

Longwood University
LANDSCAPE SOIL (TOPSOIL)

Description

Landscape soil shall be used for soil preparation and amending existing soil for landscape areas, erosion control areas, and lawn areas. The terms landscape soil and topsoil can be used interchangeably for this Specification.

Lawn areas are defined as any area that will support grass either planted as seed or sod including playing fields. Landscape areas are defined as any area that will support perennial, annuals, bulbs, shrubs, and trees.

Quality Assurance

- A. If the drawings or specifications disagree among them or the drawing disagree with the specifications, the greater quantity and better quality of work shall be bid upon and provided by the contractor, unless otherwise indicated by the Longwood University's Director of Landscape and Grounds in writing. If discrepancies are identified, the contractor shall notify Longwood University immediately for direction, prior to proceeding with work.

- B. All work shall meet minimum requirements of Longwood University Landscape and Grounds Department topsoil specification as well as what is contained within this specification.

C. The submittals listed below will be made for landscape soil aspect of this project to the University Project Manager.

1. Manufacturer's and/or source data for all materials including soils.
2. Certified chemical and mechanical analysis of sample of top soil, existing soil, soil mixes, soil amendments and organic compost materials used in making of soil mixes.
3. Submit a list of equipment anticipated for soil work, unloading materials handling and installation.
4. Samples provided by the contractor shall be typical of material to be delivered to the site and shall provide an accurate indication of color, texture, and the organic make-up of the material. Submit a three pound samples of the following :
 - a. Organic Matter: one sample of each type of organic matter to be used.
 - b. Imported Off-Site soil prior to Amendment: one sample
 - c. Amended Off-Site soil: one sample
5. Submit soil tests to the Longwood University Project Manager for all soil to be obtained from both on-site and off-site as describe above.

D. Soil Testing

1. All soil testing shall be done at the Contractor's expense. Soil tests shall be conducted by a state laboratory or a recognized commercial laboratory. Each Sample shall be extracted from a six-inch deep core and prepared in accordance with recommendations of the soil testing laboratory.
2. Each soil test shall determine soil text (mechanical analysis), pH, magnesium, phosphorus, potassium, soluble salts, total calcium, nitrogen, and percent organic matter. If the soil is sandy, it shall also be tested for boron. Soil test results shall include laboratory recommendations for soil amendments to correct deficiencies and accomplish planting objectives. Follow recommendations of Landscape Specifications Guidelines, latest

edition, Landscape Contractor's Association of Maryland, Virginia, and The District of Columbia, Seeding and Sodding Section for optimum plant growth and provide course of action based on their recommendation. The Contractor shall submit plans with the soil test results showing the locations of all tests. Incomplete test results and plans will be rejected by Longwood University and shall be redone at the Contractor's expense.

1. For all new soils provided from off-site sources, obtain one soil test for each soil source per 500 cubic yards of soil and submit soil test results and soil amendment recommendations to Longwood University Project Manager and Director of Landscape and Grounds for review and acceptance prior to distributing and amending the soil.
2. For all existing stockpiled topsoil to be redistributed on site, obtain one soil test per 500 cubic yards of soil prior to application. Submit soil test results and soil amendment recommendations to Longwood University Project Manager and Director of Landscape and Grounds for review and acceptance prior to distributing and amending soil.
3. Where paving and base materials have been removed and the area is to be re-established with lawn or plantings, obtain composite soil test per 10,000 square feet of subsoil material, or at least one composite test for each separate excavated area. Each composite soil test shall consist of no less than five one-half cup samples taken at random from each sampling area. Each sample shall be taken from a six-inch deep core. The five or more samples shall be mixed together to form a composite sample, from which a pint sample shall be extracted, air-dried and tested. Submit soil test results and soil amendment recommendations to Longwood University Project Manager and Director of Landscape and Grounds for review and acceptance prior to distributing and amending soil.

4. For existing soil to remain in place and be amended for landscape areas, submit one composite soil test for each isolated bed area (separated from other beds by paving). For existing soil to remain in place and be amended for lawn areas, submit one composite soil test per 20,000 square feet. Composite tests for planting areas shall be mixed from a minimum of five samples as described in # 5 above. Composite tests for lawn areas shall be mixed from a minimum of ten samples as described in # 5 above. Submit soil test results and soil amendment recommendations to Longwood University Project Manager and Director of Landscape and Grounds for review and acceptance prior to distributing and amending soil.
5. Following completion of soil amendment operations and fine grading, and prior to planting, 10 additional soil samples shall be taken at random from planting and lawn areas throughout the site. The Director of Landscape and Grounds shall determine locations of tests. These samples shall not be composite samples and are to assure that soils have been amended properly prior to planting or installation of lawn. Submit soil test results to Longwood University Project Manager and Director of Landscape and Grounds for review. If it is apparent that soils have not been amended as specified or protected from contamination, areas not in compliance with specified requirements shall be reworked and retested as required until soil meets specified requirements. All rework and retesting shall be at the Contractors expense.

