



# 2021 Middle Creek Restoration at Highview Ave



## Overview

Middle Creek (tributary to the Vermillion River) had significant historic bank erosion and stream channel incision, leading to the classification of the water as impaired for biological communities. In 2020, through a partnership with the Vermillion River Watershed Joint Powers Organization (VRWJPO), the City was awarded \$430,000 to restore approximately 1 mile of the impaired stream near the intersection of Dodd and Highview, within the new Pinnacle Reserve development. Grant funding for the restoration was available from 2020-2021.

Coupling the restoration with new development has added a wide stream buffer, rate control ponds and volume control practices that will: stabilize channel banks, reduce erosion caused by previous high water flows from agricultural practices, and diversify woodland and understory species that line the banks.



## Funding

Grant funding: \$380,000  
City of Lakeville: \$100,000  
VRWJPO: \$50,000

**Project Cost: \$530,000**

## Practices

- ◆ Stream restoration
- ◆ Water quality enhancement
- ◆ Rate and volume control
- ◆ Habitat creation

## Benefits

- ◆ Nonpoint pollution reduction (sediment and phosphorus)
- ◆ Sustainable stream flow
- ◆ Woodland sustainability

## Partners

- ◆ VRWJPO
- ◆ MN DNR
- ◆ BWSR

## Contractor

- ◆ Wenck Engineering
- ◆ Sunram Construction

## Timeline

- ◆ Construction initiation—January
- ◆ Final stabilization—August

*Project made possible with funding assistance from Minnesota's Clean Water Fund*





8-ft bank erosion

(Left) Prior to restoration, steep slope grades shaped by years of high velocity flows contributed significant sediment volumes to the stream.

(Right) As part of the restoration, slopes were shaped to support more controlled flow regimes, mimicking the contours of a natural stream course.



Post-Restoration



(Above) Placing veins of rip rap (larger diameter rock) along the channel helps disperse stream flow energy, keeping channel sediment in place.



(Right) Thinning tree growth along the channel brings additional light to the woodland understory, allowing native ground species to flourish.



(Left) Reshaping bank slopes takes place prior to spreading of native seed and stabilizing using erosion control blanket along the south channel of the restoration. All up-slope areas that equipment used to access bank slopes were seeded with a native ground cover and stabilized using straw mulch.