



**RECEIVED**  
CLERK'S OFFICE

APR 26 2006

STATE OF ILLINOIS  
Pollution Control Board

OFFICE OF THE ATTORNEY GENERAL  
STATE OF ILLINOIS

**Lisa Madigan**  
ATTORNEY GENERAL

April 21, 2006

The Honorable Dorothy Gunn  
Illinois Pollution Control Board  
State of Illinois Center  
100 West Randolph  
Chicago, Illinois 60601

Re: ***People v. The Highlands, LLC., et al.***  
**PCB No. 00-104**

Dear Clerk Gunn:

Enclosed for filing please find the original and ten copies of a NOTICE OF FILING and MOTION TO STRIKE RESPONDENT MURPHY'S AMENDED AFFIRMATIVE DEFENSE in regard to the above-captioned matter. Please file the original and return a file-stamped copy of the document to our office in the enclosed, self-addressed envelope.

Thank you for your cooperation and consideration.

Very truly yours,

A handwritten signature in cursive script, appearing to read "Jane E. McBride".

Jane E. McBride  
Environmental Bureau  
500 South Second Street  
Springfield, Illinois 62706  
(217) 782-9031

JEM/pp  
Enclosures

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

RECEIVED  
CLERK'S OFFICE

APR 26 2006

STATE OF ILLINOIS  
Pollution Control Board

PEOPLE OF THE STATE OF ILLINOIS, )  
)  
Complainant, )  
)  
v. )  
)  
THE HIGHLANDS, LLC, an Illinois limited )  
liability corporation, and MURPHY )  
FARMS, INC., (a division of MURPHY- )  
BROWN, LLC, a North Carolina limited )  
liability corporation, and SMITHFIELD )  
FOODS, INC., a Virginia corporation), )  
)  
Respondents. )

PCB NO. 00-104  
(Enforcement)

NOTICE OF FILING

To: Mr. Jeffrey W. Tock  
Harrington, Tock & Royse  
201 W. Springfield Avenue, Ste. 601  
P.O. Box 1550  
Champaign, IL 61824-1550

Mr. Charles M. Gering  
Foley & Lardner  
321 N. Clarke St.  
Suite 2800  
Chicago, IL 60610-4764

PLEASE TAKE NOTICE that on April 21, 2006, I mailed for filing with the Clerk of the Pollution Control Board of the State of Illinois, a MOTION TO STRIKE RESPONDENT MURPHY'S AMENDED AFFIRMATIVE DEFENSE, a copy of which is attached hereto and herewith served upon you.

Respectfully submitted,

PEOPLE OF THE STATE OF ILLINOIS

LISA MADIGAN  
Attorney General of the  
State of Illinois

MATTHEW J. DUNN, Chief  
Environmental Enforcement/Asbestos  
Litigation Division

BY:   
JANE E. McBRIDE  
Assistant Attorney General  
Environmental Bureau

500 South Second Street  
Springfield, Illinois 62706  
217/782-9031  
Dated: April 21, 2006

## CERTIFICATE OF SERVICE

I hereby certify that I did on April 21, 2006, send by First Class Mail, with postage thereon fully prepaid, by depositing in a United States Post Office Box a true and correct copy of the following instruments entitled NOTICE OF FILING and MOTION TO STRIKE RESPONDENT MURPHY'S AMENDED AFFIRMATIVE DEFENSE

To: Mr. Jeffrey W. Tock  
Harrington, Tock & Royse  
201 W. Springfield Avenue, Ste. 601  
P.O. Box 1550  
Champaign, IL 61824-1550

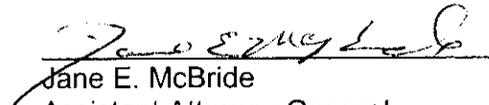
Mr. Charles M. Gering  
Foley & Lardner  
321 N. Clarke St.  
Suite 2800  
Chicago, IL 60610-4764

and the original and ten copies by First Class Mail with postage thereon fully prepaid of the same foregoing instrument(s):

To: Dorothy Gunn, Clerk  
Illinois Pollution Control Board  
State of Illinois Center  
Suite 11-500  
100 West Randolph  
Chicago, Illinois 60601

A copy was also sent by First Class Mail with postage thereon fully prepaid and by facsimile (312) 814-3669

To: Mr. Brad Halloran, Hearing Officer  
Illinois Pollution Control Board  
James R. Thompson Center, Ste. 11-500  
100 West Randolph  
Chicago, IL 60601

  
Jane E. McBride  
Assistant Attorney General

This filing is submitted on recycled paper.

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

RECEIVED  
CLERK'S OFFICE

APR 26 2006

STATE OF ILLINOIS  
Pollution Control Board

PEOPLE OF THE STATE OF ILLINOIS )  
 )  
 Complainant, )  
 v. )  
 )  
 THE HIGHLANDS, LLC, an Illinois limited )  
 liability corporation, and MURPHY )  
 FARMS, INC., (a division of MURPHY- )  
 BROWN, LLC, a North Carolina limited )  
 liability corporation, and SMITHFIELD )  
 FOODS, INC., a Virginia corporation). )  
 )  
 Respondents. )

PCB No. 00-104  
(Enforcement)

**MOTION TO STRIKE RESPONDENT MURPHY'S AMENDED AFFIRMATIVE DEFENSE**

NOW COMES, Complainant, PEOPLE OF THE STATE OF ILLINOIS, *ex rel.* Lisa Madigan, Attorney General of the State of Illinois, and moves the Board to strike Respondent Murphy Farms, Inc's ("Respondent Murphy" or "Murphy Farms, Inc.") Amended Affirmative Defense on the following grounds and for the following reasons:

**Standard**

1. Section 2-613 (d) of the Illinois Code of Civil Procedure, 735 ILCS 5/2-613(d), provides, in part:

The facts constituting any affirmative defense . . . and any defense which by other affirmative matter seeks to avoid the legal effect of or defeat the cause of action set forth in the complaint, . . . in whole or in part, and any ground or defense, whether affirmative or not, which, if not expressly stated in the pleading, should be likely to take the opposite party by surprise, must be plainly set forth in the answer of reply. 735 ILCS 5/2-613(d) (2000).

cited in *People v. Wood River Refining Company*, PCB 99-120, slip op. at 3-4 (August 8, 2002),

2. A valid affirmative defense gives color to the opposing party's claim but then asserts new matter which defeats an apparent right. *Condon v. American Telephone and Telegram Co.*, 210 Ill. App. 3d 701, 709, 569 N.E.2d 518, 523 (2d Dist. 1991), citing *The Warner Agency Inc. v. Doyle*, 121 Ill. App. 3d 219, 222, 459 N.E.2d 633, 635 (4<sup>th</sup> Dist. 1984).

3. A motion to strike an affirmative defense admits well-pleaded facts constituting

the defense, and attacks only the legal sufficiency of the facts. "Where the well-pleaded facts of an affirmative defense raise the possibility that the party asserting them will prevail, the defense should not be stricken." *International Insurance Co. v. Sargent and Lundy*, 242 Ill. App. 3d 614, 630-31, 609 N.E.2d 842, 853-54 (1<sup>st</sup> Dist. 1993), citing *Rapragger v. Allstate Insurance Co.*, 183 Ill. App. 3d 847, 854, 539 N.E. 2d 787, 791 (2<sup>nd</sup> Dist. 1989).

4. An asserted affirmative defense is not, by definition, an affirmative defense, even if proven true at hearing, if it is an assertion that will not impact the complainant's legal right to bring the action. *Glave v. Harris et al, Village of Grayslake v. Winds Chat Kennel, Inc*, PCB 02-11, PCB 02-32 (Consolidated), slip op. at 2 (January 24, 2002), citing *People v. Crane*, PCB 01-76 (May 17, 2000).

#### **Nature and Basis of Motion to Strike**

5. In its amended affirmative defense, Respondent Murphy asserts the doctrine of laches is applicable to Count I of the Second Amended Complaint because, Respondent claims, the Complainant did not object to the proposed location and the operations of the Highlands' farm prior to or during construction of, or initiation of operations at, the facility.

6. Respondent's amended affirmative defense fails as an affirmative defense, on its face, based on the facts pled and alleged, and thus should be struck. As pled, it does not constitute affirmative matter that avoids the legal effect of or defeats the cause of action set forth in the complaint, for the following reasons: (1) Respondent had notice and knowledge, well in advance of commencing construction of the facility, that the Illinois EPA believed that the location and operation of the proposed swine production facilities must be carefully evaluated due to the potential for odor emissions to result in violations of the Illinois Environmental Protection Act; (2) the Complainant does not have dictatorial powers to stop an operation well in advance of the occurrence of a possible violation, and does not have permitting authority for the

siting or construction of livestock management facilities, thus, the agency was not in a position to stop the construction (which was a moving target in and of itself, as is obvious from the April 23, 1998 inspection report, which states, "The livestock waste management system for this swine farm has been modified several times since the original design. The system has evolved as follows: . . . "); (3) despite having knowledge of the potential violation, Respondent proceeded at its own peril, thereby eliminating the availability of laches as an affirmative defense.

