ADIRONDACK PARK AGENCY

GUIDELINES FOR ON-SITE SEWAGE DISPOSAL SYSTEMS
March 25, 1991

This document sets forth guidelines for the design and installation of on-site sewage disposal systems for projects requiring a permit from the Adirondack Park Agency. These guidelines apply to pre-existing lots and lots on which a system is being replaced, but, in these cases, alternative systems may be allowed (see Pre-Existing Lots and Failing Systems, p. 6). These guidelines supersede Chapter 22 (Sewage Disposal) of the Adirondack Park Agency publication Development in the Adirondack Park, 1977. These guidelines deal with site evaluation, design specifications and installation requirements for both individual and small multi-family on-site sewage disposal systems with a flow rate of less than 1000 gallons per day.

LEGAL EFFECT OF THESE GUIDELINES

These are guidelines, not rules. Failure to meet them will not automatically result in disapproval of an application. Each application will be judged on its particular merits, including all other aspects of its impact on the resources of the Adirondack Park and mitigation measures or offsets proposed. If these guidelines are not met, the Project Review Officer assigned to the application will consult with the Agency's technical staff, and may, depending on the individual case, recommend that a public hearing be held to further examine sewage disposal methods.

SITE EVALUATION AND RESOURCE REQUIREMENT'S

The soil and slope factors listed here are described in detail in the Adirondack Park Agency Soils Handbook (August 1990). To ensure the information provided to the Agency is consistent, the Handbook prescribes standard methods for performing percolation tests and for describing soils.

All applications for new development and subdivisions requiring a permit from the Adirondack Park Agency and subject to these guidelines must demonstrate that each proposed building lot meets these minimum site requirements.

Flood Areas:

No on-site sewage disposal systems shall be allowed in areas within a 10-year flood plain.

Horizontal Separation Distances:

The table below sets forth the minimum horizontal separation distances required, measured from the finished graded edge of the sewage disposal area (see System Extent p. 4) to each listed feature:

Minimum Horizontal Separation Distances	
Individual Drilled Well	100 feet
Community Drilled Well	200 feet
Dug Well	150 feet
Wetland	100 feet*
Lake George	200 feet
Other waterbodies	100 feet**
Property line	25 feet
Dwellings	20 feet
Soil Depth to: Bedrock ≤ 48" Impervious Layer ≤ 48" SEASONAL HIGH GROUNDWATER TABLE ≤ 24"	25 feet 25 feet 25 feet***
25 % Slopes	25 feet

* May require a greater separation distance where low nutrient bop are present.
** The shoreline setback requirement includes both:
1. Intermittent streams with a defined bed and bank, regardless of navigability (9 NYCRR 575.1 [c]).
2. Within 200 feet of the shoreline of a lake, pond, river or stream: if the percolation rate is 0 to 3 minutes per inch, a leaching facility will not be permitted (9 NYCRR Appendix Q4).
***Seasonal High Ground Water Table.

For features not listed in the above table, use Table 2 in the Design Standards for Wastewater Treatment Works 1988, NYS Department of Environmental Conservation, 1980, revised 1988.

Slope:

Conventional in-ground absorption trenches shall only be permitted on natural slopes of 15% or less. All other acceptable on-site sewage disposal systems shall only be permitted on natural slopes of 8% or less. For the purpose of these guidelines, the slope is measured as the ratio of the maximum vertical rise or fall of the land in 50 feet of horizontal distance and is expressed as a percentage.

Soil Percolation Rate:

In order to be approved for conventional in-ground absorption trenches or beds or for shallow absorption trenches, soil percolation rates shall be between 1 to 60 minutes per inch. No on-site sewage disposal systems shall be allowed in soils where the percolation rate is less than 1 minute per inch or exceeds 60 minutes per inch. Also, within 200 feet of the shoreline of a lake, pond, river or stream: if the percolation rate is 0 to 3 minutes per inch, a leaching facility will not be permitted (9 NYCRR Appendix Q-4).

