

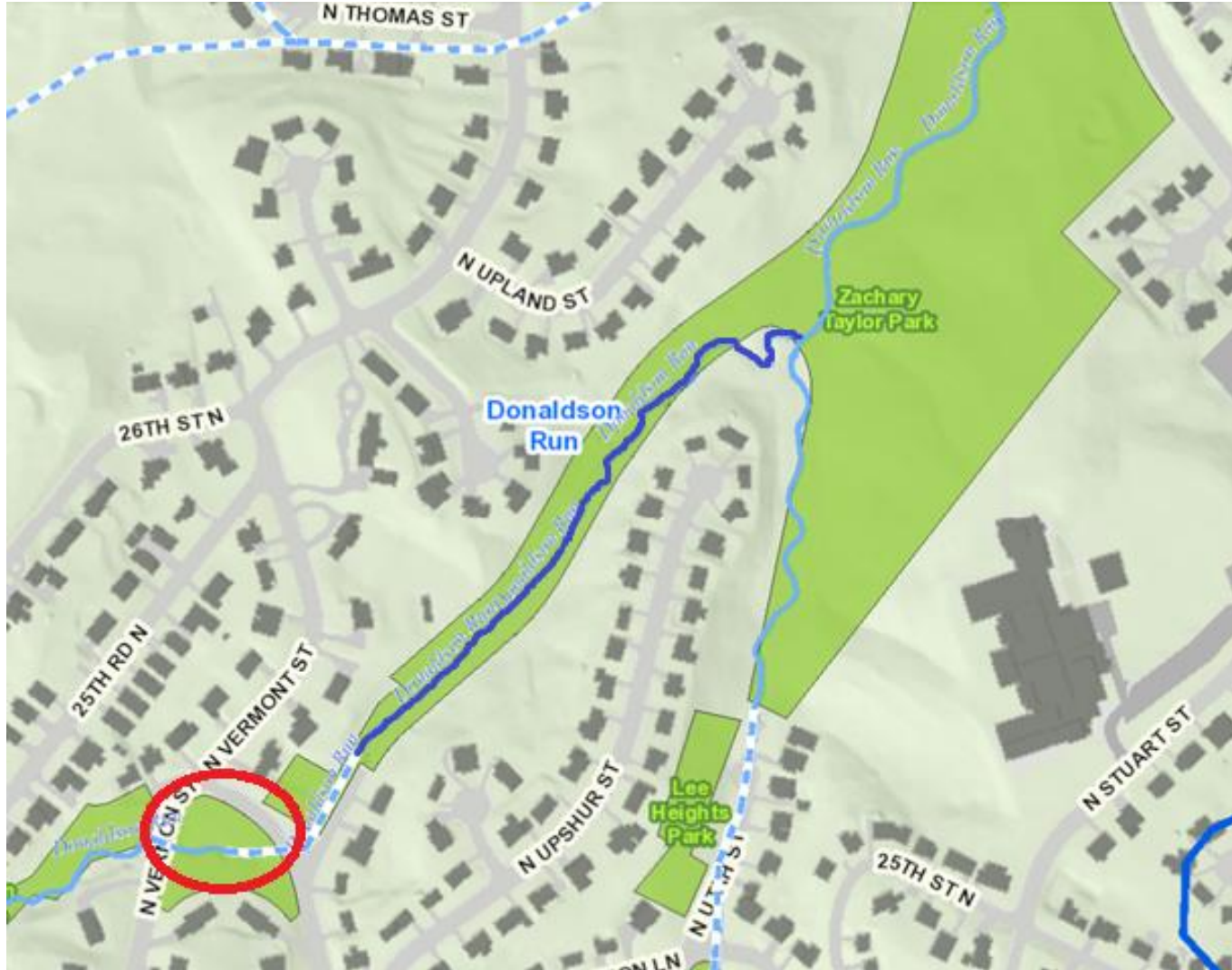
Donaldson Run Tributary B

Stream Restoration Project Update



ARLINGTON
VIRGINIA

Project area map



- Project length is 1,355 linear feet
- North Upton St to Tributary A confluence



Project Description

- NC Approved Project - 2007
- Stormwater Master Plan
- Protect existing infrastructure
 - 30" water main
 - Sanitary sewer
 - Trail
- Address active stream erosion
- Control invasive plants
- Replant with locally native plants
- Improve water quality- Bay cleanup
 - Addresses key, regulated pollutants – sediment & nutrients
 - Improves habitat for aquatic life



