

PARTS 5 through 11 meet the NMP requirements for an export only operation.

PART 5 – MANURE STORAGE

State regulations require CAFOs ensure adequate storage of manure, litter, or process waste water, including the proper operation and maintenance of each storage facility.

5.1 Does each storage structure have adequate storage, and being properly operated and maintained so as not to discharge? Yes No

PART 6 – ANIMAL MORTALITY

State regulations require proper management of animal mortalities be in place at all CAFOs. There should be no discharge from dead animal collection, holding, or disposal areas at the CAFO's production area(s). In addition, the Missouri Department of Agriculture requires the collection or disposal of dead animals in accordance with the Dead Animal Disposal Law under Chapter 269 RSMo.

6.1 PERMANENT METHOD OF ANIMAL MORTALITY HANDLING OR DISPOSAL; CHOOSE APPLICABLE METHOD(S)

Composting Rendering Send to a Landfill Incineration Other (Describe)

6.2 DESCRIBE METHOD OF MORTALITY HANDLING AND STORAGE THROUGH ALL PHASES TO FINAL DISPOSAL. (e.g., MORTALITIES ARE COMPOSTED WITHIN 24 HOURS OF DEATH AND FINISHED COMPOST PRODUCT IS STORED UNDER ROOF UNTIL LAND APPLIED). ALSO DESCRIBE THE TYPE OF COMPOST STRUCTURE USED, IF APPLICABLE.

Mortalities are collected daily and stored in a covered container. The container is emptied weekly at a minimum or more often if needed and deads are transferred to a rendering facility.

PART 7 – DIVERSION OF CLEAN WATER

State regulations require CAFOs to divert clean storm water, as appropriate, around the production area.

7.1 Is clean storm water diverted from the production area? Yes No

7.2 If yes, describe controls and measures used to divert storm water.

Buildings prevent stormwater from entering animal production area. Site is graded to divert storm water away from buildings.

7.3 IF NO, INCLUDE DESIGN CALCULATIONS (IF NOT INCLUDED IN THE ORIGINAL DESIGN) FOR DETERMINING THE TOTAL STORAGE CAPACITY NEEDED TO CONTAIN ALL CLEAN STORM WATER RUNOFF THAT HAS NOT BEEN DIVERTED FROM THE PRODUCTION AREA. NOTE: THE DEPARTMENT HIGHLY DISCOURAGES THIS PRACTICE.

PART 8 – PREVENT DIRECT CONTACT OF ANIMALS WITH SURFACE WATERS

State regulations require that CAFOs prevent the direct contact of confined animals with waters of the state.

8.1 Do the animals have access to waters of the state within the production area? Yes No

8.2 LIST MEASURES USED TO PREVENT ANIMALS FROM HAVING DIRECT CONTACT WITH WATERS OF THE STATE WITHIN THE PRODUCTION AREA.

Animals are confined in buildings.

PART 9 – CHEMICAL HANDLING

State regulations require chemicals and other contaminants handled on-site not be disposed of in any manure, litter, process wastewater, storm water storage or treatment system unless specifically designed to treat such chemicals and other contaminants

9.1 CHECK THE APPROPRIATE BOXES BELOW TO INDICATE THE MEASURES TAKEN TO PREVENT CHEMICALS (INCLUDING PESTICIDES, COMMERCIAL FERTILIZERS, HAZARDOUS AND TOXIC CHEMICALS AND PETROLEUM BY-PRODUCTS) FROM CONTAMINATING MANURE STORAGE STRUCTURES, PROCESS WASTEWATER OR STORM WATER STORAGE AND TREATMENT SYSTEMS:

Chemicals are stored in proper containers. (Describe)

Chemicals that are no longer used or expired are properly disposed of. (Describe)

Chemical storage and handling areas are protected from precipitation and runoff, and any spillage is contained within these areas. (Describe)

Emergency procedures and equipment are in place to contain and clean up chemical spills. (Describe)

Equipment wash areas are designed and constructed to prevent contamination of surface waters and wastewater and storm water storage and treatment systems. (Describe)

Chemicals are handled and used according to the label. (Describe)

No chemicals are stored or handled in the production area.

PART 10 – MANURE ANALYSIS TESTING

State regulations require that each unique source of manure be tested annually for nutrient content.

10.1 LIST EACH TYPE OF MANURE SOURCE. (i. e. MANURE, LITTER, COMPOST, WASTE WATER.)

Manure pit wastewater.

10.2 DESCRIBE THE PROCEDURES TO ENSURE EACH UNIQUE SOURCE IS TESTED ANNUALLY.

Manure is collected in bottles from several locations at each storage location. The samples are combined in a bulk sample and tested at a laboratory.

PART 11 – RECORD KEEPING

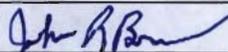
State regulations require specific records to be maintained and kept for five (5) years.

11.1 Are records of all inspections, manure transfers, discharges and land application maintained? Yes No

PART 12 – SIGNATURE

NAME
Rob Brenneman

TITLE
President

SIGNATURE 

DATE
4-18-16

MANURE APPLICATION AGREEMENT

Bright Farms Inc. ("Landowner"), and Rob Brenneman, a duly authorized and registered to transact business in the State of Missouri ("Swine Operation Owner") agree as follows:

Swine Operation Owner shall supply manure to Landowner for application on Landowner's farmland. Swine Operation Owner shall be responsible for application of manure from the swine animal feeding operation located on land described on the attached Exhibit "A" to the land owned by the Landowner described on the attached Exhibit "B". A map showing the location of the swine animal feeding operation and Landowner's land available for manure application is attached as Exhibit "C". If points are noted on the attached Exhibit "C" as points of ingress and egress, Swine Operation owner shall use those points to apply manure. The number of acres of Landowner's land available for application of manure is 2350 acres, more or less.

