



## Capital Improvement Project Hastings: 21<sup>st</sup> St. Stormwater Improvements



Pre-construction filtration  
basin site

A hydrodynamic separator is a structural practice that can remove sediment from stormwater using cyclonic and sediment settling action to improve water quality.

### Vermillion River Watershed Joint Powers Organization

4100 220<sup>th</sup> Street, Suite 103  
Farmington, MN 55024  
952-891-7000

[vrwjpo@co.dakota.mn.us](mailto:vrwjpo@co.dakota.mn.us)  
[www.vermillionriverwatershed.org](http://www.vermillionriverwatershed.org)

Follow us



### Improving the Vermillion River

The Vermillion River is a very visible and desirable resource as it flows right through the middle of Hastings. Trail users, kayakers, and other recreationists extensively use the River, as do fish and other organisms who live within it. Improving the River's water quality makes for a more pleasurable user experience and addresses habitat stressor for those biological communities that call it home.

In planning to improve 21<sup>st</sup> St., the City of Hastings wanted to also construct some water quality improvements along the 21<sup>st</sup> St. corridor. The Vermillion River Watershed Joint Powers Organization worked with the City to identify potential projects that would reduce the pollutants from entering the river. Three projects were constructed to reduce sediment and phosphorus from reaching the river. A natural basin at the base of a ravine was improved to capture and retain pollutants, a filtration basin was constructed to capture sediments from 21<sup>st</sup> St. and an industrial site, and a hydrodynamic separator was installed to capture sediments from 21<sup>st</sup> St.

By working together, the City and the Vermillion River Watershed Joint Powers Organization aim to reduce the primary stressor affecting the Vermillion River's fish and macroinvertebrate populations and improve the recreational user's experience. By reducing sediment from reaching the River, phosphorus is also reduced, which results in less algae in the River.

### Problem:

- High amounts of sediment and phosphorus entering the Vermillion River negatively affecting fish and macroinvertebrate populations
- A less desirable user-experience for those recreating in or near the Vermillion River

### Actions:

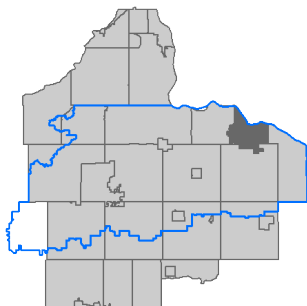
- A hydrodynamic separator was installed in an existing stormwater pipe to remove pollutants from 21<sup>st</sup> St. from reaching the River
- A filtration basin was installed to remove pollutants from 21<sup>st</sup> St. and an industrial site
- A natural basin at the base of a ravine was improved to better capture and retain pollutants

### Benefits:

- Reduces total suspended solids and phosphorus by 8.9 tons/year and 20.4 lbs./year, respectively
- Reduces the stressors to the fish and macroinvertebrate communities within the Vermillion River
- Improvements in the Vermillion River result in improved water quality in the Mississippi River
- Improved user-experience for those recreating in or near the Vermillion River

### Costs and contributions:

- Vermillion River Watershed Joint Powers Organization: \$106,554 cash match
- City of Hastings: \$64,103 in cash match
- Clean Water Fund: \$88,750 in grant funds
- Cemstone: In-kind concrete installation and maintenance



City of Hastings, MN  
near Vermillion Falls Park

21<sup>st</sup> St. is within 200 feet of the Vermillion River, which makes it a high value target for the removal of pollutants



Post-construction filtration basin site

A project completed cooperatively by:

- Vermillion River Watershed Joint Powers Organization
- City of Hastings
- Cemstone
- Clean Water Fund Grant

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

