



Environmental Quality

Facility Permit No: SLAS-36-04  
Stanley Environmental Solutions, Inc.  
Permit to Operate  
February 23, 2016  
Page 1 of 5

North Carolina Department of Environmental Quality

Pat McCrory  
Governor

Donald R. van der Vaart  
Secretary

STATE OF NORTH CAROLINA  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
DIVISION OF WASTE MANAGEMENT  
SOLID WASTE SECTION

PERMIT TO OPERATE A SEPTAGE LAND  
APPLICATION SITE

Stanley Environmental Solutions, Inc.  
Jim Lanier  
P.O. Box 184  
Stanley, NC 28164

is hereby permitted to operate Septage Land Application Site with permit # **SLAS-36-04** located on SR#1802 in Gaston County at approximate position 35.36067° N latitude and -81.16873° 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 2/23/2016

  
Martin A. Gallagher, Supervisor  
Composting & Land Application Branch,  
Solid Waste Section  
Division of Waste Management, NCDEQ

## 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 This permit shall become void if the soils fail to adequately assimilate the septage and shall be rescinded unless the site is maintained and operated in a manner which will protect the assigned water quality standards of both surface and ground waters.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 Jim Lanier and approved by the Division of Waste Management. **The 42.3-acre site shall be divided into three fields known as Field 1 (18.7 acres), Field 2 (17.3 acres) and Field 3 (6.3 acres). All three fields shall remain established in fescue.** The mandatory 30-day waiting period between the last application of septage and the harvest of a crop shall be met by alternating septage applications, the waiting period and harvests among the three permitted fields. 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 Jim Lanier in such a manner as to prevent the migration of wastes off of the designated waste receiving site. A 50 buffer between application areas and intermittent waterways, planted in fescue/orchard grass or Bermudagrass and rye grass, should suffice to prevent septage waste and sediment from migrating off of the fields. 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 and grease septage.** 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 pH 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. **Per 15A NCAC 13B .0838(a)(15) grease septage that has been adequately treated to remove solids, fats, oils, and grease may be land applied without being diluted with domestic septage or water at 1:1 or greater ratio, unless crop damage occurs. Grease septage processed through the septage treatment facility shall be at pH 12 when land applied.**

7. **This site contains approximately 42.3 acres that are available for land application of septage.** The maximum annual application rate shall be **198,000** gallons per acre per year based on the submitted waste analyses and the nitrogen carry over as per 15A NCAC 13B .0835(c)(12)(G). The average nutrient concentrations are 132.5 ppm nitrogen, 9.6 ppm phosphorus, and 60.8 ppm potassium. At this application rate, **a maximum annual volume of 8,375,400 gallons may be applied to this entire site with Field 1 receiving 3,702,600 gallons, Field 2 receiving 3,425,400 gallons and Field 3 receiving 1,247,400 gallons per year.** The maximum annual application rate assumes equal septage distribution, on an annual basis, over the entire permitted area. Application rates to the disposal fields shall not exceed the maximum annual application rate or the monthly application 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 161,065 gallons shall be available prior to operation of this site as per 15A NCAC 13B .0841(b) for a minimum size equal to two percent of the maximum annual application rate. 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 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 February 23, 2021.** 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 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. **The dewatered effluent shall be sampled and analyzed on a quarterly basis at a minimum. Each analysis shall include at a minimum the nitrogen constituents, phosphorus, potassium, soluble salts, pH, regulated metals except mercury, calcium, manganese, magnesium, iron, sulfur, boron and chlorine. Copies of the results shall be submitted to the Solid Waste Section for permit renewal or modification.**
18. 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.

19. 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.
  
