

PLANTING AREAS

STREAMSIDE*
4,130 LF

RIPARIAN FOREST*
98,203 SF = 2.25 AC

RIPARIAN SEED MIX*
16,929 SF = 0.39 AC

SYMBOL

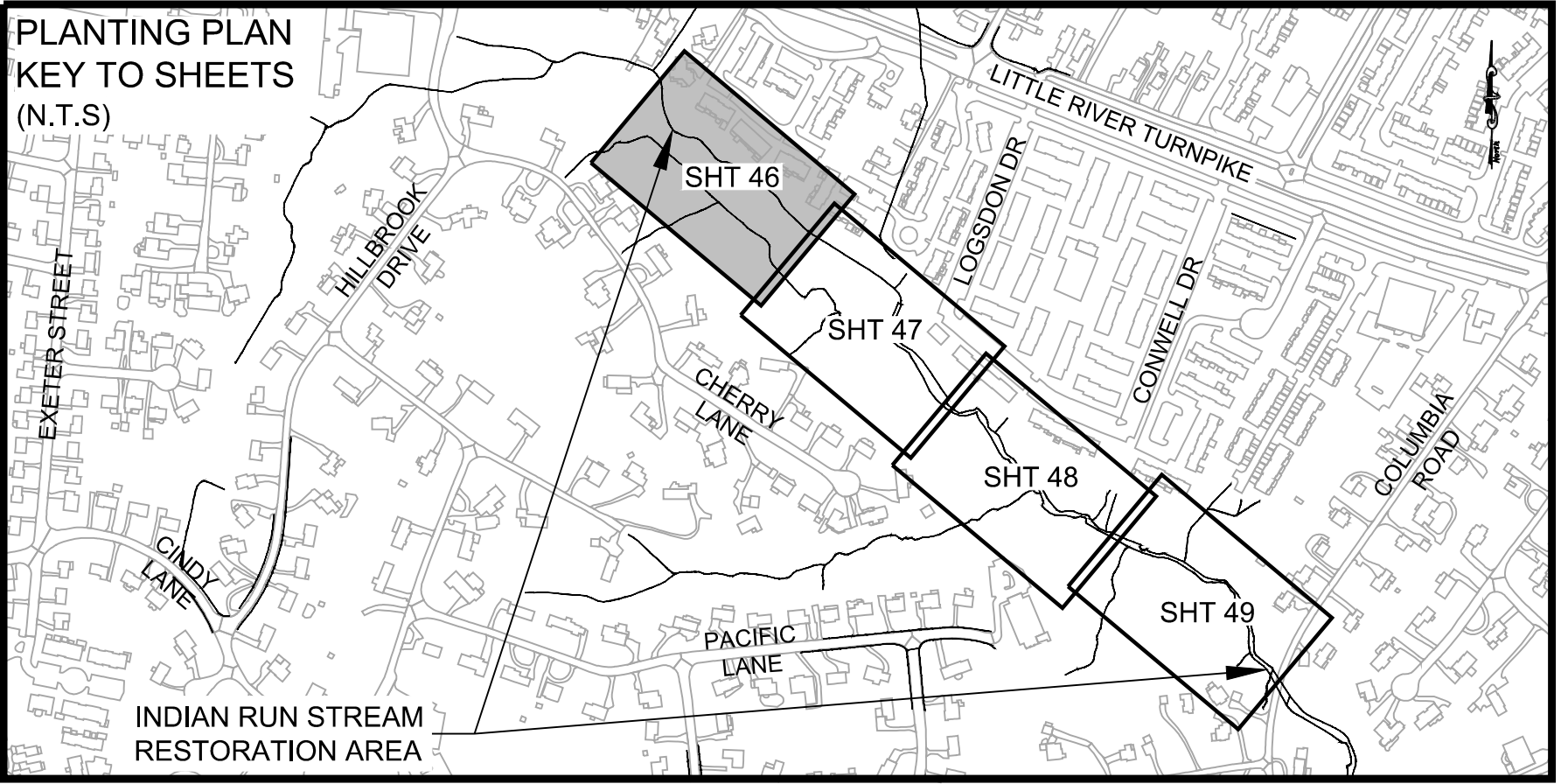
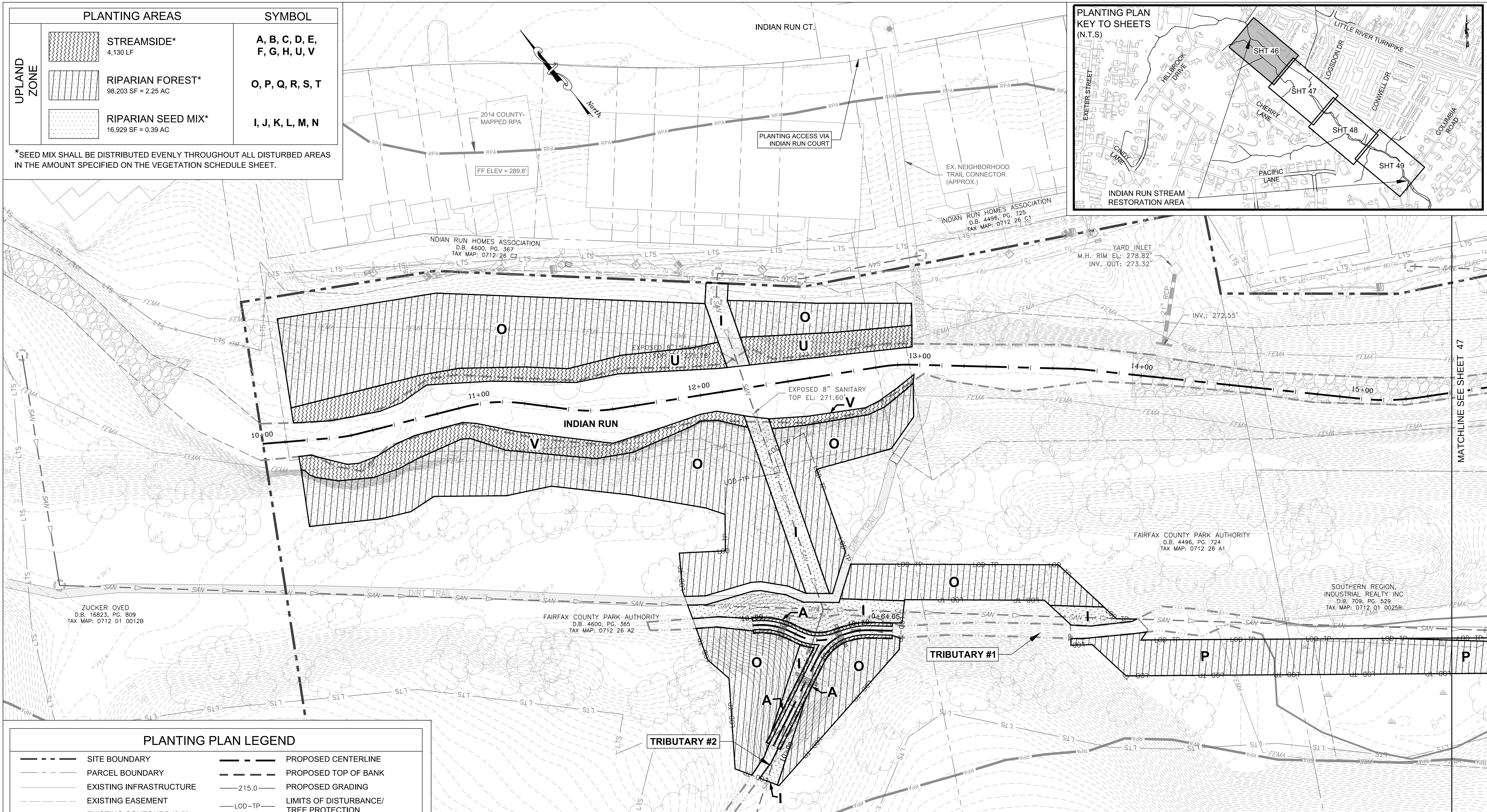
A, B, C, D, E,
F, G, H, U, V

