State of North Carolina
Department of Environmental Quality
Division of Water Resources
Animal Feeding Operations Permit Application Form
(THIS FORM MAY BE PHOTOCOPIED FOR USE AS AN ORIGINAL)
NPDES General Permit - Existing Animal Waste Operations

RECEIVED/NCDEQ/DWR
SEP 26 2017
Water Quality Regional Operations Section

1. GENERAL INFORMATION:

1.1 Facility name: Payback Farm

1.2 Print Land Owner's name: Faison Investments, LLC

1.3 Mailing address: P.O. Box 1015

City, State: Clinton, NC Zip: 28328

Telephone number (include area code): (910) 260 - 0220

1.4 Physical address: 6980 Harper House Rd

City, State: Newton Grove, NC Zip: 28366

Telephone number (include area code): (910) 260 - 0220

1.5 County where facility is located: Johnston

1.6 Owner's email address: hefaison@embarqmail.com

1.7 Facility location (directions from nearest major highway, using SR numbers for state roads): ≈1 mile east of US 701/ Harper House Rd. intersection

1.8 Farm Manager's name (if different from Land Owner): _____

1.9 Lessee's / Integrator's name (if applicable; circle which type is listed): Prestage Farms

1.10 Facility's original start-up date: 1989 Date(s) of facility expansion(s) (if applicable): _____

2. OPERATION INFORMATION:

2.1 Facility number: 51-24

2.2 Operation Description:

Please enter the Design Capacity of the system. The "No. of Animals" should be the maximum number for which the waste management structures were designed.

Type of Swine	No. of Animals	Type of Poultry	No. of Animals	Type of Cattle	No. of Animals
☐ Wean to Feeder		☐ Layer		☐ Beef Brood Cow	
☒ Feeder to Finish	3000	☐ Non-Layer		☐ Beef Feeder	
☐ Farrow to Wean (# sow)		☐ Turkey		☐ Beef Stocker Calf	
☐ Farrow to Feeder (# sow)		☐ Turkey Poults		☐ Dairy Calf	
☐ Farrow to Finish (# sow)				☐ Dairy Heifer	
☐ Wean to Finish (# sow)				☐ Dry Cow	
☐ Gilts				☐ Milk Cow	
☐ Boar/Stud					

☐ Other Type of Livestock on the farm: _____ No. of Animals: _____

2.3 Acreage cleared and available for application (excluding all required buffers and areas not covered by the application system): 26.66 Required Acreage (as listed in the CAWMP): 26.66

2.4 Number of lagoons: 1 Total Capacity (cubic feet): 659,200 Required Capacity (cubic feet): 545438

Number of Storage Ponds: 0 Total Capacity (cubic feet): _____ Required Capacity (cubic feet): _____

2.5 Are subsurface drains present within 100' of any of the application fields? **YES** or **NO** (circle one)

2.6 Are subsurface drains present in the vicinity or under the waste management system? **YES** or **NO** (circle one)

2.7 Does this facility meet all applicable siting requirements? **YES** or **NO** (circle one)

3. REQUIRED ITEMS CHECKLIST:

Please indicate that you have included the following required items by signing your initials in the space provided next to each item.

Applicants Initials

3.1 One completed and signed original and one copy of the application for NPDES General Permit - Animal Waste Operations;

3.2 Two copies of a general location map indicating the location of the animal waste facilities and field locations where animal waste is land applied and a county road map with the location of the facility indicated;

3.3 Two copies of the entire Certified Animal Waste Management Plan (CAWMP). If the facility does not have a CAWMP, it must be completed prior to submittal of a permit application for animal waste operations.

The CAWMP **must** include the following components. *Some of these components may not have been required at the time the facility was certified but must be added to the CAWMP for NPDES permitting purposes*:

- 3.3.1 The Waste Utilization Plan (WUP) must include the amount of Plant Available Nitrogen (PAN) and Phosphorus produced and utilized by the facility
- 3.3.2 The method by which waste is applied to the disposal fields (e.g. irrigation, injection, etc.)
- 3.3.3 A map of every field used for land application, with setbacks to surface waters or any conduits to surface waters (including field ditches), with the exception of grassed waterways that are designed and maintained according to NRCS standards.
- 3.3.4 The soil series present on every land application field
- 3.3.5 The crops grown on every land application field
- 3.3.6 The Realistic Yield Expectation (RYE) for every crop shown in the WUP
- 3.3.7 The PAN and Phosphorus applied to every land application field
- 3.3.8 The waste application windows for every crop utilized in the WUP
- 3.3.9 The required NRCS Standard specifications
- 3.3.10 A site schematic
- 3.3.11 Emergency Action Plan
- 3.3.12 Insect Control Checklist with chosen best management practices noted
- 3.3.13 Odor Control Checklist with chosen best management practices noted
- 3.3.14 Mortality Control Checklist with the selected method noted
- 3.3.15 Lagoon/storage pond capacity documentation (design, calculations, etc.); please be sure to include any site evaluations, wetland determinations, or hazard classifications that may be applicable to your facility
- 3.3.16 Operation and Maintenance Plan
- **3.3.17 Phosphorus Loss Assessment Tool (PLAT) results, including datasheets for each field.**

If your CAWMP includes any components not shown on this list, please include the additional components with your submittal. (Composting, waste transfers, etc.)

4. APPLICANT'S CERTIFICATION:

I, Faison Investments LLC by Henry Faison (Land Owner's name listed in question 1.2), attest that this application for Payback Farms (Facility name listed in question 1.1) has been reviewed by me and is accurate and complete to the best of my knowledge. I understand that if all required parts of this application are not completed and that if all required supporting information and attachments are not included, this application package will be returned to me as incomplete.

Signature Faison Investments LLC by [signature] Date 9-12-17

5. MANAGER'S CERTIFICATION: (complete only if different from the Land Owner)

I, _____ (Manager's name listed in question 1.6), attest that this application for _____ (Facility name listed in question 1.1) has been reviewed by me and is accurate and complete to the best of my knowledge. I understand that if all required parts of this application are not completed and that if all required supporting information and attachments are not included, this application package will be returned as incomplete.

Signature _____ Date _____

THE COMPLETED APPLICATION PACKAGE, INCLUDING ALL SUPPORTING INFORMATION AND MATERIALS, SHOULD BE SENT TO THE FOLLOWING ADDRESS:

NORTH CAROLINA DIVISION OF WATER RESOURCES
WATER QUALITY REGIONAL OPERATIONS SECTION
ANIMAL FEEDING OPERATIONS PROGRAM
1636 MAIL SERVICE CENTER
RALEIGH, NORTH CAROLINA 27699-1636
TELEPHONE NUMBER: (919) 707-9129
FAX NUMBER: (919) 807-6496

Animal Waste Management Plan Certification

(Please type or print all information that does not require a signature)

Existing or **New** or **Expanded** (please circle one)

RECEIVED/NCDEQ/DWR

SEP 26 2017

Water Quality Regional Operations Section

General Information:

Permit No: AWS510024

Name of Farm: Payback

Facility No: 57 -- 24

Owner(s) Name: Faison Investments, LLC

Phone No: 910-260-0220

Mailing Address: PO Box 1015

Farm Location:

County Farm is located in: Johnston

Latitude and Longitude: 35° 17' 48" / 78° 21' 1"

Integrator: Prestage Farms

Please attach a copy of a county road map with location identified and describe below (Be specific: road names, directions, milepost, etc.): 6980 Hagar House Rd, Newton Grove. Approximately 1 mile on left past intersection of Hagar House Rd + US 701, East on US 701

Operation Description:

Type of Swine	*No. of Animals*	*Type of Poultry*	*No. of Animals*	*Type of Dairy*	*No. of Animals*
o Wean to Feeder		o Layer		o Milking	
● Feeder to Finish	3000	o Non-Layer		o Dry	
o Farrow to Wean		*Type of Beef*	*No. of Animals*	o Heifers	
o Farrow to Feeder		o Brood		o Calves	
o Farrow to Finish		o Feeders			
o Gilts		o Stockers			
o Boars		*Other Type of Livestock:*		*Number of Animals:*	

Expanding Operation Only

Previous Design Capacity: *Additional Design Capacity:* *Total Design Capacity:*

Acreage Available for Application: 26.66

Required Acreage: 26.66

Number of waste structures: 1

Total Capacity: 659,280 Cubic Feet (ft^3)

Are subsurface drains present on the farm: **YES** or **(NO)** (please circle one)

If YES: are subsurface drains present in the area of the waste structures (please circle one or both as applicable)

****

Owner / Manager Agreement

I (we) verify that all the above information is correct and will be updated upon changing. I (we) understand the operation and maintenance procedures established in the approved animal waste management plan for the farm named above and will implement these procedures. I (we) know that any expansion to the existing design capacity of the waste treatment and storage system or construction of new facilities will require a permit application and a new certification to be submitted to the Division of Water Resources (DWR) and permit approval received before the new animals are stocked. I (we) understand that there must be no discharge of animal waste from the storage system to surface waters of the state unless specifically allowed under a permit from DWR and there must not be run-off from the application of animal waste. I (we) understand that run-off of pollutants from lounging and heavy use areas must be minimized using technical standards developed by the USDA-Natural Resources Conservation Service (NRCS). The approved plan will be filed at the farm and at the DWR Regional Office and the office of the local Soil and Water Conservation District (SWCD). I (we) know that any modification must be approved by a technical specialist and submitted to the DWR Regional Office and local SWCD and required approvals received from DWR prior to implementation. A change in farm ownership requires a permit application to be sent to DWR along with a new certification (if the approved plan is changed).

Name of Land Owner: Faison Investments LLC by Henry Faison

Signature: Faison Investments LLC by [signature] **Date:** 9-12-17

Name of Manager (if different from owner):

Signature: **Date:**

Technical Specialist Certification

I. As a technical specialist designated by the North Carolina Soil and Water Conservation Commission pursuant to 15A NCAC 6H .0104, I certify that the animal waste management system for the farm named above has an animal waste management plan that meets or exceeds standards and specifications of the Division of Water Resources as specified in 15A NCAC 2T .1300 (formerly 2H .0217) and the USDA-Natural Resources Conservation Service and/or the North Carolina Soil and Water Conservation Commission pursuant to 15A NCAC 2T .1300 (formerly 2H .0217) and 15A NCAC 6F .0101-.0105. The following elements are included in the plan as applicable. While each category designates a technical specialist who may sign each certification (SD, SI, WUP, RC, I), the technical specialist should only certify parts for which they are technically competent.

II. Certification of Design

A) Collection, Storage, Treatment System

Check the appropriate box

- ● **Existing facility without retrofit (SD or WUP)**
  Storage volume is adequate for operation capacity; storage capability consistent with waste utilization requirements.

- o **New, expanded or retrofitted facility (SD)**
  Animal waste storage and treatment structures, such as but not limited to collection systems, lagoons and ponds, have been designed to meet or exceed the minimum standards and specifications.

Name of Technical Specialist (Please Print): Curtis G. Barwick

Affiliation Barwick Ag Service, LLC Date Work Completed: 1989

Address (Agency): 103 Country Club Circle, Clark, NC 28328 Phone No.: 910 385-1000

Signature: Curtis Barwick Date: 9-12-17

B) Land Application Site (WUP)

The plan provides for minimum separations (buffers); adequate amount of land for waste utilization; chosen crop is suitable for waste management; and the hydraulic and nutrient loading rates are appropriate for the site and receiving crop.

