

NORTH CAROLINA DEPARTMENT OF  
ENVIRONMENT AND NATURAL RESOURCES

DIVISION OF WASTE MANAGEMENT



JAMES B. HUNT JR.  
GOVERNOR

WAYNE MCDEVITT  
SECRETARY

WILLIAM L. MEYER  
DIRECTOR

February 3, 1998



Daniel Gray  
Arrow Septic  
P.O. Box 1575  
Newport, NC 28570

Dear Mr. Gray:

Enclosed is your permit to operate Septage Land Application Site number 16-07 in Carteret County. Please carefully read all permit conditions. The nutrient management plan you submitted has been incorporated into the conditions of the permit. As noted in conditions 2 and 17, field 3 may not be put to use until the Division has verified that Coastal Bermuda has been established. As noted in condition 15, this permit will expire on February 2, 1999. Failure to adhere to the NC Septage Management Rules or the conditions of your permit could subject you to administrative penalties.

Also enclosed is your permit to operate a Septage Detention and Treatment Facility in accordance with the N.C. Septage Management Rules. Your permit number will be SDTF-16-07. This permit will expire February 2, 1999. This is a separate permit from the adjacent land application site permit. If additional storage tanks are added, you will need to apply for a permit modification. I have enclosed the required forms that must be correctly completed and returned to the Division.

The permit to operate a Septage Management Firm is also enclosed. This permit will expire on December 31, 1998.

Your site and detention facility must be inspected by Mr. John Crowder, Waste Management Specialist and found to be in compliance with the rules prior to being put into use. Mr. Crowder can be contacted at 910-395-3900.

If I can be of further assistance to you in this matter please feel free to contact me.

Sincerely,

Steven Dillon, Soil Scientist  
Composting and Land Application Branch

cc: John Crowder, Waste Management Specialist  
Carteret County Health Department  
Will Turner, Landowner

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

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

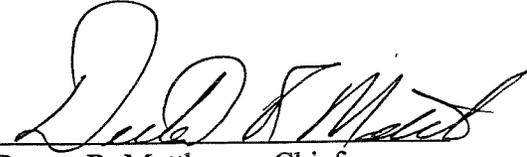
Daniel Gray  
Arrow Septic  
P.O. Box 1575  
Newport, NC 28570

is hereby issued a permit to operate Septage Land Application Site number SLAS-16-07 on SR 1137 in Carteret County. The site is to be operated in accordance with 15A NCAC 13B .0800 Septage Management, the information stated in the approved application, and the conditions of this permit. The unauthorized disposal of any liquid or solid wastes other than those specified in the conditions of this permit will be considered a violation of the conditions of this permit. Failure to comply with the conditions of this permit may result in permit suspension, permit revocation, action for injunctive relief, administrative penalties, or other remedies as provided in G.S. 130A, Article 1., Part 2.

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 affect at the time of review.

Date Issued

2-2-98

  
Dexter R. Matthews, Chief  
Solid Waste Section

Operator: Daniel Gray  
SLAS # 16-07  
County: Carteret

Page 2 of 3

Permit Conditions:

1. This permit shall become voidable 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 the surface waters and ground waters.
2. This site shall be operated and maintained in accordance with the nutrient management plan submitted by Daniel Gray and approved by the Division. If Coastal Bermuda is not planted by April 30 of 1998, no septage may be land applied until a revised nutrient management plan has been approved by the Division. No septage shall be land applied on Field 3 until Coastal Bermuda has been established and approved by the Division. All discharges shall be at locations on the site consistent with the crop rotation in the approved plan.
3. The site shall be operated in accordance with the erosion and runoff control plan submitted by Daniel Gray and approved by the Division. Any site improvements noted in the plan must be installed within 30 days of plan approval. Erosion and runoff control measures shall be maintained in such a manner as to prevent migration of wastes off of the designated waste receiving site. The installation of groundwater monitoring wells may be required.
4. The issuance of this permit does not preclude the Permittee from complying with any and all statutes, rules, regulations, or ordinances which may be imposed by other government agencies (local, state and federal) which have jurisdiction. It is the responsibility of the permittee to be in compliance with the requirements of 40 CFR 503.
5. This permit may be modified or reissued to incorporate any conditions, limitations and monitoring requirements the Division of Waste Management deems necessary to adequately protect the environment and public health.
6. 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.
7. This site contains approximately 6.5 acres that are available for septage disposal. The maximum annual application rate shall 50,000 gallons per acre per year for a total maximum annual application rate of 325,000 gallons. This application rate assumes equal septage distribution, on an annual basis, over the permitted area.
8. An approved above ground septage detention system with a minimum design capacity of 8,000 gallons shall be available prior to operation of this site unless an approved wastewater treatment plant is available for use during periods of adverse weather. The storage capacity may be adjusted if it is demonstrated during the operation of the site that this volume of storage is inappropriate.

