

*** DRAFT – NOT FOR FILING ***

3745-512-222

Added geologic material layer.

[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, test methods, federal rules, and federal statutory provisions referenced in this rule, see rule 3745-500-03 of the Administrative Code titled "Incorporation by reference."]

(A) Added geologic material shall be placed by the owner or operator in lifts to attain uniform compaction. Each lift shall conform to the following:

- (1) Be free of foreign material and deleterious material.
- (2) Be free of industrial waste, solid waste, and C&DD.
- (3) Be free of large objects in such quantities that could interfere with the added geologic material's construction and intended purpose.
- (4) Be constructed with a soil capable of attaining a hydraulic conductivity that does not exceed 1.0 times ten to the negative six centimeters per second when compacted in accordance with paragraphs (A)(5) to (A)(8) of this rule.
- (5) Be constructed in loose lifts of eight inches thick or less.
- (6) Be constructed of a soil with a maximum clod size that does not exceed the lift thickness.
- (7) Be compacted to either at least ninety-five per cent of the maximum dry density as determined by ASTM D698 (standard proctor) or at least ninety per cent of the maximum dry density as determined by ASTM D1557 (modified proctor), or to the density established in accordance with rule 3745-512-10 of the Administrative Code if that density is greater.
- (8) Be placed with either a soil moisture content equal to or greater than the moisture content of the pre-construction hydraulic conductivity sample or to the moisture content established in accordance with rule 3745-512-10 of the Administrative Code.
- (9) If a flexible membrane liner is to be placed upon the added geologic material, the surface of the added geologic material shall have no particles with a maximum dimension greater than 0.5 inches.

(B) Testing of the added geologic material shall be performed by the owner or operator in conformance with the following:

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- (1) Pre-construction testing on representative samples to determine shear strength in accordance with rule 3745-512-10 of the Administrative Code.
 - (2) Pre-construction testing on representative samples in accordance with rule 3745-512-15 of the Administrative Code.
 - (3) Construction testing on the constructed lifts to determine the density and moisture content according to ASTM D6938 (nuclear method), ASTM D1556 (sand cone), ASTM D2167 (rubber balloon), or ASTM D6780 (TDR) at a frequency of not less than five tests per acre per lift. The locations of the individual tests shall be adequately spaced to represent the constructed area and shall be offset from one lift to the next lift. Any penetration shall be repaired by the owner or operator using bentonite.
- (C) The location, basal elevations, and final elevations of the added geologic material shall be surveyed prior to constructing any engineered component on the added geologic material.
- (D) Certification of the added geologic material by the owner or operator shall include the following:
- (1) Record drawings showing the location and plan views with topographic representation of final elevations of the added geologic material, as constructed.
 - (2) The table of survey information described in rule 3745-512-50 of the Administrative Code, including a comparison of the survey data to the elevations in the authorizing document.
 - (3) Results of all construction testing performed under paragraph (B)(3) of this rule.
 - (4) Results of all testing and verification that the added geologic material meets the standards in paragraph (A) of this rule and the specifications in the authorizing document.