State of North Carolina
Department of Environment and Natural Resources
Division of Water Resources

Animal Waste Management Systems
Request for Certificate of Coverage
Facility Currently Covered by an Expiring State Non-Discharge General Permit

On September 30, 2014, the North Carolina State Non-Discharge General Permits for Animal Waste Management Systems will expire. As required by these permits, facilities that have been issued Certificates of Coverage to operate under these State Non-Discharge General Permits must apply for renewal at least 180 days prior to their expiration date. Therefore, all applications must be received by the Division of Water Resources by no later than **April 1, 2014**.

Please do not leave any question unanswered. Please verify all information and make any necessary corrections below.

Application must be signed and dated by the Permittee.

RECEIVED/DENR/DWR
MAR 21 2014
Water Quality Regional Operations Section

1. Facility Number: 310286 and Certificate of Coverage Number: AWS310286
2. Facility Name: Gerald's Nursery
3. Landowner's name (same as on the Waste Management Plan): Paulette Knowles
4. Landowner's mailing address: 384 Kirby Quinn Rd
   City/State: Kenansville NC Zip: 283498804
   Telephone Number (include area code): (910)296-0995 **E-mail:**
5. **Facility's physical address:** 203 Gerald Knowles Ln
   City: Warsaw **State**: NC **Zip:** 28398
6. County where facility is located: Duplin
7. Farm Manager's name (If different than the Landowner):
8. Farm Manager's telephone number (include area code): (910)296-0995 (910)298-1336
9. Integrator's name (if there is not an integrator write "None"): Murphy-Brown LLC
10. Operator in Charge (OIC) name: Paulette M. Knowles Telephone Number (910)296-0995 OIC # AWA 17242
11. Lessee's name (if there is not a lessee write "None"): none
12. Indicate animal operation type and number:

Swine	**Cattle**	**Dry Poultry**
Wean to Finish	Dairy Calf	Non Laying Chickens
Wean to Feeder **2600**	Dairy Heifer	Laying Chickens
Farrow to Finish	Milk Cow	Turkeys
Feeder to Finish	Dry Cow	Other
Farrow to Wean	Beef Stocker Calf	Pullets
Farrow to Feeder	Beef Feeder	Turkey Poults
Boar/Stud	Beef Brood Cow	
Gilts	Other	
Other		**Wet Poultry**
Horses - Horses	Sheep - Sheep	Non Laying Pullets
Horses - Other	Sheep - Other	Layers

Mail one (1) copy of the most recent Waste Utilization Plan (WUP) along with the field maps for this facility with this completed and signed application as required by NC General Statures 143-215.10C(d) to the address below. The WUP must be signed by the owner and a certified technical specialist.

As a second option to mailing paper copies of the application package, you can scan and email one signed copy of the application and the WUP to: animalpermits@ncdenr.gov

I attest that this application 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. **Note**: In accordance with NC General Statutes 143-215.6A and 143-215.6B, any person who knowingly makes any false statement, representation, or certification in any application may be subject to civil penalties up to $25,000 per violation. (18 U.S.C. Section 1001 provides a punishment by a fine of not more than $10,000 or imprisonment of not more than 5 years, or both for a similar offense.)

Printed Name of Signing Official (Landowner, or if multiple Landowners all landowners should sign. If Landowner is a corporation, signature should be by a principal executive officer of the corporation):

Name: Paulette Mills Knowles Title: owner/operator

Signature: Paulette Mills Knowles Date: 3-16-14

Name: _____ Title: _____

Signature: _____ Date: _____

Name: _____ Title: _____

Signature: _____ Date: _____

THE COMPLETED APPLICATION SHOULD BE SENT TO THE FOLLOWING ADDRESS:

NCDENR–DWR
Animal Feeding Operations Branch
1636 Mail Service Center
Raleigh, North Carolina 27699-1636

Telephone number: (919) 807-6464
E-mail: animalpermits@ncdenr.gov

Nutrient Management Plan For Animal Waste Utilization

06-16-2009

This plan has been prepared for:

Geralds Nursery(31286)
Paulette Mills Knowles
384 Kirby Quinn Rd
Kenansville, NC 28349
910-296-0995

This plan has been developed by:

Billy W Houston
Duplin Soil & Water
PO Box 219
Kenansville, NC 28349
910-296-2120

Billy W. Houston
Developer Signature

Type of Plan: Nitrogen Only with Manure Only

Owner/Manager/Producer Agreement

I (we) understand and agree to the specifications and the operation and maintenance procedures established in this nutrient management plan which includes an animal waste utilization plan for the farm named above. I have read and understand the Required Specifications concerning animal waste management that are included with this plan.