20. The areas that can be used for land application of septage shall be maintained to meet the minimum setback distances as described in 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, within 100 feet of any ditch or within 200 feet of any surface water unless specified otherwise. **A setback of 150 feet shall be maintained between the disposal fields and the South Fork of the Catawba River.**
  
21. **Nutrient additions to the established crop shall not exceed the recommendations listed on the annual soil test report with the exception of nitrogen. Any supplemental nitrogen fertilizer additions to the crop shall account for residual nitrogen and shall not exceed the nitrogen requirement listed in the approved nutrient management plan. Also, any supplemental nitrogen added to the crop shall be recorded along with the septage application records.**



Waste Management  
ENVIRONMENTAL QUALITY

PAT MCCRORY  
*Governor*

DONALD R. VAN DER VAART  
*Secretary*

LINDA CULPEPPER  
*Director*

February 23, 2016

Mr. Jim Lanier  
Stanley Environmental Solutions, Inc.  
P.O. Box 184  
Stanley, NC 28164

RE: **SLAS permit renewal  
Stanley Environmental Solutions, Inc.  
SLAS-36-04  
SR#1802 in Gaston County**

Dear Mr. Lanier:

The NC Division of Waste Management has reviewed your renewal application for a Septage Land Application Site permit in Gaston County. Your application has been approved and your permit, # **SLAS-36-04**, is enclosed. If you have any questions about your permit, we'll need the number in order to answer your questions.

Please read all of your permit conditions carefully. Your nutrient management and soil erosion and runoff control plans have been included in your permit's conditions. In particular, review Permit Condition 15, which states that you will need to submit septage application logs for your site in order to renew your permit. These logs need to cover the entire time your current permit is valid. For details on the information you should include, consult the NC Septage Management Rule 15A NCAC 13B .0838(e)(1) and the Federal register's 40CFR Part 503.17(b). This permit condition also states that this permit is valid until **February 23, 2021. Per Permit Condition 17, the dewatered effluent shall be sampled and analyzed on a quarterly basis and copies of the results shall be submitted for permit renewal or modification.** If you have any questions, please ask for assistance as rule violations could expose you to administrative penalties.

Please note that to land apply industrial or commercial septage at a permitted septage disposal site you must have **prior approval** from the NC Division of Waste Management. The waste must be sampled prior to being removed from the system. Generally, the Division will request that you have a waste analysis run on septage from each commercial or industrial septage generator before that type of septage is approved for land application.

Use of a land application site or septage detention or treatment facility that is not permitted may result in administrative penalties up to \$15,000 per violation in accordance with NC General Statute 130A-22.

If you have any questions, please contact me at (910) 433-3352 or Martin Gallagher at (919) 707-8280.

Sincerely,

Connie S. Wylie, Soil Scientist  
Division of Waste Management, NCDEQ

Enclosures

cc: files  
Earth Farms LLC, landowner  
Gaston County Health Department

# 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  
401 Oberlin Rd., Ste. 150, Raleigh, N.C. 27605

## I. Site and Operator Information

1. Applicant Stanley Environmental Solutions INC. / Jim Lanier  
Address 351 Colt Thornburg Rd.  
Dallas, NC 28034  
Phone 704-263-8186

2. Contact person for site operation (if different from applicant): \_\_\_\_\_  
Title or position \_\_\_\_\_ Phone \_\_\_\_\_  
Address \_\_\_\_\_

3. Landowner Earth Farms LLC  
Address 131 Mariposa Rd. PO Box 184  
Stanley, NC 28164

4. Site Location: County Gaston State Road Number 1802  
Directions to site: Philadelphia Church Rd. left onto Colt Thornburg Rd. 3/4 mile on right

5. Indicate whether request is: new \_\_\_\_\_ renewal \_\_\_\_\_ modification x

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

Existing site permit number: 36-04 permit expiration date: April 2012

6. Number of acres meeting the requirements of the N.C. Septage Management Rules: 19 acres. <sup>47.3</sup>

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.***

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

10. Attach a vicinity map (county road map showing site location).

(over)

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MAY 26 2011

DIVISION OF WASTE MANAGEMENT  
FAYETTEVILLE REGIONAL OFFICE

II. Site Management Information:

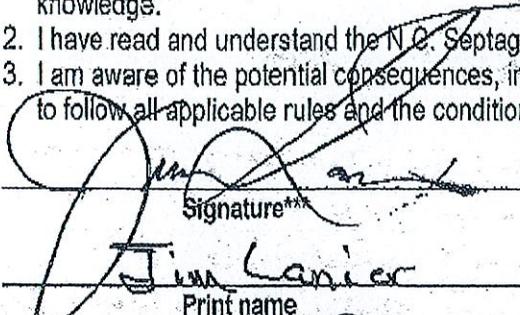
The following information shall be included with the application form:

- 1. Nutrient Management Plan
- 2. Soil Erosion and Runoff Control Plan
- 3. Alternative plan for disposal (detention facility permit number or wastewater treatment plant authorization): City of Cramerton WWTP / SDTF 36-04  
*Two Rivers*
- 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 \_\_\_\_\_
  - (d) Commercial / Industrial septage \_\_\_\_\_
- 5. Proposed treatment method of each type of septage to be land applied (use additional paper to explain if necessary): Filtrate from Dewatering Operation will be Lime stabilized to a ph of 12 for 2 hours and held to 12 or higher until applied on fields.
- 6. Proposed method of applying septage to land, including septage distribution plan if required \* (use additional paper to explain if necessary): Filtrate will be land applies with pump truck using a spray nozzle making a 10 ft swath
- 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): \_\_\_\_\_  
The site is Agriculture

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\*\*  
 \_\_\_\_\_  
 Print name

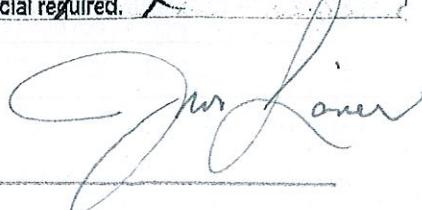
3/1/2011  
 \_\_\_\_\_  
 Date  
 \_\_\_\_\_  
 Title

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

\* Refer to Section .0821(e) of the N.C. Septage Management Rules.

\*\* Refer to Section .0821(g) of the N.C. Septage Management Rules.

\*\*\* Signature of company official required.

 4/28/15

\*

**Limited Liability Company 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 Road, Suite 150, Raleigh, NC 27605

I hereby certify that the undersigned limited liability company, Earth Farms, owns 108 acres acres of land located 351 Colt Runberry rd and identified by Dallas, NC

(book and page of recorded deed or tax map parcel) and that the limited liability company agrees to allow Stanley Environmental (operator name) to use said land for application of septage for a period of 10 years (indicate time period) beginning 3/16/12 (give date), and that on behalf of the limited liability company, I have read the North Carolina Septage Management Rules\*, and Earth Farms LLC (name of limited liability company) understands and agrees to maintain the restrictions on land use after septage application ends\*\*. Earth Farms LLC (name of limited liability company) further understands 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 the undersigned limited liability company, or jointly with (name all co-owners, or state none)

Date: 3/16/12

Adam Morrison  
 16000 Morrison

Earth Farms LLC  
 Limited Liability Company (Print Name)

[Signature]  
 Signature (Authorized Member or Manager)

Jim Lanier President  
 Print Name and Title

North Carolina  
Gaston County

I, Adam Morrison, a Notary Public for said County and State do hereby certify that Jim Lanier (name of authorized member or manager of limited liability company) personally appeared before me this day and, being first duly sworn, acknowledged that he (she) is a (the) President (member or manager) of Earth Farms, a limited liability company, and that by authority duly given and as the act of the limited liability company, the foregoing instrument was signed in its name by its authorized Jim Lanier (member or manager), and that the statements contained therein are true. Witness my hand and official seal, this the 16 day of March, 20 12.

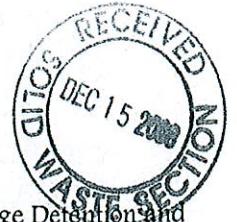
Adam C Morrison  
 Notary Public  
 My Commission expires: 3/2017.

(OFFICIAL SEAL)



\*15A N.C. Adm. Code 13B Section .0800  
 \*\* As required by Rule .0826

Nutrient Management Plan for Stanley Environmental Solutions Inc.  
Waste Water Application Site



A. General Information:

1. The effluent applied to this site consists of septage and grease trap waste after treatment in Septage Detention and Treatment Facility 3604. No waste will be applied prior to treatment. Quarterly sampling of the wastewater will be conducted for waste analysis with soluble salts and heavy metal analysis requested for the first 12 months to verify the nutrient content of the effluent. A copy of each analysis will be provided to the Division of Waste Management. 12.3

2. It is estimated that the site in question contains a total of ~~54~~<sup>46.67</sup> acres. Field 1 contains ~~34~~<sup>22.99</sup> acres; Field 2 consists of ~~17~~<sup>18.7</sup> acres, while Field 3 has ~~6.3~~<sup>17.32</sup> acres. Approximate useable acreage of the land application site will be determined by the Composting and Land Application branch of the Solid Waste Section of the Division of Waste Management.