Recent Progress

- Easement process completed
- Permit submitted to Army Corp of Engineers
- Updated tree inventory
- Minor design updates
- Staging and construction access
- Stormwater outfall renovation



Tributary B's final bend before joining Tributary A

Design

Natural stream channel design method

- Step pools
- Floodplain connection
- Meanders



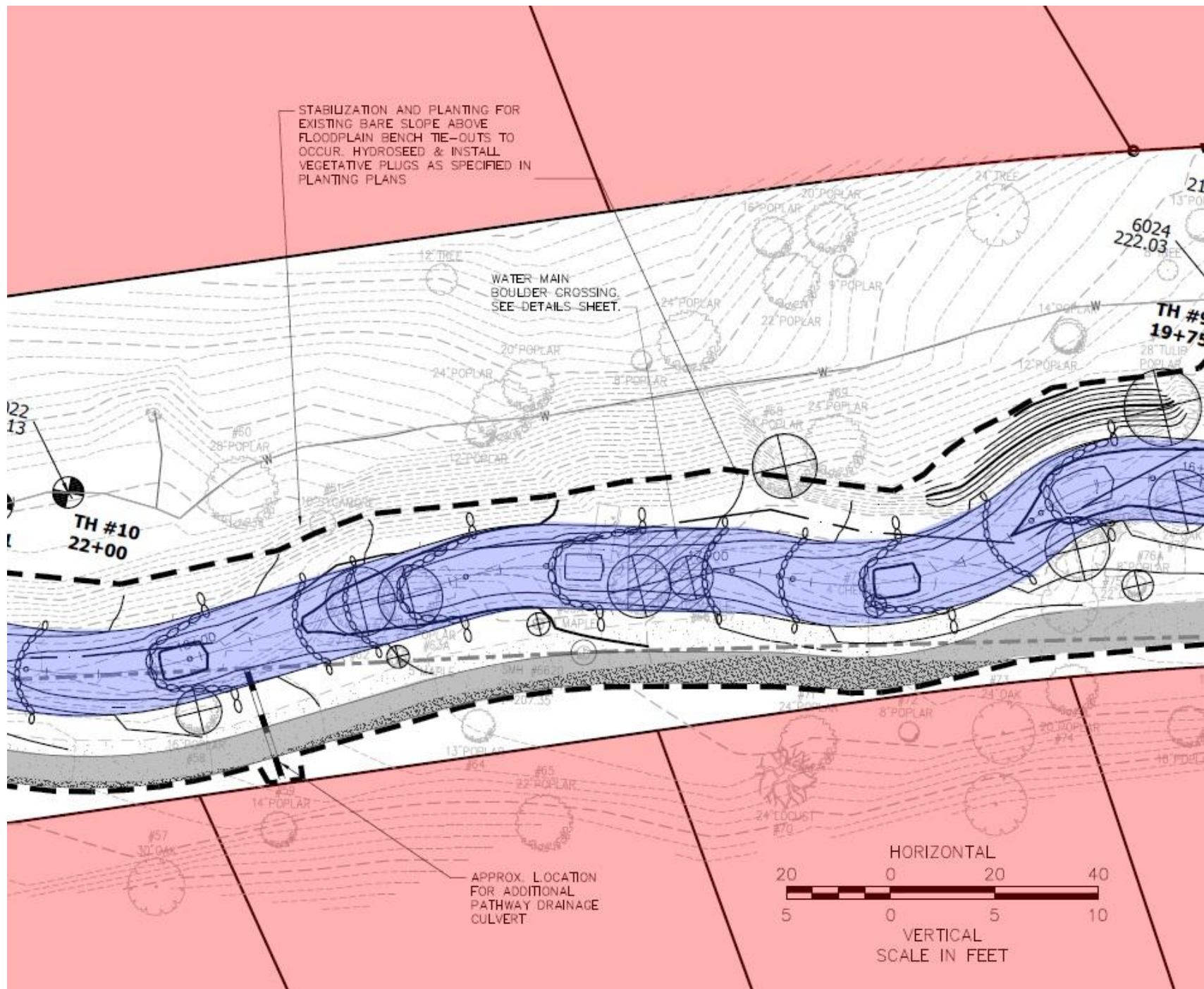
Site-specific Challenges for Designing this Project