Operator: Daniel Gray  
SLAS # 16-07  
County: Carteret

Page 3 of 3

9. Only the area designated on the attached site map(s) shall be utilized for septage disposal. Each load of septage discharged at the site shall be distributed from a moving vehicle in such a manner as to have no standing water when the discharge is complete. Septage shall not be applied during periods of high soil moisture.
10. 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 shall discharge septage at this site without prior appropriate notification and written approval of the Division of Waste Management.
11. 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.
12. **This permit shall expire February 2, 1999.** 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. This permit is non-transferable.
13. Records shall be kept in accordance with 40 CFR 503.17(b). These records shall be made available to a representative of the Division of Waste Management upon request. Records shall be submitted annually to the Division.
14. Any duly authorized officer, employee, or representative of the Division of Solid Waste Management 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.
15. Field separations in the nutrient management plan and all pertinent setbacks shall be clearly located on the site.
16. The areas which can be used for land application of septage shall be maintained at least 500 feet from any existing wells, residences, places of business, or places of public assembly. Septage shall not be disposed of within 50 feet of any property line, within 200 feet of the creek or within 100 feet of any ditch.
17. This site shall not be put into use until a site inspection has been conducted by the Division to determine compliance with the Septage Management Rules and the conditions of this permit. Field 3 shall not be put into use until the Division has verified that Coastal Bermuda has been established.
18. Site location: latitude 34--46--52  
longitude 76--48--56

