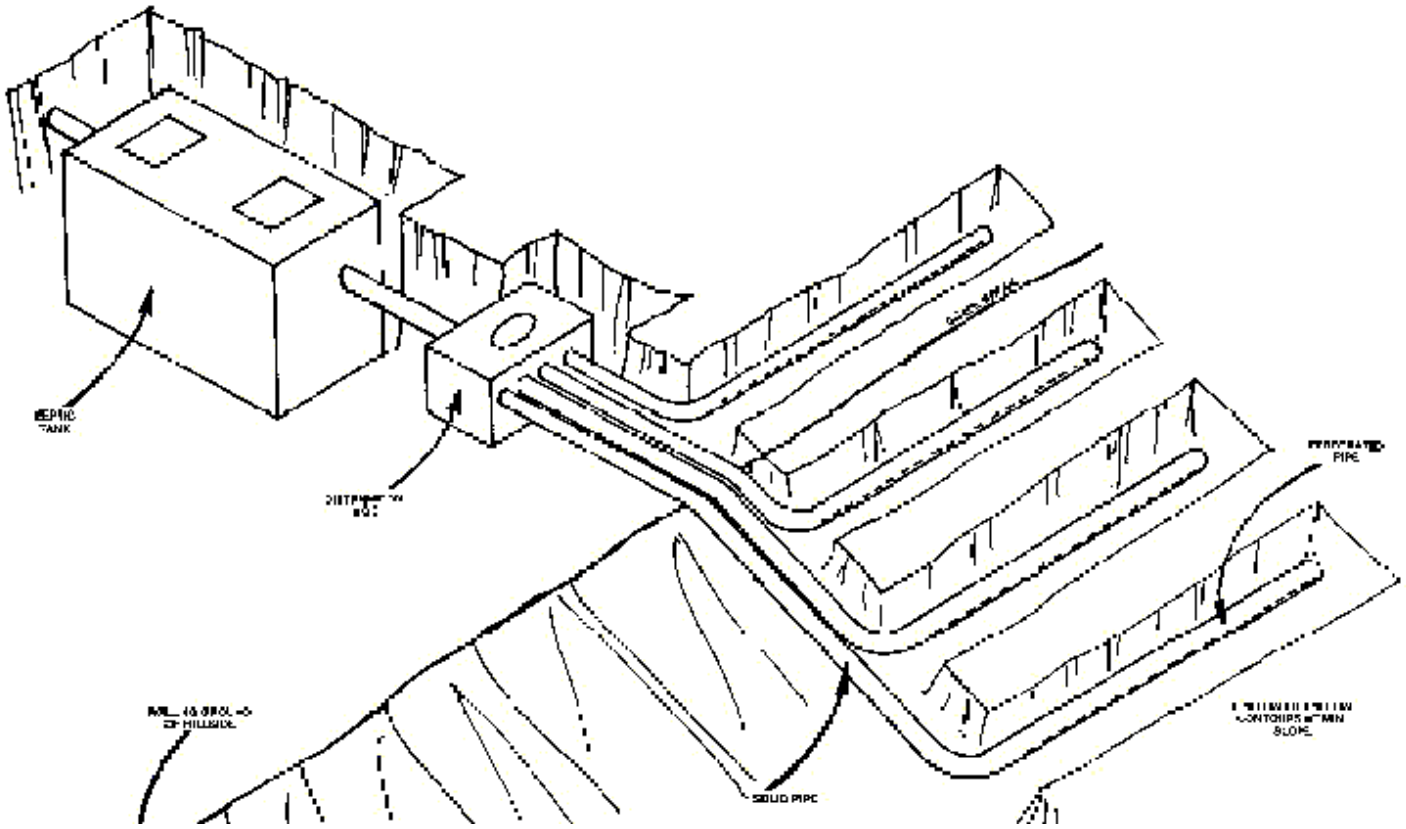
State of Ohio Environmental Protection Agency

OPERATION AND MAINTENANCE

A GUIDE FOR ON-SITE SEWAGE DISPOSAL SYSTEMS (SEPTIC TANK/TILE FIELD SYSTEMS)



Division of Surface Water
2000

I. UNDERSTANDING YOUR ON-SITE SEWAGE DISPOSAL SYSTEM

Your business is served by an individual septic treatment and disposal system. If it is not properly operated and maintained, it could malfunction, resulting in a public health hazard. The following guidelines are suggested to assure that your system works properly and to maximize the life of your system. It is important to remember your sewage treatment system periodically requires your attention, as a part of your routine facility maintenance.