- EXTREMELY tight space to work within
- Steep slopes
- Elevation change
 - Approximately 44' of change from upstream to downstream end of project
- Infrastructure



STABILIZATION AND PLANTING FOR EXISTING BARE SLOPE ABOVE FLOODPLAIN BENCH TIE-OUTS TO OCCUR. HYDROSEED & INSTALL VEGETATIVE PLUGS AS SPECIFIED IN PLANTING PLANS

WATER MAIN BOULDER CROSSING. SEE DETAILS SHEET.



TH #10
22+00

6024
222.03

TH #10
19+75

APPROX. LOCATION FOR ADDITIONAL PATHWAY DRAINAGE CULVERT



Design Component: Improvements & Infrastructure Protection

- 30" water main runs parallel to stream
- Two eroded stormwater outfall channels will be converted to pipes that extend to the stream
- Sanitary main runs parallel to the stream
- The increased stream bed elevation and bank protection will help to protect the water and sanitary mains



Tree Inventory and Replacement

- Tree inventory completed in 2015
- 81 scheduled for removal
- 285 trees and shrubs scheduled for planting
- Replacement tree value 193
- Tree protection will be provided for remaining trees adjacent to the construction area



Trees

Changes from the 2010 to the current tree removal list is as follows:

Total tree removal number is currently 81, up from 71 in 2010

5 trees saved from removal list

14 trees added to removal list

6 trees slated for removal in 2010 have died

7 “new” trees are slated for removal

47 trees with DBH ≥ 10 ” (24 condition rating less than 60)

10 trees with DBH ≥ 25 ” (4 condition rating less than 60)

