Soil Restoration Notes Required on Plans

Soil De-compaction and Testing Requirements

Soil Compaction Testing Requirements

1. Subgrade soils **prior to the application of topsoil** (see permanent seeding and stabilization notes for topsoil requirements) shall be free of excessive compaction to a depth of 6.0 inches to enhance the establishment of permanent vegetative cover.

2. Areas of the site which are subject to compaction testing and/or mitigation are **graphically denoted** on the certified soil erosion control plan. See example site plan at: http://www.nj.gov/agriculture/divisions/anr/nrc/njerosion.html

3. **Compaction testing locations** are denoted on the plan. A copy of the plan or portion of the plan shall be used to mark locations of tests, and attached to the **Soil Compaction Mitigation Verification Form**, available from the local soil conservation district or http://www.nj.gov/agriculture/divisions/anr/nrc/njerosion.html. This form must be filled out and submitted prior to receiving a certificate of compliance from the district.

4. In the event that **testing indicates compaction** in excess of the maximum thresholds indicated for the simplified testing methods (see details below), the contractor/owner shall have the **option** to perform either **(1)** compaction mitigation over the entire mitigation area denoted on the plan (excluding exempt areas), or **(2)** perform additional, more detailed testing to establish the limits of excessive compaction whereupon only the excessively compacted areas would require compaction mitigation. Additional detailed testing shall be performed by a trained, licensed professional.

Compaction Testing Methods

A. Probing Wire Test (see detail)
B. Hand-held Penetrometer Test (see detail)
C .Tube Bulk Density Test (licensed professional engineer required
D. Nuclear Density Test (licensed professional engineer required)

Note: Additional testing methods which conform to ASTM standards and specifications, and which produce a dry weight, soil bulk density measurement may be allowed subject to District approval.

Soil compaction testing is not required if/when subsoil compaction remediation (scarification/tillage (6" minimum depth) or similar) is proposed as part of the sequence of construction.

Procedures for Soil Compaction Mitigation

Procedures shall be used to mitigate excessive soil compaction **prior to placement of topsoil** and establishment of permanent vegetative cover.

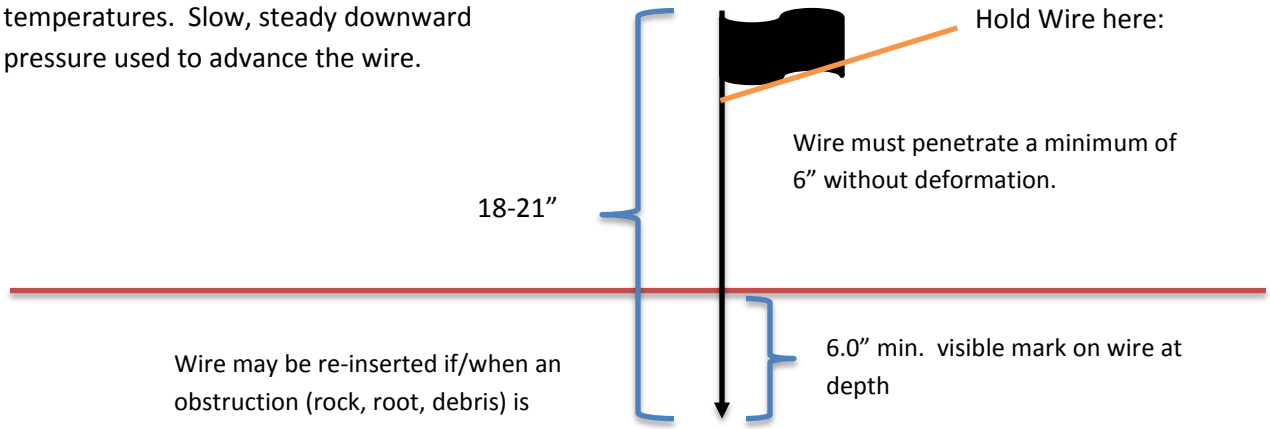
Restoration of compacted soils shall be through deep scarification/tillage (6" minimum depth) where there is no danger to underground utilities (cables, irrigation systems, etc.). In the alternative, another method as specified by a New Jersey Licensed Professional Engineer maybe substituted subject to District Approval.

Effective Date 12/7/2017

Simplified Testing Methods

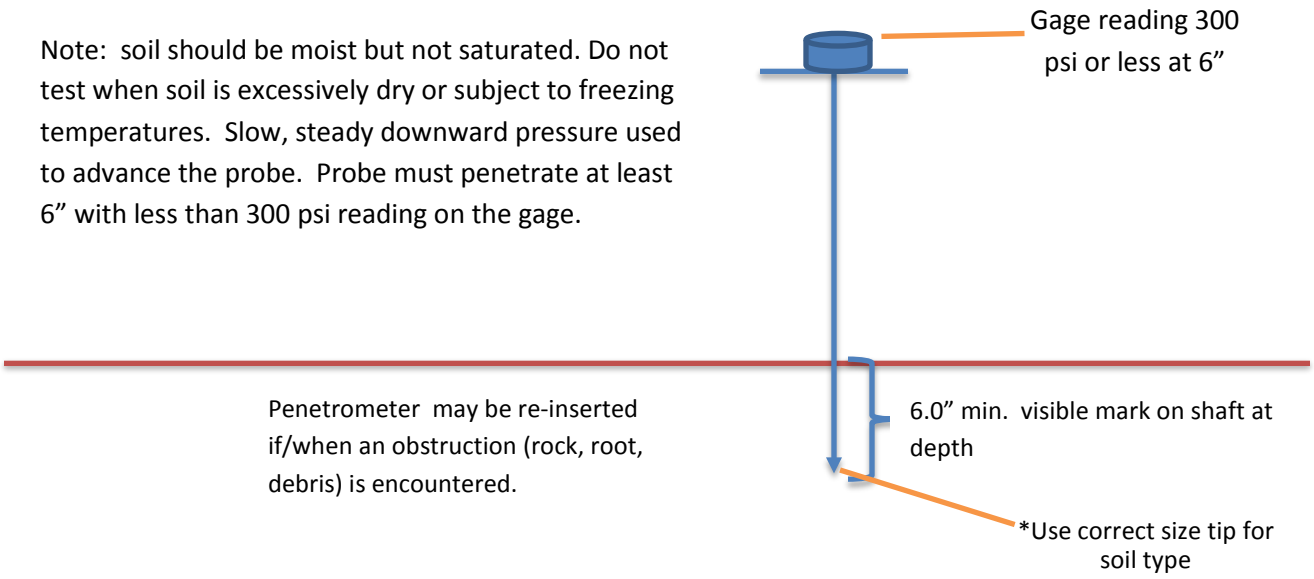
Probing Wire Test- 15.5 ga steel wire (survey flag)

Note: soil should be moist but not saturated. Do not test when soil is excessively dry or subject to freezing temperatures. Slow, steady downward pressure used to advance the wire.



Handheld Soil Penetrometer Test

Note: soil should be moist but not saturated. Do not test when soil is excessively dry or subject to freezing temperatures. Slow, steady downward pressure used to advance the probe. Probe must penetrate at least 6" with less than 300 psi reading on the gage.



Topsoiling Notes

1. Topsoil should be handled only when it is dry enough to work without damaging soil structure.

2. A uniform application to an average depth of 5" (minimum 4") firmed in place is required.

3. Pursuant to the requirements in Section 7 of the Standard for Permanent Vegetative Stabilization, the contractor is responsible to ensure that permanent vegetative cover becomes established on at least 80% of the soils to be stabilized with vegetation. Failure to achieve the minimum coverage may require additional work to be performed.