North Carolina Department of Environment and Natural Resources
Division of Waste Management

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Governor

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Director

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Secretary

April 5, 2013

Mr. J.W. (Billy) Dunham
Craven Ag Service
2115 W. Highway 55
New Bern, NC 28562

Re: Application for permit, Craven Ag Service Compost Facility, Craven County

Dear Mr. Dunham:

The Solid Waste Section has completed review of your revised application for permit of the above referenced facility, submitted in January 2013 by your consultants, Gary MacConnell and A.R. Rubin. The following comments should be addressed to complete the application process:

1. Groundwater:
   a. Prior to development of the groundwater monitoring plan, a field investigation should be conducted at the site. Temporary piezometers should be installed upgradient and downgradient of the composting area, and also between the northern area and the drainage ditch, to accurately determine the potentiometric groundwater surface. Soil boring logs should be prepared for each piezometer well installation to characterize site hydrogeology. The study should include an evaluation of potential groundwater to surface water discharge in the site drainage ditches.
   b. The water quality monitoring plan must be prepared by an environmental consulting firm under the seal of a board certified licensed/professional geologist that has experience with the design and construction of groundwater monitoring wells and plans. Since groundwater monitoring wells are significantly different in design from drinking water wells, the wells should be installed by a certified well driller with experience in the construction of groundwater monitoring wells.
   c. The number, spacing and depths of monitoring wells is determined based upon site specific technical information that should include investigation of aquifer thickness, groundwater flow rate, and groundwater flow direction, including seasonal and temporal fluctuations in groundwater flow.
   d. The groundwater monitoring plan must include a site map showing the location of the composting areas with respect to the entire property; a site specific topographic map with the location of the compost facility; a discussion of the site geology and hydrogeology including the results of the field study; an evaluation of whether there could be groundwater to surface water discharge for the compost areas at the site; and a sampling and analysis plan that describes sample collection and handling. The groundwater monitoring system should have at least one upgradient well. The number of downgradient wells is site specific. Detection monitoring wells are designed to monitor

the upper portion of the aquifer. Groundwater monitoring wells are typically constructed of 2-inch PVC pipe and have a screened interval to allow the infiltration of water. They are installed in a borehole with a sand filter pack around the screen and a bentonite clay seal over the sand filter. The remainder of the borehole is grouted to the ground surface and a protective casing is installed over the riser. Groundwater monitoring wells must be installed in accordance with 15A NCAC 2C, and a well record form GW-1 must be filled out for each groundwater monitoring well and a copy submitted to the Solid Waste Section.

e. The groundwater monitoring plan should describe consistent sampling and analysis procedures that are designed to ensure monitoring results provide an accurate representation of groundwater quality at the background and downgradient wells. The plan must include procedures and techniques for sample collection, sample preservation and shipment, chain-of-custody control, and quality assurance and quality control.
f. An initial baseline groundwater sampling event should be implemented prior to operation of the new areas. Well samples should be analyzed for total metals/Method SW846 (arsenic, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, selenium, and zinc), ammonia, nitrate, nitrite, pesticides and herbicides/Method SW846, and total coliform. Based on results of the baseline sampling event, a site specific list of parameters will be considered for continued semi-annual detection monitoring events. Groundwater monitoring wells must be surveyed and tied to a permanent benchmark of known elevation measured from a USGS Survey benchmark.

2. Some of the text changes and corrections that were made to the application in the second submittal, based on the review comments, have incorrectly returned in this third submittal. For example, in G.11, “present escape of odors” was in the first submittal, and was changed to “prevent escape of odors” in the second submittal, and is now back to “present escape of odors” in the third submittal. It is possible that the review changes were made to the wrong version of the application. Please correct these errors and check entire application.
3. The feedstocks to be received at the facility are listed in three sections of the application: Section D.1, Section G.3, and Section 1.0. The list in all three places should be the same but they are not. For example, clean wood from construction operations is listed as a feedstock in Section D.1, but it is not included in the other two lists. Please correct. Where will the DAF skimmings be coming from?
4. Background and Intro, 2nd paragraph, 1st sentence – The acreages of the areas and total area appear to be incorrect.
5. Section A, 1st paragraph – The text states that the total property is over 100 acres. The property is listed as 89.34 acres on the county property website.
6. Section A – 2nd paragraph – Please clarify the 1st sentence.
7. Sections A and G - Please change Craven Ag Services, LLC to Craven Ag Service, Inc. The Secretary of State’s office does not have a listing for Craven Ag Service, LLC.
8. Text and drawings should indicate that permanent makers will be maintained for (1) the curing area boundary along the north side of Area 3, to maintain the 500 foot buffer to the offsite residence, and (2) the boundaries adjacent to the floodplains and property line in all three areas.
9. Section E, 2nd paragraph – Please state that the 500 foot buffer to the residence across the road will be maintained in the northern area (or Site 3) by the placement of buffer line markers.

