Hydraulic and Geomorphic Assessment Data Form

Form created by Stream Mechanics and modified by Corps on 5/17/2016

I. Bankfull Verification

A. Regional Curve _____

B. Drainage Area _____ sq. miles

C. Difference between bankfull stage and water surface _____ feet

D. Bankfull Width (Measured) _____ feet

E. Bankfull Area (Measured) _____ sq. feet

F. Bankfull Mean Depth (Area/Width) _____ feet

G. Bankfull Width (Regional Curve) _____ feet

H. Bankfull Area (Regional Curve) _____ sq. feet

I. Bankfull Mean Depth (Regional Curve) _____ feet

Area Calculations

II. Stream Classification

A. Bankfull W/D, calculate as $\frac{Bankfull\ Width}{Bankfull\ Mean\ Depth}$ _____ ft/ft.

B. Bankfull Max Riffle Depth (Dmax) _____ feet

C. Floodprone Area Width _____ feet

D. Entrenchment Ratio, calculate as $\frac{Floodprone\ Area\ Width}{Bankfull\ Width}$ _____ ft/ft.

E. Slope Estimate _____ ft/ft.

F. Channel Material Estimate _____

G. Rosgen Stream Type _____

III. Floodplain Connectivity

A. Bank Height/Riffle Data

	R_1	R_2	R_3	R_4
Low Bank Height (LBH)				
Dmax				
Bank Height Ratio (LBH/Dmax)				
Riffle Length				

B. Weighted Bank Height Ration, calculate as $\frac{\Sigma(Bank\ Height\ Ratio_i \text{ x Riffle Length}_i)}{\Sigma Riffle\ Length}$ _____ ft/ft.

C. Entrenchment Ratio from Riffle _____ ft/ft.

IV. Bedform Diversity

A. Pool Data

	P_1	P_2	P_3	P_4	P_5
Station					
Pool to Pool Spacing					
Pool Spacing Ratio, $\frac{Pool\ Spacing}{Bankfull\ Width}$					
Pool Depth (max depth at bankfull)					
Pool Depth Ratio, $\frac{Pool\ Depth}{Bankfull\ Mean\ Depth}$					

B. Average Pool Spacing Ratio _____ ft/ft.

C. Average Pool Depth Ratio _____ ft/ft.

V. Large Woody Debris[4]

A. Number of Pieces per 100m _____

B. Large Woody Debris Index _____

[4] Davis, Jeffrey C., G. Wayne Minshall, Christopher T. Robinson, Peter Landres. Monitoring Wilderness Stream Ecosystems. USDA Forest Service General Technical Report RMRS-GTR-70 (January 2001). http://www.fs.fed.us/rm/pubs/rmrs_gtr070.pdf