Name of Technical Specialist (Please Print): Curtis G Barwick

Affiliation Barwick Ag Services, LLC Date Work Completed: 9-12-17

Address (Agency): 103 Country Club Circle Clark, NC 28328 Phone No.: 910 385-1000

Signature: Curtis Barwick Date: 9-12-17

C) Runoff Controls from Exterior Lots

Check the appropriate box

- ● **Facility without exterior lots (SD or WUP or RC)**
  This facility does not contain any exterior lots.

- o **Facility with exterior lots (RC)**
  Methods to minimize the run off of pollutants from lounging and heavy use areas have been designed in accordance with technical standards developed by NRCS.

Name of Technical Specialist (Please Print): Curtis G Barwick

Affiliation Barwick Ag Services, LLC Date Work Completed: 9-12-17

Address (Agency): 103 Country Club Circle, Clark, NC 28328 Phone No.: 910-385-1000

Signature: Curtis Barwick Date: 9-12-17

D). Application and Handling Equipment

Check the appropriate box

- ● Existing or expanding facility with existing waste application equipment (WUP or I)
  Animal waste application equipment specified in the plan has been either field calibrated or evaluated in accordance with existing design charts and tables and is able to apply waste as necessary to accommodate the waste management plan: (existing application equipment can cover the area required by the plan at rates not to exceed either the specified hydraulic or nutrient loading rates, a schedule for timing of applications has been established; required buffers can be maintained and calibration and adjustment guidance are contained as part of the plan).

- o New, expanded, or existing facility without existing waste application equipment for spray irrigation. (I)
  Animal waste application equipment specified in the plan has been designed to apply waste as necessary to accommodate the waste management plan; (proposed application equipment can cover the area required by the plan at rates not to exceed either the specified hydraulic or nutrient loading rates; a schedule for timing of applications has been established; required buffers can be maintained; calibration and adjustment guidance are contained as part of the plan).

- o New, expanded, or existing facility without existing waste application equipment for land spreading not using spray irrigation. (WUP or I)
  Animal waste application equipment specified in the plan has been selected to apply waste as necessary to accommodate the waste management plan; (proposed application equipment can cover the area required by the plan at rates not to exceed either the specified hydraulic or nutrient loading rates; a schedule for timing of applications has been established; required buffers can be maintained; calibration and adjustment guidance are contained as part of the plan).

Name of Technical Specialist (Please Print): Curtis G Barwick

Affiliation Barwick Ag Services, LLC Date Work Completed: 1998

Address (Agency): 103 County Club Circle, Clinton NC 28328 Phone No.: 910 385-1000

Signature: [signature] Date: 9-12-17

E) Odor Control, Insect Control, Mortality Management and Emergency Action Plan (SD, SI, WUP, RC or I)

The waste management plan for this facility includes a Waste Management Odor Control Checklist, an Insect Control Checklist, a Mortality Management Checklist and an Emergency Action Plan. Sources of both odors and insects have been evaluated with respect to this site and Best Management Practices to Minimize Odors and Best Management Practices to Control Insects have been selected and included in the waste management plan. Both the Mortality Management Plan and the Emergency Action Plan are complete and can be implemented by this facility.

Name of Technical Specialist (Please Print): Curtis G. Barwick

Affiliation Barwick Ag Service, LLC Date Work Completed: 9-12-17

Address (Agency): 103 County Club Circle Clinton NC 28328 Phone No.: 910 385-1000

Signature: [signature] Date: 9-12-17

F) Written Notice of New or Expanding Swine Farm

The following signature block is only to be used for new or expanding swine farms that begin construction after June 21, 1996. If the facility was built before June 21, 1996, when was it constructed or last expanded 1989.

I (we) certify that I (we) have attempted to contact by certified mail all adjoining property owners and all property owners who own property located across a public road, street, or highway from this new or expanding swine farm. The notice was in compliance with the requirements of NCGS 106-805. A copy of the notice and a list of the property owners notified are attached.

Name of Land Owner: _____

Signature: _____ **Date:** _____

Name of Manager (if different from owner): _____

Signature: _____ **Date:** _____

III. Certification of Installation

A) Collection, Storage, Treatment Installation

New, expanded or retrofitted facility (SI)

Animal waste storage and treatment structures, such as but not limited to lagoons and ponds, have been installed in accordance with the approved plan to meet or exceed the minimum standards and specifications.

For existing facilities without retrofits, no certification is necessary.

Name of Technical Specialist (Please Print):_____

Affiliation_____ Date Work Completed:_____

Address (Agency):_____ Phone No.:_____

Signature:_____ Date:_____

B) Land Application Site (WUP)

The cropping system is in place on all land as specified in the animal waste management plan.

Name of Technical Specialist (Please Print): Curtis G Barwick

Affiliation Barwick Ag Services, LLC Date Work Completed: 1989

Address (Agency): 103 County Club Circle, Clinton, NC 28328 Phone No.: 910 385-1000

Signature: C G Barwick Date: 9-12-17

C) Runoff Controls from Exterior Lots (RC)

Facility with exterior lots

Methods to minimize the run off of pollutants from lounging and heavy use areas have been installed as specified in the plan.

For facilities without exterior lots, no certification is necessary.

Name of Technical Specialist (Please Print):_____

Affiliation_____ Date Work Completed:_____

Address (Agency):_____ Phone No.:_____

Signature:_____ Date:_____

D) Application and Handling Equipment Installation (WUP or I)

- ◆ Animal waste application and handling equipment specified in the plan is on site and ready for use; calibration and adjustment materials have been provided to the owners and are contained as part of the plan.

- o Animal waste application and handling equipment specified in the plan has not been installed but the owner has proposed leasing or third party application and has provided a signed contract; equipment specified in the contract agrees with the requirements of the plan; required buffers can be maintained; calibration and adjustment guidance have been provided to the owners and are contained as part of the plan.

Name of Technical Specialist (Please Print): Curtis G Barwick

Affiliation Barwick Ag Services, LLC Date Work Completed: 9-13-16

Address (Agency): 103 County Club Circle, Clinton, NC 28328 Phone No.: 910 385-1000

Signature: C G Barwick Date: 9-12-17

E) Odor Control, Insect Control and Mortality Management (SD, SI, WUP, RC or I)

Methods to control odors and insects as specified in the Plan have been installed and are operational. The mortality management system as specified in the Plan has also been installed and is operational.

Name of Technical Specialist (Please Print): Curtis G Barwick

Affiliation Barwick Ag Services, LLC Date Work Completed: 9-12-17

Address (Agency): 103 County Club Ct, Clinton NC 28328 Phone No.: 910-385-7008

Signature: Curtis G Barwick Date: 9-12-17

Please return the completed form to the Division of Water Resources at the following address:

Department of Environment and Natural Resources
Division of Water Resources
Animal Feeding Operations Unit
1636 Mail Service Center
Raleigh, NC 27699-1636

Please also remember to submit a copy of this form along with the complete Animal Waste Management Plan to the DWR Regional Office and the local Soil and Water Conservation District Office and to keep a copy in your files with your Animal Waste Management Plan.

North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

John E. Skvarla, III
Secretary

October 1, 2014

Faison Investments LLC
Payback Farm
PO Box 1015
Clinton, NC 28329

Subject: Certificate of Coverage No. AWS510024
Payback Farm
Swine Waste Collection, Treatment,
Storage and Application System
Johnston County

Existing COC

Dear Faison Investments LLC:

In accordance with your renewal request, we are hereby forwarding to you this Certificate of Coverage (COC) issued to Faison Investments LLC, authorizing the operation of the subject animal waste management system in accordance with General Permit AWG100000.

This approval shall consist of the operation of this system including, but not limited to, the management and land application of animal waste as specified in the facility's Certified Animal Waste Management Plan (CAWMP) for Payback Farm, located in Johnston County, with a swine animal capacity of no greater than the following annual averages:

Wean to Finish:	Feeder to Finish: **3000**	Boar/Stud:
Wean to Feeder:	Farrow to Wean:	Gilts:
Farrow to Finish:	Farrow to Feeder:	Other:

If this is a Farrow to Wean or Farrow to Feeder operation, there may be one boar for each 15 sows. Where boars are unnecessary, they may be replaced by an equivalent number of sows. Any of the sows may be replaced by gilts at a rate of 4 gilts for every 3 sows.

This COC shall be effective from the date of issuance until September 30, 2019, and shall hereby void Certificate of Coverage Number AWS510024 that was previously issued to this facility. Pursuant to this COC, you are authorized and required to operate the system in conformity with the conditions and limitations as specified in the General Permit, the facility's CAWMP, and this COC. An adequate system for collecting and maintaining the required monitoring data and operational information must be established for this facility. Any increase in waste production greater than the certified design capacity or increase in number of animals authorized by this COC (as provided above) will require a modification to the CAWMP and this COC and must be completed prior to actual increase in either wastewater flow or number of animals.

Please read this COC and the enclosed State General Permit carefully. Please pay careful attention to the record keeping and monitoring conditions in this permit. Record keeping forms are unchanged with this General Permit. Please continue to use the same record keeping forms.

If your Waste Utilization Plan (WUP) has been developed based on site-specific information, careful evaluation of future samples is necessary. Should your records show that the current WUP is inaccurate you will need to have a new WUP developed.

The issuance of this COC does not excuse the Permittee from the obligation to comply with all applicable laws, rules, standards, and ordinances (local, state, and federal), nor does issuance of a COC to operate under this permit convey any property rights in either real or personal property.

Per NRCS standards a 100-foot separation shall be maintained between water supply wells and any lagoon, storage pond, or any wetted area of a spray field.

Please be advised that any violation of the terms and conditions specified in this COC, the General Permit or the CAWMP may result in the revocation of this COC, or penalties in accordance with NCGS 143-215.6A through 143-215.6C including civil penalties, criminal penalties, and injunctive relief.

If any parts, requirements, or limitations contained in this COC are unacceptable, you have the right to apply for an individual permit by contacting the Animal Feeding Operations Program for information on this process. Unless such a request is made within 30 days, this COC shall be final and binding.

In accordance with Condition II.22 of the General Permit, waste application shall cease within four (4) hours of the time that the National Weather Service issues a Hurricane Warning, Tropical Storm Warning, or a Flood Watch associated with a tropical system for the county in which the facility is located. You may find detailed watch/warning information for your county by calling the Raleigh, NC National Weather Service office at (919) 515-8209, or by visiting their website at: http://www.weather.gov/rah/

This facility is located in a county covered by our Raleigh Regional Office. The Regional Office staff may be reached at 919-791-4200. If you need additional information concerning this COC or the General Permit, please contact the Animal Feeding Operations Program staff at (919) 807-6464.

Sincerely,

for Thomas A. Reeder
Director, Division of Water Resources

Enclosure (General Permit AWG100000)

cc: (Certificate of Coverage only for all ccs)
Raleigh Regional Office, Water Quality Regional Operations Section
Johnston County Health Department
Johnston County Soil and Water Conservation District
WQROS Central Files (Permit No. AWS510024)
AFO Notebooks
Prestage Farms Inc

WASTE UTILIZATION PLAN

September 13, 2017 update

Producer :	Faison Investments
Farm Name :	Payback Farm 51-24 PO Box 1015 Clinton,NC 283281015
Telephone # :	(910) 260-0220
Type of Operation :	Feeder to Finish Swine
Number of Animals :	3000 hogs design capacity ✓
Application Method:	Irrigation

The waste from your animal facility must be land applied at a specified rate to prevent pollution of surface and/or groundwater. The plant nutrients in the animal waste should be used to reduce the amount of commercial fertilizer required for the crops in the fields where waste is to be applied. This waste utilization plan uses nitrogen as the limiting nutrient. Waste should be analyzed before each application cycle. Annual soil tests are strongly encouraged so that all plant nutrients can be balanced for realistic yields of the crop to be grown.

