANAGER TO ENSURE PROPER ORIENTATION, STABLE INSTALLATION, FISH PASSAGE, AND SMOOTH TIE-IN TO ADJACENT FEATURES.
 - IMPORTED ROCKS SHALL BE IMBRICATED WITH RECTANGULAR BLOCK SHAPE. APPROPRIATELY SIZED SALVAGED ROCK CAN BE UTILIZED WITH APPROVAL FROM CONSTRUCTION MANAGER.
 - FOOTER STONES TO BE ROTATED SLIGHTLY INTO BANK (SUCH THAT SURFACE FOR TOP ROCK TO REST ON TILTS TOWARD OUTSIDE OF CHANNEL) TO MINIMIZE POTENTIAL MOVEMENT.
 - NUMBER OF VANE ROCKS SHOWN FOR GRAPHICAL PURPOSES ONLY. ACTUAL NUMBER OF ROCKS FOR THE STRUCTURE SHALL DEPEND ON ROCK SIZE, STREAM WIDTH, AND BANKFULL DEPTH.
 - SATISFACTORY SOIL TYPES FOR COMPACTED FILL INCLUDE ASTM D 2487 SOIL CLASSIFICATION GROUPS GM, GP, GM, SW, SP AND SM OR A COMBINATION OF THESE SOIL GROUPS. SOIL SHALL BE FREE DEBRIS, WASTE, FROZEN MATERIALS, AND OTHER DELETERIOUS MATTER.
 - SELECT SMALLER THINNER ROCKS WHERE TOE CROSSES TREES, MANHOLES, OR OTHER IMPEDIMENTS TO MINIMIZE CROSS SECTION ENGAGEMENT.
 - AT UTILITY CROSSINGS, FIELD ADJUST FOOTER SPACING AND INSTALL BRIDGING ROCKS TO PROTECT UTILITY CROSSINGS. (DETAIL 616)
 - FILTER FABRIC (NON-WOVEN) SHALL BE PLACED UNDER FOOTER STONES AND WRAPPED AROUND BACK OF STRUCTURE. ECM FOR BANK TREATMENT ABOVE STONE TOE) SHALL BE LAYERED BEHIND FILTER FABRIC WHERE THEY OVERLAP.
 - STONE OF SERPENTINE ORIGIN IS NOT PERMITTED.

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. 32596, EXPIRATION DATE: 1/16/2022



DESIGN BY: NSR

DRAWN BY: NSR

CHECK BY: REP

JULY 2020

RK&K

P: 410.728.2900
700 E. Pratt Street, Suite 500 | Baltimore, MD 21202

Engineers | Construction Managers | Planners | Scientists
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Responsive People | Creative Solutions

DEPARTMENT OF PUBLIC WORKS

CITY OF TAKOMA PARK

31 OSWEGO AVENUE
TAKOMA PARK, MD 20910

OWNER NAME	LEGAL DESCRIPTION	SUBDIVISION	LOT	BLOCK	PARCEL	LIBER	FOLIO
RAMIN RAD	GIBBS & KOSACKS ADD	0025	25	16A	--	41972	0091
M-NCPPC	PAR A SLIGO MILL TOWNES	0025	--	--	721	21966	0298
M-NCPPC	V J 180-28 (PG) PAR A POPLAR MILL	0025	--	--	--	20412	0317
M-NCPPC	TAKOMA PARK	0025	--	--	681	45091	0160

TAKOMA BRANCH STREAM RESTORATION AT SLIGO MILL NCA

STREAM RESTORATION DETAILS I

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION, DEPARTMENT OF PARK AND PLANNING

M-NCPPC PERMIT NO. 2019-032

PARK C44

REVIEWED BY: Meredith Neely

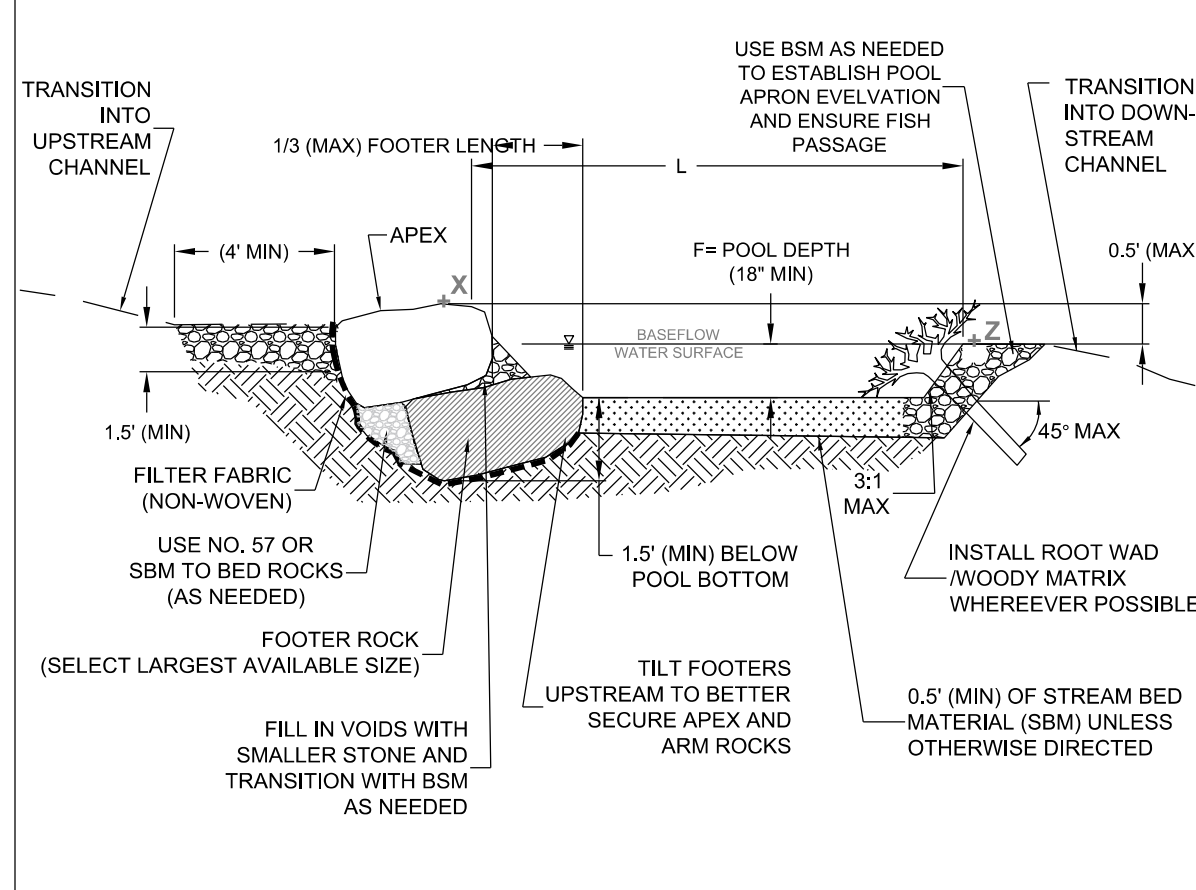
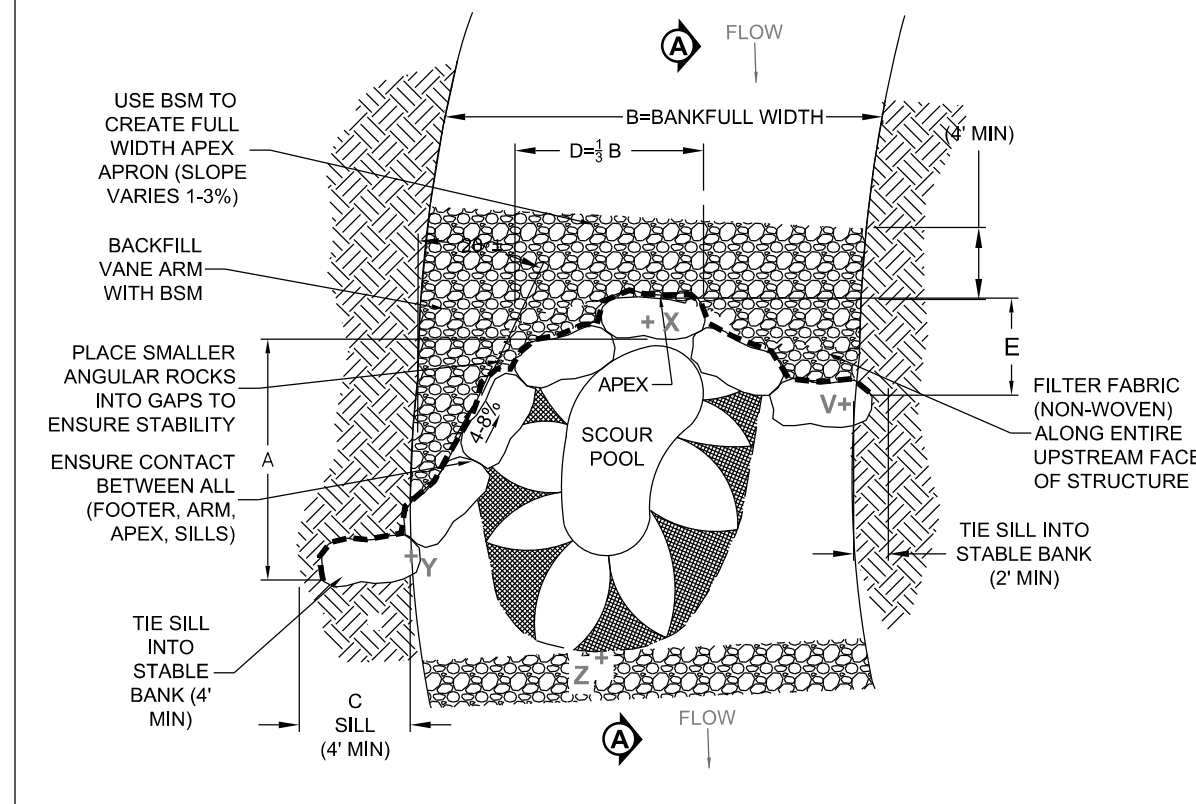
APPROVED BY: [Signature]

DATE APPROVED: 12/29/2020

THIS IS NOT A PERMIT TO BEGIN CONSTRUCTION

This approval is for technical review only. For permit information, contact Jay Childs, Construction Supervisor at (301) 495-2574

DETAIL 601: J-HOOK VANE DETAIL

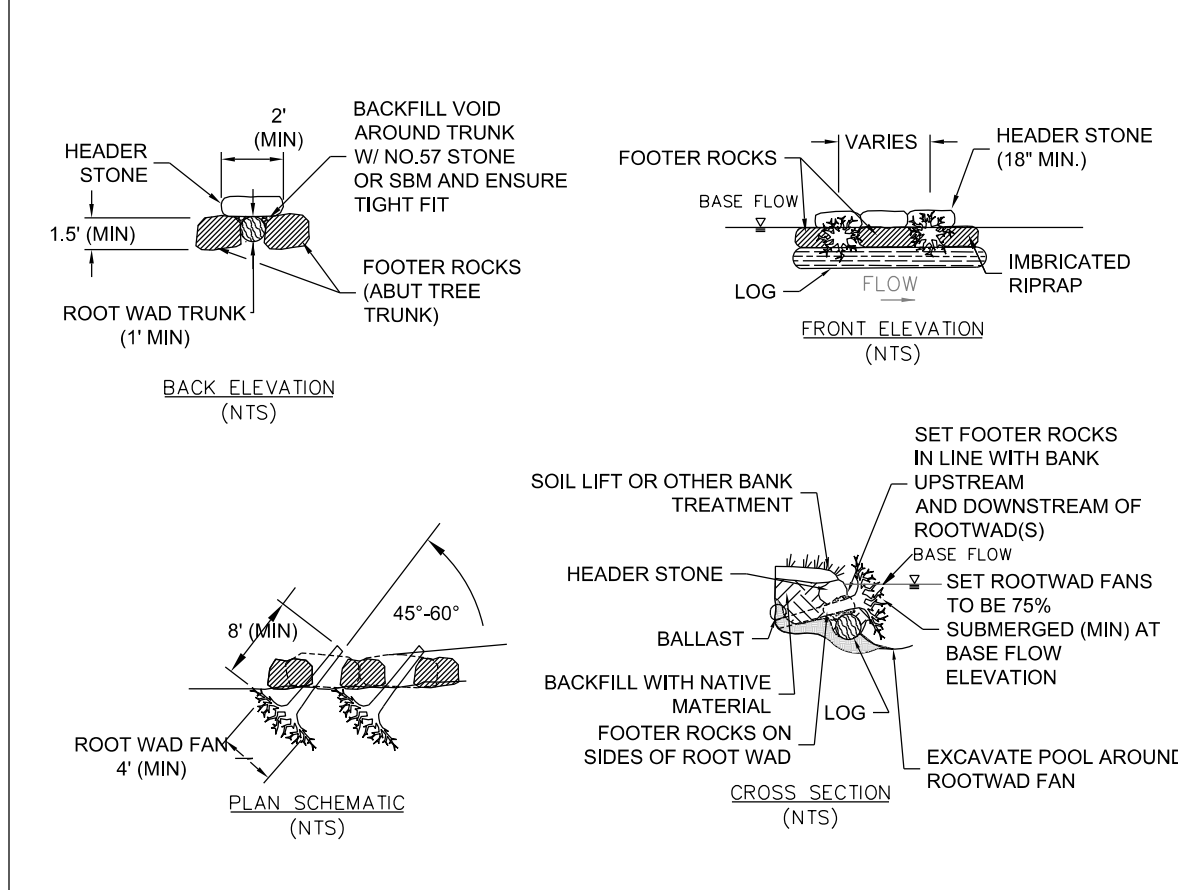
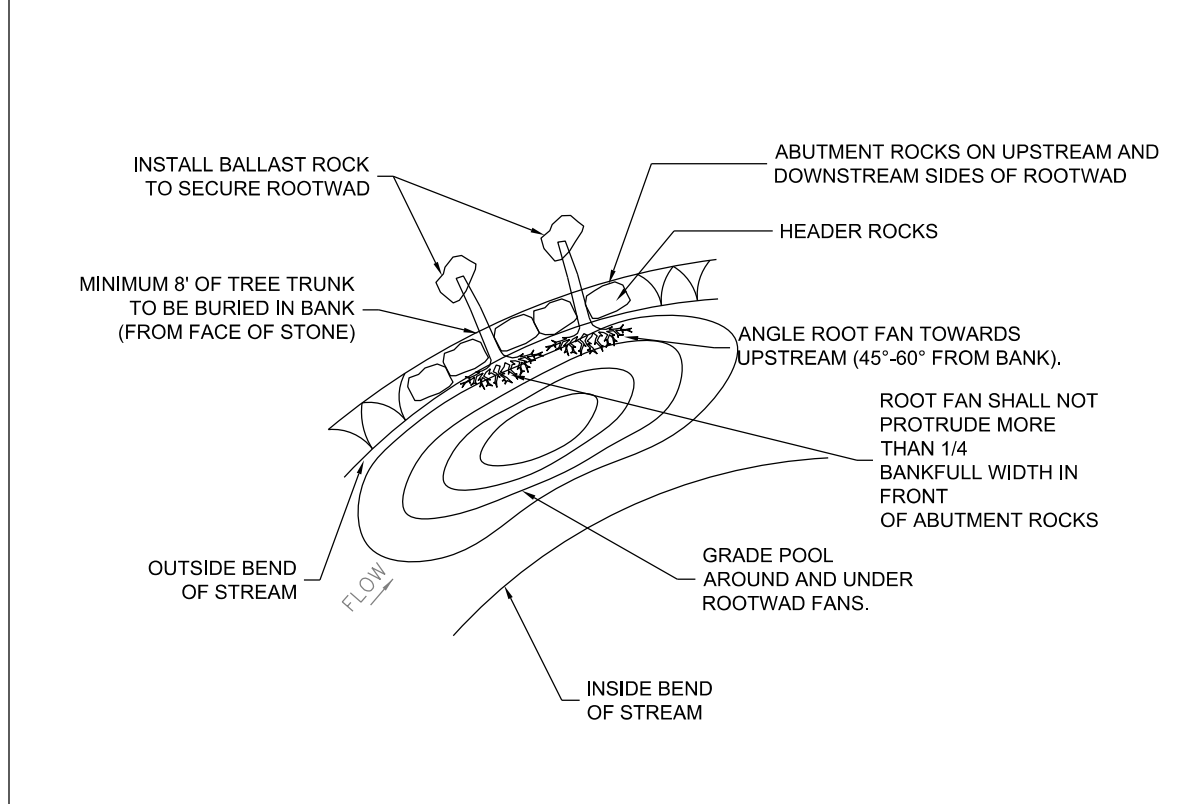


J-HOOK VANE (#H) STRUCTURE TABLE

STR. #	APEX STA.	POINT "X" C/A OFFSET (FT)	A (FT)	B BANKFULL (4' MIN) (FT)	C (FT)	D (FT)	L (FT)	F (FT)	X (MSL)	V (MSL)	Y (MSL)	Z (MSL)
STR#B	11+63.83	0	21	15	2.5	5	25.0	1.5	136.70	137.00	137.00	136.67

- NOTES:
- CONTRACTOR SHALL LAY OUT CRITICAL POINTS OF STRUCTURE TO REVIEW WITH CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION. ALL DIMENSIONS AND ELEVATIONS SHALL BE FIELD ADJUSTED IN COORDINATION WITH THE CONSTRUCTION MANAGER TO ENSURE PROPER ORIENTATION, STABLE INSTALLATION, FISH PASSAGE, AND SMOOTH TIE-IN TO ADJACENT FEATURES.
 - IMPORTED ROCKS SHALL BE IMBRICATED WITH RECTANGULAR BLOCK SHAPE. APPROPRIATELY SIZED SALVAGED ROCK CAN BE UTILIZED WITH APPROVAL FROM CONSTRUCTION MANAGER.
 - THE ELEVATION DIFFERENCE BETWEEN ELEVATION "X" AND ELEVATION "Y" SHALL BE APPROXIMATELY BANKFULL, BUT NO LESS THAN 0.4' (SEE STRUCTURE TABLE FOR ACTUAL ELEVATION DIFFERENCE).
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 - FOOTER ROCKS NOT SHOWN IN PLAN VIEW FOR CLARITY. FOOTER ROCKS SHALL UTILIZE LARGEST MATERIAL AVAILABLE. FOOTER ROCKS SHALL BE PLACED SO TOP SURFACE ANGLES TO THE UPSTREAM/OUTSIDE EDGE OF STRUCTURE IN ORDER TO BETTER ALLOW FOR SECURE PLACEMENT OF TOP ROCKS.
 - STONE PLACEMENT SHALL BE FIELD ADJUSTED TO CREATE ANCHED SHAPE WITH ABUNDANT SURFACE CONTACT BETWEEN ALL STONES TO ENSURE STONE WILL REMAIN IN PLACE OVER FULL RANGE OF FLOW CONDITIONS.
 - TIE IN SILLS SHALL EXTEND 4' MINIMUM INTO STABLE CHANNEL BANK.
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 - COMPLETED STRUCTURE WILL HAVE FLOW OVER THE APEX DURING BASEFLOW CONDITIONS WITH CONSISTENT ARM SLOPES UP FROM THE APEX TO A STABLE SILL TIE-IN AT BANKFULL INTO EXISTING GROUND.
 - STONE OF SERPENTINE ORIGIN IS NOT PERMITTED.

DETAIL 618: STREAM BANK ROOTWAD DETAIL



- R/W NOTES:
- CONTRACTOR SHALL LAY OUT CRITICAL POINTS OF STRUCTURE TO REVIEW WITH CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION. ALL DIMENSIONS AND ELEVATIONS SHALL BE FIELD ADJUSTED IN COORDINATION WITH THE CONSTRUCTION MANAGER TO ENSURE PROPER ORIENTATION, STABLE INSTALLATION, AND SMOOTH TIE-IN TO ADJACENT FEATURES.
 - IMPORTED ROCKS SHALL BE IMBRICATED WITH RECTANGULAR BLOCK SHAPE. APPROPRIATELY SIZED SALVAGED ROCK CAN BE UTILIZED WITH APPROVAL FROM CONSTRUCTION MANAGER.
 - FOOTER STONES TO BE ROTATED SLIGHTLY UPSTREAM (SUCH THAT SURFACE FOR TOP ROCK TO REST ON TILTS UPSTREAM) TO MINIMIZE POTENTIAL MOVEMENT.
 - WHEN EXCAVATING FOR ROOTWAD PLACEMENT DIG THE POOL AROUND THE FAN DEEPER TO ALLOW STABLE INSTALLATION WITH FAN INTACT.
 - USE INTACT HARDWOOD TREES. ACTUAL TREES TO BE APPROVED BY CONSTRUCTION MANAGER PRIOR TO INSTALLATION.
 - COMPACT EXCAVATION AREAS AND STABILIZE WITH ECM. SATISFACTORY SOIL TYPES FOR COMPACTED FILL INCLUDE ASTM D 2487 SOIL CLASSIFICATION GROUPS GW, GP, GM, SW, SP AND SM OR A COMBINATION OF THESE SOIL GROUPS. SOIL SHALL BE FREE DEBRIS, WASTE, FROZEN MATERIALS, AND OTHER DELETERIOUS MATTER. ADDITIONALLY 0.5 TOPSOIL/COMPOST MIX SHALL BE FREE OF STICKS, DEBRIS, WEEDS, AND ROCKS. MATTING SHALL BE BIODMAT-70 OR APPROVED EQUAL, WHICH IS 100% BIODEGRADABLE. MATTING CONTAINING MONOFILAMENT AND/OR PLASTICS OF ANY KIND ARE NOT PERMITTED.
 - IF ROOTWAD SHAPE IS ELLIPTICAL, LONGER AXIS SHALL BE PLACED HORIZONTALLY.
 - REFER TO PLANS FOR APPROXIMATE ROOTWAD LOCATIONS. ACTUAL INSTALLATION LOCATIONS TO BE FIELD ADJUSTED WITH PARKS BASED ON FIELD CONDITIONS.
 - STABILIZE DISTURBED AREA WITH NATIVE RIPARIAN SEED MIX AND WEED FREE STRAW MULCH. APPLY ECM AS DIRECTED BY CONSTRUCTION MANAGER.
 - STONE WITH SERPENTINE ORIGIN IS NOT PERMITTED.

NOTES:

- The Contractor shall choke the channel bed stability mix in with natural channel material.
- The Contractor shall supply channel bed stability mix materials meeting the following gradation and quality requirements:
 - (a) Riprap Class 0 (20%), Class I (20%), and Class II (30%). Shall consist of "Stone for Riprap" as defined in 901.02. Percentage of mixture, as indicated, shall be based on volume.
 - (b) Salvaged Streambed Material (30%).

- 1)The contractor shall salvage the existing streambed material from within the approved limit of disturbance (including plunge pool area) from the top 18" layer, for re-use in choking in the surface void spaces of the imported riprap specified above, as indicated on the construction drawings and herein, or as directed by the Engineer.
- 2)The salvaged material shall be re-placed in the proposed channel by the end of each work day or stockpiled at an approved location. The salvaged streambed gravel shall be stockpiled in designated areas with approved soil erosion and sediment control measures in place. The Contractor shall implement appropriate protection measures to insure that the transport and stockpiling of gravel is not contaminated by soil and other material prior to installation.
- 3)In the case streambed material cannot be salvaged or yield inadequate quantity, native streambed material can be replaced with the following replacement mix:
 - a. Riprap Class 0 (15%) as defined in 901.02.
 - b. Surge Stone 2 to 1/2" (15%) as defined in M 43 No. 2.
 - c. M 43 No. 2 Stone (20%),
 - d. M 43 No. 57 Stone (30%), and
 - e. Silica Sand (20%) as defined in 920.01.05.

Montgomery Parks Construction Notes for Stream Restoration on Parkland

- A pre-construction meeting with the M-NCPPC (Parks) Construction Inspector, Urban Forester, Park Manager, Engineer, Contractor, and applicant's Stream Restoration Professional (SRP) shall occur to ensure full understanding of the project goals, design intent, and field conditions at the time of construction. (The applicant is responsible for coordination with MDE and other regulatory agencies as required by permits.) Contact Jay Childs, Parks Construction Manager, at 301.495.2574 to schedule this meeting. All work on M-NCPPC Parkland shall also comply with individual Park Permit conditions and all Park details and specifications.
- Contractor shall implement MDE Waterway Construction Guidelines and MDE Best Management Practices for Working in Nontidal Wetlands, Wetland Buffers, Waterways, and 100-Year Floodplain throughout construction. All in-channel construction shall occur "in the dry" with appropriate pump-around practices to minimize downstream sediment. Contractor is responsible for control of water throughout construction, including stream flows and runoff through disturbed areas.
- In-stream areas where pump-around is removed at the end of the workday must be completed and stabilized daily. Disturbed areas above baseflow shall receive Native Riparian Seed and weed-free straw mulch at the end of each workday. Once stream flow is re-established at the end of the workday, the contractor shall allow sufficient time to inspect the new flow pattern and make appropriate adjustments to ensure non-erosive conditions before vacating the site.
- The applicant shall engage a SRP, an individual familiar with stream restoration revetment design features and waterway construction techniques, to oversee in-stream construction activities to ensure stable channel construction, including appropriate field adjustments and natural resources protection. The SRP's resume must be submitted to, and approved by, Parks. The applicant shall empower this person to direct Contractor's work as needed to ensure design intent is achieved. This person shall coordinate all adjustments and acceptance of structures with Parks as construction progresses.
- Contractor shall take care to protect trees (including trunks/roots) designated to remain throughout construction. Contractor shall coordinate all tree protection measures and tree removals with Parks prior to construction. Protection measures, such as hardwood mats, tree planking, root aeration matting, equipment restrictions, mulch roads, tree protection fencing, root pruning etc. must be installed before equipment enters work areas. Additional tree protection measures not indicated on the plan set may be required at the direction of the Parks Urban Forester.
- Access routes and staging areas shall be field adjusted with Parks to minimize impacts to natural resources. Equipment restrictions (e.g., < 8 psi loaded ground pressure) may be required by Parks in sensitive areas. Access routes will be limited to 12" width, unless otherwise approved by Parks.

