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391-3-4-.16 Composting and Mulching Facilities

Definitions

Composting: Means the controlled biological decomposition of organic matter into a stable, ~~odor free~~ humus.

Food Waste: TBD (See PDF for list of definitions from other states.)

Agricultural Waste: Means the waste from customary and generally accepted activities, practices, and procedures that farmers adopt, use, or engage in during the production and preparation for market of poultry, livestock and associated farm products; and in the production and harvesting of agricultural crops which include agronomic, horticultural, and silvicultural crops and wastes resulting from aquaculture activities. The term does not included special wastes such as waste oils or other lubricants, unused fertilizers, or pesticide containers or residues.

Feedstock: Means any compostable material used in the production of compost. Feedstocks shall not be considered as either additives or amendments.

Industrial waste:

Compost Leachate: Means a liquid that has percolated through or drained from feedstock categories B through D during the composting, mixing, storage, processing, unloading and/or curing stages.

Compost Wastewater: Means a liquid that has percolated through or drained from feedstock category A during the composting, mixing, storage, processing, unloading and/or curing stages. No treatment and/or collection activities of compost wastewater are required.

In-vessel composting: Means a diverse group of composting methods which composting materials are contained in a building, reactor, or vessel.

Types of Feedstocks

Feedstock Category A

Yard waste, garden waste, land-clearing debris, on-farm agricultural waste generated and processed by farming or agricultural operations, silvicultural waste, untreated and unpainted wood, or any combination thereof.

Feedstock Category B

Source separated pre-consumer organics [i.e., food processing waste (meat-free and dairy-free) and soiled paper]; vegetative agricultural waste processed off-site; or other wastes that are low in pathogens and other contaminants.

Feedstock Category C

Food waste, agricultural waste, sewage sludge/biosolids or other wastes that are high in pathogens.

Feedstock Category D

Waste derived from processing fats, oils and greases; waste with C:N ratio of less than 16:1; septage; municipal solid waste; municipal solid waste leachate; industrial wastes; or other wastes which are high in pathogens or other contaminants.

Prohibited Feedstocks

Wastes prohibited from disposal at solid waste disposal sites:

- (a) Asbestos containing materials
- (b) Biomedical wastes
- (c) Any other prohibited wastes defined in Georgia Rules 391-3-4-.04 (6)

Criteria for Siting a Composting Facility

Any person involved in the composting of solid waste, other than category A, which is excluded from regulation as a solid waste handling facility, or a facility covered by a Permit-By-Rule, shall comply with the permit requirements for a solid waste handling facility.

Chapter 391-3-4-.02: Solid Waste Handling Permits and Chapter 391-3-4-.05: Criteria for Siting for a site proposed as a solid waste handling facility.

The following criteria from Chapter 391-3-4-.02 and Chapter 391-3-4-.05 must be met for a composting facility:

1. A letter from the local government authority stating that the proposed facility complies with local zoning and land use ordinances [Rule 391-3-4-.05(1)(a)];
2. Submission of written verification by the applicant that the facility is consistent with the local or regional solid waste management plan [Rule 391-3-4-.02(4)(c)5];
3. Demonstration that if the facility is to be located in the 100-year floodplain, it will not restrict the flow of the 100-year flood, reduce the storage capacity of the floodplain, or result in a washout of solid waste [Rule 391-3-4-.05(1)(d)];
4. Demonstration that the facility will not be located in wetlands or that the use of wetlands has been permitted [Rule 391-3-4-.05(1)(e)];
5. A map of the topographic setting depicting features including all upstream and downstream drainage areas affecting or affected by the proposed site, floodplain, gullies, karst conditions, wetlands, unstable soils and percent slope [Rule 391-3-4-.05(1)(k)(4)].

For facilities composting feedstock categories C and D, the following criteria must be met:

1. A hydrological assessment shall be submitted, as required by Rule 391-3-4-.05(1)(k). The bottom of the pad shall be constructed at least 5 feet above the seasonal high water table.
2. A groundwater monitoring system shall be installed for composting operations not located within a totally enclosed setting. The groundwater monitoring program must include sampling and analytical methods that are appropriate for the feedstock proposed for composting.
3. A 100-foot undisturbed buffer shall be maintained between the composting operation and the property line.
4. A 500-foot buffer shall be maintained between the composting operation and any adjacent residences and/or any drinking water supply wells.
5. A 50-foot buffer shall be maintained between the composting operation and all streams.
6. A minimum 50-foot undisturbed buffer shall be maintained between the composting operation and any jurisdictional wetlands unless otherwise permitted by the United States Army Corps of Engineers.
7. Description of surrounding land uses up to _ mile radius.
8. Airport safety restrictions, as required by Rule 391-3-4-.05(1)(c).

A site assessment report addressing the criteria listed above shall be prepared by a geologist registered in Georgia or a geotechnical engineer registered in Georgia and submitted to the Environmental Protection Division for review at the time of submitting a permit application for the proposed composting facility.

Design and Operation Criteria for Composting Facilities

Class 1 Composting Facilities

Facilities composting, grinding, chipping, and/or mulching of Feedstock Category A, only, does not require a solid waste permit. Class 1 composting facility must submit a minor modification prior to operation if it is located at a solid waste handling facility. The use of farm animal manure, such as cow, horse, mule, hog, and poultry, and other herbivores will be allowed and will not require permitting.

Class 2 Composting Facilities

The following facilities may operate under permit-by-Rule:

1. Facilities composting no less than 75%, by weight, compostable feedstock generated at the permit-by-Rule facility location or facilities owned by the same person who owns the property containing the permit-by-Rule facility.
2. Facilities composting feedstock category B only that are limited to 5,000 CY of feedstock, in-process and bulking material onsite at any one time (finished qualified product does not count toward this total)

Class 3 Composting Facilities

Class 3 composting facilities may compost feedstock categories A & B.