The designations of Landowner and the legal descriptions on the attached Exhibit "B" and based solely upon information provided by the parties.

Term and Termination. This agreement shall be in effect for 100 year as long as a swine animal feeding operation is located on land described on the attached Exhibit "A".

The Agreement shall terminate prior to the scheduled termination date only upon a breach or violation of the terms of the Agreement by any party. Termination under this paragraph shall occur only after written notice by the party desiring to terminate the lease to the other parties. The breaching party shall have 30 days from the date of notice to correct the breach or violation. If the breach or violation is corrected within this period of time, the Agreement shall not terminate.

Time of application. Manure shall not be applied between the time crops are planted and harvested or when the Landowner determines that soil conditions exist which would result in manure application being detrimental to crop production. Swine Operation Owner shall give the Landowner at least 48 hours notice when manure is to be applied to the land.

Application. Swine Operation Owner shall be responsible for application of manure on Landowner's land.

Manure application costs shall be paid by the parties as follows:

- (1) For the first five years of this agreement the manure application shall be hosed on at the expense of the Swine Operation Owner. After the fifth year the manure application expense shall be split by the Swine Operation Owner and the Landowner.
- (2) If any manure needs to be hauled or tanked, this shall be at the Landowner's expense.

Regulations, permits and manure management plan. Swine Operation Owner shall be responsible for obtaining and complying with government permits required for the swine animal feeding operation and application of manure from the operation. Swine Operation Owner shall be responsible for application of manure in compliance with applicable law or regulations. Landowner shall cooperate with Swine Operation Owner as necessary to comply with applicable law or regulations.

If requested by Swine Operation Owner, Landowner shall keep and provide Swine Operation Owner with annual crop yield records and shall keep and provide Swine Operation Owner with records of nutrient applications other than Swine Operation Owner's manure, including commercial fertilizer and manure.

Landowner shall advise Swine Operation Owner in writing of any known dangers existing on the land. Such list shall be attached to and made part of this Agreement.

Level of soil nutrients. Swine Operation Owner shall apply manure based on a manure management plan and to maximize soil fertility of soil nutrients and prevent buildup of those nutrients or trace elements, based on soil tests conducted by a reputable soil test service at the expense of Landowner. If soil tests show nutrient levels in excess of soil test recommendations, application of manure on those specific fields shall be limited to crop utilization rates until subsequent soil tests show nutrient levels are reduced to acceptable levels. However, such a determination shall not by itself result in termination of the Agreement.

Nutrient applications other than the Swine Operation Owner's manure, i.e., commercial fertilizers and manure from other sources, shall supplement and not replace the Swine Operation Owner's manure applications.

Consideration. Landowner will not be required to pay Swine Operation Owner for manure to be provided under this Agreement.

Binding Effect. This agreement shall run with the land and inure to the benefit of and be binding upon the heirs, executors, personal representatives, and successors of each party.

Assignment. This agreement shall not be assigned by either party without the express prior written consent of all parties.

Limitation of liability and indemnification. Each party shall indemnify, defend and hold harmless the other parties from all costs, losses, liabilities, claims, penalties or expenses (including reasonable attorney's fees) imposed upon or incurred by or asserted against the party by reason of: a) any failure on the part of any other party to perform or comply with any of the terms of this agreement, b) any enforcement or remedial action taken by the party in the event of a failure to perform or comply with the terms of this agreement by any other party; or c) any litigation, negotiation or transaction in which the party becomes involved or concerned (without that party's fault) respecting the agreement, the described premise or the use or occupancy thereof by any other party. However, because Swine Operation Owner is responsible for the proper application of manure on Landowner's land, Swine Operation Owner agrees to hold harmless and indemnify, including reasonable attorney's fees, Landowner for (1) any nuisance, trespass, negligence, or other action brought by a third party involving unreasonable interference with that party's reasonable use and enjoyment of their land caused by the application of manure on Landowner's land; or (2) any action brought by a third party for discharges of manure, no matter the cause or source, which may occur.

Entire agreement. This agreement constitutes the entire agreement between the parties; and it supersedes all negotiations and other discussions prior to and after the execution of this agreement.

Amendments. No amendment of the terms of this agreement will be effective unless made in writing and signed by the parties. The waiver of a provision of this agreement will not be deemed a waiver of future compliance with this agreement.

Severability. In the event any provision of this agreement is held unenforceable, in whole or in part, the remaining provisions of this agreement will not be affected thereby unless the unenforceable provision materially alters the rights of either party and it is impossible to adjust for the unenforceable provision.

Changes in Agreement Terms. The conduct of either party by act or omission shall not be construed as a material alteration of this agreement until such provision is reduced to writing and executed by all parties as an addendum to this agreement.

Construction. Words and phrases herein, including the acknowledgment, are construed as in the singular or plural and as the appropriate gender according to the context. The captions and headings of the paragraphs of this agreement are for convenience only and are not to be used to interpret or define the provisions thereof.

