



Environmental Quality

Facility Permit No: SLAS-67-11
Ray's Septic Service
Permit to Operate
February 26, 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

Ray's Septic Service
Ray A. Zamora, Sr.
1142 Gould Rd.
Jacksonville, NC 28540

is hereby permitted to operate Septage Land Application Site with permit # **SLAS-67-11** located on SR 1221 in Onslow County at approximate position 34.85831° N latitude and -77.57112° 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

2/26/2016

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 This permit shall become void if the soils fail to adequately assimilate the septage and shall be rescinded unless the site is maintained and operated in a manner which will protect the assigned water quality standards of both surface and ground waters.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 Ray Zamora, Sr. and approved by the Division of Waste Management. The 19.4-acre site has been established in common bermudagrass and is divided into five fields labeled as Field 1 (3.0 acres), Field 2 (3.8 acres), Field 3a (2.0 acres), Field 3b (1.2 acres), and Field 4 (9.4 acres). The bermudagrass shall be overseeded with cereal rye around mid-October of each year at a seeding rate of 100 to 120 lbs/ac. Areas where the bermudagrass stand falls below 80% in crop coverage shall be replanted as covered in the nutrient management plan. The mandatory 30-day waiting period between the last application of septage and the harvest of the crop shall be met by alternating septage applications between the five fields or by using another approved disposal option. 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 Ray Zamora, Sr. in such a manner as to prevent the migration of wastes off of the designated waste receiving site. A 50-ft buffer planted in bermudagrass shall remain around the perimeter of the permitted area. 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. Grease septage shall be diluted as required by 15A NCAC 13B .0838(a)(15) when applied over perennial vegetation.

7. **This site contains approximately 19.4 acres that are available for land application of septage. The maximum annual application rate shall be 50,000 gallons per acre per year. This application rate assumes equal septage distribution, on an annual basis, over the entire permitted area. Septage applications shall not exceed the maximum annual application amounts for each field as listed in the table below or the monthly application rates as stated in the approved nutrient management plan.**

Maximum Annual Application Amounts (gallons) Per Field						
Field	1	2	3a	3b	4	SITE TOTAL
Crop	Bermudagrass / Rye (overseed)					
Acres	3.0	3.8	2.0	1.2	9.4	19.4
2016^a	91,100	190,000	100,000	60,000	445,600	886,700
2017^b	150,000	190,000	100,000	60,000	470,000	970,000
2018^b	150,000	190,000	100,000	60,000	470,000	970,000

^a Application amounts reduced by 58,900 gallons for Field 1 and 24,400 gallons for Field 4 for application overages between 2010 and 2015.