O, P, Q, R, S, T

I, J, K, L, M, N

UPLAND ZONE

*SEED MIX SHALL BE DISTRIBUTED EVENLY THROUGHOUT ALL DISTURBED AREAS IN THE AMOUNT SPECIFIED ON THE VEGETATION SCHEDULE SHEET.



PLANTING PLAN LEGEND

--- SITE BOUNDARY

--- PARCEL BOUNDARY

--- EXISTING INFRASTRUCTURE

--- EXISTING EASEMENT

--- EXISTING CONTOURS (0.5')

--- SAN --- SANITARY SEWER

--- LTS --- LIMITS OF TREE SURVEY

--- FEMA --- WSSI-MAPPED 100-YEAR FLOODPLAIN

--- RPA --- FAIRFAX COUNTY MAPPED RESOURCE PROTECTION AREA (RPA)

--- PERENNIAL STREAM

--- INTERMITTENT STREAM

--- EPHEMERAL STREAM

--- JURISDICTIONAL WETLANDS

--- PROPOSED CENTERLINE

--- PROPOSED TOP OF BANK

--- PROPOSED GRADING

--- LOD-TP --- LIMITS OF DISTURBANCE/ TREE PROTECTION

--- TP --- TREE PROTECTION

--- OH-UTIL --- OVERHEAD UTILITY LINE

3.75'

10'

SURVEYED TREES (>12" DIAMETER AT BREAST HEIGHT (DBH))

THIS SHEET TO
BE USED FOR
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Wetland

Studies and Solutions, Inc.

a DAVEY company

5300 Wellington Branch Drive • Suite 100
Gainesville, Virginia 20155
Phone: 703-679-5600 • Fax: 703-679-5601
www.wetlandstudies.com

