

FACT SHEET

PROCEDURES AND CRITERIA FOR SELECTING A NEW SEPTIC TANK LOCATION

Where is a Septic System needed?

In areas where no sewer service is available, an On-Site Sewage Treatment and Disposal System, also known as a *septic system*, is needed to treat and properly dispose of sewage on site.

REQUIRED PERMITS/APPROVALS

Some states require the builder or owner to apply for permits that also include a site evaluation. This site evaluation takes into account the proper type and size of septic system, allowable setbacks, the topography, slope and proposed final grade, a proposal showing where the septic tank and drain field are to be located, loading rate (based on soil absorption rates) and any other limiting factors or special conditions. The permitting process helps to insure that septic systems are sized and constructed so that health and environment are protected. The number and type of permit(s) and fee amounts vary substantially from state to state and county to county. Each step of the process has separate applications and fees usually determined by the type of system and the amount of proposed sewage flow. To obtain specific application and fee information for a particular application, please call the on-site agent for your state and county.

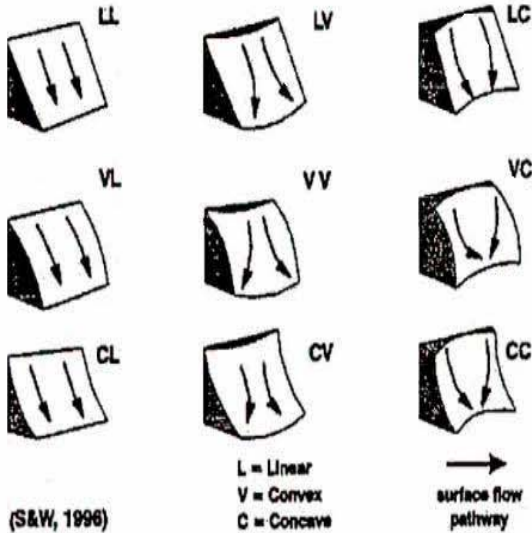
TANK SITE SELECTION

Snyder polyethylene tanks offer several advantages over concrete including ease of installation. Instead of an expensive boom lift that is typically required for concrete, Snyder septic tanks can be typically lifted by 2-3 installers and carried to the site in the back of most pickup trucks. When selecting a site, care must be taken to insure all state and county regulations are adhered to including the appropriate permits, setbacks and inspections.

In order to start with a quality onsite system installation, a critical step is the site survey. But first, the installer must assess the proposed site in terms of its existing environmental conditions—geology, prior land use, slopes, swales, wetlands, areas of potential flooding, landscape, vegetation/roots, water wells, utilities, lot lines and site improvements/structures. In particular, current runoff and water shed conditions need to be assessed, so the septic tank and other components will properly function without concerns for ground water infiltration. Landscape position and landform determine surface and subsurface drainage patterns that can affect system location. **In fact, landscape features that retain or concentrate subsurface flows such as swales, depressions and/or floodplains must be avoided.**

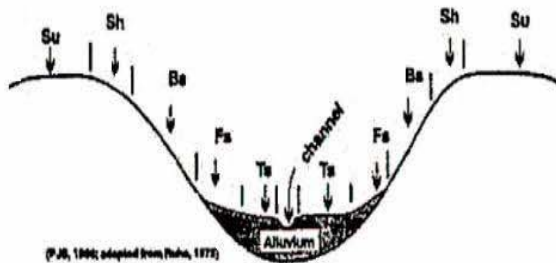
A good approach to selecting tank/system location is to focus on landscape position. The underlying bedrock often controls landscapes, which are modified by a variety of naturally occurring forces. In particular, ridgelines are narrow areas that typically have limited soil depth, but often provide good surface and subsurface drainage. Shoulderslopes and backslopes are convex slopes where erosion is common. These areas often have good drainage, but the soil mantle is typically thin and exposed bedrock outcrops are common. Sideslopes are often very steep and erosion is active. Footslopes and depressions are concave areas of soil accumulation; however, depressions usually have very poor drainage. The better draining soils are found on the summits, ridgelines, lower sideslopes and the high side of footslopes. **Toeslopes and bottomlands have significantly deeper soils, but have extremely poor subsurface drainage, and therefore, must be avoided.**

Slope Shape - Slope shape is described in two directions: up and down slope (perpendicular to the contour), and across slope (along the horizontal contour); e.g., linear, convex, or LV.



