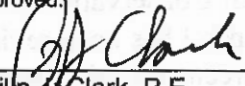


To: SUPERSEDED BY EI 12-001 EFFECTIVE 9/6/12		New York State Department of Transportation ENGINEERING INSTRUCTION	EI 06-024
Title: REVISIONS TO STANDARD SPECIFICATIONS – SECTION 613 PLACING TOPSOIL, §713-01 TOPSOIL AND §713-15 ORGANIC MATERIAL			
Distribution: ☒ Manufacturers (18) ☐ Surveyors (33) ☒ Local Govt. (31) ☒ Consultants (34) ☒ Agencies (32) ☒ Contractors (39)		Approved:  Philip J. Clark, P.E. Deputy Chief Engineer, Design <i>09/28/06</i> Date	

ADMINISTRATIVE INFORMATION:

- This Engineering Instruction (EI) is effective beginning with projects submitted for the letting of January 11, 2007.
- This EI does not supersede any previous issuances.
- The attached shelf notes will be incorporated into a future revision of the Standard Specifications.

PURPOSE:

This EI issues revised Section 613 *Placing Topsoil*, §713-01 *Topsoil* and §713-15 *Organic Material* of the Standard Specifications.

TECHNICAL INFORMATION:

- The name of Section 613-“TOPSOIL” is changed to “PLACING TOPSOIL”.
- There are now two payment items for topsoil in Section 613 with two topsoil types (Type A and Type B) in §713-01. Designers will not be able to modify either type by use of supplemental landscape development specifications.
- The distinction between source-separated compost and biosolids is eliminated.
- Humus and peat are eliminated from §713-15, but peat moss is retained to provide easy availability and use in small quantities.
- The grain-size distribution and minimum percentage of organic material in §713-01 are changed.
- There will be some additional cost associated with the implementation of this EI due to the increased default percentage of organic materials required in topsoil.

IMPLEMENTATION:

- The Design Quality Assurance Bureau (DQAB) will insert the attached shelf notes for Section 613 *Placing Topsoil*, §713-01 *Topsoil* and §713-15 *Organic Material* into contract proposals beginning with projects submitted for the letting of January 11, 2007 containing pay items-613.02 or 613.03.
- This EI disapproves the following Contract Pay Item:
 613.0101 Topsoil
- This EI approves the following Contract Pay Items:
 613.02 Placing Topsoil-Type A
 613.03 Placing Topsoil-Type B

El 06-024 Page 2 of 2

TRANSMITTED MATERIALS:

Revised Section 613 *Placing Topsoil*, §713-01 *Topsoil* and §713-15 *Organic Material* of the Standard Specifications.

BACKGROUND:

Department of Environmental Conservation treats all composts as "Compost" regardless of source. The default organic content of topsoil has been revised to be consistent with university research that indicates the Department's use of 2 percent organic content is inadequate for most roadside turf establishment.

CONTACT:

Direct questions regarding this EI to Charlie Nagel (Landscape Architecture Section) (518) 457-4460 (e-mail: cnagel@dot.state.ny.us) or Gary Glath (Landscape Architecture Section) (518) 457-4460, (e-mail: gglath@dot.state.ny.us).

PLACING TOPSOIL

Make the following changes to Volume 2 of 3 of the Standard Specifications of January 2, 2002:

Page 6-72, **Delete** SECTION 613-TOPSOIL in its entirety and **Replace** it with the following:

SECTION 613 PLACING TOPSOIL

613-1 DESCRIPTION. This work shall consist of furnishing and placing topsoil Type A and/or Type B in accordance with the contract documents or as directed by the Engineer.

613-2 MATERIALS. Topsoil shall conform to the requirements §713-01 *Topsoil*. Unsuitable excavated material that meets the requirements of §713-01 is acceptable. Materials used to amend the organic content of topsoil shall conform to the requirements of §713-15 *Organic Material*.

613-3 CONSTRUCTION DETAILS

613-3.01 Preparation. The subsoil within the areas to be covered by topsoil shall be graded so that the completed work after topsoil is placed, shall conform to the specified lines and grades. Where specified or directed, the Contractor shall scarify or till the surface of the subsoil before the topsoil is placed to permit bonding the topsoil with the subsoil. Tillage by disking, harrowing, raking or other approved methods shall be accomplished in such a manner that depressions and ridges formed by tillage shall be parallel to the contours.

613-3.02 Placing and Spreading. Topsoil in an unworkable condition due to excessive moisture, frost, or other conditions shall not be placed until it is suitable for spreading. Topsoil shall be placed on the designated area and spread to a thickness of 100 mm unless otherwise specified in the contract documents. After the topsoil is spread, all large stiff clods, rocks, roots, or other foreign matter shall be cleared and disposed of by the Contractor as approved so that the finished surface will be acceptable for seeding, sodding, mulching, or planting.