How it Works

A septic tank serves as a settling tank where solid materials in the sewage from your business or dwelling settle to the bottom of the tank while fats and greases float to the top. Bacteria in the septic tank decompose the sewage to form a sludge which settles to the bottom of the tank. The separated partially treated sewage water (which is still highly polluted, smelly and somewhat clear), leaves the septic tank and permeates into the soil where the rest of the treatment is completed. Every gallon you use goes down the drain and must soak into the ground on your property. Many soils do not permeate (or drain) very well so it is very important to reduce your water consumption. If your water usage exceeds the capacity of your soil to accept the water, you will have sewage on the surface of your property.

Inspection and Care

Your sewage disposal system is a mechanical device that requires inspection and proper care and maintenance, much like your car or home, in order to operate effectively. It may be buried in the ground, but it cannot be forgotten completely. Proper installation and maintenance of a sewage treatment and disposal system is essential to protect our water resources. A failing sewage system discharges a distinctive black/grey liquid which can attract young children. This type of discharge is a health concern for humans and animals because it can contain harmful bacteria and viruses. Drinking water sources can also be threatened by failing sewage system discharges. Sewage discharges into waterways provide nutrients which can trigger algae blooms, reduce oxygen levels in the water, and lead to possible fish kills.

Most septic tank/tile field systems have a functional life of twenty to twenty-five years, and the replacement of a sewage system is costly. Taking care of your system is important to increase the functional life of your sewage system, to help avoid costly repair, and to protect your family's health and our environment. The following guidance for installation, care, and maintenance of your septic system are minimum requirements of the Ohio Environmental Protection Agency and are not a guarantee of the future performance of your sewage system.

II. INSTALLATION

A. The treatment system must be installed in accordance with the Permit to Install and detailed plans approved by the Ohio Environmental Protection Agency. The Ohio EPA strongly recommends that the installation be supervised by a Registered Sanitarian or Professional Engineer licensed in the State of Ohio.

B. To avoid premature system failure, installation of tile fields in clayey type soils should be excavated only during dry periods, so tile field line side walls are not smeared shut.

C. No grading is generally permitted in the area of the tile field or area reserved for future replacement tile field.

D. Never build any type of structure or allow parking/vehicle traffic over any part of your sewage system or within ten feet of the tank, filter, bed, tile field, or any part of the system as it could potentially damage the system, requiring costly repairs. If you are not exactly sure where your system is located, contact the Ohio Environmental Protection Agency or local health department for assistance before you begin any construction. Do not drive over your sewage system with heavy equipment, such a cars, trucks, farm equipment, etc. Provide physical barrier, if necessary, to ensure there will be no vehicle traffic or material storage in the area of the tile field. The trenches in your tile field are only eight to twelve inches deep and such action could cause soil compaction over the trenches and/or damage to the piping.

E. Surface water and/or groundwater should be diverted around the sewage system to avoid overloading the soil drainage capacity. The area over the trenches should be graded so that it sheds rainwater. This area should be exposed to full sun and planted with grass.

F. Do not plant any shallow-rooted trees such as willows or soft maples near any portion of the septic system. The roots could invade the tile lines and permanently clog the system.

G. Do not allow the discharge of the following types of water and wastewater into your sewage system:

1. Heat pump cooling water
2. Roof water
3. Foundation drains
4. Cistern overflow
5. Surface drainage
6. Water softener discharge
7. Garbage disposal wastes (See III. G. 3.)