Montgomery Parks Construction Notes for Stream Restoration on Parkland

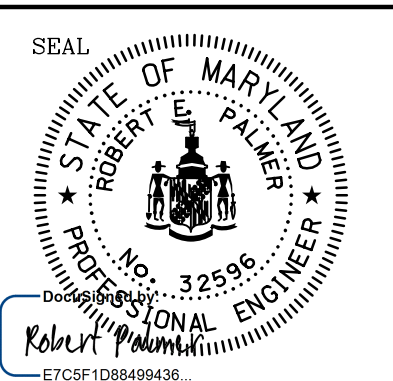
- Contractor shall coordinate with Sediment Control Inspector and Parks to utilize trenchless sediment controls (i.e. compost socks, trenchless silt fences, etc.) and/or daily stabilization where appropriate to avoid cutting through mature tree root systems. Where trenching is required, root prune prior to excavation at the direction of Parks.
- Applicant is responsible for completing fish rescues associated with all pump-arounds. Fish rescue teams should consist of properly trained personnel, based on Maryland Biological Stream Survey (MBSS) standards using electrofishing equipment. A list of personnel certified in MBSS protocols can be found at <http://dnr.maryland.gov/streams/Pages/mbsscertified.aspx>. Fish rescues require three (3) working days advanced notice to Parks.
- Contractor shall lay out critical points of structure (centerline station, offsets, elevations, etc.) to review with SRP and Parks Construction Manager prior to structure installation. All dimensions and elevations shall be field adjusted prior to installation in coordination with the SRP and Parks Construction Manager to ensure proper orientation, stable installation, fish passage, and smooth tie-in to adjacent features, as well as to minimize disturbance to trees/tree roots and ensure functionality of completed construction. Contractor shall be responsible for maintaining stakeout during construction until final acceptance by Parks. Contractor shall maintain proper equipment onsite to check grades as construction progresses. Contractor shall be responsible for maintaining stakeout during construction until final acceptance by Parks.
- Construction of in-stream revetments, including grade control, bank stabilization and habitat structures, shall be inspected by SRP and Parks under baseflow (not pump-around) conditions to determine any modifications required prior to acceptance. Additional inspections following storm events may result in additional modifications. Contractor is encouraged to utilize construction equipment for compaction of completed structures to ensure stability, as well as small pumps to wash in material after the completion of single structures.
- Completed grade control structures will have flow over the apex during baseflow conditions with consistent arm slopes up from the apex to a stable sill tie-in at bankfull into existing ground. Riffles shall have surface flow along the thalweg throughout the entire riffle length and tie-up to bankfull on both banks. Contractor is responsible for ensuring smooth transitions at upstream and downstream ends of work areas and between the streambed and its banks.
- All exposed stone (including stone toe, imbricated rock walls, rock packs, etc.) above bankfull depth shall be backfilled with topsoil/compost to within 2-inches of rock surface and vegetated with native riparian seed and weed-free straw mulched.

Montgomery Parks Construction Notes for Stream Restoration on Parkland

- Voids should not be left in any completed in-stream structures. Structures should be backfilled with BSM and/or stream bed mix to fill all voids, including hand placement of stone.
- Completed streambed profile shall not have revetment drops greater than 0.5' and constructed riffles shall not be steeper than 3% to ensure fish passage, unless otherwise indicated on the plans or approved by Parks. Contractor will be required to modify/construct revetments that create fish passage restrictions at baseflow, as directed by SRP and Parks.
- Any disturbed banks shall be seeded with Native Riparian Seed and stabilized with weed-free straw mulch. For areas below bankfull, erosion control matting (Detail 617) shall be installed.
- Stone of serpentine origin, matting containing monofilament/plastics, and metal sod staples are not permitted on Parkland.
- Prior to release of Park Construction Permit, applicant must submit redline as-builts to Parks for review and approval (plan and profile) that show in-stream structures, channel dimensions, and features with field surveyed elevations.
- Parks approved seed mix for riparian areas is below. Any modifications to this must be approved by Parks Construction Manager.
- See Sheet LD-02 for Native Riparian Seed Mix.

\\bosr\03\2010\0031_TakomePK_Task_14_Takoma Branch SR_CADD\Plans\gdb-P002_Outfall_TakomaBranch.dgn Thursday, August 20, 2020 AT 09:15 AM

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. 32596, EXPIRATION DATE: 1/16/2022



RK&K

P: 410.728.2900
700 E. Pratt Street, Suite 500 | Baltimore, MD 21202

Engineers | Construction Managers | Planners | Scientists
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Responsive People | Creative Solutions

DESIGN BY: NSR
DRAWN BY: NSR
CHECK BY: REP
JULY 2020

DEPARTMENT OF PUBLIC WORKS

CITY OF TAKOMA PARK

31 OSWEGO AVENUE
TAKOMA PARK, MD 20910

OWNER NAME	LEGAL DESCRIPTION	SUBDIVISION	LOT	BLOCK	PARCEL	LIBER	FOLIO
RAMIN RAD	GIBBS & KOSACKS ADD	0025	25	16A	--	41972	0091
M-NCPPC	PAR A SLIGO MILL TOWNES	0025	--	--	721	21966	0298
M-NCPPC	V J 180-28 (PG) PAR A POPLAR MILL	0025	--	--	--	20412	0317
M-NCPPC	TAKOMA PARK	0025	--	--	681	45091	0160

TAKOMA BRANCH STREAM RESTORATION AT SLIGO MILL NCA

STREAM RESTORATION DETAILS II

SCALE: NO SCALE SHEET 8 OF 19

THE MARYLAND NATIONAL CAPITAL PARK AND PLANNING COMMISSION, DEPARTMENT OF PARK AND PLANNING
 MNCPPC PERMIT NO. 2019-032
 PARK C44
 REVIEWED BY Meredith Naely
 APPROVED BY [Signature]
 CHIEF, CONSTRUCTION SECTION
 DATE APPROVED 12/29/2020
THIS IS NOT A PERMIT TO BEGIN CONSTRUCTION
 This approval is for technical review only. For permit information, contact Jay Childs, Construction Supervisor at (301) 495-2574

STANDARD EROSION AND SEDIMENT CONTROL NOTES

- THE PERMITTEE SHALL NOTIFY THE DEPARTMENT OF PERMITTING SERVICES (DPS) FORTYEIGHT (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.
- THE PERMITTEE MUST OBTAIN INSPECTION AND APPROVAL BY DPS AT THE FOLLOWING POINTS:
 - AT THE REQUIRED PRE-CONSTRUCTION MEETING.
 - FOLLOWING INSTALLATION OF SEDIMENT CONTROL MEASURES AND PRIOR TO ANY OTHER LAND DISTURBING ACTIVITY.
 - 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.
 - PRIOR TO REMOVAL OR MODIFICATION OF ANY SEDIMENT CONTROL STRUCTURE(S).
 - PRIOR TO FINAL ACCEPTANCE.
- 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.
- 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.
- 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.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLIED WITHIN:
 - THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DICHES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND
 - 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

- 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 THE 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.
- 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 SLOP 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.
- THE SITE PERMIT, WORK, MATERIALS, APPROVED SC/SM PLANS, AND TEST REPORTS SHALL BE AVAILABLE AT THE SITE FOR INSPECTION BY DULY AUTHORIZED OFFICIALS OF MONTGOMERY COUNTY.
- 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.
- PERMANENT SWALES OR OTHER POINTS OF CONCENTRATED WATER FLOW SHALL BE STABILIZED WITHIN THREE (3) CALENDAR DAYS OF ESTABLISHMENT WITH SOD OR SEED WITH AN APPROVED EROSION CONTROL MATTING OR BY OTHER APPROVED STABILIZATION MEASURES.
- 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.
- 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 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.
- 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.
- 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 THEN 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.
- SEDIMENT TRAPS OR BASINS ARE NO PERMITTED WITHIN 20 FEET OF A BUILDING WHICH IS EXISTING OR UNDER CONSTRUCTION. NO BUILDING MAY BE CONSTRUCTION WITHIN 20 FEET OF A SEDIMENT TRAP OR BASIN.
- ALL INLETS IN NON-SUMP AREAS SHALL HAVE ASPHALT BERMS INSTALLED AT THE TIME OF BASE PAVING ESTABLISHMENT.
- THE SEDIMENT CONTROL INSPECTOR HAS THE OPTION OF REQUIRING ADDITIONAL SEDIMENT CONTROL MEASURES, AS DEEMED NECESSARY.
- ALL TRAP ELEVATIONS ARE RELATIVE TO THE OUTLET ELEVATION, WHICH MUST BE ON EXISTING UNDISTURBED GROUND.
- VEGETATIVE STABILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- 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-II) OR WHEN REQUIRED BY THE SEDIMENT CONTROL INSPECTOR.
- SEDIMENT REMOVED FROM TRAPS/BASINS SHALL BE PLACED AND STABILIZED IN APPROVED AREAS, BUT NOT WITHIN A FLOODPLAIN.

STANDARD EROSION AND SEDIMENT CONTROL NOTES CONTINUED

- 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 THAN 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.
- 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.
- OFF SITE SPOIL OR BORROW AREAS MUST HAVE PRIOR APPROVAL BY DPS.
- SEDIMENT TRAP/BASIN DEWATERING FOR CLEANOUT 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:
 - 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
 - THE PUMP INTAKE MAY UTILIZE A REMOVABLE PUMPING STATION AND MUST DISCHARGE INTO AN UNDISTURBED AREA THROUGH A NON-EROSIVE OUTLET, OR
 - 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.
- THE PERMITTEE MUST NOTIFY THE DEPARTMENT OF ALL UTILITY CONSTRUCTION ACTIVITIES WITHIN THE PERMITTED LIMITS OF DISTURBANCE PRIOR TO THE COMMENCEMENT OF THOSE ACTIVITIES.
- TOPSOIL MUST BE APPLIED TO ALL PERVIOUS AREA WITHIN THE LIMITS OF DISTURBANCE PRIOR TO PERMANENT STABILIZATION IN ACCORDANCE WITH MDE "STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS."

OWNER'S/DEVELOPER'S CERTIFICATION

I/WE HEREBY CERTIFY THAT ALL CLEARING, GRADING, CONSTRUCTION, AND/OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT.

[Signature] DATE 7/3/20

SIGNATURE DARYL B. BATHWAITE DIRECTOR
 (301) 891-7615 CITY OF TAKOMA PARK
 PRINTED NAME AND TITLE

DESIGN CERTIFICATION

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL," MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES EXECUTIVE REGULATIONS 5-90, 7-02AM AND 36-90, AND MONTGOMERY COUNTY DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION "STORM DRAIN DESIGN CRITERIA" DATED AUGUST 1988

DocuSigned by: Robert Palmer 7/31/2020
 E7C5F1D8849436

SIGNATURE ROBERT E. PALMER, P.E. MANAGER DATE MARYLAND P.E. #32596
 PRINTED NAME AND TITLE REGISTRATION NUMBER

CERTIFICATION OF THE QUANTITIES

I HEREBY CERTIFY THAT THE ESTIMATED TOTAL AMOUNT OF EXCAVATION AND FILL AS SHOWN ON THESE PLANS HAS BEEN COMPUTED TO 128 CUBIC YARDS OF EXCAVATION, 26 CUBIC YARDS OF FILL AND THE TOTAL AREA TO BE DISTURBED AS SHOWN ON THE PLANS HAS BEEN DETERMINED TO BE 9,933 SQUARE FEET.

DocuSigned by: Robert Palmer 7/31/2020
 E7C5F1D8849436

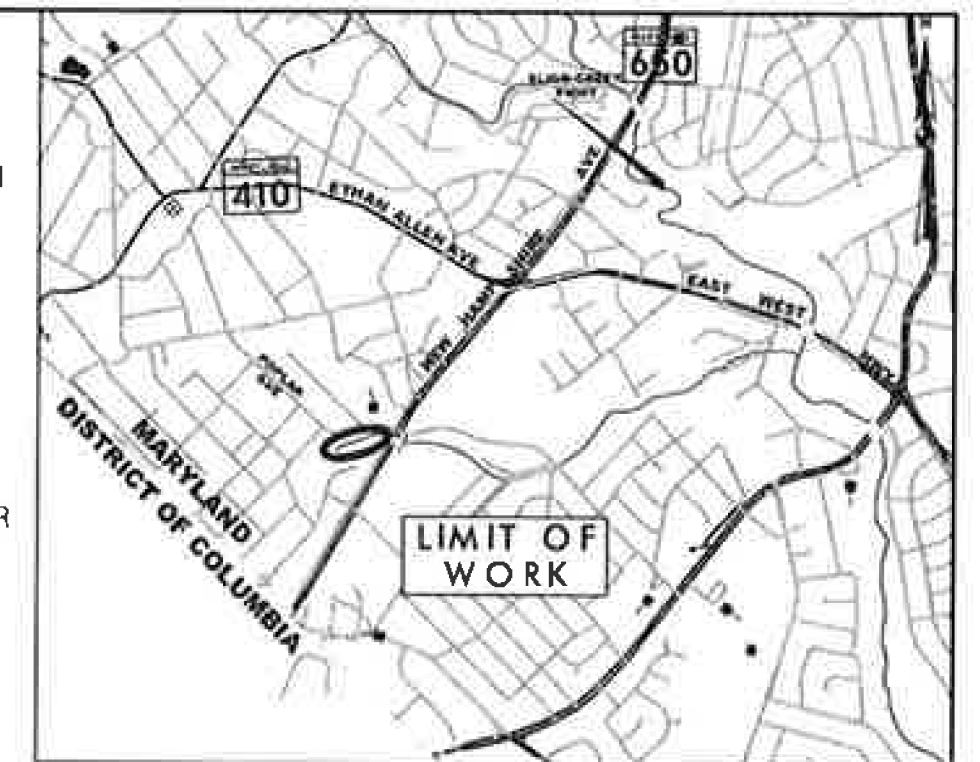
SIGNATURE ROBERT E. PALMER, P.E. MANAGER DATE MARYLAND P.E. #32596
 PRINTED NAME AND TITLE REGISTRATION NUMBER

MISS UTILITY

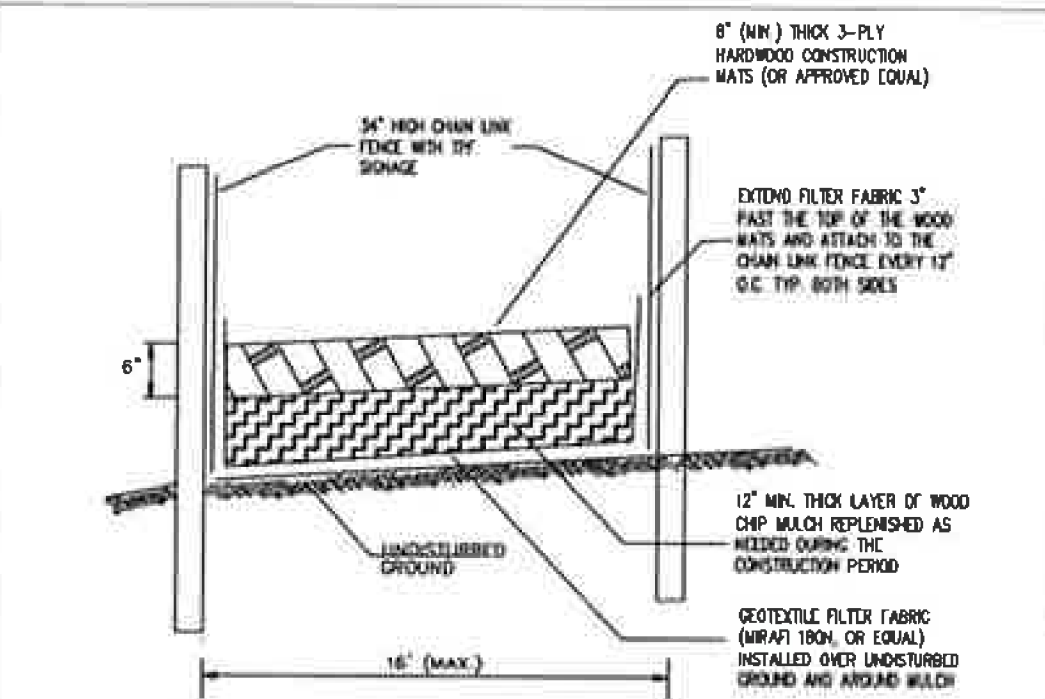
CALL "MISS UTILITY" AT 1-800-257-7777, 48 HOURS PRIOR TO THE START OF WORK. THE EXCAVATOR MUST NOTIFY ALL PUBLIC UTILITY COMPANIES WITH UNDER GROUND FACILITIES IN THE AREA OF PROPOSED EXCAVATION AND HAVE THOSE FACILITIES LOCATED BY THE UTILITY COMPANIES PRIOR TO COMMENCING EXCAVATION. THE EXCAVATOR IS RESPONSIBLE FOR COMPLIANCE WITH REQUIREMENTS OF CHAPTER 36A OF THE MONTGOMERY COUNTY CODE.

SEQUENCE OF CONSTRUCTION

- PRIOR TO CLEARING TREES, INSTALLING SEDIMENT CONTROL MEASURES OR GRADING. A PRECONSTRUCTION MEETING MUST BE CONDUCTED ON-SITE WITH THE CITY OF TAKOMA PARK (48 HOURS NOTICE), THE MNCPPC, PLANNING DEPARTMENT, PLANS ENFORCEMENT INSPECTOR (301) 495-4550 (48 HOURS NOTICE), PARKS CONSTRUCTION MANAGER, JAY CHILDS, (301) 495-2574, THE MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES (MCDPS) SEDIMENT CONTROL INSPECTOR (240)-777-0311 (48 HOURS NOTICE), THE OWNERS REPRESENTATIVE, AND THE SITE ENGINEER.
- THE LIMITS OF DISTURBANCE MUST BE FIELD MARKED PRIOR TO CLEARING OF TREES, INSTALLATION OF SEDIMENT CONTROL MEASURES, CONSTRUCTION, OR OTHER LAND DISTURBING ACTIVITIES.
- THE PERMITTEE MUST OBTAIN WRITTEN APPROVAL FROM THE MNCPPC INSPECTOR CERTIFYING THAT THE LIMITS OF DISTURBANCE AND TREE PROTECTION MEASURES ARE CORRECTLY MARKED AND INSTALLED PRIOR TO COMMENCING ANY CLEARING.
- CLEAR AND GRUB FOR INSTALLATION OF ACCESS ROAD SEDIMENT CONTROL DEVICES AND FLOW DIVERSION MEASURES.
- INSTALL STABILIZED CONSTRUCTION ENTRANCE ALONG POPLAR AVENUE, ACCESS ROAD, SEDIMENT CONTROL DEVICES AND FLOW DIVERSION MEASURES. THE WORK AREA SHALL BE DEWATERED THROUGH A FILTER BAG OR OTHER MDE APPROVED DEWATERING DEVICE. TRUCK TIRES ARE TO BE CLEANED OF ALL SOIL AND SEDIMENT BEFORE LEAVING THE SITE. ANY SOIL OR SEDIMENT CLEANED FROM TRUCK TIRES SHALL BE CONTAINED OR DIRECTED TO AN APPROVED EROSION AND SEDIMENT CONTROL DEVICE.
- ONCE THE SEDIMENT CONTROL DEVICES ARE INSTALLED, THE PERMITTEE MUST OBTAIN APPROVAL FROM THE CITY OF TAKOMA PARK BEFORE PROCEEDING WITH ANY ADDITIONAL CLEARING, GRUBBING, OR GRADING.
- INSTALL TREE PRESERVATION MEASURES AND PERFORM ROOT PRUNING AS DIRECTED BY THE LICENSED TREE EXPERT (LTE).
- CLEAR AND GRUB REMAINING PORTIONS OF THE SITE.
- USE THE PUMP-AROUND PRACTICE TO ISOLATE A SEGMENT OF STREAM AND INSTALL THE PROPOSED IN-STREAM REVETMENTS WORKING FROM DOWNSTREAM TO UPSTREAM. USE NATIVE MATERIAL TO CHOKE IN BED STABILITY MIX.
- TEMPORARILY STABILIZE ALL DISTURBED AREAS.
- UPON COMPLETION OF FINAL INSPECTION OF THE REHABILITATED CULVERT OUTFALL AND IN-STREAM REVETMENTS, PERFORM ALL REQUIRED CLEANUP, EQUIPMENT REMOVAL AND PERMANENTLY STABILIZE ALL WORK AREAS INCLUDING PLANTING OF TREES.
- WITH APPROVAL FROM THE CITY OF TAKOMA PARK, REMOVE SEDIMENT CONTROL MEASURES, FLOW DIVERSION PRACTICES, ACCESS ROADS, TREE PRESERVATION MEASURES AND STABILIZE ANY AREAS DISTURBED BY THIS PROCESS.



VICINITY MAP
 SCALE: 1"=2000'
 2000 0 2000 4000 feet



- NOTES:
- STAGING AREA TO BE FIELD LOCATED WITH M-NCCPC AND MCDPS AT PRE-CONSTRUCTION MEETING.
 - CONTRACTOR SHALL SEQUENCE CONSTRUCTION SUCH THAT NO EQUIPMENT IMPACTS AREA TO BE PROTECTED PRIOR TO MULCH PLACEMENT.
 - FILTER FABRIC SHALL BE A SINGLE PIECE ACROSS WIDTH. OVERLAP FABRIC BY 18" MIN. ALONG LENGTH OF ROUTE.
 - FILTER FABRIC MAY ONLY BE ELIMINATED AT DIRECTION OF M-NCCPC ARBORIST.
 - CONTRACTOR SHALL MAINTAIN MULCH MAT THROUGHOUT CONSTRUCTION PERIOD.
 - MULCH SHALL BE DISPOSED OF OFF-SITE UNLESS OTHERWISE APPROVED BY M-NCCPC. WHERE MULCH IS TO REMAIN, FILTER FABRIC SHALL BE AN APPROVED BIODEGRADABLE TYPE.