Notices. The notices contemplated in this agreement shall be made in writing and shall

be delivered either in person or mailed by the U.S. Postal Service by registered mail return receipt requested to the recipient's last known mailing address.

Landowner:

Swine Operation Owner:

Bright Farms Inc
(L.R. Co. Inc)

By:

R.A. Brown

Debra N. Jones, Notary Public



DEBRA N. JONES
My Commission Expires
December 25, 2014
Monroe County
Commission #1098725

my Commission
expires

12/25/14

Exhibit "A"

Swine Operating Facility Location

Location of the
operation:

(Address Pending) County Road 715

(911 address)

Paris

(Town)

MO

(State)

65275

(Zip)

NW

(1/4 1/4)

NE

(1/4)

12

(Section)

T53N

(Tier & Range)

10W

Jackson

(Township
Name)

Monroe

(County)

St. Louis, MO 63129
763,000'

Arms, LLC
er Road
n, MO 63096

George Bright, Jr.
10711 Monroe Road 707
Paris, MO 65275

Havener Bros. Limited Partnership
2597 Audrain Road 389
Mexico, MO 65265

Dye Farms, Inc.
31407 Route D
Paris, MO 65275

3,000'

3,000'

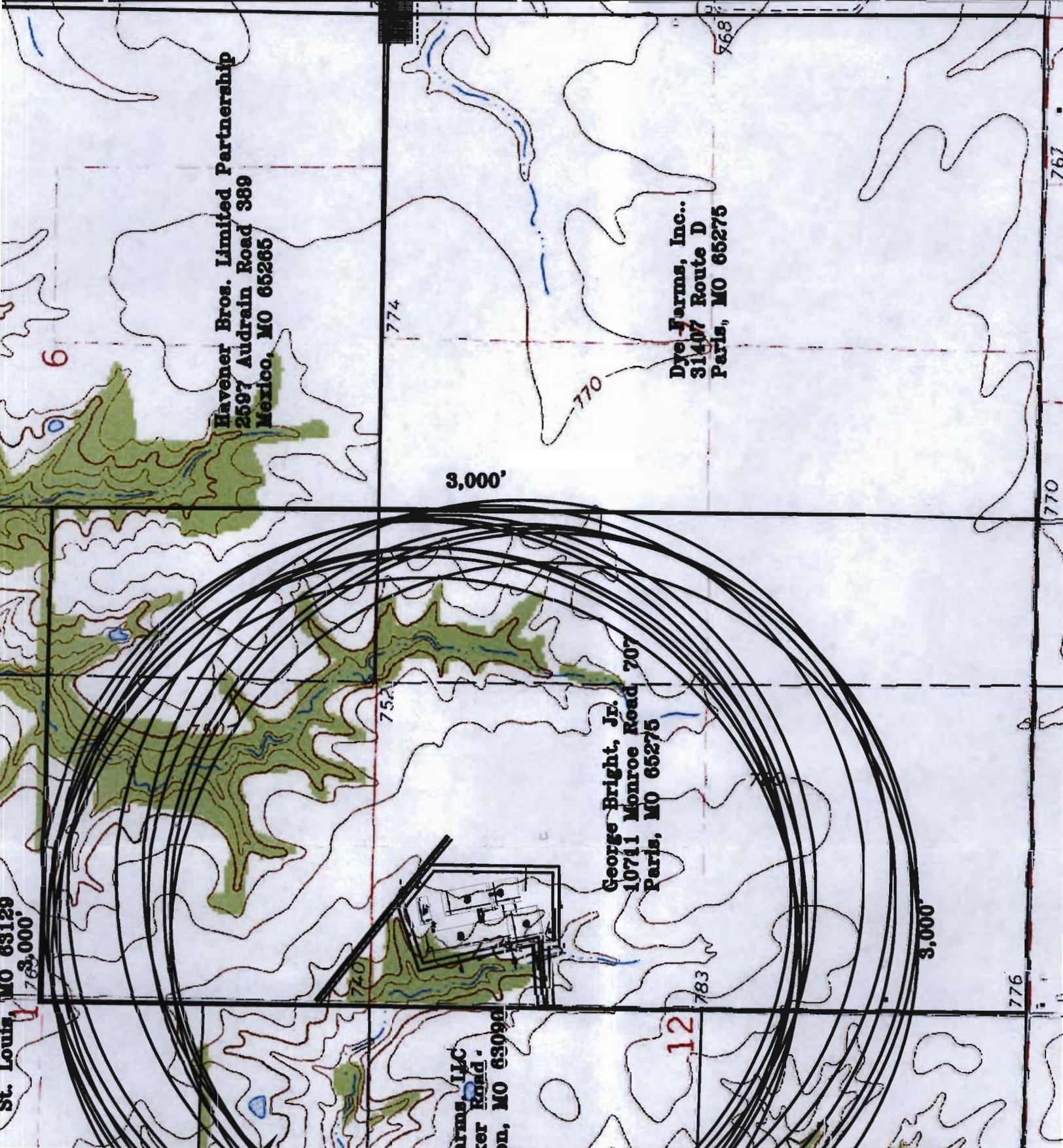
ALLIED ENGINEERING SERVICES, LLC
Engineering-Surveying-Construction

