

Pickaway County Public Health (PCPH) does not endorse any manufacturer of sewage treatment system (STS) or components. Models, Manufacturers, and Products will vary. Please consult with a registered service provider on information relating to your STS.

How It Works: The NPDES

The NPDES, also known as the National Pollutant Discharging Elimination System, is installed when soil conditions are not optimal for conventional STS, or the lot is too small. A NPDES cannot be installed on a new construction lot, or a lot created after 2007, unless stringent guidelines can be met.

The NPDES is an Aeration Treatment Unit (ATU), that is typically composed of an Aeration Tank, Disinfection Unit, and Discharge Pipe/Sample box.

Aeration Tank- This is the first step in the wastewater treatment process and is like a septic tank except it has a motor to pump oxygen into the tank to help break down scum/solids through aerobic digestion
***View our tank factsheet to learn more about ATU.*

Disinfection Unit- After the aeration tank, NPDES use ultraviolet (UV) light to disinfect/treat the sewage effluent that passes into the pump tank. Some NPDES use liquid chlorine as well.

Discharge Pipe/Sample Box- Once the sewage effluent reaches a certain level in the pump tank, the pump will discharge via pipe and through a sample box into a stream, ditch, or other flowing surface waters of the state. The sample box is used for a registered service provider to collect an effluent sample.

The NPDES is a mechanical system; it uses electricity for the motor, UV light, and pump. All the electrical wiring, fuses, and switches for the system are in the control panel. The control panel is equipped with an alarm. If the alarm is flashing and/or making an audible noise or a component is malfunctioning, you should call your service provider.

Systems with a NPDES permit

Sewage treatment systems (STS) installed in or after 2007 that discharge treated sewage effluent to a stream, ditch, on the ground of the property or other waters of the state must maintain NPDES permit, also known as National Pollutant Discharging Elimination Systems permit, from the Ohio Environmental Protection Agency (OEPA).

NPDES permits exist to protect Ohio's water quality and aquatic environment by limiting the quantity of pollutants that may be discharged into waters of the state by discharging STS.

For more information about NPDES permitting, visit our website www.pickawaycountypublichealth.org

What kind of pollutants could discharge from my NPDES system?

The NPDES permit requires an annual diagnostic effluent sample be taken by a registered service provider. The sample tests for:

- **E.Coli**- Fecal coliform bacteria can harmful to human and animal health if ingested.
- **Ammonia**- The main source of nitrogen pollution and high enough levels can lead to a toxic build up in aquatic organisms, and can also contribute to Harmful Algal Blooms (HABs).
- **Total Suspended Solids (TSS)**- Affect stream health. High levels of TSS can increase water temperatures and decrease DO which makes it difficult for certain aquatic organisms to live in.
- **Five Day Carbonaceous Biochemical Oxygen Demand (CBOD₅)**- Discharged sewage effluent high in BOD can quickly deplete oxygen in receiving waters causing aquatic life to diminish and changes to the ecosystem.
- **Dissolved Oxygen (DO)**- DO is one of the most important indicators of water quality. If DO becomes too low (< 7mg/L) aquatic organisms are unable to breathe and cannot survive.
- **Chlorine (if STS uses liquid chlorine)**- If residual chlorine from the disinfection is too high it can affect the pH in the water.

If the effluent sample does not pass the testing parameters, you may be required by OEPA to re-sample, repair, update the STS to meet the parameters.

Homeowner O&M Requirements

- Homeowners with an NPDES must maintain a valid:
 - NPDES Permit with the OEPA
 - O&M Permit with PCHD every year
 - Annual service contract with a registered service provider

The service contract must be maintained every year. Please be advised, failure to provide a valid service contract to PCPH may result in an inspection of the STS from PCPH staff and an applied fee for the inspection.

The operation and maintenance of the NPDES is taken care through the service contract with the registered service provider. **NEVER ATTEMPT TO SERVICE THE SYSTEM.**

It is the homeowner's responsibility to:

- Maintain the service contract
- Retain all records of your STS in a file
- Not flush anything down the drains that are harmful to the system [*View the EPA SepticSmart document on website to learn more](#)
- Call a registered service provider when your system is malfunctioning