Several factors are important in implementing your waste utilization plan in order to maximize the fertilizer value of the waste and to ensure that it is applied in an environmentally safe manner. Always apply waste based on the needs of the crop to be grown and the nutrient contents of the waste. Do not apply more nitrogen than the crop can utilize. Soil types are important as they have different infiltration rates, leaching potentials, cation exchange capacities, and avaialable water holding capacities. Normally waste shall not be applied to land eroding at greater than 5 tons per acre per year. With special pre-cautions, waste may be applied to land eroding at up to 10 tons per acre per year. Do not apply waste on saturated soils, when it is raining, or when the surface is frozen. Either of these conditions may result in runoff to surface waters which is not allowed under DEM regulations. Wind conditions should also be considered to avoid drift and downwind odor problems. To maximize the value of the nutrients for crop production and to reduce the potential for pollution, the waste should be applied to a growing crop or applied to bare ground not more than 30 days prior to planting. Injecting the waste or disking will conserve nutrients and reduce odor problems. This plan is based on waste application through irrigation for this is the manner in which you have chosen to apply your waste. If you choose to inject the waste in the future, you need to revise this plan. Nutrient levels for injecting waste and irrigating waste are not the same.

The estimated acres needed to apply the animal waste is based on typical nutrient content for this type of facility. Acreage requirements should be based on the waste analysis report from your waste management facility. Attached you will find information on proper sampling techniques, preparation, and transfer of waste samples to the lab for ananlysis. This waste utilization plan, if carried out, meets the requirements for compliance with 15A NCAC 2H.0217 adopted by the Environmental Management Commission.

AMOUNT OF WASTE PRODUCED PER YEAR (gallons, ft3, tons, etc.)

3000 hogs X 1.9 tons waste/hogs/year = 5700 tons

AMOUNT OF PLANT AVAILABLE NITROGEN (PAN) PRODUCED PER YEAR

3000 hogs X 2.3 lbs PAN/hogs/year = 6900 PAN/year

Applying the above amount of waste is a big job. You should plan time and have appropriate equipment to apply the waste in a timely manner.

The following acreage will be needed for waste application based on the crop to be grown, soil type and suface application.

TABLE 1 : ACRES OWNED BY PRODUCER

TRACT	FIELD	SOIL TYPE &CLASS-DETERMINING PHASE	CROP CODE	YIELD	LBS AW N/ACRE	COMM N/ACRE	ACRES	LBS AW USED	APPLIC. TIME
465/532	1	BLANTON 0-5%	BC	3.8	190	0	5.99	1138.1	MAR-OCT
465/532	~ 1	BLANTON 0-5%	SG	1	50	0	5.99	299.5	SEP-MAY
11760	2	BLANTON 0-5%	BH	4.5	225	0	8.36	1881	MAR-OCT
11760	~ 2	BLANTON 0-5%	SG	1	50	0	8.36	418	SEP-MAY
							TOTALS:	3736.6	

~ Indicates that this field is being overseeded (i.e. interplanted) or winter annuals follow summer annuals.

* Indicates a Crop Rotation

NOTE: The applicator is cautioned that P and K may be over applied while meeting the N requirments. Beginning in 1996 the Coastal Zone Management Act will require farmers in some eastern counties of NC to have a nutrient management plan that addresses all nutrients. This plan only addresses Nitrogen.

TABLE 2 : ACRES WITH AGREEMENT OR LONG TERM LEASE

(Agreement with adjacent landowners must be attached.)
(Required only if operator does not own adequate land. See required specifications 2.)

TRACT	FIELD	SOIL TYPE &CLASS-DETERMINING PHASE	CROP CODE	YIELD	LBS AW N/ACRE	COMM N/ACRE	ACRES	LBS AW USED	APPLIC. TIME
10668	1H4	WAGRAM 0-6%	BC	4.7	235	0	3.7	869.5	MAR-OCT
10668	~ 1H4	WAGRAM 0-6%	SG	1	50	0	3.7	185	SEP-MAY
10668	1H5	WAGRAM 0-6%	BC	4.7	235	0	4.71	1106.85	MAR-OCT
10668	~ 1H5	WAGRAM 0-6%	SG	1	50	0	4.71	235.5	SEP-MAY
10668	1H6	WAGRAM 0-6%	BC	4.7	235	0	3.9	916.5	MAR-OCT
10668	~ 1H6	WAGRAM 0-6%	SG	1	50	0	3.9	195	SEP-MAY
							TOTALS:	3508.35	

~ Indicates that this field is being overseeded (i.e. interplanted) or winter annuals follow summer annuals.

* Indicates a Crop Rotation

* Acreage figures may exceed total acreage in field due to overseeding.
**Lbs AW N (animal waste nitrogen) equals total required nitrogen less any commercial nitrogen (COMM N) supplied.

The following legend explains the crop codes used in TABLES 1 and 2 above:

CROP CODE	CROP	UNITS	LBS N/UNIT
BC	HYBRID BERMUDAGRASS-CONTROLLED GRAZED	TONS	50
BH	HYBRID BERMUDAGRASS-HAY	TONS	50
SG	SMALL GRAIN OVERSEEDED	AC	50

TOTALS FROM TABLES 1 AND 2

	ACRES	LBS AW N USED
TABLE 1	14.35	3,737
TABLE 2	12.31	3,508
TOTALS:	26.66	7,245
AMOUNT OF N PRODUCED:		6,900
**** BALANCE*		-345

***** This number must be less than or equal to 0 in order to fully utilize the animal waste N produced.**

Acres show in each of the preceeding tables are considered to be the usable acres excluding required buffers, filter strips along ditches, odd areas unable to be irrigated, and perimeter areas not receiving full application rates due to equipment limitations. Actual total acres in the fields listed may, and most likely will be, more than the acres shown in the tables.

NOTE: The Waste Utilization Plan must contain provisions for periodic land application of sludge at agronomic rates. The sludge will be nurturient rich and will require precautionary measures to prevent over application of nutrients or other elements. Your production facility will produce approximately 1110 pounds of plant available nitrogen (PAN) per year in the sludge that will need to be removed on a periodic basis. This figure is PAN when broadcasting the sludge. Please be aware that additional acres of land, as well special equipment, may be needed when you remove this sludge.

See the attached map showing the fields to be used for the utilization of waste water.

APPLICATION OF WASTE BY IRRIGATION

The irrigation application rate should not exceed the intake rate of the soil at the time of irrigation such that runoff or ponding occurs. This rate is limited by initial soil moisture content, soil structure, soil texture, water droplet size, and organic solids. The application amount should not exceed the available water holding capacity of the soil at the time of irrigation nor should the plant available nitrogen applied exceed the nitrogen needs of the crop.

Your facility is designed for 180 days of temporary storage and the temporary storage must be removed on the average of once every 5.92 months. In no instance should the volume of waste being stored in your structure be within 1.58 feet of the top of the dike.

If surface irrigation is the method of land application for this plan, it is the responsiblity of the producer and irrigation designer to ensure that an irrigation system is installed to properly irrigate the acres shown in Tables 1 and 2. Failure to apply the recommended rates and amounts of Nitrogen shown in the tables may make this plan invalid.

The following table is provided as a guide for establishing application rates and amounts.

TRACT	FIELD	SOIL TYPE	CROP	APPLICATION RATE (in/hr)	APPLICATION AMT (Inches)
10668	~1H4, ~1H5, ~1H6	WAGRAM 0-6%	SG	0.60	*1
10668	1H4, 1H5, 1H6	WAGRAM 0-6%	BC	0.60	*1
11760	~2	BLANTON 0-5%	SG	0.75	*1
11760	2	BLANTON 0-5%	BH	0.75	*1
465/532	~1	BLANTON 0-5%	SG	0.75	*1
465/532	1	BLANTON 0-5%	BC	0.75	*1

* This is the maximum application amount allowed for the soil assuming the amount of nitrogen allowed for the crop is not over applied. In many situations, the application amount shown cannot be applied because the nitrogen limitation. The maximum application amount shown can be applied under optimum soil conditions.

NARRATIVE OF OPERATION

Acreages based on irrigation designs by Tom Crockett Irrigation. P2O5 production is 3,893 lbs/year.

PLANS & SPECIFICATIONS

1. Animal waste shall not reach surface waters of the state by runoff, drift, manmade conveyances, direct application, or direct discharge during operation or land application. Any discharge of waste which reaches surface water is prohibited. Illegal discharges are subject to assessment of civil penalties of $10,000 per day by the Division of Water Quality for every day the discharge continues.

2. The Field Office must have documentation in the design folder that the producer either owns or has long term access to adequate land to properly dispose of waste. If the producer does not own adequate land to properly dispose of waste, he shall provide NRCS with a copy of a written agreement with a landowner who is within a reasonable proximity, allowing him/her the use of the land for waste application for the life expectancy of the production facility. It is the responsibility of the owner of the facility to secure an update of the Waste Utilization Plan when there is a change in the operation, increase in the number of animals, method of utilization, or available land.

3. Animal waste shall be applied to meet, but not exceed, the Nitrogen needs for realistic crop yields based on soil type, available moisture, historical data, climate conditions, and level of management, unless there are regulations that restrict the rate of application for other nutrients.

4. Animal waste may be applied to land that has a Resource Management System (RMS) or an Alternative Conservation System (ACS). If an ACS is used the soil loss shall be no greater than 10 tons per acre per year and appropriate filter strips will be used where runoff leaves the field. These filter strips will be in addition to "Buffers" required by DEM. (See FOTG Stantard 393 - Filter Strips and Standard 390 Interim Riparian Forest Buffers).

5. Odors can be reduced by injecting the waste or disking after waste application. Waste should not be applied when there is danger of drift from the irrigation field.

6. When animal waste is to be applied on acres subject to flooding, it will be soil incorporated on conventionally tilled cropland. When applied to conservation tilled crops or grassland, the waste may be broadcast provided the application does not occur during a season prone to flooding. (See "Weather and Climate in North Carolina" in the NRCS Technical Reference - Environment file for guidance.)

*7. Liquid waste shall be applied at rates not to exceed the soil infiltration rate such that runoff does not occur offsite or to surface waters and in a method which does not cause drift from the site during application. No ponding should occur in order to control conditions conducive to odor or flies and to provide uniformity of application.

8. Animal waste shall not be applied to saturated soils, during rainfall events, or when the surface is frozen.

9. Animal waste shall be applied on actively growing crops in such a manner that the crop is not covered with waste to a depth that would inhibit growth.

10. Waste nutrients shall not be applied in fall or winter for spring planted crops on soils with a high potential for leaching. Waste nutrient loading rates on these soils should be held to a minimum and a suitable winter cover crop planted to take up released nutrients. Waste shall not be applied more than 30 days prior to planting of a crop on bare soil.