III. CARE OF YOUR SYSTEM

(How to Avoid Costly Repairs and Make Your System Last Longer)

Minimize the amount of water entering the system. The use of too much water is often a cause of sewage system failure. There are many ways to reduce the amount of water discharged to your system:

A. Installation of water-saving shower heads:

A flow restrictor or low flow shower head reduces water consumption from five to six gallons per minute to as low as two gallons per minute. A shower with a regular shower head uses up to 60 gallons for a ten minute shower. A low flow head uses 25 gallons or less in the same amount of time. This could saves up to 10,000 gallons of water per year.

B. Repair leaking faucets and install flow control faucet aerators.

C. Toilets use a significant percentage of the total water consumed:

1. Consider flushing the toilet less frequently, with a saving of about three to five gallons per flush.
2. You can also buy one of the new, smaller tanks, or use a device to displace some of the volume used by existing toilets (such as plastic bottles filled with water). See your plumbing supply shop for these and other devices.
3. Adjust the water closet to flush properly with the least amount of water. This adjustment should not be less than three (3) gallons.

E. Eliminate drainage from home spas and whirlpools into your sewage system.

F. Use suds-saver cycle or front loading washing machines.

1. Suds-saver washing machines can save 20 gallons or more per week in many machines.
2. Wash only full loads.
3. Do not wash clothes on a single day, spread out the loads through the week to allow the tile field to work.

G. Dishwashing:

1. Do dishes by hand whenever possible, using soap and a trickle of hot water. Save the dishwater for those times when dishes really stack up.
2. Use faucet flow reducers.
3. For businesses or dwellings served by septic tank/tile field systems, Ohio EPA does not recommend the use of garbage disposals. Garbage disposals dramatically increase the strength of the sewage. If they are in stalled, garbage disposal units should be used sparingly. Regular use will require that your septic tank be pumped more frequently.

H. Do not put the following items into your septic system because they cause blockage in your system and require costly repairs.

1. Plastics of any form.
2. Wet strength paper towels.
3. Excess cooking oil or grease.
4. Disposable baby diapers.
5. Solvents, paints, caustic or oily liquids.
6. Kerosene, gasoline, or motor oil.
7. Coffee grounds.
8. Filtered cigarettes.
9. Female sanitary products.
10. Table scraps.
11. Rubber products.
12. Sand and grit.
13. “In the Bowl” type toilet bowl cleaners.

I. Sewage Systems are Designed to Properly Treat:

1. Detergents - the best kinds are those which are marked low sudsing biodegradable.
2. Bleaches (oxygen based)
3. Toilet tissue

IV. MAINTENANCE OF YOUR SYSTEM

A. You should inspect the first septic tank at least once a year. It is highly recommended that the tank be pumped at least every three years (more often with heavy use). The second tank should be pumped every five years or as necessary.

B. Tanks should not be washed or disinfected with detergents, chemicals, or additives after pumping.

C. Do not dump grease, oil, non-biodegradable products (i.e. plastic, cloth) or strong chemicals down the toilet, sink, or floor drains. The system could become clogged or the bacteria which help break down the sewage might be harmed. Either situation could result in premature failure of the system. Garbage disposals are not recommended for businesses or dwellings served with septic systems.

D. If your system has a flow diverter in the distribution box, the flow should be alternated every six to twelve months. Do not cover the distribution box with earth.

E. If you are having problems with the sewage system serving your business or want to alter it in any way, contact the Ohio Environmental Protection Agency.

