



North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

Donald R. van der Vaart
Secretary

STATE OF NORTH CAROLINA
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF WASTE MANAGEMENT
SOLID WASTE SECTION

**PERMIT TO OPERATE A SEPTAGE LAND
APPLICATION SITE**

Lewis Farms & Liquid Waste, Inc.
Wesley Wooten
8155 Malpass Corner Rd.
Currie, NC 28435

is hereby permitted to operate Septage Land Application Site with permit # **SLAS-71-10** located on SR 1100 in Pender County at approximate position 34.49806° N latitude and -78.17913° E longitude. This site is permitted only for operations that are conducted in accordance with the representations made in the approved application, with all conditions attached to this permit, and with all of the provisions of 15A NCAC 13B.0800 -- Septage Management. Failure to operate as permitted may result in the Department suspending or revoking this permit, initiating action to enjoin the unpermitted operation, imposing administrative penalties, or invoking any other remedy as provided in Chapter 130A, Article 1, Part 2 of the North Carolina General Statutes.

This permit shall be reviewed annually to determine if soil test results and management activities are in compliance with the Septage Management Rules and the conditions of this permit. Modifications, where necessary, shall be made in accordance with rules in effect at the time of review.

Date Issued

1/12/2015

Martin A. Gallagher, Branch Head
Composting & Land Application Branch

1646 Mail Service Center, Raleigh, North Carolina 27699-1646
Telephone 919-707-8200 \ Internet <http://portal.ncdenr.org/web/wm/sw>

CONDITIONS OF OPERATING PERMIT

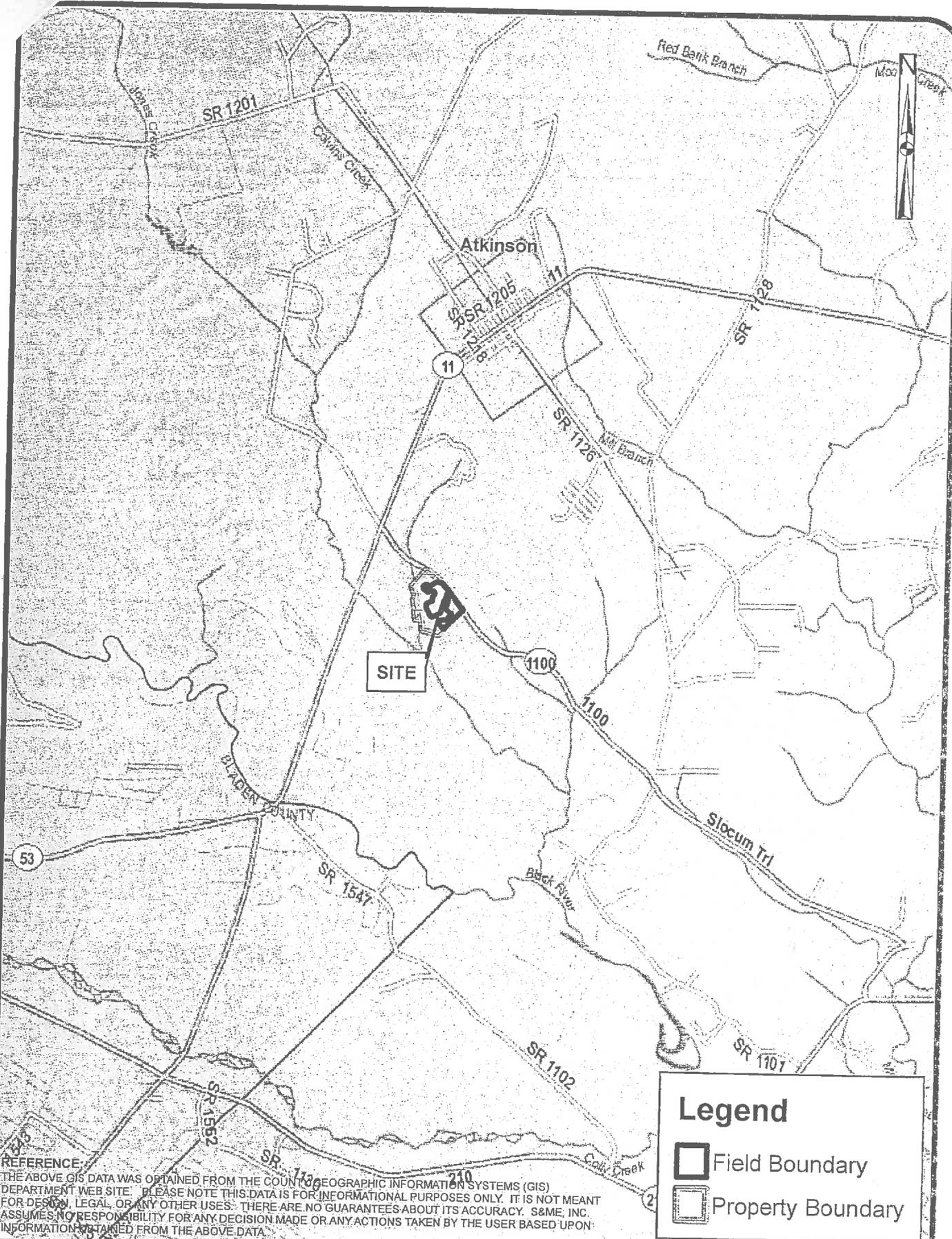
1. This permit shall become void if the soils fail to adequately assimilate the septage and shall be rescinded unless the site is maintained and operated in a manner which will protect the assigned water quality standards of both surface and ground waters.
2. This site shall be operated and maintained in accordance with the nutrient management plan submitted by Mr. Wesley Wooten and approved by the Division of Waste Management. The site consists of one 12.1-acre field labeled as MB1. The field shall be planted in row crops that include cereal rye, corn, wheat, and soybeans within an alternating two year rotation. The rye or wheat shall be planted by mid-October (early November at the latest) at a rate of 2.5 to 3 bu/ac or at rates recommended by the NC Cooperative Extension Service. The rye will be harvested as hay, preferably by late April to early-May. The wheat will be harvested as grain by June. The corn and soybeans will be planted as soon as possible after the preceding crop is removed, and they will be harvested as grain in the Fall. Corn will be planted at approximately 30 lbs/ac and soybeans at 70 lbs/ac. The 30-day waiting period between the last application of septage and the harvest of a crop shall be met by alternating septage applications between other permitted sites. All discharges shall be at locations on the site consistent with the crop rotation in the approved plan.
3. This site shall be operated and maintained in accordance with the erosion and runoff control plan submitted by Mr. Wesley Wooten in such a manner as to prevent the migration of wastes off of the designated waste receiving site. Septage shall not be applied within the buffer areas. Any site improvements noted in the plan must be installed within 30 days of plan approval. The installation of groundwater monitoring wells shall be required as deemed necessary by the Division.
4. The issuance of this permit does not preclude the Permittee from complying with any and all statutes, rules, regulations, or ordinances that may be imposed by other local, state, and federal government agencies which have jurisdiction. It is the responsibility of the Permittee to be in compliance with the Federal Regulations listed in the Code of Federal Regulations, 40 CFR Part 503.
5. This permit may be modified or reissued at any time to incorporate any conditions, limitations, and / or monitoring requirements the Division deems necessary to adequately protect the environment and public health.