11. Any new swine facility sited on or after October 1, 1995 shall comply with the following: the outer perimeter of the land area onto which waste is applied from a lagoon that is a component of a swine farm shall be at least 50 feet from any residential property boundary and from any perennial stream or river (other that an irrigation ditch or canal. Animal waste

other than swine waste from facilities sited on or after October 1, 1995), shall not be applied closer than 25 feet to perennial waters. (See Standard 393 - Filter Strips)

12. Animal waste shall not be applied closer than 100 feet to wells.

13. Animal Waste shall not be applied closer than 200 feet of dwellings other than those owned by the landownwer.

14. Waste shall be applied in a manner not to reach other property and public right - of ways.

15. Animal waste shall not be discharged into surface waters, drainageways, or wetlands by discharge or by over-spraying. Animal waste may be applied to prior converted croplands provided they have been approved as a land application site by a "technical specialist". Animal waste should not be applied on grassed waterways that discharge directly into water courses, except when applied at agronomic rates and the application causes no runoff or drift from the site.

*16. Domestic and industrial waste from washdown facilities, showers, toilets, sinks, etc., shall not be discharged into the animal waste management system.

*17. A protective cover of appropriate vegetation will be established on all disturbed areas (lagoon embankments, berms, pipe runs, etc.). If needed, special vegetation shall be provided for these areas and shall be fenced, as necessary, to protect the vegetation. Vegetation such as trees, shrubs, and other woody species, etc. are limited to areas where considered appropriate. Lagoon areas should be kept mowed and accessible. Lagoon berms and structures should be inspected regularly for evidence of erosion, leakage or discharge.

*18. If animal production at the facility is to be suspended or terminated, the owner is responsible for obtaining and implementing a "closure plan" which will eliminate the possibility of an illegal discharge, pollution and erosion.

*19. Waste handling structures, piping, pumps, reels, etc., should be inspected on a regular basis to prevent breakdowns, leaks, and spills. A regular maintenance checklist should be kept on site.

20. Animal waste can be used in a rotation that includes vegetables and other crops for direct human consumption. However, if animal waste is used on crops for direct human consumption, it should only be applied as a preemergence with no other applications of animal waste during the crop season.

*21. Highly visible markers shall be installed to mark the top and bottom elevations of the temporary storage (pumping volume) of all waste treatment lagoons. Pumping shall be managed to maintain the liquid level between the markers. A marker will be required to mark the maximum storage volume fpr waste storage ponds.

22. Waste shall be tested within 60 days of utilization and soil shall be tested at least annually at crop sites where waste products are applied. Nitrogen shall be the rate-determining element. Zinc and copper levels in the soils shall be monitored and alternative crop sites shall be used when these metals approach excessive levels. pH shall be adjusted for optimum crop production amd maintained. Soil and waste analysis records shall be kept for five (5) years. Poultry dry waste application records shall be maintained for three (3) years. Waste application records for all other waste shall be maintained for five (5) years.

23. Dead animals will be disposed of in a manner that meets North Carolina Department of Agriculture regulations.

*** Liquid Systems**

NAME OF FARM: Payback Farm 51-24

OWNER / MANAGER AGREEMENT

I (we) understand and will follow and implement the specifications and the operation and maintenance precedures estalished in the approved animal waste utilization plan for the farm named above. I (we) know that any expansion to the existing design capacity of the waste treatment and/or storage system or construction of new facilities will require a new utilization plan and a new certification to be submitted to DEM before the new animals are stocked.

I (we) understand that I must own or have acces to equipment, primarily irrigation equipment, to land apply the animal waste described in this waste utilization plan. This equipment must be available at the appropriate pumping time such that no discharge occurs from the lagoon in a 25-year 1-day storm event. I also certify that the waste will be applied on the land according to this plan at the appropriate times and at rates that no runoff occurs.

NAME OF FACILITY OWNER: Faison Investments

SIGNATURE: Faison Investments by Henry Faison **DATE:** 4-30-13 ✓

NAME OF MANAGER (if different from owner): _____ ✓

please print

SIGNATURE: _____ **DATE:** _____

NAME OF TECHNICAL SPECIALIST: Curtis Barwick

AFFILIATION: Barwick Ag Services

ADDRESS (AGENCY): 103 Country Club Circle

Clinton, NC 28328

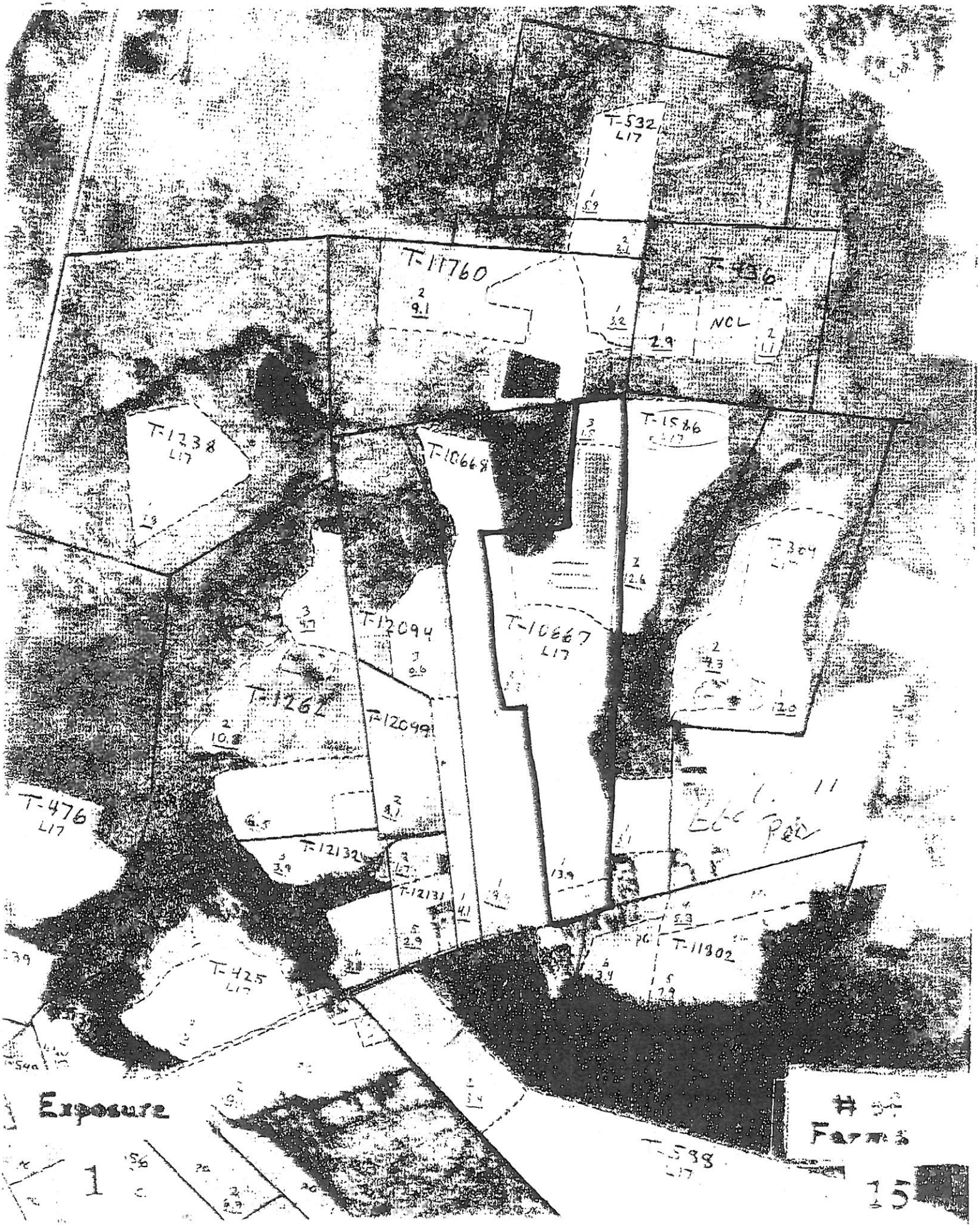
(910) 385-1000

SIGNATURE: Curt Barwick ✓ **DATE:** 4-30-13

Updated 9-12-17

✓

Curt G Barwick


T-532
L17
T-11760
T-1238
L17
T-10669
T-1586
L17
T-304
L17
T-12094
T-10667
L17
T-1262
T-12099
T-476
L17
T-12132
T-12131
T-11802
T-425
L17
T-598
L17
NCL
Exposure
Farms

[illegible] CAROLINA [illegible]

[illegible]STON COUNTY

THIS LEASE AGREEMENT, made this 10th day of [illegible], [illegible] and wife, MIRIAM ADAMS now or formerly of Johnston County, North Carolina, parties of the first part and sometimes referred to herein as "Lessors"; and [illegible] of Sampson County, North Carolina, party of the second part and sometimes referred to herein as "Lessee".

W I T N E S S E T H:

That subject to the terms and conditions hereinafter set forth, the Lessors do hereby let and lease to said Lessee and the Lessee does hereby [illegible] as tenant of said Lessors all cleared land located upon that parcel of real estate situate in Bentonville Township, Johnston County, North Carolina more particularly described as follows:

BEING [illegible] acres, more or less, as shown on a map thereof entitled: "Survey of [illegible] and Sallie L. Adams [illegible]" prepared by [illegible] Engineering & Surveying, [illegible] and recorded in Map Book [illegible] of the Johnston County [illegible] incorporated herein and by reference made a part hereof.

The terms and conditions of this lease are as follows:

1. [illegible]. This lease shall begin as of [illegible] and shall end, unless sooner [illegible] as herein provided [illegible].

2. [illegible]. During the first five (5) years of the term, the Lessee shall pay to the Lessors an annual rental of [illegible] per acre for all cleared land located upon said premises payable annually in advance.

During the second five (5) year term the annual rental shall be $70.00 per acre, the third five (5) year term $75.00 per acre, and the fourth five (5) year term the sum of $80.00 per acre for all cleared land located upon said premises payable annually in advance.

3. PURPOSE AND USE. This lease is granted for agricultural purposes, including the growing of crops and the right to use said premises for the disposal of animal waste arising from the operation of a swine facility.

4. COMPLIANCE WITH ENVIRONMENTAL LAWS. In the spreading of the waste herein contemplated, the lessee shall, at all times, comply with all local, State and Federal environmental laws, rules and regulations.

5. ASSIGNMENT. This lease may be assigned by the Lessee, but only for the purpsoes herein referred to.

6. VIOLATION OF TERMS. Upon the violation of the terms of this lease by either party hereto, the other party shall have the right to pursue such legal and equitable remedies as each may be entitled.

7. APPURTENANCY. This lease shall be and it is hereby declared to be appurtenant to that 30 acre tract owned by the Lessee and wife described in that deed to them from Sallie L. Adams dated June 22, 1987 and recorded in Book 1050 at Page [illegible] of the Johnston County Registry, said deed being incorporated herein and by reference made a part hereof.

IN TESTIMONY WHEREOF, the parties of the first and second part have hereunto set their hands and seals as of the day and year first above written.

_______________ (SEAL)
Jeff Adams, Lessor

This [illegible] prepared by [illegible] M. Lee, Attorney [illegible], Clinton, North Carolina 28328.

(SEAL)

(SEAL)

NORTH CAROLINA

Johnston COUNTY

I, Joyce H. West, a Notary Public in and for said County and State, do hereby certify that [illegible] personally appeared before me this day and acknowledged the due execution of the foregoing instrument for the purposes expressed therein.