Paulette Mills Knowles
Signature (owner)

6-16-09
Date

Signature (manager or producer)

Date

This plan meets the minimum standards and specifications of the U.S. Department of Agriculture - Natural Resources Conservation Service or the standard of practices adopted by the Soil and Water Conservation Commission.

Plan Approved By: Billy W Houston
Technical Specialist Signature

6-16-09
Date

Nutrients applied in accordance with this plan will be supplied from the following source(s):

Commercial Fertilizer is not included in this plan.

S5	Swine Nursery Lagoon Liquid waste generated 496,600 gals/year by a 2,600 animal Swine Nursery Lagoon Liquid operation. This production facility has waste storage capacities of approximately 180 days.				
Estimated Pounds of Plant Available Nitrogen Generated per Year					
Broadcast	1144				
Incorporated	1964				
Injected	2163				
Irrigated	1243				
	Max. Avail. PAN (lbs) *	Actual PAN Applied (lbs)	PAN Surplus/ Deficit (lbs)	Actual Volume Applied (Gallons)	Volume Surplus/ Deficit (Gallons)
Year 1	1,243	2638	-1,395	1,053,526	-556,926

Note: In source ID, S means standard source, U means user defined source.

* Max. Available PAN is calculated on the basis of the actual application method(s) identified in the plan for this source.

Narrative

This WUP is written based on a wetted acres footprint done by Star Maready.
All fields have been planted to coastal bermuda. The rates used in this WUP are for grazing, if cut for hay
use 215lbsN/ac.

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 in the plan. In addition, the Leaching Index for each field is shown, where available.

Planned Crops Summary

Tract	Field	Total Acres	Useable Acres	Leaching Index (LI)	Soil Series	Crop Sequence	RYE
3734	1	1.70	1.70	N/A	Blanton	Small Grain Overseed	1.0 Tons
						Hybrid Bermudagrass Pasture	4.5 Tons
3734	2	2.90	2.90	N/A	Blanton	Small Grain Overseed	1.0 Tons
						Hybrid Bermudagrass Pasture	4.5 Tons
3734	3	3.30	3.30	N/A	Blanton	Small Grain Overseed	1.0 Tons
						Hybrid Bermudagrass Pasture	4.5 Tons
3735	4	1.90	1.90	N/A	Blanton	Small Grain Overseed	1.0 Tons
						Hybrid Bermudagrass Pasture	4.5 Tons
3735	5	2.70	2.70	N/A	Blanton	Small Grain Overseed	1.0 Tons
						Hybrid Bermudagrass Pasture	4.5 Tons
PLAN TOTALS:		12.50	12.50				

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).

NOTE: Symbol * means user entered data.

The Waste Utilization table shown below summarizes the waste utilization plan for this operation. This plan provides an estimate of the number of acres of cropland needed to use the nutrients being produced. The plan requires consideration of the realistic yields of the crops to be grown, their nutrient requirements, and proper timing of applications to maximize nutrient uptake.

This table provides an estimate of the amount of nitrogen required by the crop being grown and an estimate of the nitrogen amount being supplied by manure or other by-products, commercial fertilizer and residual from previous crops. An estimate of the quantity of solid and liquid waste that will be applied on each field in order to supply the indicated quantity of nitrogen from each source is also included. A balance of the total manure produced and the total manure applied is included in the table to ensure that the plan adequately provides for the utilization of the manure generated by the operation.