**Statement of Fact and Argument in Support of Motion to Strike**

7. This motion is supported by an affidavit of James KammueLLer, attached hereto. The September 4, 1996 letter from James KammueLLer to Doug Lenhart, and the May 20, 1997 letter from James KammueLLer to James Baird, are attached to the affidavit as Exhibits 1 and 2 respectively.

8. As set forth in James KammueLLer's affidavit, the letter sent to Doug Lenhart, dated September 4, 1996, concerned a proposed facility that was to be located at a different site which was in Peoria County. That facility was never built. However, as is evident from the exhibits, the content of the letter is identical to the content of the letter sent to James Baird. Therefore, Respondent Murphy received identical notification of the Illinois EPA's concerns pertinent to large swine production facilities as did The Highlands, well in advance of the initiation of construction of The Highlands facility.

9. Mr. KammueLLer sent these letters in response to his office being contacted by the respective parties, alerting the Illinois EPA to the construction of large swine operations in given locations. Based on the description provided, Mr. KammueLLer sent letters to the respective parties indicating that the location and operation of such large swine production facilities must be carefully evaluated due to the potential for odor emissions to result in

violations of the Illinois Environmental Protection Act. As stated in the letter, in that the Illinois EPA had neither siting or construction permit authority, it could not approve or disapprove the proposed location and construction. Nonetheless, the Illinois EPA was acting to alert the parties of the potential to violate the Act, given the description provided by each party.

10. The letters stated, "The description you provided of the new facility indicates that a potential for possible odor problems does exist due to the magnitude of the operation. Careful consideration should be given to the location, waste management, and odor control methods." Exhibits 1 and 2 attached to affidavit of James Kammuller. Mr. Kammuller's letters specifically cite to Section 9(a) of the Illinois Environmental Protection Act, 415 ILCS 5/9(a), which is the air pollution prohibition provisions. Mr. Kammuller's letters state, ". . . it is essential to understand that compliance with these siting provisions [referring to regulatory setbacks] affords no protection from possible enforcement action if the livestock operation causes air pollution in violation of Section 9(a) of the Illinois Environmental Protect Act. The setback distances contained in Subtitle E are minimum distances and are not adequate to ensure that odor problems will not occur at some time due to the many variable involved. Please be advised that the Agency has documented livestock waste related odor problems at distances far greater than 1/4 mile."

11. The Illinois EPA only has the authority granted to it by the General Assembly pursuant to the Illinois Environmental Protection Act, and the Act does not give the agency authority to stop someone from doing something prior to the action being a violation of the Act except in the permitting authority. The siting permit authority for livestock management facilities does not lie with the Illinois EPA but with the Illinois Department of Agriculture pursuant to the Illinois Livestock Management Facility Act. As stated in Mr. Kammuller's letters, "As we discussed, the Agency does not presently issue construction permits for livestock waste

handling facilities and cannot give formal siting approval for livestock management or waste handling facilities.” The state would not proceed with any form of common law cause of action or statutory authority for immediate injunctive relief, in a situation such as this, where there is yet no actual violation or imminent threat of substantial danger to the environment or public health because it is yet to be seen if the owners and operators can locate, build and manage the facility in a manner that will comply with the Act.

12. Respondent’s claim that the Illinois EPA did not conduct an inspection of the facility until April 23, 1998, is false. At least two inspections were conducted prior to the April 1998 inspection, one on August 26, 1997 and another on October 16, 1997 (Respondent has been provided these inspection reports in response to discovery requests). See affidavit of James KammueLLer, Exhibits 3 and 4. As is obvious from the April 23, 1998 inspection report (See affidavit of James KammueLLer, Exhibit 5), the design of the waste management system was constantly evolving during the time of construction of this facility. The report states, “The livestock waste management system for this swine farm has been modified several times since the original design. The system has evolved as follows: . . . “ The type of the waste handling system, and the management of that system, are indeed among the variables that impact whether or not the facility will be able to comply with the requirements of the Illinois Environmental Protection Act. The inspection report includes a review of the operation of the Bion system, which required significant management, including the addition of various bacteria to ensure proper function. So in addition to finally determining what the design of the system would be, proper management of the system was an important variable at this facility. Mr. KammueLLer’s letters clearly drew the Respondent’s attention to the existence and significance of the many variables that impact odor control.

13. The April 23, 1998 inspection was conducted in response to neighbor complaints

of unreasonable odor coming from the facility. See Affidavit of James Kammueller, Exhibit 5. Hogs were first brought to The Highlands facility in December 1997. At the time of the inspection owner/operator Doug Baird confirmed that a strong swine waste odor had been produced during start-up of the waste handling/treatment system.

14. Respondent clearly had knowledge, well in advance of the time of construction of the facility and the time it initiated operations, that the Illinois EPA believed the location and operation of The Highlands facility had the potential to result in violation of the Illinois Environmental Protection Act. Yet, Respondent proceeded with its construction and operations. The Respondent's actions certainly suggest that the Respondent had a purpose to proceed irrespective of the consequences. It proceeded at it's own peril. Where the circumstances indicate that the party knowingly violated a restriction or a right and pressed ahead, suggesting a purpose to proceed irrespective of the consequences, *laches* may not be used as an affirmative defense, *Petty v. First National Bank of Geneva*, 225 Ill.App.3d 539, 588 N.E.2d 412 (2d Dist 1992); *Fick v. Burnham*, 251 Ill. App. 333 (1929).

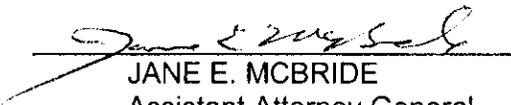
WHEREFORE, on the foregoing grounds, Complainant respectfully requests that the Board strike Respondent Murphy's Amended Affirmative Defense.

Respectfully submitted,

PEOPLE OF THE STATE OF ILLINOIS,  
ex rel. LISA MADIGAN, Attorney General  
of the State of Illinois

MATTHEW J. DUNN, Chief  
Environmental Enforcement Division

BY:

  
JANE E. MCBRIDE  
Assistant Attorney General

500 South Second Street  
Springfield, Illinois 62706  
(217) 782-9031

STATE OF ILLINOIS            )  
  ) ss  
COUNTY OF PEORIA         )

**AFFIDAVIT**

I, JAMES E. KAMMUELLER, after being duly sworn and upon oath, state as follows:

1. I am employed by the Illinois Environmental Protection Agency ("Illinois EPA") Bureau of Water Pollution Control -Field Operations Section, as manager of its Peoria Regional Office.

2. As part of my duties with the Illinois EPA, I perform site investigations to assess whether environmental and/or public health threats exist. Upon formal request, I also review pleadings to be filed by the Attorney General's Office to ensure veracity and accuracy with investigation records, evidence gathered, as well as my own personal observations and knowledge.

3. In my capacity as manager of the Bureau of Water Pollution Control-Field Operations Section, Peoria Regional Office, I supervise all activities of the Bureau of Water field operations conducted at the Illinois EPA Peoria Regional Office. These activities include the investigation of wastewater discharges and releases, and odor air pollution complaints regarding farm and agricultural sites and facilities. I have worked for the Illinois EPA as a field inspector for over 35 years, and throughout that time have been involved in field investigations of environmental complaints concerning farms and agricultural facilities. I have personally conducted and supervised complaint investigations and site inspections of The Highlands. The custody of the Illinois EPA's field file on this facility is maintained under my supervision.

4. I authored two letters to principals of both The Highlands and Murphy Farms setting out my office's belief that the location and operation of swine production facilities must be carefully evaluated due to the potential for odor emissions to result in violations of the Illinois Environmental Protection Act. One of the letters is addressed to Doug Lenhart of

Murphy Farms, dated September 4, 1996 regarding his proposed Peoria County swine production facility that was ultimately never built. The other letter is dated May 20, 1997, and addressed to James Baird, a member of The Highlands, LLC. True, correct and accurate copies of these two letters are attached, respectively, to this affidavit as Exhibits 1 and 2.

5. Eric Ackerman and Todd Huson, both who work for the Illinois EPA under my direct supervision, conducted construction inspections of The Highlands facility on August 26, 1997 and October 16, 1997. True, correct and accurate copies of the reports of the inspections conducted on those dates are attached, respectively, hereto as Exhibits 3 and 4.

6. On April 23, 1998, Eric Ackerman and Todd Huson conducted an inspection at The Highlands in response to complaints from neighbors of the facility of unreasonably offensive odors emanating from the facility. A true, correct and accurate copy of the report of the April 23, 1998 inspection is attached hereto as Exhibit 5.

Further, Affiant sayeth not.

  
JAMES KAMMUELLER

Subscribed and sworn to before me  
this 19<sup>th</sup> day of April, 2006.