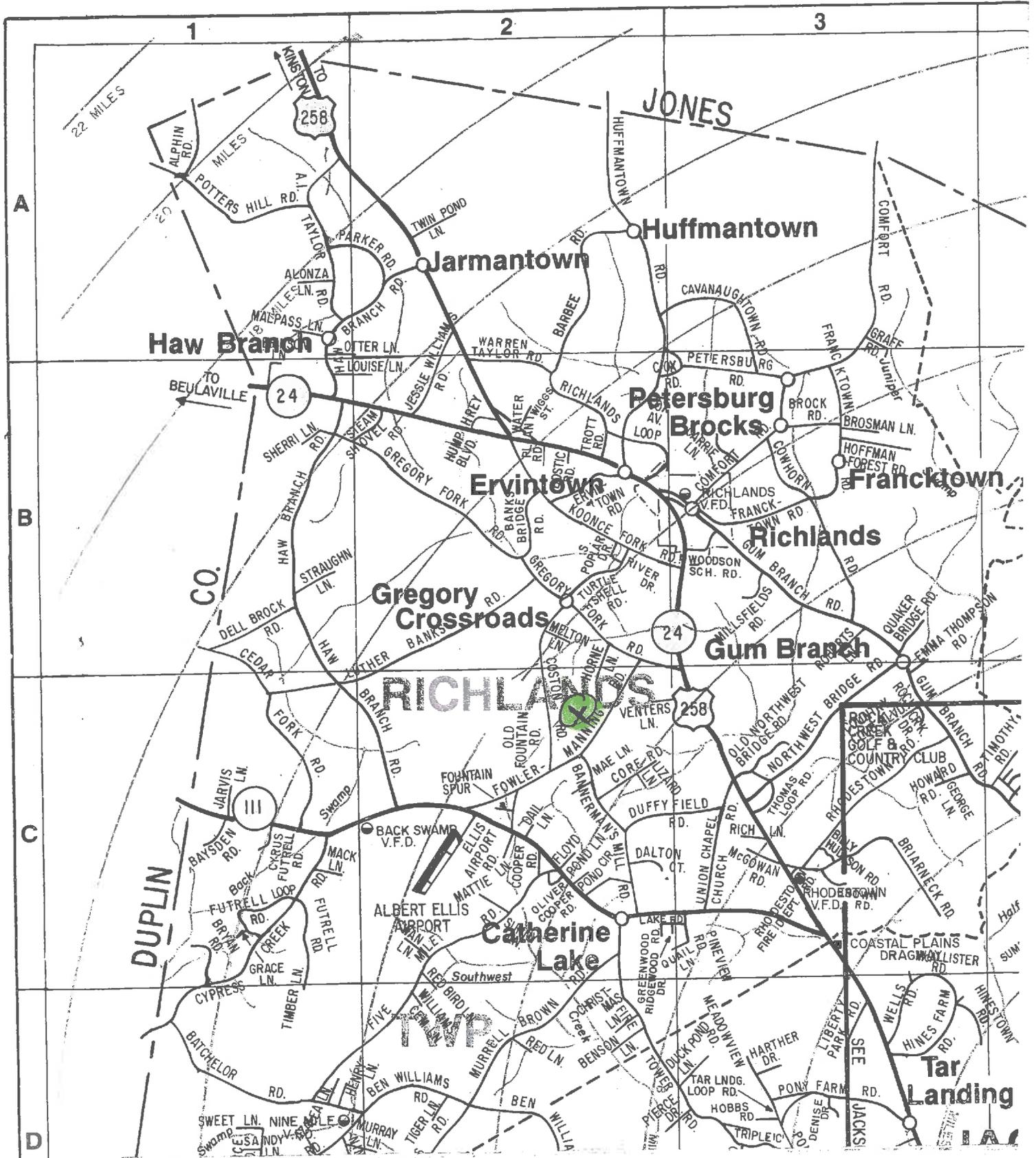
^b Application amounts based on the maximum annual application rate of 50,000 gal/ac/yr.

8. An approved septage detention facility with a minimum design capacity of 19,000 gallons shall be available prior to operation of this site as per 15A NCAC 13B .0841(a). 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 February 26, 2018.** 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.
20. **All fields shall remain closed to any septage applications until the Division has inspected the fields and found them to be in compliance with NC Septage Management Rules, all permit conditions, and the nutrient management plan. Please notify the Division at least two (2) weeks prior to when you wish to utilize the site or fields.**



22 MILES

JONES

Haw Branch

Huffmantown

Jarmantown

Petersburg
Brocks

Ervintown

Francetown

Gregory
Crossroads

Richlands

Gum Branch

RICHLANDS

Catherine
Lake

Tar
Landing

DUPLIN

A

B

C

D

CO.

CO.

CO.

CO.

1

2

3

24

24

258

113

ALPHIN RD.
MILES
POTTERS HILL RD.
TAYLOR
PARKER RD.
TWIN POND LN.
ALONZA LN. RD.
MAEPASS LN.
BRANCH RD.
OTTER LN.
LOUISE LN.
JESSIE W. LEWIS RD.
WARREN TAYLOR RD.
BARBEE
HUFFMANTOWN RD.
CAVANAUGH TOWN RD.
COMFORT RD.
GRAFF RD.
JUMPER
FRANK TOWN
BROCK RD.
BROSMAN LN.
HOFFMAN FOREST RD.