6. **This site is only permitted for the land application of domestic septage, grease trap pumpings, and portable toilet waste.** Domestic septage pH shall be raised to 12 or higher by alkali addition and, without the addition of additional alkali, shall remain at 12 or higher for 30 minutes prior to land application. Grease septage or grease septage mixed with domestic septage shall be raised to a pH of 12 or higher by alkali addition and, without the addition of additional alkali, shall remain at 12 or higher for 2 hours prior to land application.
7. **This site contains approximately 12.1 acres that are available for land application of septage.** The maximum annual application rate shall be 50,000 gal/ac/yr. At this application rate, a maximum annual volume of 605,000 gallons may be applied to this site. This application rate assumes equal septage distribution, on an annual basis, over the entire permitted area. Application amounts to the fields shall not exceed the maximum annual application rate or the monthly rates as listed in the approved nutrient management plan for the site.
8. An approved above ground septage detention system with a minimum design capacity of 12,000 gallons shall be available prior to operation of this site unless an approved wastewater treatment plant is available for use during periods of adverse weather. The storage capacity may be adjusted if it is demonstrated during the operation of the site that this volume of storage is inappropriate.
9. Only the area designated on the attached site map(s) shall be utilized for septage disposal. Each load of septage discharged at the site shall be distributed from a moving vehicle in such a manner that there is no standing water when the discharge is complete.
10. Septage shall not be applied during any precipitation event, or if there is standing water on the soil surface, if the soil surface is frozen, or if the soil surface is snow covered. The Permittee shall consider pending weather conditions when making the decision to land apply in order to prevent any discharge of septage outside of the permitted boundary.
11. Septage shall not be applied during periods of high soil moisture. Septage applications that will result in ruts greater than three inches in the soil surface are prohibited.
12. Any discharge of septage outside of the permitted boundaries via runoff, aerial drift, etc. is prohibited.

13. This permit shall become voidable unless the land application activities are carried out in accordance with the conditions of this permit and in the manner approved by this Division. No one other than the Permittee or an employee of the firm named in this permit shall discharge septage at this site without prior appropriate notification and written approval from the Division.
14. Prior to any transfer of this land, a notice shall be given to the new owner that gives full details of the materials applied or incorporated at this site. The Division shall be notified prior to site closure. This permit is non-transferable.
15. **This permit shall expire on October 16, 2019.** Modifications, when necessary, shall be made in accordance with the rules in effect at the time of renewal. An application for permit renewal shall be submitted at least ninety (90) days prior to the permit renewal date. A septage application log for the period of time this permit was valid shall be submitted along with an application for permit renewal or modification. The information required in the log is described in Rule 15A NCAC 13B .0838 (e) (1) of the NC Septage Management Rules and the Code of Federal Regulations, 40 CFR Part 503.17 (b).
16. Records shall be kept in accordance with 40 CFR 503.17(b). These records shall be made available to a representative of the Division upon request.
17. Any duly authorized officer, employee, or representative of the Division may, upon presentation of credentials, enter and inspect any property, premises, or place on or related to the disposal site and facility at any reasonable time for the purpose of determining compliance with this permit; may inspect or copy any records that must be kept under the conditions of this permit; or may obtain samples of groundwater, surface water, or leachate.
18. Field separations in the nutrient management plan and all pertinent setbacks shall be clearly located on the site. Boundaries of the permitted septage land application fields shall be clearly marked on the ground.
19. The areas that can be used for land application of septage shall be maintained to meet the minimum setback distances as described in NC Septage Management Rule 15A NCAC 13B .0837 (d) such as 500 feet from any existing wells, residences, places of business, or places of public assembly. Also, septage shall not be disposed of within 50 feet of any property line or within 100 feet of any ditch.

- 20. Nutrient additions to the crops being grown shall not exceed the recommendations as noted on the annual soil test report with the exception of nitrogen. Nitrogen applied to the crop from septage and commercial inorganic sources shall not exceed the nitrogen amount listed in the approved nutrient management plan in order to reach the realistic yield expectation of that crop. The annual amounts of all nutrients applied must be recorded for each crop on a pound per acre basis and made available to the Division upon request.**

- 21. This land application site is currently inactive per the request of Mr. Wesley Wooten. No septage applications may occur until the Division has inspected the site and found it to be in compliance with NC Septage Management Rules, all permit conditions, and the nutrient management plan. A soil analysis of the site may be required before the Division grants approval for this site to become active. Please notify the Division at least two (2) weeks prior to when you wish to utilize the site or field.**



SITE

Legend

-  Field Boundary
-  Property Boundary

REFERENCE:
 THE ABOVE GIS DATA WAS OBTAINED FROM THE COUNTY GEOGRAPHIC INFORMATION SYSTEMS (GIS) DEPARTMENT WEB SITE. PLEASE NOTE THIS DATA IS FOR INFORMATIONAL PURPOSES ONLY. IT IS NOT MEANT FOR DESIGN, LEGAL, OR ANY OTHER USES. THERE ARE NO GUARANTEES ABOUT ITS ACCURACY. S&ME, INC. ASSUMES NO RESPONSIBILITY FOR ANY DECISION MADE OR ANY ACTIONS TAKEN BY THE USER BASED UPON INFORMATION OBTAINED FROM THE ABOVE DATA.