  
NOTARY PUBLIC





Mary A. Gade, Director

5415 North University, Peoria, IL 61614

309/693-5463

September 4, 1996

PEORIA COUNTY -Murphy Family Farms  
(Near Elmwood) Proposed Livestock Facility

Mr. Doug Lenhart  
Director of Illinois Operations  
Murphy Family Farms  
Post Office Box 393  
121 South Washington  
Nevada, Missouri 64772

Dear Mr. Lenhart:

Thank you for your July 5 and August 14, 1996 telephone inquiries to Eric Ackerman of this office. You called to discuss the proposed construction of your new swine production facility and livestock waste handling system in Peoria County near Elmwood. As was discussed, the Agency does not presently issue construction permits for livestock waste handling facilities and cannot give formal siting approval for livestock management or waste handling facilities.

As you know, amendments to the Illinois Pollution Control Board Rules and Regulations, Title 35, Subtitle E: Agriculture Related Pollution require that new livestock facilities be located at least one-quarter mile from the nearest non-farm residence and one-half mile from the nearest populated area. However, it is essential to understand that compliance with these siting provisions affords no protection from possible enforcement action if the livestock operation causes air pollution in violation of Section 9(a) of the Illinois Environmental Protection Act. The setback distances contained in Subtitle E are minimum distances and are not adequate to ensure that odor problems will not occur at some time due to the many variables involved. Please be advised that the Agency has documented livestock waste related odor problems at distances far greater than 1/4 mile.

The description you provided of the new facility indicates that a potential for possible odor problems does exist due to the magnitude of the operation. Careful consideration should be

PEORIA COUNTY -Murphy Family Farms  
(Near Elmwood) Proposed Livestock Facility

-2-

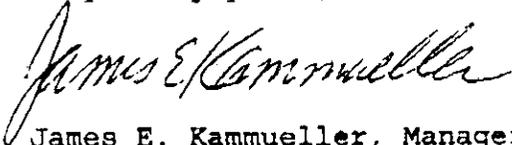
given to location, waste management, and odor control methods. For informational purposes, we would also like to advise that the American Society of Agricultural Engineers (ASAE) has provided some guidance for locating new livestock operations. ASAE Engineering Practice #379 states in part:

"4.1 Although neither a complete understanding of odor production nor fully adequate techniques for odor control are currently available, the following managerial procedures have proven helpful.

4.1.1. Locate a livestock operation at a reasonable distance from residential areas, places of employment, institutions and other areas frequented by persons other than the operator of the animal enterprise. Although distances have not been established beyond which complaints are invalid, it is desirable to stay 1600m (1 mile) from housing developments and 400 - 800m (1/4 to 1/2 mile) from neighboring residences. Wind direction and velocity, humidity, topography, temperature, and unique meteorological conditions (such as inversions) affect odor transport and detection."

If you have further questions or comments, please feel free to contact this office. We appreciate your concern regarding compliance with applicable environmental regulations.

Very truly yours,



James E. Kammuehler, Manager  
Peoria Regional Office  
Division of Water Pollution Control  
Bureau of Water

JEK/EOA/lc

Att: -Subtitle E

cc: David Innskeep, Elmwood

bcc: A.G. Taylor  
Dan Heacock, Permits  
DWPC/FOS & RU  
Peoria Files  
L. Ray



Mary A. Gade, Director

5415 North University, Peoria, IL 616

309/693-5463

May 20, 1997

KNOX COUNTY  
(Near Williamsfield)

-Baird Sow Farm  
Proposed Livestock Facility

Mr. James Baird  
Baird Sow Farm  
1122 Knox Highway 18  
Williamsfield, Illinois 61489

Dear Mr. Baird:

Thank you for your May 6, 1997 telephone conversation with Eric Ackerman of this office. Based on that conversation, we understand that Baird Sow Farm plans to construct a new swine production facility and livestock waste handling system in Knox County near Williamsfield. As you know, the Agency does not issue formal siting approval for livestock management or waste handling facilities.

For your information, current Illinois Pollution Control Board Rules and Regulations, Title 35, Subtitle E: Agriculture Related Pollution requires that new livestock facilities be located at least one-quarter mile from the nearest non-farm residence and one-half mile from the nearest populated area. However, it is essential to understand that compliance with these siting provisions affords no protection from possible enforcement action if the livestock operation causes air pollution in violation of Section 9(a) of the Illinois Environmental Protection Act. The setback distances contained in Subtitle E are minimum distances and are not adequate to ensure that odor problems will not occur at some time due to the many variables involved, including the size of the operation. Please be advised that the Agency has documented livestock waste related odor problems at distances far greater than one-quarter mile.

The description provided of your proposed new swine facility indicates that a potential for possible odor problems does exist due to the magnitude of the operation. Careful consideration should be given to location, waste management and adequate odor control methods and technology. For informational purposes, we would also like to advise that the American Society of

HANCOCK COUNTY -Little Timber, LLC  
(Near Carthage) Proposed Livestock Facility

-2-

Agricultural Engineers (ASAE) has provided some guidance for locating new livestock operations. ASAE Engineering Practice #379 states in part:

"4.1 Although neither a complete understanding of odor production nor fully adequate techniques for odor control are currently available, the following managerial procedures have proven helpful.

4.1.1. Locate a livestock operation at a reasonable distance from residential areas, places of employment, institutions and other areas frequented by persons other than the operator of the animal enterprise. Although distances have not been established beyond which complaints are invalid, it is desirable to stay 1600m (one mile) from housing developments and 400-800m (one-quarter to one-half mile) from neighboring residences. Wind direction and velocity, humidity, topography, temperature, and unique meteorological conditions (such as inversions) affect odor transport and detection."

These guidelines should also be considered as minimum distances.

Please be advised that the Agency has been involved with situations where offensive odors were reportedly detected two to three miles from swine production and/or waste handling facilities. Therefore, we recommend locating larger livestock facilities at greater setback distances than the minimum distances mentioned above.

If you have further questions or comments, please feel free to contact this office.

Very truly yours,



James E. Kammuehler, Manager  
Peoria Regional Office  
Division of Water Pollution Control  
Bureau of Water

JEK/EOA/pg

bcc: Tim Kluge  
DWPC/FOS and RU  
Peoria Files

# Inspection Report

Subject: KNOX COUNTY (Near Williamsfield) -Murphy Family Farms, Inc.  
The Highlands, LLC  
Initial Inspection

To: DWPC/FOS & RU

From: Eric O. Ackerman DWPC-FOS, Peoria Region

Date: August 26, 1997

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On the above date Todd Huson and I conducted a brief inspection of the Murphy Family Farms, Inc./Highlands, LLC swine facility in Knox County. The facility is located south of Williamsfield in the NE ¼, Section 10, T10N, R4E (Elba Township) in Knox County.

## Observations

This swine farm is under construction. Four or five large, graded areas were observed for total swine confinement buildings. A significant amount of earthwork and excavation has been completed. Two bulldozers and an earthmover were active at the site. The two cell lagoon system is constructed and nearly complete. See attached Figure 1 for general layout.

This report is submitted for your information.



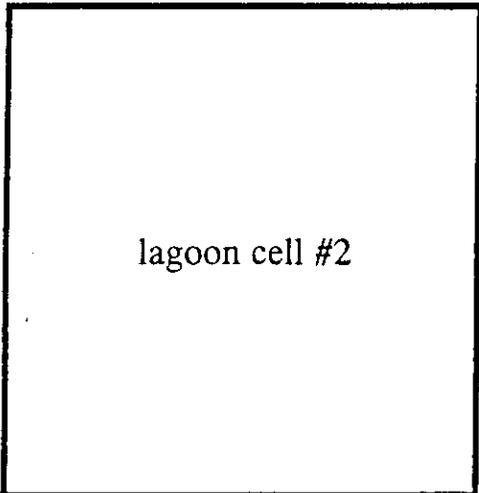
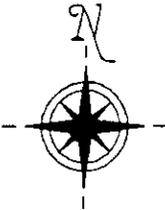
Eric O. Ackerman

Att: -Figure 1

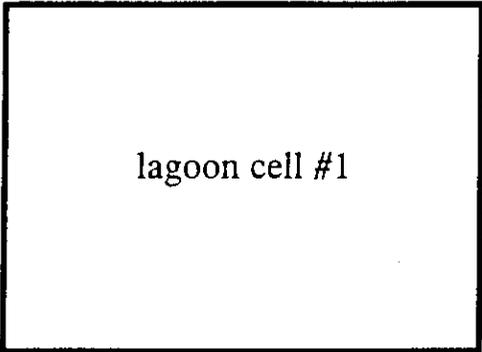
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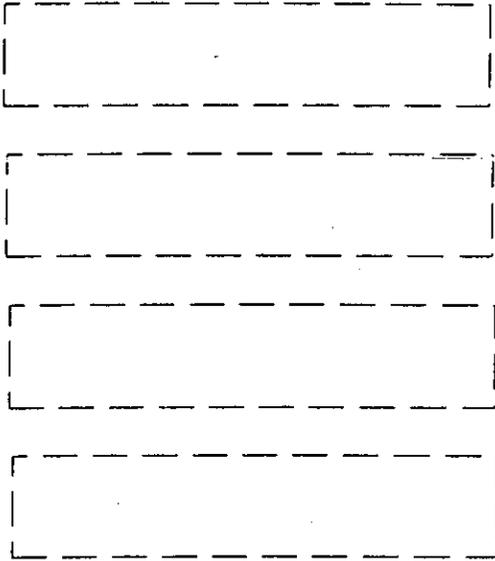
NE 1/4  
Section 10  
T10N, R4E  
Knox County  
Eric Ackerman  
August 26, 1997