E. Delivery, Storage, and Handling

1. Package materials will be delivered in manufacturer's unopened containers or bundles; they will identify with name, brand, type, weight, and analysis. Package material will be stored in a manner that will prevent damage or intrusion of foreign matter. Any material that becomes contaminated will be removed from the job site.
2. Organic amendments will not be delivered or installed excessively wet or frozen.
3. Delivery location, stockpile locations and schedule will be coordinated with the Longwood University Project Manager prior to delivery. Soils will be protected from eroding while stockpiled on site.
4. Bulk materials will be stabilized after delivery according to Sediment Control Plan.

F. Job Conditions

1. The contractor shall notify the University Project Manager at least ten (10) calendar days prior to start of landscape soil installations.
2. Determine location of all underground utilities prior to soil work. Existing utilities, paving, vegetation, and other facilities will be protected from damage caused by soil installation operations. All damaged areas; facilities and materials shall be restored, repaired or replaced as directed by Longwood University at the Contractor's expense.
3. Commencement of work constitutes acceptance of conditions under which work is to be performed. After such acceptance, Contractor will be responsible for correcting unsatisfactory and defective work resulting from unsatisfactory conditions.

Materials

- A. Landscape soils are amended existing stockpiled topsoil, amended existing in-place soil, or amended soil from an off-site source that has been spread to finished grade, will support plant growth, and meets the following requirements. The soil shall closely match the mechanical analysis (percentage sand, silt, and clay) of the existing subsoil. Soil shall be free of cinders, stones, slag, coarse fragments, gravel, sticks, trash, roots, and other debris over 3/4 ". Soil will be to a depth of 12" for landscape areas, 6" for lawn areas, and 18" for individual trees and shrubs. It also must be free of plants or plant parts of Bermuda grass, Quack grass, Johnson grass, Nutsedge, Poison Ivy, Phragmites, Canada thistle, or any noxious weeds. The soil shall contain no substances harmful to plant growth. If the existing native subsoil is bank run gravel, the topsoil or landscape bedding soil shall be a sandy loam.
 1. Soil for lawn areas:
 - a. The Ph shall be between 6.0-7.0
 - b. The acceptable amount of Magnesium shall be 35 pounds per acre; Phosphorus shall be 100 pounds per acre; Potassium shall be 85 pounds per acre, and Nitrogen shall be a minimum of 50 pounds per acre.

- c. Soluble salts shall not exceed 3 mmhos/cm. Calcium levels shall not exceed 2000 parts per million.
 - d. Organic Matter shall be greater than three percent.
- 2. Soil for landscape areas
 - a. The Ph shall be based on the specific plant requirements but will be within the range of 5.5-6.5
 - b. The acceptable amount of Magnesium shall be 71-124 pounds per acre; Phosphorus shall be 62-102 pounds per acre; Potassium shall be 85-160 pounds per acre, and Nitrogen shall be a minimum of 50 pounds per acre.
 - c. Soluble salts shall not exceed 4 mmhos/cm. Calcium levels shall not exceed 2000 parts per million.
 - d. Organic Matter shall be greater than five percent.
- 3. The following soil amendments may be used amend the soil to meet specified requirements. Soil amendments and rates are to be determined based on soil test results. Specific recommendations for the type of amendments can be found in the Landscape Guidelines by the Landscape Contractors Association of MD, DC, and VA (recent addition).
 - a. Sulfur: sulfur for adjustment of soil Ph shall be an unadulterated flower of sulfur.
 - b. Lime: Ground or pulverized limestone, which contains a maximum of 50 percent total oxides.
 - c. Organic Matter: to increase organic matter based on soil test results, the following materials can be used:
 - I. Yard Debris Compost: Compost made from Yard Trimmings, such as leaves, grass clippings and pruning that have been properly composted, are mature and have been sieved through a ¾ inch screen. Compost shall be free of trash and contain no toxic substance harmful to plant growth.
Acceptable Product: Must be from a VA DEQ APPROVED SITE. Longwood University compost product is DEQ approved.
 - II. Commercial Compost: ONLY APPROVED SUPPLIER; Royal Oak Farms LLC, Evington VA.
 - d. Fertilizer: Fertilizer analysis and rate of application shall be determined based on soil test results. Fertilizer shall be uniform in

composition, free flowing and suitable for application with approved equipment. If compost is used to amend, soil fertilizer is usually not required. **State law requires all applications on state property to be performed by State Certified Fertilizer Applicator. Director of Landscape and Grounds can answer questions on this as well as fertilizer requirements with University Nutrient Management Plan.**

- e. Sand: Clean, washed, coarse masonry sand, sized up to ¼" particles.
- f. Diatomaceous Earth: Isolite, or approved equal.