EMERGENCY POLICE - FIRE - RESCUE 911

PLAN DATE: JULY 2016

FAIRFAX COUNTY, VIRGINIA

DEPARTMENT OF PUBLIC WORKS AND ENVIRONMENTAL SERVICES

12000 GOVERNMENT CENTER PARKWAY, SUITE 449 FAIRFAX, VA 22035-0052

STORMWATER PLANNING DIVISION

703-324-5500

INDIAN RUN COURT

STREAM RESTORATION PLAN

PLANTING PLAN

CONTRACT NO. CONTRACT # PROJECT NO. SD-000031-146

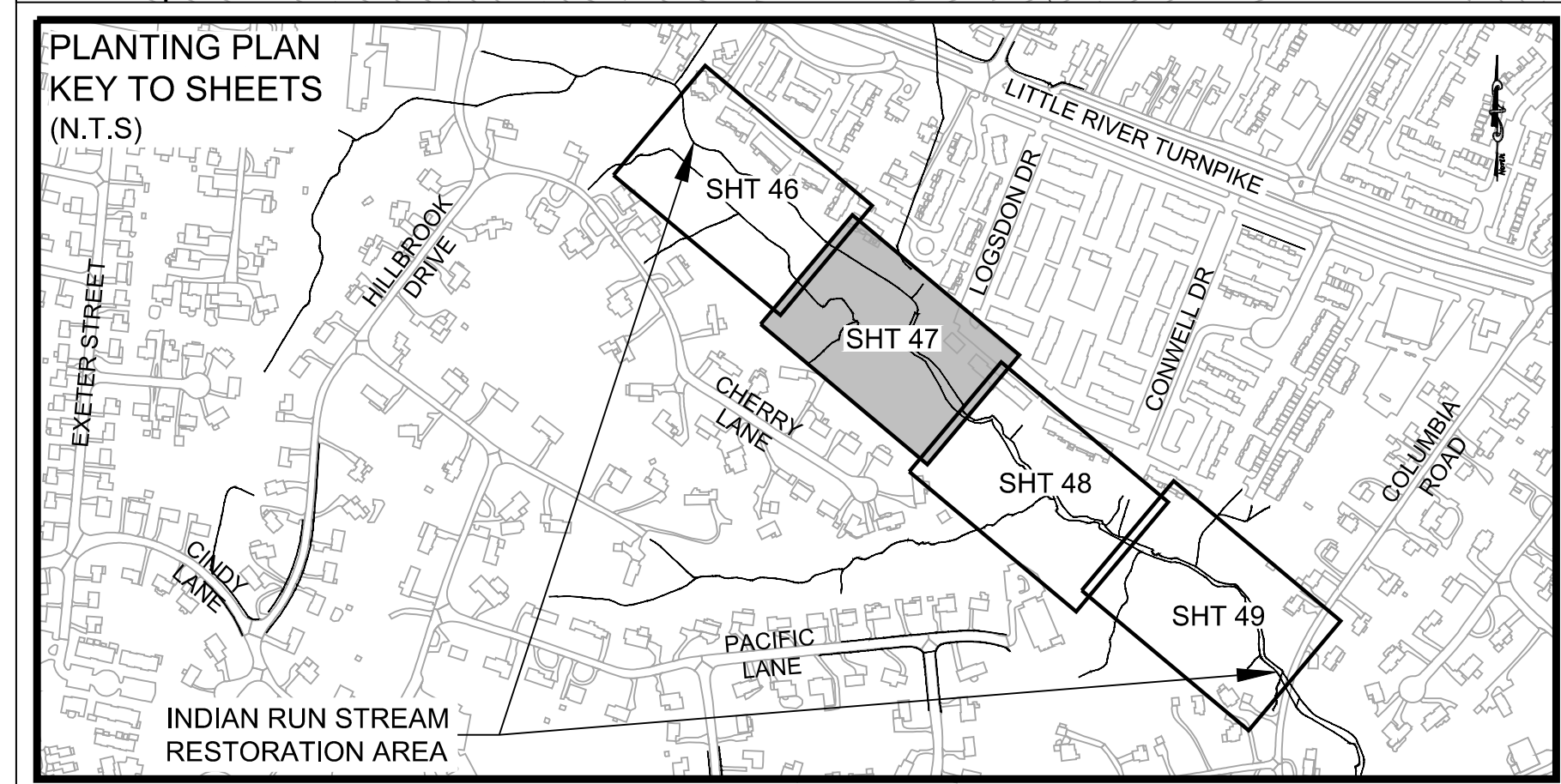
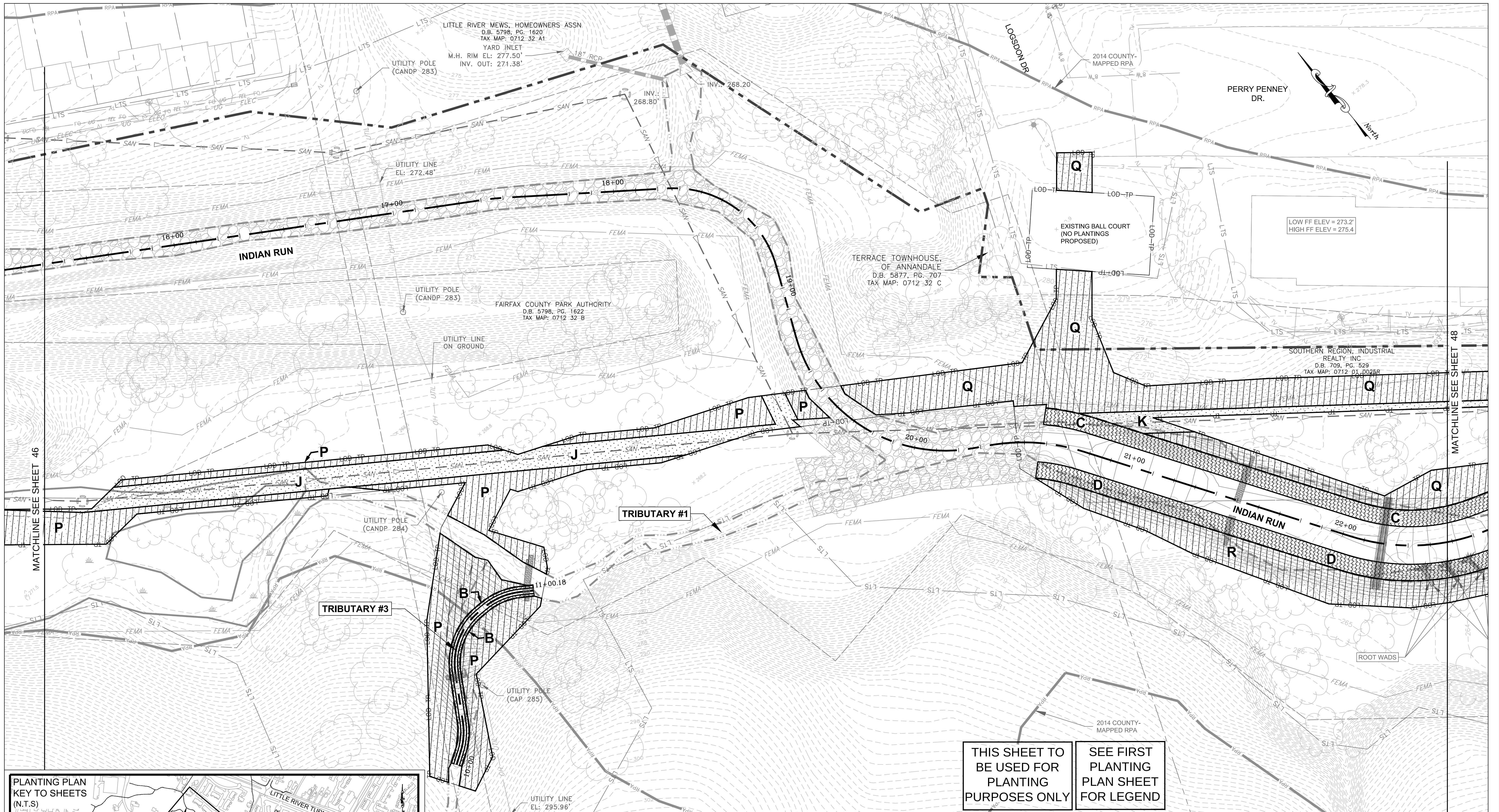
SCALE VERT. N/A HORIZ. 1"=20'

DESIGNED BY: JTK DRAFTED BY: MFM CHECKED BY: BMC

SHEET 46 OF 72

APPROVED BY THE STORMWATER PLANNING DIVISION

FUND# 400-C40101



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SEE FIRST PLANTING PLAN SHEET FOR LEGEND

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GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.