TO BEULAVILLE

TO KINGSTON

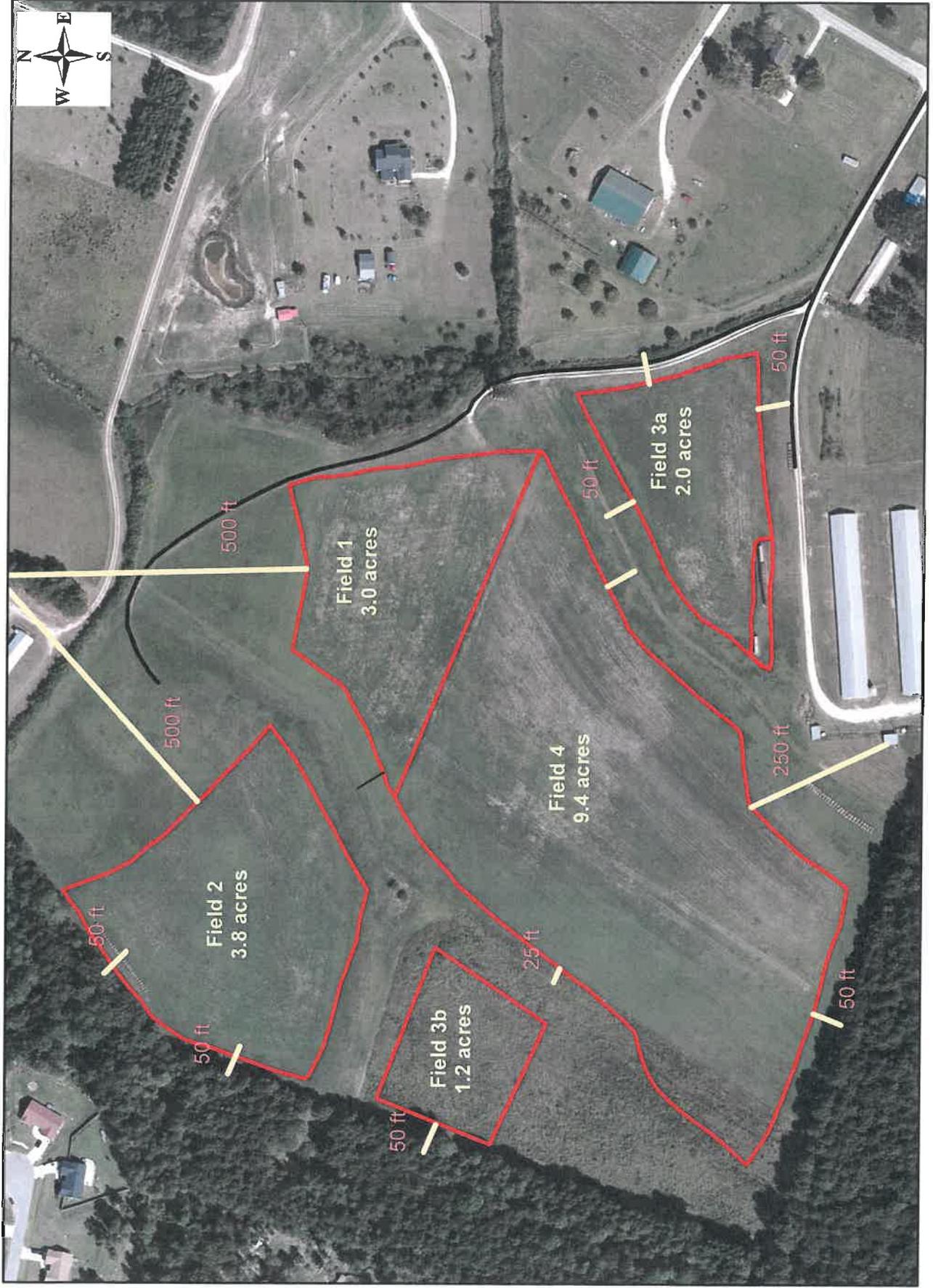
SHERRI LN.
HAW BRANCH
STRAUGHN LN.
DELL BROCK RD.
CEDAR
FORK RD.
JARVIS LN.
BAYSDEN RD.
FUTRELL LOOP
BRIM RD.
CREEK
GRACE LN.
CYPRESS
TIMBER LN.
BATCHELOR RD.
SWEET LN.
NINE MILE
SANDY V. RD.
MURRAY LN.