HEAVY DUTY MULCH MAT DETAIL
 NOT TO SCALE

EN-01/SC-02 OF 4/SC0002

\Users\031\2019\031\001_TakomaPark\Task 14_Takoma Branch SRN\ADP\Plans\sc02-0001.dwg; Title: TakomaBranch.dgn
 Friday, July 31, 2020 11:26:00 PM

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. 32596, EXPIRATION DATE: 1/16/2022



DESIGN BY: NSR
 DRAWN BY: NSR
 CHECK BY: REP
 JULY 2020

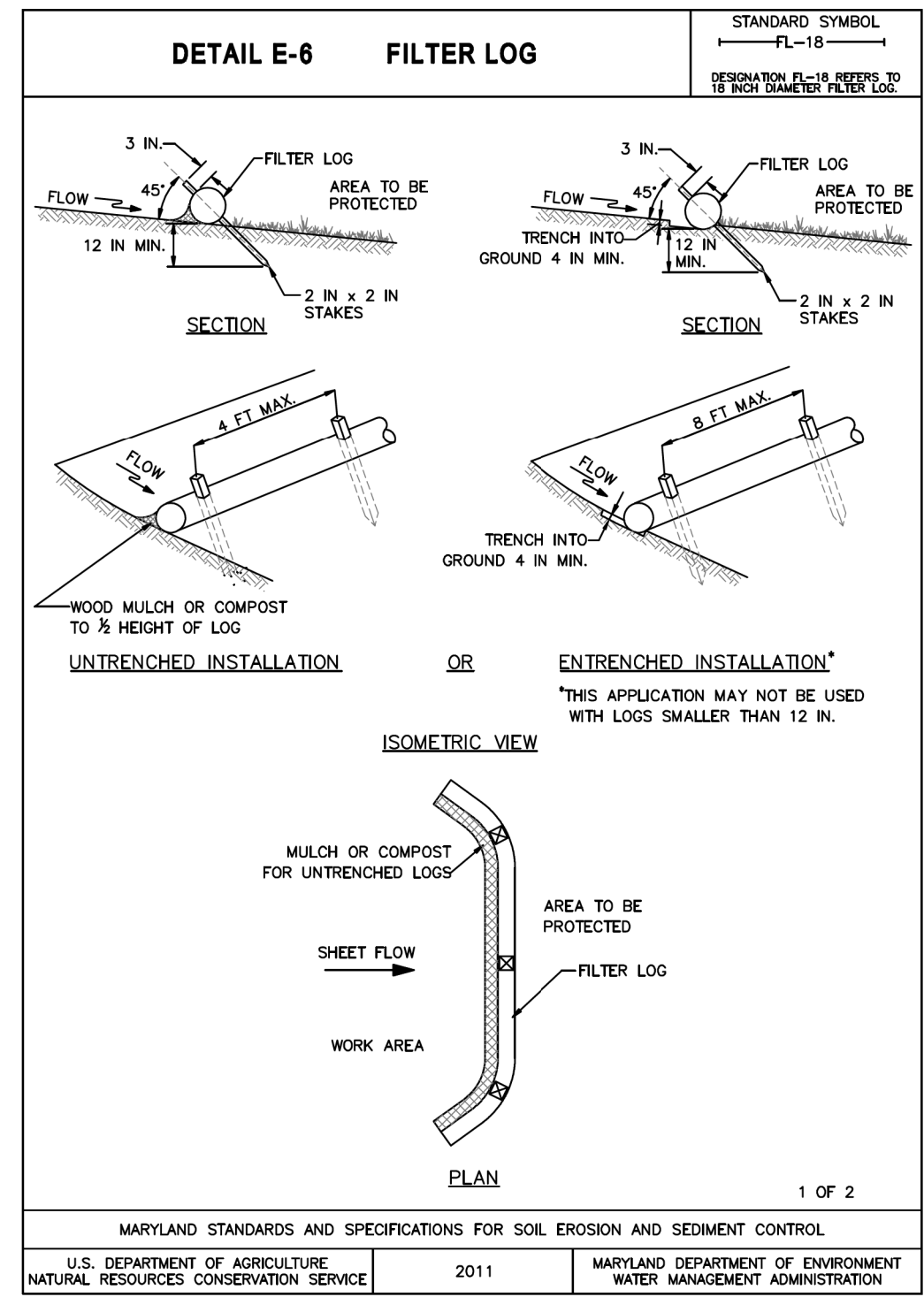
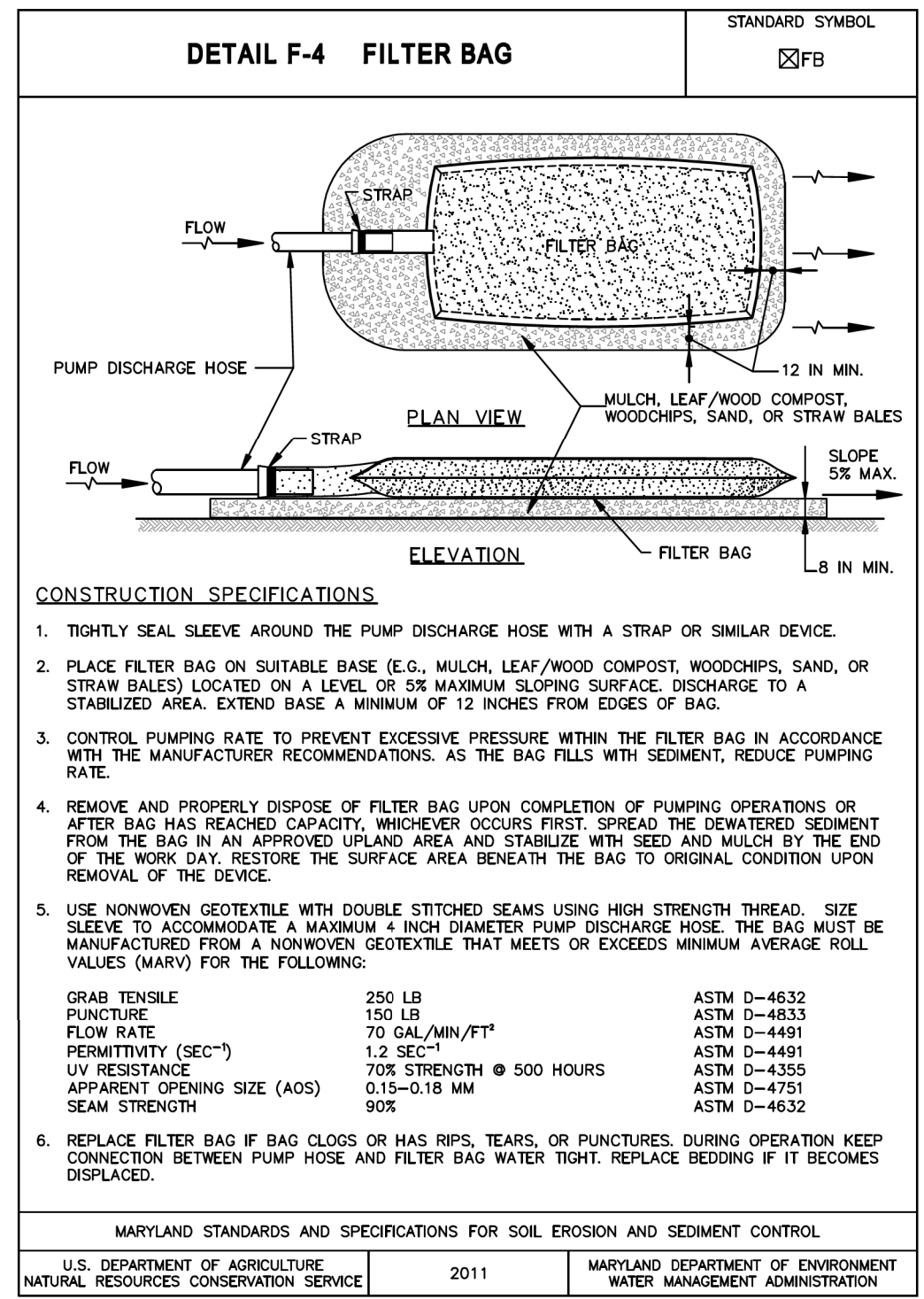
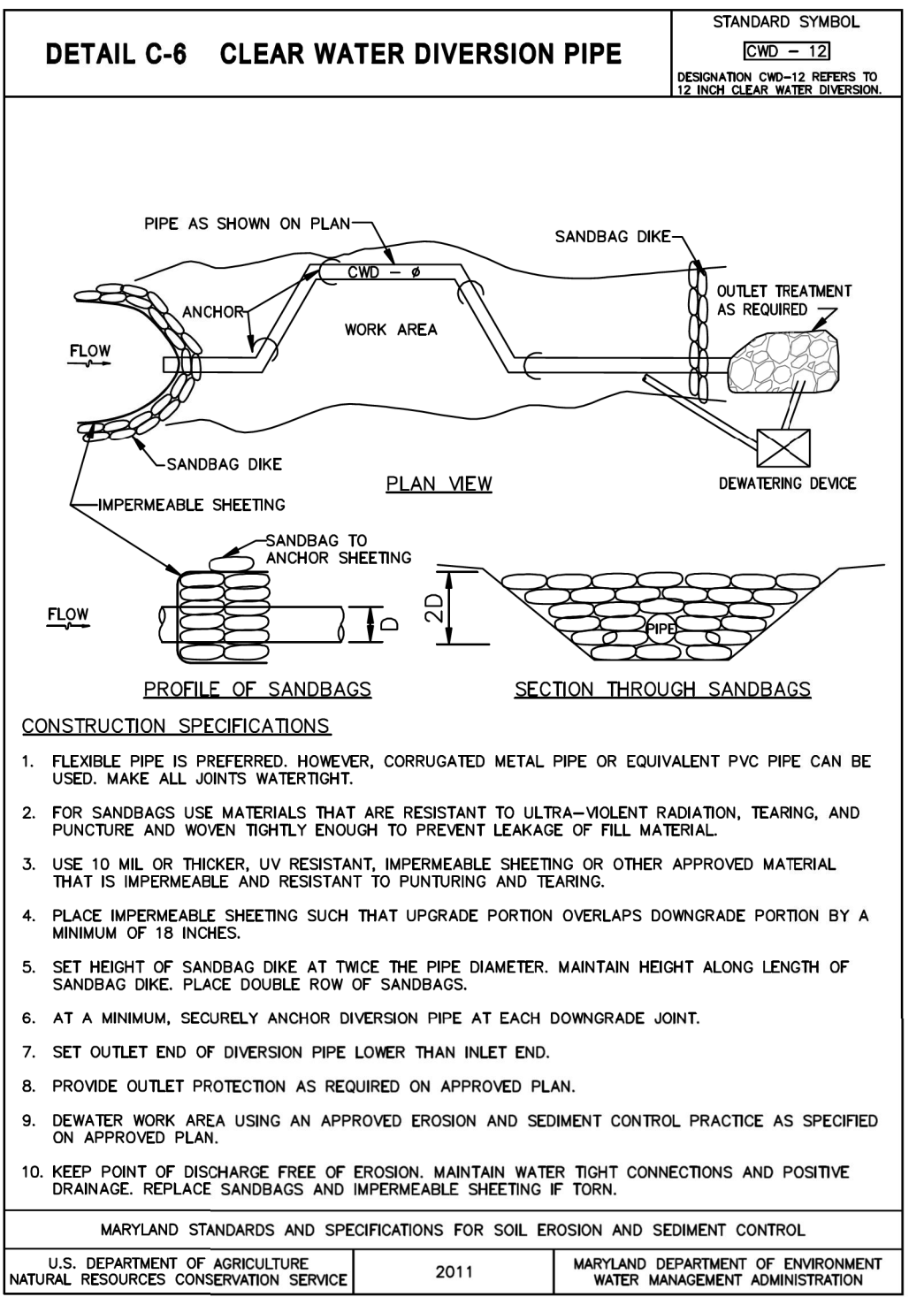
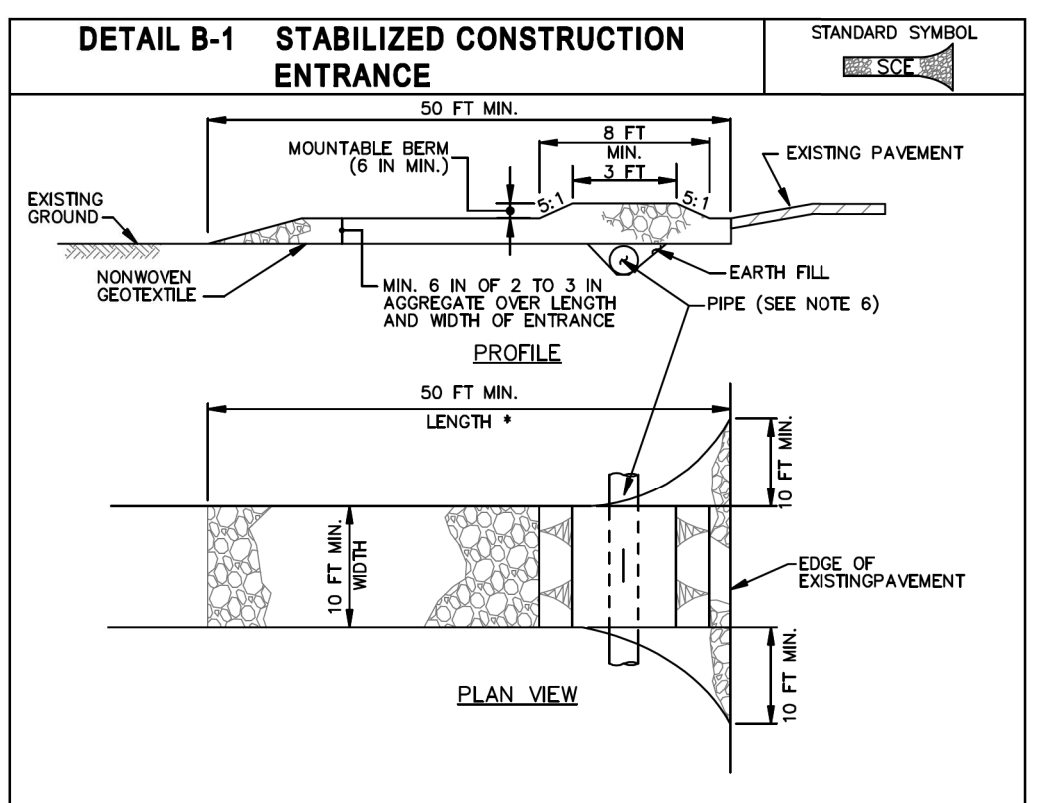
DEPARTMENT OF PUBLIC WORKS
CITY OF TAKOMA PARK
 31 OSWEGO AVENUE
 TAKOMA PARK, MD 20910

OWNER NAME	LEGAL DESCRIPTION	SUBDIVISION	LOT	BLOCK	PARCEL	LIBER	FOLIO
RAMIN RAD	GIBBS & KOSACKS ADD	0025	25	16A	--	41972	0091
M-NCCPC	PAR A SLIGO MILL TOWNES	0025	--	--	721	21966	0298
M-NCCPC	V J 180-28 (PG) PAR A POPLAR MILL	0025	--	--	--	20942	0317
M-NCCPC	TAKOMA PARK	0025	--	--	681	45091	0160

**TAKOMA BRANCH
 STREAM RESTORATION
 AT SLIGO MILL NCA
 EROSION AND SEDIMENT CONTROL
 NOTES & SOC**

SCALE: AS SHOWN SHEET 9 OF 19

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION, DEPARTMENT OF PARK AND PLANNING
 M-NCPPC PERMIT NO. 2019-032
 PARK C44
 REVIEWED BY Meredith Neely
 APPROVED BY [Signature]
 CHIEF, CONSTRUCTION SECTION
 DATE APPROVED 12/29/2020
THIS IS NOT A PERMIT TO BEGIN CONSTRUCTION
 This approval is for technical review only. For permit information, contact Jay Childs, Construction Supervisor at (301) 495-2574