**Operator:**

Daniel Gray

**Land Owner:**

Will Turner

**County:** Carteret

**Scale :** 1 inch = 200 feet

**SLAS # 16-07**

Field 1 = 2.5 acres

Field 2 = 2.0 acres

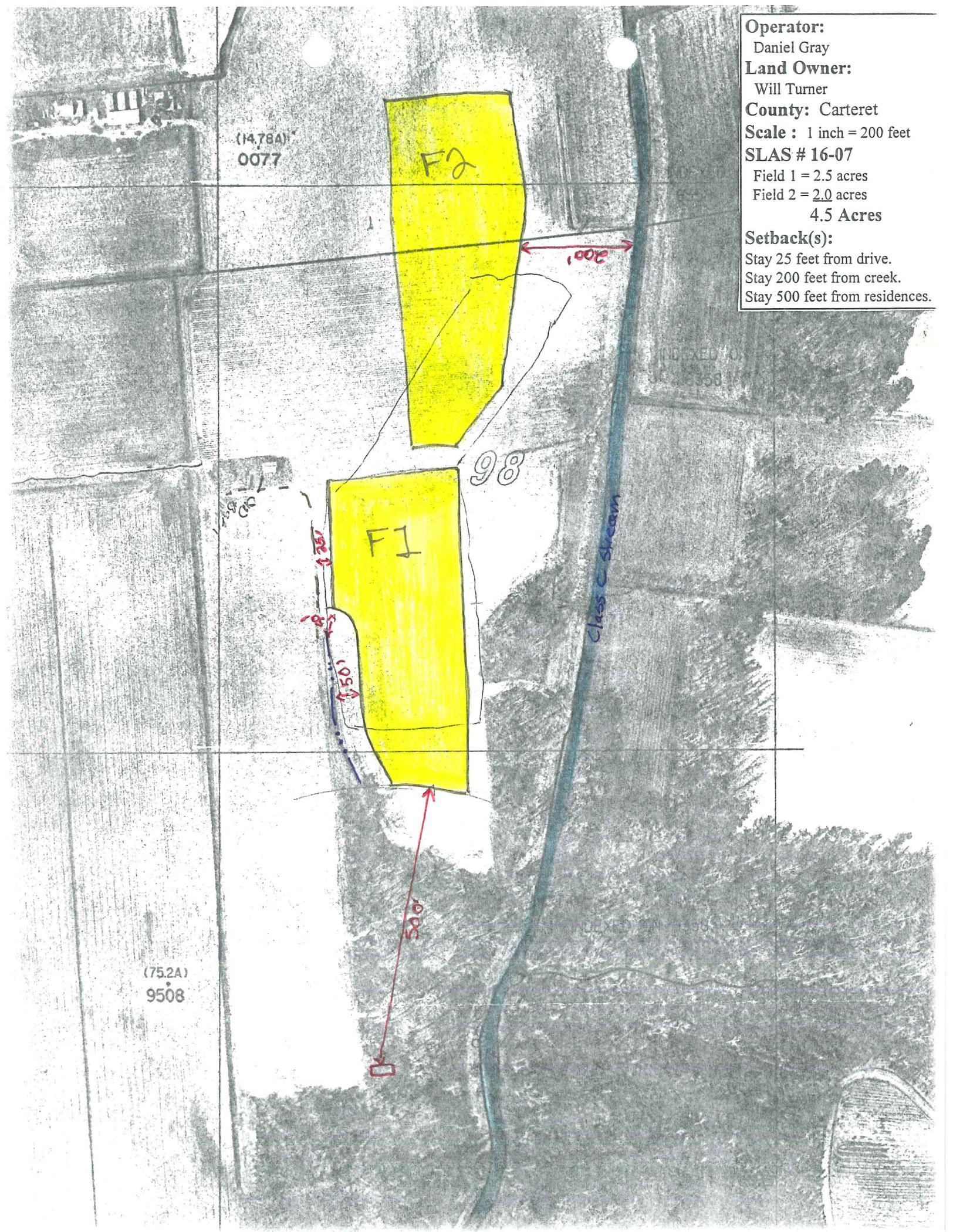
**4.5 Acres**

**Setback(s):**

Stay 25 feet from drive.

Stay 200 feet from creek.

Stay 500 feet from residences.



(14,784)  
0077

F2

200'

98

F1

25'

50'

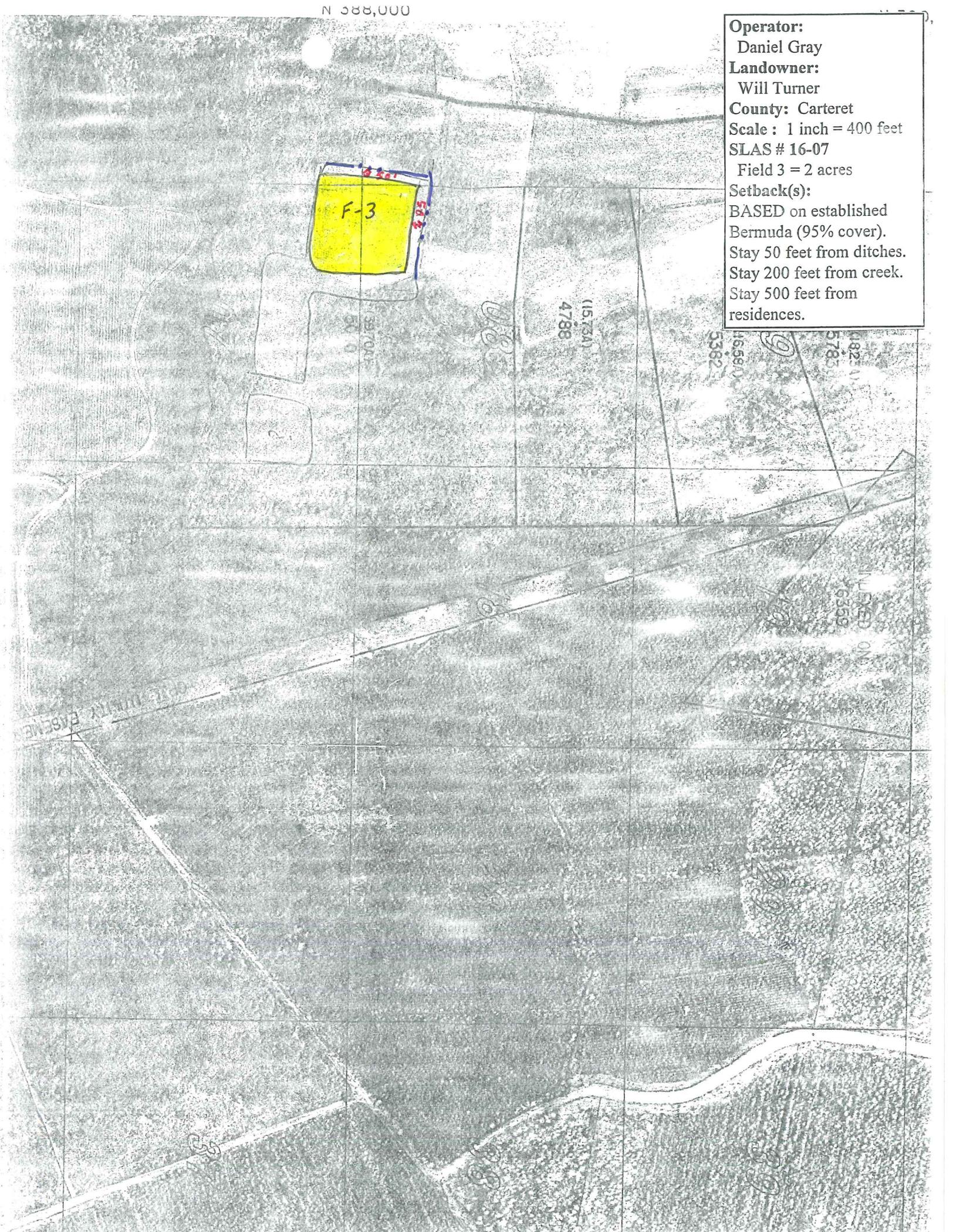
500'