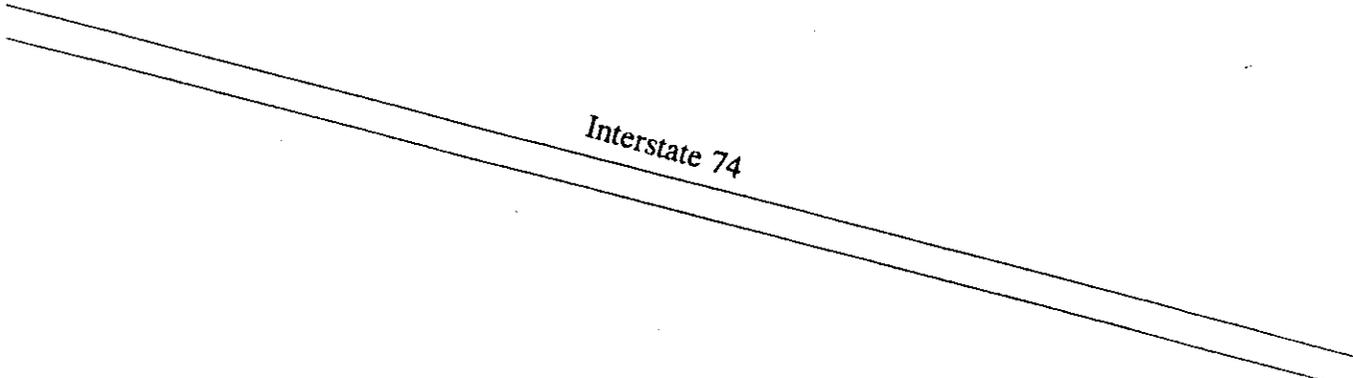
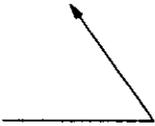
lagoon cell #2



lagoon cell #1



area graded for  
swine confinement buildings



Interstate 74

Figure 1. General Layout of Murphy Family Farms, Inc./  
Highlands, LLC Swine Farm on August 26, 1997.

Memorandum - Inspection Notes

Subject: Knox County  
(near Williamsfield)

The Highlands LLC, 3600 Sow Farm  
Wastewater Treatment Facilities  
Construction Inspection

To: DWPC/FOS & RU  
From: Todd R Huson, DWPC-FOS, Peoria Region  
Date: October 16, 1997

Interviewed: Douglas Baird, Owner/Operator  
Accompanied: Eric Ackerman, DWPC-FOS, Peoria Region

On October 16, 1997, a brief construction was performed at The Highlands LLC (3600 Sow Farm) under construction. Owner/Operator Douglas Baird was interviewed. This swine farm is currently being constructed just south of Williamsfield in Knox County.

Wastewater generated in the gestation, breeding, farrowing, nursery, and finishing buildings will reportedly be diverted from the 16" deep building pits through a solids separator (filter press in separate building) to a two-cell lagoon system. Proposed cell #1 has a surface area of 2.9 acres and a volume of 11.1 MG at the 9 foot maximum operating depth. Proposed cell #2 has a surface area of 3.6 acres and a volume of 13.6 MG at the 9 foot maximum operating depth. The effluent from cell #2 (estimated at 2.5 MG per year) will be recycled to the buildings (pit recharge water) or spray applied to agricultural land (irrigation). Solids from the filter press will be stored in a separate building then applied to agricultural land.

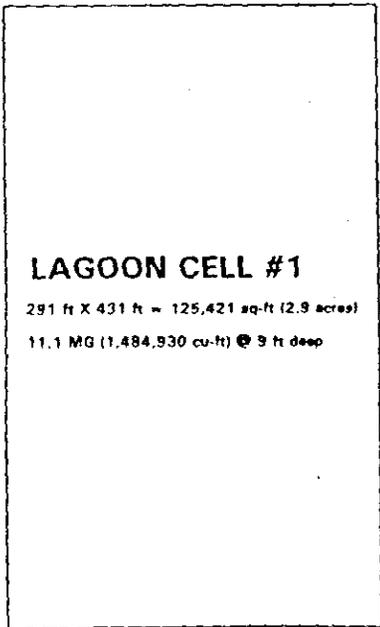
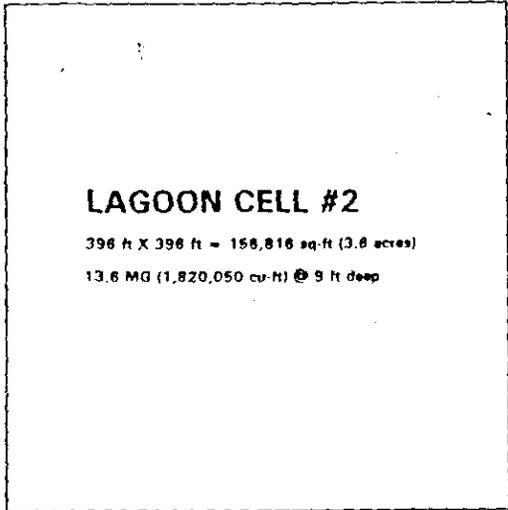
The majority of the earthwork associated with the two lagoon cells has been completed. However, the underground transfer piping between the cells has not been installed. Both cells were reportedly constructed with a 12 inch clay liner (compacted to 95% of the maximum dry density). During this inspection, ponded storm water was observed in both cells. A synthetic liner or riprap will reportedly be placed along the top of the interior slopes to address erosion.

The concrete pits for the gestation, breeding, and farrowing buildings are currently being constructed. The structures will be constructed as soon as these pits are completed. The nursery, finishing, office/garage, solids separator, and solids storage buildings have not been started.

  
Todd R Huson

trh  
Att: Site Diagram  
CC: Peoria Files  
Tim Kluge





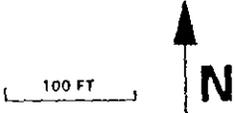
SOLIDS  
SEPARATOR  
BUILDING  
(FILTER PRESS)