Note: Aquifer Protection in Fast Perc Soils

In areas with percolation rates faster than 10 minutes per inch that overlie aquifers designated by New York State as Principal :Aquifers, or other aquifers that meet the criteria defined in NYS Department of Environmental Conservation, Division of Water Technical and Operational Guidance Series 2.13, Primary and Principal Aquifer Determinations, April 1, 1987, additional protection will be required to prevent degradation of groundwater quality. In such cases, the absorption system design shall be modified to provide enhanced treatment of the wastewater by the soil system, or additional treatment provided prior to subsurface discharge. The Agency staff should be consulted before substantial sums are spent on design.

Soil Test Pit:

A soil test pit is required to examine the soil to a depth of at least 7 feet or 5 feet below the bottom of the proposed system, whichever is deeper. Soil test pits must be described by a qualified soil scientist as defined by the New York Department of Agriculture and Markets Rules and Regulations (1 NYCRR 370.2 [v]).

Soil Depth to Seasonal High Groundwater Table (SHGWT):

The depth of the undisturbed and natural soil measured from the soil surface (minus the surface organic forest floor layers) to the top of the seasonal high water table must be 24 inches or more. This depth shall also be determined by a qualified soil scientist.

Soil Depth to Bedrock or Other Impervious Layer:

The depth of the undisturbed and natural soil measured from the soil surface (minus the surface organic forest floor layers) to the top of bedrock or other impervious layer must be 48 inches or more (72 inches if the bedrock is fractured). In addition, the bottom of any sewage disposal system shall be at least four feet above bedrock or impervious strata. An impervious strata is defined as any layer with a percolation rate of slower than 60 minutes per inch.

Filled Areas or Disturbed Sites:

Sewage disposal systems are generally not allowed on sites where the natural soil materials have been disturbed by excavation, removed or covered by more than 12 inches of fill. Where proposed on such sites, intensive sub-surface investigation win be required. The Agency staff should be consulted prior to conducting such an investigation.

DESIGN STANDARDS

Design Flow and Replacement Area:

All proposed lots for new subdivisions subject to these guidelines are required to have an area of suitable site conditions large enough to accommodate a sewage system designed for a minimum of 500 gallons per day flow rate (4 bedroom house) and a reserve area capable of installing a 100 percent replacement system according to the specifications in this document.

System Extent:

The sewage disposal area includes the area of the leaching facilities and, if required by the design, the area covered by fill used to grade around the system and the up-slope diversion ditch (curtain drain). This area is the finished graded edge of the sewage disposal system used for the measurement of horizontal separation distances.

Piping Distances:

In general the piping of sewage to an on-site sewage disposal system serving one or two single family dwellings a distance of 250 feet or more or across wetlands, waterbodies, right-of-ways, property lines or a soil with any limiting feature, is not allowed. Review of such proposals will be on a case-by-case basis and alternative lot configurations will likely be suggested.

Mounding Analysis:

Where site conditions are marginal, an analysis will be required to predict the extent of groundwater mounding that will occur when the system is in operation and how this discharge will affect groundwater levels downgradient.

Other:

All other standard design features are the same as in Sewage Standards for Wastewater Treatment Works 1988, DEC, revised 1988, unless otherwise noted herein.

ACCEPTABLE SEWAGE DISPOSAL SYSTEMS for New Development

The sewage disposal systems defined herein are the same systems used in Sewage Standards for Wastewater Treatment Works 1988 DEC, revised 1988, and are described in further detail by that publication. The design standards in that publication are applicable, but the site conditions used herein may in some instances be more restrictive, and represent the minimum site conditions necessary in order to recommend the approval of a lot for new development without a public hearing.

Conventional Absorption Trenches and Beds:

Conventional Absorption Trenches and Beds are in-ground sewage disposal systems which may be used only with the following site conditions:

Percolation rate:	1 to 60 minutes/inch
Slope:	$\leq$ 15% for Trenches
	$\leq$ 8% for Beds
Depth to SHGWT:	$\geq$ 48 inches
Depth to Bedrock:	$\geq$ 72 inches

Such systems are constructed wholly within the existing native soil, yet are able to maintain a 24 inch vertical separation distance between the bottom of the system and the top of the seasonal high water table, and 48 inches to bedrock. Conventional absorption beds differ from trenches in that they are up to 15 feet wide, while trenches are generally 2 feet wide. Cross-sections for trenches and beds are from the 1988 DEC publication set forth in Appendix A and Appendix B.