SHOVEL RD.
GREGORY FORK
HUMP BLVD.
HREY
WATER
BANKS BRIDGE RD.
GREGORY FORK
TURTLE
STELL RD.
MELTON
WORME LN.
MANNING LN.
VINTERS LN.
MAE LN.
CORE RD.
LILLING
DUFFY FIELD
DALTON CT.
UNION CHAPEL CHURCH RD.
MCGOWAN RD.
RHODESTON RD.
FIRE DEPT.

WATER

SWAMP

SLAS-67-11



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.



PAT MCCRORY
Governor

DONALD R. VAN DER VAART
Secretary

MICHAEL SCOTT
Acting Director

February 29, 2016

Mr. Ray Zamora Sr.
Ray's Septic Service
1142 Gould Rd.
Jacksonville, NC 28540

**RE: SLAS-67-11 Permit Renewal
Ray's Septic Service
SR 1221 in Onslow County**

Dear Mr. Zamora:

The NC Division of Waste Management has reviewed your application to renew the operation of Septage Land Application Site, **Permit # SLAS-67-11**, in Onslow County. Your application has been approved in accordance with NC Septage Management Rules and your permit, **SLAS-67-11**, 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. The maximum annual application amounts to Fields 1 and 4 are reduced for 2016 due to previous septage overapplications to those fields. **Permit Condition 7** lists the maximum annual application amounts to all field from 2016 through 2018. Do not exceed the amounts listed in the enclosed permit or the monthly application rates listed in your nutrient management plan. Also, **Permit Condition 20** states that all fields shall remain closed until inspected and approved by the Division to be in compliance with NC Septage Management Rules.

Again, it is important to read all permit conditions carefully. The enclosed permit shall expire on **February 26, 2018**. Violations to 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 do not hesitate to contact me at (919) 707-8283. When communicating to the Division about this permit, please refer to it as "**SLAS-67-11**."

Sincerely,

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

Enclosures

cc: Central Files
Connie Wylie, Soil Scientist
Onslow 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 Ray A. Zamora, SR
Address 1142 Gould Rd
Jacksonville NC 28540
Phone 910-347-7867 910 389-0972
2. Contact person for site operation (if different from applicant): Ray A. Zamora, SR
Title or position Owner Phone _____
Address 1142 Gould Rd Jacksonville NC
3. Landowner Ray & Diana Zamora, SR
Address 1142 Gould Rd
Jacksonville, NC 28540
4. Site Location: County Onslow State Road Number 1221
Directions to site: from Jacksonville take Hwy 24 W toward Richlands
take left on Hwy 111, go approx 5.5 miles & take right just past airport onto
Fowler Manning Rd go about 1 1/2 miles - farm on left
5. Indicate whether request is: new _____ renewal modification _____

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

Existing site permit number: 67-11 permit expiration date: Sept 26, 15

6. Number of acres meeting the requirements of the N.C. Septage Management Rules: 19.43 acres.
7. Substances other than septage or grease trap pumpings previously disposed of on the site:
(a) None , 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): STDF 67-11, Kinston WWTP, WALLACE WWTP
4. Types of septage proposed to be discharged at the site (check all that apply):
 - (a) Domestic septage pumped from septic tanks
 - (b) Grease trap pumpings residential
 - (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): lime stabilization of domestic septage to a pH of 12 & held for 30 mins prior to land applying. For greases, lime stabilization to pH of 12 & held for 2 hours prior to land applying
6. Proposed method of applying septage to land, including septage distribution plan if required * (use additional paper to explain if necessary): Splash plate used at rear of pump truck while truck is moving forward, valve open. Splash is about 25-30 feet wide
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): site is agricultural

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] June 16, 15
Signature*** Date
Ray A. Zamora, SR owner
Print name 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, Diana Zamora (name of site owner) hereby certify that I am the owner of 49.76 acres of land located 314 Fowler Manning Rd Richlands NC and identified by parcel id # 016108 (book and page of recorded deed or tax map parcel) and that I agree to allow Ray A. Zamora, Sr (operator name) to use said land for septage land application for a period of 10 yrs (length of time), beginning June 1, 2015 (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 Ray A. Zamora, Sr (names of all co-owners, or state none).