DATUM INFORMATION:
HORZ. - VCS NAD 83
VERT. - NGVD 29

EMERGENCY POLICE - FIRE - RESCUE 911

FAIRFAX COUNTY, VIRGINIA
DEPARTMENT OF PUBLIC WORKS AND ENVIRONMENTAL SERVICES
12000 GOVERNMENT CENTER PARKWAY, SUITE 449 FAIRFAX, VA 22035-0052

PLAN DATE: JULY 2016

STORMWATER PLANNING DIVISION
703-324-5500

INDIAN RUN COURT
STREAM RESTORATION PLAN
PLANTING PLAN (CONT'D)

CONTRACT NO. CONTRACT # PROJECT NO. SD-000031-146

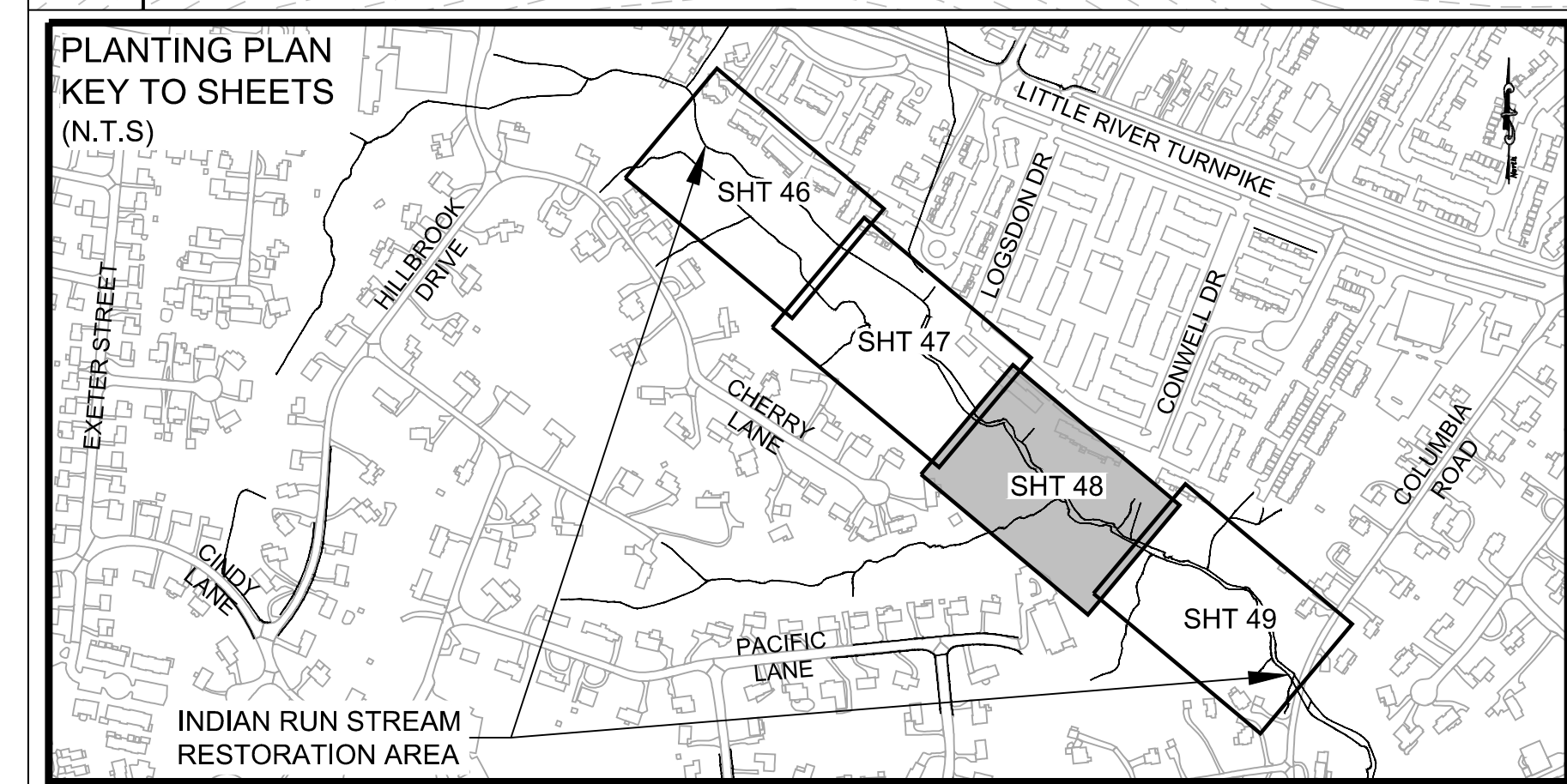
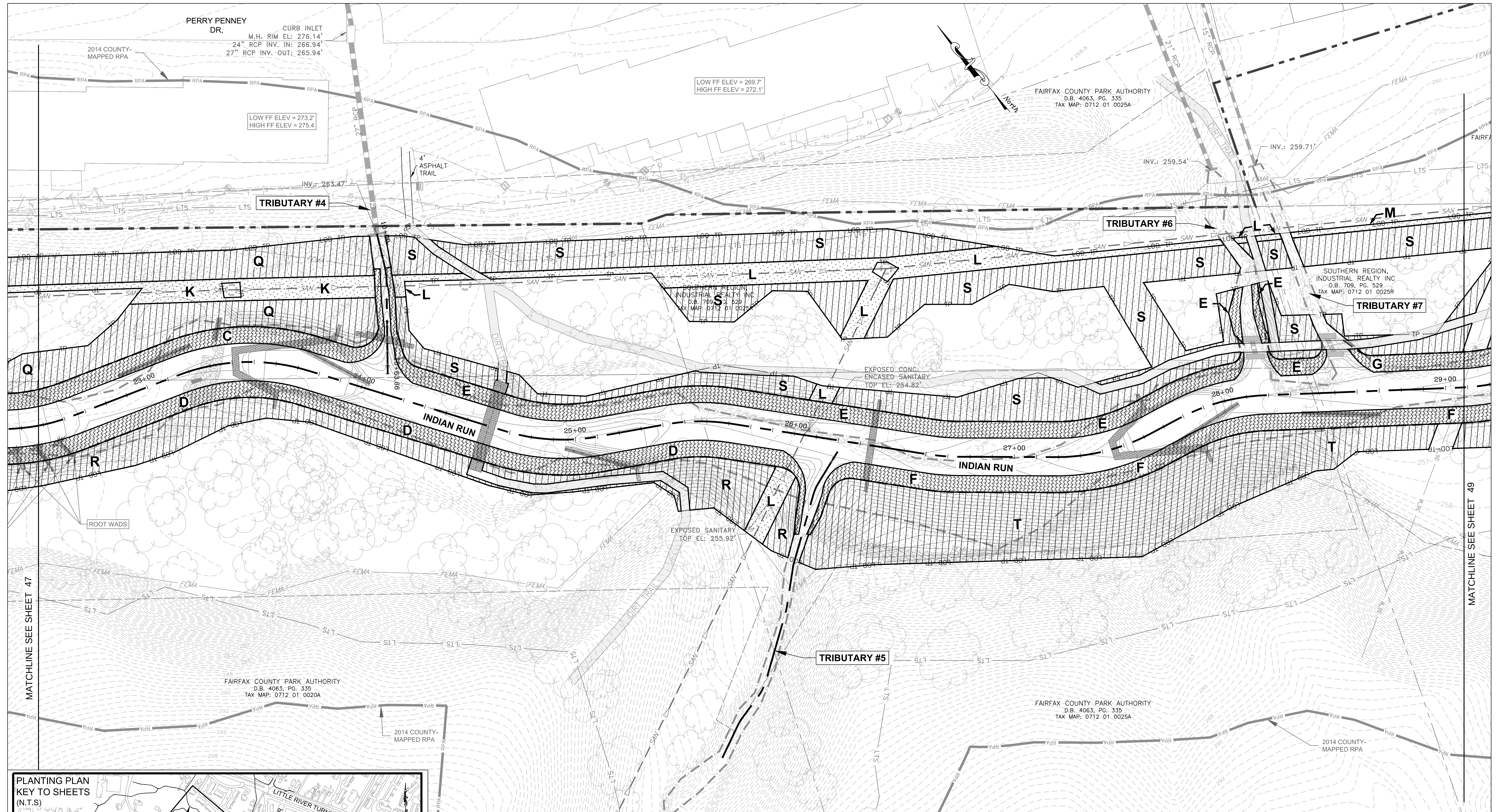
SCALE
VERT. N/A
HORIZ. 1"=20'