Shallow Absorption Trenches

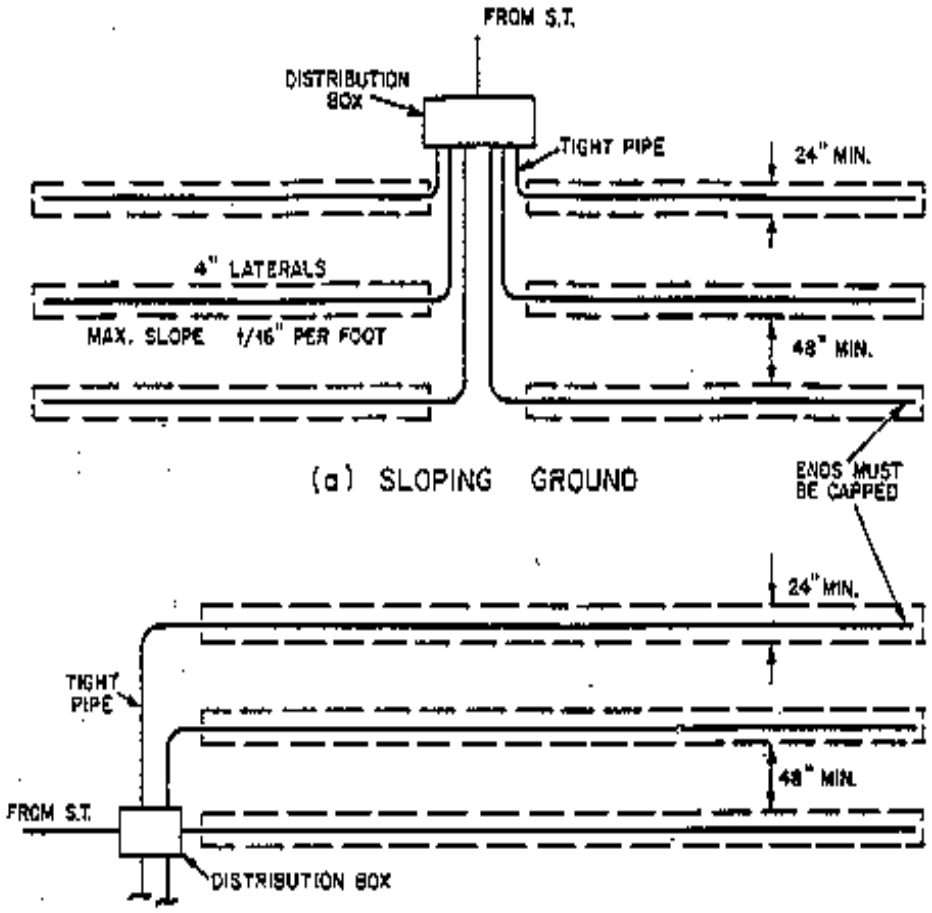
Shallow Absorption trenches are sewage disposal systems which may be used only with the following site conditions:

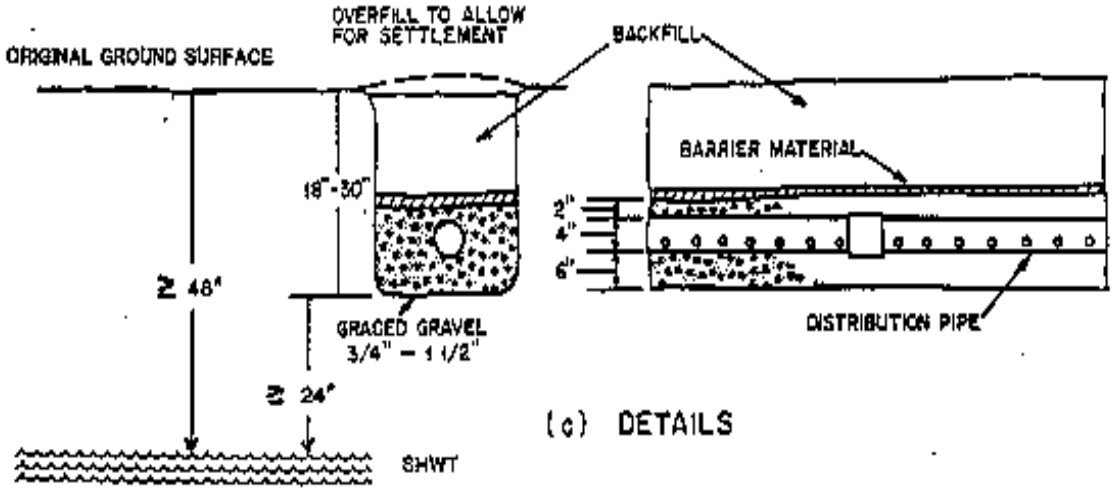
Percolation rate:	1 to 60 minutes/inch
Slope:	$\leq$ 8%
Depth to SHGWT:	24 to 48 inches
Depth to Bedrock:	$\geq$ 48 inches

Such systems are constructed with the bottom of the system wholly within the existing native soil. Fill is required to grade over the sides and top of the system. The total height of the system above the original soil surface is 1 to 24 inches, depending on the system design, slope and depth to the seasonal high water table. A cross-section from the 1988 DEC publication is set forth in Appendix C. All shallow absorption trenches shall be designed and certified as to their proper installation by a licensed Professional Engineer.

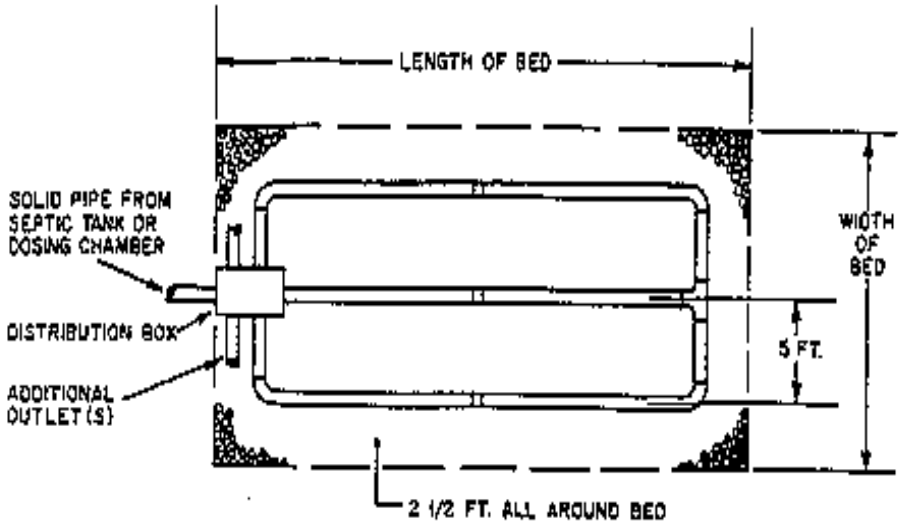
PRE-EXISTING LOTS and FAILING SYSTEMS

If a pre-existing lot does not meet the minimum site requirements in this document, Agency staff will consider, on a case-by-case basis, acceptability of alternative systems. If an existing on-site sewage disposal system is failing, Agency staff will consider proposals of demonstrated new technology or alternative systems, such as, but not limited to mounds or non-waterborne systems, as designed by a licensed Professional Engineer. Holding tanks will not be allowed for year-round usage on a permanent basis, however.