Signature of landowner [Signature] Date 6/26/15
Signature of landowner Diana Zamora Date 6-26-15
Signature of landowner _____ Date _____

Sworn to and subscribed before me this 20 day of JUNE, 2015.

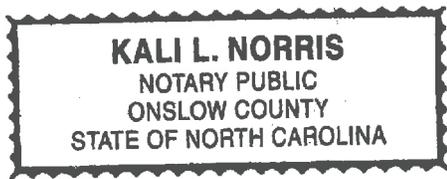
[Signature]
(Notary Public)

My Commission expires: November 20, 2018

(OFFICIAL SEAL)

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

** As required by Rule .0843



Septage Nutrient Management Plan
for
Ray's Septic Service
Fowler-Manning Road SLAS
Onslow County, NC

Owner: Ray Zamora
1142 Gould Road
Jacksonville NC 28540
910-347-7867
(renewal of SLAS 67-11)

Purpose: The purpose of this document is to renew the septage nutrient management plan of SLAS #67-11 and to provide updated compliance with state regulations.

Existing Site Conditions: The relevant property lines, approved site limits, natural geographic conditions and known site improvements are incorporated from the prior plan.

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. Only one sample is needed, as long as it is mixed from several different sub-samples.

Bring the samples by the Extension Office for forwarding to the NCDA&CS lab.

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. The NCDA&CS Septage Sample Cover Sheet (blank copy attached to this plan) is also to be completed.

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.

Plans cannot be written for sites with zinc or copper indexes greater than 3,000. This site has known elevated levels of both zinc and copper. Multi-depth (6", 12", and 18") soil sampling was completed in early 2012, to evaluate zinc and copper with depth. Field 2 is to be deep tilled in June 2012, to try to reduce the zinc level at the surface. The pH is also high in all of the fields, and is to be reduced through the use of elemental sulfur.

3. Total available area for septage application on this site is 19.43 acres. This is divided into five smaller fields:
 - a) Field #1 contains approximately 2.96 acres
 - b) Field #2 contains approximately 3.78 acres
 - c) Field #3a contains approximately 2.05 acres
 - d) Field #3b contains approximately 1.2 acres
 - e) Field #4 contains approximately 9.44 acres (well setback reduced to 250' per conversation with Joe Gallo, 11/01/06)
4. The dominant soil series at this site are Norfolk B (NoB: 2-6% slope) and Foreston A (FoA: 0-2% slope) according to the Onslow Co. Soil Survey, sheet 13. The soils for each field are as follows:
 - a) Field #1 Norfolk B
 - b) Field #2 Foreston A
 - c) Field #3a Norfolk B
 - d) Field #3b Foreston A
 - e) Field #4 Foreston A
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. Existing storage tanks are located on site at SDTF 67-11.
8. If the forage is to be grazed, the nitrogen recommendations are to be reduced by 25% for each applicable field.

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

1. The fields are to have Bermuda during the warm season; and cereal rye, wheat, or small grain mix for the cool season.
2. On established fields, the 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 300 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 approximately 2.5 bu/acre to 3 bu/acre (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.

3. General Note: grass establishment

Prior to initial seeding with Bermuda, any 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 300 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.

4. 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.**

C. Nitrogen needs for crops grown:

RYE = Realistic Yield Expectation

N App. Rate = Suggested nitrogen application rate

<i>Field</i>	<i>Crop (as hay)</i>	<i>RYE tons/acre</i>	<i>N App. Rate lbs/dry ton</i>	<i>Total lbs N/ac</i>	<i>*Gal/ac/yr</i>	<i>Adjusted Gal/ac/yr</i>	<i>Actual lbs N/ac</i>
1	Overseed	2.5	40	100	38,460	20,000	52
	Bermuda	5.5	40	220	84,610	30,000	78
2	Overseed	2.8	40	112	43,050	20,000	52
	Bermuda	5.2	40	208	80,000	30,000	78
3a	Overseed	2.5	40	100	38,460	20,000	52
	Bermuda	5.5	40	220	84,610	30,000	78
3b	Overseed	2.8	40	112	43,050	20,000	52
	Bermuda	5.2	40	208	80,000	30,000	78
4	Overseed	2.8	40	112	43,050	20,000	52
	Bermuda	5.2	40	208	80,000	30,000	78

* 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.