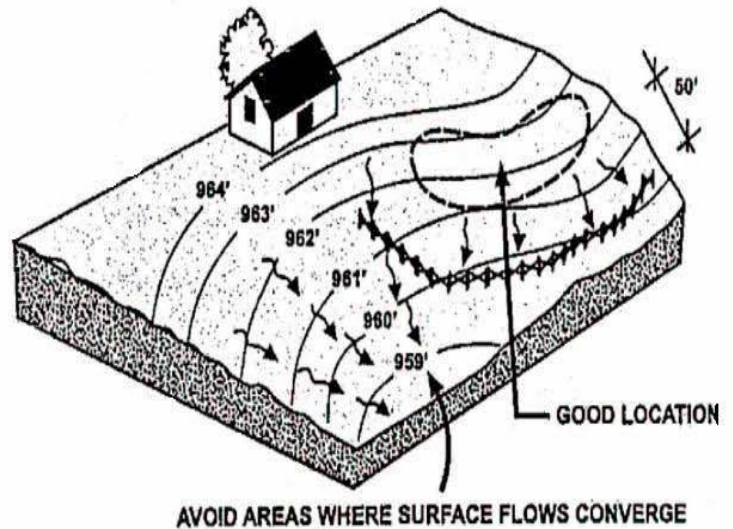
Hillslope - Profile Position (Hillslope Position in PDP) - Two-dimensional descriptions of parts of line segments (slope position) along a transect that runs up and down the slope; e.g., backslope or BS. This is best applied to transects or points, not areas.

Position	Code
summit	SU
shoulder	SH
backslope	BS
footslope	FS
toeslope	TS



Source: NRCS, 1998.

Landscape Position	Tank Siting Potential	Comments
LC VC CC	Poor	Converging flows could overload the tank with ground water
LV VV CV	Fair	Could still overload the tank during major rain storms
LL VL CL	Best	Parallel flow across the septic tank provides the best siting potential



Source: Purdue University, 1990.

Ideally, the septic tank should be located approximately 20-25 feet from the house or building and 50-100 feet from drinking wells (or as dictated by local building codes), situated on high ground, well away from any naturally occurring drainage, in order to keep ground water from entering the fresh excavation. In addition, if located in high clay soil or a sloped site, a curtain drain or berm may be necessary, in order to direct excess ground water away from the tank excavation. (Note that the tank must be installed parallel to any slope). The goal of surveying is to identify and correctly locate the treatment system components. All components need to be placed by physical location as well as at the correct elevation. In establishing elevations, remember that even though water runs downhill and gravity distribution is being used, there must be enough drop in the system to move the waste/effluent between the system parts. Be sure to take into account the 2 to 3 inch drop from the inlet pipe to the outlet pipe inside the septic tank.

Snyder Tanks are not approved for use in sites known to be subject to extremely high ground water tables, excessive runoff areas or where the grade dictates that the tank is at the lowest point on the site i.e. where the entire surrounding area drains to the tank, even if the tank is properly mounded.

INSPECTION REQUIREMENTS

Many states, counties and local municipalities require a “pre-cover” inspection of the septic tank installation. During this time, the open excavation is susceptible to damage, especially if a large amount of rain water were to fill the new excavation and possibly infiltrate the tank. Excessive amounts of ground water could cause potential tank damage, thereby voiding the warranty. Therefore, it is imperative to protect a new excavation that is pending inspection. This can be accomplished in a variety of ways including installing a tarp over the disturbed area, installing silt fencing around the new excavation thereby directing the majority of rain water away from the excavation, mounding dirt around the disturbed site to provide positive drainage away from the site, etc.. The whole idea is to prevent the area from becoming inundated with large amounts of ground water before the installation can be properly completed. Then it is imperative that the tank is properly backfilled using 12” layers that are individually compacted. Finally, it is imperative that the tank is mounded as per the Installation Instructions to provide positive drainage away from the top of the tank as well as the entire excavation.