Witness my hand and Notarial Seal this 13 day of April, 1995.

Notary Public

My Commission Expires:

11-19-96

NORTH CAROLINA

SAMPSON COUNTY

I, Joyce H. West, a Notary Public in and for said County and State, do hereby certify that David B. Herring personally appeared before me this day and acknowledged the due execution of the foregoing instrument for the purposes expressed therein.

Witness my hand and Notarial Seal this 13 day of April, 1995.

Notary Public

My Commission Expires:

11-19-96

Phosphorus Loss Assessment Tool Completion

Name of Facility: Payback Facility Number: 57 - 24

Owner(s) Name: Faison Investment LLC Phone No: 910 260-0220

Mailing Address: PO Box 1015, Clinton, NC 28328

Check the appropriate box below, and sign at the bottom:

RECEIVED/NCDEQ/DWR
SEP 26 2017
Water Quality Regional Operations Section

■ **No** fields received a high or very high rating.

☐ **Yes,** the fields listed below received a high or very high rating:

Field Number	Size (Acres)	Rating (High or Very High)

Please use as many additional attachment forms (PLAT-A-07-15-16) as needed for additional fields.

By completing the above section and any additional attachments and by signing this form, the facility owner and Technical Specialist acknowledge all application fields were evaluated within the last five (5) years using the Phosphorus Loss Assessment Tool. All necessary calculations were completed to conduct the Assessment. A copy will be kept on site with the Certified Animal Waste Management Plan. Any future modifications must be approved by a technical specialist and filed with the Soil and Water Conservation District prior to implementation. Waste plans with fields having a high or very high rating will have to be modified to address phosphorus loss by the next permit cycle beginning July 1, 2017.

Owner Name: Faison Investments LLC

Owner Signature: Faison Investments LLC by T. [signature] Date: 9-12-17

Technical Specialist Name: Curtis G Barwick

Technical Specialist Signature: [signature] Date: 9-12-17

Affiliation: Barwick Ag Services, LLC Phone No: 910 385-1000

Submit this form to:
NC Division of Water Resources
Water Quality Regional Operations Section
Animal Feeding Operations Program
1636 Mail Service Center
Raleigh, NC 27699-1636

The table shown below provides a summary of the crops or rotations included in this plan for each field. Realistic Yield estimates are also provided for each crop, as well as the crop's P2O5 Removal Rate. The Leaching Index (LI) and the Phosphorous Loss Assessment Tool (PLAT) Rating are also provided for each field, where available.

If a field's PLAT Rating is High, any planned manure application is limited to the phosphorous removal rate of the harvested plant biomass for the crop rotation or multiple years in the crop sequence. Fields with a Very High PLAT Rating should receive no additional applications of manure. Regardless of the PLAT rating, starter fertilizers may be recommended in accordance with North Carolina State University guidelines or recommendations. The quantity of P2O5 applied to each crop is shown in the following table if the field's PLAT rating is High or Very High.

Planned Crops Summary

Tract	Field	Total Acres	Useable Acres	Plat Rating	LI	Soil Series	Crop Sequence	RYE	P2O5	
									Removal (lbs/acre)	Applied (lbs/acre)
10668	1H4	3.70	3.70	Low	117.0	Wagram	Small Grain Overseed	1.0 Tons	15	N/A
							Hybrid Bermudagrass Pasture	5.5 Tons	7	N/A
10668	1H5	4.70	4.70	Low	117.0	Wagram	Small Grain Overseed	1.0 Tons	15	N/A
							Hybrid Bermudagrass Pasture	5.5 Tons	7	N/A
10668	1H6	4.10	3.90	Low	117.0	Wagram	Small Grain Overseed	1.0 Tons	15	N/A
							Hybrid Bermudagrass Pasture	5.5 Tons	7	N/A
11760	2	9.10	8.36	Low	117.0	Blanton	Small Grain Overseed	1.0 Tons	15	N/A
							Hybrid Bermudagrass Pasture	4.5 Tons	5	N/A
465/532	2	6.10	5.99	Low	117.0	Blanton	Small Grain Overseed	1.0 Tons	15	N/A
							Hybrid Bermudagrass Pasture	4.5 Tons	5	N/A
PLAN TOTALS:		27.70	26.65							

LI	*Potential Leaching*	*Technical Guidance*
< 2	Low potential to contribute to soluble nutrient leaching below the root zone.	None
>= 2 & <= 10	Moderate potential to contribute to soluble nutrient leaching below the root zone.	Nutrient Management (590) should be planned.
> 10	High potential to contribute to soluble nutrient leaching below the root zone.	Nutrient Management (590) should be planned. Other conservation practices that improve the soils available water holding capacity and improve nutrient use efficiency should be considered. Examples are Cover Crops (340) to scavenge nutrients, Sod-Based Rotations (328), Long-Term No-Till (778), and edge-of-field practices such as Filter Strips (393) and Riparian Forest Buffers (391).

PLAT Index	*Rating*	*P Management Recommendation*
0 - 25	Low	No adjustment needed; N based application
25 - 50	Medium	No adjustment needed; N based application
51 - 100	High	Application limited to crop P removal
> 100	Very High	Starter P application only

NCANAT Version: 2.02

PLAT Results For: Johnston 9/12/2017 8:28:36 AM

INPUTS

Calendar Year:	2015
County:	Johnston
Producer Identifier:	Payback Farms
Tract Number:	465/532
Field Number:	2 ✓
Soil Series:	BnA: Blanton sand, 0 to 3 percent slopes
Crop:	Hybrid Bermudagrass (Pasture) :
Fertilizers:	Swine-Lagoon liquid
	Yearly Applied Amount: 2.3 ac in
	Lb P2O5: 53.4 lb
	Application Method: All other surface applications
Soil Loss:	1 t/ac/yr
Receiving Slope Distance	0-9 ft
Soil Test 0" - 4"	371
WV_Factor (DATABASE)	1.4
Soil Test 28" - 32"	32
WV_Factor (DATABASE)	1.4
Artificial Drainage System:	NO
Hydrologic Condition:	GOOD

OUTPUTS

PARTICULATE P	=	4
SOLUBLE P	=	2
LEACHATE P	=	9
SOURCE P	=	0
TOTAL P RATING	=	15 (LOW) ✓

1 & DF2

NCANAT Version: 2.02

PLAT Results For: Johnston 9/12/2017 8:27:50 AM

INPUTS

Calendar Year:	2015
County:	Johnston
Producer Identifier:	Payback Farms
Tract Number:	11760
Field Number:	2
Soil Series:	BnA: Blanton sand, 0 to 3 percent slopes
Crop:	Hybrid Bermudagrass (Pasture) :
Soil Loss:	1 t/ac/yr
Receiving Slope Distance	0-9 ft
Soil Test 0" - 4"	371
WV_Factor (DATABASE)	1.4
Soil Test 28" - 32"	32
WV_Factor (DATABASE)	1.4
Artificial Drainage System:	NO
Hydrologic Condition:	GOOD

OUTPUTS

PARTICULATE P	=	4
SOLUBLE P	=	2
LEACHATE P	=	9
SOURCE P	=	0
TOTAL P RATING	=	15 (LOW)

2 & F2D

NCANAT Version: 2.02

PLAT Results For: Johnston 9/12/2017 8:26:42 AM

INPUTS

Calendar Year:	2015
County:	Johnston
Producer Identifier:	Payback Farms
Tract Number:	10668
Field Number:	1H4,1H5,1H6 ✓
Soil Series:	WaB: Wagram loamy sand, 0 to 6 percent slopes
Crop:	Hybrid Bermudagrass (Pasture) :
Soil Loss:	1 t/ac/yr
Receiving Slope Distance	0-9 ft
Soil Test 0" - 4"	315
WV_Factor (DATABASE)	1.4
Soil Test 28" - 32"	18
WV_Factor (DATABASE)	1.4
Hydrologic Condition:	GOOD

OUTPUTS

PARTICULATE P	=	4
SOLUBLE P	=	2
LEACHATE P	=	5
SOURCE P	=	0
TOTAL P RATING	=	11 (LOW) ✓

3 & H2D

NCDA&CS Ag mic Division Phone: (919) 733-2655 Website: www.ncs ov/agronomi/ Report No. FY17- 20739

Predictive

Soil Report

Mehlich-3 Extraction

Client: Henry Faison
Faison Investments/Payback Farms
PO Box 1015
Clinton, NC 28329

Advisor: Curtis G. Barwick
103 Country Club Cr.
Clinton, NC 283283542

Client ID Sample 23476 County : Johnston **Advisor ID:** 403126

Sampled: **Received:** 11/30/2016 **Completed:** 01/30/2017 **Farm:** PAYBACK

Links to Helpful Information

Sample ID: 1
Lime History: DF2

Recommendations: Crop	Lime (tons/acre)	Nutrients (lb/acre) N	P_2O_5	K_2O	Mg	S	Mn	Zn	Cu	B	More Information
1 - Bermuda hay/past., M	0.0	180-220	0	30	0	0	0	0	0	0	Note: 12
2 - Bermuda hay/past., M	0.0	180-220	0	30	0	0	0	0	0	0	Note: 12

Test Results [units - W/V in g/cm³; CEC and Na in meq/100 cm³; NO_3-N in mg/dm³]: **Soil Class:** Mineral

HM%	W/V	CEC	BS%	Ac	pH	P-I	K-I	Ca%	Mg%	S-I	Mn-I	Mn-AI1	Mn-AI2	Zn-I	Zn-AI	Cu-I	Na	ESP	SS-I	NO_3-N
0.36	1.24	7.1	88	0.9	6.4	318	99	58	23	37	80	59	59	980	980	416	0.2	3		

Sample ID: 2
Lime History: F2P

Recommendations: Crop	Lime (tons/acre)	Nutrients (lb/acre) N	P_2O_5	K_2O	Mg	S	Mn	Zn	Cu	B	More Information
1 - Bermuda hay/past., M	0.0	180-220	0	0	0	0	0	0	0	0	Note: 12
2 - Bermuda hay/past., M	0.0	180-220	0	0	0	0	0	0	0	0	Note: 12

Test Results [units - W/V in g/cm³; CEC and Na in meq/100 cm³; NO_3-N in mg/dm³]: **Soil Class:** Mineral

HM%	W/V	CEC	BS%	Ac	pH	P-I	K-I	Ca%	Mg%	S-I	Mn-I	Mn-AI1	Mn-AI2	Zn-I	Zn-AI	Cu-I	Na	ESP	SS-I	NO_3-N
0.41	1.25	6.2	83	1.0	6.2	371	120	54	20	39	62	52	52	882	882	620	0.2	3		

Sample ID: 3
Lime History: H2D

Recommendations: Crop	Lime (tons/acre)	Nutrients (lb/acre) N	P_2O_5	K_2O	Mg	S	Mn	Zn	Cu	B	More Information
1 - Bermuda hay/past., M	0.5	180-220	0	30	0	0	0	0	0	0	Note: 12
2 - Bermuda hay/past., M	0.0	180-220	0	30	0	0	0	0	0	0	Note: 12

Test Results [units - W/V in g/cm³; CEC and Na in meq/100 cm³; NO_3-N in mg/dm³]: **Soil Class:** Mineral

HM%	W/V	CEC	BS%	Ac	pH	P-I	K-I	Ca%	Mg%	S-I	Mn-I	Mn-AI1	Mn-AI2	Zn-I	Zn-AI	Cu-I	Na	ESP	SS-I	NO_3-N
0.41	1.17	8.4	78	1.8	5.8	315	94	55	17	40	97	75	75	1076	1076	285	0.1	1		

North Carolina Tobacco Trust Fund Commission

Reprogramming of the laboratory-information-management system that makes this report possible is being funded through a grant from the North Carolina Tobacco Trust Fund Commission.