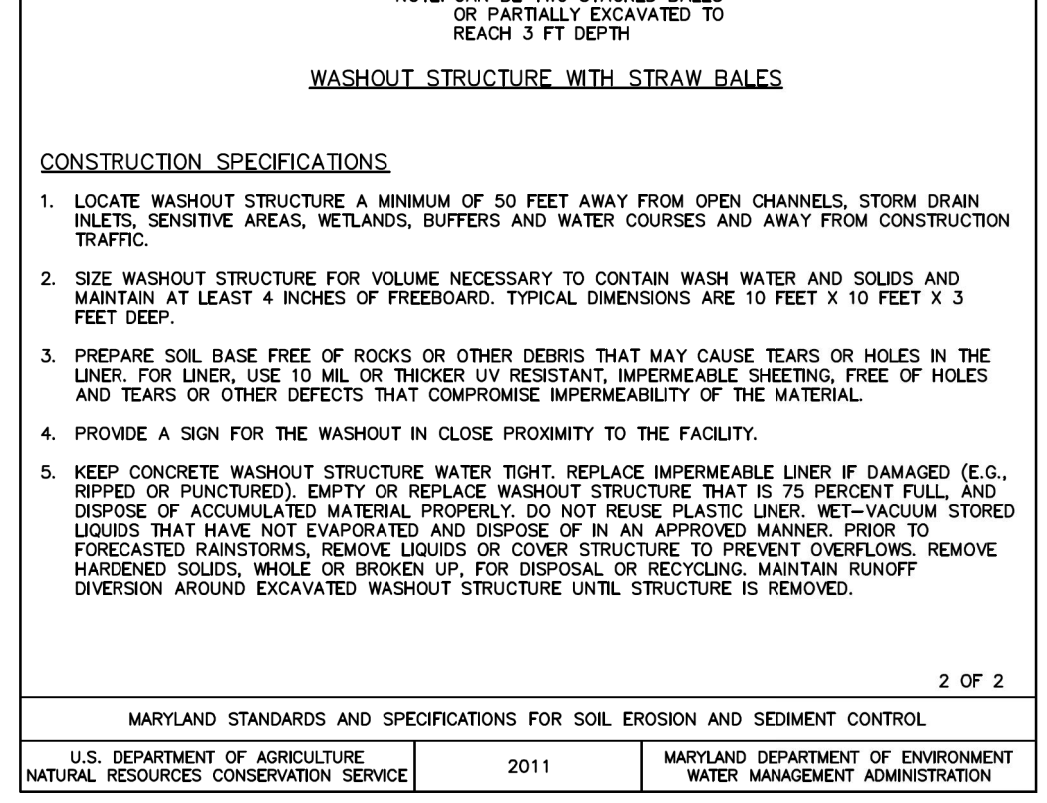
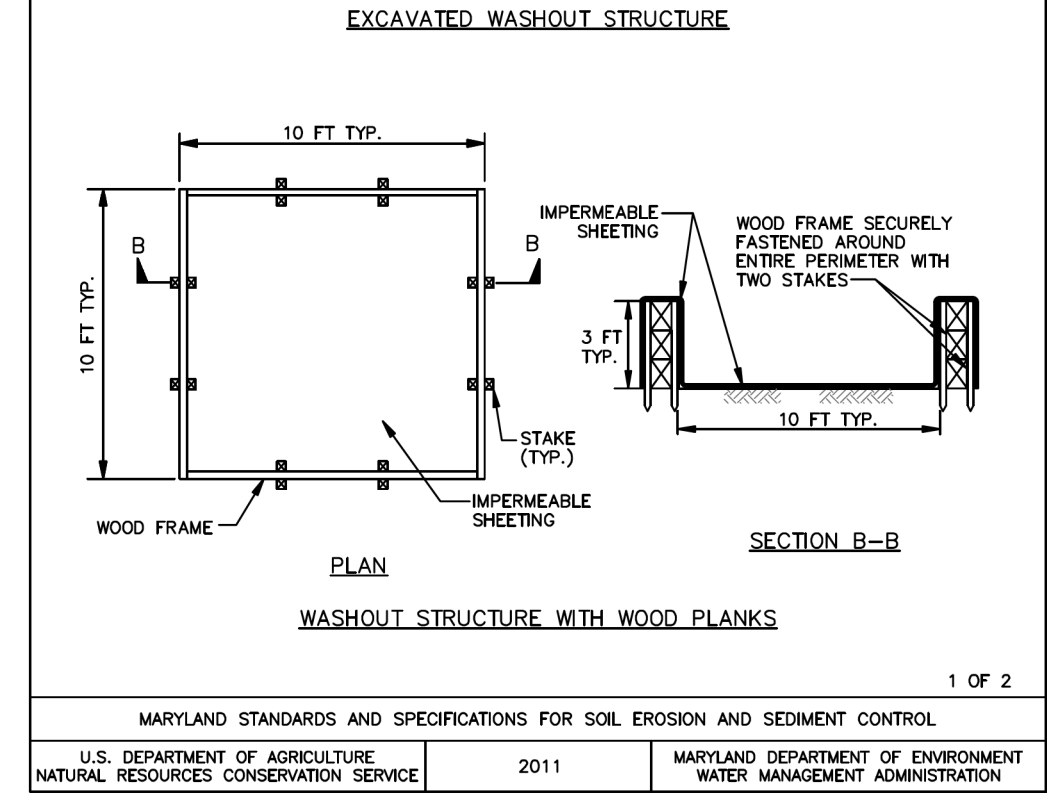
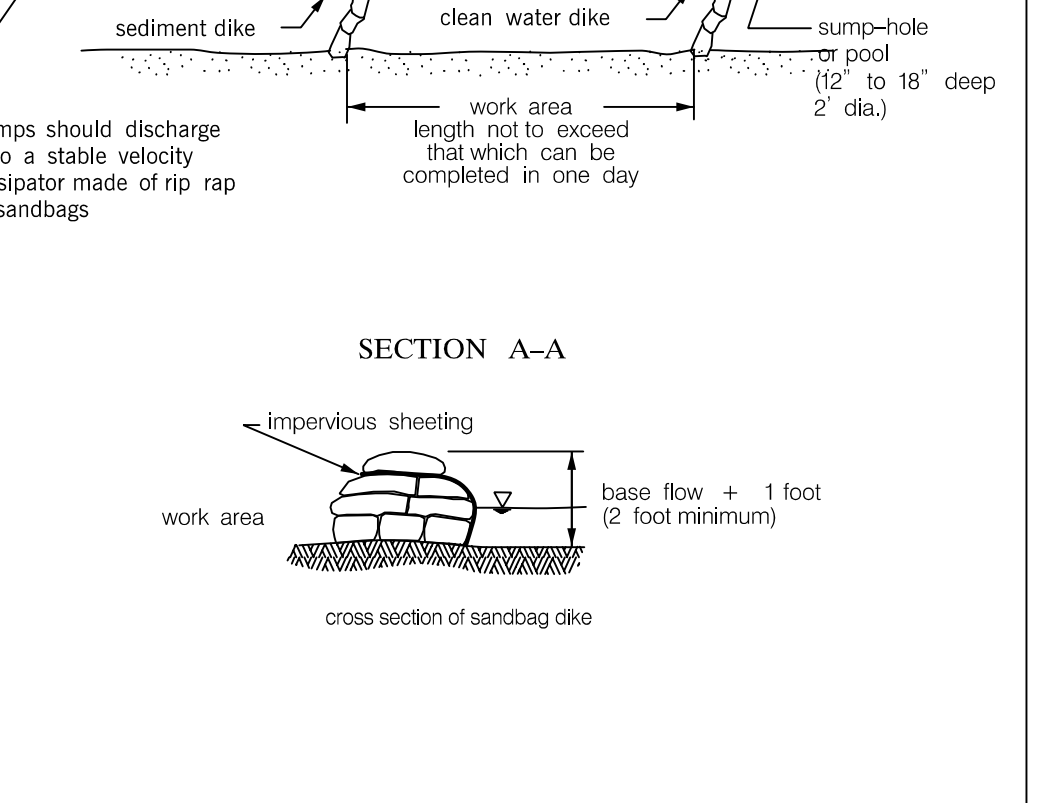
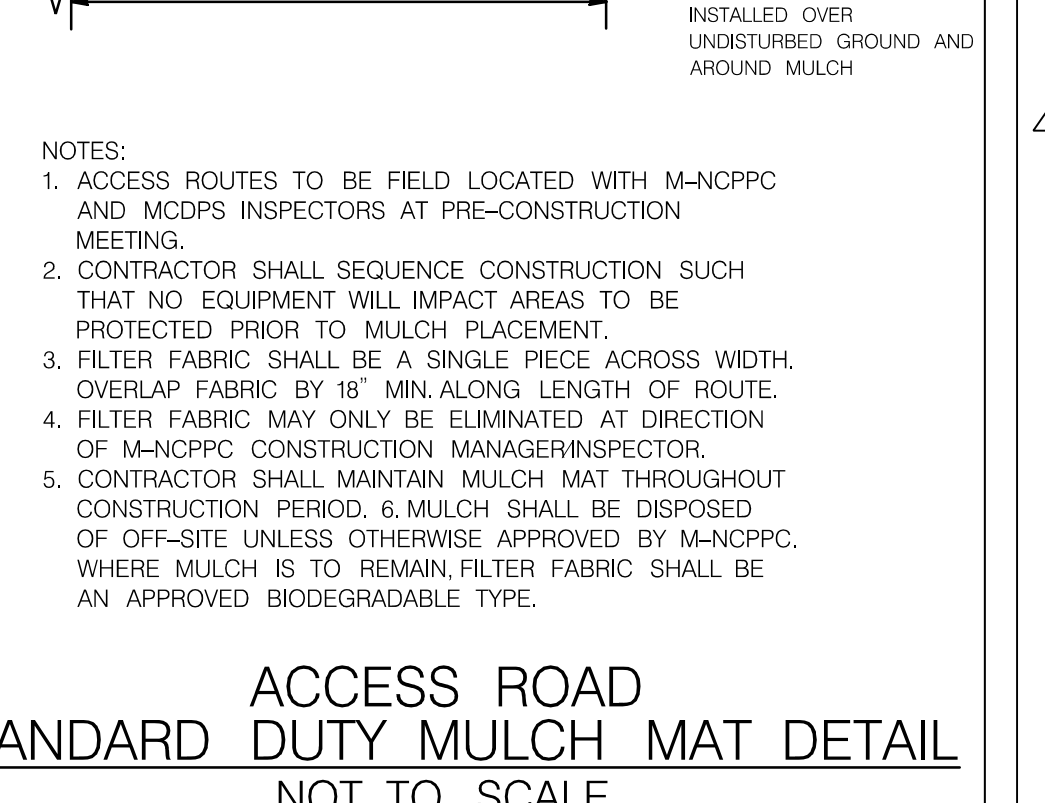
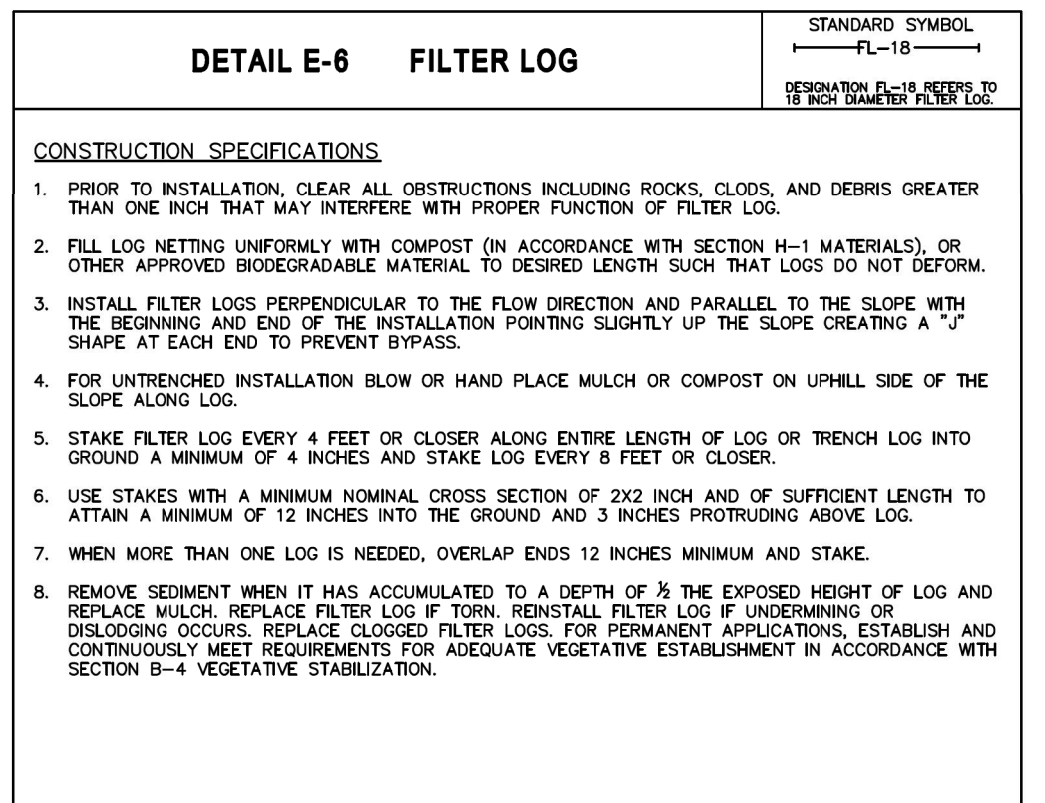
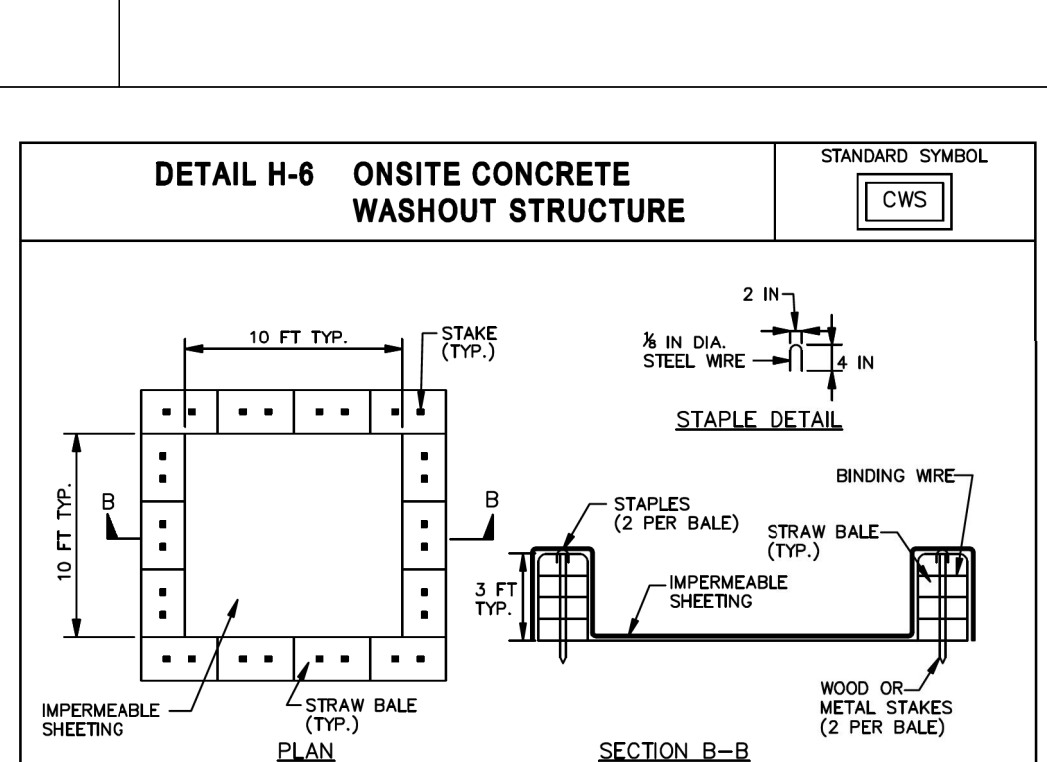
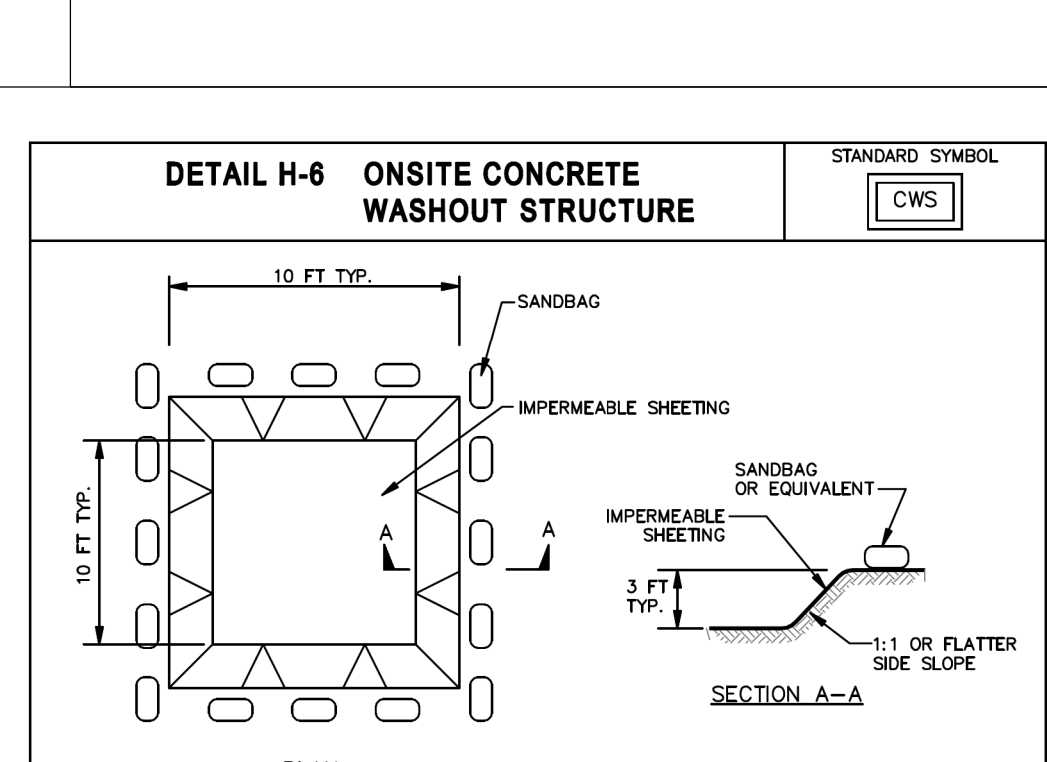
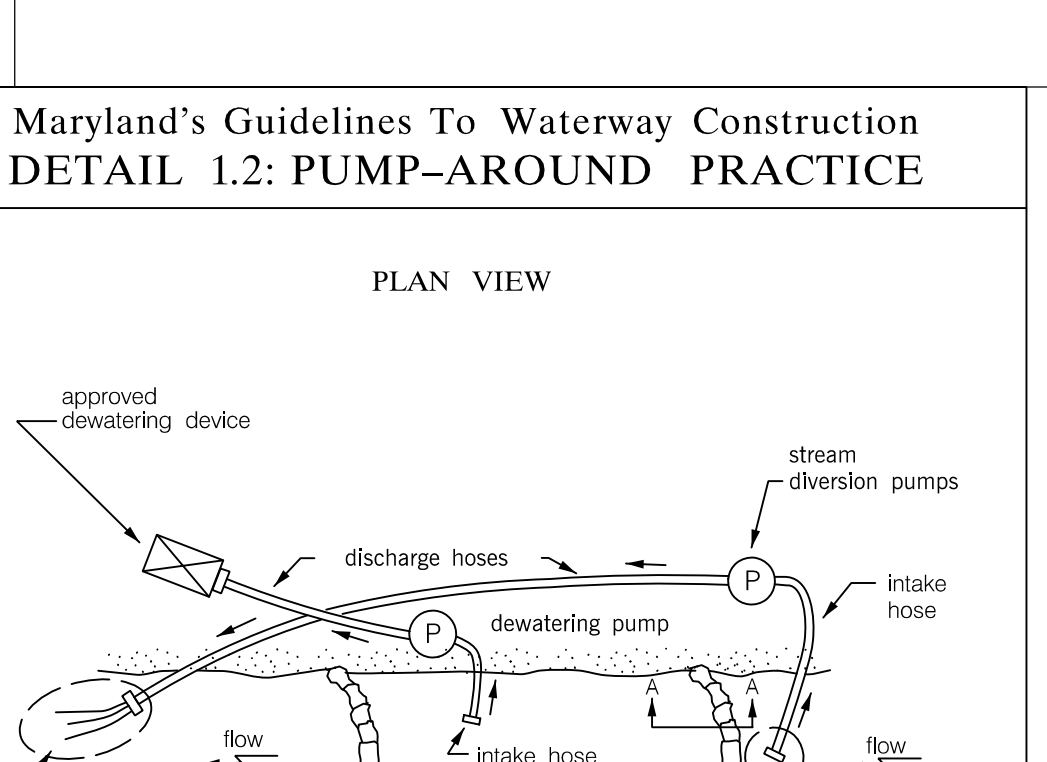
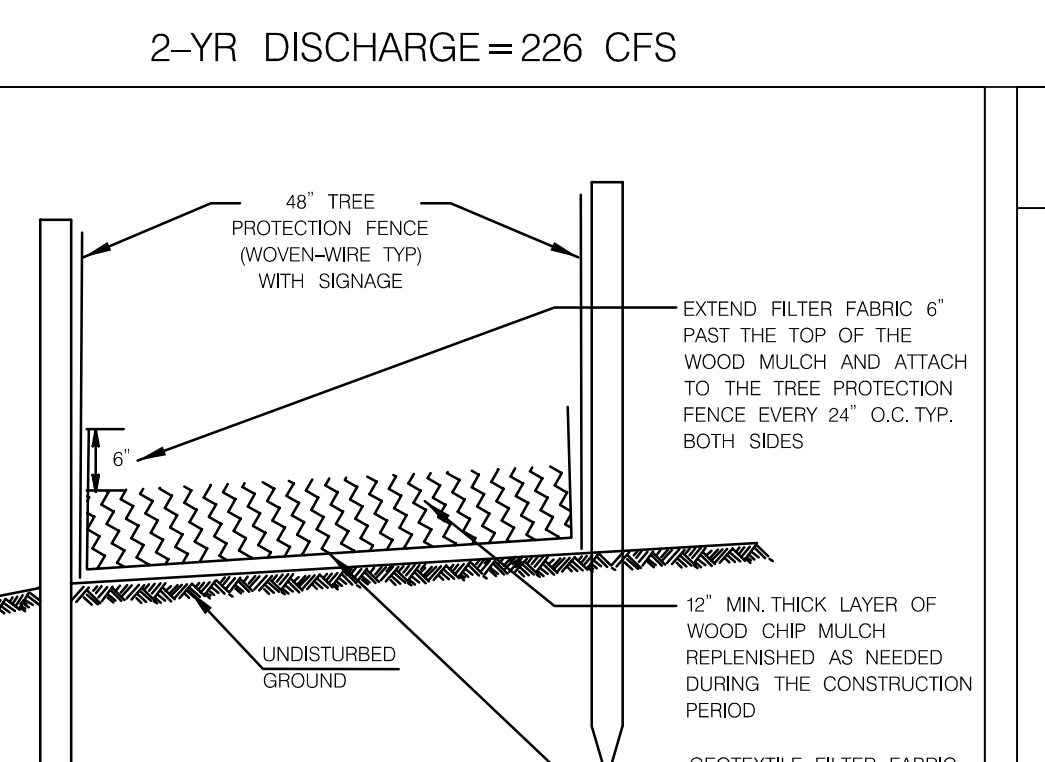


2-YR DISCHARGE = 226 CFS

CONSTRUCTION SPECIFICATIONS:

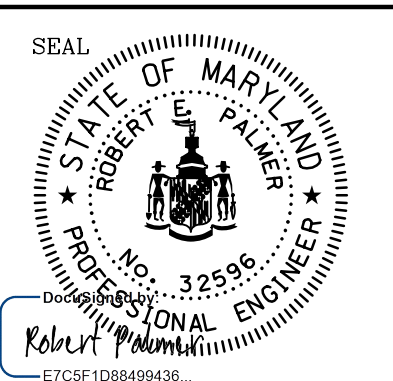
- PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
- PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE. MAINTAIN 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.
- PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
- 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.
- 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 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



\\bosr\03\2010\2010\03\TakomaPK\Task 14_Takoma Branch SR\CADD\Plans\gen-0002_Outfall_TakomaBranch.dgn
 Friday, July 31, 2020 AT 12:02 PM

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. 32596, EXPIRATION DATE: 1/16/2022



RK&K
 P-410.728.2900
 700 E. Pratt Street, Suite 500 | Baltimore, MD 21202
 Engineers | Construction Managers | Planners | Scientists
 www.rk.com
 Responsive People | Creative Solutions

DESIGN BY: NSR
 DRAWN BY: NSR
 CHECK BY: REP
 JULY 2020

DEPARTMENT OF PUBLIC WORKS
CITY OF TAKOMA PARK
 31 OSWEGO AVENUE
 TAKOMA PARK, MD 20910

OWNER NAME	LEGAL DESCRIPTION	SUBDIVISION	LOT	BLOCK	PARCEL	LIBER	FOLIO
RAMIN RAD	GIBBS & KOSACKS ADD	0025	25	16A	--	41972	0091
M-NCPPC	PAR A SLIGO MILL TOWNES	0025	--	--	721	21966	0298
M-NCPPC	V J 180-28 (PG) PAR A POPLAR MILL	0025	--	--	--	20412	0317
M-NCPPC	TAKOMA PARK	0025	--	--	681	45091	0160

EN-02 /SC-03 OF 4 /SC0003

TAKOMA BRANCH STREAM RESTORATION AT SLIGO MILL NCA
 EROSION AND SEDIMENT CONTROL DETAILS

SCALE: NO SCALE SHEET 10 OF 19

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION, DEPARTMENT OF PARK AND PLANNING
 M-NCPPC PERMIT NO. 2019-032
 PARK C44
 REVIEWED BY Meredith Neely
 APPROVED BY [Signature]
 CHIEF, CONSTRUCTION SECTION
 DATE APPROVED 12/29/2020
THIS IS NOT A PERMIT TO BEGIN CONSTRUCTION
 This approval is for technical review only. For permit information, contact Jay Childs, Construction Supervisor at (301) 495-2574

POPLAR AVENUE



CONTRACTOR SHALL COORDINATE WITH CITY OF TAKOMA PARK FOR PROTECTION /REPAIR OF EXISTING SIDEWALK AS NEEDED

CONTRACTOR SHALL NOT PERFORM ANY EXCAVATION WHEN CONSTRUCTING SCE

STAGING AREA (SEE EN-01 FOR HEAVY DUTY MULCH MAT DETAIL)

18" FILTER LOG (SEE NOTE 2)

ACCESS ROAD (SEE EN-02 FOR STANDARD DUTY MULCH MAT DETAIL)

42" DIVERSION PIPE (NON-WORKING HOURS)

DEWATERING DEVICE

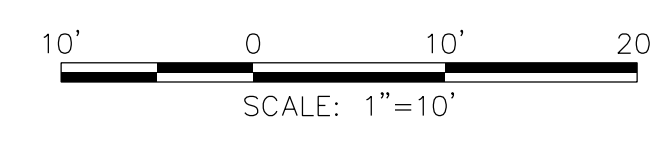
FLOODPLAIN ESMT. PLAT VJ169 NO. 68

LEGEND	
LIMIT OF DISTURBANCE/TREE PROTECTION FENCE	LOD/TPF
FILTER BAG	FB
SANDBAG DIVERSION	[Sandbag symbol]
PUMP	P
DIVERSION PIPE	[Pipe symbol]
TREE PROTECTION FENCE	TPF
TREE REMOVAL	[Tree removal symbol]
STAGING AREA	[Staging area symbol]
STABILIZED CONSTRUCTION ENTRANCE	SCE
TEMPORARY ACCESS ROUTE	[Access route symbol]
FILTER LOG	FL-18
PLANKING	[Planking symbol]
HEAVY TREE PROTECTION	[Tree protection symbol]

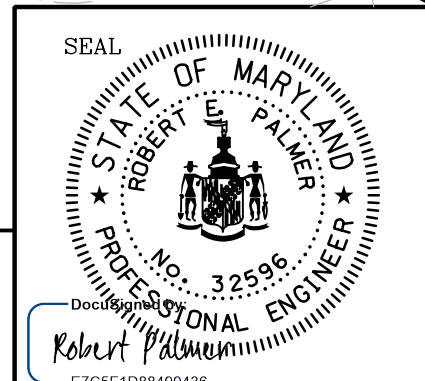
- NOTES:
- THE 100-YR FLOODPLAIN LIMIT WAS DELINEATED USING U.S. ARMY CORPS OF ENGINEER PROGRAM HEC-RAS 5.0.7 AND IS BASED ON AN UNAPPROVED FLOODPLAIN STUDY AND SHOULD BE CONSIDERED APPROXIMATE.
 - FILTER LOG SHALL BE INSTALLED IN ACCORDANCE WITH DETAIL E-6 UNTRENCHED INSTALLATION. 4-FOOT MAX. SPACING OF STAKES SHALL BE USED TO MINIMIZE DISTURBANCE TO TREE ROOTS.

ES-01/SC-04 OF 4/SC0004

\\basr\03\2010\2010\0031_TakomaPK\Task_14_Takoma Branch_SR\CADD\Plans\pES-F001_Outfall_TakomaBranch.dgn Tuesday, November 10, 2020 AT 02:04 PM



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. 32596, EXPIRATION DATE: 1/16/2022



RK&K
 P: 410.728.2900
 700 E. Pratt Street, Suite 500 | Baltimore, MD 21202
 Engineers | Construction Managers | Planners | Scientists
 www.rk.com
 Responsive People | Creative Solutions

DESIGN BY: NSR
 DRAWN BY: NSR
 CHECK BY: REP
 JULY 2020

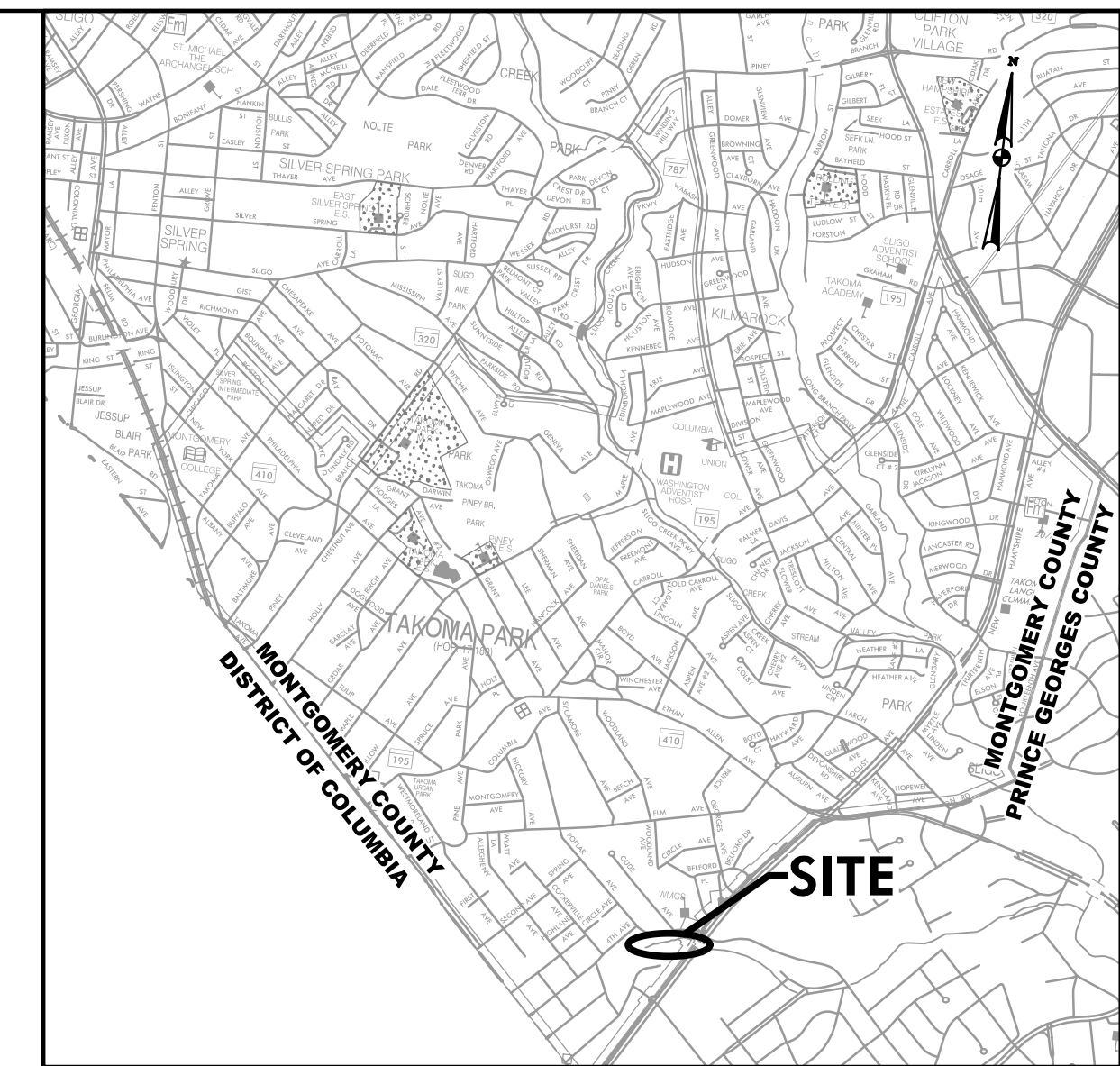
DEPARTMENT OF PUBLIC WORKS
CITY OF TAKOMA PARK
 31 OSWEGO AVENUE
 TAKOMA PARK, MD 20910

OWNER NAME	LEGAL DESCRIPTION	SUBDIVISION	LOT	BLOCK	PARCEL	LIBER	FOLIO
RAMIN RAD	GIBBS & KOSACKS ADD	0025	25	16A	--	41972	0091
M-NCPPC	PAR A SLIGO MILL TOWNES	0025	--	--	721	21966	0298
M-NCPPC	V J 180-28 (PG) PAR A POPLAR MILL	0025	--	--	--	20412	0317
M-NCPPC	TAKOMA PARK	0025	--	--	681	45091	0160