SOLIDS  
STORAGE  
BUILDING

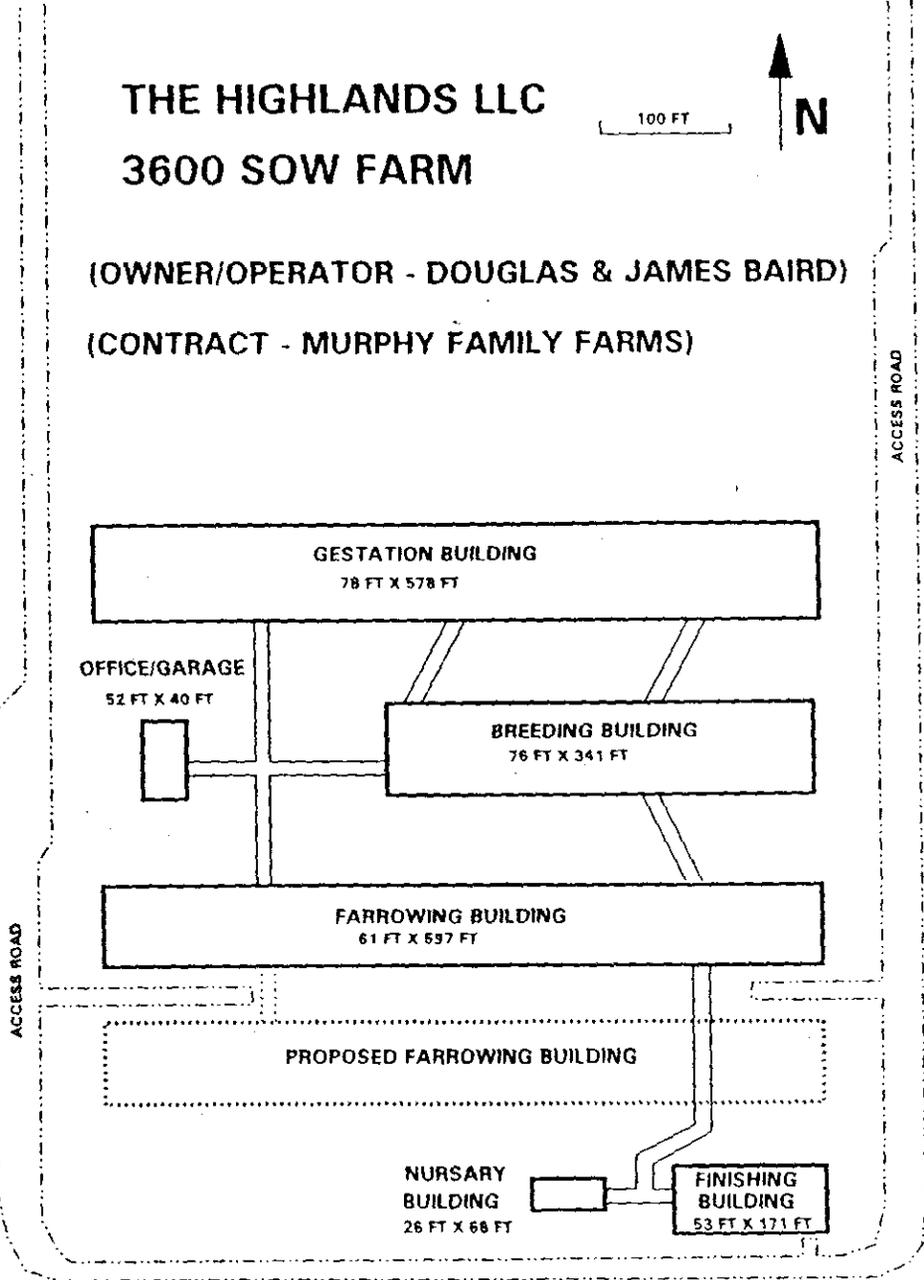
**THE HIGHLANDS LLC**

**3600 SOW FARM**



(OWNER/OPERATOR - DOUGLAS & JAMES BAIRD)

(CONTRACT - MURPHY FAMILY FARMS)



Date: Oct 16, 1997  
Time: App. 10:00 AM

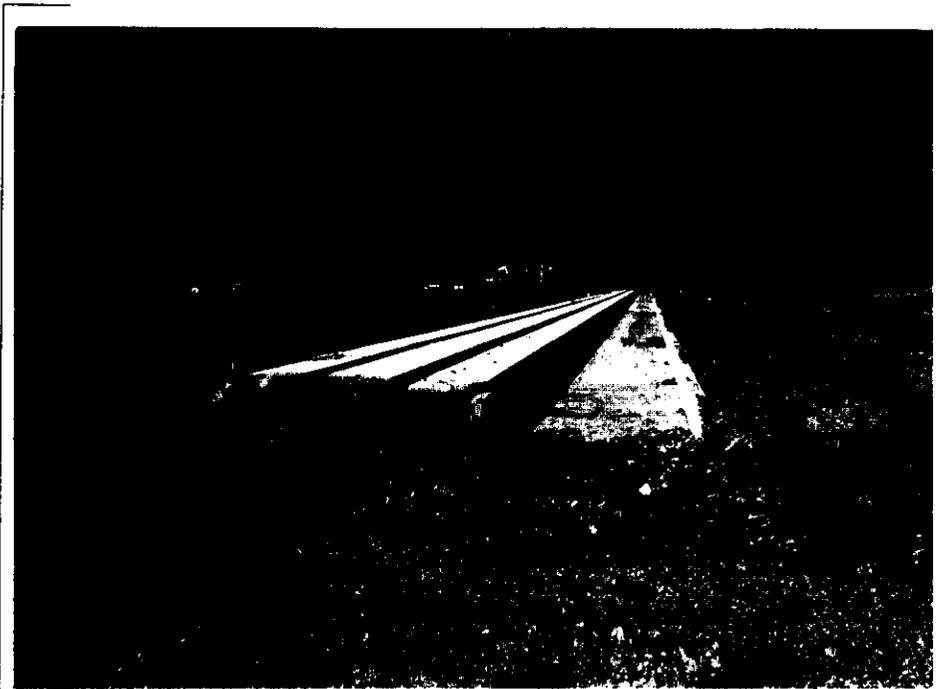
Photographed By:  
Todd R Huson, DWPC/FOS

Location: (WPC)  
The Highlands, LLC  
3600 Sow Farm - Owned  
& Operated by D. Baird  
(near Williamsfield  
in Peoria County)

Comments:

Construction of new  
3600 sow facility

Gestation Building  
(building foudation -  
pits and floor slab)



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Time: App. 10:00 AM

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Todd R Huson, DWPC/FOS

Location: (WPC)  
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Comments:

Construction of new  
3600 sow facility

Gestation Building  
(building foudation -  
pits and floor slab)



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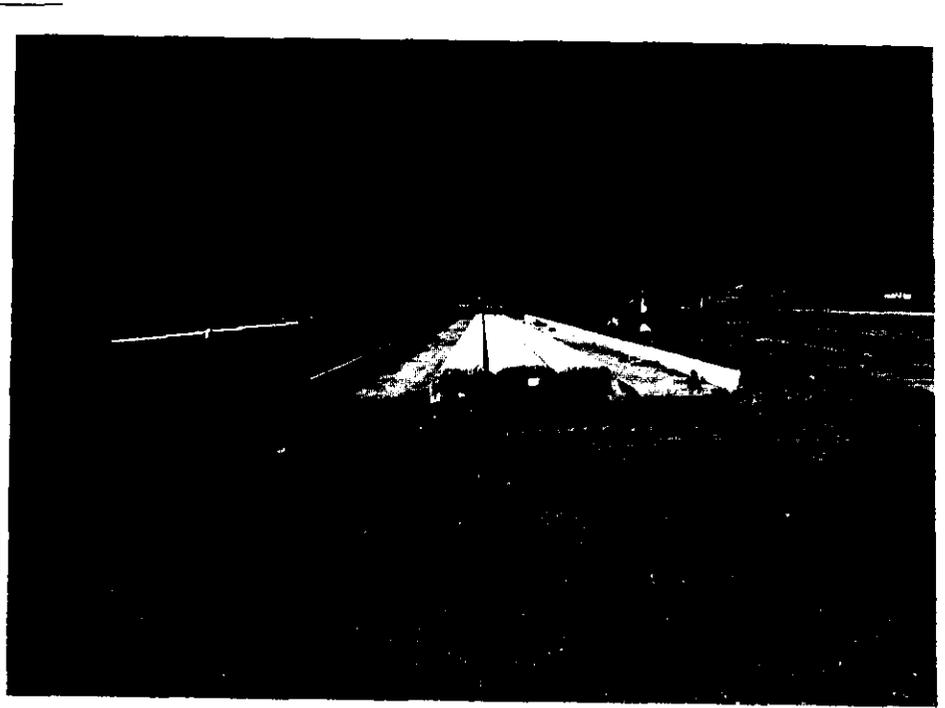
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Location: (WPC)  
The Highlands, LLC  
3600 Sow Farm - Owned  
& Operated by D. Baird  
(near Williamsfield  
in Peoria County)

Comments:

Construction of new  
3600 sow facility

Breeding Building  
(building foudation -  
pits and floor slab)



Date: Oct 16, 1997  
Time: App. 10:00 AM

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Todd R Huson, DWPC/FOS

Location: (WPC)  
The Highlands, LLC  
3600 Sow Farm - Owned  
& Operated by D. Baird  
(near Williamsfield  
in Peoria County)

Comments:

Construction of new  
3600 sow facility

Breeding Building  
(building foudation -  
pits and floor slab)



Date: Oct 16, 1997  
Time: App. 10:00 AM

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Todd R Huson, DWPC/FOS

Location: (WPC)  
The Highlands, LLC  
3600 Sow Farm - Owned  
& Operated by D. Baird  
(near Williamsfield  
in Peoria County)

Comments:

Construction of new  
3600 sow facility

Farrowing Building  
(building foudation -  
pits and floor slab)



Date: Oct 16, 1997  
Time: App. 10:00 AM

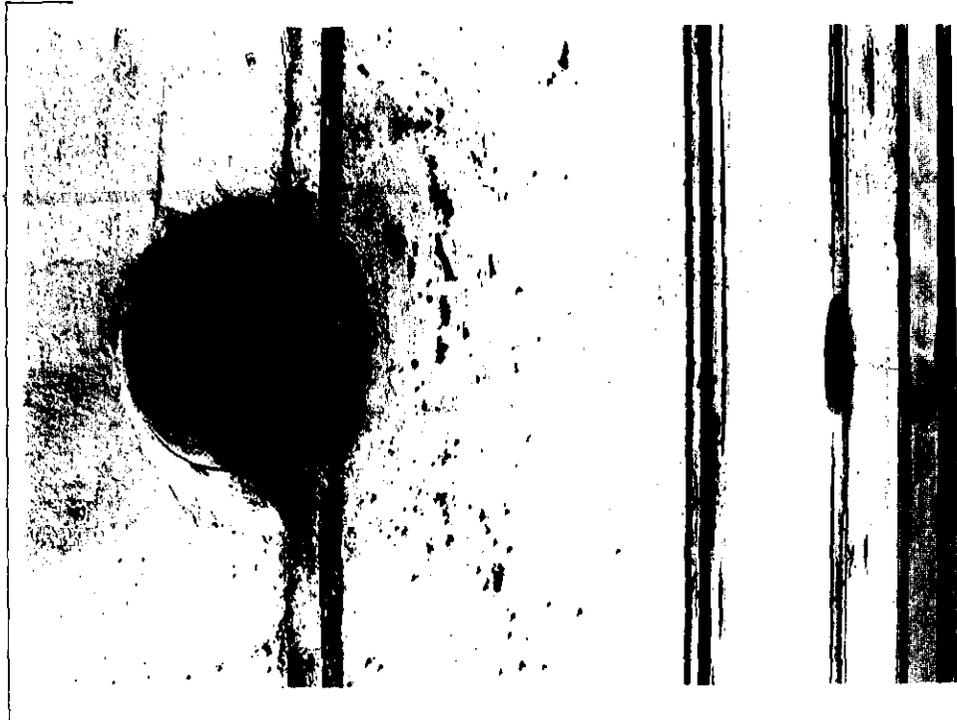
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Todd R Huson, DWPC/FOS