56% are tuliptrees



Trees

285 trees and shrubs scheduled for planting

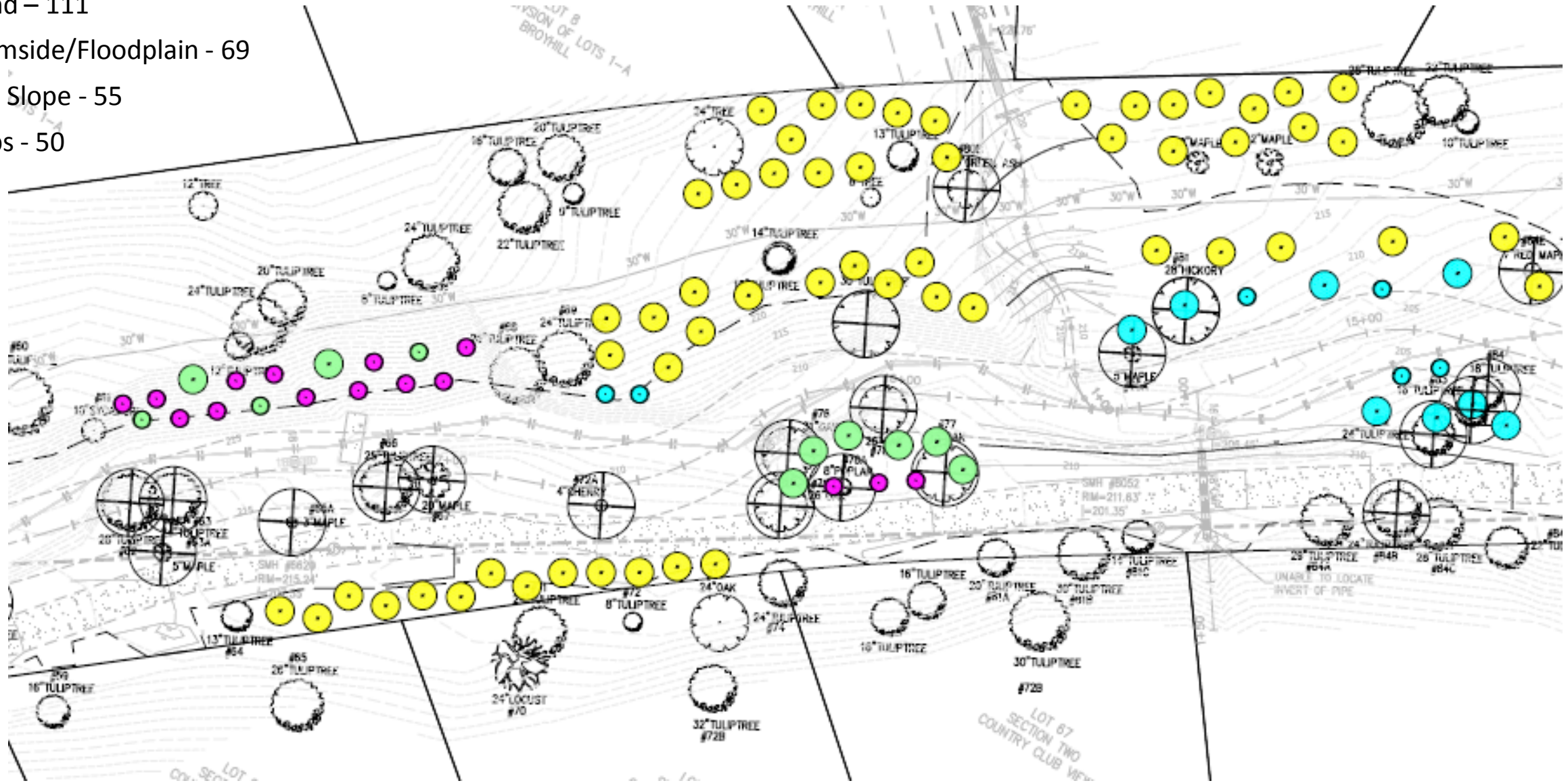
Tree Planting Categories

Upland – 111

Streamside/Floodplain - 69

Steep Slope - 55

Shrubs - 50



Trees

Tree Planting Categories

Upland – 111

Streamside/Floodplain - 69

Steep Slope - 55

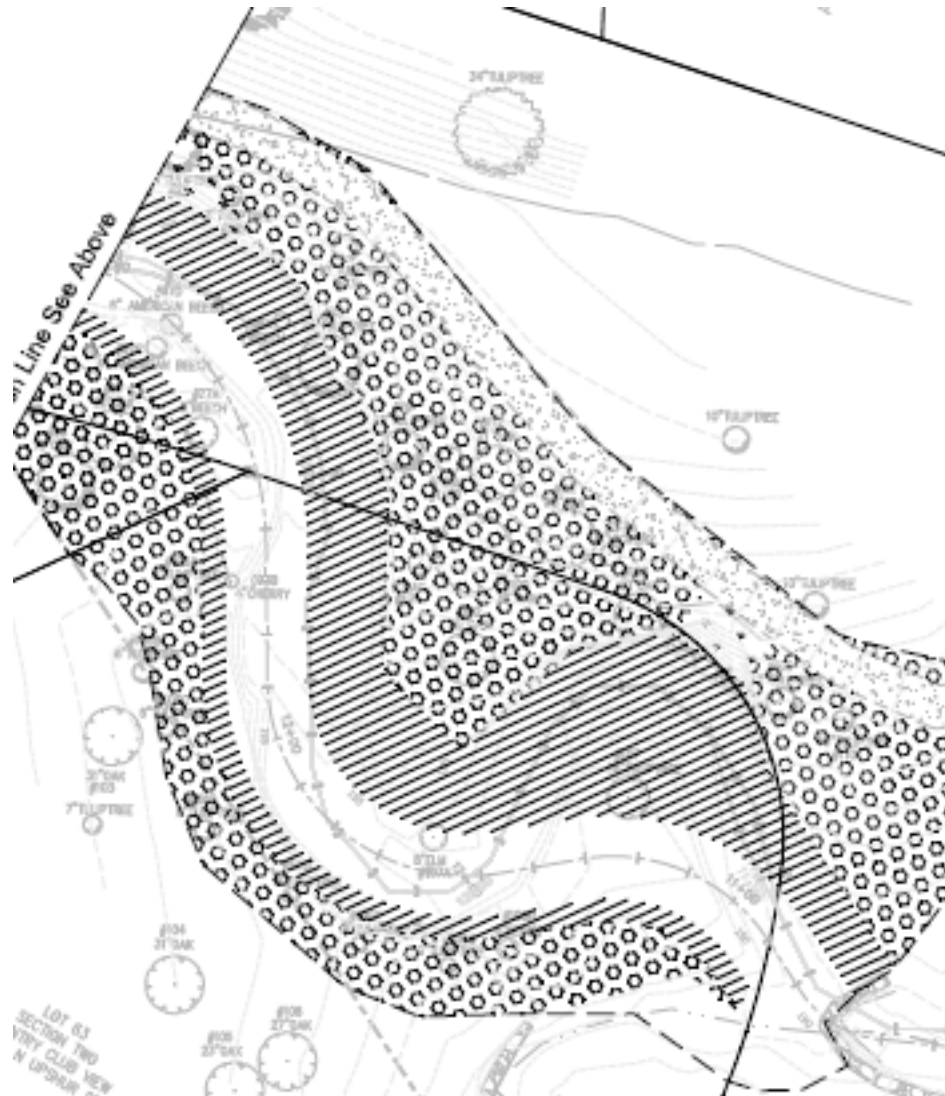
Shrubs - 50

Establishment

- Immediate watering and then for two years, as needed
- Tree shelters for deer protection
- 5 year monitoring and replacement schedule

TREE PLANTING LIST						
LOCATION	SPECIES	COMMON NAME	SIZE	NUMBER PROPOSED	REPLACEMENT VALUE	REPLACEMENT COUNT
