

## Stream Restoration Scoping Form

**Project Name:** Difficult Run      **WMP ID:** Wakerobin  
**Stream Name:** Cove Creek?      **Drainage Area (acres):** 50      **% Impervious:** 43.25  
**Scoping Team:** WPIB-N: Joe Riley-Ryan & Betsy Smith      WPIB-S: Charles Smith      WPAB: LeAnne Astin  
**Reston Association:** Claudia Thompson-Deahl & Nicki Bellezza  
**Date:** 10/22/2015      **Weather:** 60s -mild

**Planning Score:** (Desktop analysis confirmed with field observations)

	Description	Score of 1	Description	Score of 3	Description	Score of 5
<b>Easements</b>	No easements exist		Partial easements exist	<b>3</b>	All necessary easements exist	
<b>Access</b>	No access points		Access is marginal	<b>3</b>	Good access exists	
<b>Utilities</b>	Utilities exist in the immediate area of the stream	<b>1</b>	Some utilities in the area of the stream , but don't appear to present a large problem		No utilities in the area	
<b>Ownership</b>	Multiple private owners		Private ownership, mostly HOA (limited number of owners)	<b>3</b>	Public ownership	
<b>Stream Order</b>	4 <sup>th</sup> -5 <sup>th</sup>		3 <sup>rd</sup>		0-2 <sup>nd</sup>	<b>5</b>

**TOTAL PLANNING SCORE:** 15

**Description of Construction Access:**

*Private parcel driveway off of Wakerobin with staging in backyards.*

**Average Channel Dimension:** (if appropriate based on channel/valley type changes or drainage area increases, use multiple reaches)

Urban NC Regional Curve: Area: 11.49      Width: 10.51      Depth: 1.05

Reach	Left Top of Bank Ht. (ft) – looking DS	Right Top of Bank Ht. (ft) – looking DS	Bankfull Width (ft)	Channel Width (ft)	Length (linear ft)
<b>1</b>	5	5	10	12	250
<b>2</b>	3-4	3-4	12	18	200
<b>3</b>	6	6	10	12	260
<b>4</b>	2-3	2-3	12	12	80

**Notes on limits/extent of reaches, overall project, channel dimensions:**

*Upper area of reach 1 is a stable rip-rap apron coming out of culvert with exposed sanitary sewer main. It drops into an incised channel with raw banks and scour and exposed utilities. The second reach is wider and shallower due to flattened slope from constrictions at sewer laterals. Reach 3 is deeply incised with mass wasting and undercut trees.*

**CEM Stage:** R1: II      R2: III      R3: III      R4: V (rip-rap channel)  
*I (stable)      II (incision)      III (widening)      IV (aggradation)      V (quasi stable)*

The following to be qualitatively reviewed and comments/notes provided:

**Bridges present (number, type, condition)** – take photo of existing bridges

*None*

**Number of outfalls and condition of outfall channel (good, fair, poor)** – take photo of all outfalls

- *There is one outfall – culvert at upper end of reach 1.*

**Safety issues, including potential infrastructure loss (trails, structures, utilities, roads)** – take photos and approximate distance from top of bank

- *Major infrastructure issues – exposed sanitary sewer main and laterals as well as other utilities and undercut trees.*

**Buffer :** Width: Left R1: 30 R2: 45 R3: 20 R4 20      Right R1: 20 R2: 40 R3: 15 R4 0

**Quality and composition (overstory trees/shrubs/invasives/lawn):**

*Residential uses on both sides of stream with mowing, utilities and compromised buffers with invasive plant species and undercut trees. The lower reach is all lawn on the right bank.*

**Human activities impacting buffer:** *residential yards, mowing, etc.;*

**Instability Score:** (if multiple reaches are deemed necessary, score separately and then average the total)

SCORE	1	2	3	4	5	Reach			
						1	2	3	4
<b>Veg – Immediate streambank area</b>	Good and consistent root density from top of bank to toe of bank; Bare spots on are rare		Moderate root density and gaps in root systems along reach. Overhanging roots. Tree roots do not extend to channel bed (~1/2 bank height).		Bare spots common; grass or <b>shallow rooting</b> ( $\leq 25\%$ bank height) plants; mostly herbaceous; very sparse trees – <b>low root density and depth</b>	4	4	5	4
<b>Dominant Slope of BKF to top of bank</b>	Connected to floodplain or wide bankfull bench	Banks above bankfull slope back gently (easy walk)	Banks above bankfull slope back steep (difficult walk/climb - $\geq 2:1$ )	Vertical to near vertical banks	N/A - Max score is a 4	4	4	4	2
<b>Mass Erosion (Slumping)</b>	No evidence of past events of mass erosion into the channel	Infrequent and/or very small. Mostly healed over, relatively stable, & may have veg.	Occasional sites of moderate mass erosion contributing sediment; BKF flow results in sediment introduction; toe erosion		Multiple sites at least 2 channel widths in length; Contributing large amounts of sediment <b>OR</b> potential to contribute large amounts	4	3	5	2
<b>Cutting (Banks and Bed)</b>	Limited to some outside bends and constrictions; length of cuts $\leq 1$ bankfull width		Significant portion (~50%) of reach with raw, vertical banks. Root mat overhangs and sloughing prevalent.		<b>Headcuts</b> (multiple $\geq 18"$ or one $\geq 2'$ ) OR almost continuous raw bank over 24" high to bank top. Banks frequently undercut.	5	5	5	1
<b>Scoping Team Score</b>	Problems exist but not that bad of a site in comparison to other county streams	Bank stabilization needed in spots OR channel may be healing	Work needed but may not rise to top tier due to need, benefit, constructability, other issues		Stream needs work and a project would have great environmental benefit	4	4	4	3

Adjustment Points										
	Pools filled with sediment, excessive bar growth, midchannel bar/aggradation (+2)							2		
	Significant portion of reach scoured to bedrock/hardpan (+2)							2		2

**TOTAL INSTABILITY SCORE: 23 / 22 / 25 / 12**

**Headcuts Present: Y / N** Yes in one side channel, and one large bluff (both on left bank)

Massive headcut (5') forms boundary between reaches 2 and 3.

**Restoration Priority and Opportunity: 1 or 3** (select 1-4, see descriptions below; may be combination or vary by reach)

Priority 1 (bankfull channel at historical floodplain elevation)

Priority 3 (widen floodplain at existing elevation)

Priority 2 (new floodplain and stream pattern at present elevation)

Priority 4 (stabilize in place)

**Notes on restoration opportunities, including buffer restoration, outfall restoration:**

This reach has houses near floodplain with very shallow sanitary sewer mains and laterals that limit the degree to which stream invert can be elevated before causing no-rise (flooding) concerns and limit ability to provide cover over sewers. Removal of invasive species, danger trees and buffer restoration as part of project would be very positive for safety, habitat and aesthetics.

**Additional Comments on Site:**

Very strong community interest and partnership with Reston Association and Hunter Mill District Supervisor's office. Need to determine/secure sufficient land rights.

**Planning Score: 15 / 25 Instability Score: R1: 23 R2: 22 R3: 25 R4: 12 / 28 Total Stream Length: 790**