224 WEST MAIN, P.O. BOX 29
BOWLING GREEN, MO 63334
PHONE: (573) 324-6860

ATLANTIC PORK
MONROE COUNTY

SHEET TITLE:
PROPOSED ADDITION
PN MAP

FILE NAME	16-3326
DRAWN BY	TRD
CHECKED BY	JEB
PROJECT ENGINEER	JEB
CONTACT OFFICE	BOWLING GREEN
DATE	





1,000'

1,000'

2,000'

2,000'

2,000'

2,000'

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

O FALLON, MO 63366

OFFICIAL USE

7015 1520 0000 4961 0311



USPS Tracking®

RECEIVED

APR 26 2016

Water Protection Program

Certified Mail Fee	\$3.45
Extra Services & Fees (check box, add fee as appropriate)	\$2.80
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

Postage	\$0.71
Total Postage and Fees	\$6.96

0834
03

Postmark Here
03/23/2016

Donald

Sent To Johnson Rainbow Farms, LLC Alita
 Street and Apt. No. or PO Box No. 2281 Old Hwy 79 Ray, MO
 City, State, ZIP+4® O'Fallon, MO 63366

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

Tracking Number: 70151520000049610311

Expected Delivery Day: Friday, March 25, 2016

Product & Tracking Information

Postal Product: First-Class Mail®
 Features: Certified Mail™ Return Receipt
 See tracking for related item: 9590940100105071722857

Available Actions

- Text Updates
- Email Updates

DATE & TIME	STATUS OF ITEM	LOCATION
March 25, 2016 , 1:12 pm	Notice Left (No Authorized Recipient Available)	O FALLON, MO 63366

We attempted to deliver your item at 1:12 pm on March 25, 2016 in O FALLON, MO 63366 and a notice was left because an authorized recipient was not available. You may arrange redelivery by using the Schedule a Redelivery feature on this page or calling 800-ASK-USPS, or may pick up the item at the Post Office indicated on the notice. If this item is unclaimed by April 9, 2016 then it will be returned to sender.

March 24, 2016 , 8:52 pm	Departed USPS Facility	SAINT LOUIS, MO 63155
March 23, 2016 , 8:57 pm	Arrived at USPS Facility	SAINT LOUIS, MO 63155
March 23, 2016 , 5:06 pm	Departed Post Office	BOWLING GREEN, MO 63334
March 23, 2016 , 4:26 pm	Acceptance	BOWLING GREEN, MO 63334

Track Another Package

Tracking (or receipt) number

Track It

Manage Incoming Packages

Track all your packages from a dashboard. No tracking numbers necessary.

Sign up for My USPS ›





USPS Tracking®

Tracking Number: 7015152000049610328

On Time
Expected Delivery Day: Friday, March 25, 2016

Product & Tracking Information

Postal Product: First-Class Mail®
 Features: Certified Mail™ Return Receipt

See tracking for related item: 9590940100105071722840

DATE & TIME	STATUS OF ITEM	LOCATION
March 25, 2016 , 1:57 pm	Notice Left (No Authorized Recipient Available)	PARIS, MO 65275

We attempted to deliver your item at 1:57 pm on March 25, 2016 in PARIS, MO 65275 and a notice was left because an authorized recipient was not available. You may arrange redelivery by using the Schedule a Redelivery feature on this page or calling 800-ASK-USPS, or may pick up the item at the Post Office indicated on the notice. If this item is unclaimed by April 9, 2016 then it will be returned to sender.

March 25, 2016 , 8:29 am	Out for Delivery	PARIS, MO 65275
March 25, 2016 , 8:19 am	Sorting Complete	PARIS, MO 65275
March 25, 2016 , 7:51 am	Arrived at Unit	PARIS, MO 65275
March 24, 2016 , 11:51 pm	Departed USPS Facility	COLUMBIA, MO 65299
March 24, 2016 , 8:28 am	Arrived at USPS Facility	COLUMBIA, MO 65299
March 23, 2016 , 8:57 pm	Arrived at USPS Facility	SAINT LOUIS, MO 63155
March 23, 2016 , 5:06 pm	Departed Post Office	BOWLING GREEN, MO 63334
March 23, 2016 , 4:26 pm	Acceptance	BOWLING GREEN, MO 63334

7015 1520 0000 4961 0328

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
 Domestic Mail Only

For delivery information, visit our website at www.usps.com™.

OFFICIAL USE

PARIS, MO 65275

Certified Mail Fee \$3.45
 \$2.80
 Extra Services & Fees (check box, add fee as appropriate)
 Return Receipt (hardcopy) \$0.00
 Return Receipt (electronic) \$0.00
 Certified Mail Restricted Delivery \$0.00
 Adult Signature Required \$0.00
 Adult Signature Restricted Delivery \$0.00

Postage \$0.71
 Total Postage and Fees \$8.96

0834
 03
 Postmark Here
 23
 2016
 03/23/2016

Sent To Jedd & Tracy Ragdale
 Street and Apt. No., or PO Box No. 14976 Monroe Rd. 715
 City, State, ZIP+4® Paris, MO 65275

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

Email Updates

Track Another Package

Tracking (or receipt) number

Track It

Manage Incoming Packages

Track all your packages from a dashboard. No tracking numbers necessary.