VI. Lateral Stability

A. Bank Data

BEHI/NBS[5] Score	Bank Length

B. Total Eroding Bank Length _____ ft.

C. Total Bank Length _____ ft.

D. Dominant BEHI/NBS Score _____

E. Percent of Bank Erosion, calculate as $\frac{Total\ Eroding\ Bank\ Length}{Total\ Bank\ Length}$ _____ %

VI. Riparian Vegetation

A. Riparian Vegetation Data

	Left	Right
Riparian/Buffer Width		
RBP Score		

VII. Channel Evolution

A. Rosgen Channel Type Succession _____

B. Simon Channel Evolution Model (Stage) _____

C. Provide a brief narrative describing the channel evolution trend.

_____

_____

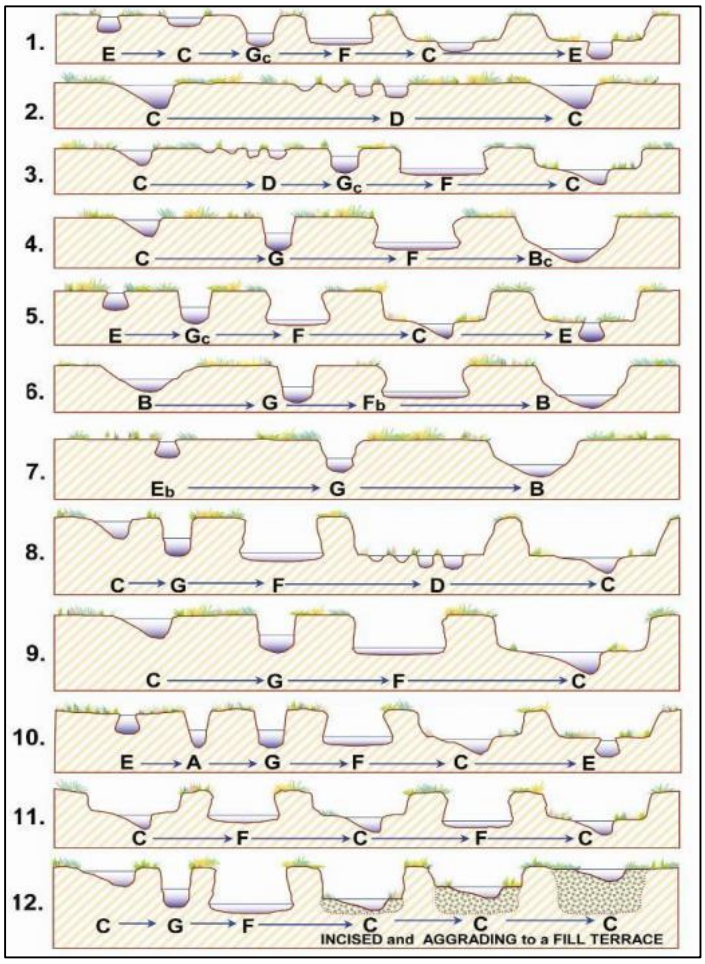
_____

_____

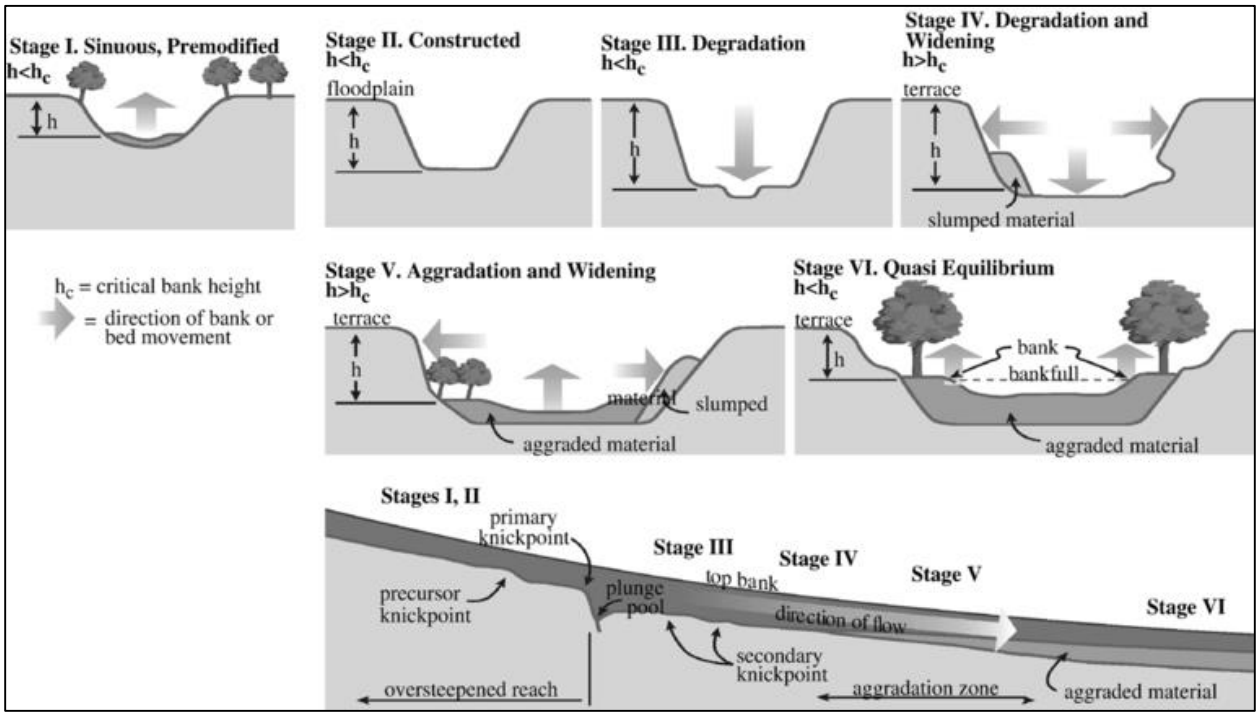
_____

[5] Rosgen, D. 2014. River Stability Field Guide (Second Edition). Wildland Hydrology, Fort Collins, CO.

Rosgen Channel Type Succession Scenarios



Simon Channel Evolution Model



Large Woody Debris Field Form

Name:

Stream Name:	Stream Type:
Reach ID:	Avg. Slope:
Reach Length:	Bed material:
Bankfull Width:	

Reach Descriptions:

	Score					
Pieces	**1**	**2**	**3**	**4**	**5**	**Total**
Length/Bankfull Width						
Diameter						
Location						
Type						
Structure						
Stability						
Orientation						
Total						
Debris Dams						
Length						
Height						
Structure						
Location						
Stability						
Total						

Notes:

LWD Key

	Score				
Pieces	**1**	**2**	**3**	**4**	**5**
Length/Bankfull Width	0.2 to 0.4	0.4 to 0.6	0.6 to 0.8	0.8 to 1.0	> 1.0
Diameter (Cm)	10 to 20	20 to 30	30 to 40	40 to 50	>50
Location	Zone 4		Zone 3	Zone 2	Zone 1
Type	Bridge		Ramp	Submersed	Buried
Structure	Plain		Intermediate		Sticky
Stability	Moveable		Intermediate		Secured
Orientation(degrees)	0 to 20	20 to 40	40 to 60	60 to 80	80 to 90
Debris Dams					
Length (% of bankfull width)	0 to 20	20 to 40	40 to 60	60 to 80	80 to 100
Height (% of bankfull depth)	0 to 20	20 to 40	40 to 60	60 to 80	80 to 100
Structure	Coarse		Intermediate		Fine
Location	Partially high flow	In high flow	Partially low flow	Mid low flow	In low flow
Stability	Moveable		Intermediate		Secured

Diameter Conversion

10 cm	0.33	feet
20 cm	0.66	feet
30 cm	0.98	feet
40 cm	1.3	feet
50 cm	1.6	feet