Thank you for using agronomic services to manage nutrients and safeguard environmental quality.

- *Steve Trox*

Waters Agricultural Laboratories, Inc.

364 West Park Drive Warsaw, NC 28398
(910) 293-2204 FAX (910) 293-2183

257 Newton Hwy - P.O. Box 382
Camilla, Georgia 31730
(229) 336-7216 FAX (229) 336-7967

CURTIS BARWICK
103 COUNTRY CLUB CIR
CLINTON, NC 28328

Soil Analysis Report
NCDA Index

Grower: FAISON INVESTMENTS
Field ID:

Account#: 1000
Received: 9/6/2017
Processed: 9/8/2017

Lab Number	Sample ID	P-I	K-I	Mg%	Ca%	Water pH	Ac	S-I	Zn-I	Zn-Al	Mn-I	Mn-Al	Cu-I	CEC	BS%	HM%	Soil Class
816975RW	H2D 3	18	34	3.9	48.2	4.8	2.0	89	38	38	12	0	12	4.5	55.9	0.27	Min
Recommendations - lbs./A		Lime-Tons/A		N	P2O5		K2O		Mg	S	Cu	Zn	B		Mn		See Note
Crop NO CROP		1.3			0		0			0	0	0	0				0
816976RW	F2D 2	32	15	24.2	45.9	6.4	0.2	11	34	34	21	0	10	0.9	78.5	0.22	Min
Recommendations - lbs./A		Lime-Tons/A		N	P2O5		K2O		Mg	S	Cu	Zn	B		Mn		See Note
Crop NO CROP		0.0			0		0		0	0		0	0				0
816977RW	DF2 1	18	25	12.7	48.3	5.6	0.6	25	40	40	15	0	23	1.9	67.8	0.24	Min
Recommendations - lbs./A		Lime-Tons/A		N	P2O5		K2O		Mg	S	Cu	Zn	B		Mn		See Note
Crop NO CROP		0.3			0		0		0	0		0	0				0
																	Min

Deep Samples

Fertilizer recommendations are based on the philosophy and recommendations of the NCDA Agronomic Division

DWQ Laboratory Certification Number 635

Operator: Payback Farm County: Johnston Date: 09/08/17

Distance to nearest residence (other than owner): 1500.0 feet

1. AVERAGE LIVE WEIGHT (ALW)

0	sows (farrow to finish)	x	1417 lbs.	=	0 lbs
0	sows (farrow to feeder)	x	522 lbs.	=	0 lbs
3000	head (finishing only)	x	135 lbs.	=	405000 lbs
0	sows (farrow to wean)	x	433 lbs.	=	0 lbs
0	head (wean to feeder)	x	30 lbs.	=	0 lbs
Describe other :_____				:	0
			Total Average Live Weight =		405000 lbs

2. MINIMUM REQUIRED TREATMENT VOLUME OF LAGOON

Volume = 405000 lbs. ALW x Treatment Volume(CF)/lb. ALW
Treatment Volume(CF)/lb. ALW = 1 CF/lb. ALW
Volume = 405000 cubic feet

3. STORAGE VOLUME FOR SLUDGE ACCUMULATION

Volume = 0.0 cubic feet

4. TOTAL DESIGNED VOLUME

Inside top length (feet)----------	309.5
Inside top width (feet)----------	253.5
Top of dike elevation (feet)----------	46.6
Bottom of lagoon elevation (feet)----------	34.2
Freeboard (feet)----------	1.0
Side slopes (inside lagoon)----------	3.0 : 1

Total design volume using prismoidal formula

SS/END1	SS/END2	SS/SIDE1	SS/SIDE2	LENGTH	WIDTH	DEPTH
3.0	3.0	3.0	3.0	303.5	247.5	11.4

AREA OF TOP
LENGTH * WIDTH =
303.5 247.5 75116 (AREA OF TOP)

AREA OF BOTTOM
LENGTH * WIDTH =
235.1 179.1 42106 (AREA OF BOTTOM)

AREA OF MIDSECTION
LENGTH * WIDTH * 4
269.3 213.3 229767 (AREA OF MIDSECTION * 4)

CU. FT. = [AREA TOP + (4*AREA MIDSECTION) + AREA BOTTOM] * DEPTH/6
75116.3 229766.8 42106.4

Total Designed Volume Available = 659280 CU. FT.

5. TEMPORARY STORAGE REQUIRED

DRAINAGE AREA:
Lagoon (top of dike)

Length	* Width =		
309.5	253.5	78458.3	square feet

Buildings (roof and lot water)

0.0 square feet Describe this area.

TOTAL DA 78458.3 square feet

Design temporary storage period to riod to b e 180 days.

5A. Volume of waste produced

Feces & urine production in gal./day per 135 lb. ALW 1.37

Volume = 405000 lbs. ALW/135 lbs. ALW * 1.37 gal/day 180 days
Volume = 739800 gals. or 98903.7 cubic feet

5B. Volume of wash water

This is the amount of fresh water used for washing floors or volume of fresh water used for a flush system. Flush systems that recirculate the lagoon water are accounted for in 5A.

Volume = 0.0 gallons/day * 180 days storage/7.48 gallons per CF

Volume = 0.0 cubic feet

5C. Volume of rainfall in excess of evaporation

Use period of time when rainfall exceeds evaporation by largest amount.

180 days excess rainfall = 7.0 inches

Volume = 7.0 in * DA / 12 inches per foot

Volume = 45767.3 cubic feet

5D. Volume of 25 year - 24 hour storm

Volume = 7.0 inches / 12 inches per foot * DA

Volume = 45767.3 cubic feet

TOTAL REQUIRED TEMPORARY STORAGE

5A.	98904	cubic feet
5B.	0	cubic feet
5C.	45767	cubic feet
5D.	45767	cubic feet
TOTAL	190438	cubic feet

6. SUMMARY

Temporary storage period==========>	180	days	
Rainfall in excess of evaporation==========>	7.0	inches	
25 year - 24 hour rainfall==========>	7.0	inches	
Freeboard==========>	1.0	feet	
Side slopes==========>	3.0	: 1	
Inside top length==========>	309.5	feet	
Inside top width==========>	253.5	feet	
Top of dike elevation==========>	46.6	feet	
Bottom of lagoon elevation==========>	34.2	feet	
Total required volume==========>	595438	cu. ft.	*
Actual design volume==========>	659280	cu. ft.	*
Seasonal high watertable elevation (SHWT)===>		feet	
Stop pumping elev.==========>	42.1	feet	*
Must be > or = to the SHWT elev.==========>		feet	
Must be > or = to min. req. treatment el.=>	40.2	feet	
Required minimum treatment volume==========>	405000	cu. ft.	
Volume at stop pumping elevation==========>	416108	cu. ft.	
Start pumping elev.==========>	44.3	feet	*
Must be at bottom of freeboard & 25 yr. rainfall			
Actual volume less 25 yr.- 24 hr. rainfall==>	613513	cu. ft.	
Volume at start pumping elevation==========>	564396	cu. ft.	
Required volume to be pumped==========>	144671	cu. ft.	*
Actual volume planned to be pumped==========>	148288	cu. ft.	*
Min. thickness of soil liner when required==>	1.8	feet	

7. DESIGNED BY: APPROVED BY: CA Burt

DATE: DATE: 1-18-13

NOTE: SEE ATTACHED WASTE UTILIZATION PLAN

COMMENTS: As Built

OPERATION & MAINTENANCE PLAN ✓

Proper lagoon liquid management should be a year-round priority. It is especially important to manage levels so that you do not have problems during extended rainy and wet periods.

Maximum storage capacity should be available in the lagoon for periods when the receiving crop is dormant (such as wintertime for bermudagrass) or when there are extended rainy spells such as the thunderstorm season in the summertime. This means that at the first signs of plant growth in the later winter/early spring, irrigation according to a farm waste management plan should be done whenever the land is dry enough to receive lagoon liquid. This will make storage space available in the lagoon for future wet periods. In the late summer/early fall the lagoon should be pumped down to the low marker (see Figure 2-1) to allow for winter storage. Every effort should be made to *maintain* the lagoon close to the minimum liquid level as long as the weather and waste utilization plan will allow it.

Waiting until the lagoon has reached its maximum storage capacity before starting to irrigate does not leave room for storing excess water during extended wet periods. Overflow from the lagoon for any reason except a 25-year, 24-hour storm is a violation of state law and subject to penalty action.

The routine maintenance of a lagoon involves the following:

- Maintenance of a vegetative cover for the dam.
  Fescue or common bermudagrass are the most common vegetative covers. The vegetation should be fertilized each year, if needed, to maintain a vigorous stand. The amount of fertilizer applied should be based on a soils test, but in the event that it is not practical to obtain a soils test each year, the lagoon embankment and surrounding areas should be fertilized with 800 pounds per acre of 10-10-10, or equivalent.

- Brush and trees on the embankment must be controlled. This may be done by mowing, spraying, grazing, chopping, or a combination of these practices. This should be done at least once a year and possibly twice in years that weather conditions are favorable for heavy vegetative growth.

NOTE: If vegetation is controlled by spraying, the herbicide must not be allowed to enter the lagoon water. Such chemicals could harm the bacteria in the lagoon that are treating the waste.

Maintenance inspections of the entire lagoon should be made during the initial filling of the lagoon and at least monthly and after major rainfall and storm events. Items to be checked should include, as a minimum, the following:

- Waste Inlet Pipes, Recycling Pipes, and Overflow Pipes—look for:
  1. separation of joints
  2. cracks or breaks
  3. accumulation of salts or minerals
  4. overall condition of pipes

- Lagoon surface—look for:
  1. undesirable vegetative growth
  2. floating or lodged debris

- Embankment—look for:
  1. settlement, cracking, or "jug" holes
  2. side slope stability—slumps or bulges
  3. wet or damp areas on the back slope
  4. erosion due to lack of vegetation or as a result of wave action
  5. rodent damage

Larger lagoons may be subject to liner damage due to wave action caused by strong winds. These waves can erode the lagoon sidewalls, thereby weakening the lagoon dam. A good stand of vegetation will reduce the potential damage caused by wave action. If wave action causes serious damage to a lagoon sidewall, baffles in the lagoon may be used to reduce the wave impacts.

Any of these features could lead to erosion and weakening of the dam. If your lagoon has any of these features, you should call an appropriate expert familiar with design and construction of waste lagoons. You may need to provide a temporary fix if there is a threat of a waste discharge. However, a permanent solution should be reviewed by the technical expert. Any digging into a lagoon dam with heavy equipment is a serious undertaking with potentially serious consequences and should not be conducted unless recommended by an appropriate technical expert.

- Transfer Pumps—check for proper operation of:
  1. recycling pumps
  2. irrigation pumps

Check for leaks, loose fittings, and overall pump operation. An unusually loud or grinding noise, or a large amount of vibration, may indicate that the pump is in need or repair or replacement.

