

Commonwealth of Pennsylvania
Department of Environmental Protection (DEP)
Bureau of Point and Non-Point Source Management
Harrisburg, PA

Issued to: Generic Listing

Technology: Shallow Placement Pressure Dosed System

Classification Type: Alternate technology (A2014-0021-0002)

Classification Date: February 6, 2004 (ASG)
February 24, 2014

In accordance with Title 25, Chapter 73, Section 73.72, DEP classifies the Shallow Placement Pressure Dosed System for use as an alternate onlot sewage treatment system. This classification permits the use of the Shallow Placement Pressure Dosed System as a treatment system capable of receiving sewage effluent at either the primary treatment level (exceeding 25 mg/l CBOD₅ and exceeding 30 mg/l TSS) or the secondary treatment level (not exceeding 25 mg/l CBOD₅ and not exceeding 30 mg/l TSS).

I. Technology Description

The Shallow Placement Pressure Dosed System is an in-ground pressure dosed system used on sites where the limiting zone is identified at depths greater than or equal to 58 inches.

II. Design Requirements

- A. Location: The Shallow Placement Pressure Dosed System may be installed for the treatment of domestic strength wastewater (as defined by Table 1 of Miscellaneous Data to be used in Conjunction with PA DEP listings) serving a new construction or as a repair.
- B. Siting:
- (1) Limiting zones must be identified with depths greater than or equal to 58 inches.
 - (2) The minimum aggregate depth associated with a pressure distribution system of 10 inches allows a minimum installation depth of 10 inches. Percolation testing is performed at the depth of the installation in accordance with Chapter 73, Section 73.15. For systems designed at the minimum installation depth of 10 inches, the holes should be filled to the top with water and allowed to drain until a drop of 2 inches is measured during the initial presoak. The hole is then filled with water again to achieve the 12-inch minimum initial presoak required by Section 73.15(5)(i).
- C. Construction:
- (1) Tank installations must consist of either a two-compartment rectangular tank, two rectangular tanks in series, and otherwise conform to meet the requirements of Section 73.31. Vertically aligned circular (round) tanks are not permitted. Aerobic treatment tanks must be in compliance with Section 73.32.

- (2) The design and construction of these systems must comply with all of the requirements of Chapter 73 except for Section 73.52(b)(5), which relates to the depth to the bottom of the absorption area (12 to 36 inches).
- (3) Pressure distribution is required.
- (4) The system must be designed and installed parallel to the contours.
- (5) Due to the physical relationships between limiting zones, slopes, and system widths, depths and configurations for the design of the system are critical to proper system performance and installation.
- (6) The upslope depth must be evaluated to ensure that the absorption areas are equally sized and that each width and depth are in accordance with this listing.
- (7) The minimum downslope excavation is 10 inches.
- (8) The maximum upslope excavation is 36 inches. The depth may not be within 48 inches of any limiting zone identified by the sewage enforcement officer. The effect of the slope on the limiting zone must be calculated.
- (9) The trench width may be no less than 1 foot and no more than 6 feet and must be determined based on depth to limiting zone.
- (10) To ensure that the minimum 48-inch vertical isolation distance between the limiting zone and the bottom of the absorption area is maintained, the following formula may be used to verify depth and maximum width of the system based on field conditions:

$$W = \frac{[LZ - (ID + 48)] \times 8.3}{\text{slope (percent)}}$$

Where:

- LZ = shallowest depth to limiting zone (inches)
ID = depth to installation (inches)
W = maximum width of the system (feet) when the long axis is parallel to the contours
slope = maximum percent of slope in the area of the proposed system installation

Note: Do not use slope as a unit. The slope is expressed as an integer in this formula (e.g., 8 percent is expressed as 8)

- D. Installation: An onsite preconstruction conference attended by the sewage enforcement officer, designer, installer, and the property owner prior to construction is recommended.

III. Minimum Maintenance Standards

- A. Inspection of the area around the soil absorption area every 6 months by the homeowner to ensure that there is no ponding of effluent or downgradient seepage.

- B. The manufacturer's representative must meet with the property owner within one (1) month of system start-up and/or occupancy of the dwelling and with the local agency's SEO upon request, to explain the operation and maintenance of the system, provide written instructions to the property owner, and to identify the locations of all parts of the system.
- C. The service provider shall inspect at least the following items at an interval frequency recommended by the manufacturer's requirements:
 - (1) Inspect septic tanks, dosing tanks, and lift pump tanks for structural integrity of the tank, inlet and outlet baffles, solids retainer, pumps, siphons, and electrical connections;
 - (2) Inspect aerobic tanks for structural integrity of the tank, inlets, and outlet baffles, buoyed solids retainer, pumps, siphons, and electrical connections.
 - (3) Ensure that the pumping system is operational.
- D. The service provider shall inspect and pump excess solids in accordance with the manufacturer's requirements.

IV. Permitting Requirements

- A. A sewage enforcement officer who has successfully completed an appropriate Department sponsored training course that included this specific technology or has received review delegation in writing from the Department may independently review the design and issue the permit for components under this listing. All other proposals under this listing must be submitted to the Department for review and comment.
- B. The sewage enforcement office shall ensure the following are included on the plot plan and design preparation.
 - (1) Include all features typically required on the sewage permit application form.
 - (2) Show the location of all soil tests conducted (both suitable and unsuitable).
 - (3) Identify the location of all design elements (septic tank, manifold, delivery line, friction loss calculation, pump requirements, etc.) from a fixed reference point.
 - (4) Provide site elevation information (i.e. contour lines) as necessary in the area of the disposal system.
 - (5) Show the location of each absorption area(s) including its dimensions. The diagram should show the absorption area configuration required by the site contours. The elevation from an established benchmark must be shown for the downslope and upslope excavation of each absorption area.
 - (6) Include a typical absorption area cross-section diagram.
 - (7) Provide information on proper installation practices as found in Chapter 73. Detailed construction guidelines regarding type of construction equipment to be used, placement of backfill, sequence of trench construction and any other installation features specific to the needs of the site are to be included.
- C. The sewage enforcement officer shall include on both the *Application for An Onlot Sewage Disposal* permit (Part III, Section 1) and the permit, the classification number itemized in the Classification Type of this listing.

V. Planning Requirements
Not applicable