



Thames River

PHOSPHORUS REDUCTION COLLABORATIVE

Project Progress – May, 2021

Salford, Ontario

Site:

A pig barn with manure storage on a hill surrounded by a 100-acre field that was tilled in December 2018. Part of the field slopes to the east and the remainder slopes to the west. The drainage system conducts water to Reynolds Creek and ultimately to the Lower Thames near Putnam.

The field is cropped on a rotational basis using corn, soybeans and winter wheat. Pig manure is applied annually. At the roadside, there's a municipal drain inlet to collect surface water.

Partners:

[Upper Thames River Conservation Authority](#) (UTRCA) is responsible for the site and the Thames River PRC will provide research and weather data support from Weather INnovations Consulting LP (WIN) using model-based precipitation from surrounding weather stations.

Research description:

A capsule containing a combination of crushed stone and slag (material left over from smelting metal) will be inserted into the tile to capture phosphorus (P) from the water that flows out.

Water will be sampled before insertion, and the UTRCA will take samples at regular intervals, and especially after major rain events. The conservation authority's laboratory will be used to test samples.

Measurements:

Pounds of P removed will be the metric and calculated using data on total P and dissolved P for the efficiency of the technology. The capsule will be removed annually and analyzed as a biosolid.

Progress:

Various tile insert sizes up to 36 inches were installed. This farm received a swine liquid manure application. Throughout 2020, the site experienced severe dry conditions limiting water flow. Water quality is now being monitored through the 20-21 winter/spring and will be reported in the final report.