3. The dominant soil series at this site is Cecil B2 with a permeability of 06-2.0 inches per hour, according to Soil Survey of Gaston County, North Carolina.

4. Wastewater will not be applied where the site is untrafficable or standing water is present. (Untrafficable is defined as soil that will allow a loaded truck to leave a depression in sod greater than 3 inches in depth).

5. Wastewater storage is provided (SDTF 3604). Alternatively, water can be disposed at a waste treatment plant if the land application site is unusable due to high soil moisture and the storage tanks are full.

B. Crops to be grown and approximate planting times:

1. Fescue and other native grasses currently occupy most of the application area. Where the stand of fescue needs to be improved, fescue shall be no-till drilled into the existing stand after harvest at the rate of 15 pounds of seed per acre between August 25 and September 15 at a depth of 1/4 to 1/2 inch. Fescue may also be drilled into the existing stand at a rate of 18 or more pounds of seed per acre between September 16 and October 25 or between February 15 and March 31st. Care will be taken to minimize vehicular traffic to renovated areas. Renovation of the stand at other times is possible.

This plan is based on a stand of fescue being maintained in all of the application areas. Large areas of common bermudagrass are present in fields 1 and 2. These areas should be treated with a nonselective herbicide prior to frost. Fescue should be no-till drilled into these areas after the herbicide application at the rates listed above. Johnson grass is present in all three fields. After the fall harvest, prior to a hard frost when the johnsongrass is 3" or more inches taller than the fescue, the Johnsongrass should be controlled using the wick applicator present at the site. Additional wick applications should be utilized next spring to control the Johnsongrass. The fields should be evaluated in late February each year to determine if a herbicide application is needed to control winter annual weeds.

2. The application area has three field locations. Rotation among these fields facilitates effluent application while hay is being dried and harvested. Waste application must cease for 30 days prior to harvest of the hay. For example, if field 1 is to be harvested on May 15<sup>th</sup>, waste can only be applied to fields 2 and 3 starting on April 14<sup>th</sup>. If field 2 is to be harvested May 22<sup>nd</sup>, waste cannot be applied to Field 2 after April 21<sup>st</sup>. If field 3 is to be harvested on May 28<sup>th</sup>, no waste can be applied after April 27<sup>th</sup>. SDTF 36-04 would be utilized to store the effluent from April 28 through May 16 or until Field 1 had been harvested.

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DEQ-FAYETTEVILLE REGIONAL OFFICE

C. Nitrogen needs for crops grown:

R.Y.E. = Realistic Yield Expectations (The NC Agricultural Assessment Tool indicates that the RYE for Cecil B2 in Gaston County is 4.8 tons per acre.)

**N App. Rate + Suggested N application rate based on R.Y.E. for soil type.**

Crop (cut for hay)	R.Y.E. (tons/acre)		Nutrients Removed (lbs./acre)
Tall Fescue	4.8	X 45 lbs. N/dry ton =	216 N
	4.8	X 18.6 lbs. P <sub>2</sub> O <sub>5</sub> /dry ton	89 P <sub>2</sub> O <sub>5</sub>
	4.8	X 52.9 lbs. K <sub>2</sub> O/dry ton	254 K <sub>2</sub> O

P<sub>2</sub>O<sub>5</sub> and K<sub>2</sub>O removal estimates are based on Table 1 in SoilFacts Nutrient Removal by Crops in North Carolina Publication number AG-439-16.

**Effluent Nutrient Concentrations**

	N	P	K	
Report 8313	75 ppm	28.6 ppm	99.7 ppm	
Report 5797	88.8 ppm	26.6 ppm	80.6 ppm	
<b>Average</b>	<b>81.9 ppm</b>	<b>27.6 ppm</b>	<b>90.15 ppm</b>	
lbs./ acre	135.3242	45.60376	148.9557	
PAN	54.1 lbs./acre			

If you assume that all of the phosphorous and potassium are plant available, removal by the crop is greater than the nutrients applied from the effluent.

