

Cedar Tree Revetments



In cooperation with:
Isanti Soil and Water
Conservation District

What is a Cedar Tree Revetment?

Cedar Tree Revetments are a riverbank stabilization method that uses Eastern red cedar trees anchored along an eroding stream bank. The trees serve as soft, natural armor and greatly slow the current along the eroding bank. This decreases erosion and allows silt and sand to be deposited. The deposited material forms a good bed in which the seeds of riverbank plants such as sedges can sprout and grow. By the time the revetment trees have decayed, the bank should be stabilized by the roots of new growth and accumulated sediment. Cedar trees are suitable for mild to moderate erosion. For vertical banks more than 5 ft tall or areas of high water velocity, revetment may be inadequate.



Why install a Cedar Tree Revetment?

Cedar Tree Revetments are a low cost, environmentally friendly option to stabilize eroding streambanks. Revetments will slow or stop the erosion and reduce the likelihood of a much larger and more expensive corrective project in the future. Streambank erosion delivers sediment and other pollutants into streams, reduces nearshore habitat, and threatens properties. Different trees and types of brush can be used for revetments but tend to deteriorate more quickly than cedar trees, which are naturally rot resistant and allow for riverbanks to stabilize. Additionally, Eastern red cedars are considered nuisance species especially in Minnesota's open prairie landscapes.

How will my revetment be installed?

Cedar trees will be harvested from a local source and delivered to project sites. Revetments are installed by Anoka Conservation District (ACD) staff and a Conservation Corps of Minnesota crew. The trees will be placed snugly against the toe of the bank, with the bottom of the tree facing upstream. Trees will be overlapped and adjacent trees will be cabled together. A duckbill anchor will be attached to each tree and driven into the bank. Tree will be installed, one to three rows high based on the height of the bank. Lastly, live willow stakes may be planted.



What will happen to my revetment over time?

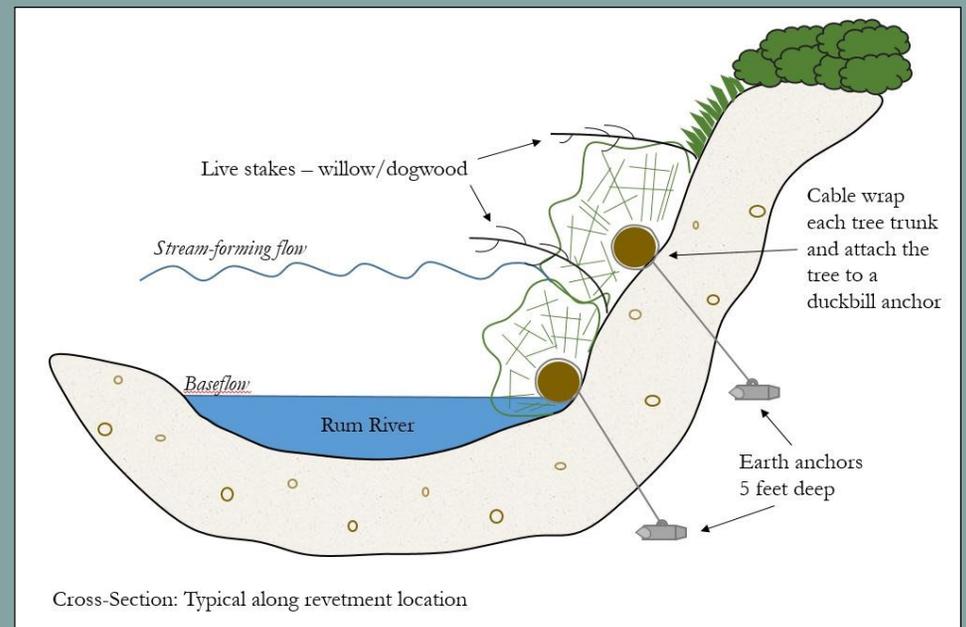
When revetments are installed the trees are green. However, since the trees are dead, the needles will begin to turn brown and eventually fall off. Even without needles the cedar tree's dense branches can effectively protect the bank. With willow stakes installed, the area should soon become green again with new vegetation growth. Cedar trees are naturally rot resistant but will fully decay after approximately 10 years, giving enough time for sediment collection and new vegetation to establish.

For more information or
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How much will my revetment cost?

Grant funding for the installation of cedar tree revetments along the Rum River was provided to Anoka and Isanti Soil and Water Conservation Districts by the MN Department of Natural Resources as part of the Clean Water, Land and Legacy Amendment. One grant is provided through the Outdoor Heritage Fund and the other is through Conservation Partners Legacy program. The grants cover the majority of the cost of a cedar tree revetment but do require homeowners to contribute 10% of the total project cost. Project costs vary based on the size of the eroding bank. In the past, landowner contribution has ranged from \$400 to \$1,000.