SCALE: 1" = 1 Mile
 DATE: January 2012
 DRAWN BY: MEM
 PROJECT NO: 1588-95-010



LEWIS FARMS & LIQUID WASTE, INC.
MACK BELL PROPERTY
 VICINITY MAP
 PENDER COUNTY, NC

FIGURE NO. **1**

SLAS-71-10



Source: Bing Maps aerial imagery, ESRI, (c) 2010 Microsoft Corporation and its data suppliers; site boundary, NC DENR Division of Waste Management.

Map created by NC DENR Division of Waste Management, Compost and Land Application Branch for permitting purposes only.

arc, Oct. 2012



North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

Donald R. van der Vaart
Secretary

February 4, 2015

Mr. Wesley Wooten
Lewis Farms & Liquid Waste, Inc.
8155 Malpass Corner Rd.
Currie, NC 28435

**RE: SLAS-71-10 Permit Renewal
Lewis Farms & Liquid Waste, Inc.
SR 1100 in Pender County**

Dear Mr. Wooten:

The NC Division of Waste Management has reviewed your application for permit renewal of Septage Land Application Site, **Permit # SLAS-71-10**, in Pender County. Your application has been approved in accordance with NC Septage Management Rules and your permit, **SLAS-71-10**, is enclosed. **As requested by you, this site is currently considered inactive with the Division. Before septage can be applied to this site, the requirements of Permit Condition 21 must be met.**

Please read all the permit conditions carefully. Your nutrient management and soil erosion and runoff control plans have been included in your permit. This permit shall expire on **October 16, 2019**. An application for permit renewal must be submitted ninety (90) days prior to permit expiration as stated within Condition 15.

Again, please pay close attention to all of the conditions within the enclosed permit. Remember that violations to the NC Septage Management Rules or this permit could subject you to administrative penalties of up to \$15,000 per violation per day. If you have any questions concerning your permit or septage in general, please contact me at (919) 707-8283. When communicating to the Division about this permit, please refer to it as "**SLAS-71-10**."

Sincerely,

Chester R. Cobb, Soil Scientist
Division of Waste Management, NCDENR

Enclosures

cc: Central File
John College, Environmental Senior Specialist
Mack Lloyd Bell, Landowner
Pender County Health Department

S:\Solid_Waste\cla\septage\sdtfper\71-Pender\Wooten\7110cl15p.docx

 **LEWIS FARMS**
& LIQUID WASTE, INC.

December 15, 2014

Division of Waste Management
1646 Mail Service Center
Raleigh, North Carolina 27699-1646



Attention: Chester R. Cobb, L.S.S.
Composting and Land Application Branch

**Reference: SLAS-71-09, SLAS-71-10, & SLAS-71-11 REQUEST TO MAKE SEPTAGE
LAND APPLICATION SITES INACTIVE**
Coastal Farms and Residuals, LLC & Lewis Farms and Liquid Waste, Inc.
S&ME, Inc. Project No. 1588-09-034 Phase: 06

Mr. Cobb:

S&ME, Inc. (S&ME), on behalf of Coastal Farms and Residuals, LLC (Coastal Farms) and Lewis Farms and Liquid Waste, Inc. (Lewis Farms), is requesting that SLAS-71-09, SLAS-71-10, & SLAS-71-11 all be made inactive until further notice. No septage land application activities have occurred at the site since initially being permitted, therefore no records are included at this time.

If there is any further information required or questions regarding this application please do not hesitate to contact S&ME or Lewis Farms.

Sincerely,

Lewis Farms and Liquid Waste, Inc.



Wesley Wooten
Secretary

Enclosures

T:\Projects\2009\ENV\1588-09-034 Coastal Residuals\Septage\2014 Septage Permit Renewal SLAS-71-11\1588-09-034 SLAS-71-11 Inactive Fields Letter.doc

8155 Malpass Corner Road Currie, NC 28435
910.283.9823 phone **910.283.2500** fax **wesley@lewisfarmsandliquidwaste.com** email
www.lewisfarmsandliquidwaste.com website

 **LEWIS FARMS**
& LIQUID WASTE, INC.

January 9, 2014, 2014

Division of Waste Management
1646 Mail Service Center
Raleigh, North Carolina 27699-1646



Attention: Chester R. Cobb, L.S.S.
Composting and Land Application Branch

Reference: SLAS-71-09, SLAS 71-10, & SLAS 71-11
Lewis Farms & Liquid Waste, Inc.
S&ME, Inc. Project No. 1588-95-010 Phase: 01

Mr. Cobb:

Pursuant to the telephone conversation you had with Mr. Martin Mabe, with S&ME, Inc. (S&ME), on December 6, 2013 Lewis Farms is submitting the following information;

- No septage land application activities have occurred to date on SLAS 71-09, SLAS 71-10, or SLAS 71-11 since these sites were initially permitted by the Division of Waste Management.

If there is any further information required please do not hesitate to contact S&ME or Lewis Farms.

Sincerely,



Wesley Wooten

Enclosures



July 31, 2012



Division of Waste Management
1646 Mail Service Center
Raleigh, North Carolina 27699-1646

Attention: Chester R. Cobb, L.S.S.
Composting and Land Application Branch

**Reference: SLAS-71-09 & SLAS-71-10 PERMIT RENEWAL APPLICATION
PERMIT TO OPERATE A SEPTAGE LAND APPLICATION SITE**
Lewis Farms & Liquid Waste, Inc.
S&ME, Inc. Project No. 1588-95-010 Phase: 01

Mr. Cobb:

S&ME, Inc. (S&ME), on behalf of with Lewis Farms & Liquid Waste, Inc. (Lewis Farms), is submitting all necessary information as requested in the June 12, 2013 "Permit Renewal Notification" letter received by Mr. Wesley Wooten with Lewis Farms. S&ME compiled this renewal application using data gathered by Lewis Farms and S&ME. This data includes: 1) Operator and Site Information, 2) Site Management Information, 3) Certification, and 4) Current Nutrient Management Plan and Soil Erosion and Runoff Control Plan. Septage Land Application Logs have not been included with this permit renewal application because no septage land application activities have occurred at either site since initially being permitted in October of 2012.