Waste Utilization Table

Year 1

Tract	Field	Source ID	Soil Series	Total Acres	Use. Acres	Crop	RYE	Applic. Period	Nitrogen PA Nutrient Req'd (lbs/A) N	Comm. Fert. Nutrient Applied (lbs/A) N	Res. (lbs/A) N	Applic. Method	Manure PA NutrientApplied (lbs/A) N	Liquid ManureApplied (acre) 1000 gal/A	Solid Manure Applied (acre) Tons	Liquid Manure Applied (Field) 1000 gals	Solid Manure Applied (Fiel tons
3734	1	S5	Blanton	1.70	1.70	Small Grain Overseed	1.0 Tons	10/1-3/31	50	0	0	Irrig.	50	19.97	0.00	33.95	0.00
3734	1	S5	Blanton	1.70	1.70	Hybrid Bermudagrass Pasture	4.5 Tons	*3/1-10/31	161	0	0	Irrig.	161	64.31	0.00	109.33	0.00
3734	2	S5	Blanton	2.90	2.90	Small Grain Overseed	1.0 Tons	10/1-3/31	50	0	0	Irrig.	50	19.97	0.00	57.92	0.00
3734	2	S5	Blanton	2.90	2.90	Hybrid Bermudagrass Pasture	4.5 Tons	*3/1-10/31	161	0	0	Irrig.	161	64.31	0.00	186.50	0.00
3734	3	S5	Blanton	3.30	3.30	Small Grain Overseed	1.0 Tons	10/1-3/31	50	0	0	Irrig.	50	19.97	0.00	65.91	0.00
3734	3	S5	Blanton	3.30	3.30	Hybrid Bermudagrass Pasture	4.5 Tons	*3/1-10/31	161	0	0	Irrig.	161	64.31	0.00	212.22	0.00
3735	4	S5	Blanton	1.90	1.90	Small Grain Overseed	1.0 Tons	10/1-3/31	50	0	0	Irrig.	50	19.97	0.00	37.95	0.00
3735	4	S5	Blanton	1.90	1.90	Hybrid Bermudagrass Pasture	4.5 Tons	*3/1-10/31	161	0	0	Irrig.	161	64.31	0.00	122.19	0
3735	5	S5	Blanton	2.70	2.70	Small Grain Overseed	1.0 Tons	10/1-3/31	50	0	0	Irrig.	50	19.97	0.00	53.93	0.00
3735	5	S5	Blanton	2.70	2.70	Hybrid Bermudagrass Pasture	4.5 Tons	*3/1-10/31	161	0	0	Irrig.	161	64.31	0.00	173.64	0.00
															Total Applied, 1000 gallons	1,053.53	
															Total Produced, 1000 gallons	496.60	
															Balance, 1000 gallons	-556.93	
															Total Applied, tons		0.00
															Total Produced, tons		0.00
															Balance, tons		0.00

Notes: 1. In the tract column, ~ symbol means leased, otherwise, owned. 2. Symbol * means user entered data.

The Irrigation Application Factors for each field in this plan are shown in the following table. Infiltration rate varies with soils. If applying waste nutrients through an irrigation system, you must apply at a rate that will not result in runoff. This table provides the maximum application rate per hour that may be applied to each field selected to receive wastewater. It also lists the maximum application amount that each field may receive in any one application event.

Irrigation Application Factors

Tract	Field	Soil Series	Application Rate (inches/hour)	Application Amount (inches)
3734	1	Blanton	0.75	1.0
3734	2	Blanton	0.75	1.0
3734	3	Blanton	0.75	1.0
3735	4	Blanton	0.75	1.0
3735	5	Blanton	0.75	1.0

NOTE: Symbol * means user entered data.

The following Lagoon Sludge Nitrogen Utilization table provides an estimate of the number of acres needed for sludge utilization for the indicated accumulation period. These estimates are based on average nitrogen concentrations for each source, the number of animals in the facility and the plant available nitrogen application rates shown in the second column.

Lagoon sludge contains nutrients and organic matter remaining after treatment and application of the effluent. At clean out, this material must be utilized for crop production and applied at agronomic rates. In most cases, the priority nutrient is nitrogen but other nutrients including phosphorous, copper and zinc can also be limiting. Since nutrient levels are generally very high, application of sludge must be carefully applied.

Sites must first be evaluated for their suitability for sludge application. Ideally, effluent spray fields should not be used for sludge application. If this is not possible, care should be taken not to load effluent application fields with high amounts of copper and zinc so that additional effluent cannot be applied. On sites vulnerable to surface water moving to streams and lakes, phosphorous is a concern. Soils containing very high phosphorous levels may also be a concern.

Lagoon Sludge Nitrogen Utilization Table

Crop	Maximum PA-N Rate lb/ac	Maximum Sludge Application Rate 1000 gal/ac	Minimum Acres 5 Years Accumulation	Minimum Acres 10 Years Accumulation	Minimum Acres 15 Years Accumulation
Swine Nursery Lagoon Sludge - Standard					
Corn 120 bu	150	13.16	6.62	13.24	19.85
Hay 6 ton R.Y.E.	300	26.32	3.31	6.62	9.93
Soybean 40 bu	160	14.04	6.20	12.41	18.61

The Available Waste Storage Capacity table provides an estimate of the number of days of storage capacity available at the end of each month of the plan. Available storage capacity is calculated as the design storage capacity in days minus the number of days of net storage volume accumulated. The start date is a value entered by the user and is defined as the date prior to applying nutrients to the first crop in the plan at which storage volume in the lagoon or holding pond is equal to zero.

