



Capital Improvement Project

Ravenna Township: Ravenna Trail Ravine Stabilization

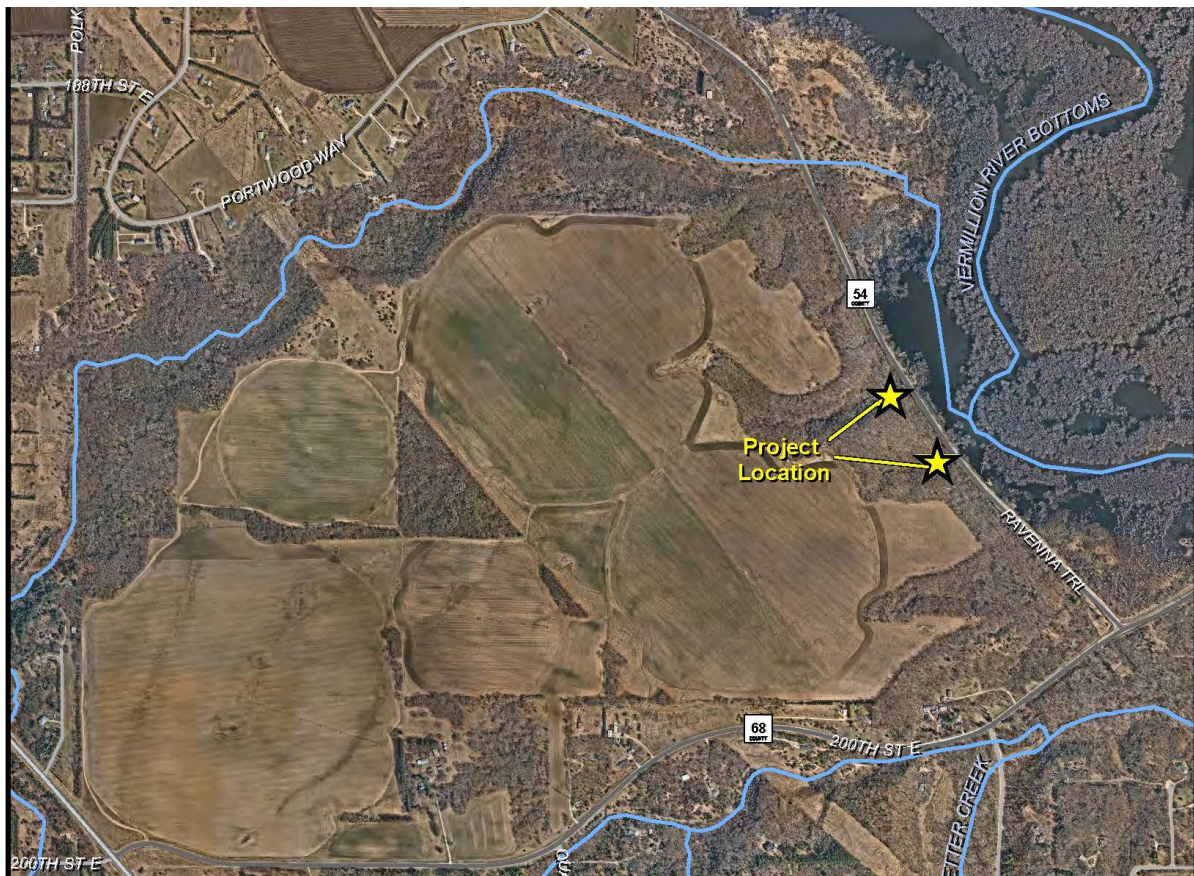


Figure 1. An aerial map of the locations of the Ravenna Ravine Stabilization Project and the surrounding lands and waterways.

Portions of the lower Vermillion River abut steep hillsides and bluffs near Ravenna Trail. During rain events, eroded ravines in these hillsides wash sediment across Ravenna Trail and deposit the material into the Vermillion River, which creates turbidity, total suspended solids (TSS), and total phosphorus (TP) issues. The Dakota County Soil & Water Conservation District identified erosion issues in these ravines in the late 1990s and completed water control projects above the ravines as recently as 2012. However, channel degradation persisted in the highly erodible soil downstream of the water control projects.

Two ravine stabilization projects consisting of rock check dams, slope stabilization, and grade control were initiated in 2023 to alleviate chronic erosion and sediment deposits in the Vermillion River. Once the projects are completed in 2024, improvements to the ravines will help re-establish downstream water quality to restore popular fishing and recreation areas for local communities.

Partners:

- Vermillion River Watershed Joint Powers Organization
- Dakota County Environmental Resources & Transportation Departments
- Dakota County Soil & Water Conservation District
- Minnesota Board of Water & Soil Resources (BWSR)

Installation:

- 2023-24

Location:

- Ravenna Township

Watershed:

- Vermillion River

Costs and Contributions (Estimated):

- VRWJPO: \$5,000 for In-Kind Grant administration/coordination, \$35,000 in cash match for engineering, permitting, and construction
- Dakota County: \$165,000 for construction and project management
- Dakota County SWCD: Technical assistance
- BWSR: \$495,000 from competitive Clean Water Fund grant for technical engineering/assistance and construction

Benefits:

- It is estimated that the project will reduce TSS pollution by 130 tons/year and TP pollution by 78 pounds/year.
- The project will help restore the lower Vermillion River, a popular reach for fishing, paddle-sports, and other aquatic recreation, and benefit fish and macroinvertebrate habitat that can be inundated by sediment.



Figure 2. Pre-project, a heavily eroded section of the ravine.



Figure 3. Stabilized area of the ravine, December 2023.



A grant from the Clean Water Fund, one of four funds established by the Clean Water, Land & Legacy Amendment, supports this project. [Clean Water Stories](#) can be found on the Minnesota Board of Water and Soil Resources website.