

Shallow Sloping Systems
Leachline Depth on Sloping Ground

PURPOSE

The purpose of these criteria is to provide a minimum basis for the justification, design, installation and maintenance of septic tank-leachfield systems where depth of permeable soil is inadequate to provide for 15 foot-to-breakout from leaching pipe to surface of a slope. Areas with more than 12 1/2% of slope but less than 30% slope may be considered under this policy. All other regulations regarding on-site sewage disposal systems remain unchanged.

GENERAL

It has been determined that under certain conditions leachlines can be installed at a shallow depth and provide adequate and safe disposal of septic effluent. Certain standards must be met in order to insure safe sewage disposal.

AUTHORITY

Sonoma County Code, Chapter 7

Uniform Plumbing Code

North Coast Regional Water Quality Control Board Basin Plan 1(b) as amended

This procedure supersedes Division of Environmental Health Instruction 1-80.

PROCEDURE

Registered Environmental Health Specialists are to familiarize themselves with the requirements and standards contained herein, and apply these requirements and standards in evaluating pertinent proposals.

A. Determination of site suitability

1. Percolation testing criterion to be observed include:
 - a. Justification for the system must be submitted by a Registered Civil Engineer, Registered Geologist, or a Registered Environmental Health Specialist.
 - b. If one or more test holes performed on the site at the depths required for 15 foot-to-breakout prove unsatisfactory and are supported by soils profiles, then additional tests to justify a "shallow sloping system" may be considered.
 - c. Eight or more test holes at shallow depths (in no instance less than 36" in depth") are required, including at least 2 test holes at 25' and 50' downhill from the lowest proposed leachline or expansion areas to show that the permeable top soil is

- continuous (i.e. adequate distance and depth of soil exists to provide filtration and treatment of effluent).
2. Percolation rates of faster than 5 minutes/inch may require additional evidence that breakout of effluent to the surface or contamination of beneficial waters will not occur.
 3. The percolation test report must evaluate slope stability. Proposed leachfield areas which are identified on geologic maps of Sonoma County as unstable or questionable must be surveyed by a Registered Geologist. Any mitigations recommended by the geologist are to be incorporated into the system design.
 4. Any proposed leachfield area with outcroppings of bedrock or impermeable soil horizons is not acceptable for a "shallow sloping system".

B. Design Criteria

1. Any on-site sewage disposal system proposed under these criteria shall be designed by a Registered Civil Engineer, or Registered Environmental Health Specialist.
2. Disposal fields are to be set back a minimum of 50' from any bank, natural or man made, unless otherwise specified by criteria A.2., or where more stringent requirements may apply.
3. Leachfields and expansion areas shall be placed so as to utilize as much of the upper contours of the site as possible. Serial distribution is required unless an approved parallel distribution system is developed.
4. Trenches must be at least 18" wide and a minimum of 36" deep. Construct disposal trenches with 12" gravel under the pipe, 2" gravel over the pipe, and 18" of earth backfill. If there is more than 36" of soil as shown by percolation tests and more than 12" of gravel can be used, credit for use of additional trench sidewall may be granted in accordance with the standard table of the Well and Septic Section. Non-residential designs will be based on PRMD, EPA, or other approved design criteria.
5. Space trenches at least 10' on center (8' solid earth between trench walls).
6. Amount of leaching trench required for each primary field will be determined from the standard table of the Well and Septic Section.
 - a. Construct two primary leachfields divided by an approved diversion valve which can be alternated on at least a yearly basis.
 - b. Each primary field shall be equal to 100% of the lineal requirement which was

- determined from the standard table of the Well and Septic Section.
- c. In addition to the initial installation, an expansion area equal to one primary field shall be provided and left unencumbered by any improvements. Whenever possible, expansion areas should be placed as far as possible from primary fields to avoid areas of saturation when the expansion field must be utilized.
7. All disposal fields are to be provided with an intercept drain unless no significant watershed exists above the system.
- a. Exceptions must be justified by satisfactory wet-weather ground water determinations.
 - b. Intercept drains shall be installed according to “Construction Requirements for a Standard Septic System for a Single Family Dwelling” of the Well and Septic Section.
 - c. Drainage diversions shall not influence neighboring properties.
 - d. All surface drainage shall be diverted away from the leachfield area.
 - e. All perforated portion of intercept drains must be a minimum of 25' from any property line unless a waiver is justified.
 - f. All intercept drain designs are to be reviewed by the Drainage Review Section.

C. General

1. Construction of the disposal field should be during the dry portion of the typical Sonoma County year. The rainy season should be avoided. Lines are to be back-filled as soon after final construction inspection as possible. Lines which have remained uncovered during any substantial rain may require abandonment or entire retrenching.
2. Benching is not permitted during construction of the disposal field.
3. The area of the leachfield should be stabilized by sodding or seeding with native grasses to control erosion.
4. No animals may be contained, housed, or pastured over the disposal field. The soil in the disposal field area shall not be disturbed by cultivation or tilling.
5. If any lot is to be created utilizing a “shallow sloping system” design, appropriate deed restrictions shall be recorded prior to validation of the land division.

Approved by:

Date Posted 9/27/02

/s/ Richard L. Holmer

Richard L. Holmer, Operations Manager

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