Environmental Quality

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

Rudolph Inman Septic Tank Service
Ben Harrelson
5454 James B. White Hwy S.
Whiteville, NC 28472

is hereby permitted to operate Septage Land Application Site with permit # **SLAS-24-07** located on SR 1165 in Columbus County The site has two fields divided in two locations at approximate positions 34.24136° N latitude and -78.70826° E longitude (Field 1) and 34.24281° N latitude and -78.70579° E longitude (Field 2). 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 5/4/2016

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 This permit shall become void if the soils fail to adequately assimilate the septage and shall be rescinded unless the site is maintained and operated in a manner which will protect the assigned water quality standards of both surface and ground waters.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 Ben Harrelson and approved by the Division of Waste Management. The 8.8-acre site is divided into two fields as Field 1 (5.2 acres) and Field 2 (3.6 acres). Both fields have been established in Coastal Bermudagrass and shall be overseeded with rye between September 1 and October 31 of each year. Areas where the bermudagrass stand falls below 80% in coverage shall be respriggged. The crops shall be harvested for hay. The 30-day waiting period between the last application of septage and the harvest of the crop shall be met by rotating septage applications between the two 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 Ben Harrelson in such a manner as to prevent the migration of wastes off of the designated waste receiving site. A 25 feet buffer planted in bermudagrass and overseeded with rye shall remain established around the perimeter of permitted 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 (including portable toilet waste) and grease septage.** The pH of domestic septage 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. The pH of grease septage or grease septage mixed with domestic septage shall be raised to 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. Grease septage shall be diluted as required by 15A NCAC 13B .0838(a)(15) when applied over perennial vegetation.

7. **This site contains approximately 8.8 acres that are available for land application of septage.** The maximum annual application rate shall be 50,000 gal/ac/yr for a total maximum annual application volume of 440,000 gallons for the entire site. Application amounts to each disposal field shall not exceed the maximum annual application rate or the monthly application rates listed in the approved nutrient management plan. The maximum annual application rate assumes equal septage distribution, on an annual basis, over the entire permitted area.

8. An approved septage detention facility with a minimum design capacity of 8,500 gallons, as per 15A NCAC 13B .0841(a), shall be available prior to operation of this site unless an approved disposal option is available for use when land application of septage is prohibited. The storage capacity may be adjusted if it is demonstrated during the operation of the site that this volume of storage is inadequate.

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 May 4, 2020.** An application for permit renewal shall be submitted at least ninety (90) days prior to the permit renewal date. When necessary, an application for permit modification shall be submitted for any proposed change listed in 15A NCAC 13B .0835(h). Along with the application for permit renewal or modification, the prescribed information listed in 15A NCAC 13B .0835(c) through (i) and the septage application records for the period of time this permit was valid shall be submitted.