Class C Stream

(75.2A)  
9508

500'

**Operator:**  
 Daniel Gray  
**Landowner:**  
 Will Turner  
**County:** Carteret  
**Scale:** 1 inch = 400 feet  
**SLAS #** 16-07  
 Field 3 = 2 acres  
**Setback(s):**  
 BASED on established  
 Bermuda (95% cover).  
 Stay 50 feet from ditches.  
 Stay 200 feet from creek.  
 Stay 500 feet from  
 residences.



Don't forget  
Section II 5, 6, 7

State of North Carolina Department of Environment and Natural Resources  
Division of Waste Management - Solid Waste Section

# Application for a Permit to Apply Septage on Land

## I. Site and Operator Information

1. Operator: Daniel Gray  
Address: PO Box 1575  
Newport NC 28570  
Phone: 919-223-2984
2. Owner: Will E. Turner  
Address: PO 1133  
Newport NC 28570
3. Site Location: County Carteret State Road Number 1137  
Directions to site: Newport loop Rd take Rt. on to Little Deep Creek  
Rd take Rt on to Turner Farm Rd.
4. Indicate whether request is: new  renewal  modification   
For a permit renewal or modification indicate the:  
Existing permit number: \_\_\_\_\_ and, date issued: \_\_\_\_\_
5. Number of acres meeting the requirements of the N.C. Septage Management Rules: 6 1/2 acres.
6. Substances other than septage or grease trap pumpings previously disposed of at this location: (a) None , or (b) Attach a list indicating other substances, the amounts discharged, and the dates of discharge.
7. Attach written, notarized landowner authorization to operate a septage disposal site (if the property is not owned by the applicant). On file
8. Attach site evaluation report, including aerial photograph and soil analysis results, unless prepared by the Division. on file
9. Vicinity map (county road map showing site location).  
on file



## II. Site Management Information:

The following information shall be included with the application form.

1. Nutrient management plan.
2. Soil erosion and run-off control plan.
3. Alternative plan for disposal; detention facility permit number or waste water treatment plant authorization *Have Applied for Detention permits*
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
  - C. Portable toilet waste
  - D. Commercial/Industrial septage
5. Proposed treatment method of each type of septage to be land applied. *Septage - Lime Stabilized at pH 12 for 30 min*
6. Proposed method of applying septage to land, including septage distribution plan if required \*. *Spray from Truck evenly across field* *Grease Lime Stabilized at pH 12 for 2 hrs. before applying to site.*
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. *Site is 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.

