

GUIDANCE DOCUMENT

Composting Facility, Code 317

I. References A. Design Criteria

1. Georgia FOTG Section IV, conservation practice standard, Composting Facility, Code 317.

B. Design Procedures

1. National Engineering Manual Part 637 Environmental Engr. Chapter 2 Composting.

C. Design/Layout Surveys

1. TR-62 Engineering Layout, Notes, Staking & Calculations.
2. NEFH Part 650, Chapter 1, Engineering Surveys.

D. Computer Software Design Aids

1. Nutrient Budget Spreadsheet.

II. Documentation

A. Preliminary Investigation

1. Make a preliminary investigation of the need and feasibility of a composting facility considering topography, floodplain, location, type of material to be composted, availability and adequacy of land for waste application, proximity to neighboring landowners, and cost.
2. Obtain general information and decisions such as material to be composted, volume, moisture content, type and number of animals, average weight, grow-out weight, days of grow-out, number of flocks per year, bedding, spilled feed, leaking waterers, and other types of waste products to be composted, etc.

Waste production whether it is manure, food processing waste or litter clean out can be important in sizing a composting facility. These products comprise the bulk of the volume of a composting facility. Interview the landowner about production values such as the volume of grape pumice, vine or limb trimmings, tons of spoiled silage, depth of clean out for each building, or frequency of clean out of tanks. Understanding the fate of all wastes produced by an operation is important to correctly sizing a facility.

3. Consider location relative to county building code or zoning requirements.

B. Engineering Surveys

1. Survey the proposed location as necessary to determine the suitability of the site and to analyze potential issues related to surface drainage, grade changes and other concerns that may affect the structure design. Locate the site accurately on aerial photography and show adjacent off farm structures, roads, streams, reservoirs, utilities, etc.
2. Reference all surveys to a bench mark of known or assumed elevation. Use the National Geodetic Vertical Datum (NGVD) as appropriate.
3. Note the location and orientation of existing buildings, soil test pits, roads, utilities, property lines, water bodies etc., in the vicinity of the proposed facility.

C. Design

1. Designing a composter requires certain decisions from the landowner such as type of surface, configuration, is a roof required, if so what roof pitch, how many walls, compost height (maximum height is 5 feet), and post spacing.
2. Using data collected during the site investigation, calculate the size the composter will need to be to accomplish the landowner's goals. Utilize Georgia Job Sheet 316A or other method to document design data.
3. The Nutrient Budget spreadsheet may be used to calculate the land requirement to utilize the compost.
4. Design the structure
 - a. Working with the landowner, select a structure configuration that meets his/her operational requirements. Refer to the standard Compost Building designs available on the Georgia eFOTG. Drawings are available for stand-alone composters and for combined composter/litter storage.
 - b. Note that the trusses must be designed by a Georgia licensed professional engineer. The design shall be signed and sealed by the engineer.
6. Determine final location of structure.
7. Compute quantity of excavation and fill needed to establish the site.
8. Develop engineering plans and specifications. As a minimum the plans and specifications shall include:
 - a. Location of the facility.
 - b. Plan view of composting facility including site details as necessary.
 - c. Cross section of composting facility.
 - d. Truss connection detail.
 - e. Truss cross bracing details.
 - f. Knee brace detail.
 - g. Girder brace detail.
 - h. Post embedment detail.
 - i. Composter bin detail.
 - j. Wall details.
 - k. Purlin details.
 - l. Fastener details.
 - m. Concrete floor details including contraction joint detail.
 - n. Roof details.
 - o. Water supply for composting.
 - p. Location of utilities and notification requirements.
 - q. Grading and drainage details.

9. Generate an engineer's cost estimate based on the work needed to construct the facility. Include items such as: the amount and quality of sub base material, concrete, pipeline, roof system, etc.
10. Develop a site specific O&M Plan for the practice. Use the O&M job sheet published on the GA eFOTG as a starting point.

D. Construction Layout

Review the plans and specifications with the landowner and contractor prior to the start of construction. Ensure all parties thoroughly understand their responsibilities including obtaining all permits, easements, etc. After reviewing plans and specifications with them, have the landowner and contractor sign the preconstruction acknowledgement form.

Establish reference points for determining location and elevations of the structures as needed by the contractor.

E. Construction

1. Adequate site visits and checks shall be made during construction to verify that the plans and specifications are followed. Any changes in the design must be reviewed and concurred by the landowner and shall be approved by the designer and person with appropriate engineering design job approval authority.
2. Record progress on drawings or in Engineering Field Note Book.
3. Make entries in Conservation 6 notes in contract folder or send detailed email to contract manager.

F. Construction Checkout

After construction, complete and sign. If significant changes were made to the structure during construction, prepare as-built drawings showing final dimensions and details.

G. Reporting and/or Certifying

After it has been determined and documented that the practice meets NRCS plans and specifications, it can be reported and certified. The extent of the practice to be reported is the number of facilities installed. The extent of the practice certified is the quantities used as the basis of payment.