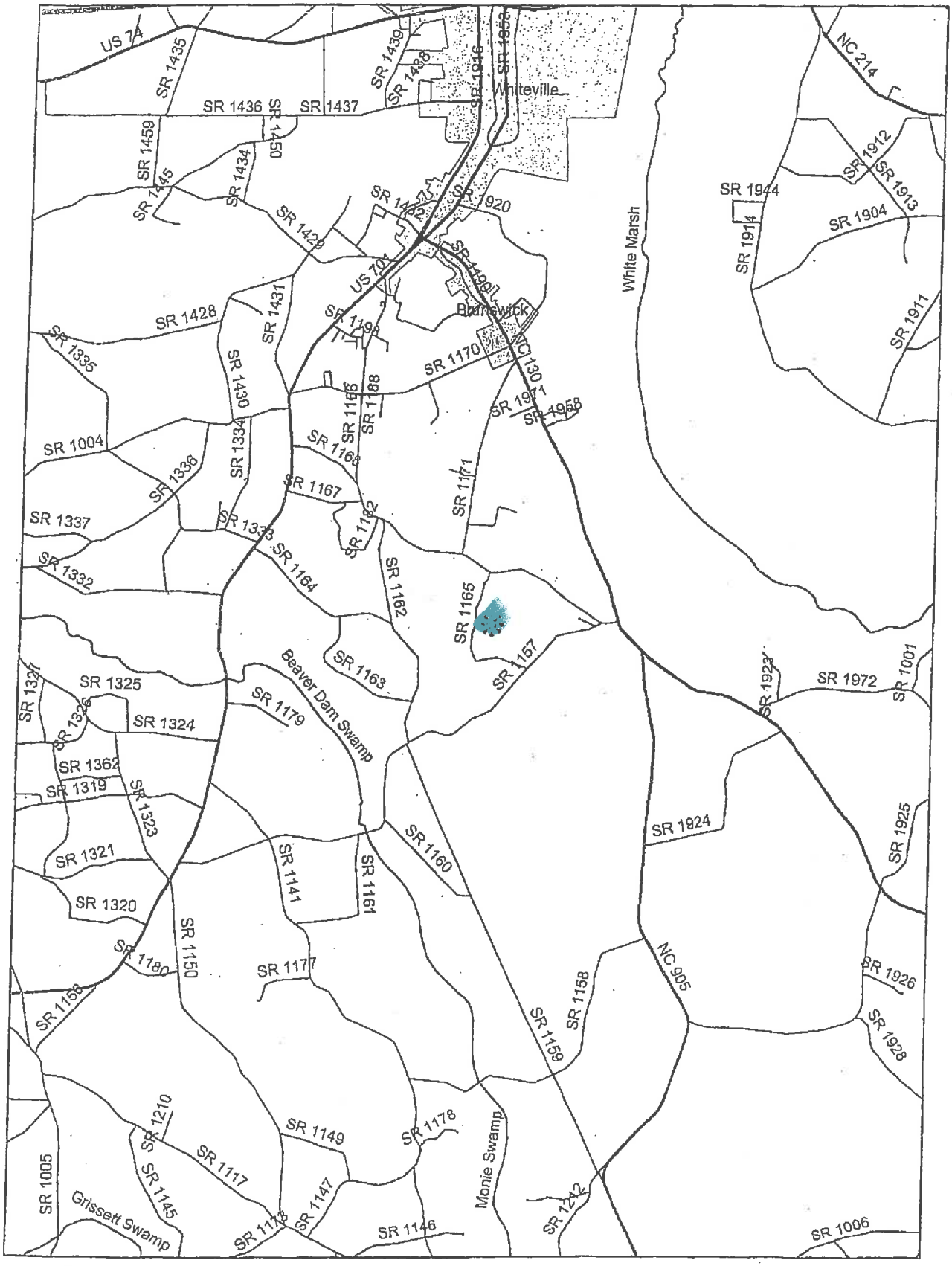
16. Records shall be kept in accordance with 15A NCAC 13B .0838(e)(1) and the Code of Federal Regulations, 40 CFR Part 503.17(b) to document all septage applications to the site. These records shall be made available to a representative of the Division upon request.

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 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.

SLAS-24-07



Ben Harrelson Site

04/28/08

* Map created from GIS data obtained from NCDOT website.

SLAS-24-07

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.

crc, March 2013

Waste Management
ENVIRONMENTAL QUALITY

PAT MCCRORY
Governor

DONALD R. VAN DER VAART
Secretary

MICHAEL SCOTT
Director

May 31, 2016

Mr. Ben Harrelson
Rudolf Inman Septic Tank Service
5454 James B. White Hwy S.
Whiteville, NC 28472

RE: SLAS-24-07 Permit Renewal
Rudolf Inman Septic Tank Service
SR 1165 in Columbus County

Dear Mr. Harrelson:

The NC Division of Waste Management has reviewed your application to renew the operation of Septage Land Application Site, **Permit # SLAS-24-07**, in Columbus County. Your application has been approved in accordance with NC Septage Management Rules and your permit, **SLAS-24-07**, is enclosed.

Please read all permit conditions carefully. Your nutrient management and soil erosion and runoff control plans you submitted have been included in your permit's conditions. This permit shall expire on **May 4, 2020**. An application for permit renewal and your septage application logs should be submitted at least ninety (90) days prior to the expiration of your permit.