*Daniel Gray*  
Permit Applicant

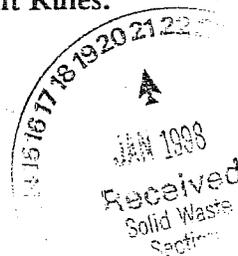
*1-14-98*  
Date

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

\* Refer to Section .9821(e) of the NC Septage Management Rules.

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

h.(ms)/septage/forms/applicat/sitepe98doc



North Carolina Department of Environment, Health, and  
Natural Resources

Landowner's Authorization to Operate a Septage Land Application Site

I, Will Turner (print name of site owner) hereby certify that I  
am the owner of 130 acres of land located off Turner Farm Rd  
Newport NC (Carteret County),  
and identified by (book and page of recorded deed or tax map parcel) 634802879508  
+ 634802786849 + 634802990077 and that I agree to allow  
Daniel Gray / Arrow Septic (name) to use said land for septage  
land application for a period of five years, beginning  
12-1-97; and that I have read the North Carolina Septage Management Rules,  
15A N.C. Admin. Code 13B Section .0800, and I understand and agree to maintain the  
restrictions on land use after cessation of septage land application as required by Rule  
.0826. I further understand that no septage may be land applied until the Division of  
Solid Waste Management has issued a permit for a septage land application site. The  
above described property is owned solely by me or jointly with (name all co-owners, or  
state none) \_\_\_\_\_.

Will Turner  
signature(s)

