

PERCOLATION TEST

Soil Infiltration Testing – aka Percolation Test

Certain credits are offered to provide the opportunity for property owners to reduce the amount of storm water that enters the sewer system from their property by promoting infiltration of some of the runoff into the soils on their property. In order for these types of measures to be effective, the existing soils must have the capacity to accept the added infiltration. To qualify for measures that rely on infiltration, a percolation test (or other method of soil infiltration testing) must be successfully completed.

Safety

Attention to all OSHA and local guidelines related to earthwork and excavation must be followed. Notify the Michigan One Call System (Miss-Dig) at least 72 hours before digging or excavating on your property by calling (800) 482-7171 or dialing “811”. Excavations should never be left open and unsecured.

“Simple” Percolation Test Method

The simple percolation test is applicable to evaluate the infiltration capacity of the existing soils for most single family residential (SFR) measures to reduce runoff. The test is conducted at the location of the proposed measure, and at the elevation of the bottom of the measure. For example: pervious pavement – depth to bottom of measure is 6 inches; rain garden – depth to bottom of measure shall be 12 to 18 inches; infiltration trench – depth to bottom of measure shall be 3 feet. The basic procedure for the “simple” percolation test is as follows:

1. Dig an 18 inch deep hole below the bottom of the proposed infiltration measure.
2. Fill hole with water and let it drain completely.
3. Re-fill hole with water and measure time for it to drain completely.
4. If measured time to drain is less than 24 hours, then the infiltration capacity is adequate for most SFR measures.

Homeowners conducting their own test will be required to document their findings in the application, so results must be logged precisely. Testers are strongly encouraged to refer to Appendix E of the LID Manual for Michigan for more details.

Soil Infiltration Test Methods

For non-SFR measures that are proposed to reduce runoff from the property that hope to result in an ESWU reduction, more accurate evaluation of the infiltration capacity of the existing soils is required. More accurate field tests include the double-ring infiltrometer test and percolation test. A thorough description of these test methods can be found in Appendix E of the LID Manual for Michigan published by SEMCOG. Results from these tests can be used to adequately size the proposed infiltration measures.