

# SPECIFICATION

## PLANTING BED ESTABLISHMENT WITH COMPOST

Section \_\_\_\_\_,

### Description:

This work shall consist of incorporating compost within the root zone in order to improve soil quality and plant growth. This specification applies to all types of plantings including; trees, shrubs, vines, ground covers, and herbaceous plants.

### Materials:

Compost shall be a well decomposed, stable, weed free organic matter source. It shall be derived from: agricultural, food, or industrial residuals; biosolids (treated sewage sludge); yard trimmings; source-separated or mixed solid waste. The product shall contain no substances toxic to plants and shall be reasonably free (< 1% by dry weight) of man-made foreign matter. The compost will possess no objectionable odors and shall not resemble the raw material from which it was derived. For acid loving plants, only use a compost that has not received the addition of liming agents or ash by-products. The product shall be certified through the U.S. Composting Council's (USCC) Seal of Testing Assurance (STA) Program.

### Product Parameters\*:

Parameters <sup>1,6</sup>	Reported as (units of measure)	General Range
pH <sup>2</sup>	pH units	6.0 - 8.5
Soluble Salt Concentration <sup>2</sup> (electrical conductivity)	dS/m (mmhos/cm)	Maximum 10
Moisture Content	%, wet weight basis	30 – 60
Organic Matter Content	%, dry weight basis	30 – 65
Particle Size	% passing a selected mesh size, dry weight basis	98% pass through 3/4" screen or smaller
Stability <sup>3</sup> Carbon Dioxide Evolution Rate	mg CO <sub>2</sub> -C per g OM per day	< 8
Maturity <sup>3</sup> (Bioassay) Seed Emergence and Seedling Vigor	%, relative to positive control %, relative to positive control	Minimum 80% Minimum 80%
Physical Contaminants (inerts)	%, dry weight basis	< 1
Chemical Contaminants <sup>4</sup>	mg/kg (ppm)	Meet or exceed US EPA Class A standard, 40 CFR § 503.13, Tables 1 and 3 levels
Biological Contaminants <sup>5</sup> Select Pathogens Fecal Coliform Bacteria, or Salmonella	MPN per gram per dry weight MPN per 4 grams per dry weight	Meet or exceed US EPA Class A standard, 40 CFR § 503.32(a) levels

<sup>1</sup> Recommended test methodologies are provided in Test Methods for the Examination of Composting and Compost (TMECC, The US Composting Council)

<sup>2</sup> It should be noted that the pH and soluble salt content of the amended soil mix is more relevant to the establishment and growth of a particular plant, than is the pH or soluble salt content of a specific compost (soil conditioner) used to amend the soil. Each specific plant species requires a specific pH range. Each plant also has a salinity tolerance

rating, and maximum tolerable quantities are known. Most ornamental plants and turf species can tolerate a soil/media soluble salt level of 2.5 dS/m and 4 dS/m, respectively. Seeds, young seedlings and salt sensitive species often prefer soluble salt levels at half the afore mentioned levels. When specifying the establishment of any plant or turf species, it is important to understand their pH and soluble salt requirements, and how they relate to existing soil conditions.

<sup>3</sup> Stability/Maturity rating is an area of compost science that is still evolving, and as such, other various test methods could be considered. Also, never base compost quality conclusions on the result of a single stability/maturity test.

<sup>4</sup> US EPA Class A standard, 40 CFR § 503.13, Tables 1 and 3 levels = Arsenic 41ppm, Cadmium 39ppm, Copper 1,500ppm, Lead 300ppm, Mercury 17ppm, Molybdenum 75ppm, Nickel 420ppm, Selenium 100ppm, Zinc 2,800ppm.

<sup>5</sup> US EPA Class A standard, 40 CFR § 503.32(a) levels = Salmonella <3 MPN/4grams of total solids or Fecal Coliform <1000 MPN/gram of total solids.

<sup>6</sup> Landscape architects and project (field) engineers may modify the allowable compost specification ranges based on specific field conditions and plant requirements.

\*Before delivery of the compost, supplier must provide a copy of the lab analysis, performed by a STA Program certified lab, verifying that the compost meets the product parameters listed above. The lab analysis should not be more than 90 days old.

Verifying current participation in the STA Program can also be achieved by logging onto the USCC website at [www.compostingcouncil.org](http://www.compostingcouncil.org).

### Construction Requirements:

- Compost shall be uniformly applied over the planting area at an average depth of 1 to 2 inches.
- Incorporate uniformly to a depth of 6 to 8 inches using a rotary tiller or other appropriate equipment. Lower compost application rates may be necessary for salt sensitive crops or where composts possessing higher salt levels are used.
- Pre-plant fertilizer and pH adjusting agents (e.g., lime and sulfur) may be applied in conjunction with compost incorporation, as necessary.
- Rake soil surface smooth prior to planting.
- The soil surface shall be reasonably free of large clods, roots, stones greater than 2 inches, and other material which will interfere with planting and subsequent site maintenance.
- Water thoroughly after planting.

### Method of Measurement:

Compost will be measured by the cubic yard or the ton at the point of loading.

Soil Analysis: Before any soil preparation procedures ensue, a soil analysis shall be completed by a reputable laboratory to determine any nutritional requirements, pH and organic matter adjustments necessary. Once determined, the soil shall be appropriately amended to a range suitable for the turf species to be established.

The landscape architect/designer shall specify the compost inclusion rate depending upon soil conditions and quality, plant tolerances, and manufacturer's recommendations. The use of stable, nutrient rich composts will reduce initial fertilizer requirements by the amount of available nutrients in the compost.