Class 3 Design Standards:

1. The composting facility must be designed by a professional engineer registered to practice in Georgia.
2. A compost pad shall be constructed under all areas proposed for composting and curing. The composting pad is to be designed to promote drainage to a leachate collection and containment system. The composting pad shall be capable of maintaining structural integrity under operating conditions, collecting all liquids and solids generated by composting process and be capable of supporting vehicular traffic on the pad. The composting pad shall be inspected for uniformity, damage, and imperfections during construction. Prior to receiving feedstocks, the Division must be provided with written certification by a professional engineer licensed to practice in Georgia, that the facility has been constructed in accordance with the approved permit. Unless notified otherwise by the Division, within 15 days of receipt of the written certification, the facility owner or operator may commence composting operations.
3. Composting pad may be constructed of concrete, asphalt, a composite liner system (outlined in Rule 391-3-4-.07(1)(d)1.c) or earthen material with a permeability coefficient of no more than 1×10^{-7} cm/sec in the uppermost six inches of the pad and a permeability coefficient of no more than 1×10^{-5} cm/sec in the twelve inch base as confirmed by on-site testing. The compost pad is to be sloped to prevent ponding of compost leachate. Stormwater runoff onto the compost pad shall be prevented.
4. Site survey control shall be provided and maintained by a Georgia registered site surveyor to ensure compliance with the approved Design and Operational Plan.

5. Compost leachate generated at the facility shall be stored in a tank, container, or lined impoundment. The compost leachate collection capacity shall be designed for 25 year, 24 hour storm event. Compost leachate may be used in the composting operation for moisture addition. Excess compost leachate and compost wastewater shall be disposed in accordance with the Georgia Rules for Water Quality Control.
6. Maximum composting process windrow size and minimum composting process windrow spacing shall match the capability and requirements of the equipment utilized at the facility.
7. All-weather access roads shall be provided to the composting facility and provisions shall be made for prompt equipment repair or replacement when needed.
8. Access to the composting facility shall be limited to authorized entrances, which shall be closed when the facility is not in operation.

Class 3 Operating Standards:

1. The composting facility shall be operated only under the direct supervision of a trained operator who is present during operating hours.
2. During operation, the composting pad is to be inspected annually by a Georgia registered Professional Engineer providing a written assessment as to the integrity of the pad and recommending repair, as needed.
3. Food waste must be transported and stored in closed, leak proof containers prior to composting.
4. By the end of each operating day, all incoming feedstocks, excluding carbon sources, must be (i) mixed with carbon source; (ii) processed into composting windrows; (iii) covered in a manner that prevents odors and scavenging by vectors.
5. Disease vectors shall be controlled in accordance with Rule 391-3-4-.07(3)(f).
6. Suitable measures to control fires shall be provided.
7. Records documenting compliance of the composting facility with the Rules and the permit shall be kept for a minimum of three years from the date of the record, and be in a form suitable for submission or inspection by the Division.
8. The temperature, moisture, and oxygen range for the composting cycle is to be specified. A plan and procedure for monitoring the temperature, moisture, and oxygen range during the composting cycle is to be included in the operational narrative. This plan is to include contingencies for not meeting the specified ranges or the composting cycle. The minimum curing time for compost shall be at least 30 days.
9. Non-compostable waste residue shall be removed from the feedstock and compost, stored in a roll-off container, and disposed of at permitted municipal solid waste landfill within 7 days.
10. Daily records shall be maintained that identify the weight or volume and origin of incoming waste. Daily records shall be maintained that identify the weight or volume of outgoing finished compost and company or person taking the finished compost.
11. The composting facility shall be closed in accordance with Rule 391-3-4-.11.
12. Before any waste is placed in the facility, the Permittee shall fully satisfy all applicable financial responsibility requirements including both closure and post-closure care, as provided by Chapter 391-3-4-.13.
13. Storage of finished compost on site is limited to 12 months unless approved by the Division on a case-specific basis.

Class 4 Composting Facilities

Class 4 composting facilities may compost feedstocks Categories A, B, & C. Class 4 composting facilities shall comply with design and operational standards for class 3 composting facilities and the additional design and operational standards listed below.

Additional Class 4 Design and Operational Standards

1. Facilities that compost with biosolids (sewage sludge) shall comply with all applicable federal regulations regarding sludge management at 40 CFR 501 and 503 & 40CFR 503, subpart B is incorporated by reference, including subsequent amendments or additions.
2. Receiving area of compost operation must be constructed on asphalt, concrete, or a composite liner system (outlined in Rule 391-3-4-.07(1)(d)1.c). The area is to provide for compost leachate collection. An annual inspection of this area should be included in the compost pad inspection written report.
3. Installation and implementation of an approved groundwater monitoring plan.

Class 5 Composting Facilities

Class 5 composting facilities may compost feedstock Categories A, B, C & D. Class 5 composting facilities shall comply with design and operational standards for class 4 composting facilities and the additional design and operational standards listed below.

Additional Class 5 Design and Operational Standards

1. Feedstock receiving area and mixing area is to be enclosed.
2. Demonstration of the ability to compost and the period of the composting cycle shall be provided for feedstock Category D.
3. Finished product testing in accordance with a testing method approved by the Division.
4. Additional groundwater monitoring testing requirements.
5. Mandatory odor control plan.

Class 6 Composting Facilities

Design and operating criteria for vermicomposting and in-vessel composting TBD