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DRAFTED BY: MFM
CHECKED BY: BMC

SHEET
47 of 72

FUND# 400-C40101

DESCRIPTION	BY	APPROVED	DATE
APPROVED BY THE STORMWATER PLANNING DIVISION			



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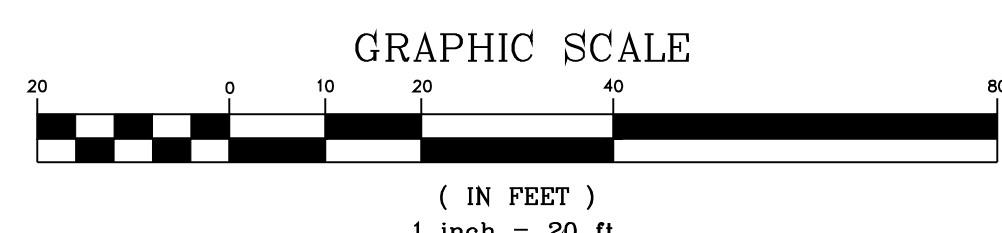
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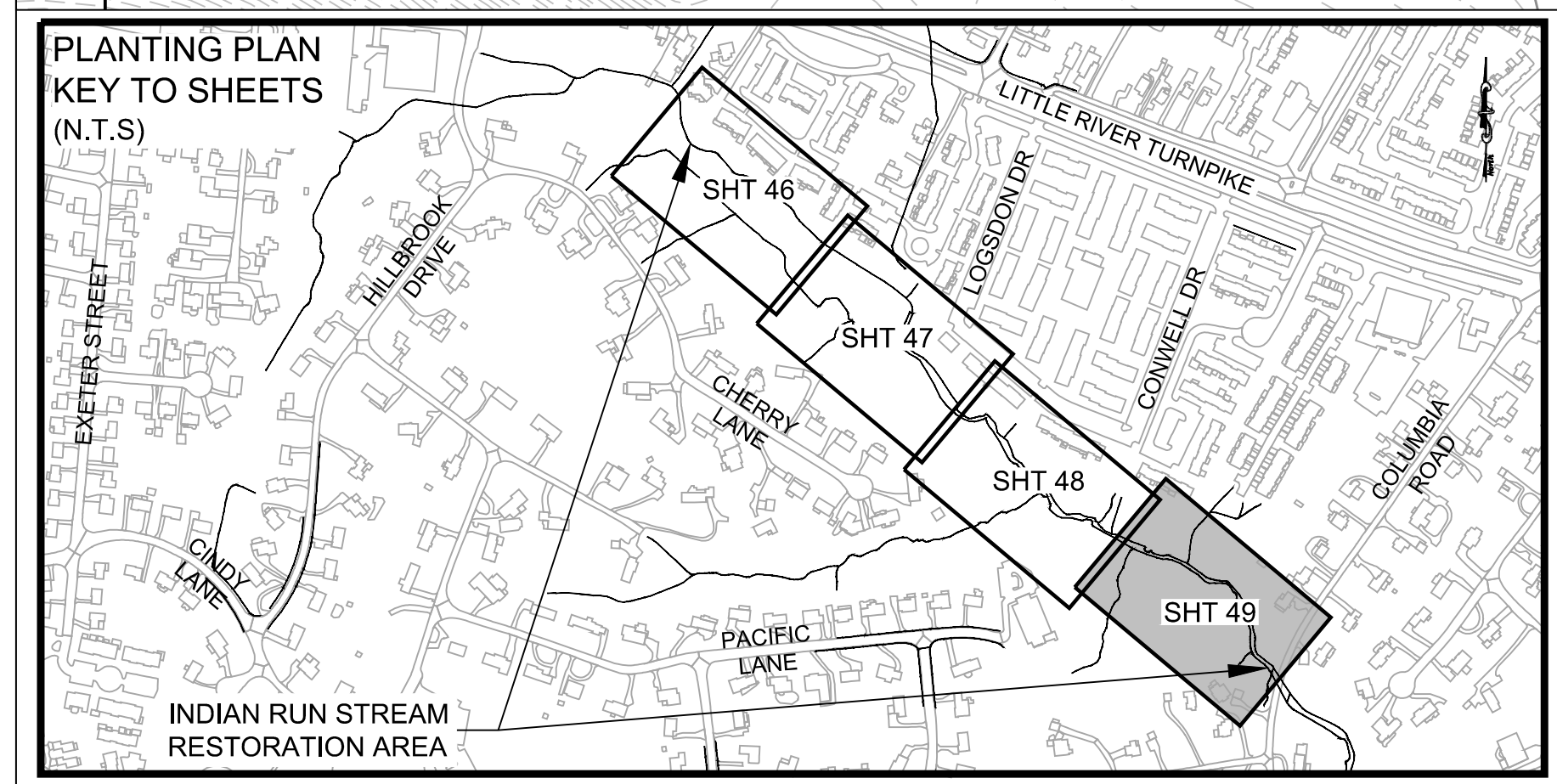
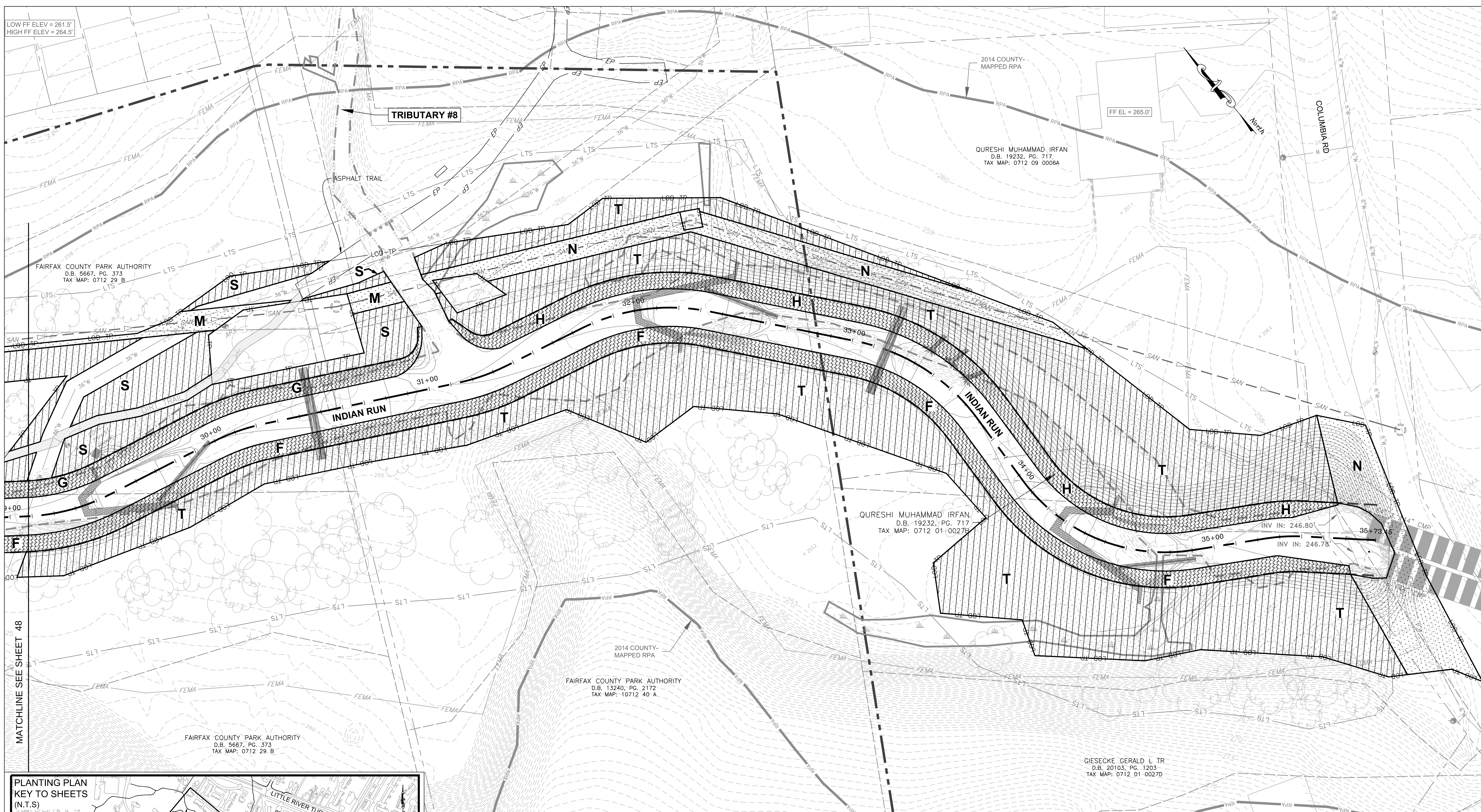
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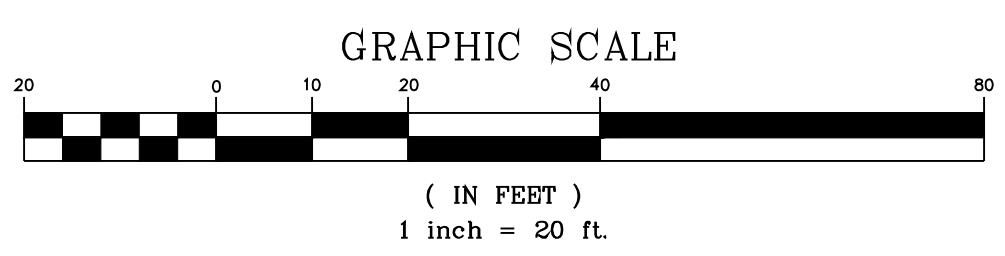
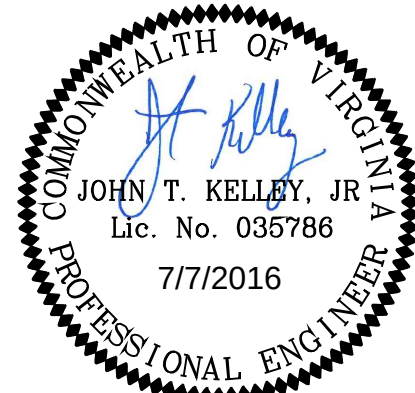


EMERGENCY POLICE - FIRE - RESCUE 911				PLAN DATE: JULY 2016	
FAIRFAX COUNTY, VIRGINIA DEPARTMENT OF PUBLIC WORKS AND ENVIRONMENTAL SERVICES 12000 GOVERNMENT CENTER PARKWAY, SUITE 449 FAIRFAX, VA 22035-0052					
R E V I S I O N S		STORMWATER PLANNING DIVISION 703-324-5500		INDIAN RUN COURT STREAM RESTORATION PLAN PLANTING PLAN (CONT'D)	
CONTRACT NO.		CONTRACT #		PROJECT NO. SD-000031-146	
DESCRIPTION		BY		APPROVED	
DATE		DESIGNED BY: JTK		SHEET	
APPROVED BY THE STORMWATER PLANNING DIVISION		DRAFTED BY: MFM		48 of 72	
FUND# 400-C40101		CHECKED BY: BMC		PLANTING PLAN (N.T.S.)	



