## Wilson, Donna

**From:** Wilson, Donna
**Sent:** Friday, April 10, 2015 3:51 PM
**To:** Donald Perry (dmperryeng55@gmail.com); David Newsome (memanew30 @yahoo.com)
**Cc:** Ben Barnes (ben.barnes@ncdenr.gov); Tony Gallagher (tony.gallagher@ncdenr.gov)
**Subject:** Compost application, D & D Septic Compost Facility
**Attachments:** Process Flow Diagram Example 3.pdf

Hello Donald – I've completed review of the compost application for the D & D Septic Compost Facility. Please address the following questions and comments to complete the application:

1. The application and drawing should be signed and sealed by a professional engineer.
2. The composting area includes the unloading areas, composting and curing areas, mixing/processing areas, and feedstock storage areas. The drawing and calculation of size of the composting area should be modified.
3. #13 – Address compliance with the buffer requirements of Section .1404 (a) 3 through (5) and (8). What is the distance to the closest offsite residence?
4. Please provide an approximate amount of each type of feedstock to be received, per week or month.
5. Please explain the calculation for the site capacity, incoming volume per year.
6. #17 – What are the chemical constituents of the polymer?
7. #20 - Please provide the compost recipe, based on C:N, unit weight, and moisture content. (One tool that may be helpful is the online compost recipe calculator provided by Green Mountain Technologies, http://compostingtechnology.com).
8. #21 - Please provide the process flow diagram, including the type, size, and location of all major equipment, and feedstock flow streams. The flow streams should indicate the quantity of materials on a wet weight and volumetric basis. An example is **attached**.
9. #24 - Please describe the methods used for measuring, shredding, mixing, and proportioning feedstock materials, to ensure that the proper ratios are met. During a staff site visit, it was observed that dewatered grease and septage was stored in 2 large elevated bins. Wood chips and ground vegetative debris were placed into an agricultural mixer, and then the grease or septage was added. It was mixed in the container and transported to the windrow area. There was no mixing outside. If this is representative of how the site operates, please describe this in the application.
10. #26 – What is the probe depth for temperature monitoring?
11. #29 – Please describe how the site is designed to minimize run-off and run-on. How will the site operate in wet weather?
12. #30 - What is the status of the stormwater permit application?
13. #31 - Include description and specification for the storage bins.
14. #33 – Please describe the feedstock storage area, and show on the site plan drawing.
15. #41d – Describe how and where feedstocks are unloaded at the facility. How are the septage tank facilities used in the compost process? Describe the mixing, curing, testing, and final product storage, and where each activity takes place.
16. #41f – Describe how septage and grease are managed to prevent odors and vectors in the compost process.
17. #41K – Please clarify the stated carbon to nitrogen ratio of 2 to 1. Active compost should target a 25 to 30 to 1 carbon to nitrogen ratio. How will this be calculated, measured, or tested? Describe moisture and porosity testing/monitoring of the compost windrows. These parameters are necessary to ensure adequate composting conditions.
18. #41l – If the compost process will produce Class B compost, then provide information on properties or fields used for the finished compost. How many acres and what is the rate of application? Are the fields the same as

the land application fields? Is the compost applied to food crop fields? It should be stated that the finished compost will be applied at accepted agronomic rates (not too thick).

19. #42 – How are areas that store and mix septage and grease cleaned and maintained in a sanitary condition?
20. #44 – What steps will be taken in the event of unexpected offsite odors?
21. #48 – Describe how, where, when compost testing is conducted at this site to meet Rule requirements of .1408 (a). Testing must include total nitrogen.
22. #49 – What testing requirements will be met? If the compost is to be Class B, then we need information on all the fields it will be distributed. If it is to meet Class A, we don't need this information.
23. #50 – Describe recordkeeping for this site – what, where, when. How are the windrow records maintained to document time and temperature? Once a windrow meets the time and temperature requirements, is it moved to another pile location for curing or does it stay in place for curing? Plan should indicate that a copy of the permit, operations plan, and site drawings will be kept on site at all times. Provide a copy of the temperature log forms and other recordkeeping forms.
24. Site plan drawing:
    a. The drawing shows the compost area surrounded by existing swales and proposed swales. Where does the collected water discharge? On the west side the area is labeled sheet flow, but this is not possible because of the swale.
    b. Drawing – What does "established earthen level spreader" mean?
    c. Areas for active composting and curing should be labeled.

Please provide an electronic copy (pdf) of the revised application, including drawings, and a cover letter. Responses to comments should be incorporated into the text of the application. Drawings and appendices that have not been revised do not need to be submitted again.

If you have any questions please let me know.
Thanks, Donna

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North Carolina Public Records Law and may be disclosed to third parties.

Flow Diagram CAS

Grease Trap Wastes (10 - 20 dry tons/day after dewatering)

Septage (10 - 20 dry tons/day after dewatering)

Portable Toilet Wastes (0.5 dry tons/day)

Vegetative Wastes - 10 tons/day

Feedstocks (Municipal, Commercial, Agricultural, and Industrial) - 50 tons/day

| | | | Equipment Used in Area |
|---|---|---|---|
| Area 1: | Receiving Area | Receiving area Mix pad | 2, 3, 5, 6 |
| Area 2: | Active Composting Area | Compost Windrow area, active PFRP and VAR compliance | 2, 3, 4, 5, 6 |
| Area 3: | Storage/Curing Area | Compost curing and screening area | 1, 3, 4, 5, 6 |
| Area 4: | Finished Product Storage Area | Storage area for finished compost | 3, 5, 6 |

**Product suitable for unrestricted use**

| Number | Equipment Type | Size |
|---|---|---|
| 1 | Trommel Screen | Terra Select T7/Ultra Screen 5/8" Trial |
| 2 | Mixer (Knight RC 200 Series) | 500 - 950 $Ft^3$ |
| 3 | Front End Loader | Case 621 (2 $Yd^3$ Bucket) |
| 4 | Compost Tuner | Midwest Biosystems PT-130 |
| 5 | Tractor | Case 145, Case 5240, John Deere with box blade and bush hog |
| 6 | Dump Truck | |