July 2, 2019

Water runs downhill

It's a myth that Iowa is flat. Oh, it's not about to be confused with western Colorado any time soon, but it does have its rolling and hilly sections. On the other hand, the perception of a pretty horizontal state came from somewhere and great swaths of Iowa are devoid of much up-and-down topography.

Iowa is also a highly agricultural state with mile after mile of fertile farmland that feed the country and the world. In fact, farms make up about 92 percent of Iowa's land.

But while relatively flat land makes for good farmland and easier plowing, it makes for terrible drainage. Standing water makes for muddy fields and drowned crops so farmers have been building drainage systems across the state for more than 100 years. After so much activity, it's now estimated that more than nine million acres, or almost 26% of the state's land mass are drained.

Drainage Ditch cleanout, repair, and protection at an outside curve of a drainage ditch bank.

The state long ago recognized the public benefit of drainage and set out to control it with the formation of drainage districts. These county-controlled authorities manage the outlets and levees in their territory, ensuring the systems are functional, equitable and properly maintained.

WHKS has been providing drainage system help to Winnebago County for several years. The on-call engineering services typically include inspections and surveys, condition reports, and maintenance or repair recommendations. When construction is required, the engineers will process contractor pay estimates, change orders and project completion certificates.

An example of the amount of siltation that occurs in drainage ditches over many decades.

Much of the drainage system is via open channels, which tend, over time, to become clogged with silt. If a particular area is experiencing problems, the engineers will do an inspection and recommend if cleanout is necessary or if the maintenance can wait.

Where entire fields have been drained, it's often been done using buried clay tile lines that crisscross the fields, leading to an open channel or ditch. When they clog up, through silt or roots looking for the water, they're often tough to find. On those days the engineers trade their computers and calculators for a shovel and a pair of sturdy rubber boots!

Recently cleaned out drainage ditch and new concrete box culvert in the background. Unleveled spoil bank on the left was leveled after material dried significantly.

Many of the clay tile lines have been installed for more than a century and it's always a surprise to see what can be found underground. While some are totally collapsed and in need of replacement, others turn out to be in as good a shape as they were on the day they were buried as Henry Ford was driving around in his Model T.