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EMERGENCY POLICE - FIRE - RESCUE 911				PLAN DATE: JULY 2016	
FAIRFAX COUNTY, VIRGINIA DEPARTMENT OF PUBLIC WORKS AND ENVIRONMENTAL SERVICES 12000 GOVERNMENT CENTER PARKWAY, SUITE 449 FAIRFAX, VA 22035-0052					
STORMWATER PLANNING DIVISION 703-324-5500					
INDIAN RUN COURT STREAM RESTORATION PLAN PLANTING PLAN (CONT'D)					
CONTRACT NO. CONTRACT #		PROJECT NO. SD-000031-146		SHEET 49 of 72	
DESIGNED BY: JTK		DRAFTED BY: MFM		CHECKED BY: BMC	
APPROVED BY THE STORMWATER PLANNING DIVISION		SCALE VERT. N/A HORIZ. 1"=20'		FUND# 400-C40101	

RIPARIAN FOREST VEGETATION SCHEDULE FOR SHADY & VARIABLE HYDROLOGY CONDITIONS																														
PLANTING SCHEDULE												PLANTING QUANTITIES (BASED ON ONE-GALLON SIZE) ⁴																		
CONTAINER PLANTING ZONE		SPECIES GROUP ^{1,2}	SPECIES ²	INDICATOR STATUS (AGCP)	INDICATOR STATUS (EMP)	WILDLIFE VALUE				PLANT SPACING ³	CONTAINER SIZE, RATE, AND QUANTITY ⁴		AREA (SF): AREA (AC): LENGTH (LF):	A	B	C	D	E	F	G	H	O	P	Q	R	S	T	U	V	
						FUNCTIONS	PRIMARY SPECIES	PLANT PART	SEASON		PLANTS PER ACRE	# OF PLANTS		335 0.01 222	240 0.01 200	2,687 0.06 384	4,169 0.10 577	3,412 0.08 521	7,082 0.16 972	1,763 0.04 253	3,224 0.07 449	19,801 0.45 -	8,545 0.20 -	10,959 0.25 -	6,077 0.14 -	16,794 0.39 -	36,027 0.83 -	2,427 0.06 273	1,772 0.04 279	
RIPARIAN FOREST (VARIABLE, SHADY)	OVERSTORY LAYER	1	QUERCUS ALBA (WHITE OAK)	FACU	FACW	Food	Woodpeckers, turkey, deer, squirrels, raccoons, other small mammals	Nuts, trees	All	17" O.C. ³	150 1" NOMINAL	341 (BASED ON 1" NOMINAL)										68	30	38	21	59	125			
			QUERCUS PALUSTRIS (PIN OAK)	FACW	FACW	Food	Woodpeckers, turkey, deer, squirrels, raccoons, other small mammals	Nuts, trees	All																					
			QUERCUS PHELLOS (WILLOW OAK)	FACW	FAC	Food	Woodpeckers, turkey, deer, squirrels, raccoons, other small mammals	Nuts, trees	All																					
			QUERCUS RUBRA (NORTHERN RED OAK)	FACU	FACU	Food	Woodpeckers, turkey, deer, squirrels, raccoons, other small mammals	Nuts, trees	All																					
			CARYA CORDIFORMIS (BITTERNUT HICKORY)	FAC	FACU	Food	Squirrels, small mammals	Seed, tree	Spring, summer, fall																					
			NYSSA SYLVATICA (BLACK GUM)	FAC	FACW	Food, cover	Song birds, waterfowl, small mammals	Fruit, tree	All																					
			PLATANUS OCCIDENTALIS (AMERICAN SYCAMORE)	FACW	FACW	Food	Raccoons, opossum, wood duck, pileated and other woodpeckers	Hollow trunks	All																					
	UNDERSTORY LAYER	2	DIOSPYROS VIRGINIANA (COMMON PERSIMMON)	FAC	FAC	Food	Bees, large and small mammals, song birds including cedar waxwing, game birds	Fruits, flowers, leaves, twigs	All	12" O.C. ³	300 ONE-GALLON -- or -- 600 TUBELINGS -- or -- MIX AT 1:2 RATIO ⁴	678 (BASED ON ONE-GALLON)										135	60	75	42	117	249			
			AMELANCHIER CANADENSIS (CANADIAN SERVICEBERRY)	FAC	FAC	Food, cover	Song birds, small mammals	Fruit, tree	All																					
			CARPINUS CAROLINIANA (AMERICAN HORNBEAM)	FAC	FAC	Food	Ruffed grouse, bobwhite, pheasant, wild turkey, squirrel, rabbit, deer	Fruit	Summer, fall																					
			CERCIS CANADENSIS (EASTERN REDBUD)	UPL	FACU	Food	Honeybees, butterfly caterpillars	Flowers, leaves	Spring, summer																					
			CHIONANTHUS VIRGINICUS (WHITE FRINGE TREE)	FACU	FAC	Food, reproduction	Birds, moths, small mammals	Fruit, leaves, twigs	Spring, summer, fall																					
	SHRUB LAYER	3	CORNUS FLORIDA (FLOWERING DOGWOOD)	FACU	FACU	Food	Wild turkey, cardinal, cedar waxwing, robin, brown thrasher, wood thrush, rabbits	Flower, fruit	Spring, fall																					
			CORYLUS AMERICANA (AMERICAN HAZELNUT)	FACU	FACU	Food, cover	Songbirds, small mammals	Fruit	Summer, fall	15" O.C. ³	200 ONE-GALLON -- or -- 400 TUBELINGS ⁴	452 (BASED ON ONE-GALLON)										90	40	50	28	78	166			
			LINDERA BENZOIN (NORTHERN SPICEBUSH)	FACW	FAC	Food	Thrushes vireos, catbird, bluebird, butterfly caterpillars	Fruit, leaves	Spring, summer, fall																					
			VIBURNUM DENTATUM (SOUTHERN ARROWWOOD)	FAC	FAC	Food	Robins, bluebirds, other thrushes, thrashers, catbirds, vireos	Fruit	Fall																					
	VIBURNUM PRUNIFOLIUM (BLACK-HAW)	FACU	FACU	Food, cover	Catbirds, thrashers, thrushes, cover and nest sites for songbirds	Fruit, tree	Spring, fall																							
	RIPARIAN FOREST QUANTITY SUBTOTALS											500	1,471		-	-	-	-	-	-	-	-	293	130	163	91	254	540	-	-
STREAMSIDE PLANTING ZONES	STREAM BANK	SHRUB LAYER	4	ALNUS SERRULATA (BROOKSIDE ALDER)	FACW	OBL	Food, reproductive areas	Finches, sparrows, doves, yellow warbler, song sparrow, other songbirds	Seeds, buds, stems	3' O.C. ⁶	4800 ONE-GALLON -- or -- 9600 TUBELINGS -- or -- MIX AT 1:2 RATIO ⁴	3,024 (BASED ON ONE-GALLON)															288	192		
				ARONIA ARBUTIFOLIA (RED CHOKEBERRY)	FACW	FACW	Food, cover, reproductive areas	Finches, sparrows, doves, yellow warbler, song sparrow, other songbirds	Flower, fruit				Summer, fall, winter																	
				CEPHALANTHUS OCCIDENTALIS (BUTTONBUSH)	OBL	OBL	Food, cover, reproductive areas	Catbird, thrasher, thrushes, cedar waxwings, rabbits	Flower, fruit				Summer, fall, winter	48	48	288	480	384	768	192	336									
				ILEX VERTICILLATA (COMMON WINTERBERRY)	FACW	FACW	Food, cover, reproductive areas	Bluebird, catbird, brown thrasher, robin, yellow bellied sapsucker, mockingbird	Flower, seed, leaves				All																	
				VIBURNUM DENTATUM (SOUTHERN ARROWWOOD)	FACU	FAC	Food, cover, reproductive areas	Purple finch, goldfinch, robin, junco, bluebird, hermit thrush	Flower, fruit				Spring, summer, fall																	
	STREAM BANK QUANTITY SUBTOTALS											4800	3,024		48	48	288	480	384	768	192	336						288	192	
	STREAM EDGE	SHRUB LAYER	5	ALNUS SERRULATA (SMOOTH ALDER)	FACW	OBL	Food, reproductive areas	Finches, sparrows, doves, yellow warbler, song sparrow, other songbirds	Seeds, buds, stems	1 PER L.F. STAGGERED ⁶	N/A	3,661 (TUBELINGS ONLY) ⁵															273	279		
				CEPHALANTHUS OCCIDENTALIS (BUTTONBUSH)	OBL	OBL	Food, cover, reproductive areas	Catbird, thrasher, thrushes, cedar waxwings, rabbits	Flower, fruit				Summer, fall, winter	222	200	324	533	521	804	253	253									
				CORNUS AMOMUM (SILKY DOGWOOD)	FACW	FACW	Food, cover, reproductive areas	Catbird, thrasher, thrushes, cedar waxwings, rabbits	Flower, fruit				Summer, fall, winter																	
				SAMBUCUS NIGRA spp. CANADENSIS (ELDERBERRY)	FACW	FAC	Food, cover	Brown thrasher, catbird, woodpeckers, thrushers	Seed				Spring, fall, winter																	
STREAM EDGE QUANTITY SUBTOTALS											---	3,661		222	200	324	533	521	804	253	253							273	279	
LIVE STAKE	UPSTREAM OF STRUCTURE	6	SALIX NIGRA (BLACK WILLOW)	OBL	OBL	Food, cover, reproductive areas	Beaver, porcupine, deer, muskrat, ducks, fish	Buds, foliage, bark	All	1 PER L.F. STAGGERED ⁶	N/A	109 LIVE STAKES	0	0	24	17	0	68	0	0							0	0		
LIVE STAKE	DOWNSTREAM OF STRUCTURE	7	SALIX NIGRA (BLACK WILLOW)	OBL	OBL	Food, cover, reproductive areas	Beaver, porcupine, deer, muskrat, ducks, fish	Buds, foliage, bark	All	4 PER L.F. STAGGERED ⁶	N/A	653 LIVE STAKES	0	0	144	104	0	405	0	0							0	0		
LIVE STAKE QUANTITY SUBTOTALS											---	761		-	-	168	121	-	473	-	-							-	-	