Please 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 this permit or septage in general, please do not hesitate to contact me at (919) 707-8283. When communicating to the Division about this permit, please refer to it as "**SLAS-24-07**."

Sincerely,

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

Enclosures
cc: Central Office
David and Terri Gore, Landowners
Columbus County Health Department

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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 Ben Harrelson
   Address 5454 James B White Hwy S
   Whiteille, NC 28472
   Phone (910) 642-7431

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

3. Landowner David & Terri Gore
   Address 975 Pleasant Plains Church Rd
   Whiteville, NC 28472

4. Site Location: County Columbus State Road Number 1165
   Directions to site: 701S-lft Sr 1166-rt Sr 1165-land on rt

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

   For a permit renewal or modification, provide the following information:
   Existing site permit number: 24-07 permit expiration date: 1-1-2016

6. Number of acres meeting the requirements of the N.C. Septage Management Rules: 11 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.***

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)

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): SDTF # 24-07

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): septage will be lime stabilized to a Ph12 & held for 30 minutes prior to application. Grease septage will be lime stabilized to a Ph12 and held for 2 hours 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 spread evenly across the site from a moving vehicle

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): 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.

Ben Hardison — **Signature*****

12-8-15 — **Date**

Ben Hardison — **Print name**

Owner — **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.**

REC'D 4/7/16 CRC

Landowner's Authorization to Operate a Septage Land Application Site

North Carolina Department of Environmental Quality
Division of Waste Management - Solid Waste Section
1646 Mail Service Center, Raleigh, NC 27699-1646

I, DAVID L. GORF (name of site owner) hereby certify that I am the owner of 11 acres of land located Home Harrelson Rd and identified by Book 571 Page 708 (book and page of recorded deed or tax map parcel) and that I agree to allow Ben Harrelson (site operator name) to use said land for septage land application for a period of 10 years (length of time), beginning 1-1-2016 (give date) 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 TERRY W. GORF (names of all co-owners, or state none).

Signature of landowner [signature] Date 3-29-16

Signature of landowner [signature] Date 3-29-16

Signature of landowner _____ Date _____

Sworn to and subscribed before me this 29th day of March, 2016.

[signature]
(Notary Public)

My Commission expires: 12-13-16

(OFFICIAL SEAL)

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

** As required by Rule .0843

Nutrient Management Plan

Ben Harrelson

Dba Rudolf Inman Septage

A. GENERAL INFORMATION

1. Periodic sampling (at least two times per year) of the septage will be conducted for waste analysis. These samples will be used to monitor nutrient loading.

2. Total area available for septage application is 8.8 acres of an 18 acre. For the purpose of developing the nutrient management plan, and a cropping plan, this site will be divided into two fields, Field #1, which consists of 12 acres of which 5.2 acres will have septage applied, and Field #2 which also consists of 6 acres with 3.6 acres available for septage application. Each field is marked on a field photo.

3. The dominant soil series for Field #1 and Field #2 is Goldsboro. There is a small amount of Norfolk soils. The slopes on this site are less than 2%.

4. Septage will not be applied when the site is not trafficable. This can be defined and measured as a loaded truck will not leave a depression greater than 3 inches in depth.

5. All nitrogen recommendations will be based on the realistic yield expectations for the site. Nitrogen recommendations for forages will be 75% of the realistic yield expectation should the forage be grazed.

6. Septage storage will be provided to account for the average volume septage pumped per week, or an alternative plan, such as disposal at a waste treatment plant, will be in place. An additional 20,000 gal of septage storage is available as needed.

B. Crops To be Grown

1. This site will be used to grow hay crops under best management practices, with the harvested crops used for animal feed.

2. The site will include two separate and identifiable fields: Field #1 and Field #2, consisting of 5.2 and 3.6 acres.

3. This site, including both septage and surrounding crop land, is currently in coastal Bermuda grass, with rye over seeded this fall. This field (all fields, including septage application sites and surrounding buffers) will be cut for hay as needed during the summer and used for animal feed.