10. The analysis of the wood ash that was provided in consideration for the compost soil texture amendment is too high in arsenic, for both use in the pad and for a feedstock in the compost process. Is this sample from the wood ash proposed for composting? If yes, the wood ash analysis should be removed from Attachment 13. The wood ash that is proposed for composting should be sampled 4 times, taken over a period of time sufficient to represent variability or uniformity of the ash. The metal results should meet the ceiling concentrations of Table 1 in the 503 Rules (503.13). If wood ash is proposed for composting, please provide the quantity to be received as feedstock. Because of the metals, the quantity should be a small percentage of the overall volume of feedstocks received. Coal ash is not acceptable at a Type 3 compost facility.
11. For the lime mud and the wood ash, please address how the pH will be monitored and managed in the initial mix.
12. Please provide an update to the DWQ stormwater/process wastewater permit application, and the sedimentation and erosion control permit application.
13. In addition to the description of changing the soil texture in the Note #4 on Drawing C-102, it should also be described in the text of the application. The modified soil texture is required for areas used for waste receiving and storage, active composting, and curing (not just composting and curing as stated on drawing). Please provide a sketch or drawing of the boundary of areas that will receive the soil amendment, or state that the entire boundaries of Sites 1, 2, and 3 will receive the amendment in soil texture.
14. How will the reworked areas be tested/soil classified to ensure that the modified soil texture meets the requirements of 1404(a)(10)(B), that is, finer than loamy sand? The depth of soil texture modification should be 9 to 12 inches deep. Will 2 or 3 inches of ash and compost fines be enough to modify the soil texture to that depth? Drawing C-103 indicates the soil texture will be modified to 4 inches.
15. Section G.1 – Please update the sentence that states that the western site area will be developed as compost production dictates. Please update the sentence that states that a concrete pad will be developed as the facility expands.
16. Section G.3 – Please provide the volumes of all feedstocks.
17. The floodplain map in Attachment 6 should show the boundaries for all three areas. There are currently two that are outlined on the figure.
18. In the text describing the mixer, provide a reference to the mixer equipment specifications in Appendix 2 of Attachment 4 or Attachment 5.
19. Section G.5 – Please clarify 1st sentence.
20. Section G.8 – Compost failing the fecal coliform test returning to the compost process should meet the time and temperature requirements (remove the “up to” prior to the temperature).
21. Section G.11 - The temperature and time requirements for VAR in this section are not stated correctly. However, because the facility is following the windrow composting method, 15 days at a minimum temperature of 131 degrees F, with five turnings, the PFRP process will also satisfy the VAR requirement.
22. The report states that the pile size for PFRP composting will be 5 feet high and 15 feet wide. Please provide the maximum pile size for curing piles, finished product piles, and for storage of dry feedstocks. This is an indirect way of determining the maximum capacity for each area of the facility (previous comment #40 in the Nov. 2011 comments). The pile size of dry feedstocks and finished product should be no more than 30 feet high and 50 feet wide. Also, what is the distance between windrows in each of the areas?

23. What is the frequency of turning in the curing area?
24. Operations Guide:
    a. Please clarify where records will be kept.
    b. Page 5 – Please clarify last sentence of first paragraph.
    c. Pages 5 (2nd paragraph) and 8 (last paragraph) - Please change "bin" to "mixer" or "mix pad." I assumed "bin" was a storage container or bunker.
    d. Excess liquid, leachate, and process wastewater/runoff cannot be collected in the sinks or basins along the site boundaries. Please change text to state that the process wastewater/leachate will be diverted to ditches, included with stormwater, and will be regulated by the DWQ permit (or something similar). Drawings and G.5 should also be changed.
    e. Please change "Bay" to "Area."
25. Drawings – In Site 2 and Site 3, the orientation of the compost windrow, curing windrows, and finished product piles are shown in different directions. To prevent ponding of surface water, the windrows and piles should all be oriented parallel to the direction of the slope, or just slightly angled to the slope. Please orient the windrows on the diagram, and indicate the planned slope for the areas.
26. Please provide the location of the nearest USGS survey benchmark. The groundwater wells will have to be surveyed in after installation.

For the groundwater monitoring plan, other rules and requirements may apply. Please refer to NC Solid Waste Rules 15A NCAC 13B Section .0600 Monitoring Requirements, .0601 Groundwater Monitoring, and .0602 Surface Water Monitoring. Additionally, the NC Solid Waste Section has guidance documents available to the public on our portal. A few of the links for information regarding Groundwater Monitoring Plans and SWS Guidelines for Groundwater, Soil, and Surface Water Monitoring may be found at the following links:

http://portal.ncdenr.org/web/wm/sw/newmonitoringplans
http://portal.ncdenr.org/c/document_library/get_file?uuid=d28d4f91-4b6d-4c9d-afd9-47c9ee93615f&groupId=38361
An example groundwater monitoring plan from another site has been included for your reference.

Please provide one paper copy and one electronic copy (pdf) of the revised application, including drawings, and a cover letter that includes responses to comments. Responses to comments should be incorporated into the text of the application. If you have any questions on the above comments, please contact me at (919) 707-8255 or by email at donna.wilson@ncdenr.gov .

Sincerely,

Donna J. Wilson

Donna J. Wilson
Environmental Engineer
Solid Waste Section

cc: Gary MacConnell, PE A. R. Rubin Ray Williams