

**PRIMARY USE:** Minimize bank erosion.

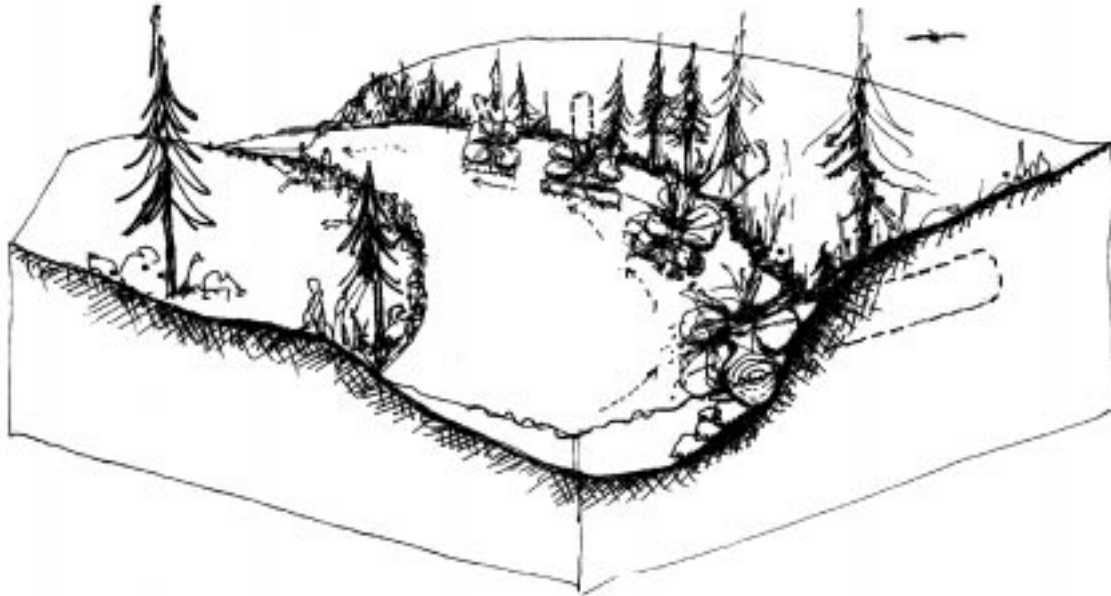
**ADDITIONAL USES:** Improve habitat for aquatic plants and animals, and contribute to food web dynamics.

## LOG, ROOT WAD, AND BOULDER REVETMENT

**What is it?** This is a technique in which logs, root wads, and boulders are placed at strategic locations in and on stream banks.

### Purpose

Log, root wad and boulder revetments provide effective stream bank erosion control in higher velocity streams, trap sediments between components, support restoration of slope vegetation, distribute flow velocities, and create in-stream habitat structure for fish spawning and rearing.



**Native Material Bank Revetment  
Perspective View**

### Limitations

Installation may be expensive because the use of heavy equipment is necessary. This technique relies on the presence of on-site materials.

### Materials

Natural materials found on site. Select 16 in (406 mm) or larger diameter logs that are crooked and have an irregular shape. Select root wads with numerous protrusions and 8-12 ft (2.4-3.7 m) long boles. Select large, irregularly shaped boulders at least one and one-half times the log diameter.

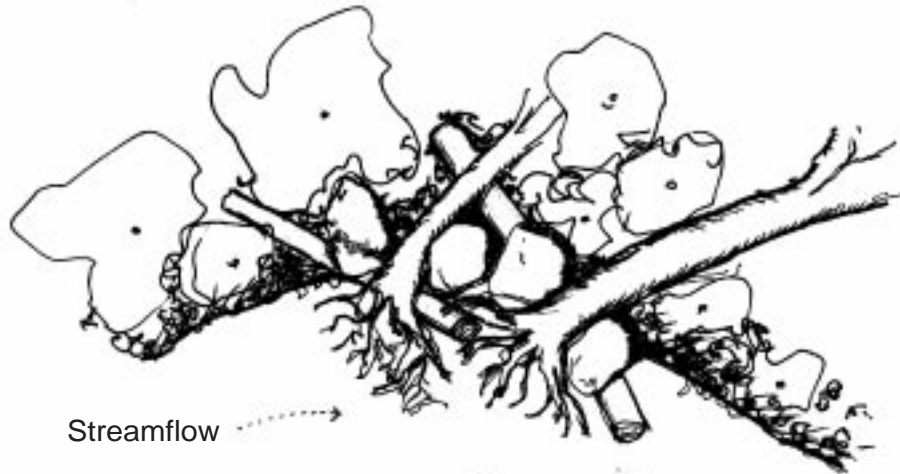
### Installation

Install a footer log at the base, parallel to the stream bank at its mid-section. Use boulders to anchor the footer log. Excavate trenches into the bank for the root wad boles. Orient the trenches to allow placement of the root mass in a way that faces slightly toward the direction of flow and to allow the brace roots to be flush with the stream bank. Backfill and combine vegetative plants and soil bioengineering systems behind and above the root wads. Minimize disturbance to the stream and adjoining areas by scheduling the work when it will interrupt aquatic plants and animals the least.