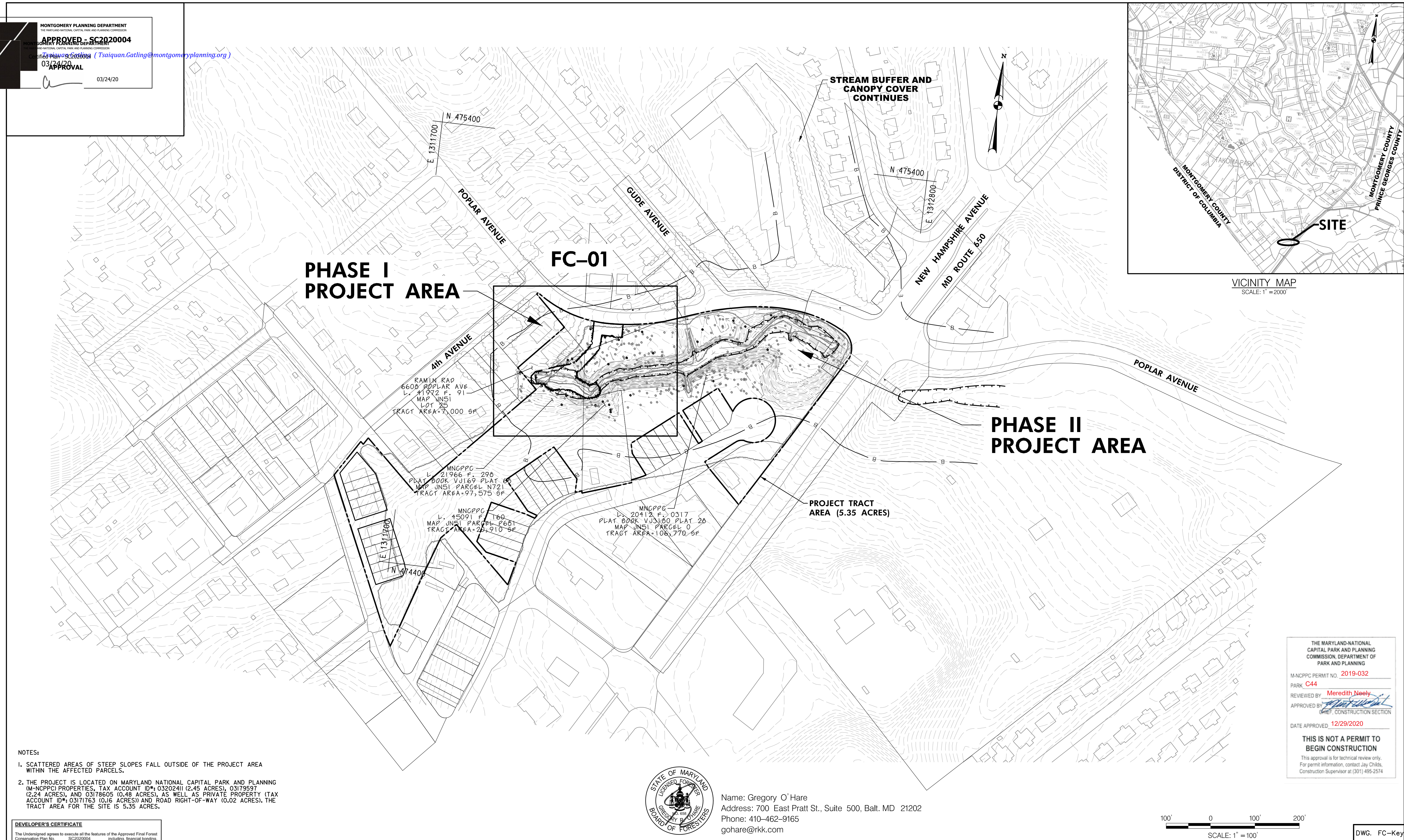
TAKOMA BRANCH STREAM RESTORATION AT SLIGO MILL NCA
 EROSION AND SEDIMENT CONTROL PLAN

SCALE: 1"=10' SHEET 11 OF 19

MONTGOMERY PLANNING DEPARTMENT
 100 NORTH WASHINGTON, CAPITAL PARK AND PLANNING COMMISSION
APPROVED SC2020004
 MONTGOMERY PLANNING DEPARTMENT
 100 NORTH WASHINGTON, CAPITAL PARK AND PLANNING COMMISSION
 Certified by: *Gregory O'Hare* (Tsaiquan.Gatling@montgomeryplanning.org)
 03/24/20
 APPROVAL
 03/24/20



VICINITY MAP
 SCALE: 1" = 2000'

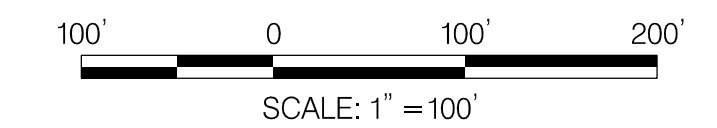


- NOTES:**
- SCATTERED AREAS OF STEEP SLOPES FALL OUTSIDE OF THE PROJECT AREA WITHIN THE AFFECTED PARCELS.
 - THE PROJECT IS LOCATED ON MARYLAND NATIONAL CAPITAL PARK AND PLANNING (M-NCPPC) PROPERTIES, TAX ACCOUNT ID# 0320241 (2.45 ACRES), 0317957 (2.24 ACRES), AND 03178605 (0.48 ACRES), AS WELL AS PRIVATE PROPERTY (TAX ACCOUNT ID# 03171763 (0.16 ACRES)) AND ROAD RIGHT-OF-WAY (0.02 ACRES). THE TRACT AREA FOR THE SITE IS 5.35 ACRES.

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION, DEPARTMENT OF PARK AND PLANNING
 M-NCPPC PERMIT NO. 2019-032
 PARK C44
 REVIEWED BY: *Meredith Neely*
 APPROVED BY: *Gregory O'Hare*
 CHIEF, CONSTRUCTION SECTION
 DATE APPROVED: 12/29/2020
THIS IS NOT A PERMIT TO BEGIN CONSTRUCTION
 This approval is for technical review only. For permit information, contact Jay Childs, Construction Supervisor at (301) 495-2574



Name: Gregory O'Hare
 Address: 700 East Pratt St., Suite 500, Balt. MD 21202
 Phone: 410-462-9165
 gohare@rkk.com



DWG. FC-Key

DEVELOPER'S CERTIFICATE
 The Undersigned agrees to execute all the features of the Approved Final Forest Conservation Plan No. SC2020004 including financial bonding, forest planting, maintenance, and all other applicable agreements.
 Developer's Name: City of Takoma Park, Dept. of Public Works
 Contact Person or Owner: Daryl Braithwaite
 Address: 31 Oswego Avenue, Silver Spring, MD 20910
 Phone and Email: 301-891-7615 DarylB@takomaparkmd.gov
 Signature: *Daryl Braithwaite*
 3/13/20

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION,
 DEPARTMENT OF PARK AND PLANNING
 M-NCPPC Record File No. _____
 Technical Review _____
 Concurrence By _____
 Date _____
 Park Facility Code _____



OWNER/APPLICANT:
 DARYL BRAITHWAITE
 DIRECTOR
 DEPARTMENT OF PUBLIC WORKS
 CITY OF TAKOMA PARK
 31 OSWEGO AVENUE
 TAKOMA PARK, MD 20910
 PHONE: 301-891-7615
 FAX: 301-585-2405

DESIGN BY: AGA
DRAWN BY: DEA
CHECK BY: GRO
 JANUARY 2020

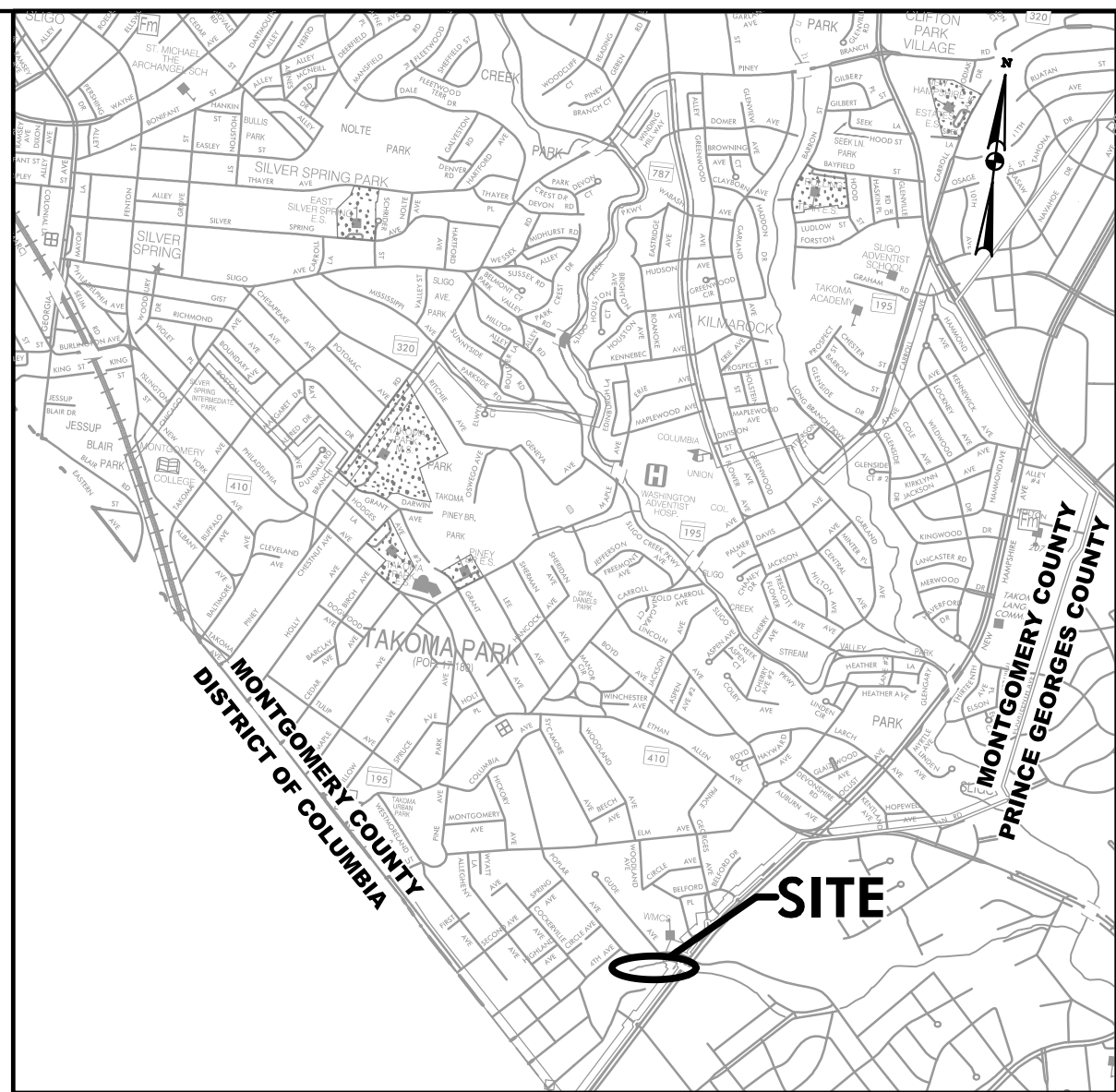
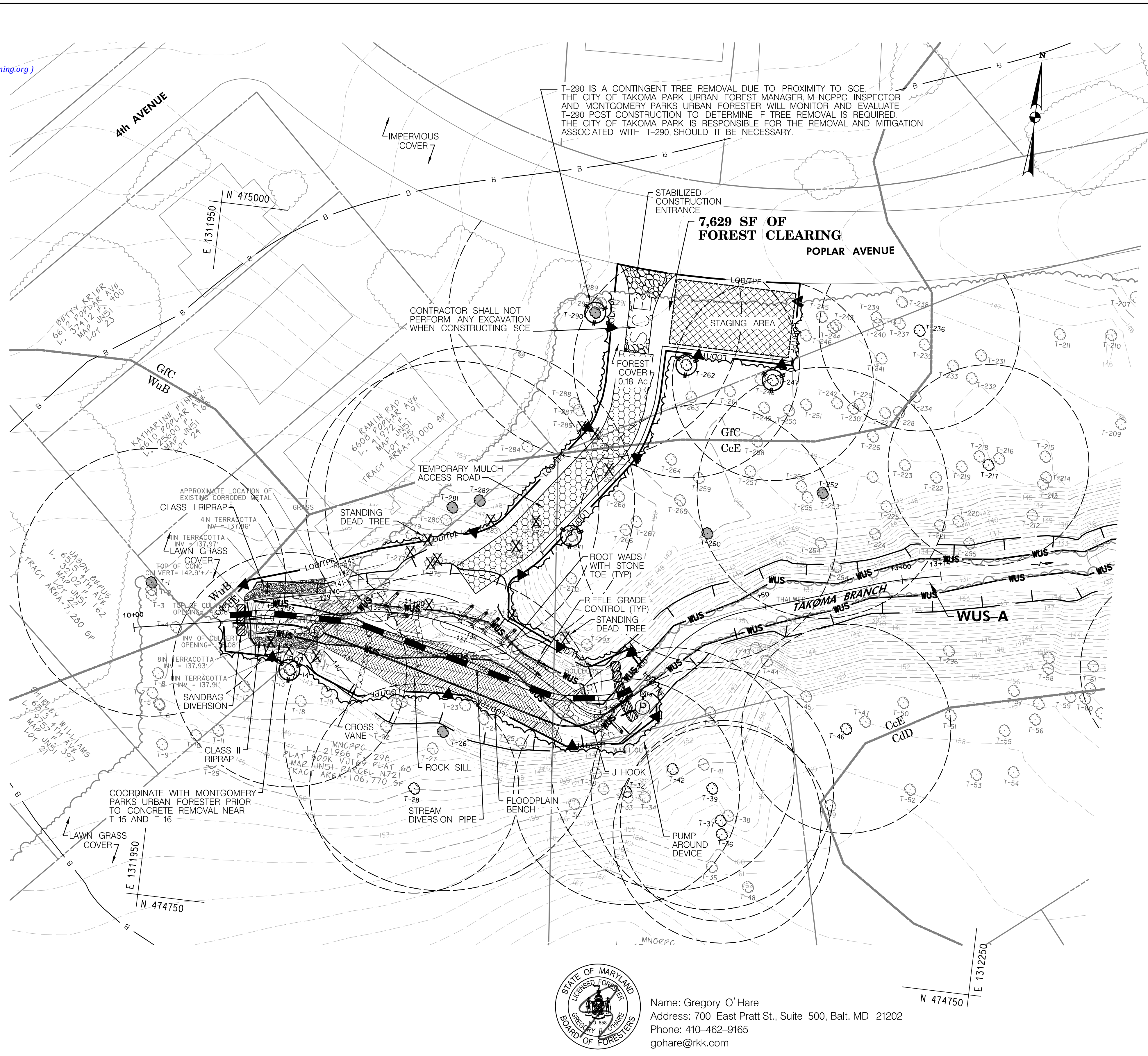
DEPARTMENT OF PUBLIC WORKS
CITY OF TAKOMA PARK
 31 OSWEGO AVENUE
 TAKOMA PARK, MD 20910

OWNER NAME	LEGAL DESCRIPTION	SUBDIVISION	LOT	BLOCK	PARCEL	LIBER	FOLIO
MARYLAND NATIONAL CAPITAL PARK AND PLANNING	PAR A SLIGO MILL TOWNES	0025	--	--	721	21966	0298
MARYLAND NATIONAL CAPITAL PARK AND PLANNING	V J 180-28 (PG) PAR A POPLAR MILL	0025	--	--	--	20412	0317

TAKOMA BRANCH STREAM RESTORATION AT SLIGO MILL NCA
 FOREST CONSERVATION PLAN
 SC2020004
 BASE MAP #208NE01 TAX MAP #JN561
 SCALE: 1" = 100' SHEET 12 OF 19

\\bosr\03\2020\0001\0031_TakomaPark\Task_14_TakomaBranch_SRA\CADD\Plans\pFC-Key_TakomaBranch.dgn 3/16/2020

MONTGOMERY PLANNING DEPARTMENT
 APPROVED SC2020004
 03/24/20
 APPROVAL
 03/24/20



THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION, DEPARTMENT OF PARK AND PLANNING
 M-NCPPC PERMIT NO. 2019-032
 PARK C44
 REVIEWED BY: Meredith Neely
 APPROVED BY: [Signature]
 CHIEF, CONSTRUCTION SECTION
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 Contact Person or Owner: Daryl Braithwaite
 Address: 31 Oswego Avenue, Silver Spring, MD 20910
 Phone and Email: 301-891-7615, DarylB@takomaparkmd.gov
 Signature: [Signature] 3/13/20

- LEGEND**
- 360- EXISTING CONTOURS
 - 360- PROPOSED CONTOURS
 - - - PROPERTY BOUNDARY
 - T-10 SIGNIFICANT/SPECIMEN TREE (≥24" DBH) W/CRITICAL ROOT ZONE
 - T-11 SPECIMEN TREE (≥30" DBH) W/CRITICAL ROOT ZONE
 - PLANKING HEAVY TREE PROTECTION
 - TREES (≥6" DBH)
 - TREE REMOVAL
 - NON-FORESTED CANOPY COVER
 - SURVEYED TREELINE
 - PROPOSED TREELINE
 - ▲ FOREST CONSERVATION SIGN
 - LOD/TPF- LIMIT OF DISTURBANCE & TREE PROTECTION FENCE
 - 6A SOIL UNIT BOUNDARY
 - 2B
 - - - STREAM BUFFER
 - WUS- PERENNIAL OR INTERMITTENT WATERS OF THE U.S.
 - MODELED 100-YEAR FLOODPLAIN

- NOTES:**
1. SEE SHEETS FC-02 THROUGH FC-05 FOR TREE INVENTORY TABLES, FOREST CONSERVATION NOTES, SOILS TABLE, FOREST STAND SUMMARY TABLE, FOREST CONSERVATION DETAILS, FOREST CONSERVATION SEQUENCE OF EVENTS, AND INSPECTION SCHEDULE.
 2. SEE LD-01 AND LD-02 FOR LANDSCAPE PLAN AND DETAILS.
 3. ADDITIONAL STRESS REDUCTION MEASURES MAY BE REQUIRED, PER DIRECTION OF MD LICENSED TREE EXPERT (LTE) IN COORDINATION WITH M-NCPPC INSPECTOR, MONTGOMERY PARKS INSPECTOR, AND CITY OF TAKOMA PARK URBAN FOREST MANAGER DURING CONSTRUCTION. THE CHAIN OF COORDINATION BETWEEN EACH OF THESE ENTITIES WILL BE DETERMINED DURING THE PRECONSTRUCTION MEETING. SEE FC-04 FOR SEQUENCE OF EVENTS INFORMATION AND EN-01/SC-02 OF 4 FOR SEQUENCE OF CONSTRUCTION NOTES REGARDING TREE PROTECTION/CLEARING.
 4. CONDUCT VINE REMOVAL AND DEADWOOD PRUNING ON T-281 AND T-282 AT THE DIRECTION OF A MD LTE.
 5. ALL AREAS OUTSIDE OF THE PROJECT LIMITS OF DISTURBANCE (LOD) SHALL BE CONSIDERED TREE PRESERVATION AREAS TO BE LEFT UNDISTURBED.
 6. TREE PROTECTION FENCE (TPF) AND PROPOSED TREE LINE SHOWN OFFSET FROM LOD FOR GRAPHICAL PURPOSES ONLY. TPF SHALL BE INSTALLED TO WORK SIDE OF LOD IN ACCORDANCE WITH ROOT PRUNING DETAIL SHOWN ON FC-05.
 7. CONTACT CITY OF TAKOMA PARK URBAN FOREST MANAGER AND MONTGOMERY PARKS URBAN FORESTER PRIOR TO ROOT PRUNING OPERATIONS. THE CHAIN OF COORDINATION BETWEEN EACH OF THESE ENTITIES WILL BE DETERMINED DURING THE PRECONSTRUCTION MEETING. ROOT PRUNE ALONG LOD AT DIRECTION OF MD LTE DURING CONSTRUCTION.
 8. FOREST CONSERVATION SIGNS SHALL BE PLACED APPROXIMATELY 30' APART ON TPF. CONDITIONS ON SITE AFFECTING VISIBILITY MAY WARRANT PLACING SIGNS CLOSER OR FARTHER APART, AS DETERMINED DURING THE ON-SITE PRE-CONSTRUCTION MEETING. FOREST CONSERVATION SIGN LOCATIONS ON THIS SHEET.
 9. FIX SPECIMEN TREE SIGNS TO TPF AS SHOWN ON FC-04.
 10. TREES THAT ARE REMOVED SHOULD BE FLUSH-CUT UNLESS THEIR STUMP PRESENCE WILL IMPACT THE FINAL CONSTRUCTION GRADES/STRUCTURES.
 11. COORDINATE WITH MONTGOMERY COUNTY PARKS URBAN FORESTER FOR REMOVAL OF CONCRETE ON THE RIGHT BANK OF THE OUTFALL WITHIN THE CRITICAL ROOT ZONES FOR T-15 AND T-16.
 12. FOR MORE INFORMATION/DETAILS REGARDING THE PROPOSED STREAM RESTORATION DESIGN AND EROSION AND SEDIMENT CONTROLS, SEE SHEETS: SR-01, DD-01, DD-02, AND EN-02.



Name: Gregory O'Hare
 Address: 700 East Pratt St., Suite 500, Balt. MD 21202
 Phone: 410-462-9165
 gohare@rkk.com

SCALE: 1" = 20'
 DWG. FC-01

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION,
 DEPARTMENT OF PARK AND PLANNING
 M-NCPPC Record File No. _____
 Technical Review _____
 Concurrence By _____
 Date _____
 Park Facility Code _____

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 Engineers | Construction Managers | Planners | Scientists
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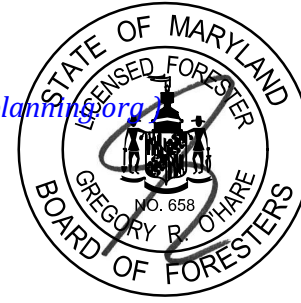
OWNER/APPLICANT:
 DARYL BRAITHWAITE
 DIRECTOR
 DEPARTMENT OF PUBLIC WORKS
 CITY OF TAKOMA PARK
 31 OSWEGO AVENUE
 TAKOMA PARK, MD 20910
 PHONE: 301-891-7615
 FAX: 301-585-2405

DESIGN BY: AGA
 DRAWN BY: DEA
 CHECK BY: GRO
 JANUARY 2020
 DEPARTMENT OF PUBLIC WORKS
CITY OF TAKOMA PARK
 31 OSWEGO AVENUE
 TAKOMA PARK, MD 20910

OWNER NAME	LEGAL DESCRIPTION	SUBDIVISION	LOT	BLOCK	PARCEL	LIBER	FOLIO
MARYLAND NATIONAL CAPITAL PARK AND PLANNING	PAR A SLIGO MILL TOWNES	0025	--	--	721	21966	0298
MARYLAND NATIONAL CAPITAL PARK AND PLANNING	V J 180-28 (PG) PAR A POPLAR MILL	0025	--	--	--	20412	0317

TAKOMA BRANCH STREAM RESTORATION AT SLIGO MILL NCA
 FOREST CONSERVATION PLAN
 SC2020004
 BASE MAP #208NE01 TAX MAP #JN561
 SCALE: 1" = 20' SHEET 13 OF 19

\\bosr\03\2020\2020\0001_Takoma Branch SR_CADD\Plans\FC-0001_TakomaBranch.dgn 3/16/2020



Name: Gregory O' Hare
 Address: 700 East Pratt St., Suite 500, Balt. MD 21202
 Phone: 410-462-9165
 gohare@rkk.com

TREE INVENTORY TABLE

TREE NUMBER	COMMON NAME	SCIENTIFIC NAME	DBH	CRZ (DIAM.)	CONDITION	TREE REMOVAL (YES/NO)
T-1	American elm	<i>Ulmus americana</i>	32**	48	Poor	No
T-2	American elm	<i>Ulmus americana</i>	9	13.5	Poor	No
T-3	White mulberry	<i>Morus alba</i>	6	9	Poor	No
T-4	Boxelder	<i>Acer negundo</i>	7	10.5	Good	No
T-5	American elm	<i>Ulmus americana</i>	7	10.5	Poor	No
T-6	American elm	<i>Ulmus americana</i>	7	10.5	Poor	No
T-7	Black birch	<i>Betula lenta</i>	18	27	Fair	No
T-8	Boxelder	<i>Acer negundo</i>	10	15	Fair	No
T-9	Northern red oak	<i>Quercus rubra</i>	17	25.5	Good	No
T-10	Northern red oak	<i>Quercus rubra</i>	12	18	Good	No
T-11	Black cherry	<i>Prunus serotina</i>	13	19.5	Good	No
T-12	Red maple	<i>Acer rubrum</i>	6	9	Poor	No
T-13	Tulip poplar	<i>Liriodendron tulipifera</i>	11	16.5	Good	No
T-14	Tulip poplar	<i>Liriodendron tulipifera</i>	28*	42	Good	No
T-15	Boxelder	<i>Acer negundo</i>	7	10.5	Fair	Yes
T-16	Boxelder	<i>Acer negundo</i>	6	9	Fair	Yes
T-17	Black cherry	<i>Prunus serotina</i>	15	22.5	Poor	Yes
T-18	Black birch	<i>Betula lenta</i>	8	12	Poor	No
T-19	Northern catalpa	<i>Catalpa speciosa</i>	15	22.5	Fair	No
T-20	Slippery elm	<i>Ulmus rubra</i>	7	10.5	Fair	No
T-21	Slippery elm	<i>Ulmus rubra</i>	10	15	Fair	No
T-22	Tulip poplar	<i>Liriodendron tulipifera</i>	6	9	Good	No
T-23	Slippery elm	<i>Ulmus rubra</i>	9	13.5	Poor	No
T-24	Boxelder	<i>Acer negundo</i>	6	9	Poor	No
T-25	Slippery elm	<i>Ulmus rubra</i>	6	9	Fair	No
T-26	Northern red oak	<i>Quercus rubra</i>	38**	57	Fair	No
T-27	Flowering dogwood	<i>Cornus florida</i>	6	9	Good	No
T-28	Chestnut oak	<i>Quercus prinus</i>	25*	37.5	Good	No
T-29	Northern red oak	<i>Quercus rubra</i>	22	33	Good	No
T-30	Red maple	<i>Acer rubrum</i>	6	9	Fair	No
T-31	Tulip poplar	<i>Liriodendron tulipifera</i>	21	31.5	Good	No
T-32	Tulip poplar	<i>Liriodendron tulipifera</i>	27*	40.5	Fair	No
T-33	Northern red oak	<i>Quercus rubra</i>	7	10.5	Fair	No
T-34	Tulip poplar	<i>Liriodendron tulipifera</i>	22	33	Good	No
T-35	Tulip poplar	<i>Liriodendron tulipifera</i>	20	30	Good	No
T-36	Tulip poplar	<i>Liriodendron tulipifera</i>	26*	39	Fair	No
T-37	Tulip poplar	<i>Liriodendron tulipifera</i>	24*	36	Fair	No
T-38	Red maple	<i>Acer rubrum</i>	7	10.5	Fair	No
T-39	Tulip poplar	<i>Liriodendron tulipifera</i>	29*	43.5	Fair	No
T-40	Tulip poplar	<i>Liriodendron tulipifera</i>	21	31.5	Fair	No
T-41	Tulip poplar	<i>Liriodendron tulipifera</i>	29*	43.5	Fair	No
T-42	American elm	<i>Ulmus americana</i>	16	24	Fair	No
T-43	Northern catalpa	<i>Catalpa speciosa</i>	15	22.5	Poor	No
T-44	Northern catalpa	<i>Catalpa speciosa</i>	20	30	Poor	No
T-45	Boxelder	<i>Acer negundo</i>	10	15	Fair	No
T-46	Black locust	<i>Robinia pseudoacacia</i>	25*	37.5	Fair	No
T-47	Boxelder	<i>Acer negundo</i>	7	10.5	Fair	No
T-48	Red maple	<i>Acer rubrum</i>	18	27	Good	No
T-49	Northern catalpa	<i>Catalpa speciosa</i>	17	25.5	Good	No
T-50	American elm	<i>Ulmus americana</i>	18	27	Good	No