Location: (WPC)  
The Highlands, LLC  
3600 Sow Farm - Owned  
& Operated by D. Baird  
(near Williamsfield  
in Peoria County)

Comments:

Construction of new  
3600 sow facility

Farrowing Building  
(building foudation -  
pits and floor slab)



Date: Oct 16, 1997  
Time: App. 10:30 AM

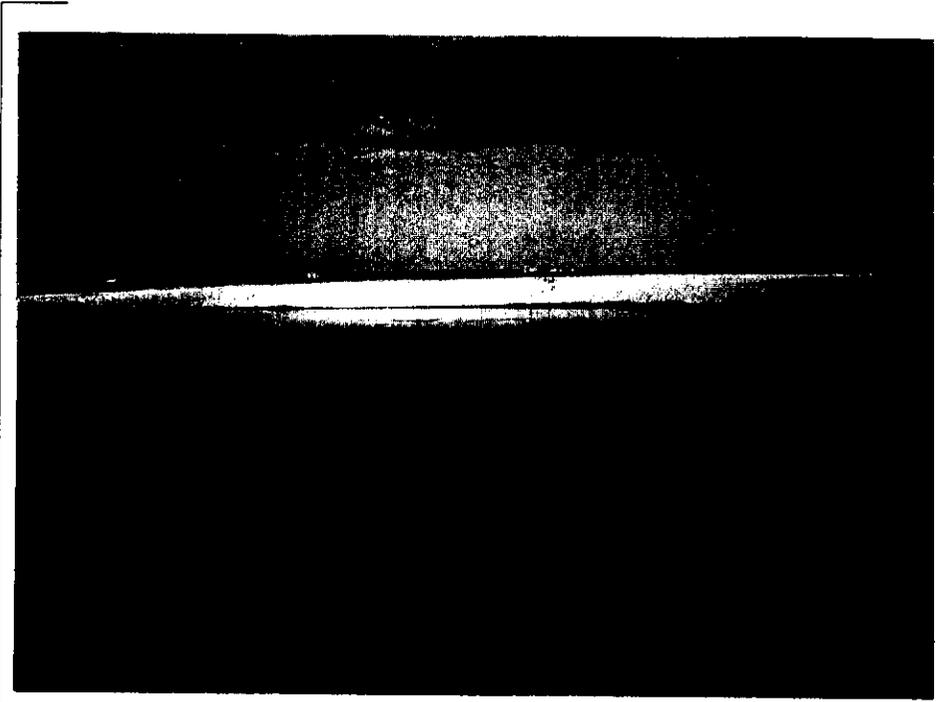
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Todd R Huson, DWPC/FOS

Location: (WPC)  
The Highlands, LLC  
3600 Sow Farm - Owned  
& Operated by D. Baird  
(near Williamsfield  
in Peoria County)

Comments:

Construction of new  
3600 sow facility

Wastewater treatment  
two-cell lagoon system  
(2.9 acre cell #1)



Date: Oct 16, 1997  
Time: App. 10:30 AM

Photographed By:  
Todd R Huson, DWPC/FOS

Location: (WPC)  
The Highlands, LLC  
3600 Sow Farm - Owned  
& Operated by D. Baird  
(near Williamsfield  
in Peoria County)

Comments:

Construction of new  
3600 sow facility

Wastewater treatment  
two-cell lagoon system  
(2.9 acre cell #1)



Date: Oct 16, 1997  
Time: App. 10:30 AM

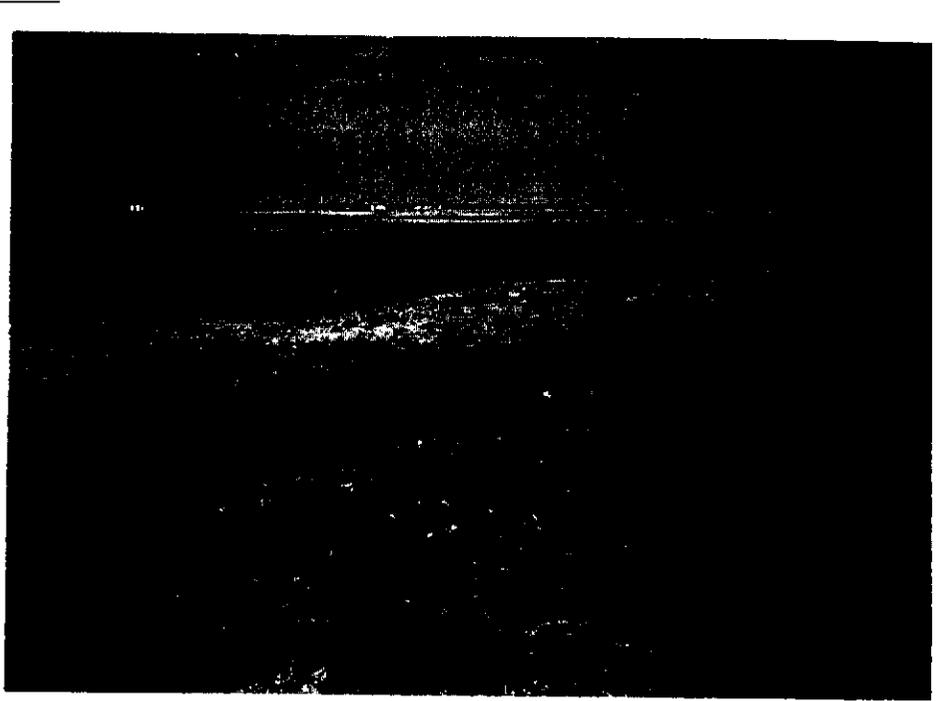
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Todd R Huson, DWPC/FOS

Location: (WPC)  
The Highlands, LLC  
3600 Sow Farm - Owned  
& Operated by D. Baird  
(near Williamsfield  
in Peoria County)

Comments:

Construction of new  
3600 sow facility

Wastewater treatment  
two-cell lagoon system  
(3.6 acre cell #2)



Date: Oct 16, 1997  
Time: App. 10:30 AM

Photographed By:  
Todd R Huson, DWPC/FOS

Location: (WPC)  
The Highlands, LLC  
3600 Sow Farm - Owned  
& Operated by D. Baird  
(near Williamsfield  
in Peoria County)

Comments:

Construction of new  
3600 sow facility

Wastewater treatment  
two-cell lagoon system  
(3.6 acre cell #2)



Date: Oct 16, 1997  
Time: App. 10:30 AM

Photographed By:  
Todd R Huson, DWPC/FOS

Location: (WPC)  
The Highlands, LLC  
3600 Sow Farm - Owned  
& Operated by D. Baird  
(near Williamsfield  
in Peoria County)

Comments:

Construction of new  
3600 sow facility

Wastewater treatment  
two-cell lagoon system  
(berm between cells)



Date: Oct 16, 1997  
Time: App. 10:30 AM

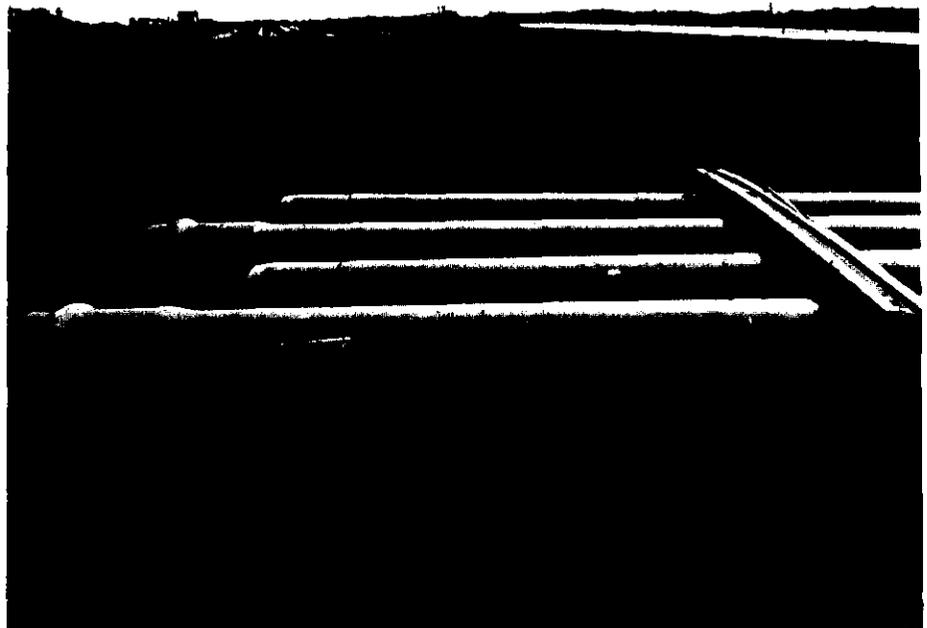
Photographed By:  
Todd R Huson, DWPC/FOS