If there is any further information required or questions regarding this application please do not hesitate to contact S&ME or Lewis Farms.

Sincerely,

S&ME, Inc.

Martin Mabe
Project Manager/Agronomist

Rob Willcox, L.S.S.
Natural Resources Services Leader

Enclosures

S:\1588\REPORTS\1588\LewisFarms\2013 Septage Permitting\Lewis Farms\Septage Land Application Renewal Cover Letter.doc



APPLICATION FOR A PERMIT TO OPERATE A SEPTAGE LAND APPLICATION SITE

North Carolina Department of Environment and Natural Resources
Division of Waste Management – Solid Waste Section
1646 Mail Service Center, Raleigh, NC 27699-1646

I. Site and Operator Information

1. Applicant Lewis Farms & Liquid Waste, Inc.
Address 8155 Malpass Corner Road
Currie, NC 28435
Phone (910) 283-9823

2. Contact person for site operation (if different from applicant): Wesley Wooten
Title or position Secretary Phone (910) 283-9823
Address 8155 Malpass Corner Road
Currie, NC 28435

3. Landowner Mack Lloyd Bell
Address PO Box 174
Burgaw, NC 28425

4. Site Location: County Pender State Road Number SR 1100
Directions to site: Site is located approximately 0.5 miles south of the intersection of
SR 1100 and NC Highway 11/53 on the south side of SR 1100

5. Indicate whether request is: new _____ renewal X modification _____

For a permit renewal or modification, provide the following information:

Existing site permit number SLAS-71-10 permit expiration date: October 16, 2013

6. Number of acres meeting the requirements of the N.C. Septage Management Rules: 12.1 acres.

7. Substances other than septage or grease trap pumpings previously disposed of on the site:
(a) None X, or (b) Attach a list indicating other substances, the amounts discharged, and the dates of discharge.

8. Attach written, notarized landowner authorization to operate a septage disposal site signed by the landowner (if the permit applicant does not own the property). ***If a corporation owns the land use a corporate landowner authorization form. If limited liability company owns the land, use a limited liability company landowner authorization form. (Attached)***

9. Attach site evaluation report, including aerial photograph and soil analysis with metals results, unless the Division prepared the report. **(On file with the Division)**

10. Attach a vicinity map (county road map showing site location). **(On file with the Division)**

(over)

II. Site Management Information:

The following information shall be included with the application form:

1. Nutrient Management Plan **(No Changes to previously submitted plan proposed at this time)**
2. Soil Erosion and Runoff Control Plan **(Attached)**

3. Alternative plan for disposal (detention facility permit number or wastewater treatment plant authorization): Detention Facility Permit

4. Types of septage proposed to be discharged at the site (check all that apply):

- (a) Domestic septage pumped from septic tanks X
- (b) Grease trap pumpings X
- (c) Portable toilet waste X
- (d) Commercial / Industrial septage

5. Proposed treatment method of each type of septage to be land applied (use additional paper to explain if necessary): Hydrated lime will be added to domestic septage raising the pH to 12 or higher for 30 min. prior to land application. Septage containing grease trap pumping or any mixture of grease trap pumping will be raised to a pH of 12 or higher for 2 hr. prior to land application.

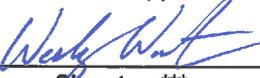
6. Proposed method of applying septage to land, including septage distribution plan if required * (use additional paper to explain if necessary): Septage will be applied evenly across the fields with no ponding or surface disturbance by utilizing a Pumper truck with a splash plate.

7. Demonstration from the appropriate state or federal government agency that the land application site complies with the Endangered Species Law ** or if any part of the site specified is not agricultural land (use additional paper to explain if necessary): Not Applicable – Agricultural Land

III. Certification

I hereby certify that:

1. The information provided on this application is true, complete, and correct to the best of my knowledge.
2. I have read and understand the N.C. Septage Management Rules, and
3. I am aware of the potential consequences, including penalties and permit revocation, for failing to follow all applicable rules and the conditions of a Septage Land Application Site permit.



Signature***

7-24-13

Date

Wesley Wooten

Print name

Secretary

Title

Note: This application will not be reviewed until all parts of the application are complete.

* Refer to Section .0837(e) of the N.C. Septage Management Rules.

** Refer to Section .0837(g) of the N.C. Septage Management Rules.

***Signature of company official required.

Landowner's Authorization to Operate a Septage Land Application Site

North Carolina Department of Environment and Natural Resources
Division of Waste Management - Solid Waste Section
401 Oberlin Rd, Ste. 150, Raleigh, N.C. 27605

I, Mack Bell (name of site owner) hereby certify that I am the owner of

71 acres of land located Slocum Trail Rd

and identified by 2247-72-3904-0000 (book and page of recorded deed or

tax map parcel) and that I agree to allow Lewis Farms & Liquid Waste Inc (name of site operator)

to use said land for septage land application for a period of 10 years (length of time),

beginning March 16 2012 (month, day and year) and that I have read the North

Carolina Septage Management Rules *, and I understand and agree to maintain the restrictions on land

use after septage land application ends **. I further understand that no septage may be land applied until

the Division of Waste Management has issued a permit for a septage land application site. The above

described property is owned solely by me or jointly with None

_____ (names of all co-owners, or state none).

Signature of landowner [Signature] Date 3/16/12

Signature of landowner _____ Date _____

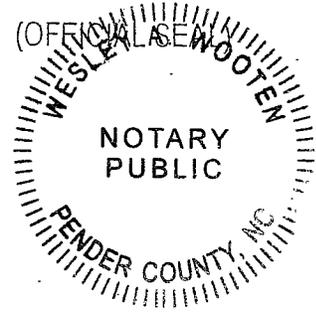
Sworn to and subscribed before me this 16th day of March, 20 12.