NOTE:
 * = Significant Tree
 **=Specimen Tree

TREE INVENTORY TABLE

TREE NUMBER	COMMON NAME	SCIENTIFIC NAME	DBH	CRZ (DIAM.)	CONDITION	TREE REMOVAL (YES/NO)
T-51	American elm	<i>Ulmus americana</i>	21	31.5	Poor	No
T-52	Boxelder	<i>Acer negundo</i>	7	10.5	Poor	No
T-53	Slippery elm	<i>Ulmus rubra</i>	13	19.5	Good	No
T-54	Slippery elm	<i>Ulmus rubra</i>	10	15	Fair	No
T-55	Elm sp.	<i>Ulmus sp.</i>	11	16.5	Fair	No
T-56	Northern red oak	<i>Quercus rubra</i>	18	27	Good	No
T-57	Boxelder	<i>Acer negundo</i>	6	9	Fair	No
T-58	Tree of heaven	<i>Ailanthus altissima</i>	21	31.5	Fair	No
T-59	Boxelder	<i>Acer negundo</i>	6	9	Fair	No
T-60	Boxelder	<i>Acer negundo</i>	7	10.5	Good	No
T-61	American elm	<i>Ulmus americana</i>	20	30	Fair	No
T-207	Northern catalpa	<i>Catalpa speciosa</i>	13	19.5	Poor	No
T-209	Black locust	<i>Robinia pseudoacacia</i>	18	27	Poor	No
T-210	Slippery elm	<i>Ulmus rubra</i>	9	13.5	Fair	No
T-211	Boxelder	<i>Acer negundo</i>	7	10.5	Poor	No
T-212	Northern catalpa	<i>Catalpa speciosa</i>	19	28.5	Poor	No
T-213	Northern catalpa	<i>Catalpa speciosa</i>	8	12	Poor	No
T-214	American elm	<i>Ulmus americana</i>	9	13.5	Fair	No
T-215	Northern catalpa	<i>Catalpa speciosa</i>	17	25.5	Poor	No
T-216	Northern catalpa	<i>Catalpa speciosa</i>	9	13.5	Poor	No
T-217	Northern catalpa	<i>Catalpa speciosa</i>	24*	36	Fair	No
T-218	Northern catalpa	<i>Catalpa speciosa</i>	12	18	Poor	No
T-219	Northern catalpa	<i>Catalpa speciosa</i>	14	21	Fair	No
T-220	Boxelder	<i>Acer negundo</i>	9	13.5	Poor	No
T-221	Northern catalpa	<i>Catalpa speciosa</i>	12	18	Fair	No
T-222	Slippery elm	<i>Ulmus rubra</i>	6	9	Good	No
T-223	Northern catalpa	<i>Catalpa speciosa</i>	16	24	Fair	No
T-224	Northern catalpa	<i>Catalpa speciosa</i>	13	19.5	Fair	No
T-225	Northern catalpa	<i>Catalpa speciosa</i>	18	27	Fair	No
T-226	Northern catalpa	<i>Catalpa speciosa</i>	11	16.5	Poor	No
T-227	Northern catalpa	<i>Catalpa speciosa</i>	12	18	Fair	No
T-228	Slippery elm	<i>Ulmus rubra</i>	7	10.5	Poor	No
T-229	Northern catalpa	<i>Catalpa speciosa</i>	8	12	Poor	No
T-230	Northern catalpa	<i>Catalpa speciosa</i>	11	16.5	Fair	No
T-231	Northern catalpa	<i>Catalpa speciosa</i>	12	18	Fair	No
T-232	Northern catalpa	<i>Catalpa speciosa</i>	9	13.5	Fair	No
T-233	Northern catalpa	<i>Catalpa speciosa</i>	13	19.5	Good	No
T-234	Northern catalpa	<i>Catalpa speciosa</i>	11	16.5	Good	No
T-235	Northern catalpa	<i>Catalpa speciosa</i>	21	31.5	Fair	No
T-236	Northern catalpa	<i>Catalpa speciosa</i>	24*	36	Fair	No
T-237	Slippery elm	<i>Ulmus rubra</i>	6	9	Fair	No
T-238	Northern catalpa	<i>Catalpa speciosa</i>	20	30	Fair	No
T-239	Northern catalpa	<i>Catalpa speciosa</i>	22	33	Fair	No
T-240	Northern catalpa	<i>Catalpa speciosa</i>	15	22.5	Fair	No
T-241	Northern catalpa	<i>Catalpa speciosa</i>	6	9	Fair	No
T-242	Northern catalpa	<i>Catalpa speciosa</i>	12	18	Fair	No
T-243	Black cherry	<i>Prunus serotina</i>	11	16.5	Fair	No
T-244	Northern catalpa	<i>Catalpa speciosa</i>	17	25.5	Fair	No
T-245	Black cherry	<i>Prunus serotina</i>	12	18	Fair	No
T-246	Boxelder	<i>Acer negundo</i>	9	13.5	Fair	No

NOTE:

TREES 62-206 ARE NOT INCLUDED IN THE TREE INVENTORY TABLE BECAUSE THEY ARE LOCATED WITHIN THE PROJECT LIMITS FOR THE SECOND PHASE OF THE PROJECT THAT IS NOT COVERED UNDER THIS FCP (BEYOND THE EXTENT OF THE PHASE ONE PROJECT LOD, SHOWN ON FC-01).

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION, DEPARTMENT OF PARK AND PLANNING
 M-NCPPC PERMIT NO. 2019-032
 PARK C44
 REVIEWED BY: Meredith Neely
 APPROVED BY: [Signature]
 CHIEF, CONSTRUCTION SECTION
 DATE APPROVED: 12/29/2020
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DWG. FC-02

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 Contact Person or Owner: Daryl Braithwaite
 Address: 31 Oswego Avenue, Silver Spring, MD 20910
 Phone and Email: 301-891-7615 DarylB@takomaparkmd.gov
 Signature: [Signature] 3/13/20

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION, DEPARTMENT OF PARK AND PLANNING
 M-NCPPC Record File No. _____
 Technical Review _____
 Concurrence By _____
 Date _____
 Park Facility Code _____



OWNER/APPLICANT:
 DARYL BRAITHWAITE
 DIRECTOR
 DEPARTMENT OF PUBLIC WORKS
 CITY OF TAKOMA PARK
 31 OSWEGO AVENUE
 TAKOMA PARK, MD 20910
 PHONE: 301-891-7615
 FAX: 301-585-2405

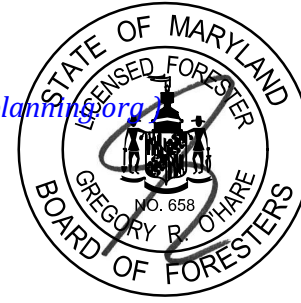
DESIGN BY: AGA
 DRAWN BY: DEA
 CHECK BY: GRO
 JANUARY 2020

DEPARTMENT OF PUBLIC WORKS
CITY OF TAKOMA PARK
 31 OSWEGO AVENUE
 TAKOMA PARK, MD 20910

OWNER NAME	LEGAL DESCRIPTION	SUBDIVISION	LOT	BLOCK	PARCEL	LIBER	FOLIO
MARYLAND NATIONAL CAPITAL PARK AND PLANNING	PAR A SLIGO MILL TOWNES	0025	--	--	721	21966	0298
MARYLAND NATIONAL CAPITAL PARK AND PLANNING	V J 180-28 (PG) PAR A POPLAR MILL	0025	--	--	--	20412	0317

TAKOMA BRANCH STREAM RESTORATION AT SLIGO MILL NCA FOREST CONSERVATION PLAN SC2020004
 SCALE: NO SCALE SHEET 14 OF 19

\\bosr\03\2010\2010\0031_Takoma Branch SR\CADD\Plans\FC-0002_TakomaBranch.dgn 3/16/2020



Name: Gregory O'Hare
 Address: 700 East Pratt St., Suite 500, Balt. MD 21202
 Phone: 410-462-9165
 gohare@rkk.com

TREE INVENTORY TABLE

TREE NUMBER	COMMON NAME	SCIENTIFIC NAME	DBH	CRZ (DIAM.)	CONDITION	TREE REMOVAL (YES/NO)
T-247	Northern catalpa	<i>Catalpa speciosa</i>	24*	36	Fair	No
T-248	Sugar maple	<i>Acer saccharum</i>	6	9	Good	No
T-249	Silver maple	<i>Acer saccharinum</i>	16	24	Poor	No
T-250	Northern catalpa	<i>Catalpa speciosa</i>	14	21	Fair	No
T-251	Black birch	<i>Betula lenta</i>	7	10.5	Fair	No
T-252	Sycamore	<i>Platanus occidentalis</i>	30**	45	Fair	No
T-253	Red maple	<i>Acer rubrum</i>	6	9	Fair	No
T-254	Northern catalpa	<i>Catalpa speciosa</i>	17	25.5	Fair	No
T-255	Northern catalpa	<i>Catalpa speciosa</i>	10	15	Fair	No
T-256	Northern catalpa	<i>Catalpa speciosa</i>	7	10.5	Fair	No
T-257	Northern catalpa	<i>Catalpa speciosa</i>	13	19.5	Fair	No
T-258	Black locust	<i>Robinia pseudoacacia</i>	19	28.5	Fair	No
T-259	Northern catalpa	<i>Catalpa speciosa</i>	15	22.5	Fair	No
T-260	Red maple	<i>Acer rubrum</i>	31**	46.5	Poor	No
T-261	Slippery elm	<i>Ulmus rubra</i>	8	12	Good	No
T-262	American elm	<i>Ulmus americana</i>	27*	40.5	Good	No
T-263	Northern catalpa	<i>Catalpa speciosa</i>	13	19.5	Fair	No
T-264	Black cherry	<i>Prunus serotina</i>	10	15	Poor	No
T-265	Boxelder	<i>Acer negundo</i>	7	10.5	Good	No
T-266	Tulip poplar	<i>Liriodendron tulipifera</i>	15	22.5	Good	No
T-267	Tulip poplar	<i>Liriodendron tulipifera</i>	16	24	Good	No
T-268	Tulip poplar	<i>Liriodendron tulipifera</i>	13	19.5	Fair	No
T-269	Black cherry	<i>Prunus serotina</i>	10	15	Poor	Yes
T-270	Slippery elm	<i>Ulmus rubra</i>	8	12	Good	No
T-271	Tulip poplar	<i>Liriodendron tulipifera</i>	9	13.5	Good	No
T-272	Boxelder	<i>Acer negundo</i>	10	15	Fair	Yes
T-273	Slippery elm	<i>Ulmus rubra</i>	6	9	Fair	Yes
T-274	Northern red oak	<i>Quercus rubra</i>	9	13.5	Fair	Yes
T-275	Slippery elm	<i>Ulmus rubra</i>	12	18	Good	Yes
T-276	White mulberry	<i>Morus alba</i>	6	9	Fair	Yes
T-277	Slippery elm	<i>Ulmus rubra</i>	8	12	Good	Yes
T-278	Redbud	<i>Cercis canadensis</i>	6	9	Poor	Yes
T-279	Boxelder	<i>Acer negundo</i>	7	10.5	Fair	No
T-280	Red maple	<i>Acer rubrum</i>	8	12	Good	No
T-281	Silver maple	<i>Acer saccharinum</i>	35**	52.5	Good	No
T-282	Tulip poplar	<i>Liriodendron tulipifera</i>	37**	55.5	Good	No
T-283	Northern red oak	<i>Quercus rubra</i>	8	12	Fair	Yes
T-284	American elm	<i>Ulmus americana</i>	7	10.5	Good	No
T-285	Northern catalpa	<i>Catalpa speciosa</i>	16	24	Good	Yes
T-286	Black cherry	<i>Prunus serotina</i>	7	10.5	Good	Yes
T-287	Sycamore	<i>Platanus occidentalis</i>	22	33	Good	No
T-288	Black cherry	<i>Prunus serotina</i>	7	10.5	Poor	No
T-289	Northern red oak	<i>Quercus rubra</i>	19	28.5	Poor	No
T-290	Red maple	<i>Acer rubrum</i>	35**	52.5	Poor	No
T-291	Boxelder	<i>Acer negundo</i>	8	12	Poor	No
T-292	Northern catalpa	<i>Catalpa speciosa</i>	13	19.5	Poor	No
T-293	Boxelder	<i>Acer negundo</i>	8	12	Fair	No
T-294	Slippery elm	<i>Ulmus rubra</i>	18	27	Fair	No
T-295	Northern catalpa	<i>Catalpa speciosa</i>	13	19.5	Fair	No
T-296	Red maple	<i>Acer rubrum</i>	8	12	Fair	No

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DEVELOPER'S CERTIFICATE

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 Printed Company Name: _____

Contact Person or Owner: Daryl Braithwaite
 Printed Name: _____

Address: 31 Oswego Avenue, Silver Spring, MD 20910

Phone and Email: 301-891-7615 DarylB@takomaparkmd.gov

Signature: Daryl Braithwaite
3/13/20

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION,
 DEPARTMENT OF PARK AND PLANNING

M-NCPPC Record File No. _____
 Technical Review _____
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 Date _____
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OWNER/APPLICANT:
 DARYL BRAITHWAITE
 DIRECTOR
 DEPARTMENT OF PUBLIC WORKS
 CITY OF TAKOMA PARK

31 OSWEGO AVENUE
 TAKOMA PARK, MD 20910
 PHONE: 301-891-7615
 FAX: 301-585-2405

DESIGN BY: AGA
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 CHECK BY: GRO
 JANUARY 2020

DEPARTMENT OF PUBLIC WORKS
CITY OF TAKOMA PARK
 31 OSWEGO AVENUE
 TAKOMA PARK, MD 20910

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MARYLAND NATIONAL CAPITAL PARK AND PLANNING	V J 180-28 (PG) PAR A POPLAR MILL	0025	--	--	--	20412	0317

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION, DEPARTMENT OF PARK AND PLANNING

M-NCPPC PERMIT NO. 2019-032

PARK C44

REVIEWED BY: Meredith Neely

APPROVED BY: [Signature]
 CHIEF, CONSTRUCTION SECTION

DATE APPROVED: 12/29/2020

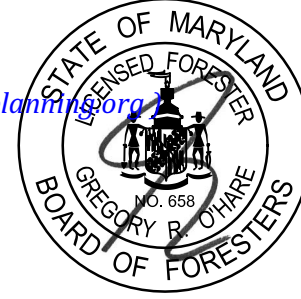
THIS IS NOT A PERMIT TO BEGIN CONSTRUCTION

This approval is for technical review only. For permit information, contact Jay Childs, Construction Supervisor at (301) 495-2574

DWG. FC-03

TAKOMA BRANCH STREAM RESTORATION AT SLIGO MILL NCA FOREST CONSERVATION PLAN SC2020004

SCALE: NO SCALE SHEET 15 OF 19



Name: Gregory O'Hare
 Address: 700 East Pratt St., Suite 500, Balt. MD 21202
 Phone: 410-462-9165
 gohare@rkk.com

Sequence of Events for Properties Required to Comply with Forest Conservation Plans, Exemptions from Submitting Forest Conservation Plans, and Tree Save Plans

The property owner is responsible for ensuring all tree protection measures are performed in accordance with the approved final forest conservation plan or tree save plan, and as modified in the field by a Planning Department Forest Conservation Inspector. The measures must meet or exceed the most recent standards published by the American National Standards Institute (ANSI A300).

Pre-Construction

- An on-site pre-construction meeting is required after the limits of disturbance have been staked and flagged and before any land disturbance.
- The property owner must arrange for the meeting and following people **should** participate at the pre-construction meeting: the property owner or their representative, construction superintendent, International Society of Arboriculture (ISA) certified arborist/Maryland Licensed Tree Expert (representing owner) that will implement the tree protection measures, The Planning Department Forest Conservation Inspector, and Montgomery County Department of Permitting Services (DPS) Sediment Control Inspector. The purpose of this meeting is to verify the limits of disturbance and discuss specific tree protection and tree care measures shown on the approved plan. No land disturbance shall begin before tree protection and stress-reduction measures have been implemented and approved by the Planning Department's Forest Conservation Inspector.
 - Typical tree protection devices include:
 - Chain link fence (four feet high)
 - Super silt fence with wire strung between the support poles (minimum 4 feet high) with high visibility flagging.
 - 14 gauge, 2 inch x 4 inch welded wire fencing supported by steel T-bar posts (minimum 4 feet high) with high visibility flagging.
 - Typical stress reduction measures may include, but are not limited to:
 - Root pruning with a root cutter or vibratory plow designed for that purpose. Trenchers are not allowed, unless approved by the Forest Conservation Inspector
 - Crown Reduction or pruning
 - Watering
 - Fertilizing
 - Vertical mulching
 - Root aeration systems

Measures not specified on the Forest Conservation Plan may be required as determined

photographs) may be required by the Forest Conservation Inspector, and will be determined at the pre-construction meeting.

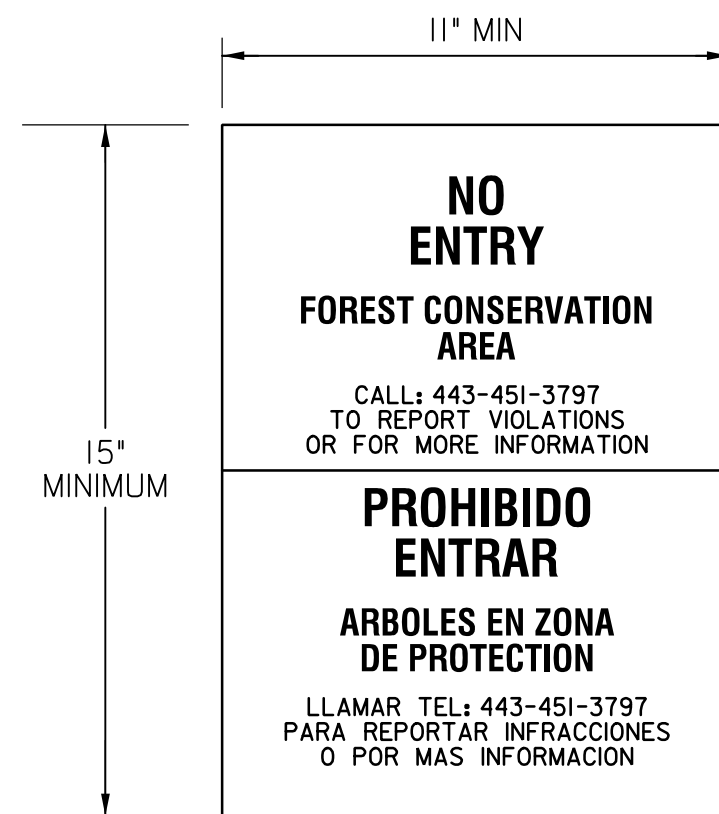
- Temporary tree protection devices must be installed per the approved Forest Conservation Plan, Exemption Plan, or Tree Save Plan and prior to any land disturbance. The Forest Conservation Inspector, in coordination with the DPS Sediment Control Inspector, may make field adjustments to increase the survivability of trees and forest shown as saved on the approved plan.
- Tree protection fencing must be installed and maintained by the property owner for the duration of construction project and must not be altered without prior approval from the Forest Conservation Inspector. All construction activity within protected tree and forest areas is prohibited. This includes the following activities:
 - Parking or driving of equipment, machinery or vehicles of any type.
 - Storage of any construction materials, equipment, stockpiling, fill, debris, etc.
 - Dumping of any chemicals (i.e., paint thinner), mortar or concrete remainder, trash, garbage, or debris of any kind.
 - Felling of trees into a protected area.
 - Trenching or grading for utilities, irrigation, drainage, etc.
- Forest and tree protection signs must be installed as required by the Forest Conservation Inspector. The signs must be waterproof and wording provided in both English and Spanish.

During Construction

- Periodic inspections will be made by the Forest Conservation Inspector. Corrections and repairs to tree protection devices must be completed within the timeframe given by the Inspector.
- The property owner must immediately notify the Forest Conservation Inspector of any damage to trees, forests, understory, ground cover, and any other undisturbed areas shown on the approved plan. Remedial actions, and the relative timeframes to restore these areas, will be determined by the Forest Conservation Inspector.

Post-Construction

- After construction is completed, but before tree protection devices have been removed, the property owner must request a final inspection with the Forest Conservation Inspector. At the final inspection, the Forest Conservation Inspector may require additional corrective measures, which may include:
 - Removal, and possible replacement, of dead, dying, or hazardous trees
 - Pruning of dead or declining limbs
 - Soil aeration
 - Fertilization
 - Watering
 - Wound repair
 - Clean up of retention areas, including trash removal
- After the final inspection and completion of all corrective measures the Forest Conservation Inspector will request all temporary tree and forest protection devices be removed from the site. Removal of tree protection devices that also operate for erosion and sediment control must be coordinated with both DPS and the Forest Conservation Inspector and cannot be removed without permission of the Forest Conservation Inspector. No additional grading, sodding, or burial may take place after the tree protection fencing is removed.
- Long-term protection measures, including permanent signage, must be installed per the approved plan. Installation will occur at the appropriate time during the construction project. Refer to the approved plan drawing for the long-term protection measures to be installed.

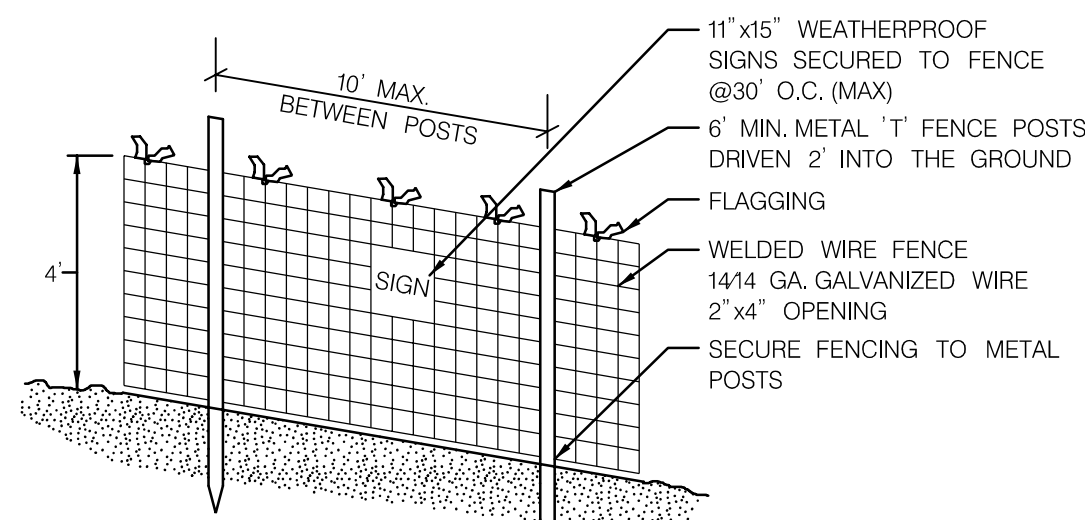


NOTES:

- SIGNS TO BE PLACED APPROXIMATELY 30' APART. CONDITIONS ON SITE AFFECTING VISIBILITY MAY WARRANT PLACING SIGNS CLOSER OR FARTHER APART.
- ATTACHMENT OF SIGNS TO TREES IS PROHIBITED.
- MAXIMUM SIGN SPACING IS 90 FEET APART.
- FIX FOREST CONSERVATION SIGNS TO TREE PROTECTION FENCE AS SHOWN ON FC-01 AND TPF DETAIL BELOW.