613-3.03 Amendment in Place. When used for turf and wildflower establishment only, the Contractor may amend topsoil deficient in organic content and/or pH in place. Topsoil shall be amended with approved materials and by approved methods, based upon the recommendations of a laboratory certified by a nationally recognized entity that has been engaged and paid for by the Contractor. Amendments shall not contain any material that is deleterious to soil structure, plant growth or seed germination. The Contractor shall provide acceptable evidence of weights of pH amendment(s) applied via scale tickets, bag weights, etc. The Engineer will determine the volume of organic amendment(s) from truck volumes, etc. prior to placement.

613-3.04 Restoration. The sites of all stockpiles and areas adjacent thereto, which have been disturbed by the Contractor, shall be graded to a condition acceptable for seeding. Surplus topsoil shall become the property of the Contractor and shall be removed from the project site.

613-4 METHOD OF MEASUREMENT. The quantity to be measured for payment will be in cubic meters to the nearest 0.1 cubic meter of topsoil placed.

613-5 BASIS OF PAYMENT. The unit price bid shall include the cost of furnishing all labor, materials and equipment required to complete the work.

PLACING TOPSOIL

Payment will be made under:

Item No.	Item	Pay Unit
613.02	Placing Topsoil-Type A	Cubic Meter
613.03	Placing Topsoil-Type B	Cubic Meter

TOPSOIL

Make the following changes to Volume 3 of 3 of the Standard Specifications of January 2, 2002:
Page 7-144, **Delete** §713-01 TOPSOIL in its entirety and **Replace** it with the following:

713-01 TOPSOIL

SCOPE. This specification covers the material requirements for topsoil for use in turf and wildflower establishment, sodding, or planting.

MATERIAL REQUIREMENTS. Topsoil may be naturally occurring or may be manufactured. Manufactured topsoil is a mixture of materials comprised of a mineral(soil) component that by itself does not exhibit the properties and characteristics of topsoil, an organic material component consisting of compost(s) meeting the requirements of §713-15 *Organic Material*, and amendment(s), such as limestone that, when combined together, meet the requirements for topsoil.

Topsoil shall be free from refuse, material toxic or otherwise deleterious to plant growth, subsoil, seeds or other viable propagules of invasive plants, woody vegetation and stumps, roots, brush, stones, clay lumps, or similar objects. Construction and demolition debris as classified under 6 NYCRR Part 360, other than uncontaminated land clearing debris, shall not be used to manufacture or amend topsoil. Sod and herbaceous growth such as grass and weeds need not be removed but shall be thoroughly broken up and mixed with the soil during handling or manufacturing operations.

Topsoil shall meet the following requirements:

Topsoil-Type A

- The pH of the material shall be between 5.5 and 7.6.
- The organic content shall be not less than 6% or more than 12%, (dry weight basis).
- Gradation:

Sieve Size	Percent Passing by Weight
50 mm	100
25 mm	85 to 100
6.3 mm	65 to 100
75 µm	20 to 65
2 µm	0 to 20

Topsoil-Type B

- The pH of the material shall be between 5.5 and 7.6.
- The organic content shall be not less than 2% or more than 20%, (dry weight basis).
- Gradation:

Sieve Size	Percent Passing by Weight
50 mm	100
25 mm	85 to 100
6.3 mm	65 to 100
75 µm	20 to 80

The Contractor may amend topsoil with approved materials and by approved methods to meet the above specifications.

STOCKPILING. Topsoil acquired from sites designated in the contract documents or approved by the Engineer shall be stockpiled prior to its use. Topsoil acquired from sites that are

TOPSOIL

designated in the contract documents or approved by the Engineer is not subject to requirements for stockpiles, sampling, and testing. If no topsoil sites within the contract limits are designated in the contract documents or approved by the Engineer, the material proposed for use, either naturally occurring topsoil or manufactured topsoil, must be stockpiled, sampled, and tested prior to its use.

Stockpiles shall contain not less than 150 cubic meters or the minimum required for the contract, shall have a height of at least 1.2 meters unless otherwise approved, and shall be trimmed to uniform surfaces and slopes.

Ramps formed for stockpile construction shall be topsoil and will be considered part of the stockpile. Any contaminated ramp surface material shall be removed before steepening, reshaping, addition of topsoil to the area of a ramp, ramp removal, and/or sampling.