Sign up for My USPS >



SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
 Monroe Co. Commission
 300 N. Main, Rm 203
 Paris, MO 65275



9590 9401 0022 5071 4481 41

2. Article Number (Transfer from service label)

7015 1520 0000 4961 0380

COMPLETE THIS SECTION ON DELIVERY

A. Signature
 x *Christina Bui* Agent Address

B. Received by (Printed Name) *Christina Bui* C. Date of Delivery *3-25-16*

D. Is delivery address different from item 1? Yes No
 If YES, enter delivery address below:

3. Service Type
- | | |
|---------------------------------------------------------------------------|---------------------------------------------------------------------|
| <input type="checkbox"/> Adult Signature | <input type="checkbox"/> Priority Mail Express® |
| <input type="checkbox"/> Adult Signature Restricted Delivery | <input type="checkbox"/> Registered Mail™ |
| <input checked="" type="checkbox"/> Certified Mail® | <input type="checkbox"/> Registered Mail Restricted Delivery |
| <input type="checkbox"/> Certified Mail Restricted Delivery | <input type="checkbox"/> Return Receipt for Merchandise |
| <input type="checkbox"/> Collect on Delivery | <input type="checkbox"/> Signature Confirmation |
| <input type="checkbox"/> Collect on Delivery Restricted Delivery | <input type="checkbox"/> Signature Confirmation Restricted Delivery |
| <input type="checkbox"/> Registered Mail Restricted Delivery (over \$500) | |

PS Form 3811, April 2015 PSN 7530-02-000-9053

Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
 Rodger + Janet Moore
 5811 Westcliffe
 St. Louis, MO 63129



9590 9401 0010 5071 7228 26

2. Article Number (Transfer from service label)

7015 1520 0000 4961 0342

COMPLETE THIS SECTION ON DELIVERY

A. Signature
 X *Janet Moore* Agent Address

B. Received by (Printed Name) C. Date of Delivery *04/07*

D. Is delivery address different from item 1? Yes No
 If YES, enter delivery address below:

3. Service Type
- | | |
|---------------------------------------------------------------------------|---------------------------------------------------------------------|
| <input type="checkbox"/> Adult Signature | <input type="checkbox"/> Priority Mail Express® |
| <input type="checkbox"/> Adult Signature Restricted Delivery | <input type="checkbox"/> Registered Mail™ |
| <input checked="" type="checkbox"/> Certified Mail® | <input type="checkbox"/> Registered Mail Restricted Delivery |
| <input type="checkbox"/> Certified Mail Restricted Delivery | <input type="checkbox"/> Return Receipt for Merchandise |
| <input type="checkbox"/> Collect on Delivery | <input type="checkbox"/> Signature Confirmation |
| <input type="checkbox"/> Collect on Delivery Restricted Delivery | <input type="checkbox"/> Signature Confirmation Restricted Delivery |
| <input type="checkbox"/> Registered Mail Restricted Delivery (over \$500) | |

PS Form 3811, April 2015 PSN 7530-02-000-9053

Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
 George Bright, Jr
 10711 Monroe Rd. 707
 Paris, MO 65275



9590 9401 0022 5071 4481 34

2. Article Number (Transfer from service label)

7015 1520 0000 4961 0397

PS Form 3811, April 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature
 X *[Signature]* Agent
 Addressee

B. Received by (Printed Name)
 C. Date of Delivery
 3/25/16

D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

3. Service Type

<input type="checkbox"/> Adult Signature	<input type="checkbox"/> Priority Mail Express®
<input type="checkbox"/> Adult Signature Restricted Delivery	<input type="checkbox"/> Registered Mail™
<input checked="" type="checkbox"/> Certified Mail®	<input type="checkbox"/> Registered Mail Restrict Delivery
<input type="checkbox"/> Certified Mail Restricted Delivery	<input type="checkbox"/> Return Receipt for Merchandise
<input type="checkbox"/> Collect on Delivery	<input type="checkbox"/> Signature Confirmation
<input type="checkbox"/> Collect on Delivery Restricted Delivery	<input type="checkbox"/> Signature Confirmation Restricted Delivery
<input type="checkbox"/> Insured Mail (over \$500)	

Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
 Normo Farms, LLC
 1476 Becker Rd
 Washington, MO 63090



9590 9401 0010 5071 7228 33

2. Article Number (Transfer from service label)

7015 1520 0000 4961 0335

PS Form 3811, April 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature
 X *[Signature]* Agent
 Addressee

B. Received by (Printed Name)
 RICHARD ECKELHAYE
 C. Date of Delivery

D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

3. Service Type

<input type="checkbox"/> Adult Signature	<input type="checkbox"/> Priority Mail Express®
<input type="checkbox"/> Adult Signature Restricted Delivery	<input type="checkbox"/> Registered Mail™
<input checked="" type="checkbox"/> Certified Mail®	<input type="checkbox"/> Registered Mail Restrict Delivery
<input type="checkbox"/> Certified Mail Restricted Delivery	<input type="checkbox"/> Return Receipt for Merchandise
<input type="checkbox"/> Collect on Delivery	<input type="checkbox"/> Signature Confirmation
<input type="checkbox"/> Collect on Delivery Restricted Delivery	<input type="checkbox"/> Signature Confirmation Restricted Delivery
<input type="checkbox"/> Insured Mail (over \$500)	

Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
 Greg Caldwell
 Water Pollution Control Program
 P.O. Box 176
 Jefferson City, MO 65102-0176



9590 9401 0022 5071 4485 47

2. Article Number (Transfer from service label)

7015 1520 0000 4961 0298

PS Form 3811, April 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature
 X *[Signature]* Agent
 Addressee