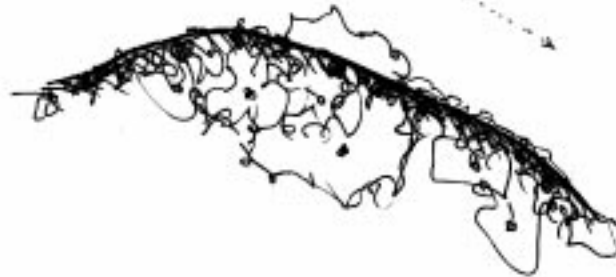
**Source:** [Stream Corridor Restoration Handbook](#), USDA; [Engineering Field Handbook](#), NRCS.

# LOG, ROOT WAD, AND BOULDER REVETMENT

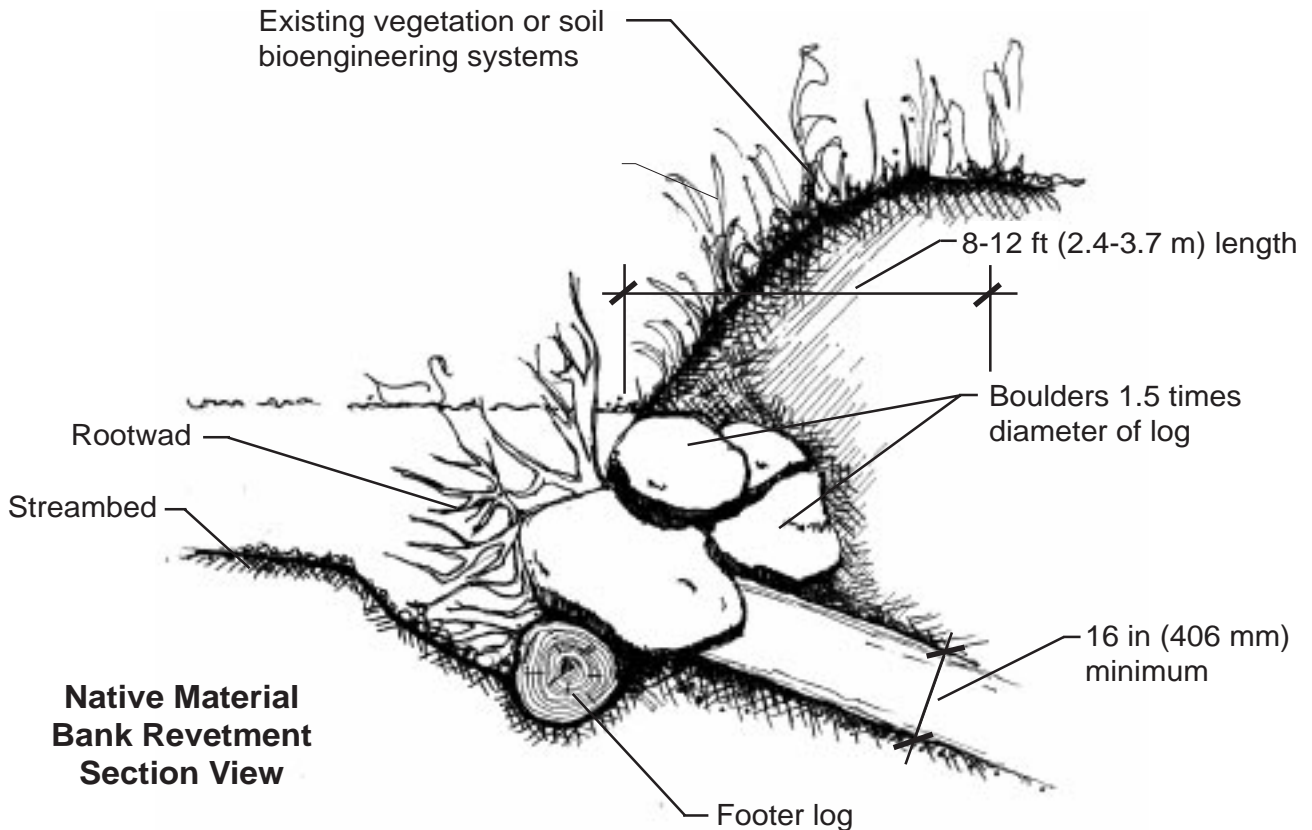
Additional Drawings:



**Native Material Bank Revetment Plan View**



Existing vegetation or soil bioengineering systems



**Native Material Bank Revetment Section View**