4. Fields #1 and #2 will be over seeded with rye after the last harvest of coastal Bermuda grass hay at the end of summer production season. This site will be over seeded with rye at the rate of 100-120 lbs per acre. This crop of rye will be cut and removed as a hay crop in early spring (April).

5. The buffer areas in the fields will be maintained in Coastal Bermuda grass. When over seeding the fields with rye, the buffer area will be seeded also. The grass in the buffer area will also be harvested as hay. The buffer area may receive an application of commercial fertilizer. These buffer areas will be cropped like the septage area, with the exception of septage application.

C. Nitrogen Needs For The Crops Grown

R.Y.E. Realistic Yield Expectation

Nitrogen application is based on RYE for the soil type and location.

Crops Cut for Hay

Crop	Soil Type	R.Y.E.	N Rate	lbs. N/Acre
Common Bermuda	Goldsboro	6.5 ton	45.6 lb N/ton	296 lbs N

Rye	Goldsboro	1 ton	50 lb N/ton	50 lbs N

D. Application Rates
Fields #1, #2.

Month	Coastal Bermuda, over seeded with rye
January	medium
February	medium
March	medium
April	high
May	high
June	high
July	high
August	high
September	low
October	low
November	low
December	low

None = 0 gallons; low = 5,000 gallons;
medium = 10,000 gallons; high = 15,000 gallons

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

20,000 gallons of storage is available, and will be utilized in times of unfavorable weather and low crop utilization periods.

E. Application Method

The preceding information is based on septage being evenly applied over the permitted site by broadcasting, using a shovel spreader, from the 2300 gallon tank on the pumper

truck.

F. Additional Fertility Requirements

Additional potassium may need to be applied in both fields according the soil test results and recommendations'. The initial Soil Test Report recommends 30 lbs Potassium.

The buffer areas around the field will be fertilized and limed in accordance with best management practices and the soil sample recommendations from NCDA.

Additional nitrogen applications from commercial sources may be needed when septage will not be applied to the field in order to keep the crop growing and healthy.

G. Harvest Of Crops And Their Use

1. The coastal Bermuda grass will be cut and baled when it reaches approximately 12 inches tall. This will be from late April or June through September. Three to five harvests can be expected per year, depending on the weather during the season. All hay harvested will be removed from the site and utilized as animal feed.

2. The rye that has been over seeded will be cut for hay and baled in March or April. All hay harvested will be removed from the site and utilized as animal feed.

3. A 30 day waiting period must be observed between septage application and harvest of the hay crop. The utilization of the two fields will allow septage applications to one field while allowing for the 30 days of no septage application before harvest on the alternative field.

SOIL EROSION AND RUNOFF CONTROL PLAN

Given that there is almost no slope in this field,slope is less than 2%) and that the entire field is surrounded by woodland, there should be almost no runoff. As a precaution for runoff no waste will be applied within 25 feet of the

field borders. There is coastal bermudagrass planted on this 25 foot border and managed in accordance with best management practices.

Submitted by Michael Shaw

Date 11-23-15

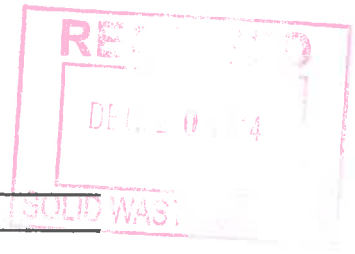
Ben Harrelson
Dba Rudolf Inman Septage
5454 James B White Hyw
Whitevillle, NC 28472

Plan Prepared By
Michael W. Shaw
Extension Agent - Field Crops
45 government Complex Rd
Suite A
Whiteville, NC 28472
910-640-6605

November 23, 2015

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 Ben Harrelson
   Address 5454 James B White Hwy S
   Whiteville, NC 28472
   Phone (910) 642-7431

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

3. Landowner David & Terri Gore
   Address 975 Pleasant Plains Church rd
   Whiteville, NC 28472

4. Site Location: County Columbus State Road Number 1165
   Directions to site: 701S-1ft Sr 1166 - rt 1165-land on rt

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

   For a permit renewal or modification, provide the following information:
   Existing site permit number: 24-07 permit expiration date: 1-1-15

6. Number of acres meeting the requirements of the N.C. Septage Management Rules: 11 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.***

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)

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): SDTF# 24-07

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): septage will be lime stabilized to a Ph12 & held for 30 minutes prior to application. Grease septage will be lime stabilized to a Ph12 and held for 2 hours 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 spread evenly across the site from a moving vehicle

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): 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.

