

Note: This brochure is intended to provide information to those desiring to know more about the A/B Soil System (also known as the ABS System), one of the sewage disposal options available for use in Pennsylvania.

## Information about A/B Soil System Sewage Disposal Systems



### TABLE OF CONTENTS

1. FREQUENTLY ASKED QUESTIONS
2. FLOW CHART – COMPONENTS AND PURPOSE
3. TYPICAL PLOT PLAN
4. TYPICAL SIDE VIEW

**[updated 10/9/13]**

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**Frequently asked questions about the**  
**A/B Soil System**  
(Also known as the ABS Sewage Disposal System)

**What is an A/B Soil System?**

An A/B soil system is a sewage disposal system designed to provide advanced treatment of the sewage effluent before its ultimate disposal into the soil. The name is derived from the fact that the system requires special analysis of what Soil Scientists refer to as the A Soil Horizon and the B Soil Horizon or what most people would call topsoil and subsoil.

**What components are involved in the A/B Soil System?**

Every A/B soil system is custom designed based on the soil found on the site, the physical conditions of the site, the anticipated sewage flow, and the system designer's preferences. Typical components included:

**A. Treatment Tanks:** These may consist of either septic tanks or aerobic tanks. While aerobic tanks are more efficient, they are generally more expensive and therefore most designers opt to use septic tanks.

**B. Filtration:** After the effluent leaves the treatment tank, it flows into a filtration unit. There are **four** types of filtration units available for use at this time.

- Recirculating sand/filters
- Co-op RFS III filters
- Peat Bio-filters
- **Approved proprietary Fiber-mesh filters**

While all **four** filter types are acceptable, most designers opt for one of the two brands of peat bio-filters that have been approved for use in Pennsylvania.

The filtration units remove particulate matter and greatly reduce the levels of various chemical components (e.g. nitrogen) found in the effluent. The filter also creates an aerobic

environment greatly reducing the amount of pathogens found in the effluent.

- C. Disinfection:** After the effluent has passed through the filtration unit, the effluent is run through a ultra-violet (UV) disinfectant unit. The unit uses ultra-violet light to kill most of the remaining bacteria and viruses that may not have been removed by the filter [Effective 2013: Disinfection is optional for newly permitted systems]
- D. Disposal:** After disinfection, the effluent is pumped into a long, thin, "At-Grade" absorption bed. This spreads the effluent over a large area so that it may be absorbed into the soil.
- E. Other Components:** Depending on the terrain and other factors, there will usually be two or more pump tanks. Also, effluent filters may be required on the treatment tanks.

## Why do I have to use an A/B Soil System?

In Pennsylvania, sewage disposal system options vary based on the quality of soil found on the site. The better the soil, the more sewage disposal options a property owner may consider. The A/B Soil System is one of only five systems that may be permitted on soils with a limiting zone of less than 20 inches. If you have an A/B Soil System, most likely the system designer looked at the available options and decided that the A/B soil system was the best option for your property.

## What are the maintenance requirements for this system?

Every property owner that has an A/B Soil System is required to enter into a Maintenance and Operations agreement with Dingman Township. The agreement will specify the minimum amount of maintenance required for the system. The agreement will also require that the property owner hire a professional maintenance firm to perform the required maintenance.

## **Does the effluent have to be tested?**

Yes. The maintenance firm will periodically test the effluent to determine if the system is functioning correctly. The test results will be sent to the Township. [Note: Systems without disinfection units do not require effluent testing.]

## **Is a Maintenance Bond required?**

Yes. State Law requires that a maintenance bond be filed with the Township.

## **How much does an A/B Soil System cost to install?**

Cost will vary based on numerous factors such as the type, number, and brand of components used. The length of the absorption area is also a factor as is the amount of labor the installer expends in constructing the system. History has shown that the typical A/B Soil System can be about twice as expensive as a typical elevated sandmound.

## **Who can install an A/B Soil System?**

Most excavators experienced in constructing elevated sandmound systems can install an A/B Soil System. The excavator will need to work closely with a qualified electrician. If the excavator you hire has not previously installed an A/B Soil System, the excavator should meet with the Sewage Enforcement Officer to discuss system construction before starting.

## **Where can I find firms that install A/B Soil Systems?**

Dingman Township cannot provide the names of firms that install sewage disposal systems. Names of installers may be obtained by calling the Pike County Chamber of Commerce at 570-296-8700, the Pike County Builder's Association at 570-296-5589. Names may also be found in the yellow pages under the listing for "excavating contractors" and "septic tanks & systems – contractors & dealers".

## **How long is the absorption area?**

The absorption area is generally around 6 feet wide. The length varies based on the nature of the soil and the anticipated flow from the house. A small absorption area will exceed 100- feet and absorption areas over 150-feet long are quite common. The absorption area is covered with a foot of soil and is enclosed by a berm 3-feet wide at a 2 to 1 outward slope. Therefore, the completed system will be about 12-feet wide at the top and 20-feet wide at the base.

## **Why can't I excavate, disturb, install a swimming pool, plant trees, or otherwise use the land 50 feet downslope of the absorption area?**

Due to the shallowness of the usable soil on the absorption area site, the effluent will often flow along a soil "pan". This area in which the effluent may flow is an integral part of the system. Disturbance of this area may result in failure of the system.

