



Capital Improvement Project

Lakeville: King Park Stormwater Pond Reuse System- Phase 2



After

A new stormwater pond in the City of Lakeville's King Park was fitted with a pump system and an irrigation network for two baseball fields. Less stormwater will reach Middle Creek, and reusing the stormwater reduces demand on the municipal water supply.

The project was completed cooperatively by the:

- City of Lakeville
- Vermillion River Watershed Joint Powers Organization (VRWJPO)
- Dakota County



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.

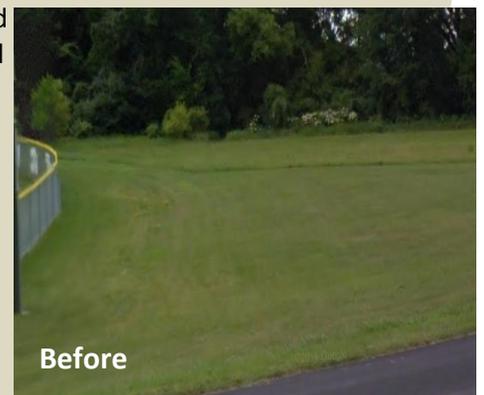
Using Less of Lakeville's Water Supply and Reducing Pollutants in Middle Creek

King Park is a highly-used baseball field complex in the City of Lakeville. A project, completed in 2011, fostered irrigating two ball fields with stormwater from a pond at the north end of the park.

When Dakota County reconstructed a portion of Dodd Boulevard in 2016, a large pond was built at the south end of the park to capture stormwater runoff from the road. The City wanted to capitalize on the success of the 2011 project by using the south pond for irrigation too. A pump system draws water from the pond and irrigates two ball fields, with plans to eventually irrigate all ball fields using stormwater.

This portion of the City drains to Middle Creek, an impaired water body. Middle Creek's water quality problems can be improved by reducing the amount of stormwater runoff. The use of stormwater rather than groundwater from the municipal water supply to irrigate the landscape conserves Lakeville's drinking water source, as well as demonstrating smart water use and conservation.

Cost-share funding from the VRWJPO and a Clean Water Fund Grant from the Minnesota Board of Water and Soil Resources enabled Dakota County and the City of Lakeville to install the pump and irrigation system.



Before

Pump System



City of Lakeville, MN within the Vermillion River Watershed.



Vermillion River Watershed Joint Powers Organization

14955 Galaxie Avenue
Apple Valley, MN 55124
www.dakotacounty.us
952-891-7000

The Vermillion River is a vital natural resource that is important to public health and recreation, as well as 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:

- Middle Creek is impaired due to excess pollutant-carrying stormwater runoff.
- The demand on the municipal water supply is high, especially during the summer months.
- City residents expect green lawns on public park lands.

Actions:

- Install a pump system to draw water from a stormwater pond on the south end of the park.
- Install an irrigation network on two southern baseball fields to apply the stormwater to the fields.

Benefits:

- Reduces the use of 3.1-million gallons/year of municipal water supply to irrigate the baseball fields.
- Reduces loads in Middle Creek by:
 - 1,416 lbs/year total suspended solids
 - 4.3 lbs/year phosphorus
 - 2.4×10^{16} mpn/100 mL/year *E. coli* bacteria
 - 415,562 ft³/year of excess water volume
- Increases effectiveness of irrigation, because stormwater originates as soft rain water, contains nutrients, and is better for application to grass.
- Allows for education, outreach, and stewardship.

Costs and contributions:

- City of Lakeville: \$17,725 – engineering, labor, and maintenance
- Dakota County: \$21,665 – construction mgmt.
- Vermillion River Watershed Joint Powers Organization: \$39,390 – cost share
- Clean Water Fund: \$78,500 grant



Project completed October 2016