UPLAND	PRUNUS SEROTINA	BLACK CHERRY	6-7 FEET TALL	28	1	28.0
UPLAND	FAGUS GRANDIFOLIA	AMERICAN BEECH	1.75-2 INCH CALIPER	18	1	18.0
UPLAND	ULMUS AMERICANA	AMERICAN ELM	1.75-2 INCH CALIPER	20	1	20.0
UPLAND	NYSSA SYLVATICA	BLACK GUM	6-7 FEET TALL	5	1	5.0
UPLAND	QUERCUS FALCATA	SOUTHERN RED OAK	1.75-2 INCH CALIPER	20	1	20.0
UPLAND	QUERCUS RUBRA	NORTHERN RED OAK	1.75- INCH CALIPER	20	1	20.0
FLOODPLAIN	ULMUS AMERICANA	AMERICAN ELM	1.75-2 INCH CALIPER	12	1	12.0
FLOODPLAIN	NYSSA SYLVATICA	BLACK GUM	6-7 FEET TALL	15	1	15.0
FLOODPLAIN	ROBINIA PSEUDOACACIA	BLACK LOCUST	6-7 FEET TALL	10	1	10.0
FLOODPLAIN	SALIX NIGRA	BLACK WILLOW	6-7 FEET TALL	22	3	7.3
