

EXHIBIT 39

Southside Project

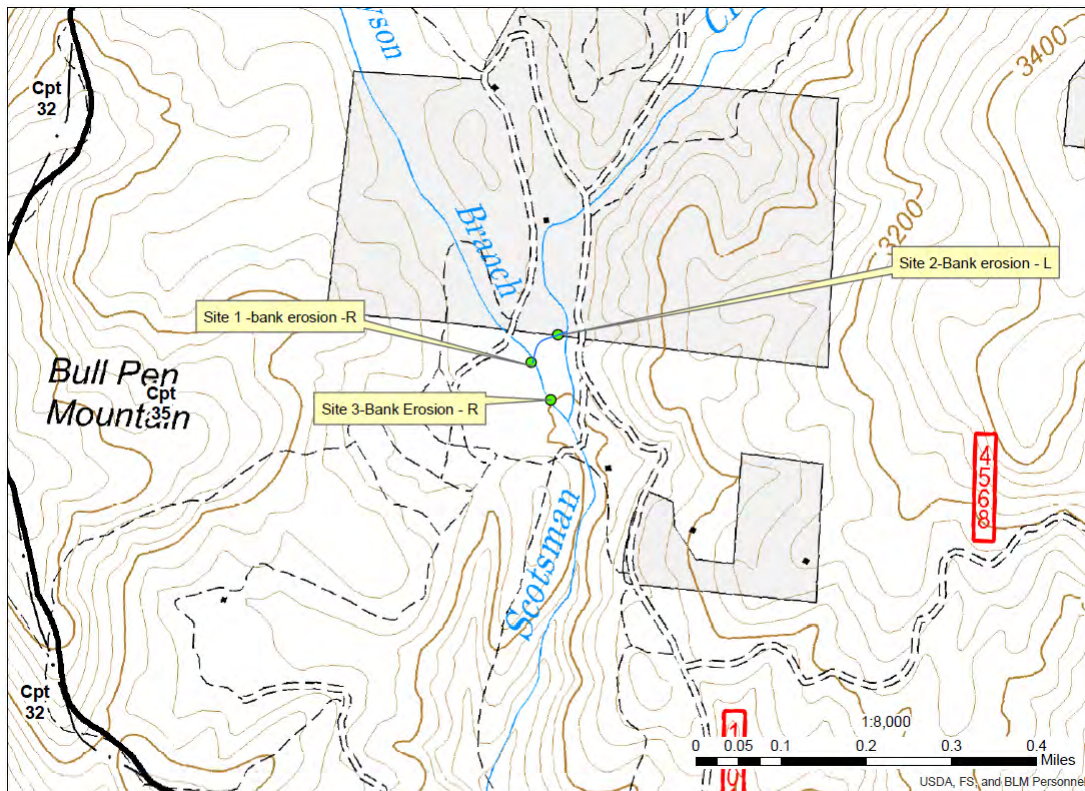
Proposed Scotsman Creek Stream Bank Restoration - 2016

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Three locations along Scotsman Creek (Figure 1) are currently experiencing severe stream bank erosion. Each site has high, steep banks which are contributing sediment to Scotsman Creek. Each site is approximately 50 feet in length (linear length of stream bank) but actual length of ground disturbance may be approximately 100 feet when installing structures. Approximately 100 feet (measured from top of bank perpendicular to stream flow) of material may need to be excavated at each site to construct toe-wood structures, log j-hooks, and multi-stage flood plain.

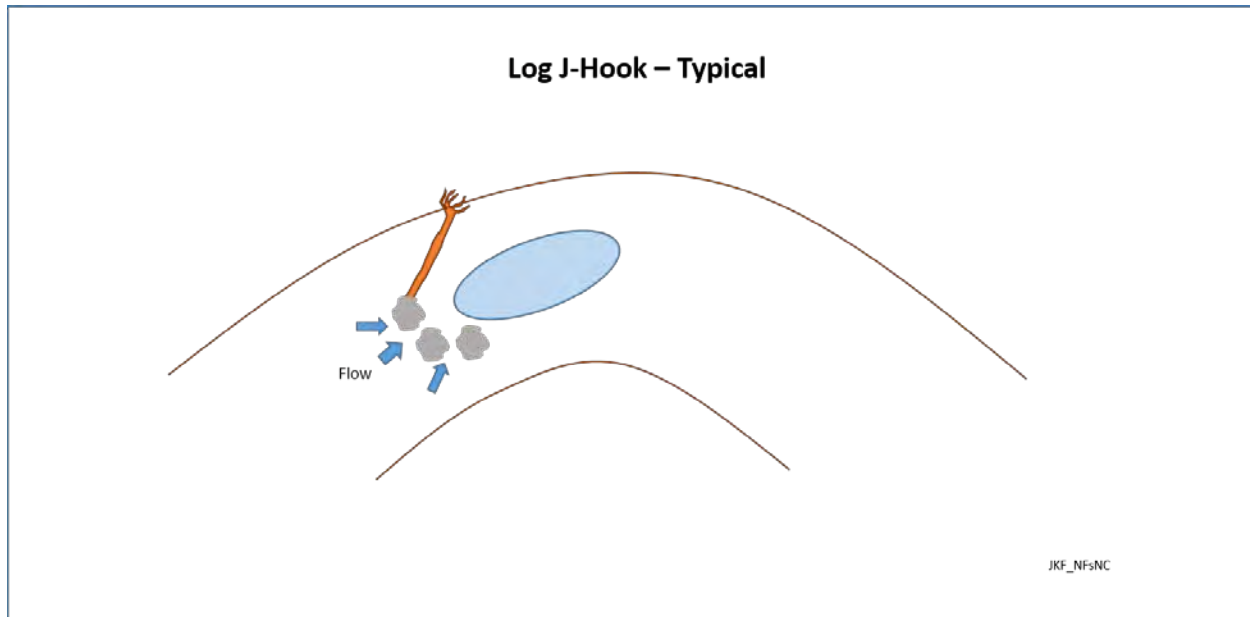
Figure 1. Locations of 3 eroding stream banks. Installation of a log j-hook and toe wood structures would occur at each site.