Location: (WPC)  
The Highlands, LLC  
3600 Sow Farm - Owned  
& Operated by D. Baird  
(near Williamsfield  
in Peoria County)

Comments:

Construction of new  
3600 sow facility

Wastewater treatment  
two-cell lagoon system  
(stockpiled PVC pipe)



Memorandum - Inspection Notes

Subject: Knox County  
(near Williamsfield)

The Highlands LLC, 3600 Sow Farm  
Wastewater Treatment Facilities  
Reconnaissance/Construction Inspection

To: DWPC/FOS & RU  
From: Todd R Huson, DWPC-FOS, Peoria Region  
Date: April 23, 1998

Interviewed: Douglas Baird, Owner/Operator  
Accompanied: Eric Ackerman, DWPC-FOS, Peoria Region

On April 23, 1998, a reconnaissance and construction inspection was performed at the new Highlands LLC (3600 Sow Farm). Owner/Operator Douglas Baird was interviewed. This farrow to ween swine farm is located just south of Williamsfield in Knox County. The majority of the new buildings have been constructed, including the office/garage, gestation building, breeding building, and farrowing building. The initial hogs were brought on site and these units were placed in service on December 21, 1997. The construction of the nursery and finishing buildings has also been started. This farm is reportedly being expanded from a 3600 sow to a 7300 sow operation through the addition of a second farrowing building.

The livestock waste management system for this swine farm has been modified several times since the original design. The system has evolved as follows:

1. single waste stabilization lagoon
2. single covered anaerobic lagoon with flared gas provision
3. solids separator (filter press) followed by two cell facultative lagoon system
4. multi-cell aerated/nonaerated biological treatment system.

The two-cell lagoon system was essentially completed with the exception of the transfer piping, when the waste management system was altered to the multi-cell biological treatment system. Two additional small cells were quickly constructed and the majority of the transfer piping was installed. Each cell was reportedly constructed with a 12 inch clay liner. However, only the initial cells of the multi-cell treatment system were operational when waste was diverted to the system on December 28, 1997.

The multi-cell biological treatment system was designed by BION Technologies, Inc., 555 17th Street, Suite 3310, Denver Colorado 80202, 303/294-0750. BION Technologies will reportedly operate this system through regular monthly visits. This system consists of a small aerated cell (Bioreactor #1), a small nonaerated solids settling cell (Solids Ecoreactor), a small aerated cell (Bioreactor #2), a large aerated storage cell (Bioreactor #3), and a large nonaerated storage cell (Polishing Ecoreactor).

Bioreactor cell #1 and the Solids Ecoreactor cell were constructed just south of the existing lagoon cell #1. Bioreactor cell #2 and Bioreactor cell #3 were consolidated in existing lagoon cell #1. These bioreactor cells are separated by a floating baffle. This baffle will be installed as soon as the water level in this cell reaches the design depth (9'). Existing lagoon cell #2 was converted into the Polishing Ecoreactor.

Aeration is provided in Bioreactor #1 by two Aeromix Tornado aspirating surface aerators. Both of these aerators were operational. Aeration will be provided in both Bioreactor #2 and Bioreactor #3 by one strategically located Aeromix Tornado aspirating surface aerator. This aerator will be installed as soon as the water level in this cell reaches the design depth (9') in the existing lagoon cell #1. Each Aeromix surface aerator is driven by a 5-hp motor and will reportedly deliver 2.5 #O2/bhp-hr under optimum conditions.

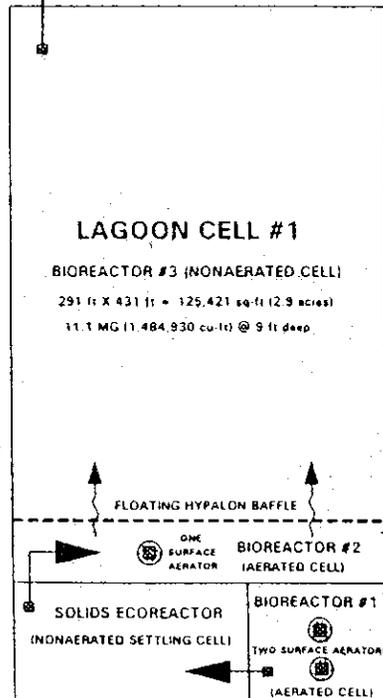
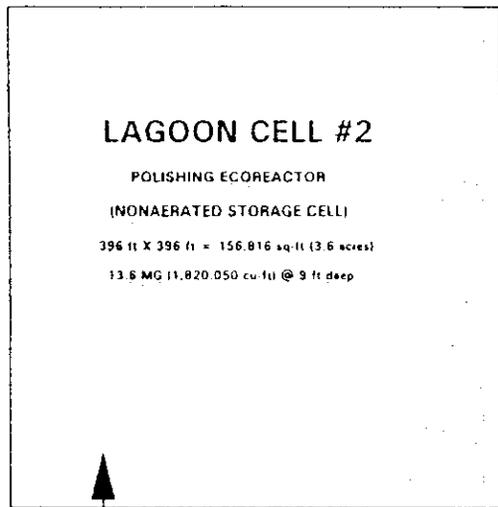
Wastewater generated in the gestation, breeding, farrowing, nursery, and finishing buildings is collected in 16" deep pits. These pits are drained through pull plugs. The gestation building has 16 plugs, breeding building has 16 plugs, farrowing building has 16 plugs, nursery building has 1 plug, and finishing building has 2 plugs. The influent loading will reportedly be controlled by pulling plugs and recirculating recharge water according to a schedule developed by BION Technologies. Each building will be drained on a specific day of the week. The schedule was based on pulling the plugs when the water level reaches 10" in the pits (6" of recharge water and 4" of livestock wastewater).

Solids from the Solids Ecoreactor will be harvested, dried, and applied to agricultural land. Treated wastewater from Bioreactor #2 will be recycled to the building as pit recharge water or diverted into Bioreactor #3 or the Polishing Ecoreactor and spray applied to agricultural land (irrigation). The treated wastewater is being recycled to minimize water usage.

During recent months, several livestock and livestock waste odor complaints have been received by DWPC/FOS Peoria Region. These complaints ranged from ½ to 1 ½ miles away from the farm. Owner/Operator Douglas Baird confirmed that a strong swine waste odor has been produced during the start-up period for this system. A strong swine waste odor was noted near the multi-cell treatment system during this inspection. The start-up of this treatment system will reportedly not be completed until all cells reach their design operating level.

  
Todd R Huson

trh/  
Att: Site Diagram  
Bion (Description, Schedule & Schematic)  
CC: Peoria Files  
Tim Kluge

