Capital Improvement Project

Lakeville: Aronson Park Stormwater Reuse Project

Pairing stored stormwater with the demand for irrigation in Aronson Park makes use of an available resource, helps reduce erosion in South Creek by reducing the stormwater volume put into the creek, reduces the delivery of phosphorus to the creek, and reduces the use of the City water supply

Making use of stormwater and protecting South Creek

Aronson Park in Lakeville sits directly adjacent to the upper reaches of South Creek. Its ballfields require a significant amount of irrigation during most years to maintain health turf for their respective activities. Stormwater runoff from the surrounding roads and developments is ample, and pairing the surplus stormwater with the irrigation need was a good match for water quality.

The pairing became reality when Dakota County and the City of Lakeville planned reconstruction of County Road 50 (202nd Street West) along the park. VRWJPO staff worked with the City, County, and an area developer to repurpose a stormwater pond and install pumping and treatment infrastructure for reuse. With reconstruction of the road and parkland, new piping and irrigation lines could be installed to bring the stormwater to its paired use.

Soils near Aronson Park do not allow for much rain to soak in, so pretty much all rain that falls here makes it to South Creek. Irrigating with collected stormwater allows it to be used locally, reducing flows in South Creek and helping reduce erosion downstream in critical trout reaches, and reduces the use of the City water supply. Using the stormwater also keeps pollutants like phosphorus out of South Creek. The project is expected to reduce volume reaching the Creek by 11.7 acre-feet per year and reduce phosphorus by 7.8 pounds per year.

Contractors completed construction in 2020, and verification of system functionality and operation was completed in 2021.

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Problem:

- Rainfall that falls around Aronson Park reaches South Creek, where it can contribute to bank erosion and water quality concerns
- Park field irrigation uses a significant amount of City water to meet use expectations

Actions:

- Reconfigured a stormwater ponding area to allow for stormwater use at the area park
- Installed pumping and treatment infrastructure for use
- Collaborated with project partners to install piping and irrigation lines to make use of stormwater as a resource

Benefits:

- Reduces the volume of water reaching South Creek by 11.7 acre-feet per year and reduces phosphorus delivery to the creek by 7.8 pounds per year
- Reduces reliance on and use of City water supply for irrigation
- Helps reduce bank erosion in critical trout stream reaches of South Creek downstream
- Brings attention to upper South Creek in the area around the park

Costs and contributions:

- Vermillion River Watershed Joint Powers Organization: $29,450 in cash match and design coordination
- City of Lakeville: $269,769 of cash match as well as installation coordination
- Dakota County: Partnered with City on project design and provided construction oversight
- Clean Water Fund: $70,550 in grant funding

2/2022

Using stormwater for irrigation reduces the demand on City resources in critical times of the year

A project completed cooperatively by:

- Vermillion River Watershed Joint Powers Organization
- City of Lakeville
- Dakota County
- 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.

CLEAN WATER LAND & LEGACY AMENDMENT