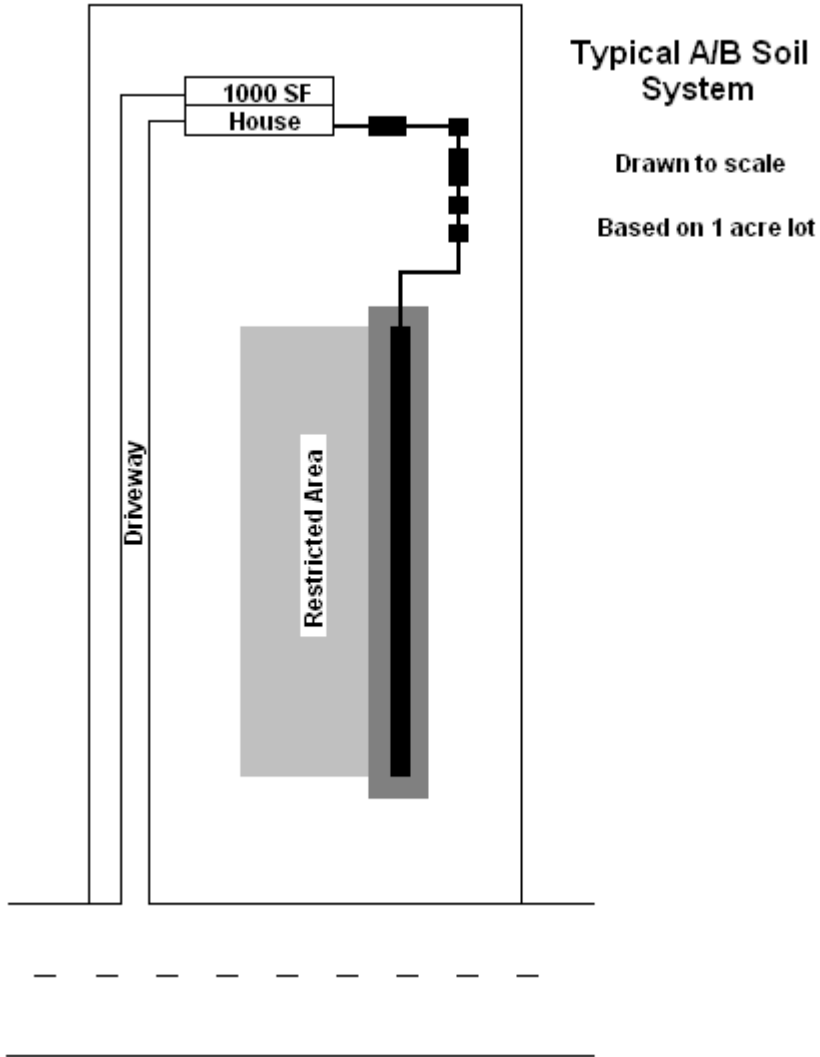
## **What if I violate the terms of the Maintenance Agreement, disturb the area 50 feet downslope of the absorption area, allow the system to malfunction, or abuse my A/B Soil System?**

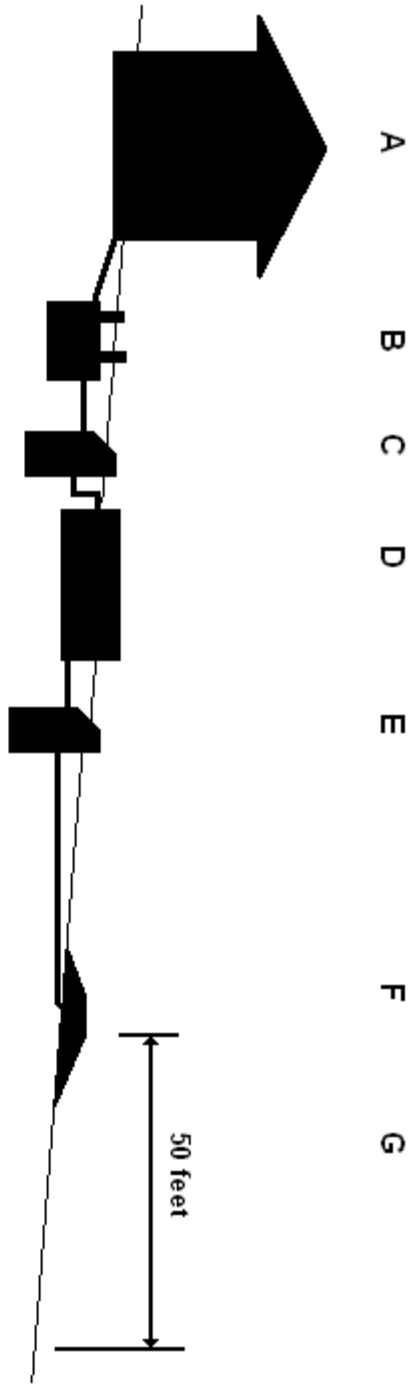
35 P.S. § 750.13 provides for a fine of no less than \$500.00 and no more than \$5000.00 and/or imprisonment for up to 90 days per day in violation. Furthermore, a civil penalty of between \$300.00 and \$2500.00 per day in violation may be assessed.

**Dingman Township Sewage Department  
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**(570) 296 – 9260**

# TOP VIEW





Side view of a typical A/B Soil System (not to scale)

- a - house
- b - treatment tank
- c - lift pump tank
- d - filter tank
- e - uv unit & dosing tank
- f - at-grade absorption area
- g - 50 foot down slope protected area

Typical A/B Soil System Profile