FOREST CONSERVATION SIGNAGE
NOT TO SCALE

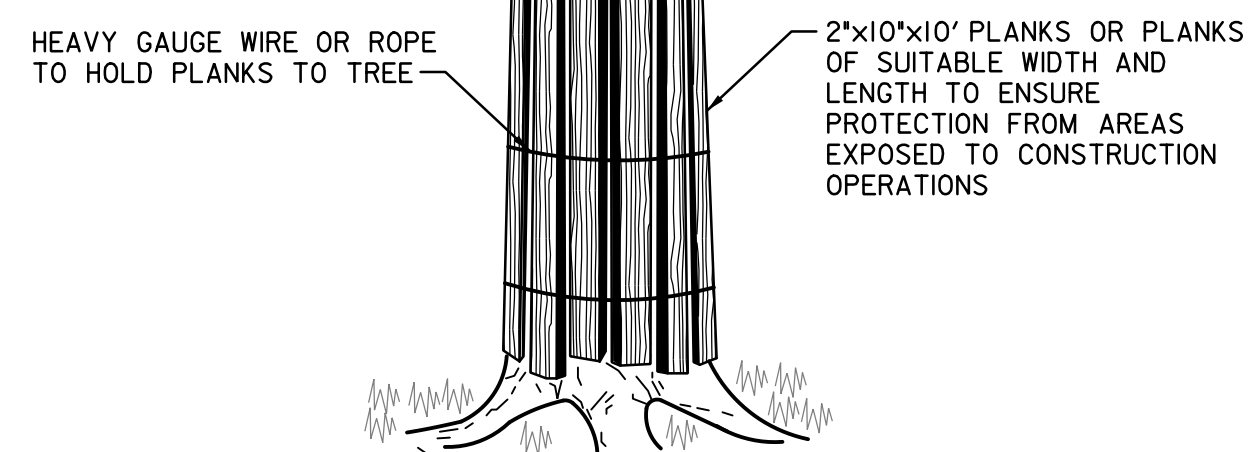
STANDARD SYMBOL



TREE PROTECTION FENCE
NOT TO SCALE

NOTES:

- LOCATION AND LIMITS OF FENCING SHALL BE COORDINATED IN FIELD WITH MD LITE.
- BOUNDARIES OF PROTECTION AREA SHOULD BE STAKED PRIOR TO INSTALLING PROTECTIVE DEVICE.
- ROOT DAMAGE SHOULD BE AVOIDED.
- PROTECTIVE SIGNAGE IS REQUIRED.
- FENCING SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.



NOTES:

- TREE PLANKING TO BE PROVIDED PER PLAN. ADDITIONAL PLANKING MAY BE REQUIRED AS DIRECTED BY THE M-NCPPC INSPECTOR.
- BOARDS OR POLES LASHED WITH ROPE OR WIRE IN AN UPRIGHT POSITION AGAINST THE TREE TRUNK. DO NOT NAIL OR STAPLE ANY PROTECTION DEVICES TO THE TREE.

**TREE PLANKING
HEAVY TREE PROTECTION**
NOT TO SCALE

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION, DEPARTMENT OF PARK AND PLANNING

M-NCPPC PERMIT NO. 2019-032
 PARK C44

REVIEWED BY: Meredith Neely
 APPROVED BY: [Signature]
 CHIEF, CONSTRUCTION SECTION

DATE APPROVED: 12/29/2020

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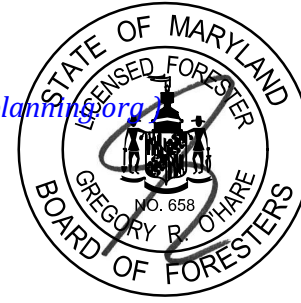
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3/13/20

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DWG. FC-04

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION, DEPARTMENT OF PARK AND PLANNING M-NCPPC Record File No. _____ Technical Review _____ Concurrence By _____ Date _____ Park Facility Code _____		 P: 410.728.2900 700 E. Pratt Street, Suite 500 Baltimore, MD 21202 Engineers Construction Managers Planners Scientists www.rkk.com Responsive People Creative Solutions		OWNER/APPLICANT: DARYL BRAITHWAITE DIRECTOR DEPARTMENT OF PUBLIC WORKS CITY OF TAKOMA PARK 31 OSWEGO AVENUE TAKOMA PARK, MD 20910 PHONE: 301-891-7615 FAX: 301-585-2405		DESIGN BY: AGA DRAWN BY: DEA CHECK BY: GRO JANUARY 2020		DEPARTMENT OF PUBLIC WORKS CITY OF TAKOMA PARK 31 OSWEGO AVENUE TAKOMA PARK, MD 20910				OWNER NAME MARYLAND NATIONAL CAPITAL PARK AND PLANNING MARYLAND NATIONAL CAPITAL PARK AND PLANNING		LEGAL DESCRIPTION PAR A SLIGO MILL TOWNES V J 180-28 (PG) PAR A POPLAR MILL		SUBDIVISION 0025 0025		LOT -- --		BLOCK -- --		PARCEL 721 20412		LIBER 21966 0317		FOLIO 0298 0317	
TAKOMA BRANCH STREAM RESTORATION AT SLIGO MILL NCA FOREST CONSERVATION PLAN SC2020004																											
SCALE: <u>NO SCALE</u> SHEET <u>16</u> OF <u>19</u>																											



Name: Gregory O'Hare
 Address: 700 East Pratt St., Suite 500, Balt. MD 21202
 Phone: 410-462-9165
 gohare@rkk.com

FOREST CONSERVATION WORKSHEET
 Takoma Branch Outfall Repair/Stream Restoration Project - SC2020004

NET TRACT AREA:

A. Total tract area ...	5.35
B. Additions to tract area (Off-Site Work, etc.; construction required by this plan)...	0.00
C. Land dedication acres (parks, county facility, etc.) ...	0.00
D. Land dedication for roads or utilities (construction not required by this plan) ...	0.00
E. Area to remain in commercial agricultural production/use ...	0.00
F. Other deductions (specify)	0.00
G. Net Tract Area	5.35

LAND USE CATEGORY: (from Chapter 22A-3. Definitions)
 Input the number "1" under the appropriate land use, limit to only one entry.

ARA	MDR	IDA	HDR	MPD	CIA
0	0	1	0	0	0

G. Afforestation Threshold ...	15%	x G =	0.80
H. Conservation Threshold ...	20%	x G =	1.07

EXISTING FOREST COVER:

I. Existing forest cover	=	4.78
J. Area of forest above afforestation threshold	=	3.98
K. Area of forest above conservation threshold	=	3.71

BREAK EVEN POINT:

L. Forest retention above threshold with no mitigation	=	1.81
M. Clearing permitted without mitigation	=	2.97

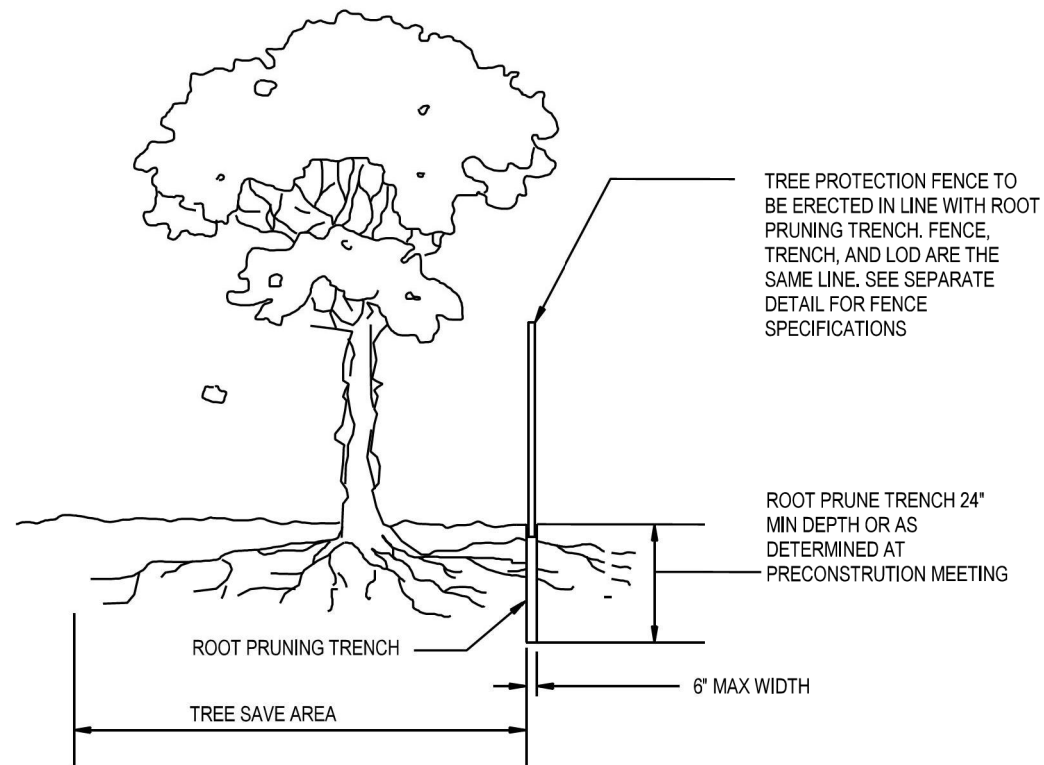
PROPOSED FOREST CLEARING:

N. Total area of forest to be cleared	=	0.18
O. Total area of forest to be retained	=	4.60

PLANTING REQUIREMENTS:

P. Reforestation for clearing above conservation threshold	=	0.05
Q. Reforestation for clearing below conservation threshold	=	0.00
R. Credit for retention above conservation threshold	=	3.53
S. Total reforestation required	=	0.00
T. Total afforestation required	=	0.00
U. Credit for landscaping (may not exceed 20% of "S")	=	0.00
V. Total reforestation and afforestation required	=	0.00

worksheet date 5/13/2019



- NOTES:**
- RETENTION AREAS WILL BE SET AS PART OF THE REVIEW PROCESS AND PRECONSTRUCTION MEETING.
 - BOUNDARIES OF RETENTION AREAS MUST BE STAKED AT THE PRECONSTRUCTION MEETING AND FLAGGED PRIOR TO TRENCHING.
 - EXACT LOCATION OF TRENCH SHALL BE DETERMINED IN THE FIELD IN COORDINATION WITH THE FOREST CONSERVATION (FC) INSPECTOR.
 - TRENCH SHOULD BE IMMEDIATELY BACKFILLED WITH EXCAVATED SOIL OR OTHER ORGANIC SOIL AS SPECIFIED PER PLAN OR BY THE FC INSPECTOR.
 - ROOTS SHALL BE CLEANLY CUT USING VIBRATORY KNIFE OR OTHER ACCEPTABLE EQUIPMENT.
 - ALL PRUNING MUST BE EXECUTED WITH LOD SHOWN ON PLANS OR AS AUTHORIZED IN WRITING BY THE FC INSPECTOR.

ROOT PRUNING DETAIL NTS

INSPECTIONS

All field inspections must be requested by the applicant.

Field Inspections must be conducted as follows:

Plans without Planting Requirements

- After the limits of disturbance have been staked and flagged, but before any clearing or grading begins.
- After necessary stress reduction measures have been completed and protection measures have been installed, but before any clearing and grading begin and before release of the building permit.
- After completion of all construction activities, but before removal of tree protection fencing, to determine the level of compliance with the provision of the forest conservation.

Additional Requirements for Plans with Planting Requirements

- Before the start of any required reforestation and afforestation planting.
- After the required reforestation and afforestation planting has been completed to verify that the planting is acceptable and prior to the start the maintenance period.
- At the end of the maintenance period to determine the level of compliance with the provisions of the planting plan, and if appropriate, release of the performance bond.

Forest Conservation Data Table

Tract (LOD Area)	Number of Acres	
	Retained	Cleared
Tract (LOD Area)	5.35	-
Remaining in Agricultural Use	-	-
Road & Utility ROWs ¹	-	-
Total Existing Forest	4.78	-
Forest Retention	4.60	-
Forest Cleared	0.18	-

Land Use & Thresholds ²	Land Use Category	Threshold	Total Channel Length (ft.)		Average Buffer Width (ft.)	
			Stream(s)	Other	Stream(s)	Other
Conservation Threshold	IDA	20%	886	-	150	-
Afforestation Threshold	MDR	15%	-	-	-	-

Acres of Forest in	Retained			Cleared			Planted					
	Wetlands	100-Year Floodplain	Stream Buffers	Priority Areas	Wetlands	100-Year Floodplain	Stream Buffers	Priority Areas	Wetlands	100-Year Floodplain	Stream Buffers	Priority Areas
Wetlands	-	-	-	-	-	-	-	-	-	-	-	-
100-Year Floodplain	0.25	0.09	-	-	0.25	0.09	-	-	0.25	0.09	-	-
Stream Buffers	2.89	0.18	-	-	2.89	0.18	-	-	2.89	0.18	-	-
Priority Areas	-	-	-	-	-	-	-	-	-	-	-	-

¹ Only Road or Utility ROWs not to be improved as part of development application.
² Information from FC Land Use Categories & Thresholds document.
³ Measured from stream edge to buffer edge.

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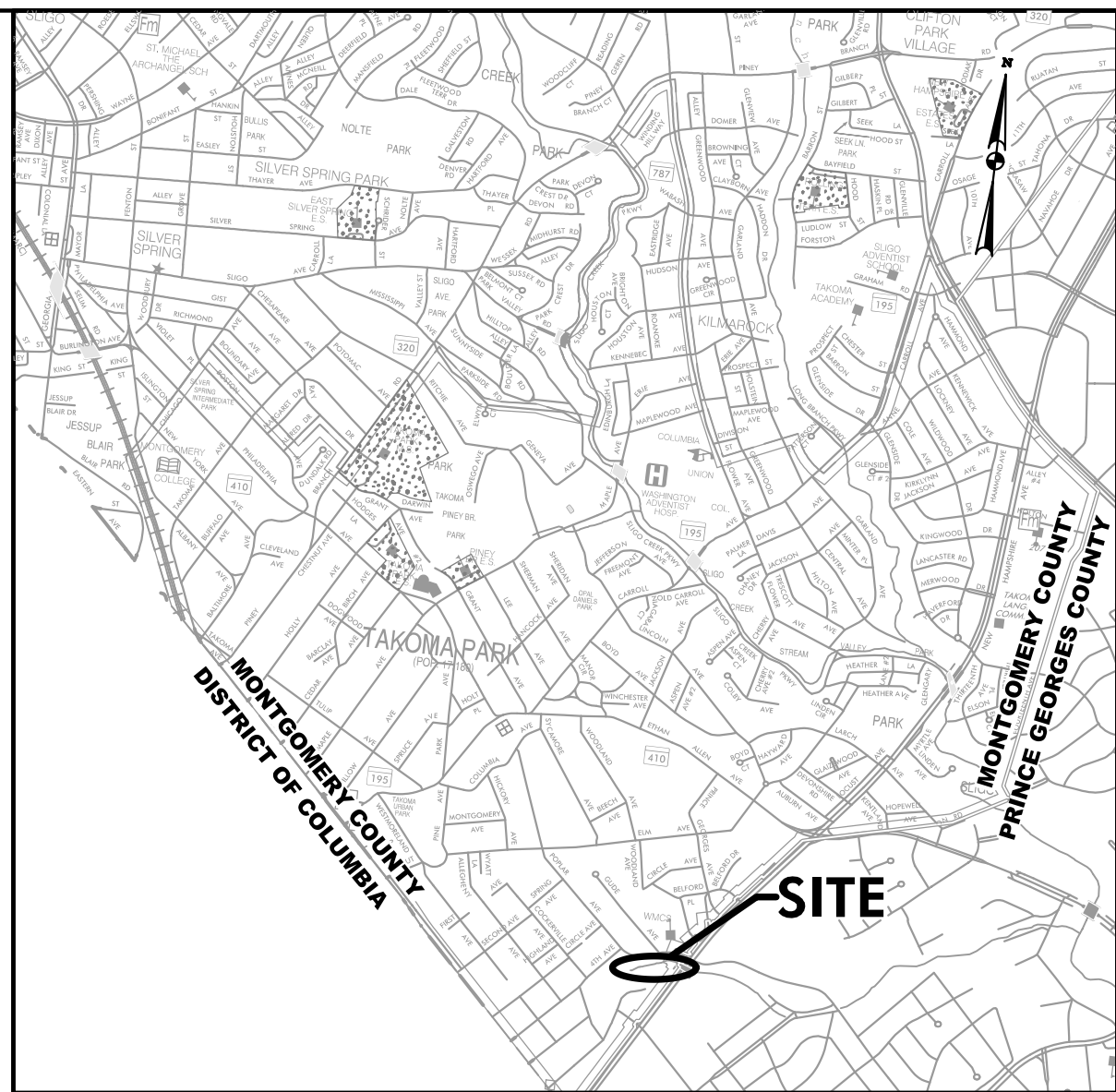
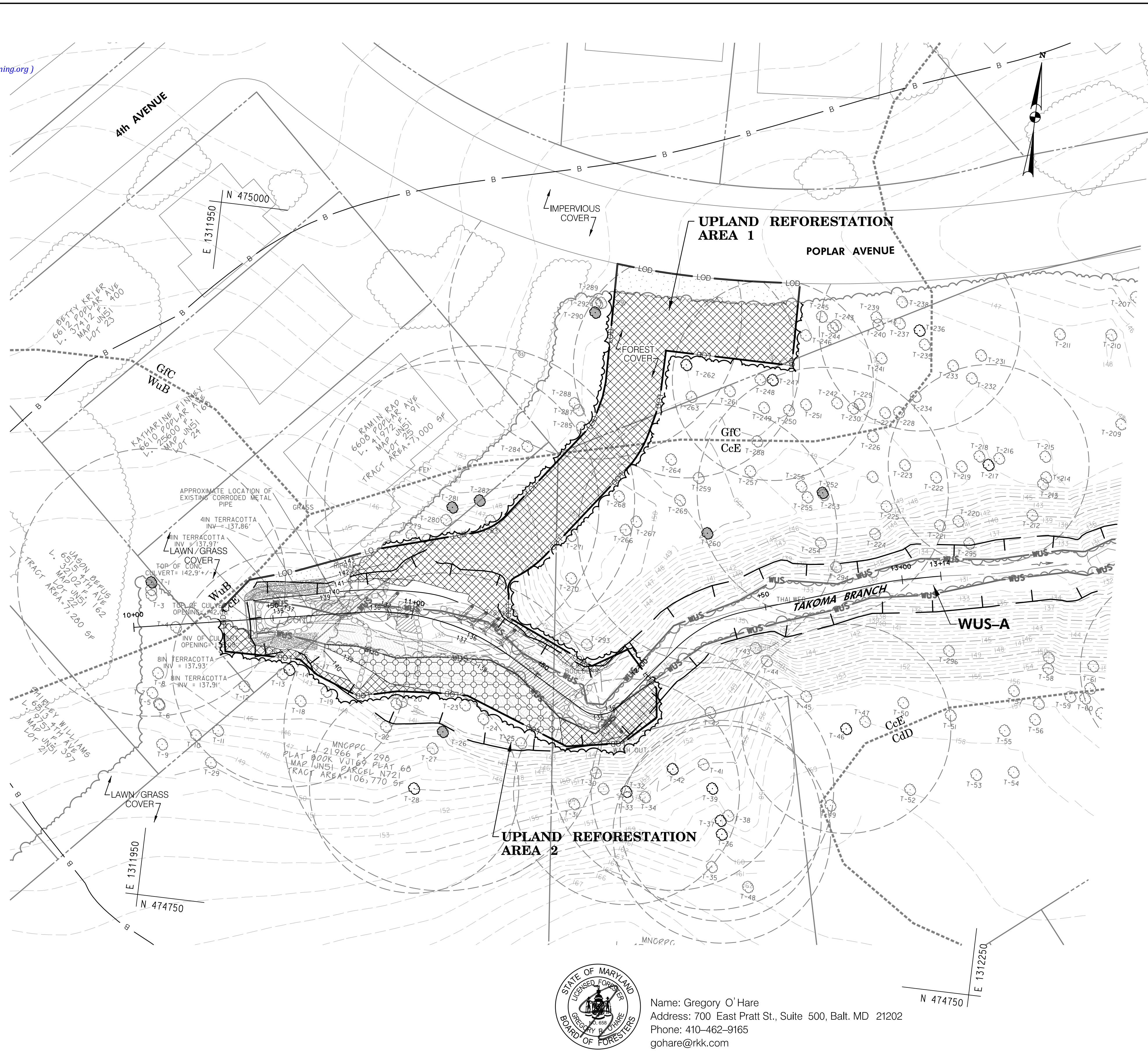
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SCALE: NO SCALE SHEET 17 OF 19

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MONTGOMERY PLANNING DEPARTMENT
 APPROVED SC2020004
 03/24/20
 APPROVAL
 03/24/20



VICINITY MAP
 SCALE: 1" = 2000'

- NOTES:**
1. ALL AREAS OUTSIDE OF THE PROJECT LIMITS OF DISTURBANCE (LOD) SHALL BE CONSIDERED TREE PRESERVATION AREAS TO BE LEFT UNDISTURBED.
 2. CONTACT CITY OF TAKOMA PARK URBAN FOREST MANAGER BEFORE REMOVING TREE PROTECTION FENCE (TPF) PRIOR TO LANDSCAPE INSTALLATION WORK.
 3. SEE SHEETS LD-01 FOR REFORESTATION PLANTING AREA AND LD-02 FOR REFORESTATION PLANTING SCHEDULES.

DEVELOPER'S CERTIFICATE
 The Undersigned agrees to execute all the features of the Approved Final Forest Conservation Plan No. SC2020004, including, financial bonding, forest planting, maintenance, and all other applicable agreements.

