PICKAWAY COUNTY PUBLIC HEALTH
We Care.

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 installer or service provider on information relating to individual products or brands.

How It Works: Sand Mound Sewage Treatment Systems

Primary Treatment Component

Septic Tank(s) or an Aeration Treatment Unit (ATU)*- This is the first step in the home sewage treatment system (STS) process. A sand mound sewage treatment system can be designed with a septic tank or an ATU. Typically, a Sand Mound is designed with a septic tank unless there are limiting conditions to the soil or lot. **View our Septic Tank(s) or Aeration Treatment Unit (ATU) fact sheets located on our website to learn more.*

Secondary Treatment Component

Sand Mound - A sand mound is the secondary treatment component of a home sewage treatment system. The sand mound is installed after the septic tank or aeration tank.

Sand mounds are installed when soil conditions are not ideal, or the lot has limiting factors. A limiting factor, such as a seasonal water table, makes the lot unsuitable for conventional leach lines.

A sand mound component can be either partially installed in and above ground. The sand mound is a soil-based absorption component that uses the soil as final treatment of the sewage effluent and allows the liquid to seep into the ground to the underground water table, called an aquifer.

The sand mound is composed of a plowed soil layer at the bottom, sand fill** with laterals (such as Perforated PVC, Infiltrator chambers, EZ-Flo), and gravel/river rock in the middle, topsoil and then seeded and straw, as a vegetated cover.***View our Leach Lines Fact Sheet for more information on different media used for soil-based absorption components.*

Pump Tanks

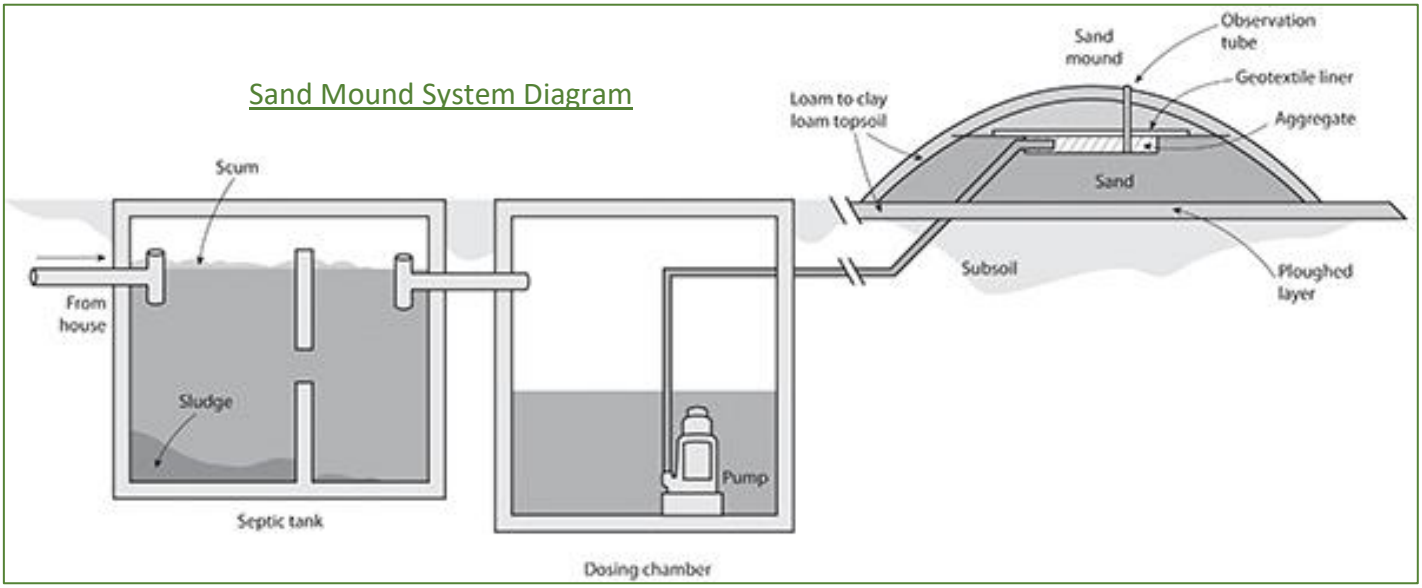
A sand mound is typically pressurized; therefore, a **pump tank** is needed to discharge the sewage effluent to the sand mound. The pump tank will allow the pressurized sewage effluent to evenly distribute through the sand mound. The pump tank can be either demand or timed dosed. A pump will kick on and dose the sewage effluent up to the mound.

****View our Pump Tank factsheet to learn more about pump tanks.*

How A Sand Mound Works

The sewage effluent from the pump tank is distributed evenly through the sand mound by the laterals located in the middle of the mound. The sewage effluent filters through the gravel/river rock and sand fill into the natural plowed soil for final treatment through the soil. Around the sand mound is an interceptor drain. An interceptor drain is typically upgradient and intercepts the horizontal flow of subsurface water to reduce its impact on the soil absorption component.