Each stockpile shall be identified with a durable and legible sign placed prior to sampling. The sign shall remain until the stockpile is depleted or disposed of. The information on stockpile signs shall include the contract number(s), a stockpile identification number, and the following: "NYSDOT 713-01 Topsoil".

The Contractor/Supplier shall supply Department contracts with a substantial portion of the topsoil in approved stockpiles. A stockpile created for multiple contracts shall be a minimum of 1000 cubic meters and a maximum of 8000 cubic meters unless the Contractor or Material Supplier has a written quality control plan approved by the Regional Construction Engineer prior to construction of a larger stockpile.

Approved topsoil stockpiles or portions of approved stockpiles shall not be moved to another location without written approval from the Department of the Contractor's/Supplier's relocation plan for ensuring preservation of the quality of the stockpiled topsoil.

The Contractor shall maintain a current record for each topsoil stockpile used for Department contracts. The record shall indicate the stockpile identification number, the dates when material was shipped to Department contracts, contract number(s), and the quantity of topsoil shipped. The record shall be available for Department inspection upon request.

SAMPLING. The Contractor shall notify the Engineer of the intended source of the material a minimum of 21 calendar days in advance of the scheduled use of the material to allow time for sampling, sample shipment and testing. Samples of naturally occurring topsoil, manufactured topsoil or amended topsoil mixture will be taken by a representative of the Department. Samples taken for topsoil that has been amended or manufactured with approved composted biosolids shall be identified as such.

For stockpiles up to 4000 cubic meters, a minimum of one sample shall be taken, for each 1000 cubic meters or portion thereof. For stockpiles containing more than 4000 cubic meters, one sample should be obtained from each of four quadrants that are approximately equal in size.

The Contractor/Supplier shall form a face for the full height of the stockpile at the locations specified by the Department's sampler. A loader bucket or similar equipment shall then be filled by channeling the full height of the stockpile face, from the bottom to the top, in one operation. The bucket shall then be lowered and emptied by rotation to form a small pile at each sampling location.

The sampler shall place a shovel full of soil from each pile into a large container. The soil shall be thoroughly mixed and, either by splitting or quartering, a sufficient amount of mixed topsoil shall be taken to fill a standard topsoil sampling container. Containers shall be supplied by the Department.

TOPSOIL

Contractors who believe that an error was made in sampling the topsoil shall, within one work day, indicate the alleged error in writing to the Engineer.

Topsoil shall be free from refuse, material toxic or otherwise deleterious to plant growth, subsoil, seeds or other viable propagules of invasive plants, woody vegetation and stumps, roots, brush, stones, clay lumps, or similar objects. Sod and herbaceous growth such as grass and weeds need not be removed but shall be thoroughly broken up and mixed with the soil during handling or manufacturing operations.

Additional topsoil shall not be added to the stockpile after sampling. If additional material is added after the stockpile has been sampled, or if the stockpile is otherwise tampered with, the stockpile will be rejected.

TESTING. All material tests required by this section, except for the testing of composted biosolids and topsoil containing composted biosolids, will be performed by the Department in conformance with the procedures contained in the appropriate Department publications or test methods.

Composted biosolids used to amend or manufacture topsoil shall conform to the applicable requirements of §713-15 *Organic Material*. Composted biosolids shall require a certificate, from a laboratory approved by the NYS Department of Health, verifying compliance with all applicable laws, rules, and regulations. The certification shall be supplied by the Contractor prior to the delivery of any composted biosolids, topsoil containing composted biosolids, or other such regulated material to the contract site. The material shall be approved before it is used.

Topsoil that has been amended with approved composted biosolids or other such regulated material shall be tested to ensure compliance with the pH, organic content, and gradation requirements certified by a nationally recognized entity which provides soils laboratory services. The Contractor shall provide laboratory results to the Engineer.

BASIS OF ACCEPTANCE. Acceptance of topsoil will be based upon the test results unless otherwise specified.

ORGANIC MATERIAL

Page 7-154, **Delete** §713-15 ORGANIC MATERIAL in its entirety and **replace** it with the following:

713-15 ORGANIC MATERIAL

SCOPE. This specification covers the material requirements for organic material used in conjunction with amending or manufacturing topsoil and for erosion control products.

GENERAL. Organic materials regulated by the NYS Department of Environmental Conservation and the NYS Department of Health (NYSDOH) shall meet all applicable regulatory requirements.

MATERIAL REQUIREMENTS.

Peat Moss. Peat moss shall be commercially produced and shall be composed of the partly decomposed stems and leaves of any or several species of sphagnum moss. It shall be free from wood, decomposed colloidal residue, and other foreign matter. It shall have an acidity range of 3.5 pH to 5.5 pH as determined in accordance with methods of testing of Association of Official Agricultural Chemists. Its water-absorbing ability shall be a minimum of 1100% by weight on an oven-dry basis.

