7081.0170 FIELD EVALUATION.

Subpart 1. **Generally.** Before conducting a field evaluation, the designer shall confer with the local unit of government to determine the requirements and scope of the evaluation, dependent upon system size, soil conditions, and other applicable factors. At a minimum, the requirements in this part must be met.

Subp. 2. **Property marks.** Property lines must be identified as acceptable to the owner. Site improvements, required setbacks, and easements must be identified, located, and marked.

Subp. 3. **Site area.** A general evaluation and description of the proposed soil dispersal area, including a general geomorphic description, current land use, and past land use, if known, must be provided.

Subp. 4. **Surface features.** The following surface features must be identified and described:

A. the dominant vegetation;

B. evidence of disturbed or compacted soil or flooding or run-on potential; and

C. landscape position, including landform, slope gradient, slope direction, and surface morphometry as described in the Field Book for Describing and Sampling Soils Version 2.0, September 2002, developed by the National Soil Survey Center and Natural Resources Conservation Service of the United States Department of Agriculture. The field book is incorporated by reference, is not subject to frequent change, and is available through the Minitex interlibrary loan system.

Subp. 5. **Soil pits.**

A. Soil pits are required to investigate the soil for MSTS design. The required number of soil pits to adequately define the limiting layer and soil dispersal system sizing must be determined by professional judgment based on the size of the area and consistency of the soil and must be approved by the local unit of government.

B. The qualifying soil pits or borings to be used for the MSTS design must be located on or near the borders of the proposed soil treatment and dispersal area. Soil pits must be dug outside the soil dispersal area if possible. The soil must be observed and described to a depth of at least three feet below the proposed depth of the system. Other soil observations are allowed to be made to supplement the required soil pit information.

C. Underground utilities must be located before soil observations are undertaken. Required safety precautions must be taken before entering soil pits.

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Subp. 6. **Soil description.**

A. The soil properties and features in subitems (1) to (13) must be described according to Field Book for Describing and Sampling Soil, version 2, Natural Resources Conservation Service, United States Department of Agriculture (September 2002), for each soil horizon at each qualifying soil pit. The field book is incorporated by reference under subpart 4, item C.

(1) Matrix soil color.

(2) Soil features that have different colors from the matrix color, including but not limited to clay films, organic stains, silt coats, nodules, and concretions.

(3) Abundance, size, color, and contrast of redoximorphic features.

(4) Soil texture, with modifiers.

(5) Grade, size, and shape of soil structure.

(6) Moist soil consistence.

(7) Abundance and size of rock fragments.

(8) Abundance and size of roots.

(9) Horizon boundary conditions.

(10) Parent materials.

(11) Pores, quantity and size.

(12) Quantity of boulders and tree stumps affecting construction.

(13) Any other characteristic or feature that affects permeability of the soil or treatment of sewage effluent.

B. The depth of bedrock, if encountered, must be determined by requirements of part 7080.1100, subpart 8.

C. The elevation of standing water evident in any soil pit must be identified.

D. The soil must not be described when frozen, at an improper moisture content, or under poor light conditions.

Subp. 7. **Method.** Hydraulic conductivity testing of the soil must be employed, along with a determination of the soil's texture, structure, and consistence, to determine the loading rate of effluent to the soil. The frequency of the observations and measurements must be determined by the professional judgment of the designer, dependent on the variation in soil conditions and the system size, with the frequency of the observations and measurements approved by the local unit of government.

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Subp. 8. **Comparison with soil survey.** All field soil information gathered must be compared with soil survey information. Any discrepancies shall be identified.

Statutory Authority: *MS s 115.03; 115.55*

History: *32 SR 1400; 35 SR 1353*

Published Electronically: *March 11, 2011*

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