Available storage capacity should be greater than or equal to zero and less than or equal to the design storage capacity of the facility. If the available storage capacity is greater than the design storage capacity, this indicates that the plan calls for the application of nutrients that have not yet accumulated. If available storage capacity is negative, the estimated volume of accumulated waste exceeds the design storage volume of the structure. Either of these situations indicates that the planned application interval in the waste utilization plan is inconsistent with the structure's temporary storage capacity.

Available Waste Storage Capacity

Source Name	Swine Nursery Lagoon Liquid	**Design Storage Capacity (Days)**
Start Date	10/15	180
Plan Year	Month	Available Storage Capacity (Days) *
1	1	178
1	2	179
1	3	180
1	4	180
1	5	180
1	6	180
1	7	180
1	8	180
1	9	180
1	10	180
1	11	179
1	12	180

* Available Storage Capacity is calculated as of the end of each month.

Crop Notes

The following crop note applies to field(s): 1, 2, 3, 4, 5

Small Grain: CP, Mineral Soil, medium leachable

In the Coastal Plain, oats and barley should be planted from October 15-October 30; and rye from October 15-November 20. For barley, plant 22 seed/drill row foot and increase the seeding rate by 5% for each week seeding is delayed beyond the optimum time. See the seeding rates table for applicable seeding rate modifications in the current NCSU "Small Grain Production Guide". Also, increase the initial seeding rate by at least 10% when planting no-till. Oats should be planted at 2 bushels/acre and rye at 1-1 1/2 bushels/acre. Plant all these small grains at 1-1 1/2" deep. Adequate depth control is essential. Review the NCSU Official Variety "green book" and information from private companies to select a high yielding variety with the characteristics needed for your area and conditions. Apply no more than 30 lbs/acre N at planting. Phosphorus and potash recommended by a soil test can also be applied at this time. The remaining N should be applied during the months of February-March.

The following crop note applies to field(s): 1, 2, 3, 4, 5

Bermudagrass: CP, Mineral Soil, Moderately Well Drained.

Adaptation: Well-adapted.

In the Coastal Plain, hybrid bermudagrass sprigs can be planted Mar. 1 to Mar. 31. Cover sprigs 1" to 3" deep (1.5" optimal). Sprigs should be planted quickly after digging and not allowed to dry in sun and wind. For Coastal and Tifton 78 plant at least 10 bu/ac in 3' rows, spaced 2' to 3' in the row. Generally a rate of 30 bu/ac is satisfactory to produce full groundcover in one or two years under good growing conditions. Tifton 44 spreads slowly, so use at least 40 bu/ac in 1.5' to 2' rows spaced 1' to 1.5' in row. For broadcast/disked-in sprigs use about 60 bu/ac. Soil test for the amounts of lime, phosphorus, potassium and micronutrients to apply preplant and for annual maintenance. Apply 60 to 100 lb/ac N in the establishment year in split applications in April and July. For established stands apply 180 to 240 lb/ac N annually in split applications, usually in April and following the first and second hay cuts. Reduce N rates by 25% for grazing. Refer to NCSU Technical Bulletin 305 Production and Utilization of Pastures and Forages in North Carolina for more information or consult your regional agronomist or extension agent for assistance.

Michael F. Easley
Governor

William G. Ross, Jr., Secretary
North Carolina Department of Environment and Natural Resources

Gregory P. Thorpe, Ph.D.
Acting Director
Division of Water Quality

August 23, 2001

Mr. Gerald Knowles
384 Kirby Quinn Road
Kenansville, NC 28349

Subject: Wetted Acres Status & Notification
Gerald's Nursery
31-286

Dear Mr. Knowles:

You were sent a letter on August 9, 2001 requesting that you provide me with the necessary information to complete the evaluation of your facility with respect to a Wettable Acres Determination. The result of this evaluation and the required action to be taken by you is indicated below.

X Based upon the new information your facility is exempt at this time from undergoing a Wettable Acres Determination. No further action is necessary at this time. However, this is based on using only 75% of available acreage which can be a disadvantage. Thus, I would recommend having a full determination completed in the near future to provide you with the maximum acreage for use and pertinent information about your system's capability. This may be required by DWQ in the future anyway.

Information that was provided was not sufficient to exempt the facility from a Wettable Acres Determination. The Division of Water Quality will notify you at a later date by certified mail detailing the requirements of a Wettable Acres Determination.