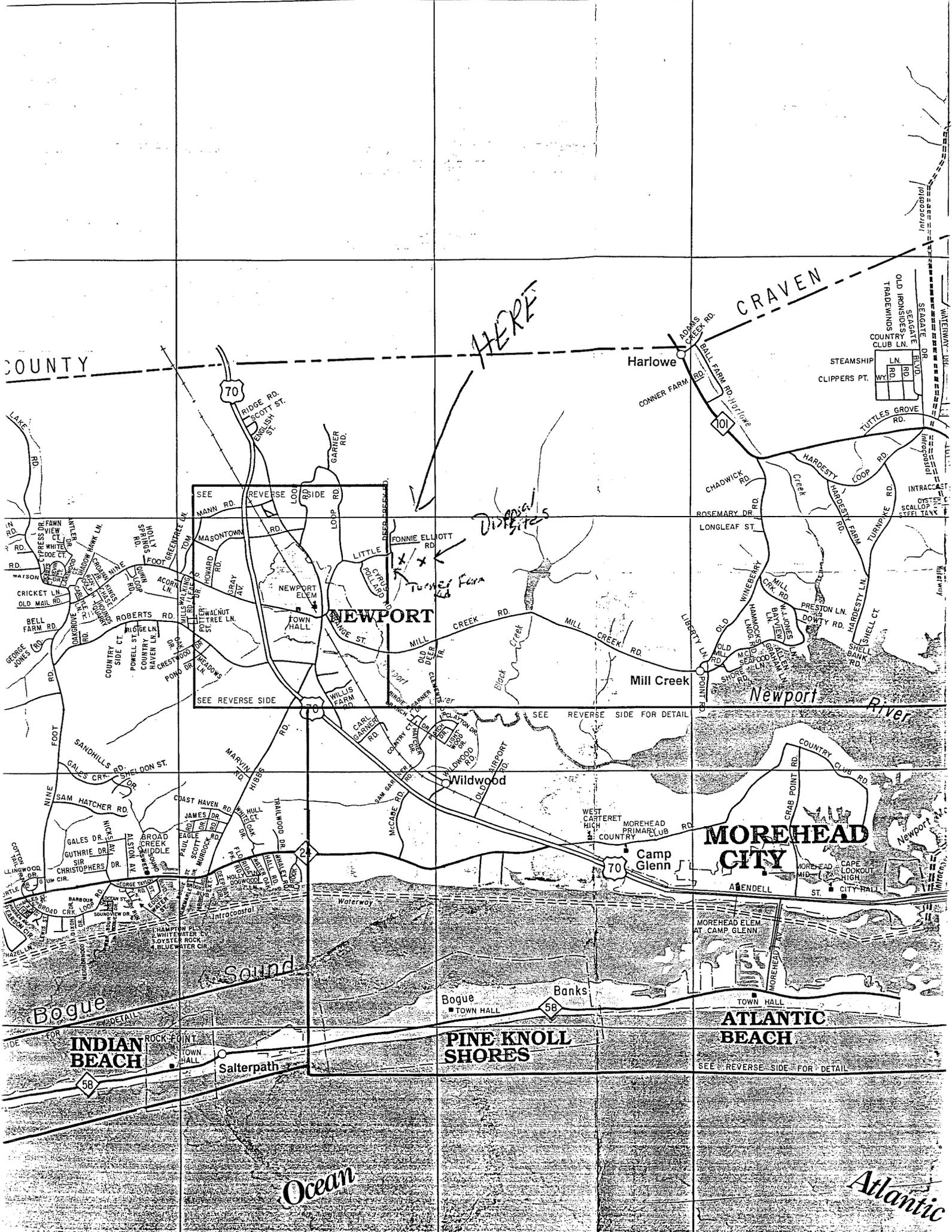
Sworn to and subscribed before me

this 21 day of November, 1997

Jracy W. Mills  
(Notary Public)

(OFFICIAL SEAL)

My Commission expires: 3-2898



HERE

Disposal Sites

Turkey Farm

SEAGATE BLVD	RD
COUNTRY CLUB LN	RD
OLD IRONSIDES	RD
TRADEWINDS	RD
CLIPPERS PT.	RD
STEAMSHIP	RD

COUNTY

CRAVEN

70

Harlowe

CLIPPERS PT.

SEE  
MANN RD  
REVERSE  
LOO  
SIDE RD  
LOOP RD  
GARNER RD  
SEE REVERSE SIDE

NEWPORT

Mill Creek

Newport River

Wildwood

Camp Glenn

MOREHEAD CITY

INDIAN BEACH

PINE KNOLL SHORES

ATLANTIC BEACH

Ocean

Atlantic

58

58

SEE REVERSE SIDE FOR DETAIL

SEE REVERSE SIDE FOR DETAIL

## ARROW SEPTIC SYSTEM CLEANING AND MAINTENANCE

DANIEL GRAY  
PO BOX 1575  
NEWPORT NC 28770  
(919) 223- 2984

### SEPTAGE APPLICATION TO BERMUDAGRASS AND RYEGRASS



#### A. Best Management Practices:

The undersign parties agree to manage the septage disposal site located off State Road 1137 in Carteret County according to the following best management practices. The list of practices have been specifically designed to land application of septage by Arrow Septic System Cleaning and Maintenance company.

#### B. General information:

NOTE: RECOMMEND THAT THE FIELDS PROPOSED FOR SEPTAGE LAND APPLICATION BE REFERRED TO AS FIELD NO.1- FIELD NO.2- AND FIELD NO. 3.

1. FIELD NO.1 HAS 2.5 ACRES THAT MEET THE MINIMUM REQUIREMENTS FOR A SEPTAGE LAND APPLICATION SITE. THE REMAINING PORTION OF THE AREA IS UNUSABLE DUE TO WET SOILS AND SETBACKS FROM RESIDENCES, WELLS, DITCHES AND THE CREEK. CURRENTLY, THERE IS A STAND OF ANNUAL RYEGRASS ESTABLISHED ON THIS FIELD. RECOMMEND THAT THE ESTABLISHED BERMUDA GRASS BE IMPROVED DURING THE MONTH OF MARCH THROUGH JUNE 1998. THIS FIELD WILL BE OVERSEEDDED WITH RYEGRASS AGAIN DURING THE PERIOD OF SEPT. 15 THROUGH NOV. 15, 1998.
2. FIELD NO. 2 HAS 2.0 ACRES THAT MEET THE MINIMUM REQUIREMENTS FOR A SEPTAGE LAND APPLICATION SITE. THE REMAINING AREA IS UNUSABLE DUE TO THE SAME REASONS AS FIELD NO 1. CURRENTLY THERE IS AN ESTABLISHED STAND OF ANNUAL RYEGRASS ON THIS FIELD. RECOMMEND THAT THIS FIELD BE SPRIGGED AGAIN DURING THE MONTH OF MARCH THROUGH JUNE 1998 AND OVERSEEDDED AGAIN WITH RYEGRASS DURING THE PERIOD OF SEPT.15 THROUGH NOV.15, 1998.
3. FIELD NO. 3 HAS 2.0 ACRES THAT MUST BE SPRIGGED WITH BERMUDA PERIOD OF MARCH THROUGH JUNE AND OVERSEEDDED WITH ANNUAL RYEGRASS BEFORE THIS SITE CAN BE USED FOR SEPTAGE LAND APPLICATION FIELD.

