

## 2017 TTHA Shared Septic System Report

- 1. Shared lift station rebuilds:** Both shared lift stations were rebuilt. This work was done because one of the two pumps in the lift station on Iris Ave. had failed. Both lift stations had been in service for 18 years. All the components for the system, which included the pumps, rail systems, check valves, shut off valves, piping, all four floats, and all the wiring between the control box and the well were replaced. Three contractors were asked to provide bids for the work but only one, Hassle Free Septic, actually did. Olsen Sewer out of Forest Lake visited the site once but eventually decided that the project was “over their head” and passed it on to another company on the west side of the cities but they never contacted us. In the meantime Hassle Free Septic came out four or five times to figure out how the lift station operated, what the components were, what needed to be replaced, took head and distance measurements to size the pumps, etc. There was no existing documentation for the existing pumps or the rail systems. Hassle Free Septic was hired to do the work. They followed all OSHA guidelines for providing fresh air and emergency evacuation from the well. They also hauled away all the old components. In both cases they came back after a week of successful operation to permanently seal the wiring conduit that runs from the well to the control box as required to prevent sewer gas from entering the control box. The rebuild of the lift station on Iris cost \$6,500 and the lift station on Hallmark cost \$6,000. A copy of the documentation for the new pumps and the existing control box schematics was given to the North Branch Inspections department per their request for their records.
- 2. New contactors:** New contactors for each new pump were bought and replaced in the lift station control boxes after the lift station rebuild work was complete. The contactors are the switches that the control board uses to switch the pumps on and off. Some of the contactors were making noise which means they were wearing out. It is important that the contactors provide the pumps the correct voltage to prevent premature failure of the pumps. The contactors cost just under \$400 for all four. Thanks to Scott Johnson for voluntarily replacing the contactors on a cold winter day.
- 3. Stilling tank and drop box inspections:** There are 9 separate drain field areas in our development which contain one or more separate low pressure drain fields. There are also four mound fields at the west end of the development, each of which contain either two or three individual high pressure systems. Eleven of these low pressure drain fields have stilling tanks which the waste water runs through first before entering the drainfield. The stilling tanks are essentially 1,500 gallon baffled concrete septic tanks identical to the septic tanks in each home owner’s yard. These tanks provide both the last line of defense to catch any solids before they enter the drainfield and also slow down the flow of waste water from our lift stations before it enters the drain field. We hired Hassle Free Septic to measure the depth of the solids in each of these tanks to determine if they needed to be pumped since they have never been pumped. At this time none of the tanks have a sludge level high enough to require pumping. At the same

time the sludge level was checked, the drop boxes were also inspected. There is a drop box at the head of each individual perforated cross pipe which runs the width of the drain field. When waste water enters a drop box it drops down and flows out the perforated pipe and seeps into the gravel layer under the pipe and then into the ground. When this process slows down enough, the level of waste water in the drop box will rise and then run into the next drop box. We can tell how much of the drain field is being used by how many of the drop boxes have waste water in them. We recorded how many of the drop boxes in each field were being used. There was one small field serving two houses which had water in all the drop boxes so we'll check it again next summer to see how it is doing. A spread sheet with the stilling tank and drop box inspection results can be found on the TTHA website in the Septic System section.

4. **Minnesota Pollution Control Agency Compliance inspection:** We hired Jeff Fertig, who is a full time wetland specialist for Chisago County and also runs a drain field inspection service on the side, to both perform the three year MPCA compliance inspection and to provide a report on the condition of our shared septic system. A copy of the compliance forms and the report was given to the North Branch Inspections department and also can be found on the TTHA website. Jeff had concerns about the condition of a number of our drain fields. We need to remove all the trees growing on the drain fields, keep out the pocket gophers and other varmints tunneling through the ground within the drain field areas, keep all garbage off of the fields, prohibit any off road vehicle traffic on the fields and smooth out the fields so they can be mowed a few times during the summer months. We need homeowners to volunteer to help take care of their respective drain fields. Thank you to the homeowners who are already taking care of their fields.
5. **Septic tank pumping:** TTHA Covenant requires all home owners to pump their septic tanks every three years. This requirement is extremely important and needs to be adhered to. We need to protect our drain fields. We already know solids are making their way out to the fields by the amount found in the stilling tanks. There are a number of fields that don't have stilling tanks so they are even more vulnerable.