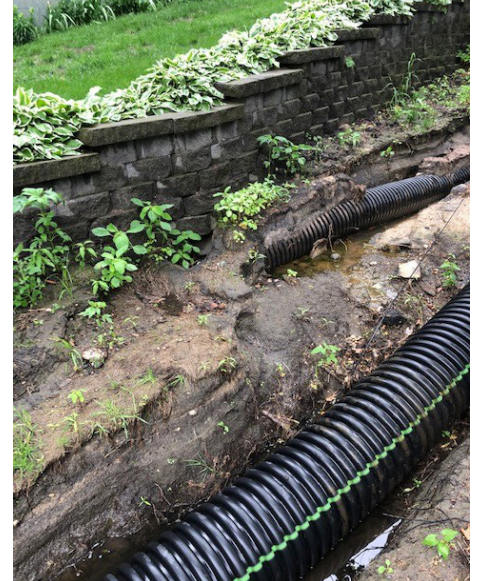


Circle Lake: One fix, two properties



COVID-19 put many conservation projects on pause. Rice SWCD staff weathered change orders, material shortages and price fluctuations to respond to a request from neighbors. Water quality will benefit from landowners' work supported by the lake improvement district. It's one step toward big-picture goals.



FUNDING: The \$19,225 cost was covered by \$15,740 in local capacity funds (a direct Clean Water Fund appropriation from BWSR to SWCDs) from two fiscal years for construction, plus technical support from Rice SWCD and the Southeast SWCD Technical Support JPB; and a \$3,485 landowner and LID match

LONSDALE — It started out as a simple request, backed by a series of photos shot after a heavy rain. Neighbors Ben and Rachel Streiff and Pete Cook moved to Circle Lake to be close to nature, enjoy outdoor recreation and take in the sunsets. But a growing gully between their two properties threatened that enjoyment.

When the gully persisted after heavy rains washed away their own attempts and a landscaper's efforts, the neighbors knew it was time to contact the Rice Soil & Water Conservation District (SWCD).

The 837-acre lake, added to Minnesota's impaired waters list in 2006 due to excess nutrients, sits on the fringe of the Twin Cities metropolitan area, roughly 7 miles southeast of Lonsdale. The lake is hyper-eutrophic — very nutrient-rich, with frequent and severe algal blooms and low water clarity. It's also shallow,

with a maximum depth of 14 feet. Houses line its shore. The adjacent land is in agricultural production.

An active lake association was part of what attracted Ben and Rachel Streiff to Circle Lake. The Circle Lake Association established the Circle Lake Improvement District in 2019 to generate money for projects that move the lake closer to removal from MPCA's impaired waters list. To Ben Streiff, the lake association's hard work to improve the lake seemed rare. He wanted to be a part of it.

"Growing up, my aunt and uncle lived along Mink Lake near Maple Lake, and when I was younger, they did a project and it drastically improved the water. The lake became crystal clear, with bass and sunfish. It was always in my mind with a lake association that's active and has the lake's best interest in mind."

BEFORE: The worsening gully between neighboring properties on Circle Lake southeast of Lonsdale is shown on June 21, 2019. Landowners worked with Rice SWCD staff and Southeast SWCD Technical Support JPB staff on a solution. To fund the work, the SWCD used local capacity dollars — provided by Clean Water Funds from BWSR — and matching dollars from the landowners and the Circle Lake Improvement District.

Photo Credits: Emmie Scheffler, Rice SWCD



AFTER: The completed project, seen here on July 21, 2021, incorporated new tile and a regraded slope covered by erosion control fabric made of jute. It will keep an estimated 2.1 tons of sediment and 2.1 pounds of phosphorus out of Circle Lake each year.

Good things happen when individuals work together with a common goal, Streiff added.

Rice SWCD technician Emmie Scheffler received Ben Streiff's email request. She served as the liaison among the property owners and Chris Nelson, an engineering technician with the Southeast SWCD Technical Support Joint Powers Board (JPB).

A heavy rain in June 2019 prompted the landowners to contact Rice SWCD.

The land around the drainage tile continued to erode, forming a gully between the Streiff and Cook properties. Sections of the tile were missing or not reinforced.

While both landowners had attempted to stabilize the gully, the erosion continued, and mini sinkholes continued to form. Eventually, the draw between them deteriorated

“ Working with the SWCD was a good experience. We were happy to have them on our side because they know what to look for. We tried ourselves; didn't work. Hired a landscaper; didn't work. It's nice to have an expert in the field explain how it should be and what would work. ”

— Ben Streiff, landowner, on working with Rice SWCD staff

to the point where the retaining wall on Cook's property and sediment along both yards were washing into the lake. The gully was more than they could repair. A landscaper fixed the site, but subsequent rains washed away the repairs.

Meanwhile, the erosion worsened.

Nelson described a sediment plume of soil that entered the lake. Led by Nelson, the JPB determined the best option was to replace the failing tile.

The COVID-19 pandemic added complexity to the project. After Nelson designed it and a contractor was selected, the homeowners learned of statewide PVC piping and materials shortages. The cost of materials fluctuated from \$9 to \$32 per linear foot. The result: A project redesign.

Frustrated, the homeowners contemplated waiting one year. But after talking to Scheffler and Nelson, they decided to move forward.

Nelson redesigned the project, which was then

re-bid. Ultimately, the landowners selected a new contractor. The new design incorporated materials that were more readily available and reasonably priced. Nelson reduced the scope of the project, resulting in fewer, more heavily reinforced joints. New materials connected to existing systems. The redesign met the USDA's Natural Resources Conservation Service (NRCS) specifications.

Streiff said the new design worked out better — it preserved the privacy they greatly appreciated by retaining a few trees and lilacs that otherwise would have been removed.

Work finished on July 10.

The project's estimated annual pollution reductions include 2.1 tons of sediment and 2.1 pounds of phosphorus. It's estimated to curb soil erosion by slightly more than 6 tons a year.