

WATER

26 Attachment 3

Appendix B

Infiltration Testing

OXFORD CODE

Infiltration Testing

Infiltration BMPs shall be designed in the following manner: A detailed soils evaluation of the project site shall be performed to determine the suitability of recharge facilities. The evaluation shall be performed by a qualified professional and, at a minimum, address soil permeability, depth to bedrock, susceptibility to sinkhole formation and subgrade stability, seasonally high groundwater table, suitability of stormwater management facilities, and maximum infiltration capacity in depth of water per unit area. The general process for designing the infiltration BMP shall be:

- A. Site evaluation to determine general areas of suitability for infiltration practices.
- B. Infiltration tests must be taken at the location and elevation of the facility's bottom for each proposed practice. At least two separate tests shall be taken at the location of each SWM facility.
- C. A double-ring infiltrometer test shall be used for all infiltration tests in accordance with the current edition of the BMP Manual.
- D. Upon completion of site evaluation and infiltration tests, the design infiltration rate shall be determined from the tested infiltration rates by using the geometric mean. The geometric mean, not the arithmetic mean, of the multiple infiltration tests, must be reported and used. In some situations, a measured rate of zero may be obtained. In these cases, a default value should be used based on one decimal digit less than the smallest detectable reading for that particular test. For example, if the smallest detectable reading using an infiltrometer is a 0.15 inch drop, then 0.14 inches should be substituted for the zero reading. The geometric mean of a data set is the nth root of the product of "n" numbers:

$$\sqrt[n]{x_1 * x_2 * x_3 \dots x_n}$$

- E. The infiltration requirement in the high-quality/exceptional waters shall be subject to Title 25, Chapter 93, of the Pennsylvania Code of Regulations and the antidegradation regulations promulgated by DEP thereunder.