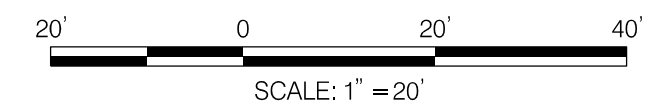
Developer's Name: City of Takoma Park, Dept. of Public Works
 Contact Person or Owner: Daryl Braithwaite
 Address: 31 Oswego Avenue, Silver Spring, MD 20910
 Phone and Email: 301-891-7615, DarylB@takomaparkmd.gov
 Signature: Daryl Braithwaite 3/13/20

- LEGEND**
- 360 EXISTING CONTOURS
 - 360 PROPOSED CONTOURS
 - PROPERTY BOUNDARY
 - T-10 SIGNIFICANT/SPECIMEN TREE (≥24" DBH) w/CRITICAL ROOT ZONE
 - T-11 SPECIMEN TREE w/CRITICAL ROOT ZONE
 - TREES (≥6" DBH)
 - MODELED 100-YEAR FLOODPLAIN
 - NON-FORRESTED CANOPY COVER
 - SURVEYED TREELINE
 - PROPOSED TREELINE
 - LOD LIMIT OF DISTURBANCE
 - 6A SOIL UNIT BOUNDARY
 - 2B STREAM BUFFER
 - WUS PERENNIAL OR INTERMITTENT WATERS OF THE U.S.
 - TURFGRASS ESTABLISHMENT
 - UPLAND REFORESTATION PLANTING AREA
 - WET MEADOW MIX



Name: Gregory O'Hare
 Address: 700 East Pratt St., Suite 500, Balt. MD 21202
 Phone: 410-462-9165
 gohare@rkk.com

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION, DEPARTMENT OF PARK AND PLANNING
 M-NCPPC PERMIT NO. 2019-032
 PARK C44
 REVIEWED BY: Meredith Neely
 APPROVED BY: [Signature]
 CHIEF, CONSTRUCTION SECTION
 DATE APPROVED: 12/29/2020
THIS IS NOT A PERMIT TO BEGIN CONSTRUCTION
 This approval is for technical review only. For permit information, contact Jay Childs, Construction Supervisor at (301) 495-2574



DWG. LD-01

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION, DEPARTMENT OF PARK AND PLANNING
 M-NCPPC Record File No. _____
 Technical Review _____
 Concurrence By _____
 Date _____
 Park Facility Code _____

RK&K
 P: 410.728.2900
 700 E. Pratt Street, Suite 500 | Baltimore, MD 21202
 Engineers | Construction Managers | Planners | Scientists
 www.rkk.com
 Responsive People | Creative Solutions

OWNER/APPLICANT:
 DARYL BRAITHWAITE
 DIRECTOR
 DEPARTMENT OF PUBLIC WORKS
 CITY OF TAKOMA PARK
 31 OSWEGO AVENUE
 TAKOMA PARK, MD 20910
 PHONE: 301-891-7615
 FAX: 301-585-2405

DESIGN BY: AGA
DRAWN BY: DEA
CHECK BY: GRO
 JANUARY 2020

DEPARTMENT OF PUBLIC WORKS
CITY OF TAKOMA PARK
 31 OSWEGO AVENUE
 TAKOMA PARK, MD 20910

OWNER NAME	LEGAL DESCRIPTION	SUBDIVISION	LOT	BLOCK	PARCEL	LIBER	FOLIO
MARYLAND NATIONAL CAPITAL PARK AND PLANNING	PAR A SLIGO MILL TOWNES	0025	--	--	721	21966	0298
MARYLAND NATIONAL CAPITAL PARK AND PLANNING	V J 180-28 (PG) PAR A POPLAR MILL	0025	--	--	--	20412	0317

TAKOMA BRANCH STREAM RESTORATION AT SLIGO MILL NCA
 LANDSCAPE PLAN
 SC2020004
 BASE MAP #208NE01 TAX MAP #JN561
 SCALE: 1" = 20' SHEET 18 OF 19

\\bosr\03\2020\2020\0031_TakomaPark\Task_14_Takoma Branch SRV\CADD\Plans\p0-0001_TakomaBranch.dgn 3/16/2020



APPROVED: *Tsaiquan.Gatling@montgomeryplanning.org*

LANDSCAPING NOTES

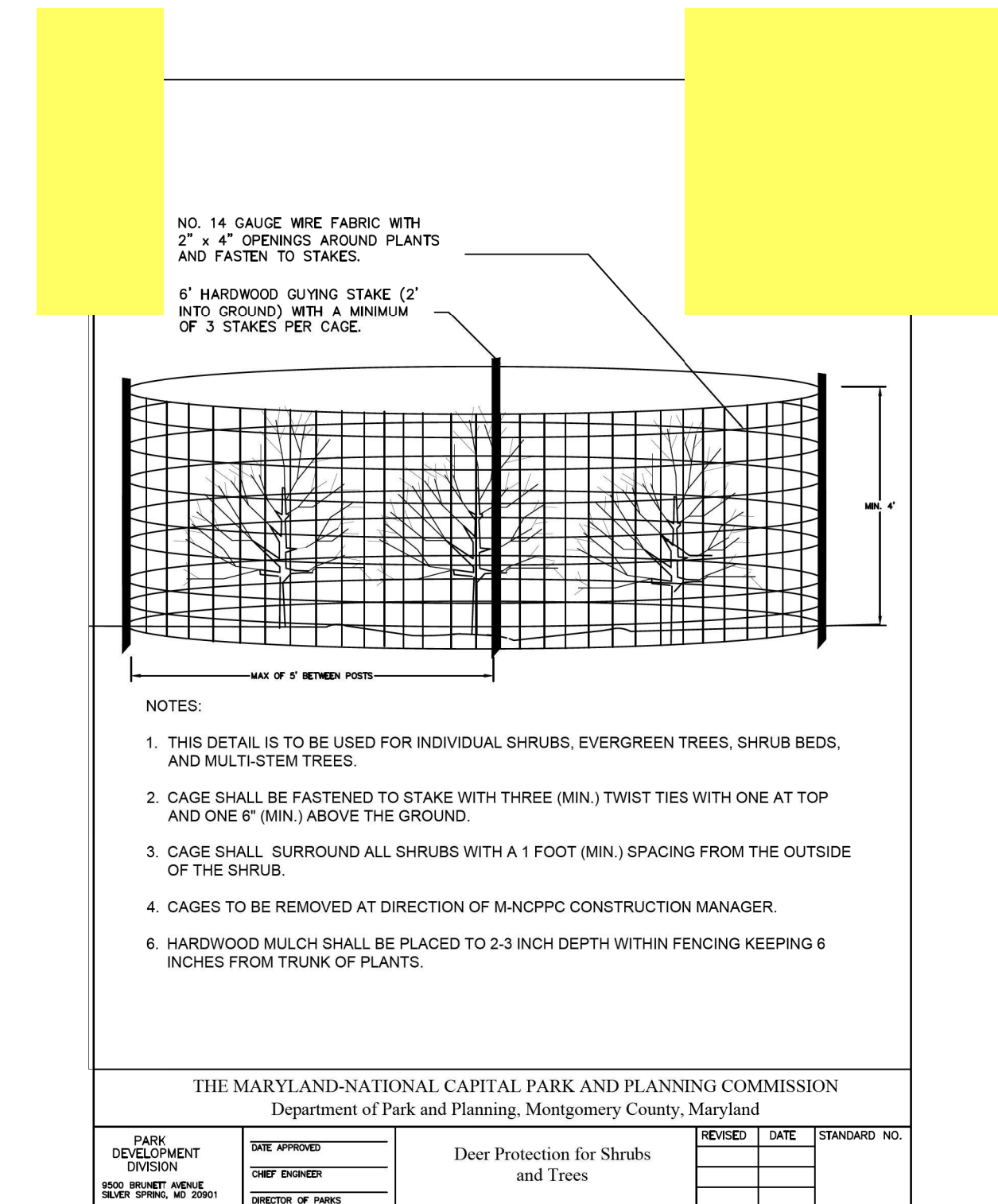
- LANDSCAPING PLANS WERE PREPARED BY GREGORY O'HARE, LICENSED PROFESSIONAL FORESTER #858.
- ALL AREAS OUTSIDE OF THE PROJECT LOD SHALL BE CONSIDERED TREE PRESERVATION AREAS TO BE LEFT UNDISTURBED.
- TEMPORARY ACCESS MULCH ROADS WILL BE INSTALLED TO REDUCE TREE ROOT AND SOIL COMPACTION ON MONTGOMERY PARKS PROPERTY, AS SHOWN ON ES-01/SC-04 AND DETAIL ON EN-02/SC-03.
- CONTACT CITY OF TAKOMA PARK URBAN FOREST MANAGER BEFORE REMOVING TPF AND PRIOR TO LANDSCAPE INSTALLATION WORK.
- ACCORDING TO THE FOREST CONSERVATION WORKSHEET (SHOWN ON FC-05), 0 ACRES OF REFORESTATION PLANTING ARE REQUIRED.
- FOURTEEN TREES ≥ 6 INCHES DBH ARE PROPOSED FOR REMOVAL ON MONTGOMERY PARKS PROPERTY. TREES WILL BE MITIGATED ON MONTGOMERY PARKS PROPERTY VIA 1 INCH CAL. CONTAINER GROWN TREES AT 200 TREES/ACRE. SEE UPLAND REFORESTATION PLANTING SCHEDULE ON LD-02.
- REFORESTATION PLANTING SHOULD OCCUR WITHIN THE HATCHED AREA SHOWN ON LD-01, ACCORDING TO THE PROPOSED SPACING NOTED IN THE PLANTING SCHEDULES AND RANDOM TREE/SHRUB SPACING DETAIL. SEE REFORESTATION PLANTING SCHEDULES ON THIS SHEET FOR PROPOSED PLANT SPECIES, STOCK SIZE, QUANTITIES, CONTAINER TYPE, AND PLACEMENT IN THE REFORESTATION AREAS.
- DO NOT PLANT TREES ON PERMANENT STRUCTURES WITHIN OR ADJACENT TO TAKOMA BRANCH.
- SEE PLANTING DETAILS ON THIS SHEET FOR TREE AND SHRUB PLANTINGS ON A SLOPE, RANDOM TREE AND SHRUB SPACING WITHIN THE REFORESTATION AREA, AND REQUIRED DEER PROTECTION FOLLOWING TREE AND SHRUB INSTALLATION.
- SEE FC-04 FOR FOREST CONSERVATION SEQUENCE OF EVENTS AND FC-05 FOR PLANTING INSPECTION SCHEDULE.
- ANY SUBSTITUTIONS/CHANGES TO PLANTING SCHEDULES AS SHOWN ON THIS SHEET REQUIRE COORDINATION AND APPROVAL FROM THE CITY OF TAKOMA PARK ARBORIST AND MONTGOMERY PARKS.
- PLANTS WILL BE MAINTAINED FOR ONE YEAR ACCORDING TO 2018 MDOT SHA STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, AS PER THE RECOMMENDATION OF THE CITY OF TAKOMA PARK URBAN FOREST MANAGER.

UPLAND REFORESTATION PLANTING WITH UPLAND MEADOW SEEDING						Size: 0.11 acres / 545 SY		
Quantity per acre	Frequency (%)	Species Quantity	Vegetation Strata/ Species Name	Common Name	Wetland Indicator Status	Size	Type	Placement
TREES								
200 trees	25	6	<i>Liriodendron tulipifera</i>	Tulip poplar	FACU	1" Cal.	Container Grown - 7 Gal.	Naturalized @ 15' OC
	25	6	<i>Acer rubrum</i>	Red oak	FAC	1" Cal.	Container Grown - 7 Gal.	Naturalized @ 15' OC
	20	4	<i>Quercus rubra</i>	Northern red oak	FACU	1" Cal.	Container Grown - 7 Gal.	Naturalized @ 15' OC
	15	3	<i>Sassafras albidium</i>	Sassafras	FACU	1" Cal.	Container Grown - 7 Gal.	Naturalized @ 15' OC
	15	3	<i>Nyssa sylvatica</i>	Black gum	FAC	1" Cal.	Container Grown - 7 Gal.	Naturalized @ 15' OC
	100	22	=total					
SHRUBS								
33 shrubs	60	2	<i>Virburnum dentatum</i>	Southern arrowwood	FACU	2" ht.	Container Grown - 3 Gal.	Groups of 3 to 5 @ 6' OC
	40	1	<i>Amelanchier arborea</i>	Serviceberry	FAC	2" ht.	Container Grown - 3 Gal.	Groups of 3 to 5 @ 6' OC
	100	3	=total					

UPLAND MEADOW: MESIC, SHORT GRASS, SUNNY MEADOW SEED MIX				Size: 0.11 acres
Quantity (SY)	Species Name	Common Name	Wetland Indicator Status	
545	<i>Andropogon virginicus</i>	Broomsedge	FACU	
	<i>Elymus virginicus</i>	Virginia wild rye	FACW	
	<i>Schizachyrium scoparium</i>	Little bluestem	FACU	
	<i>Dichanthelium clandestinum</i>	Deertongue	FAC	
	<i>Tridens flavus</i>	Purple top	FACU	
	(Oats or Barley)	Cereal grain	UPL	

WET MEADOW: WET, MIXED HEIGHT GRASS, OPEN MEADOW MIX				Size: 0.02 acres
Quantity (SY)	Species Name	Common Name	Wetland Indicator Status	
105	<i>Elymus virginicus</i>	Virginia wild rye	FACW	
	<i>Panicum virgatum</i>	Switchgrass	FAC	
	<i>Tripsacum dactyloides</i>	Eastern gamagrass	FACW	
	<i>Elymus riparius</i>	Riverbank wild rye	FACW	
	<i>Dichanthelium clandestinum</i>	Deertongue	FAC	
	(Oats or Barley)	Cereal grain	UPL	

SHA TURFGRASS ESTAB.		Size: 0.02 acres
Quantity (SY)		
108		



MC PARKS REFORESTATION REMAINDER CALCULATION			
	SF	ACRES	
UPLAND REFORESTATION AREA 1:	4,270	0.10	
UPLAND REFORESTATION AREA 2:	635	0.01	
TOTAL	4,905	0.11	
ACREAGE	# 1" CAL. TREES PER ACRE	TOTAL TREES PLANTED	TOTAL INCHES PLANTED
	200	22	22

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION, DEPARTMENT OF PARK AND PLANNING

M-NCPPC PERMIT NO. 2019-032

PARK C44

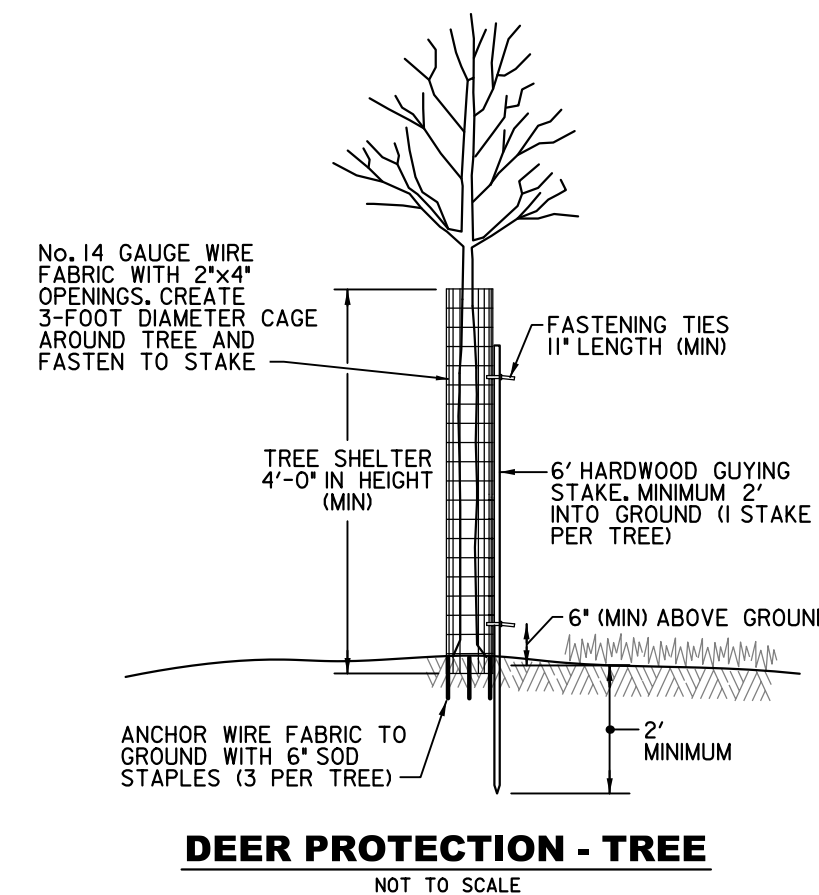
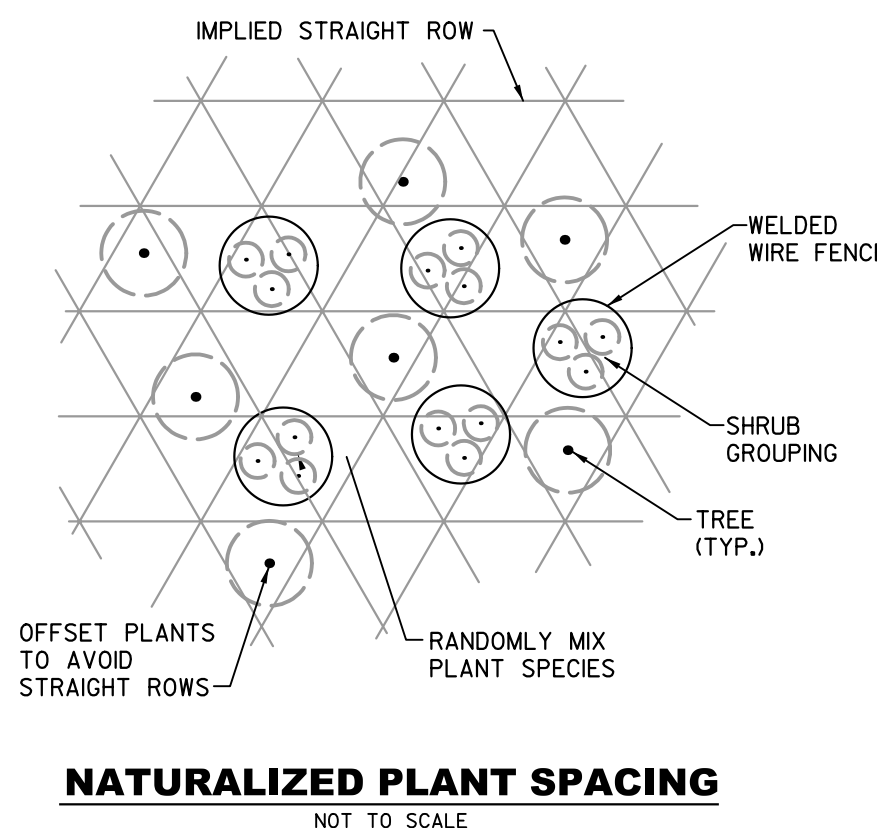
REVIEWED BY: Meredith Neely

APPROVED BY: [Signature]

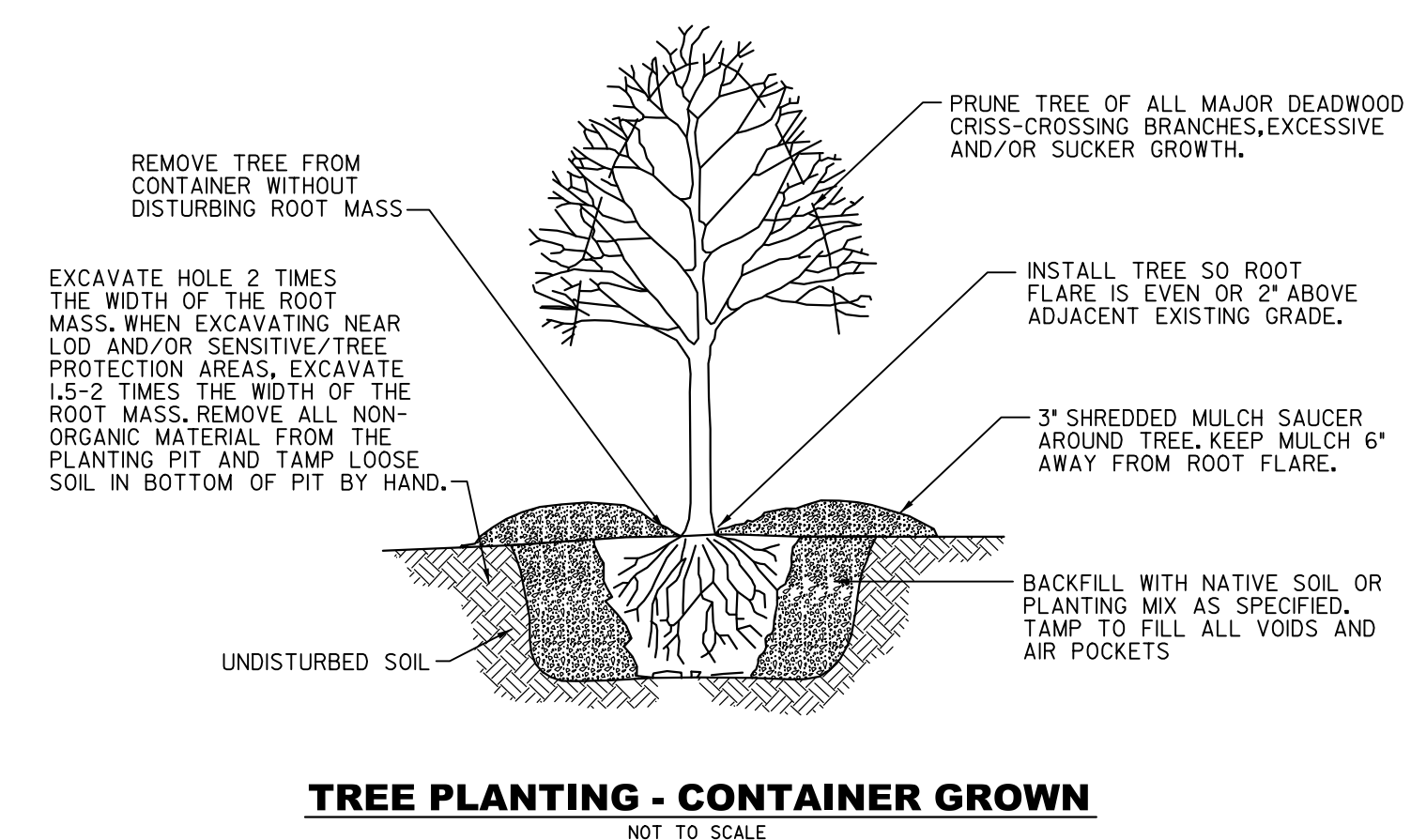
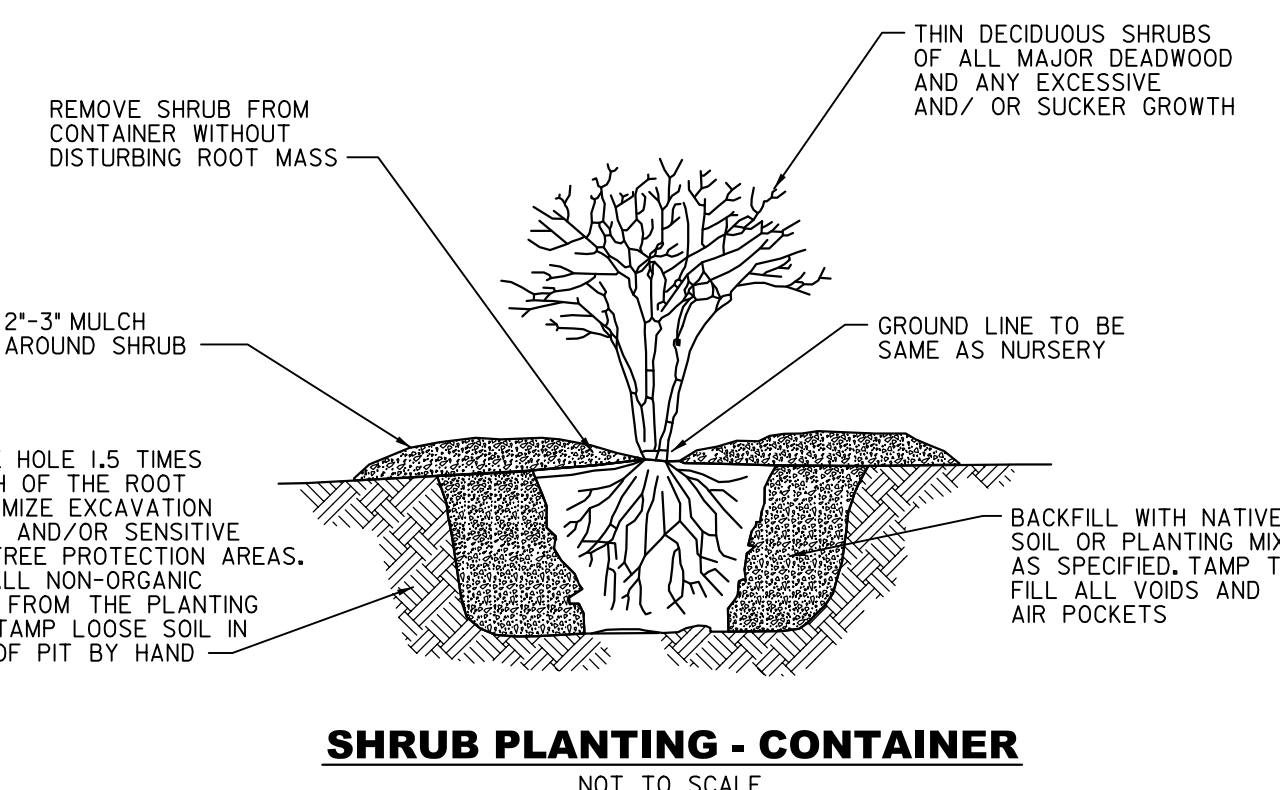
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- NOTES:
- HEIGHT OF CAGE SHALL BE 4-FEET (MIN).
 - CAGE SHALL BE FASTENED TO STAKE WITH TWO (MIN) 1/2-INCH RELEASEABLE CABLE TIES ONE AT TOP AND ONE 6" (MIN) ABOVE THE GROUND.
 - DO NOT DAMAGE TREE DURING INSTALLATION.
 - SUBSTITUTIONS MUST BE APPROVED BY FOREST ECOLOGIST.
 - CAGES TO BE REMOVED AT DIRECTION OF FOREST ECOLOGIST.



- NOTES:
- PLANTING HOLE SHALL BE DUG BY BACKHOE OR OTHER MACHINE AND FINISHED BY HAND.
 - IF SURROUNDING SOIL IS COMPACTED AS DETERMINED BY M-NCPPC CONSTRUCTION MANAGER, AN AREA UP TO 5 TIMES THE DIAMETER OF THE ROOT MASS SHALL BE EXCAVATED OR ROTOTILLED TO A 1-FOOT DEPTH AND SOIL SHALL BE AMENDED.
 - DO NOT DAMAGE OR CUT LEADER.
 - ROOT FLARE SHALL BE EVEN WITH LEVEL OF UNDISTURBED GROUND.

DEVELOPER'S CERTIFICATE

The Undersigned agrees to execute all the features of the Approved Final Forest Conservation Plan No. SC2020004 including, financial bonding, forest planting, maintenance, and all other applicable agreements.

Developer's Name: City of Takoma Park, Dept. of Public Works
Printed Company Name

Contact Person or Owner: Daryl Braithwaite
Printed Name

Address: 31 Oswego Avenue, Silver Spring, MD 20910

Phone and Email: 301-891-7615 DarylB@takomaparkmd.gov

Signature: *Daryl Braithwaite*
3/16/20

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION, DEPARTMENT OF PARK AND PLANNING

M-NCPPC Record File No. _____

Technical Review _____

Concurrence By _____

Date _____

Park Facility Code _____



OWNER/APPLICANT:

DARYL BRAITHWAITE
DIRECTOR
DEPARTMENT OF PUBLIC WORKS
CITY OF TAKOMA PARK

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TAKOMA PARK, MD 20910
PHONE: 301-891-7615
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JANUARY 2020

Name: Gregory O'Hare
Address: 700 East Pratt St., Suite 500, Balt. MD 21202
Phone: 410-462-9165
gohare@rkk.com

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LANDSCAPE PLAN
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