B. Received by (Printed Name)
 C. Date of Delivery
 MAR 25 2015

D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

3. Service Type

<input type="checkbox"/> Adult Signature	<input type="checkbox"/> Priority Mail Express®
<input type="checkbox"/> Adult Signature Restricted Delivery	<input type="checkbox"/> Registered Mail™
<input checked="" type="checkbox"/> Certified Mail®	<input type="checkbox"/> Registered Mail Restrict Delivery
<input type="checkbox"/> Certified Mail Restricted Delivery	<input type="checkbox"/> Return Receipt for Merchandise
<input type="checkbox"/> Collect on Delivery	<input type="checkbox"/> Signature Confirmation
<input type="checkbox"/> Collect on Delivery Restricted Delivery	<input type="checkbox"/> Signature Confirmation Restricted Delivery
<input type="checkbox"/> Insured Mail (over \$500)	

Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Havener Bros. Limited Pkshp
 2977 Audrain Rd. 389
 Maple, MO 65265



9590 9401 0010 5071 7228 02

2. Article Number (Transfer from service label)

015 1520 0000 4961 0366

PS Form 3811, April 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X *Marvin Haveney*

B. Received by (Printed Name)

MARVIN HAVENEY



D. Is delivery address different from item 1? Yes No
If YES, enter delivery address below:

3. Service Type

- Adult Signature
- Adult Signature Restricted Delivery
- Certified Mail®
- Certified Mail Restricted Delivery
- Collect on Delivery
- Collect on Delivery Restricted Delivery
- Insured Mail
- Insured Mail Restricted Delivery (over \$500)
- Priority Mail Express®
- Registered Mail™
- Registered Mail Restricted Delivery
- Return Receipt for Merchandise
- Signature Confirmation™
- Signature Confirmation Restricted Delivery

Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Dye Farms, Inc.
 31407 Rt. D
 Paris, MO 65275



9590 9401 0022 5071 4481 58

2. Article Number (Transfer from service label)

7015 1520 0000 4961 0373

PS Form 3811, April 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X *Taylor Dye*

- Agent
- Addressee

B. Received by (Printed Name)

C. Date of Delivery
3/25/16

D. Is delivery address different from item 1? Yes No
If YES, enter delivery address below:

3. Service Type

- Adult Signature
- Adult Signature Restricted Delivery
- Certified Mail®
- Certified Mail Restricted Delivery
- Collect on Delivery
- Collect on Delivery Restricted Delivery
- Insured Mail
- Insured Mail Restricted Delivery (over \$500)
- Priority Mail Express®
- Registered Mail™
- Registered Mail Restricted Delivery
- Return Receipt for Merchandise
- Signature Confirmation™
- Signature Confirmation Restricted Delivery

Domestic Return Receipt

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- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

James + Sarah Meyer
 10805 West Alex Drive
 Rocheport, MO 65279



9590 9401 0010 5071 7228 19

2. Article Number (Transfer from service label)

7015 1520 0000 4961 0359

PS Form 3811, April 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X *James W. Meyers*

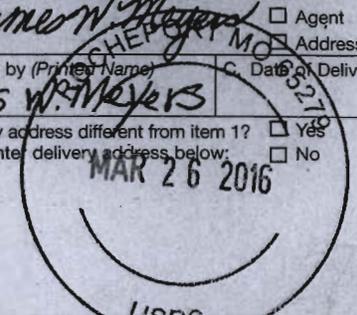
- Agent
- Addressee

B. Received by (Printed Name)

JAMES W. MEYERS

C. Date of Delivery
MAR 26 2016

D. Is delivery address different from item 1? Yes No
If YES, enter delivery address below:



3. Service Type

- Adult Signature
- Adult Signature Restricted Delivery
- Certified Mail®
- Certified Mail Restricted Delivery
- Collect on Delivery
- Collect on Delivery Restricted Delivery
- Insured Mail
- Insured Mail Restricted Delivery (over \$500)
- Priority Mail Express®
- Registered Mail™
- Registered Mail Restricted Delivery
- Return Receipt for Merchandise
- Signature Confirmation™
- Signature Confirmation Restricted Delivery

Domestic Return Receipt

ALLIED ENGINEERING SERVICES, LLC

Engineering—Surveying—Construction

April 17, 2013

Greg Caldwell
Water Pollution Control Program
P.O. Box 176
Jefferson City, MO 65102-0176

Re: Atlantic Pork, LLC

Dear Greg,

Atlantic Pork is planning building additions to their farm in Section 12, Township 53N, Range 10W, Monroe County Missouri. The farm is in the NE $\frac{1}{4}$ of the section, see enclosed topographic map at a scale of 1" = 1000'.

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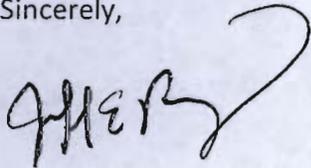
Atlantic Pork, LLC is owned by Brenneman Pork:

Brenneman Pork
1551 Larch Avenue
Washington, IA 52353
(319)656-3938

Additional information can be obtained from Mr. Adam Hocker at the above address.

You can submit written comments to the Missouri Department of Natural Resources concerning this proposed farm for a period of 30 days, their address is: P.O. Box 176, Jefferson City, MO 65102.

Sincerely,



Jeff E. Browning, P.E.