If you have any questions regarding this letter, please do not hesitate to contact me at the Wilmington Regional Office at (910) 395-3900 ext. 219.

Sincerely,

Dean Hunkele
Environmental Specialist

cc: DWQ Non-Discharge Compliance/Enforcement Unit
Wilmington Files 31-286

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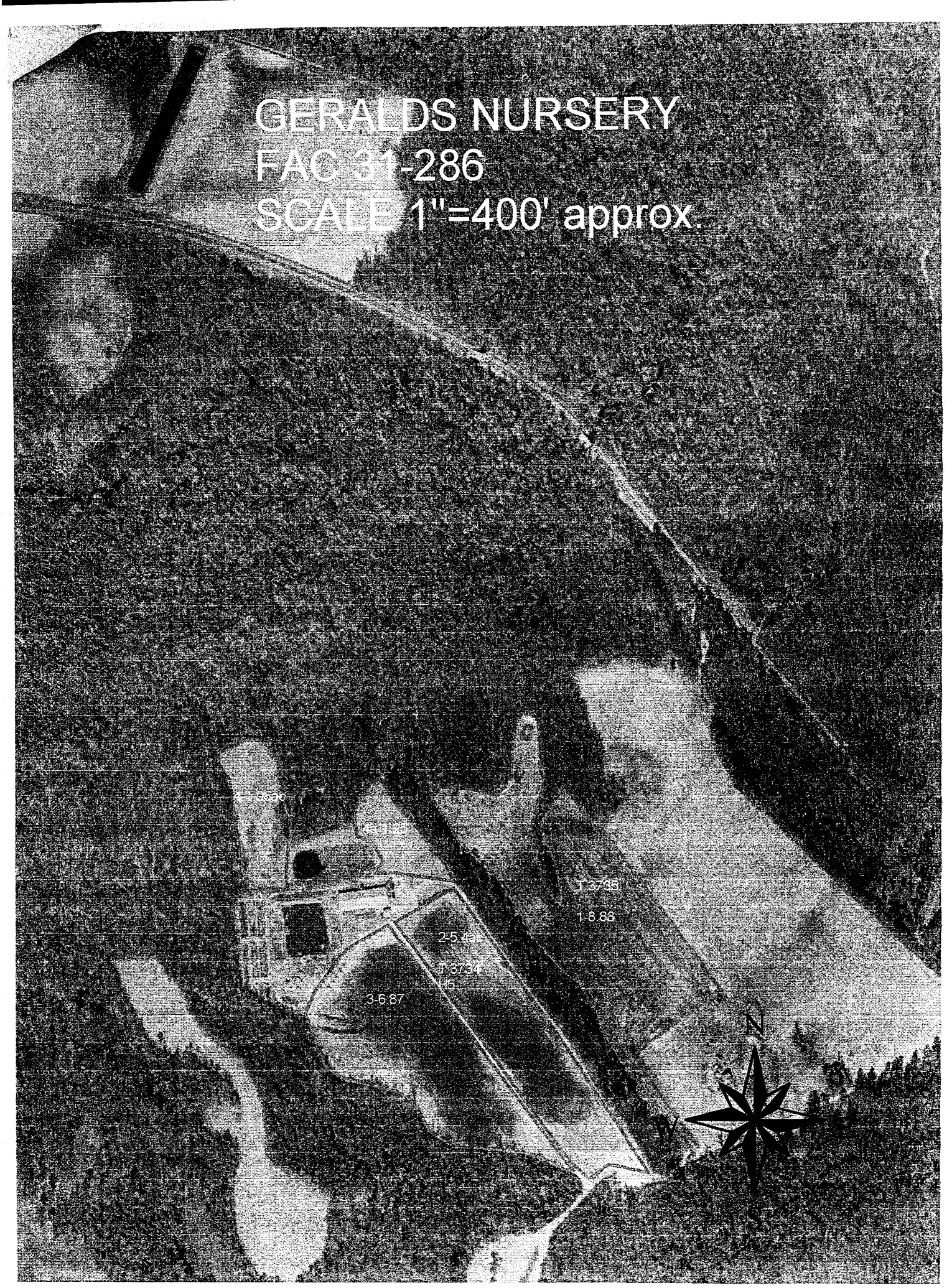
Wilmington Regional Office

127 Cardinal Drive Extension
Wilmington, NC 28405-3845

Phone: (910) 395-3900
Fax: (910) 350-2004


GERALDS NURSERY
FAC 31-286
SCALE 1"=400' approx.
T 37'35
1-8.88
2-5.48
T 37'34
3-6.87
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W