FLOODPLAIN	PLATANUS OCCIDENTALIS	SYCAMORE	1.75-2 INCH CALIPER	10	1	10.0
STEEP SLOPES	RHUS CAPALLINUM	WINGED SUMAC	4-5 FEET TALL	11	3	3.7
STEEP SLOPES	RHUS GLABRA	SMOOTH SUMAC	4-5 FEET TALL	13	3	4.3
STEEP SLOPES	FAGUS GRANDIFOLIA	AMERICAN BEECH	1.75-2 INCH CALIPER	7	1	7.0
STEEP SLOPES	PRUNUS SEROTINA	BLACK CHERRY	6-7 FEET TALL	7	1	7.0
STEEP SLOPES (SHADE)	MAGNOLIA TRIPETALA	UMBRELLA MAGNOLIA	6-7 FEET TALL	17	3	5.7
SHRUBS	HAMAMELIS VIRGINIANA	WITCHHAZEL	4-5 FEET TALL	10	N/A	0.0
SHRUBS	ALNUS SERRULATA	COMMON ALDER	4-5 FEET TALL	20	N/A	0.0
SHRUBS	VIBURNUM DENTATUM	ARROWWOOD	4-5 FEET TALL	10	N/A	0.0
SHRUBS	SAMBUCUS CANADENSIS	ELDERBERRY	4-5 FEET TALL	10	N/A	0.0
	TOTAL					193.0