Ohio EPA Offices

Central Office
122 South Front Street
Columbus, Ohio 43215
(614) 644-2001 (Div. Of Surface Water)
(614) 644-3020 (General Information)

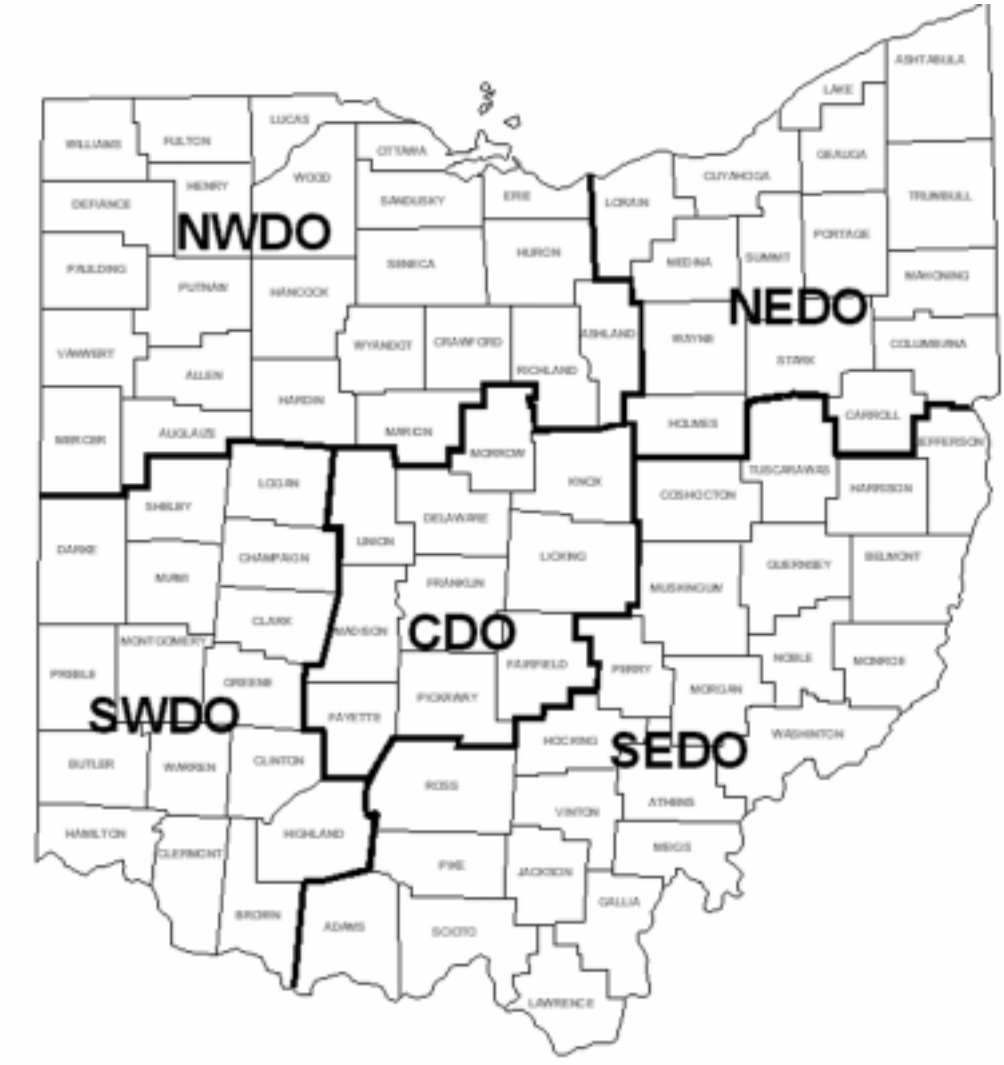
Southwest District Office
401 East Fifth Street
Dayton, Ohio 45402
(937) 285-6357

Northeast District Office
2110 East Aurora Road
Twinsburg, Ohio 44087
(330) 963-1200

Central District Office
122 South Front Street
Columbus, Ohio 43215
(614) 728-3778

Northwest District Office
347 North Dunbridge Road
Bowling Green, Ohio 43402
(419) 352-8461

Southeast District Office
2195 Front Street
Logan, Ohio 43138
(740) 385-8501



MISSION STATEMENT

"To Protect human health and the environment through responsible regulation supported by sound science, effective management and comprehensive environmental education"