[Signature]
(Notary Public)

My Commission expires: December 12, 2012

* 15A N.C. Admin. Code 13B Section .0800

** As required by Rule .0826



AUTHORIZATION TO DISCHARGE SEPTAGE TO A WASTEWATER TREATMENT FACILITY

North Carolina Department of Environment and Natural Resources
Division of Waste Management - Solid Waste Section
1646 Mail Service Center, Raleigh, NC 27699-1646



Fee assessments and waste determinations will be required at the discretion of the wastewater treatment facility. The facility has the ultimate prerogative to deny discharges of any wastes to the incoming wastewater stream.

I, Brent Dean /ww4-993432 / Wallace Regional Waste Water Treatment Plant
(Plant Operator in Responsible Charge (ORC), ORC License Number, Name of Plant)

851 old Wilmington Rd Wallace, NC 28466
(Address)

910-285-5927 do hereby authorize Lewis Farms + Liquid Waste Inc.
(Phone Number) (Owner/Operator of Septage Management Firm)

of Lewis Farms NCS # 01222
(Septage Management Firm Name and NCS number)

to dispose of: domestic septage X, portable toilet waste N/A

grease septage (grease trap pumpings) N/A commercial/industrial septage N/A, from
Eastern N.C.

(County or other Geographic Area)

at the above named wastewater treatment facility. Septage shall be discharged at:

Wallace Regional WWTP
(Location)

between the hours of 7-5 Mon-Fri

Reintroducing partially treated liquid into a grease trap is acceptable Yes X No

This authorization shall be valid until December 31, 2014
(Usually December 31, Year)

Signed [Signature] Date 1-8-14
(Facility Operator)

Subscribed and affirmed before me this 8 day of January, 20 14
Peggy H. Updike My Commission Expires October 27, 2014
(Notary Public) My Commission expires: _____

(OFFICIAL SEAL)

Septage Nutrient Management Plan
for
Lewis Farms Owner: Lewis Farms & Liquid Waste, Inc.
8155 Malpass Corner Rd.
Currie, NC 28435
(910) 283-9823
(new application)

Purpose: The purpose of this document is to present the septage nutrient management plan proposed for the Slocum Trail Road site.

Site Conditions: The relevant property lines, site limits, natural geographic conditions and known site improvements are incorporated from the application permit.

A. General Information:

1. Septage will be sampled at least three (3) times per year for waste analysis. These samples will be used to monitor nutrient loadings. The recommended procedure for collecting the samples is as follows:
 - a. Make sure the septage has been stabilized at a pH of 12 with hydrated lime for 30 minutes (domestic septage) or for 2 hours (grease trap septage).
 - b. Set out some pans in the path where the truck will be disposing the septage. Plastic pans are recommended. Do not use zinc plated or galvanized metal pans; the metals content will be distorted.
 - c. Mix contents of 3-4 pans and fill a 16-20 ounce plastic bottle $\frac{3}{4}$ full. Squeeze out some of the excess air and label the bottle with your name and septage sample identification.

If samples are collected over a couple of days or from different truckloads, it makes for a more representative sample; however, samples should be kept cool and mailed as soon as possible. Only one sample is needed, as long as it is mixed from several different sub-samples.

Mail the samples directly to NCDA&CS or bring the samples by the Extension Office for forwarding to the NCDA&CS labs. Please use a check made out to NCDA&CS (\$5.00 per sample). Bottles need to be clearly labeled as a household -lime stabilized- septage sample (waste code MLS). For extra security, place the bottle in a plastic freezer bag. The form and check can be put in an envelope and placed in the bag with the bottle.

2. An annual soil sampling of each numbered field will be conducted and the results maintained on file. Pay particular attention to: soil pH, zinc index, and copper index.
3. Total available area for septage application on this site is 16.4 acres.
4. The dominant soil series at this site is Norfolk B (2-6 % slope) loamy fine sand.

5. Septage will not be applied when and where the site is untrafficable. Untrafficable is defined as soil that will allow a loaded truck to leave a depression in sod greater than 3 inches in depth. It also will not be applied when the field is flooded, frozen, or snow covered.
6. Grease septage is to be diluted at least 1:1 from its original concentration when pumped with domestic septage or water. Grease septage applications shall not exceed 25,000 gallons/acre/yr.
7. Septage storage shall be provided to account for the average volume of septage pumped per week, or an alternative plan, such as disposal at a waste treatment plant, should be in place.

B. Crops to be grown and approximate planting and harvest times:

1. Field MB1 will be in a two-year rotation that includes cereal rye (optional winter cover between soybeans and corn), corn, wheat, and soybeans. The rye or wheat are to be planted by mid-October (early November at the latest) at a rate of approximately 2.5 bu/acre to 3 bu/acre or at rates appropriate under NC Cooperative Extension guidelines for the grain utilized. The rye will be harvested as hay, preferably by late April to early-May. The wheat will be harvested as grain by June. The corn and soybeans will be planted as soon as possible after the preceding crop is removed, and they will be harvested as grain in the fall. The field may also be switched over to pasture at a future date (see details below in B3 – B6). If so, the cropping pattern will be summer Bermuda grass with winter small grain (wheat or cereal rye) as cover. The table below gives approximate planting and harvesting dates. These dates have some flexibility due to weather constraints.

The following seeding rates are recommended to produce good stand density. Under adverse conditions, a much lower percentage of the seeds will establish successfully. For that reason, many seeds are needed to obtain a satisfactory stand:

- Cereal rye: 2.5-3 bu/acre (140-160 lbs per acre)
- Wheat: 2.5-3 bu/acre (150-180 lbs per acre)
- Corn: 30 lbs per acre
- Soybeans: 70 lbs per acre

2. Crop rotation table:

<i>Year</i>	<i>MB1 (rowcrop option)</i>		<i>MB1 (pasture option)</i>	
1	wheat	October-June	Bermuda	April-October
	soybeans	June-November	cereal rye	November-April
2	cereal rye	November-April	Bermuda	April-October
	corn	May-September	cereal rye	November-April

If the field is switched to pasture:

3. The field may be switched to have Bermuda during the warm season; and cereal rye, wheat, or a small grain mix used for the cool season.
4. The owner will seed the field with Bermudagrass (Cheyenne or another seeded variety, NOT “giant Bermuda”). See the “General Note”, item B5 below, for establishment of Bermudagrass.