Compost. Compost shall be source-separated compost or composted biosolids that have been commercially or municipally produced and shall be an organic substance produced by the biological and biochemical decomposition of compostable source-separated or biosolid material that is separated at the point of waste generation. Source-separated and biosolid materials may include, but not be limited to, leaves and yard trimmings, food scraps, food processing residues, manure and/or other agricultural residuals, forest residues and bark, soiled and/or unrecyclable paper, and biosolid materials.

Source-separated compost and composted biosolids shall be reasonably free of sticks, stones, refuse, materials deleterious to soil structure, or any material toxic or detrimental to plant germination and growth. Compost containing foreign material may be rejected on the basis of a visual examination.

Biosolids are regulated by the NYSDOH, and must meet all applicable regulatory requirements.

Type A. Compost for Turf Establishment, Sodding, and Planting.

- 1) Minimum organic-matter content shall be 30% (dry-weight basis) as determined by loss on ignition.
- 2) Product shall be loose and friable, not dusty, and have a moisture content of 35% - 60%, (wet weight basis).
- 3) Particle size shall be <12.5 mm, (100% passing).
- 4) Soluble salts concentration shall be <4.0 mmhos/cm (ds/m), maximum.
- 5) Compost shall be stable to very stable according to the test method current on the date of advertisement for bids.
- 6) pH shall be between 6.0-8.5.

ORGANIC MATERIAL

Type B. Compost for Erosion/Sediment Control Filter Berms.

- 1) Compost for Erosion/Sediment Control Filter Berms shall meet the requirements of AASHTO Designation MP 9-03 and as follows:
- 2) Minimum organic matter content 25% - 65% (dry-weight basis) surfaces to be vegetated; 25% - 100% (dry weight basis) surfaces to be left unvegetated.
- 3) Gradation:

Sieve Size	Percent Passing by Weight
75 mm	100
25 mm	90 to 100
19 mm	70 to 100
6.3 mm	30 to 75

Maximum particle length; 150 mm

- 4) Soluble salt concentration shall be 5 mmhos/cm; (ds/m) maximum.
- 5) Compost shall be stable to very stable according to the current test method.
- 6) pH shall be between 5.0 - 8.5.

Type C. Compost for Erosion/Sediment Control Compost Blankets (Mulch for Seeded Areas).

- 1) Compost for Erosion/Sediment Control Compost Blankets, (mulch for seeded areas), shall meet the requirements of AASHTO Designation MP 10-03 and as follows:
- 2) Minimum organic matter content 25% - 65% (dry weight basis) surfaces to be vegetated; 25% - 100% (dry-weight basis) surfaces to be left unvegetated.
- 3) Gradation:

Sieve Size	Percent Passing by Weight
75 mm	100
25 mm	90 to 100
19 mm	65 to 100
6.3 mm	0 to 75

Maximum particle length; 150 mm

- 4) Soluble salt concentration shall be 5 mmhos/cm; (ds/m) maximum.
- 5) Compost shall be stable to very stable according to the current test method.
- 6) pH shall be between 5.0 - 8.5.

Composted biosolids used to amend or manufacture topsoil shall have a certificate from a laboratory approved by the NYSDOH verifying compliance with all applicable laws, rules, and regulations. Only facilities permitted to compost biosolids under 6 NYCRR Part 360, will be allowed to furnish finished compost for use in topsoil. The certification shall be supplied by the Contractor prior to the delivery of any composted biosolids, topsoil containing composted sewage sludge, or other such regulated material to the contract site.

BASIS OF ACCEPTANCE. Peat moss and compost will be accepted on the basis of a Producer's label or a certificate of analysis by a laboratory certified by a nationally recognized entity indicating compliance with the material requirements and visual inspection.

Acceptance of composted biosolids shall be based on certification by a NYSDOH approved laboratory indicating compliance within the material requirements and all applicable regulations.

ORGANIC MATERIAL

Compost supplied or manufactured by participants in the US Composting Council's Seal of Testing Approval Program will be accepted based on the Program's Compost Technical Data Sheets. The data shall represent a minimum of one year of testing results and the most recent test shall have been conducted with ninety days of material acceptance.

Compost supplied or manufactured by suppliers that do not participate in the US Composting Council will be accepted based on certification by a laboratory certified by a nationally recognized entity indicating compliance with the material requirements.

Compost may be sampled and tested by the Department to ensure compliance with the material requirements.