NOTE: Pumping systems should be inspected and operated frequently enough so that you are not completely "surprised" by equipment failure. You should perform your pumping system maintenance at a time when your lagoon is at its low level. This will allow some safety time should major repairs be required. Having a nearly full lagoon is not the time to think about switching, repairing , or borrowing pumps. Probably, if your lagoon is full, your neighbor's lagoon is full also. You should consider maintaining an inventory of spare parts or pumps.

- Surface water diversion features are designed to carry *all* surface drainage waters (such as rainfall runoff, roof drainage, gutter outlets, and parking lot runoff) away from your lagoon and other waste treatment or storage structures. The only water that should be coming from your lagoon is that which comes from your flushing (washing) system pipes and the rainfall that hits the lagoon directly. You should inspect your diversion system for the following:
  1. adequate vegetation
  2. diversion capacity
  3. ridge berm height

identified problems should be corrected promptly. It is advisable to inspect your system during or immediately following a heavy rain. If technical assistance is needed to determine proper solutions, consult with appropriate experts.

You should record the level of the lagoon just prior to when rain is predicted, and then record the level again 4 to 6 hours after the rain (assumes there is no pumping). This will give you an idea of how much your lagoon level will rise with a certain rainfall amount (you must also be recording your rainfall for this to work). Knowing this should help in planning irrigation applications and storage. If your lagoon rises excessively, you may have an inflow problem from a surface water diversion or there may be seepage into the lagoon from the surrounding land.

Lagoon Operation

Startup:

1. Immediately after construction establish a complete sod cover on bare soil surfaces to avoid erosion.

2. Fill new lagoon design treatment volume at least half full of water before waste loading begins, taking care not to erode lining or bank slopes.

3. Drainpipes into the lagoon should have a flexible pipe extender on the end of the pipe to discharge near the bottom of the lagoon during initial filling or another means of slowing the incoming water to avoid erosion of the lining.

4. When possible, begin loading new lagoons in the spring to maximize bacterial establishment (due to warmer weather).

5. It is recommended that a new lagoon be seeded with sludge from a healthy working swine lagoon in the amount of 0.25 percent of the full lagoon liquid volume. This seeding should occour at least two weeks prior to the addition of wastewater.

6. Maintain a periodic check on the lagoon liquid pH. If the pH falls below 7.0, add agricultural lime at the rate of 1 pound per 1000 cubic feet of lagoon liquid volume until the pH rises above 7.0. Optimum lagoon liquid pH is between 7.5 and 8.0.

7. A dark color, lack of bubbling, and excessive odor signals inadequate biological activity. Consultation with a technical specialist is recommended if these conditions occur for prolonged periods, especially during the warm season.

Loading:

The more frequently and regularly that wastewater is added to a lagoon, the better the lagoon will function. Flush systems that wash waste into the lagoon several times daily are optimum for treatment. Pit recharge systems, in which one or more buildings are drained and recharged each day, also work well.

- proper lagoon sizing,
- mechanical solids separation of flushed waste,
- gravity settling of flushed waste solids in an appropriately designed basin, or
- minimizing feed wastage and spillage.

Lagoon sludge that is removed annually rather than stored long term will:

- have more nutrients,
- have more odor, and
- require more land to properly use the nutrients.

Removal techniques:

- Hire a custom applicator.

- Mix the sludge and lagoon liquid with a chopper-agitator impeller pump through large-bore sprinkler irrigation system onto nearby cropland; and soil incorporate.

- Dewater the upper part of lagoon by irrigation onto nearby cropland or forageland; mix remaining sludge; pump into liquid sludge applicator; haul and spread onto cropland or forageland; and soil incorporate.

- Dewater the upper part of lagoon by irrigation onto nearby cropland or forageland; dredge sludge from lagoon with dragline or sludge barge; berm an area beside lagoon to receive the sludge so that liquids can drain back into lagoon; allow sludge to dewater; haul and spread with manure spreader onto cropland or forageland; and soil incorporate.

Regardless of the method, you must have the sludge material analyzed for waste constituents just as you would your lagoon water. The sludge will contain different nutrient and metal values from the liquid. The application of the sludge to fields will be limited by these nutrients as well as any previous waste applications to that field and crop requirement. Waste application rates will be discussed in detail in Chapter 3.

When removing sludge, you must also pay attention to the liner to prevent damage. Close attention by the pumper or drag-line operator will ensure that the lagoon liner remains intact. If you see soil material or the synthetic liner material being disturbed, you should stop the activity immediately and not resume until you are sure that the sludge can be removed without liner injury. If the liner is damaged it must be repaired as soon as possible.

Sludge removed from the lagoon has a much higher phosphorus and heavy metal content than liquid. Because of this it should probably be applied to land with low phosphorus and metal levels, as indicated by a soil test, and incorporated to reduce the chance of erosion. Note that if the sludge is applied to fields with very high soil-test phosphores, it should be applied only at rates equal to the crop removal of phosphorus. As with other wastes, always have your lagoon sludge analyzed for its nutrient value.

The application of sludge will increase the amount of odor at the waste application site. Extra precaution should be used to observe the wind direction and other conditions which could increase the concern of neighbors.

- Practice water conservation—minimize building water usage and spillage from leaking waterers, broken pipes and washdown through proper maintenance and water conservation.

- Minimize feed wastage and spillage by keeping feeders adjusted. This will reduce the amount of solids entering the lagoon

Management:

- Maintain lagoon liquid level between the permanent storage level and the full temporary storage level.

- Place visible markers or stakes on the lagoon bank to show the minimum liquid level and the maximum liquid lever (Figure 2-1).

- Start irrigating at the earliest possible date in the spring based on nutrient requirements and soil moisture so that temporary storage will be maximized for the summer thunderstorm season. Similarly, irrigate in the late summer/early fall to provide maximum lagoon storage for the winter.

- The lagoon liquid level *should never* be closer than 1 foot to the lowest point of the dam or embankment.

- Do not pump the lagoon liquid level lower that the permanent storage level unless you are removing sludge.

- Locate float pump intakes approximately 18 inches underneath the liquid surface and as far away from the drainpipe inlets as possible.

- Prevent additions of bedding materials, long-stemmed forage or vegetation, molded feed, plastic syringes, or other foreign materials into the lagoon.

- Frequently remove solids from catch basins at end of confinement houses or wherever they are installed.

- Maintain strict vegetation, rodent, and varmint control near lagoon edges.

- Do not allow trees or large bushes to grow on lagoon dam or embankment.

- Remove sludge from the lagoon either when the sludge storage capacity is full or before it fills 50 percent of the permanent storage volume.

- If animal production is to be terminated, the owner is responsible for obtaining and implementing a closure plan to eliminate the possibility of a pollutant discharge.

Sludge Removal:

Rate of lagoon sludge buildup can be reduced by:

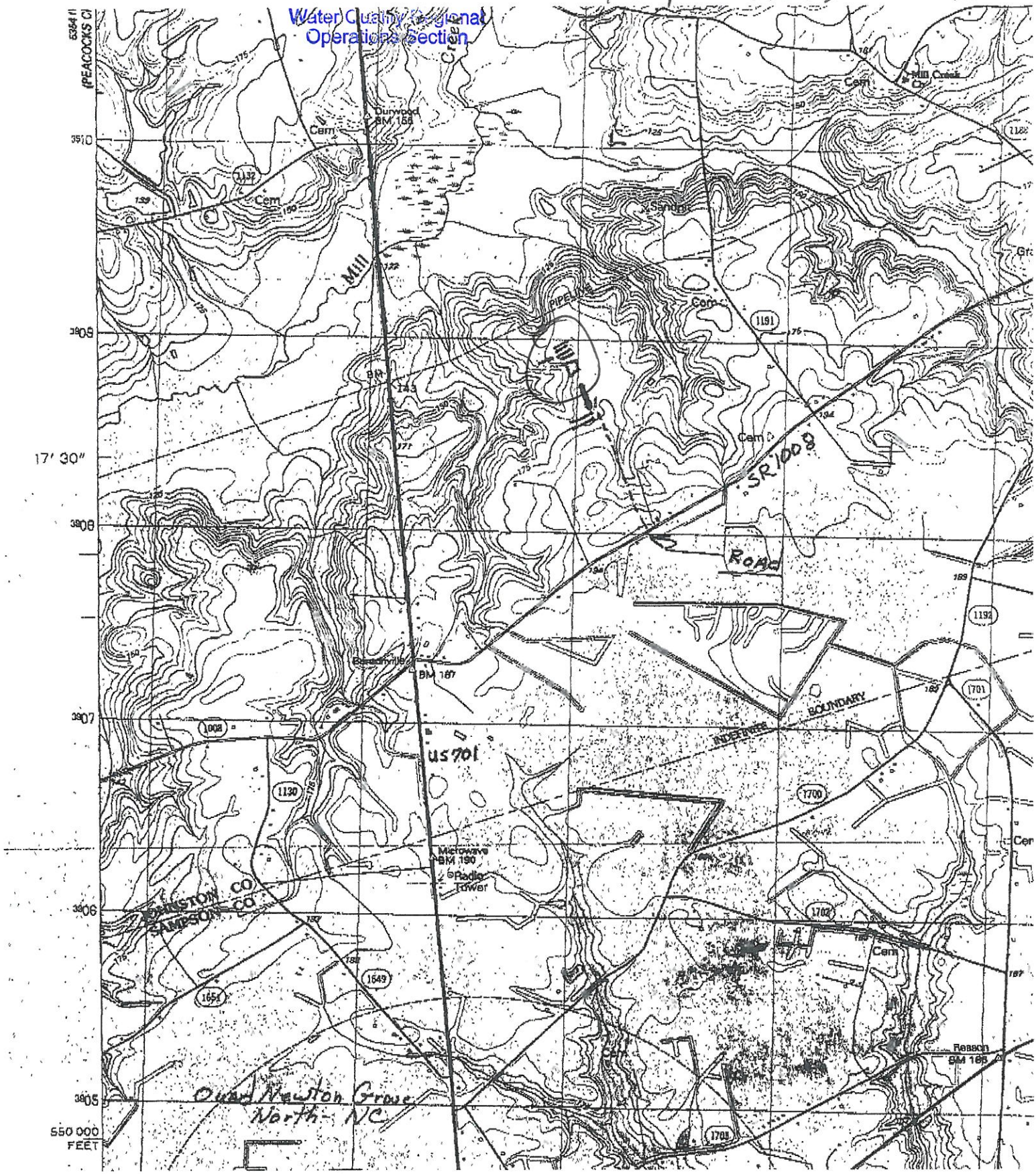
Possible Causes of Lagoon Failure

Lagoon failures result in the unplanned discharge of wastewater from the structure. Types of failures include leakage through the bottom or sides, overtopping, and breach of the dam. Assuming proper design and construction, the owner has the responsibility for ensuring structure safety. Items which may lead to lagoon failures include:

- Modification of the lagoon structure—an example is the placement of a pipe in the dam without proper design and construction. (Consult an expert in lagoon design before placing any pipes in dams.)
- Lagoon liquid levels—high levels are a safety risk.
- Failure to inspect and maintain the dam.
- Excess surface water flowing into the lagoon.
- Liner integrity—protect from inlet pipe scouring, damage during sludge removal, or rupture from lowering lagoon liquid level below groundwater table.