Once established, the first Bermuda hay harvest each year will be when the grass is 12 to 15 inches tall. Subsequent cuttings should occur at four- to five-week intervals or when it is 12 to 15 inches tall, whichever comes first. Recommended Bermudagrass practices are detailed in the attached Extension publication, *Bermudagrass Management in North Carolina*. It should be noted that true “common” Bermudagrass does not grow very tall and will be shorter than the Cheyenne. Mowing all varieties of Bermudagrass will help the grass spread and reduce weed problems. Maintaining proper soil pH is very important. If the pH gets above 6.5, it is recommended that 200 lbs/acre of elemental sulfur be applied to the field.

Overseeding with cereal rye, wheat, or small grain mix (“winter overseed”) will occur near mid-October of each year, at a rate of roughly 100-120 lbs per acre. This seeding rate is from *Planting Guide for Forage Crops in North Carolina*, to obtain the proper crop stand density required to meet the realistic yield expectations. Failure of sufficient germination will likely require reseeding in affected areas. The winter overseed crop will be harvested as hay, preferably by late April to very early-May.

5. General Note: grass establishment

Prior to initial seeding with Bermuda, the existing crop will be cut, removed, and the remaining vegetation sprayed with plant killer, especially if ryegrass is present. For better germination, it is recommended that a cultipacker be used during seeding to improve seed/soil contact. If the stand of Bermuda grass in any field falls below 80% coverage, then the field (or specific problem areas) will be sprigged, in March or April, with 30-40 bushels of Bermuda grass sprigs per acre or seeded, in April or May, with 10-15 lbs per acre Cheyenne Bermuda (or another seeded variety) grass seed. If weeds caused the problem with the grass coverage, the weed problem is to be addressed **before** re-seeding or sprigging. In bare areas, a light discing can be used to incorporate the sprigs. The winter cover crop needs to be removed before the Bermuda is put out and the pumping schedule adjusted accordingly.

Bermuda grass establishes best at a pH of 6-6.5. Use the soil test report to determine if lime, phosphorus and potassium additions are needed. If the soil pH is greater than 6.5, apply 200 lb/acre elemental sulfur. When growth starts, 30 pounds of nitrogen per acre can be applied. After the plants begin to make runners, an additional 30 pounds of nitrogen per acre can be applied. These nitrogen applications are to be documented and kept along with the other application records. If weedy grasses are not a problem, let the new grass grow 8-10 inches tall before clipping. During establishment, clipping (short mowing) will encourage the plants to spread across the soil, and will also help control some weeds.

6. Weed control

Well-managed Bermudagrass is competitive with most perennial and summer annual weeds. If weeds become a problem, especially during grass establishment, contact your technical specialist for assistance and/or the most recent *North Carolina Agricultural Chemicals Manual* for herbicides to control specific weeds. Promptly removing the winter overseed crop is important to avoid shading out and competing with the Bermuda early in its growing season. Pre-emergent herbicides can be used to control crabgrass and other warm season annual weeds; **do not use in areas that are to be reseeded.**

Weed control for the various crops is very weed specific. Please consult one of your local advisors for proper identification and control recommendations.

C. Nitrogen needs for crops grown:

RYE = Realistic Yield Expectation for Norfolk B in Pender

N App. Rate = Suggested nitrogen application rate

MB1	Crop	RYE	Rowcrop option		*Gal/ac/yr	Adjusted Gal/ac/yr	Actual lbs N/ac
			N App. Rate	Total lbs N/ac			
yr 1	small grain	9.8 t/ac	11.4 lb/ton	112	43,077	20,000	52
yr 1	corn	113 bu/ac	1 lb/bu	113	43,462	30,000	78
yr 2	wheat	59 bu/ac	2 lb/bu	118	45,385	20,000	52
yr 2	soybeans	34 bu/ac	3.9 lb/bu	133	51,154	30,000	78

MB1	Crop	RYE	Pasture option		*Gal/ac/yr	Adjusted Gal/ac/yr	Actual lbs N/ac
			N App. Rate	Total lbs N/ac			
	bermuda	5.5 t/ac	46 lb/ton	253	97,308	30,000	78
	small grain	9.8 t/ac	11.4 lb/ton	112	43,077	20,000	52

*This column represents the number of gallons needed to meet the total nitrogen needs of the crops. The maximum permitted application is 50,000 gal/acre/yr, with a maximum winter monthly application of 5,000 gal/acre.

The cereal rye and Bermuda will be harvested as hay and removed from site. If used for animal feed or bedding, no septage applications can be made within 30 days of harvest. The **Adjusted gal/acre/year** column represents what can be applied so as not to exceed the maximum permitted application rate of 50,000 gal/acre/yr.

Because the nitrogen needs will not be met, commercial nitrogen fertilizer, such as 10-0-0 can be used IF NEEDED. A Plant Tissue Analysis sample can be collected to determine if the plants are deficient. If fertilizer is used, it is important that the crop N requirements not be exceeded! The following amounts of commercial fertilizer can be added to each crop:

Cereal rye: 60 lbs nitrogen
 Corn: 35 lbs nitrogen
 Wheat: 66 lbs nitrogen
 Soybeans: 55 lbs nitrogen
 Bermuda: 175 lbs nitrogen

All such additions are to be documented. From the Soil Analysis, the field does not need additional phosphorus (P-I > 100). Although corn is actively growing in May-September, it is not practical to apply septage over the crop using a pumper truck. The same is true for the soybeans. Applications for these crops would be made post-harvest of the preceding crop, immediately prior to planting the corn or soybeans.