Project Description

Log J-hook installation would consist of utilizing locally sourced trees with their root wad attached. The tree would be placed into the stream channel using an excavator. The root wad would be placed at an elevation of $\frac{1}{2}$ the stream's bankfull height in the eroding bank (Figure 2). The trunk of the tree would be placed in the channel with its end buried in the substrate, directed upstream.

Figure 2. Typical log J-hook design.



All disturbed soil would be seeded with a riparian seed mixture and stabilized using coir fabric. Live stakes would be installed in the new stream banks to provide advanced revegetation. Existing sod mats from disturbed soils would be salvaged prior to excavation of the banks and used to re-establish riparian vegetation.

The top of the eroding bank would be excavated down to approximately ½ bankfull to allow for the installation of toe wood structures (Figure 3). Locally sourced logs with root wads attached would be used to construct a bank at this new elevation. The new bank would provide a bankfull flow bench and an additional small floodplain before connecting with the existing floodplain. This multi-stage floodplain would reduce the potential for stream bank erosion and chronic sedimentation of the stream.

Figure 3. Cross-sectional view of toe wood structure.

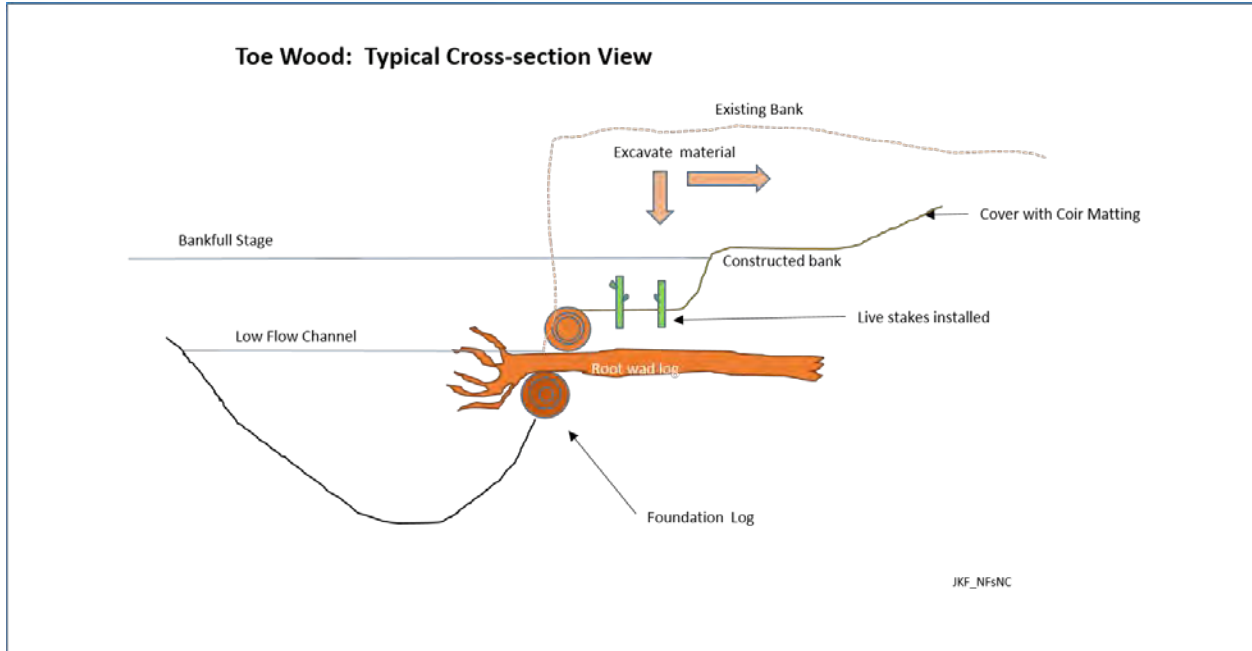


Figure 4. Schematic of log J-hook and toe wood structures