Enclosures

USGS Topographic Map
General Location Map

ALLIED ENGINEERING SERVICES, LLC

Engineering—Surveying—Construction

April 17, 2013

George Bright, Jr.
10711 Monroe Road 707
Paris, MO 65275

Re: Atlantic Pork, LLC

Dear Mr. Bright,

Atlantic Pork is planning building additions to their farm in Section 12, Township 53N, Range 10W, Monroe County Missouri. The farm is in the NE $\frac{1}{4}$ of the section, see enclosed topographic map at a scale of 1" = 1000'.

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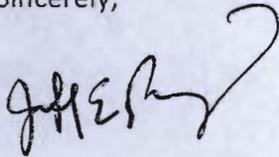
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Washington, IA 52353
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Sincerely,

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Jeff E. Browning, P.E.

Enclosures

USGS Topographic Map
General Location Map

ALLIED ENGINEERING SERVICES, LLC

Engineering—Surveying—Construction

April 17, 2013

Monroe County Commission
300 N. Main, Room 203
Paris, MO 65275

Re: Atlantic Pork, LLC

Dear Commissioners,

Atlantic Pork is planning building additions to their farm in Section 12, Township 53N, Range 10W, Monroe County Missouri. The farm is in the NE $\frac{1}{4}$ of the section, see enclosed topographic map at a scale of 1" = 1000'.

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1551 Larch Avenue
Washington, IA 52353
(319)656-3938

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Jeff E. Browning, P.E.

Enclosures

USGS Topographic Map
General Location Map

ALLIED ENGINEERING SERVICES, LLC

Engineering—Surveying—Construction

April 17, 2013

Dye Farms, Inc.
31407 Route D
Paris, MO 65275

Re: Atlantic Pork, LLC

Dear Sir/Madam,

Atlantic Pork is planning building additions to their farm in Section 12, Township 53N, Range 10W, Monroe County Missouri. The farm is in the NE $\frac{1}{4}$ of the section, see enclosed topographic map at a scale of 1" = 1000'.

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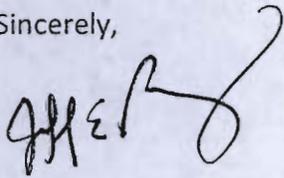
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1551 Larch Avenue
Washington, IA 52353
(319)656-3938

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Jeff E. Browning, P.E.

Enclosures

USGS Topographic Map
General Location Map

ALLIED ENGINEERING SERVICES, LLC

Engineering—Surveying—Construction

April 17, 2013

Havener Bros. Limited Partnership
2597 Audrain Road 389
Mexico, MO 65265

Re: Atlantic Pork, LLC

Dear Sir/Madam,

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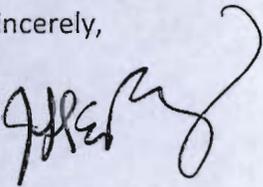
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Jeff E. Browning, P.E.

Enclosures

USGS Topographic Map
General Location Map

ALLIED ENGINEERING SERVICES, LLC

Engineering—Surveying—Construction

April 17, 2013

Johnson Rainbow Farms, LP
Donald & Alita Rev. Living Trust
2281 Old Hwy. 79
O'Fallon, MO 63366

Re: Atlantic Pork, LLC

Dear Sir/Madam,

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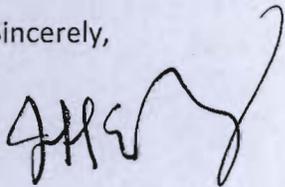
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Jeff E. Browning, P.E.

Enclosures

USGS Topographic Map
General Location Map

ALLIED ENGINEERING SERVICES, LLC

Engineering—Surveying—Construction

April 17, 2013

James & Gail Meyers
10805 West Alex Drive
Rocheport, MO 65279

Re: Atlantic Pork, LLC

Dear Mr. & Mrs. Meyers,

Atlantic Pork is planning building additions to their farm in Section 12, Township 53N, Range 10W, Monroe County Missouri. The farm is in the NE $\frac{1}{4}$ of the section, see enclosed topographic map at a scale of 1" = 1000'.

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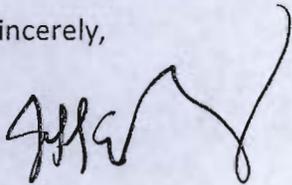
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Jeff E. Browning, P.E.

Enclosures

USGS Topographic Map
General Location Map

ALLIED ENGINEERING SERVICES, LLC

Engineering—Surveying—Construction

April 17, 2013

Rodger & Janet Moore
5811 Westcliffe
St. Louis, MO 63129

Re: Atlantic Pork, LLC

Dear Mr. & Mrs. Moore,

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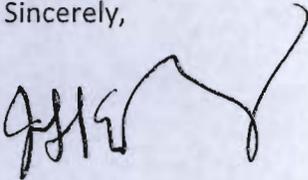
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Enclosures

USGS Topographic Map
General Location Map

ALLIED ENGINEERING SERVICES, LLC

Engineering—Surveying—Construction

April 17, 2013

Normo Farms, LLC
1476 Bieker Road
Washington, MO 63090

Re: Atlantic Pork, LLC

Dear Sir/Madam,

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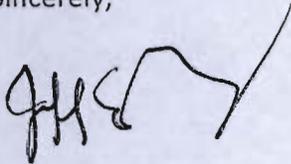
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Enclosures