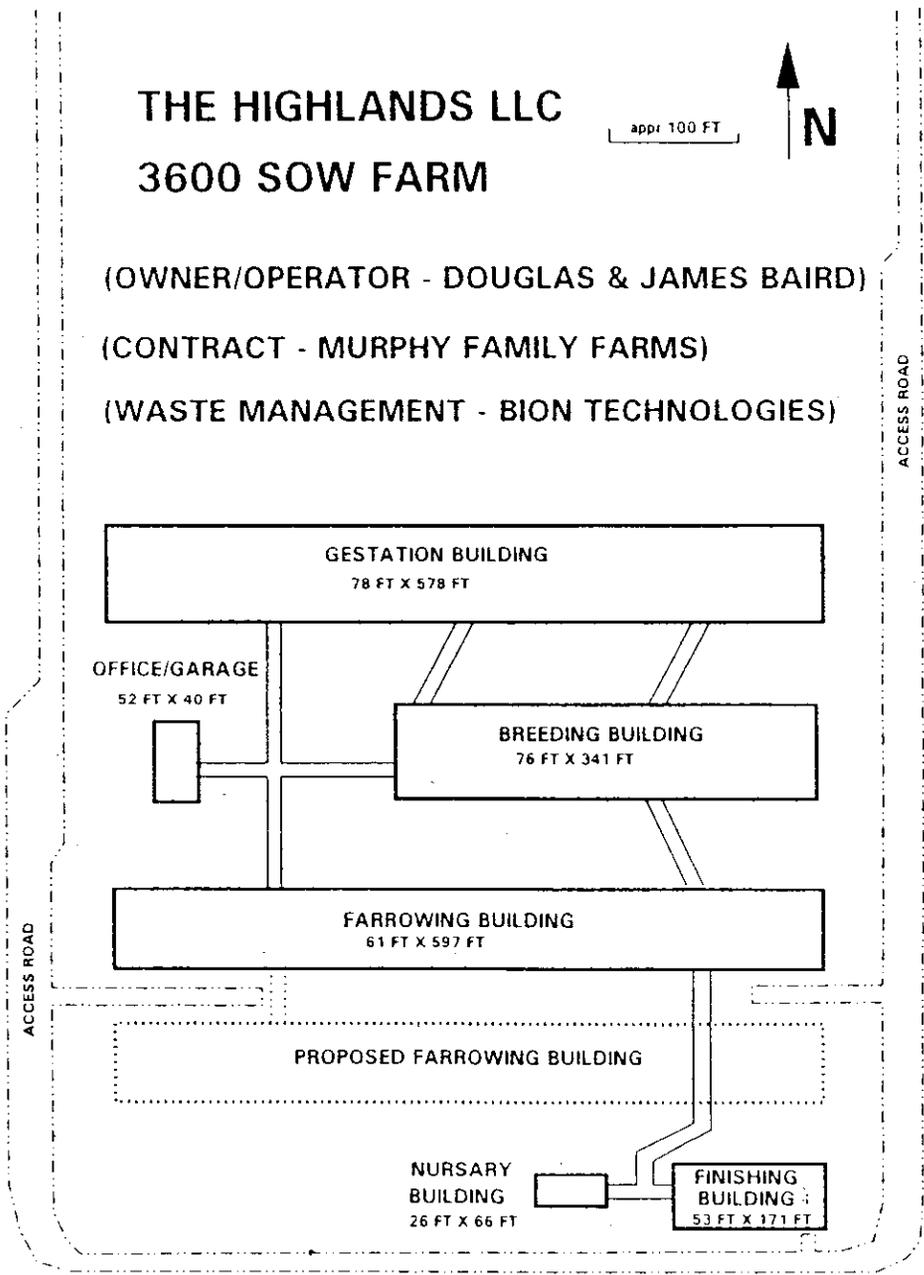


BION TECHNOLOGIES  
BION NMS SYSTEM  
AERATED BIOLOGICAL TREATMENT

AEROMIX TORNADO  
SURFACE AERATOR  
(5 HP, 2.5 FOT) (HP HRT)

RECLAIM LATER

RECYCLE AND REUSE  
WASTEWATER FROM  
FARM OPERATIONS



April 02, 1998

619 C South Third Street  
Smithfield, North Carolina 27577  
(919) 934-3066  
(888) 294-BION (Denver)  
(919) 934-5218 fax

TO: Doug Baird  
SUBJECT: Start-up pit recharge and recycle/recirculation schedule  
FROM: Steve Pagano

Based on the set of plans we received for the buildings, you have the following facilities:

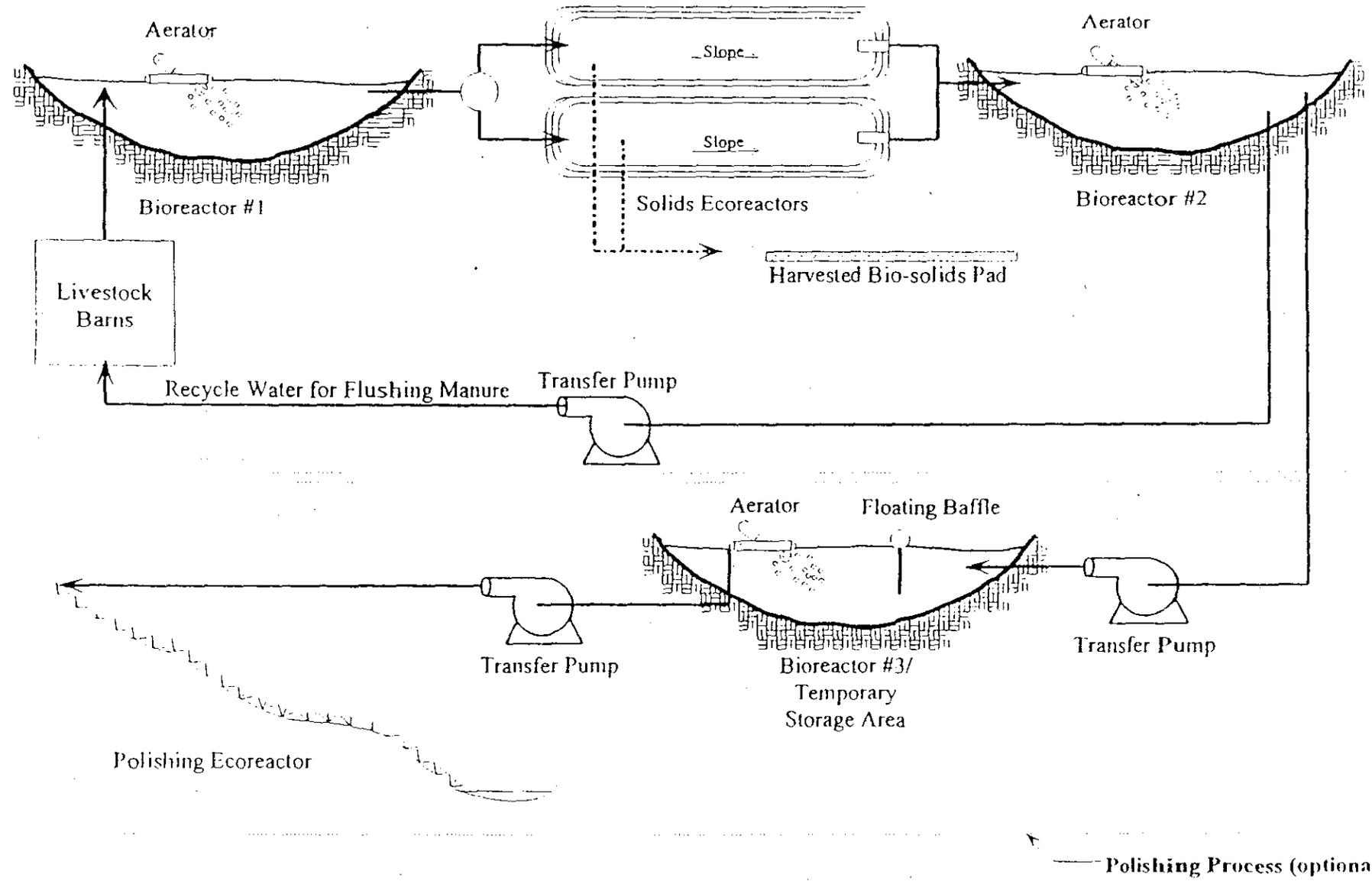
1. Breeding and Gestation (BG)	16 plugs	~ 4,000 gal/pull @ 10" pit water depth
2. Farrowing (FAR)	16 plugs	~ 3,000 gal/pull @ 10" pit water depth
3. Heatcheck (HC)	16 plugs	~ 6,700 gal/pull @ 10" pit water depth
4. Finishing (FIN)	2 plugs	~ 8,000 gal/pull @ 10" pit water depth
5. Nursery (NUR)	1 plug	~ 4,500 gal/pull @ 10" pit water depth

Proposed Pit Recharge Schedule (into Bioreactor 1, B1) for start-up, including recirculation from Temporary Storage Area (TSA):

Monday: 16 BG plugs (~ 64,000 gal)  
Tuesday: 8 HC plugs (~ 53,600 gal)  
Wednesday: recirculate from TSA (50,000 to 70,000 gal, as desired)  
Thursday: 8 HC plugs (~ 53,600 gal)  
Friday: recirculate from TSA (50,000 to 70,000 gal, as desired)  
Saturday: 12 FAR, 2 FIN, 1 NUR plugs (~ 68,500 gal)  
Sunday: recirculate from TSA (50,000 to 70,000 gal, as desired)

For the recirculation days, it is preferred to recirculate through the pits that will be pulled the next day, rather than pumping directly into B1 from the TSA. For example, on Sunday recirculate the water through the 16 Breeding and Gestation house pits, then pull these plugs on Monday. This will deliver a steadier wastestream to the System and minimize the odor. Please keep in mind the sooner we establish the aerated recycle loop from the curtained Bioreactor 2 area, the sooner we will maximize the nutrient handling and odor control efficiency. Also please maintain the 7' water depth currently in B1, do not lower or raise for now, except for the surges when recirculating and/or pulling plugs. Call if you have any questions, concerns, comments or suggestions. Thanks.

Bio-solid Production Loop



**BION**  
TECHNOLOGIES

**BION TECHNOLOGIES, INC.**  
619-C South Third Street  
Smithfield, NC 27577  
Phone (914) 934-3066  
Fax (914) 934-5211

**Bion NMST™ Sytem**  
Process Flow Diagram

**Typical Hog Farm**

Drawn By: JD  
Checked By: JD  
Date: 1/98

Figure No. 1