Herbaceous Plants

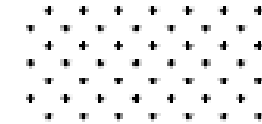


HERBACEOUS PLANTING SCHEDULE

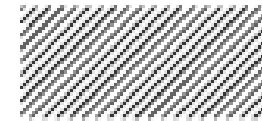
	Year 1		Year 3		Year 5	
	seed mix	plugs	seed mix	plugs	seed mix	plugs
steep slope	x	none	x	x	AS NEEDED	AS NEEDED
streamside	x	none	x	x	AS NEEDED	AS NEEDED
upland	x	NA	x	NA	AS NEEDED	NA

LEGEND

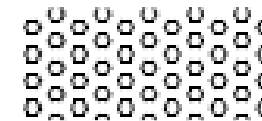
STEEP SLOPE PLANTINGS



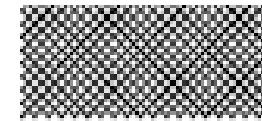
STREAMSIDE / FLOODPLAIN PLANTINGS



UPLAND PLANTINGS



SEEDED TURFGRASS



Herbaceous Plants

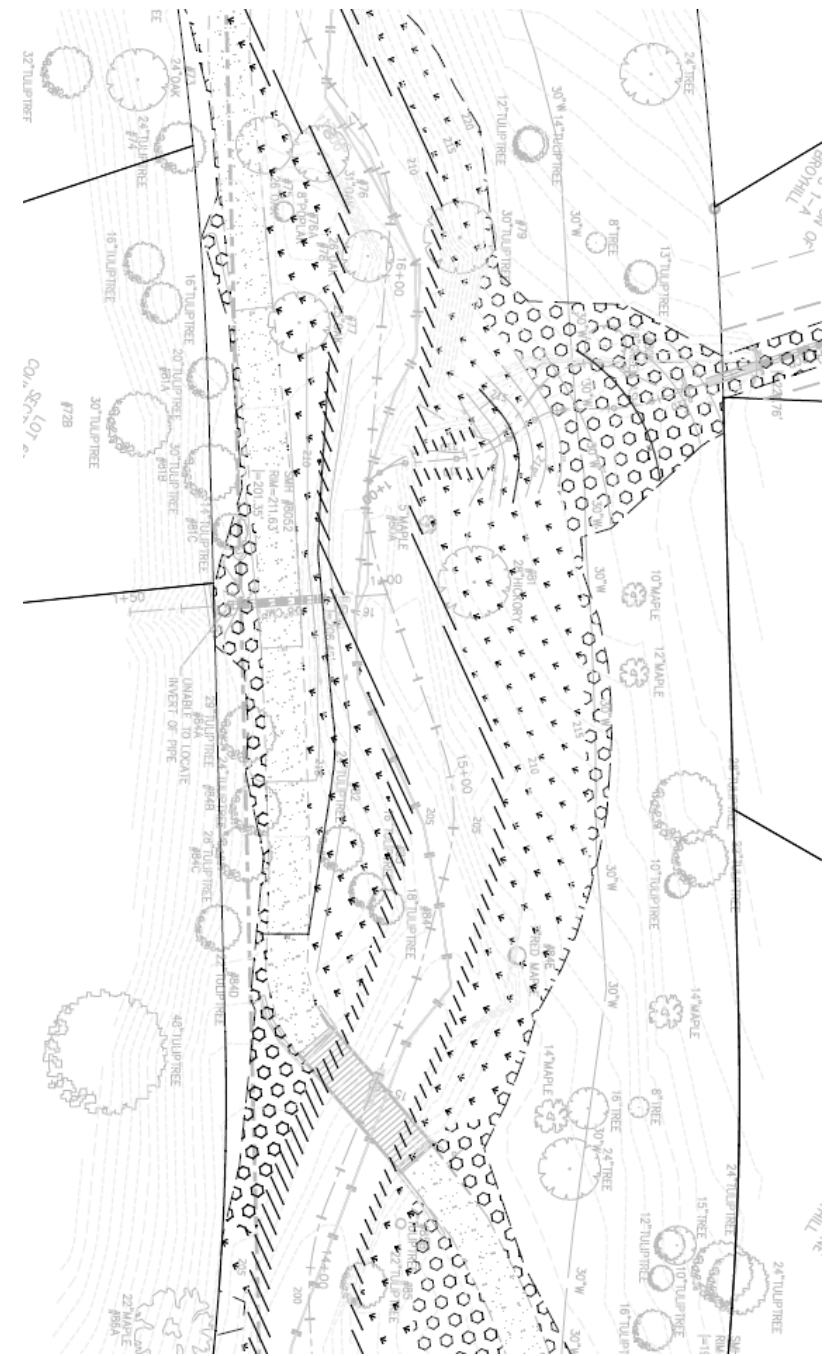
PLUGS					
STEEP SLOPE					
SPECIES NAME	COMMON NAME	SIZE	SPACING	QUANTITY YEAR 3	QUANTITY YEAR 5
ONOCLEA SENSIBILIS	SENSITIVE FERN	6" PLUG	5' ON CENTER	205	TBD
OSMUNDA CLAYTONIANA	INTERRUPTED FERN	6" PLUG	5' ON CENTER	205	TBD
POLYSTICHUM ACROSTICHOIDES	CHRISTMAS FERN	6" PLUG	5' ON CENTER	205	TBD
			TOTAL	615	
STREAMSIDE / FLOODPLAIN					
SPECIES NAME	COMMON NAME	SIZE	SPACING	QUANTITY YEAR 3	QUANTITY YEAR 5
ONOCLEA SENSIBILIS	SENSITIVE FERN	6" PLUG	5' ON CENTER	205	TBD
JUNCUS EFFUSUS	SOFT RUSH	6" PLUG	5' ON CENTER	205	TBD
EUPATORIUM PERFOLIATUM	BONESET	6" PLUG	5' ON CENTER	205	TBD
			TOTAL	615	