NOTE: If lagoon water is allowed to overtop the dam, the moving water will soon cause gullies to form in the dam. Once this damage starts, it can quickly cause a large discharge of wastewater and possible dam failure.

57-24 PAYBACK FARM



EMERGENCY ACTION PLAN

PHONE NUMBERS

DWQ 919 791-4200

EMERGENCY MANAGEMENT SYSTEM 911 ✓

SWCD 919 - 934-7156

NRCS 919 - 934-7156

This plan will be implemented in the event that wastes from your operation are leaking, overflowing, or running off site. You should not wait until wastes reach surface waters or leave your property to consider that you have a problem. You should make every effort to ensure that this does not happen. This plan should be posted in an accessible location for all employees at the facility. The following are some action items you should take.

1. Stop the release of wastes. Depending on the situation, this may or may not be possible. Suggested responses to some possible problems are listed below.

A. Lagoon overflow-possible solutions are:

a. Add soil to berm to increase elevation of dam.
b. Pump wastes to fields at an acceptable rate.
c. Stop all flows to the lagoon immediately.
d. Call a pumping contractor.
e. Make sure no surface water is entering lagoon.

B: Runoff from waste application field-actions include:

a. Immediately stop waste application.
b. Create a temporary diversion to contain waste.
c. Incorporate waste to reduce runoff.
d. Evaluate and eliminate the reason(s) that caused the runoff.
e. Evaluate the application rates for the fields where runoff occurred.

C: Leakage from the waste pipes and sprinklers-action include:

a. Stop recycle pump.
b. Stop irrigation pump.
c. Close valves to eliminate further discharge.
d. Repair all leaks prior to restarting pumps.

D: Leakage from flush systems, houses, solid separators-action include:

a. Stop recycle pump.
b. Stop irrigation pump.
c. Make sure no siphon occurs.
d. Stop all flows in the house, flush systems, or solid separators.

e. Repair all leaks prior to restarting pumps.

E: Leakage from base or sidewall of lagoon. Often this is seepage as opposed to flowing leaks- possible action:

a. Dig a small sump or ditch away from the embankment to catch all seepage, put in a submersible pump, and pump back to lagoon.
b. If holes are caused by burrowing animals, trap or remove animals and fill holes and compact with a clay type soil.
c. Have a professional evaluate the condition of the side walls and lagoon bottom as soon as possible.

2. Assess the extent of the spill and note any obvious damages.

a. Did the waste reach any surface waters?
b. Approximately how much was released and for what duration?
c. Any damage noted, such as employee injury, fish kills, or property damage?
d. Did the spill leave the property?
e. Does the spill have the potential to reach surface waters?
f. Could a future rain event cause the spill to reach surface waters?
g. Are potable water wells in danger (either on or off of the property)?
h. How much reached surface waters?

3: Contact appropriate agencies.

a. During normal business hours, call your DWQ (Division of Water Quality) regional office; Phone - - . After hours, emergency number: 919-733-3942. Your phone call should include: your name, facility, telephone number, the details of the incident from item 2 above, the exact location of the facility, the location or direction of movement of the spill, weather and wind conditions. The corrective measures that have been under taken, and the seriousness of the situation.
b. If spill leaves property or enters surface waters, call local EMS Phone number - - .
c. Instruct EMS to contact local Health Department.
d. Contact CES, phone number - - , local SWCD office phone number - - , and local NRCS office for advice/technical assistance phone number - - .

4: If none of the above works call 911 or the Sheriff's Department and explain your problem to them and ask that person to contact the proper agencies for you.

5: Contact the contractor of your choice to begin repair of problem to minimize off-site damage.

a. Contractors Name: Mark Reynor 910-590-4573
b. Contractors Address: Wade Blackburn 910-590-6202
c. Contractors Phone: _____

6: Contact the technical specialist who certified the lagoon (NRCS, Consulting Engineer, etc.)

a. Name: Curtis Barwick
b. Phone: 910 285-1000

7: Implement procedures as advised by DWQ and technical assistance agencies to rectify the damage, repair the system, and reassess the waste management plan to keep problems with release of wastes from happening again.

INSECT CONTROL CHECKLIST FOR ANIMAL OPERATIONS

Source	Cause	BMP's to Minimize Odor	Site Specific Practices
		(Liquid Systems)	
Flush Gutters	Accumulation of solids	(X) Flush system is designed and operated sufficiently to remove accumulated soilds from gutters as designed. (X) Remove bridging of accumulated solids at discharge	
Lagoons and Pits	Crusted Solids	(X) Maintain lagoons, settling basins and pits where pest breeding is apparent to minimize the crusting of solids to a depth of no more than 6-8 inches over more than 30% of surface.	
Excessive Vegetative Growth	Decaying vegetation	(X) Maintain vegetative control along banks of lagoons and other impoundments to prevent accumulation of decaying vegetative matter along water's edge on impoundment's perimeter.	
		(Dry Systems)	
Feeders	Feed Spillage	(X) Design, operate and maintain feed systems (e.g., bunkers and troughs) to minimize the accumulation of decaying wastage. (X) Clean up spillage on a routine basis (e.g. 7-10 day interval during summer; 15-30 day interval during winter).	
Feed Storage	Accumulations of feed residues	(X) Reduce moisture accumulation within and around immediate perimeter of feed storage areas by insuring drainage away from site and/or providing adequate containment (e.g., covered bin for brewer's grain and similar high moisture grain products). (X) Inspect for and remove or break up accumulated solids in filter strips around feed storage as needed.	
Animal Holding Areas	Accumulations of animal wastes and feed wastage	( ) Eliminate low area that trap moisture along fences and other locations where waste accumulates and and disturbance by animals is minimal. ( ) Maintain fence rows and filter strips around animal holding areas to minimize accumulations of wastes (i.e. inspect for and remove or break up accumulated solids as needed).	

SWINE FARM WASTE MANAGEMENT ODOR CONTROL CHECKLIST

Source	Cause	BMP's to Minimize Odor	Site Specific Practices
Farmstead	Swine production	(X) Vegetative or wooded buffers; (X) Recommended best management practices; (X) Good judgment and common sense	
Animal body surfaces	Dirty manure-covered animals	(X) Dry floors	
Floor surfaces	Wet manure-covered floors	(X) Slotted floors; (X) Waterers located over slotted floors; ( ) Feeders at high end of solid floors; ( ) Scrape manure buildup from floors; ( ) Underfloor ventilation for drying	
Manure collection pits	Urine Parital micorbial decomposition	(X) Frequent manure removal by flush, pit recharge, or scrape ( ) Underfloor ventilation	
Ventilation exhaust fans	Volatile gases; Dust	(X) Fan maintenance; (X) Efficient air movement	
Indoor surfaces	Dust	(X) Washdown between groups of animals (X) Feed additives; ( ) Feeder covers; ( ) Feed delivery downspout extenders to feeder covers	
Flush tanks	Agitation of recycled lagoon liquid whiles tanks are filling	( ) Flush tank covers ( ) Extend fill lines to near bottom of tanks with anti-siphon vents	
Flush alleys	Agitation during wastewater conveyanance	( ) Underfloor flush with underfloor ventilation	
Pit recharge points.	Agitation of recycled lagoon liquid while pits are filling	( ) Extend rechard lines to near bottom of pits with anti-siphon vents	
Lift stations	Agitation during sump tank filling and drawdown	( ) Sump tank covers	
Outside drain collection or junction boxes	Agitation during wastewater conveyance	( ) Box covers	
End of drainpipes at lagoon	Agitation during wastewater	( ) Extend discharge point of pipes underneath lagoon liquid level	
Lagoon surfaces	Volatile gas emissions Biological mixing Agitation	(X) Proper lagoon liquid capacity ( ) Correct lagoon startup procedures ( ) Minimum surface area-to-volume ratio (X) Minimum agitation when pumping ( ) Mechanical aeration ( ) Proven biological additives	
Irrigation sprinkler nozzles	High pressure agitation Wind draft	(X) Irrigate on dry days with little or no wind (X) Minimum recommended operation pressure (X) Pump intake near lagoon liquid surface ( ) Pump from second-stage lagoon	

torage tank or basin urface	Partial microbial decomposition Mixing while filling Agitation when emptying	( ) Bottom or midlevel loading ( ) Tank covers ( ) Basin surface mats of solids ( ) Proven biological additives or oxidants
ettling basin surface	Partial micobial decomposition Mixing while filling Agitation when emptying	( ) Extend drainpipe outlets underneath liquid level ( ) Remove settled solids regularly
Manure, slurry or sludge spreader outlets	Agitation when spreading Volatile gas emissions	( ) Soil injection of slurry/sludges ( ) Wash residual manure from spreader after use ( ) Proven biological additives or oxidants
Uncovered manure, slurry or sludge on field surfaces	Volatile gas emissions while drying	( ) Soil infection of slurry/sludges ( ) Soil incorporation within 48 hours ( ) Spread in thin uniform layers for rapid drying ( ) Proven biological additives or oxidants
Dead animals	Carcass decomposition	(X) Proper disposition of carcasses
Dead animal disposal pits	Carcass decomposition	( ) Complete covering of carcasses in burial pits ( ) Proper location/construction of disposal pits
Incinerators	Incomplete combustion	( ) Secondary stack burners
Standing water around facilities	Improper drainage Microbial decomposition of organic matter	(X) Grade and landscape such that water drains away from facilities
Manure tracked onto public roads from farm access	Poorly maintained access roads	( ) Farm access road maintenance

Additional Information:	Available From:
Swine Manure Management; 0200 Rule/BMP Packet	NCSU-County Extension Center
Swine Production Farm Potential Odor Sources and Remedies, EBAE Fact Sheet	NCSU-BAE
Swine Production Facility Manure Management: Pit Recharge—Lagoon Treatment; EBAE 128-88	NCSU-BAE
Swine Production Facility Manure Management: Underfloor Fluse—Lagoon Treatment; EBAE 129-88	NCSU-BAE
Lagoon Desig and Management for Livestock Manure Treatment and Storage; EBAE 103-83	NCSU-BAE
Calibration of Manure and Wastewater Application Equipment; EBAE Fact Sheet	NCSU-Swine Extension
Controlling Odors from Swine Buildings; PIH-33	NC Pork Produces Assoc
Environmental Assuranc Program: NPPC Manual	NCSU Agri Communications
Options for Managing Odor; a report from the Swine Odor Task Force	Florida Cooperative Extension
Nuisance Concerns in Animal Manure Management: Odors and Flies; PR0107, 1995 Conference Proceedings	

The issues checked ( ) pertain to this operation. The landowner/integrator agrees to use sound judgment in applying odor control measures as practical.

I certify the aforementioned odor control Best Managment Practices have been reviewed with me.

(Landowner Signature)

Mortality Management Methods
(check which method(s) are being implemented)

- ☐ Burial three feet beneath the surface of the ground within 24 hours after knowledge of the death. The burial must be at least 300 feet from any flowing stream or public body of water.
- ☒ Rendering at a rendering plant licensed under G.S. 106-168.7
- ☐ Complete incineration
- ☐ In the case of dead poultry only, placing in a disposal pit of a size and design approved by the Department of Agriculture
- ☐ Any method which in the professional opinion of the State Veterinarian would make possible the salvage of part of a dead animal's value without endangering human or animal health. (Written approval of the State Veterinarian must be attached)