Crops will be harvested as hay and removed from site for feed, bedding, or other approved uses. 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 with the septage applications, 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 difference between the "Actual lbs N/ac" and the "Total lbs N/ac" is the amount of supplemental nitrogen that can be added. All such additions are to be documented.

D. Monthly/yearly application rate estimates in gallons:

<i>Crop</i>	<i>Maximum Uptake Period</i>
Bermudagrass (hay)	May-September
Winter overseed (hay)	February-April

As shown in the above table, the winter overseed has its maximum nutrient uptake during February through April. There is some uptake, however, as the crop first grows and becomes 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.

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. In order to get more customers to request summer pumping, you may want to offer a “price incentive” (i.e., have a summer price that is less than the winter price). This would reduce your risk of either an application or crop cover violation. Again, this is just a recommendation.

<i>Month</i>	<i>Field 1, 2, 3a, 3b, & 4 application per acre Bermuda & Overseed</i>
January*	low
February*	low
March*	medium
April	low
May	medium
June	high
July	high
August	high
September	medium
October	medium
November*	low
December*	low

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

* 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

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.

It is understood that weather conditions can cause the winter crop to mature earlier or later than the specified field harvest date. Regulations mandate that a crop be planted or break dormancy within 30 days of any application of septage. No crop can be harvested until at least 30 days after the last septage application to that crop if it is to be used as forage or bedding. Harvests should, therefore, be staggered at intervals among the fields such that at least one is available for application while the others go through the 30 day rest period.

E. Application method:

The preceding information is based on septage being **evenly applied** over the entire permitted site by pumper truck with a splash plate. If the entire area within a 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 accomplished by dividing each field into sub-fields.

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 in the Spring prior to the Bermudagrass 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. You can also contact Tim Hall, NCDA&CS Regional Agronomist, for stand health questions (324-9924).

G. Harvest of the crops and their use:

1. 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*.
2. The winter overseed will be cut and baled as hay during April to early May. This is necessary to prevent the winter crop from shading out the Bermuda, which is beginning to grow at this time.
3. The baled crops will be transported off site and used as livestock feed or other approved uses.
4. A 30-day waiting period must be observed between the last application of septage and harvest if the material 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 your 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 your 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

<i>Pollutant</i>	<i>Maximum Cumulative Loading Rate (kilograms per hectare)</i>	<i>Equivalent Soil Test Report Value (parts per million)</i>
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** (modified SLUR-1) is used to record septage pumped by the firm. The **Septage Land Application Log** (modified SLUR-2) 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. Your site would have a minimum of 10 log forms for each year:

- Field #1 Overseed,
- Field #1 Bermudagrass,
- Field #2 Overseed,
- Field #2 Bermudagrass
- Field #3a Overseed,
- Field #3a Bermudagrass,
- Field #3b Overseed,
- Field #3b Bermudagrass,
- Field #4 Overseed,
- Field #4 Bermudagrass.

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 Chester Cobb (Division of Waste Management, Land Application and Composting Branch) at 919-707-8283.

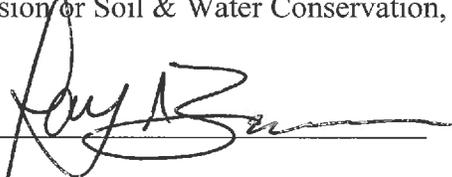
Soil Erosion and Runoff Control Plan

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. The Onslow Extension Center has a grain drill available for rent. 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. Bermudagrass buffers at least 50 feet wide should be maintained around the site. A 200 ft buffer is to be maintained in areas adjacent to streams. If additional control or screening is needed, contact the Soil & Water Conservation office to see if the site qualifies for Cost Share assistance. They may be able to help you get trees or shrubs.
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.

