

SPECIAL SPECIFICATION

1001

Compost

- 1. Description.** Furnish and place compost as shown on the plans.
- 2. Materials.** Furnish compost that has been produced by aerobic (biological) decomposition of organic matter and meets the requirements set forth by the United States Department of Agriculture and the United States Composting Council (USCC), “Test Methods for the Examination of Composting and Compost” (TMECC), shown in Table 1. Compost feedstock may include, but is not limited to, leaves and yard trimmings, biosolids, food scraps, food-processing residuals, manure or other agricultural residuals, forest residues, bark, and paper. Ensure compost and wood chips do not contain any visible refuse, other physical contaminants, or any substance considered to be harmful to plant growth. Do not use materials that have been treated with chemical preservatives as a compost feedstock or as wood chips. Do not use mixed municipal solid waste compost. Provide compost meeting all applicable United States Code of Federal Regulations (CFR), Title 40, Part 503 standards for Class A biosolids and Texas Commission on Environmental Quality (TCEQ) health and safety regulations as defined in the Texas Administrative Code (TAC), Chapter 332, including the time and temperature standards in Subchapter B, Part 23. Meet the requirements of the USCC Seal of Testing Assurance (STA) program.

For manure compost originating from the Bosque or Leon River Watersheds, provide a copy of the compost shipping and use form before delivery.

**Table 1
Physical Requirements for Compost**

Particle Size: 95% passing 5/8 in., 70% passing 3/8 in. in accordance with TMECC 02.02-B, "Sample Sieving for Aggregate Size Classification"
Heavy Metals: Pass in accordance with TMECC 04.06, "Heavy Metals and Hazardous Elements" 04.06-As, Arsenic 04.06-Hg, Mercury 04.06-Be, Beryllium 04.06-Mo, Molybdenum 04.06-Cd, Cadmium 04.06-Ni, Nickel 04.06-Cu, Copper 04.06-Se, Selenium 04.06-Pb, Lead 04.06-Zn, Zinc
Soluble Salts: 5.0 max.* dS/m in accordance with TMECC 04.10-A, "1:5 Slurry Method, Mass Basis"
pH: 5.5 – 8.5** in accordance with TMECC 04.11-A, "1:5 Slurry pH"
Maturity: greater than 80% in accordance with TMECC 05.05-A, "Germination and Root Elongation"
Organic Matter Content: 25-65%*** (dry mass) in accordance with TMECC 05.07-A, "Loss-On-Ignition Organic Matter Method"
Stability: 8 or below in accordance with TMECC 05.08-B, "Carbon Dioxide Evolution Rate"
Fecal Coliform: Pass in accordance with TMECC 07.01-B, "Fecal Coliforms"

* A soluble salt content up to 10.0 dS/m for compost used in CMT will be acceptable.

** A maximum pH of 9.5 will be acceptable for manure compost.

*** A minimum organic matter content of 10% will be acceptable for manure compost.

Before delivery of the compost, provide QC documentation that includes the following:

- the feedstock by percentage in the final compost product,
- a statement that the compost meets federal and state health and safety regulations,
- a statement that the composting process has met time and temperature requirements,
- a copy of the producer's STA certification, and
- a copy of the lab analysis, performed by an STA-certified lab, verifying that the compost meets the requirements of Table 1.

When furnishing biosolids compost, also provide a copy of the current TCEQ Compliance Statement signed by the facility manager.

Provide a designated project stockpile of unblended compost for sampling and testing at the producer's site. Samples from each stockpile will be taken by the Department for QA. Make payment to the STA-certified lab chosen by the Department for the required QA testing. Submit lab invoices for passing QA tests to the Department for reimbursement.

Maintain compost in designated stockpiles at the producer's site until accepted by the Engineer. The Engineer reserves the right to sample compost at the job site.

A. Compost Manufactured Topsoil (CMT). Furnish CMT consisting of 75% topsoil blended with 25% compost measured by volume. Use CMT that is either blended on-

site (BOS), blended in-place (BIP), or pre-blended (PB) as specified on the plans. Use topsoil conforming to Article 160.2, "Materials."

- B. Erosion Control Compost (ECC).** Furnish ECC consisting of 50% untreated wood chips blended with 50% compost measured by volume. Use wood chips less than or equal to 5 in. in length with 95% passing a 2-in. screen and less than 30% passing a 1-in. screen.
 - C. General Use Compost (GUC).** Furnish GUC consisting of 100% compost.
- 3. Construction.** Prepare the types of compost for use on the project and stockpile at the jobsite.
- A. Compost Manufactured Topsoil (CMT).** After excavation and embankment work is complete, remove and dispose of objectionable material from the topsoil before blending. Roll the CMT with a light corrugated drum when specified.
 - 1. Blended On-Site (BOS).** Furnish topsoil. Topsoil may be salvaged from excavation and embankment areas, in accordance with Item 160, "Topsoil". Apply CMT to depth shown in the plans or apply compost in a uniform layer and incorporate into the in place topsoil to the depth shown on the plans.
 - 2. Blended In-Place (BIP).** Apply compost in a uniform layer and incorporate into the existing in place topsoil to the depth shown on the plans.
 - 3. Pre-blended (PB).** Apply CMT in a uniform layer to the depth shown on the plans.
 - B. Erosion Control Compost (ECC).** Use only on slopes 3:1 or flatter. After excavation and embankment work is complete, apply a 2-in. uniform layer unless otherwise shown on the plans or as directed. When rolling is specified, use a light corrugated drum roller.
 - C. General Use Compost (GUC).** Apply in a uniform layer as a top dressing on established vegetation to the depth shown on the plans. Do not bury existing vegetation. If GUC is used as a backfill ingredient, in a planting soil mixture, for planting bed preparation, or as a mulch, apply as shown on the plans.
- 4. Measurement.** This Item will be measured by the 100-foot station along the baseline of each roadbed, by the square yard complete in place, or by the cubic yard in vehicles at the point of delivery. For CMT (BOS and PB only) and ECC cubic yard measurement, the quantity will be the composite material, compost and topsoil or woodchips.
- 5. Payment.** The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Compost Manufactured Topsoil (BOS)," "Compost Manufactured Topsoil (BIP)," "Compost Manufactured Topsoil (PB)," "Compost Manufactured Topsoil (BOS or PB)," "Erosion Control Compost (ECC)," and "General Use Compost (GUC)" for the depth specified (except for measurement by the cubic yard). This price is full compensation for loading, hauling, stockpiling, blending, placing, rolling, sprinkling, equipment, labor, materials [including topsoil for CMT (BOS and PB only) and wood chips for ECC] , tools, and incidentals. Costs associated with passing QA testing will be paid for by force account at invoice price.