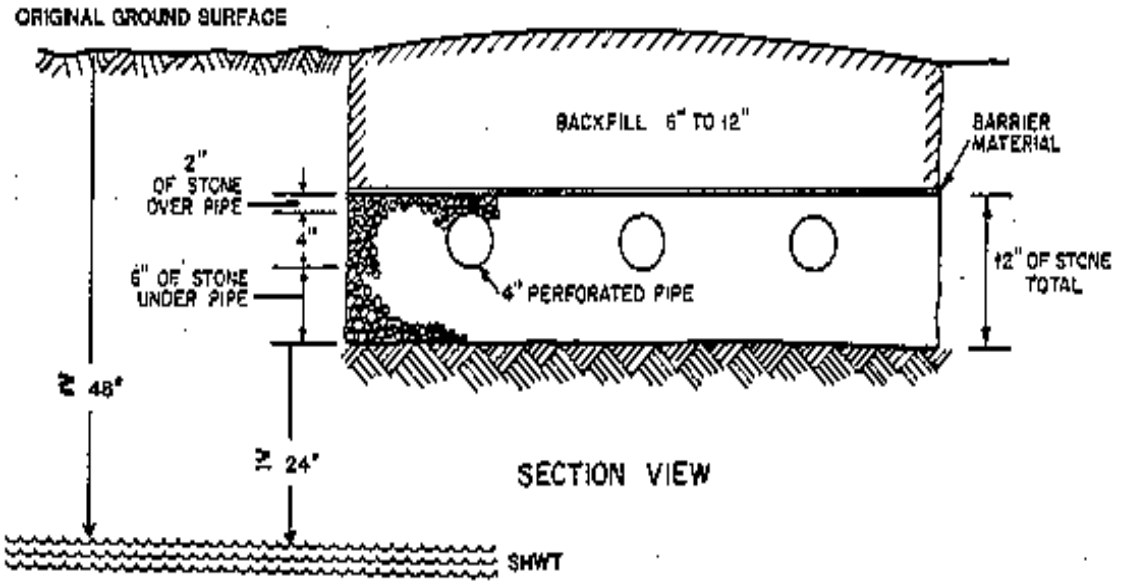




APPENDIX A CONVENTIONAL ABSORPTION TRENCH

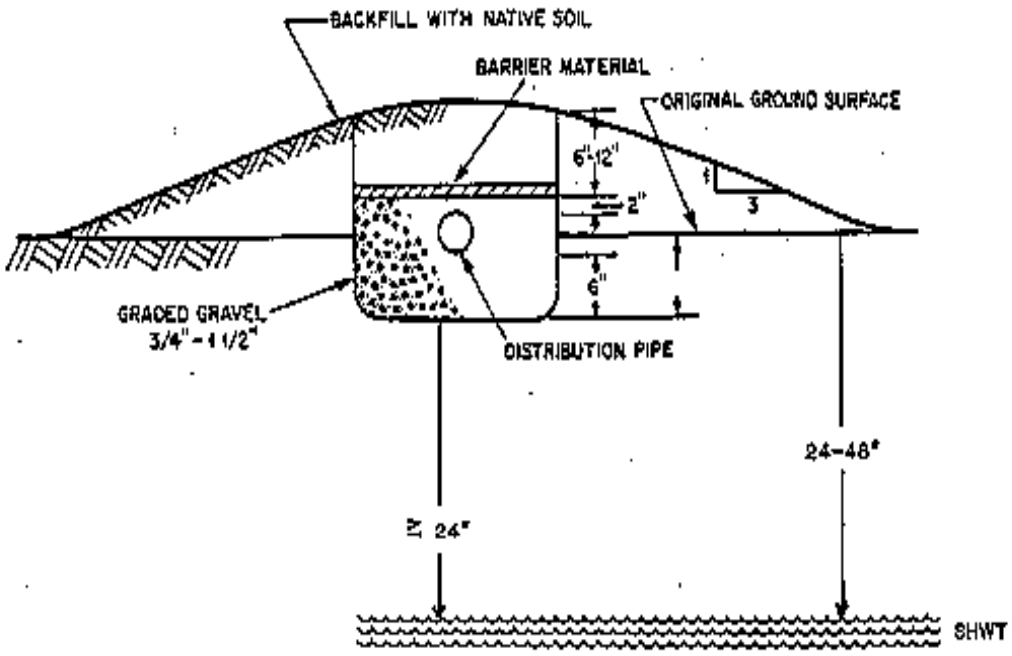


PLAN VIEW



SECTION VIEW

APPENDIX B CONVENTIONAL ABSORPTION BED



SECTION VIEW

APPENDIX C SHALLOW ABSORPTION TRENCH