PLANTING AND SEEDING NOTES:

1. It is expected and preferred that all species in each of the Species Groups are planted. The tolerances listed in this note are intended to incorporate flexibility according to species availability. At a minimum, Contractor to provide at least:
- | | |
|-----------------------------------|--|
| a) 6 of the 7 species in Group 1, | i) all of the species in Group 8, |
| b) 5 of the 6 species in Group 2, | j) 3 of the 4 species in Group 9, |
| c) 3 of the 4 species in Group 3, | k) 3 of the 4 species in Group 10, |
| d) 4 of the 5 species in Group 4, | l) 5 of the 6 species in Group 11, |
| e) 3 of the 4 species in Group 5, | m) 4 of the 5 species in Group 12, |
| g) all of the species in Group 6, | n) 4 of the 5 species in Group 13, and |
| h) all of the species in Group 7, | o) 5 of the 6 species in Group 14, |

2. Substitutions for selected species based upon availability shall be requested in writing to engineer, documenting the lack of availability, if the flexibility inherent in the above schedule is still not sufficient, Engineer is under no obligation to approve substitutions.
3. The planted trees and shrubs shall be randomly spaced and species mixed throughout the planting areas.
4. Container rates and quantities shown for one gallon size. For purposes of substitution, two tubelings are the equivalent of one 1-gallon container plant in this schedule. Contractor may provide a mix of container and tubeling sizes for each species requirement, provided the ratio of tubelings to containers is not less than 2:1. Exception -- Group 5 (Stream Edge) shall be planted in accordance with Note #5.
5. Group 5 (Stream Edge) zone shall be planted with tubelings.
- No one gallons are required to be used for any of this Group's species.
6. Stream Bank (Group 4) and Stream Edge (Group 5) zones shall be planted such that the combined mix of species is spaced approx. 3' O.C. and 1 plant per L.F. respectively. Live stake zones upstream of outer vane arm (Group 6) spaced at 1 plant per L.F. Live stake zones downstream of outer vane arm (Group 7) spaced at 4 plants per L.F.
7. All seeding rates are expressed in pounds of pure live seed (PLS).
8. If there is an abundance of existing or established maples on site, a substitution for maples may be made with an alternate species to avoid tapping into and adding to existing saturated seed bank. Final decision as to whether or not to plant maples will be made by engineer of record.



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R E V I S I O N S						STORMWATER PLANNING DIVISION 703-324-5500			
						INDIAN RUN COURT STREAM RESTORATION PLAN VEGETATION SCHEDULE			
						CONTRACT NO. CONTRACT # PROJECT NO. SD-000031-146			
						SCALE VERT. N/A HORIZ. 1"=20'			
DESCRIPTION				BY	APPROVED	DATE	DESIGNED BY: JTK DRAFTED BY: MFM CHECKED BY: BMC	SHEET 50 of 72	
APPROVED BY THE STORMWATER PLANNING DIVISION								FUND# 400-C40101	