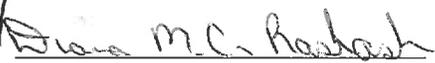
Submitted by: _____



Date: _____

6/26/15

Plan prepared by: _____



Date: _____

06/11/12

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

Attachments: This is an update of the plan written 05/14/09. All aerial photos, maps, booklets, and forms from the prior plan should be kept and attached to this plan.

Please sign both copies and send one copy to:

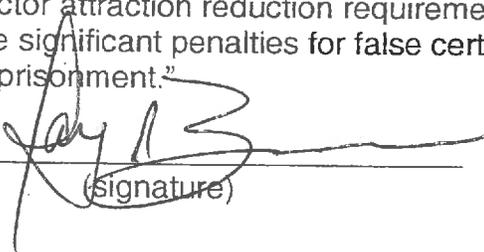
*Chester Cobb, Soil Scientist
 NC DENR, Division of Waste Management
 1646 Mail Service Center
 Raleigh NC 27699-1646*

SEPTAGE LAND APPLICATION LOG COVER SHEET

Site Operator: Ray Zamora Sr
SLAS Permit #: 67-11
Site Location: 314 Fowler Manning Rd Richlands
(street address for the site or latitude and longitude)
Number of acres permitted: 19.43
Permitted application rate: 50,000
(gallons septage per acre per year)
Crop(s): Overseed cereal rye, bermuda (summer)
Crop nitrogen requirement(s): overseed 52lbs, bermuda 78lbs
(pounds nitrogen per acre)

CERTIFICATION:

"I certify, under penalty of law, that the pathogen requirements in (insert either 503.32 (c)(1) or 503.32 (c)(2)) and the vector attraction reduction requirements in (insert 503.33 (b)(9), 503.33 (b)(10) or 503.33 (b)(12)) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."


(signature)

Dec 31, 12
(date)

SEPTAGE LAND APPLICATION LOG COVER SHEET

Site Operator: Ray Zamora, SR
SLAS Permit #: 67-11
Site Location: 314 Fowler Manning Rd Richlands
(street address for the site or latitude and longitude)

Number of acres permitted: 19.43

Permitted application rate: 50,000
(gallons septage per acre per year)

Crop(s): overseed (cereal rye), bermuda (summer)

Crop nitrogen requirement(s): overseed 52lbs, bermuda 78lbs
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Ray Zamora
(signature)

Dec 31, 13
(date)

SEPTAGE LAND APPLICATION LOG

COVER SHEET

Site Operator: Ray Zamora, Sr

SLAS Permit #: 67-11

Site Location: 314 Fowler Manning Rd Richlands
(street address for the site or latitude and longitude)

Number of acres permitted: 19.43

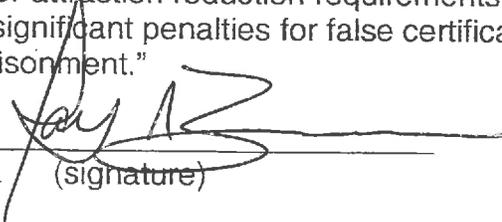
Permitted application rate: 50,000
(gallons septage per acre per year)

Crop(s): overseed (cereal rye), bermuda (summer)

Crop nitrogen requirement(s): overseed 52lbs, bermuda 78lbs
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(signature)

Dec 31, 14
(date)

SEPTAGE LAND APPLICATION LOG COVER SHEET

Site Operator: Ray Zamora, Sr

SLAS Permit #: 67-11

Site Location: 314 Fowler Manning Rd
(street address for the site or latitude and longitude)

Number of acres permitted: 19.43

Permitted application rate: 50,000
(gallons septage per acre per year)

Crop(s): overseed cereal rye, bermuda (summer)

Crop nitrogen requirement(s): overseed 52lbs, bermuda 78lbs
(pounds nitrogen per acre)

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Ray Zamora, Sr
(signature)

June 26, 15
(date)