Sand Mound System Diagram



Inside of a Sand Mound System

Homeowner Operation & Maintenance (O&M) Requirements

- Do not plant trees, or any deep-rooted landscape on the sand mound.
- Do not drive or park vehicles or off-road vehicles on the sand mound.
- Ensure the tanks are pumped when needed. It is recommended to have the tanks pumped by a registered septage hauler every 3 to 5 years.
- Look for cracked or broken tank lids. Contact a registered service provider to replace any damaged lids or components.
- If the alarm is on from the pump tank and/or sewage effluent is ponding around the lid, contact a registered service provider for repair and to prevent sewage from backing up into the home.
- Clean the effluent filter every 6 months.
  **View our Septic Tank(s) or Aeration Treatment Unit (ATU) fact sheets located on our website to learn more.*
- Walk around the sand mound. Check for any wet patches, bleeding or ponding of sewage effluent, sewage odor. If you observe any of the following, please contact a registered septic installer.
- Walk around the sand mound. Check for any erosion or damage to the sand mound and vegetation including damage from pests such as moles. If you observe any damage to the sand mound system, please contact a registered septic installer.

PCPH renews a sand mound sewage treatment operation and maintenance permit every year.

As a homeowner looking to install or replace a STS, does it have to be the sand mound system or can I choose the STS I want on my property?

In some cases, there are several STS you as the homeowner can choose for the installation or replacement.

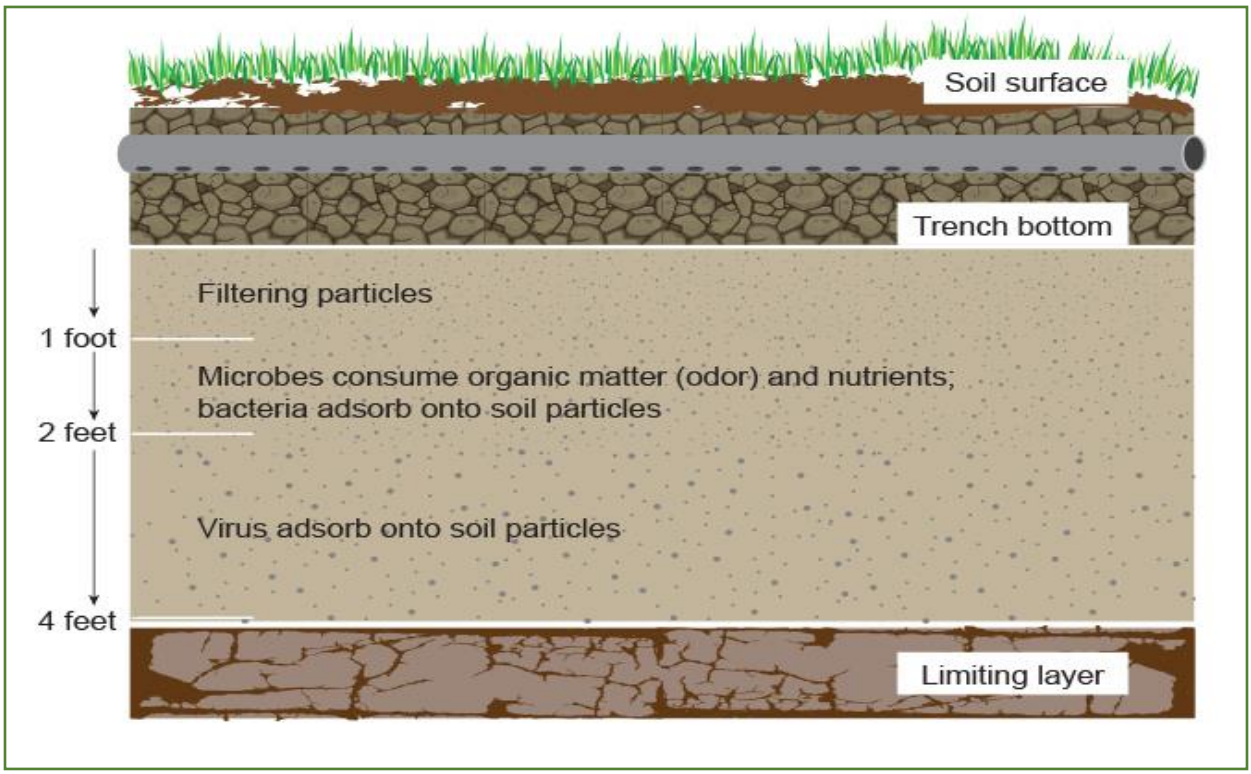
It is recommended to contact a STS installer and/or designer for all available STS options for your property.

For more information on other types of STS, please review our STS factsheets located on our website www.pickawaycountypublichealth.org

How does sewage effluent get treated through the soil?

The tank(s) help filter out the solids (what is left is the sewage effluent). The sewage effluent is treated through natural biological activity found in the soil and the physical characteristics of the soil.

Sewage effluent is a buffet of organic matter that bacteria, nematodes, and other small organisms found in the soil love to chow on to break down and absorb the sewage effluent as nutrients. The sewage effluent will then percolate, or filter through the soil naturally treated.



How fast the sewage effluent can filter through the soil depends on the percentage of clay, sand, and silt (loam) there is present in the soil. If the soil has more clay, it will take longer for the effluent to filter through the soil. If the soil has more sand, it will be faster for the effluent to filter through the soil.