Ben Hamelson — **Signature*****

December 8, 2014 — **Date**

Ben Hamelson — **Print name**

Owner — **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
1646 Mail Service Center, Raleigh, NC 27699-1646

I, David L. Gore (name of site owner) hereby certify that I am the owner of 11 acres of land located on Home Harrelson Road and identified by Book 571 Page 708 (book and page of recorded deed or tax map parcel) and that I agree to allow Ben Harrelson (name of site operator) to use said land for septage land application for a period of 10 years (length of time), beginning 1-01-2005 (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 Terri W. Gore (names of all co-owners, or state none).

Signature of landowner David L Gore Date 12-4-14

Signature of landowner Terri W. Gore Date 12-4-14

Sworn to and subscribed before me this 5TH 4TH LAM day of December, 2014.

Linda A McPherson
(Notary Public)

(OFFICIAL SEAL)

My Commission expires: 06/12/2019

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

** As required by Rule .0843

Nutrient Management Plan

Ben Harrellson

dba Rudolf Inman

Septic Tank Service

A. GENERAL INFORMATION

Periodic sampling(at least one time per year) of the septage will be conducted for waste analysis. These samples will be used to monitor nutrient loading.

Total area available for septage application is 11 acres of a 30.0 acre tract. For the purpose of developing the nutrient management plan, and a cropping plan, this site will be divided into three fields, Field #1-A, Field #1-B, and Field #2, as marked on a field photo. Field #1-A will contain 5 acres of septage application area, fields #1-B and #2 will contain 3 acres each. All fields will have a buffer surrounding the septage application site.

The dominant soil series for Field #1-A and #1-B is Norfolk, with most of the field 0-2 % slope, and only a small part of Field #1-B having a slope of 2%. Field #2 is predominately wagram. The slopes on this site are 2%.

Septage will not be applied when the site is untrafficable. This can be defined and measured as a loaded truck will not leave a depression greater than 3 inches in depth.

All nitrogen recommendations will be based on the realistic yield expectations for the site.

Septage storage will be provided to account for the average volume septage pumped per week, or an alternative plan, such as disposal at a waste treatment plant, will be in place.

B. CROPS TO BE GROWN

This site will be used to grow hay crops under best management practices, with the harvested crops used for animal feed. This includes all three fields at this site.

The site will include three separate and identifiable fields: Field #1, Field #2, and Field #3. Field #1-A will contain 5 acres, and fields #1-B and #2 will contain 3 acres each.

Field #1-A will be sprigged in Coastal Bermuda grass this spring. The preferred time to sprig coastal bermuda grass is from February to mid May. Coastal bermuda recommended sprigging rate is 40-50 bushels per acre. This field(all fields) will be cut for hay as needed during the summer and used for animal feed. After the last harvest of Coastal Bermuda hay this site will be over seeded with rye at the rate of 100-120 lbs per acre. This crop of rye will be cut and removed as a hay crop in early spring(April). After this year(2005), the field will be seeded to rye every other year.

Field #1-B will be sprigged with Coastal Bermuda grass this spring. The preferred time to sprig coastal bermuda grass is from February to mid May. Coastal bermuda recommended sprigging rate is 40-50 bushels per acre. This will allow septage application soon after the grass is growing this summer. After the second year(2006), this site will also be over seeded with rye. After the last harvest of Coastal Bermuda hay this site will be over seeded with rye at the rate of 100-120 lbs per acre. This crop of rye will be cut and removed as a hay crop in early spring(April). This field will be over seeded with rye every other year.