The amount of supplemental N is based on the RYE for the field soil type. For example, the RYE for corn is 130 bu/acre. The nitrogen application can be increased if crop yield records are kept. To do this, the average yield from the best three out of five years is calculated. If that yield was 150 bu/acre, the new application rate would be determined as follows:

$$\text{Yield} \times \text{N/bushel} = 150 \text{ bu/acre} \times 1 \text{ lb N/bu} = 150 \text{ lb N/acre} - 78 \text{ lb N septage} = 72 \text{ lb N fert.}$$

D. Monthly/yearly application rate estimates in gallons:

<i>Crop</i>	<i>Maximum Uptake Period</i>
Cereal rye	February-April
Corn	May-July
Wheat	February-April
Soybeans	July-September
Bermuda grass	May-September

As shown in the above table, the cereal rye and wheat have their maximum nutrient uptake during February through April. There is some uptake, however, as these crops first grow and become established. It is generally recommended that 1/3 of the nutrients be applied during the lower growth months (November-January) and the remaining 2/3 be applied during February-April. Applications should not be made to the wheat after the application dates listed above.

It is understood that homeowner pumping requests are greatest during the winter months. The application recommendations in the table below, therefore, are given as the permissible amount WEATHER, CROP, and FIELD CONDITIONS PERMITTING.

<i>Month</i>	<i>Rowcrop (application per acre)</i>		<i>Pasture (application per acre)</i>	
		<i>Crop</i>		<i>Crop</i>
January*	low	wheat	low	cereal rye
February*	low	wheat	low	cereal rye
March*	medium	wheat	medium	cereal rye
April	low	wheat	high	cereal rye
May	none	wheat	medium	bermuda
June	high	soybeans	high	bermuda
July	high	soybeans	high	bermuda
August	high	soybeans	medium	bermuda
September	low	soybeans	medium	bermuda
October	low	soybeans/rye	low	bermuda/rye
November*	low	cereal rye	low	cereal rye
December*	low	cereal rye	low	cereal rye
January*	low	cereal rye	low	cereal rye
February*	low	cereal rye	low	cereal rye
March*	medium	cereal rye	medium	cereal rye
April	medium	cereal rye	high	cereal rye
May	medium	corn	medium	bermuda
June	high	corn	high	bermuda
July	high	corn	high	bermuda
August	low	corn	medium	bermuda
September	none	corn	medium	bermuda
October	low	corn/wheat	low	bermuda/rye
November*	low	wheat	low	cereal rye
December*	low	wheat	low	cereal rye

Low = up to 5,000 gallons; medium = up to 10,000 gallons; high = up to 15,000 gallons

Note: Application dates are approximate and subject to adjustments due to harvesting (30 day rest periods) and weather. They are given as an application guide.

* These months can have wetter soil conditions than during the other months. It is exceedingly important that the applications be applied to the largest surface area practicable, so as not to have any ponding or runoff and to minimize untrafficable areas.

For both fields, the winter crop may be harvested upon crop maturity before the specified field harvest date. Regulations mandate that a crop be planted or break dormancy within 30 days of any application of septage.

E. Application method:

The preceding information is based on septage being **evenly applied** over the entire permitted site. Septage will be applied by a pumper truck with a splash plate when the crops are of suitable height and the field is trafficable. If the entire field is not covered each time, markers or some form of consistent rotation are needed to ensure that one portion of the field is not

more heavily loaded than other portions of the field. This can be done by dividing each field into sub-fields (ex.: 1a, 1b, 1c, etc.).

An application record for each sub-field is highly recommended. Waste record forms SLUR-1 and SLUR-2 can be used for record keeping. These and additional forms are available from the local Cooperative Extension office.

F. Additional fertility requirements:

Optimum nitrogen uptake will not occur if the concentrations of other nutrients limit the crop growth. Septage does not provide adequate supplies of all necessary nutrients over a prolonged period of time; so periodic supplements may be required. These maintenance applications should be based on annual soil test analyses. The soil samples should be taken in late Fall or early Winter, so that the supplements can be added prior to the Spring crop planting or the Bermuda grass breaking dormancy. **DO NOT FOLLOW THE NITROGEN RECOMMENDATION FROM THE SOIL TEST REPORT!** You are to use the nitrogen amounts given in this waste application plan.

A separate soil sample should be collected for the buffer areas. Commercial fertilizer applications to the buffers are to be based on the soil sample results. If you have questions, feel free to ask a Certified Waste Management Plan person in the local Cooperative Extension or Soil & Water Conservation offices.

G. Harvest of the crops and their use:

1. The cereal rye will be harvested as hay during April to early May and removed from site. If used for animal feed or bedding, no septage applications can be made within 30 days of harvest.
2. The corn, wheat, and soybeans will be harvested as grain for animal feed.
3. The Bermudagrass will be cut as hay and baled at four- to five-week intervals or when it is 12 to 15 inches tall, whichever comes first. Recommended Bermudagrass practices are detailed in the Extension publication, *Bermudagrass Management in North Carolina*.
4. A 30-day waiting period must be observed between the last application of septage and harvest for all material that is to be used as livestock feed or bedding; therefore, an application rotation will need to be established among the fields. Record keeping will be an important factor in documenting proper application. This cycle will continue until the next plan update or other instructions from either DENR or a Certified Waste Management Plan person. Any changes are to be put into writing, placed in the plan file, and copies given to the appropriate agencies.

H. Records required to be kept for five years:

1. Soil tests are to be done annually and the reports kept. Although nitrogen and phosphorus are the main nutrients of interest, some micronutrients are also of concern. Check your soil test results and compare them to the follow table:

<i>Pollutant</i>	<i>Maximum Cumulative Loading Rate (kilograms per hectare)</i>	<i>Equivalent Soil Test Report Value (parts per million)</i>
Zinc	2800	1400
Copper	1500	750
Cadmium	39	19.5
Nickel	420	210
Lead	300	150
Selenium	100	50
Arsenic	41	20.5
Mercury	17	8.5

2. Septage pumping log
3. Septage land application log
4. Septage land application log cover sheet with signed certification

The NC Septage Management Rules (15A NCAC 13B .0822(e)) and the Federal Rules (40 CRF 503.17(b)) require that specific information be recorded and maintained for septage land application sites. Incomplete record keeping may result in penalties. If you do not include the required records your site may not be re-permitted. If you have more than one site and each site has a separate permit number, the records for each must be maintained separately.