Snyder Industries Low Profile Septic Tanks Do's and Don'ts

Do...

- install all tanks per Snyder Industries, Inc. Installation Instructions—call if you have any questions
- size and plumb the septic tank to meet state, county and local codes and regulations
- note the direction of flow—the inlet must be higher than the outlet for proper gravity flow
- use the tanks as intended—for underground and septic use only
- insure that riser extensions are correctly mounted to the tank prior to backfilling (screws supplied)
- exercise caution when using a probe tool—avoid violent tamping, which could damage the tank
- maintain the maximum (36”) burial depth for Snyder Low Profile tanks
- insure all backfill is free of wood, concrete, large rocks/boulders, masonry debris, silt or heavy clay
- install the tank parallel to any slope
- insure there is adequate drop from the house plumbing to the inlet pipe of the tank
- insure there is proper venting maintained from the house to each septic and/or pump tank
- locate the septic tank so it will not experience excessive amounts of ground water during major storms.
- grade the tank excavation and surrounding area adequately to drain ground water away from the tank
- mound the tank excavation--allow 2” of soil for settling (5” total) w/positive drainage away from the tank
- install the tank level using a good solid base as per the Snyder Installation Instructions
- backfill evenly and uniformly, compacting every 12” (start on the ends of the tank)
- insure the connection between tank/riser and riser to riser is water tight
- insure the connection between riser and cover is water tight—use stainless steel screws & silicone
- insure all connections to the plumbed tank are water tight
- tamp and compact backfill under inlet and outlet pipes
- insure all “pre-cover” inspections are completed prior to completing the tank installation
- use either lifting eyes or corner lifting lugs when placing the tank into the excavation
- use anti-floatation measures (deadman anchoring) in high water tables
- insure tanks are protected from sharp objects which could puncture the tank and cause leakage
- keep your septic tank cover accessible for inspections and pumpings
- inspect your system (every 2-3 years) and pump your tank as necessary (generally every 3 to 5 years)

Snyder Industries Low Profile Septic Tanks Do's and Don'ts Cont.

Don't...

- backfill only to the finish grade level—eventually the settled ground will cause rainwater to pool
- leave a tank excavation open (even overnight) without protecting the area from rain water infiltration
- use an effluent pump in a single or double compartment septic tank—only use in pump tank applications
- locate a septic or pump tank at the bottom of a hillside unless adequate drainage/berming is done locate a septic/pump tank at the lowest point of the grade—the tank(s) require adequate drainage
- locate a septic or pump tank below a steep or large sloped grade
- locate a septic or pump tank beneath driveways or in the pathway of heavy or vehicular traffic areas
- store tanks near an open flame or heat in excess of 160⁰ F—tanks are not fire-resistant
- use septic/pump tanks for any other use, especially not intended for drinking water or use as a cistern
- use any portion of the tank as a grease trap or subject the tank to water temperature higher than 130⁰ F
- subject the tank to drops from higher than 48”
- over-excavate or “belly-out” the excavation
- plant trees, shrubs or a garden near the septic system—roots may clog or damage the system
- direct water from gutters or sump pumps near any part of the septic system
- impact tanks in sub-freezing weather
- sheet drain over the top of an excavated tank site—all excavations must be mounded for positive drainage
- enter your tank—septic gases can deplete the amount of oxygen, which can lead to affixation

REFERENCES

Oregon Department of Environmental Quality—Onsite Wastewater Management Program

EPA/625/R-00/008 2002 USEPA Onsite Wastewater Treatment Systems Manual

State of Indiana Department of Health—Onsite Wastewater Division

Onsite Installer magazine, August 2005 Issue