1. Waste analysis will be conducted at least once per year.
2. Application fields contain approximately 6.5 acres.
3. The dominant soil series at this site is Goldsboro loamy fine sand.
4. Septage will not be applied 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.
5. Septage storage shall be provided to account for the average volume of septage pumped per week.

C. Crops to be grown and approximate planting times:

1. Application fields, including buffer zones, will be sprigged in coastal bermudagrass at the rate of 35 bu./ac (broadcast) or 15 bu./ac ( sprigged in 30 inch rows) during the months of March through June in order to establish a permanent stand of grass. The field was be over-seeded with annual ryegrass at approximately 30 pounds/acre.

D. Nitrogen Needs For Crop Grown:

R. Y.E. = Realistic Yield Expectation  
 N App. Rate = Suggested N application rate based on R. Y.E. for soil type.

Crop (cut for hay)	R. Y.E.	N App. Rate	lbs. N/ ac
Coastal Bermudagrass	5.0 tons/ac	X 45 lbs N/dry ton =	225.0
Annual Ryegrass	2.0 ton/ac	X 25 lbs N/dry ton =	50.0
			Total = 275.0



E. Relative Application Rate for Fields:

Month	Field		
	FIELD #1	FIELD #2	FIELD #3
Jan	Low	Low	Low
Feb	Low	Low	Low
March	Low	Low	Low
April	Med	Med	Med
May	Med	Med	Med
June	High	High	High
July	High	High	High
Aug	High	High	High
Sept	Med	Med	Med
Oct	Med	Med	Med
Nov	Low	Low	Low
Dec	Low	Low	Low

Low= 5,000 gallons; Med = 10,000 gallons; High = 15,000 gallons

NOTE: CUMULATIVE APPLICATION RATE IS NOT TO EXCEED THE PERMITTED APPLICATION RATE.

F. Application Method:

The preceding information is based on septage being evenly applied over the entire permitted site or field.

G. Additional Fertility Requirements:

N-P-K will be added to the land application area to maintain fertility levels which will be based on the soil test results from NCDA. The buffer area should be fertilized based on the soil test results from the NCDA to maintain a good stand of grass.

4  
1/11/1998  
Received  
Solid Waste  
Section

H. Harvest of the Crop:

1. The bermudagrass will be cut as hay, baled, and removed whenever it reaches approximately 12 inches in height, or roughly every 4 to 6 weeks beginning in the month of June.
2. May not harvest the hay the first year to allow for a good stand to become established. This will depend on weather conditions the first year of production.
3. The ryegrass will be cut as hay, baled and removed from the field beginning in the month of April to allow the stand of bermudagrass to begin to grow.
4. Hay will not be harvested within 30 days of septage application.

**SOIL EROSION AND RUNOFF CONTROL PLAN**

Given that the slopes on this site does not exceed three percent, a 50 foot buffer, planted in bermudagrass/ ryegrass, should suffice to prevent septage waste from migrating off the fields.

Submitted by: Daniel Bray Date 1-14-98  
(site operator)

Prepared by: G Ray Harri Date 1/12/98  
Office Cooperative Extension  
Address Coventry Square  
Greensboro, NC 28516  
Phone 919-728-8421





**Operator:**  
Daniel Gray  
**Land Owner:**  
Will Turner  
**County:** Carteret  
**Scale :** 1 inch = 400 feet  
**Proposed Site**  
Field 3 = 2 acres  
**Setback(s):**  
BASED on Established  
Bermuda.  
Stay 50 feet from ditches.  
Stay 200 feet from creek.  
Stay 500 feet from residences.