**Plant Available Nitrogen (PAN)**

Year	Annual Application Rate <sup>1</sup>	Residual PAN <sup>2</sup> (lbs./ac/yr)						TOTAL PAN <sup>2</sup>
		1	2	3	4	5	Total	
1	198,000							54.1
2	198,000		16.24				16.24	70.34
3	198,000		16.24	6.50			22.74	76.84
4	198,000		16.24	6.50	2.92		25.66	79.76
5	198,000		16.24	6.50	2.92	1.67	27.33	81.43

<sup>1</sup> gallons/ac/yr.

<sup>2</sup>Based on the average value of laboratory results from waste analysis reports 5797 and 8313.

In addition to the effluent, a total of 126 pounds of N will be applied per acre yearly. Phosphorous and potassium removal estimates are greater than the amounts supplied by the effluent. Phosphorous and potassium may be applied to the application areas if subsequent soil tests indicate a need for these elements.

D.

Relative application rate for Fields 1, 2 and 3:

Month	Field		
	1	2	3
January	Low	Low	Low
February	Medium	Medium	Medium
March	High	High	High
April	High	High	High
May	Medium	Medium	Medium
June	Low	Low	Low
July	Low	Low	Low
August	Low	Low	Low
September	Medium	Medium	Medium
October	Medium	Medium	Medium
November	Medium	Medium	Medium
December	Low	Low	Low

None = 0 gallons; Low = 27,000 gallons  
 Medium = 54,000 gallons; High = 81,000 gallons per acre

NOTE: Cumulative application rate is not to exceed the permitted application rate.

E. Application Method

The preceding information is based on effluent being evenly applied over the entire permitted site by a moving truck.

F. Crop Management Plan

- The following fertilizers were applied on fields 1,2, & 3. (Attachment 1)
- Fescue 31 seed drilled the month of October at a rate of 35 lbs per acre.
- In January and February, fields 1,2, and 3 will be sprayed for weed control.
- Additional lime and fertilizer will be added as soil report indicates.

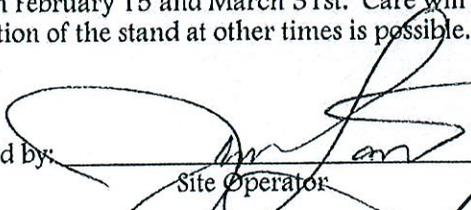
G. Harvest of the crops and their use:

1. The fescue will be cut as hay and baled whenever it reaches approximately 12 inches in height, or roughly every 4 to 6 weeks beginning in late June. Approximately three or four harvests can be expected.
2. The bales will be removed from the application area.
3. Number and weight of bales harvested will be recorded from each field.

SOIL EROSION AND RUNOFF CONTROL PLAN

The buffer areas of fescue and native grasses should suffice to prevent wastewater from migrating off of the field. If the sand needs to be improved, fescue shall be no-till drilled into the existing stand after harvest at the rate of 15 pounds of seed per acre between August 25 and September 15 at a depth of 1/4 to 1/2 inch. Fescue may also be drilled into the existing stand at a rate of 18 or more pounds of seed per acre between September 16 and October 25 or between February 15 and March 31st. Care will be taken to minimize vehicular traffic to renovated areas. Renovation of the stand at other times is possible.

Submitted by:



Site Operator

Date:

12/10/08



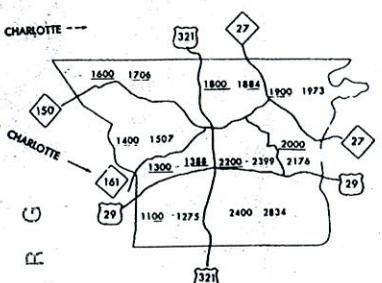
2/23/16

# SLAS-36-04

35.36067° N latitude  
-81.16873° E longitude



Source: 2010 NAIP Color Imagery, NCDA; 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.



KEY TO COUNTY ROAD NUMBERS  
ALSO NUMBERS 1001, 1002