



## Capital Improvement Project

Before



# Lakeville: Hamburg Ave. Stormwater Improvement Project

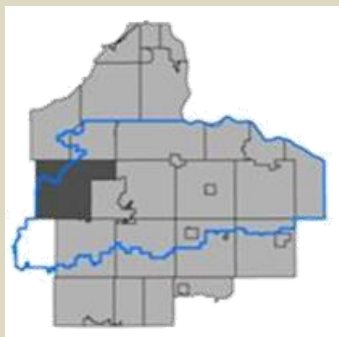
## Road project leads to better water quality

Reconstruction of nearly a mile of Hamburg Ave. in Lakeville provided an opportunity for improved ditch drainage, pollutant reduction, and stormwater storage in the AirLake Industrial Park. By combining the road reconstruction and stormwater improvements, partners achieved cost efficiency and multiple public benefits.

A project completed cooperatively by:

- Vermillion River Watershed Joint Powers Organization
- City of Lakeville
- Dakota County Soil and Water Conservation District

Location

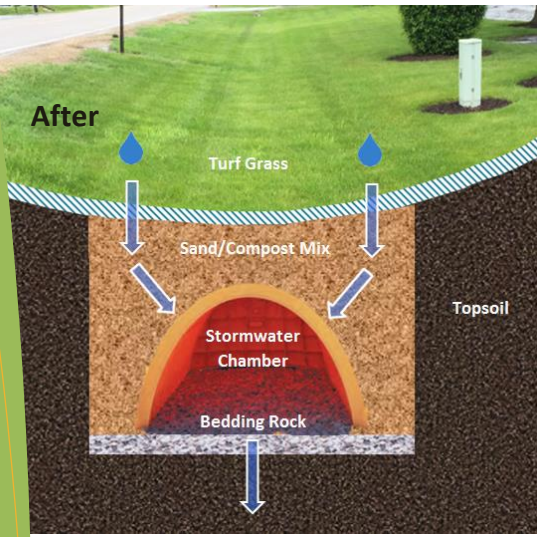


City of Lakeville, Minn.  
Hamburg Ave. between  
220<sup>th</sup> St. and Lakeville Blvd.

Integrating stormwater improvements into road construction projects is one successful strategy to improve both local infrastructure and water quality in the Vermillion River system. The City of Lakeville planned to reconstruct nearly a mile of Hamburg Ave. between 220<sup>th</sup> St. and Lakeville Blvd. within the AirLake Industrial Park in 2015. Lakeville staff identified drainage problems within the road ditches along Hamburg Avenue and Vermillion River Watershed Joint Powers Organization (VRWJPO) staff identified this area as a high priority for water quality improvements. The ditches drain to South Creek, a Minnesota Department of Natural Resources (DNR) designated trout stream and tributary to the Vermillion River

Local businesses along Hamburg Ave. struggled with ditches that didn't drain properly and poor visual appeal. Some of these ditch problems were caused by culverts pinched or crushed over time, but another factor was sediment build-up that restricted water infiltration. City maintenance crews routinely visited this area to deal with drainage issues and sediment build-up.

The City replaced culverts with concrete pipes and regraded the ditches during the road reconstruction project to allow better drainage. At the same time, an innovative underground stormwater chamber system installed in the ditch bottoms allowed increased stormwater storage and better infiltration, reduced sediment loading, and allows less maintenance time and cost for the City. The collaboration benefits businesses in AirLake Industrial Park, road users, taxpayers, the City, South Creek, and the Vermillion River.



The amount of impervious surface (pavement, buildings, parking lots) within the AirLake Industrial Park makes this area a high priority for stormwater improvements. The Hamburg Ave. project slows stormwater runoff from paved surfaces, allowing it to infiltrate to reduce pollutants and replenish groundwater.



#### Vermillion River Watershed Joint Powers Organization

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The Vermillion River is a vital natural resource that is important to public health and recreation, as well as to preserving unique wildlife habitats. It flows from New Market Township in Scott County, through residential and agricultural areas in central Dakota County, and cascades into a 100-foot ravine before it enters the Mississippi River near the Cities of Hastings and Red Wing, Minnesota. Throughout its journey, the river reflects urban and rural life within its 335-square-mile watershed.

#### Problem:

- ❑ Ditches along Hamburg Ave. businesses didn't drain properly and had poor visual appeal.
- ❑ Culverts in the ditches had been pinched or crushed over time, restricting water flow and causing occasional flooding.
- ❑ Sediment build-up in the ditches restricted water infiltration and required regular maintenance by City staff.
- ❑ Large amounts of impervious surface (such as pavement, buildings, and parking lots) in AirLake Industrial Park increased the amount of stormwater and pollutants reaching South Creek and the Vermillion River.

#### Actions:

- ❑ Graded the ditches, replaced pinched or crushed culverts with concrete pipes during the road reconstruction project to allow for better drainage
- ❑ Installed a stormwater chamber system in the ditch bottoms to store stormwater, replenish groundwater, help maintain base flow to South Creek, and remove pollutants
- ❑ Re-seeded the area to improve visual appeal

#### Benefits:

- ❑ Improves ditch drainage
- ❑ Reduces sediment load to South Creek by 7.12 tons/year
- ❑ Reduces phosphorus load by almost 13 lbs./year
- ❑ Reduces stormwater volume by 17.46 acre-ft./year and replenishes groundwater
- ❑ Reduces City maintenance requirements

#### Costs and contributions:

- ❑ Vermillion River Watershed: \$140,000 for stormwater chamber system installation
- ❑ Dakota County SWCD: Technical assistance and construction oversight
- ❑ City of Lakeville: \$51,488 for stormwater chamber system installation, project design, and construction oversight. The City will also perform long-term maintenance.
- ❑ Clean Water Fund: \$50,000 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.