



**PROJECT PROFILE**

# CEDAR CREEK CONSERVATION AREA STREAMBANK STABILIZATION



Streambank  
Stabilization



### Project Summary

This project stabilized 490 feet of severely eroding bank along the scenic and recreational Rum River within the Cedar Creek Conservation Area (CCCA). The site was identified as a stabilization priority in a 2010 Rum River Field Assessment conducted by the Anoka Conservation District (ACD). The assessment studied 16 river miles and documented 9 stretches of moderate or severe erosion. All 9 stretches, including this one, were contributing excess sediment and nutrients to the river. The excess sediment increases turbidity and smothers spawning beds while the phosphorus contributes to clarity-reducing algal growth. Stabilization of this cut bank was accomplished using a mix of hard armoring and more ecologically beneficial bioengineering. It involved regrading, riprap inter-planted with willow stakes at the toe of the bank, and seeding of native plants from the top of the riprap to the top of the slope. Additionally, four bendway weirs were installed instream to dissipate energy along the cut bank of the river. The project cost \$136,269.31 and reduced TSS by 245,000 lbs/yr and TP by 165.4 lbs/yr. In addition to improving water quality, it also improved near-shore and instream habitat. Funding for the project was provided by the Lessard-Sams Outdoor Heritage Council (LSOHC) and Anoka County. Project management and additional funding was provided by ACD.



### Project Specs

Linear Feet Stabilized ..... 490 ft  
 Date Installed ..... Fall 2015  
 TSS Reduction (lbs/yr) ... 245,000  
 TP Reduction (lbs/yr) ..... 165.4

### Project Expenses

Install/Materials ..... \$122,023.00  
 Prof. Services ..... \$7,287.41  
 Admin./Mgmt.....\$6,958.90  
 Total .....\$136,269.31

### Project Funding

LSOHC .....\$110,000.00  
 Anoka County .....\$24,310.41  
 ACD ..... \$1,958.90  
 Total .....\$136,269.31



Length	Eroding Face	Lateral Recession Rate	TSS Reductions	TP Reductions
ft	ft	ft/yr	lbs/yr	lbs/yr
490	10	0.5	245,000	165.4
<b>Annual Project Total</b>			<b>245,000 lbs</b>	<b>165.4 lbs</b>
<b>10 Yr Project Total</b>			<b>2,450,000 lbs</b>	<b>1,654.0 lbs</b>
<b>Benefit / \$100 Spent (10 years)</b>			<b>1,797.9 lbs</b>	<b>1.2 lbs</b>
<b>10 Yr Cost/Unit</b>			<b>\$0.06/lb</b>	<b>\$82.4/lb</b>

## Pre-Project

Pre-project conditions consisted of a severely eroding 490 linear foot section of riverbank on the Rum River within the Cedar Creek Conservation Area. The bank is positioned on an outside bend of the river, called a cut bank. Cut banks are subject to the highest erosive forces in the river. As shown in the picture to the right, the bank had eroded so much that it undermined an existing fence post. Furthermore, the erosion contributed excessive sediment and nutrients into the river. Thanks to interest from Anoka County and additional funding obtained from Lessard-Sams Outdoor Heritage Funds, a streambank stabilization was designed and installed to stabilize the site.



## Installation

During the summer of 2015, the streambank was regraded, riprap was installed at the toe of the slope, and four bendway weirs were installed instream. A five-foot wide bench was regraded to a 10:1 slope just above the riprap and above that level bench the streambank was regraded to a 3:1 to 4:1 slope.



## Vegetation

During the fall of 2015, live willow stakes were installed throughout the riprap and a variety of native grasses and forbs were seeded above the riprap to provide stabilization and enhance habitat.