STEEP SLOPE		
SPECIES NAME	COMMON NAME	PLS PERCENT OF SEED MIX
CAREX DIGITALIS	SLENDER WOODLAND SEDGE	10
DICHANTHELIUM CLANDESTINUM	DEERTONGUE GRASS	20
ELYMUS HYSTRIX	BOTTLEBRUSH GRASS	15
JUNCUS EFFUSUS	SOFT RUSH	10
JUNCUS TENUIS	PATH RUSH	10
ASCLEPIAS INCARNATA	SWAMP MILKWEED	15
ANDROPOGON VIRGINICUS	BROOMSEDGE	20
	TOTAL	100
STREAMSIDE / FLOODPLAIN		
SPECIES NAME	COMMON NAME	PLS PERCENT OF SEED MIX
DICHANTHELIUM CLANDESTINUM	DEERTONGUE GRASS	30
JUNCUS EFFUSUS	SOFT RUSH	35
LAPORTEA CANADENSIS	WOOD NETTLE	15
SOLIDAGO RUGOSA	ROUGH GOLDENROD	20
	TOTAL	100



UPLAND		
SPECIES NAME	COMMON NAME	PLS PERCENT OF SEED MIX
OXALIS STRICTA	COMMON WOOD SORREL	5
POLYGONATUM BIFLORUM	SOLOMON'S SEAL	5
SOLIDAGO ALTISSIMA	TALL GOLDENROD	10
SOLIDAGO RUGOSA	ROUGH GOLDENROD	10
CAREX DIGITALIS	SLENDER WOODLAND SEDGE	10
DICHANTHELIUM CLANDESTINUM	DEERTONGUE GRASS	20
ELYMUS HYSTRIX	BOTTLEBRUSH GRASS	10
ASTER DIVARICATUS	WHITE WOOD ASTER	10
ANDROPOGON VIRGINICUS	BROOMSEGE	20
	TOTAL	100
TEMPORARY STABILIZATION		
SPECIES NAME	COMMON NAME	PLS PERCENT OF SEED MIX
IOLIUM MULTIFORUM	ANNUAL RYEGRASS	100
TURFGRASS		
SPECIES NAME	COMMON NAME	PLS PERCENT OF SEED MIX
FESTUCA ARUNDINACEA	TALL FESCUE	100



Invasive Plants

- Ongoing treatment before, during and after project



Construction Impacts to Homeowners

- Trail closure along Tributary B
- Anticipated to last 6 months
- Construction staging
 - Material & equipment storage on N. Vermont



Key Project Contacts

- Project Manager – Doug Stephens:
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- 703-228-3959
- Outreach – Jen McDonnell:
jmcdonnell@arlingtonva.us,
- 703-228-3042



<http://projects.arlingtonva.us/projects/donaldson-run-stream-restoration-tributary-b/>



2017



2006



2006

2017



Tributary B Restoration Timeline To Date



2009 Stream Walk

November 2016	Donaldson Run Civic Association Meeting
May 4, 2016	Donaldson Run Civic Association Meeting
September 2015	Project updated provided in <i>The Current</i>
April 18, 2012	Donaldson Run Civic Association <i>95% Project Design presented</i>
June 2, 2011	Donaldson Run Advisory Group Meeting <i>90% Project Design presented</i>
Feb. 23, 2011	Donaldson Run Civic Association <i>75% Project Design presented</i>
Nov. 20, 2010	Donaldson Run Community Stream Walk – 60% Design Review
June 23, 2010	Community Meeting <i>60% Project Design presented</i>
Dec. 2, 2009	Donaldson Run Civic Association <i>30% Project Design presented</i>
Nov. 14, 2009	Donaldson Run Community Stream Walk
Nov. 5, 2009	Donaldson Run Advisory Group Meeting
December 2007	Neighborhood Conservation (NC) Advisory Committee Meeting <i>Funding approval granted</i>
2005	Donaldson Run Civic Association <i>Tributary B stream restoration reaffirmed as neighborhood's first-priority NC project through vote.</i>
September 2004	Donaldson Run Civic Association <i>Tributary B restoration project designated priority NC Program project through vote.</i>

Tentative Schedule

- Complete construction documents
- Companies bid on construction
- Board awards contract
- Construction begins in 2017
- Construction completion 6 months



Why Haven't We Started Yet?

- New MS4 permit, Stormwater Master Plan & Chesapeake Bay TMDL diverted staff resources
- Limited number of County staff
- Easements



Tributary B's final bend before joining Tributary A