Field #2 will be sprigged with Coastal Bermuda grass this spring. The preferred time to sprig coastal bermuda grass is from February to mid May. Coastal bermuda recommended sprigging rate is 40-50 bushels per acre. This will allow septage application soon after the grass is

growing this summer. After the second year(2006), this site will also be over seeded with rye. After the last harvest of Coastal Bermuda hay this site will be over seeded with rye at the rate of 100-120 lbs per acre. This crop of rye will be cut and removed as a hay crop in early spring(April). This field will be over seeded with rye every other year.

The buffer areas in the fields will be maintained in Coastal Bermuda grass(also sprigged this spring). When over seeding the fields with rye, the buffer area will be seeded also. The grass in the buffer area will also be harvested as hay. The buffer area may receive an application of commercial fertilizer. These buffer areas will be cropped like the septage area, with the exception of septage application.

The bermudagrass spray fields will be kept in good condition with soil coverage over 80%. If the stand of coastal bermudagrass in any field falls below 80%, then that field will be resprrigged with coastal bermudagrass in March or April with 30-40 bushels of coastal bermudagrass sprigs. This can be accomplished by a light discing to incorporate the sprigs.

C. NITROGEN NEEDS FOR THE CROPS GROWN

R.Y.E. Realistic Yield Expectation

Nitrogen application is based on RYE for the soil type and location.

Crop	Soil Type	R.Y.E.	N Rate	lbs. N/Acre
Coastal Bermuda	Wagram	5.4 ton	49 lb N/Ton	264 lbs N
	Norfolk	6.4 ton	45 lb N/ton	290 lbs N
Rye	Wagram	1.1 ton	50 lb N/ton	53 lbs N
	Norfolk	2.5 ton	45 lb N/ton	114 lbs N

D. APPLICATION RATES
Fields #1, #2, #3.

MonthCoastal BermudaCoastal Bermuda, overseeded with rye

Januarynonemedium
Februarynonemedium
Marchnonemedium
Aprilhighlow
Mayhighhigh
June highhigh
Julyhighhigh
Augusthighhigh
Septemberlowhigh
Octobernonelow
Novembernonelow
Decembernonelow

none = 0 gallons; low = 5,000 gallons;
medium = 10,000 gallons; high = 15,000 gallons

The cumulative application rate shall not exceed the permitted rate.

E. APPLICATION METHOD

The preceding information is based on septage being evenly applied over the permitted site by broadcasting the septage, using a shovel spreader, from the 2300 gallon tank on the pumper truck.

F. ADDITIONAL FERTILITY REQUIREMENTS

Additional potassium may need to be applied in both fields

according the soil test results.

The buffer areas around the field will be fertilized and limed in accordance with best management practices and the soil sample recommendations from NCDA.

Additional nitrogen applications from commercial sources may be needed when septage will not be applied to the field in order to keep the crop growing and healthy.

G. HARVEST OF CROPS AND THE USE

The bermudagrass will be cut and baled when it reaches approximately 12 inches tall. This will be from late April or June through September. Three to five harvests can be expected per year, depending on the weather during the season. All hay harvested will be removed from the site and utilized as animal feed.

The rye that has been over seeded will be cut for hay and baled in March or April. All hay harvested will be removed from the site and utilized as animal feed.

A 30 day waiting period must be observed between septage application and harvest of the hay crop. The utilization of three fields will allow septage applications to one field while allowing for the 30 days of no septage application before harvest on the additional two fields.

SOIL EROSION AND RUNOFF CONTROL PLAN

Given that there is almost no slope on most of this site , (slope is less than 2%), and the remaining part is a 3% slope, and that the entire field is surrounded by woodland, there should be almost no runoff. As a precaution for runoff no waste will be applied within 25 feet of the field borders. There will be Coastal Bermudagrass planted on this 25 foot border, maintained as a permanent grass crop, and managed in accordance with best management practices.

Submitted by Ben Harrellson
Date 12-8-14

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