One **Septage Land Application Log Cover Sheet** is to be attached to each set of log forms submitted to DENR. The **Septage Pumping Log** is used to record septage pumped by the firm. The **Septage Land Application Log** is used to record how the septage is treated and land applied. All blocks are to be completed. One Septage Land Application Log is to be kept for each field and crop. If the fields are sub-divided for applications, additional forms may be used.

Although not required, crop harvest records are strongly recommended.

Questions regarding the regulations? Contact the Composting and Land Application Branch at 919-707-8285.

Soil Erosion and Runoff Control Plan

Natural Resource Conservation Service best management practices (BMPs) are readily available and directly applicable to septage application sites. Some recommended BMPs for this site include:

1. Maintain a vegetative cover. At any time of the year, crops or their residue should be present on the site.
2. Manage soil surface for maximum infiltration. Minimize soil disturbance by drill planting the winter small grain crop. If soil compaction should become evident (ponding of

applied septage), use a subsoiler to loosen the soil and improve infiltration. Field traffic should be kept to a minimum.

3. Maintain vegetation on swales, ditch channels, and all other field exits for stormwater runoff.
4. Extra care and control may be needed on those areas with increased slope. If possible, field edges should be shaped to detain runoff.

Nutrient management and erosion control plans are not static instruments; they are blueprints for planning and optimizing the defined crop use goals. As crop use goals or site conditions change, the management plan may need to be amended. Information sources, such as Cooperative Extension or Soil & Water Conservation, should be used on an ongoing basis.

Submitted by: Wally Hunt

Date: 7-24-13

Plan prepared by: Diana M.C. Rashash

Date: August 10, 2012

Address: Diana M.C. Rashash, PhD EI
North Carolina Cooperative Extension
4024 Richlands Hwy.
Jacksonville NC 28540

Phone: (910) 455-5873

Fax: (910) 455-0977

email: diana_rashash@ncsu.edu

Please sign both copies and send one copy to:

*Chester Cobb, Soil Scientist
Division of Waste Management
217 West Jones St.
1646 Mail Service Center
Raleigh NC 27699-1646*

SLAS Permit Review

Permit #: SLAS-71-10
Application Received: 8-2-13

NEW RENEWAL MODIFICATION

ISSUED: 10-17-12

EXPIRES: 10-16-13

APPLICATION

COMPLETE

LANDOWNER AUTHORIZATION FORM

WORKING ON PREVIOUS LANDOWNER FORM SIGNED ON 6/29/12
AUTHORIZATION GOOD FOR 10 YEARS FROM 6-27-12

MAPS

ON FILE

NUTRIENT MANAGEMENT PLAN

Crops: SMALL GRAINS, CORN, SOYBEANS

- Planting:
- 80% coverage (replanting guidelines):
- Harvest:
- Soil Erosion and Runoff Control Plan:

Fields: 1 Acres: 12.1 Maximum Annual Application Amount: 50,000 gal. /ac/yr

RECORDS

- Septage Land Application Log Cover Sheet
- Overapplied

NO SEPTAGE APPLICATIONS TO SITE.

COMPLIANCE ISSUES AND OTHER COMMENTS (NOV's and NOD's)

RECEIVED REQUEST TO GO INACTIVE ON
12-31-14

Cobb, Chester

From: Martin Mabe <MMabe@smeinc.com>
Sent: Monday, December 09, 2013 10:55 AM
To: Cobb, Chester
Cc: Wesley Wooten (wesley@lewisfarmsandliquidwaste.com)
Subject: RE: SLAS-71-08

Chester,

I have mailed another hardcopy of the permit modification submittal dated August 5, 2013. Included within that application is a "Septage Land Application Log Cover Sheet" that is applicable for SLAS 71-08. The previous copy that I submitted to your office on August 5, 2013 had all of the original forms with signatures. But, that seems to have been temporarily misplaced (Ha).

I will be mailing a hardcopy of the letter that you requested shortly, regarding no septage land application activities have occurred on 71-09, 71-10, or 71-11 during the calendar year of 2013.

Thanks,

Martin Mabe

Project Manager / Agronomist



ENGINEERING INTEGRITY.

S&ME, Inc.
3718 Old Battleground Road
Greensboro NC 27410 [Map](#)
Ph: 336-288-7180
Fax: 336-288-8980
Mobile: 336-312-1396
mmabe@smeinc.com
www.smeinc.com

This electronic message is subject to the terms of use set forth at www.smeinc.com/email. If you received this message in error please advise the sender by reply and delete this electronic message and any attachments. Please consider the environment before printing this email.

From: Cobb, Chester [<mailto:chester.cobb@ncdenr.gov>]
Sent: Friday, December 06, 2013 11:24 AM
To: Martin Mabe
Subject: SLAS-71-08

Martin,

I have attached a Cover Sheet that is used for septage land application sites to certify that the septage was treated to Federal Standards (lime stabilization) as recorded on the land application records. This form needs to be completed for the records submitted for SLAS-74-08.

Also, I went the submittals that I have on my desk and could not find anything for the field addition to SLAS-71-08. The last submittal I could find is for SLAS-71-09 and SLAS-71-10 which was received on August 2, 2013. So if you could, please send another copy of the submittal for the field addition.

Thanks,

Chester

Chester R. Cobb
Soil Scientist
Composting and Land Application Branch

MAILING ADDRESS: NC DENR, Division of Waste Management
1646 Mail Service Center, Raleigh, NC 27699-1646

PHYSICAL ADDRESS: Green Square Complex, 217 W. Jones Street, Raleigh, NC 27603

Phone & Fax: 919-707-8283

chester.cobb@ncdenr.gov

<http://portal.ncdenr.org/web/wm/sw>

*****E-mail correspondence to and from this address may be subject to the North Carolina Public Records Law and may be disclosed to third parties.*****