USGS Topographic Map
General Location Map

ALLIED ENGINEERING SERVICES, LLC

Engineering—Surveying—Construction

April 17, 2013

Todd & Tracy Ragsdale
14976 Monroe Road 715
Paris, MO 65275

Re: Atlantic Pork, LLC

Dear Mr. & Mrs. Ragsdale,

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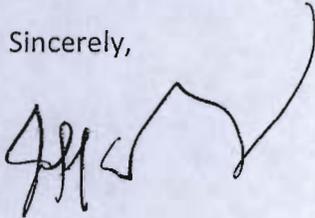
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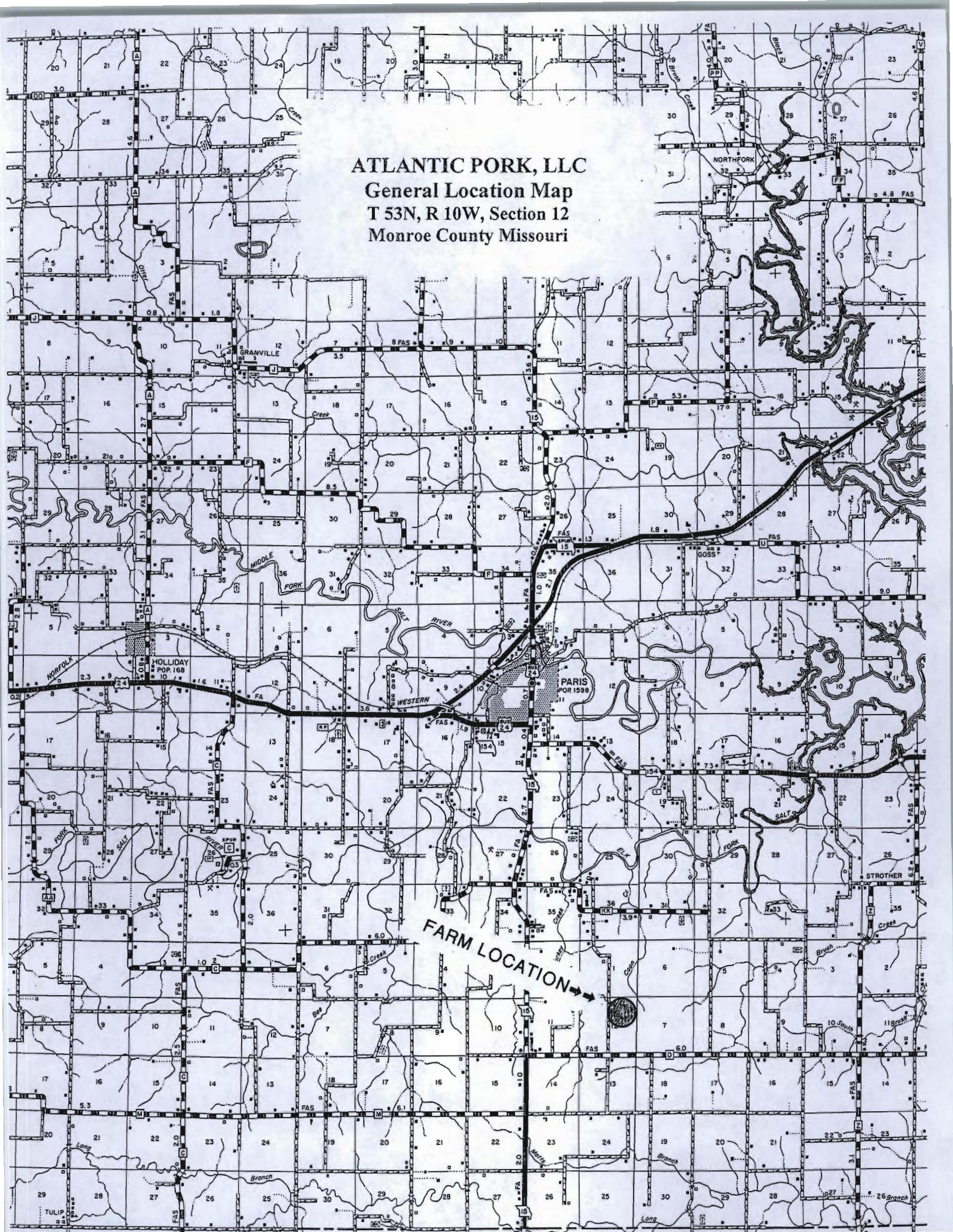
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Enclosures

USGS Topographic Map
General Location Map

ATLANTIC PORK, LLC
General Location Map
T 53N, R 10W, Section 12
Monroe County Missouri



REVISIONS

224 WEST MAIN
P.O. BOX 29
BOWLING GREEN, MO 63334
PHONE: (573) 324-8888

GREAT RIVER
ENGINEERING, INC.
 CONSULTING ENGINEERS
 LAND SURVEYORS

ATLANTIC PORK, LLC
 MONROE COUNTY
 T53N, R10W, SECTION 12

SHEET TITLE:
 Topographic Map

FILE NAME
DRAWN BY TRD
CHECKED BY jeb
PROJECT ENGINEER jeb
CONTACT OFFICE BOWLING GREEN



FILE NAME
DRAWN BY TRD
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PROJECT ENGINEER jeb
CONTACT OFFICE BOWLING GREEN

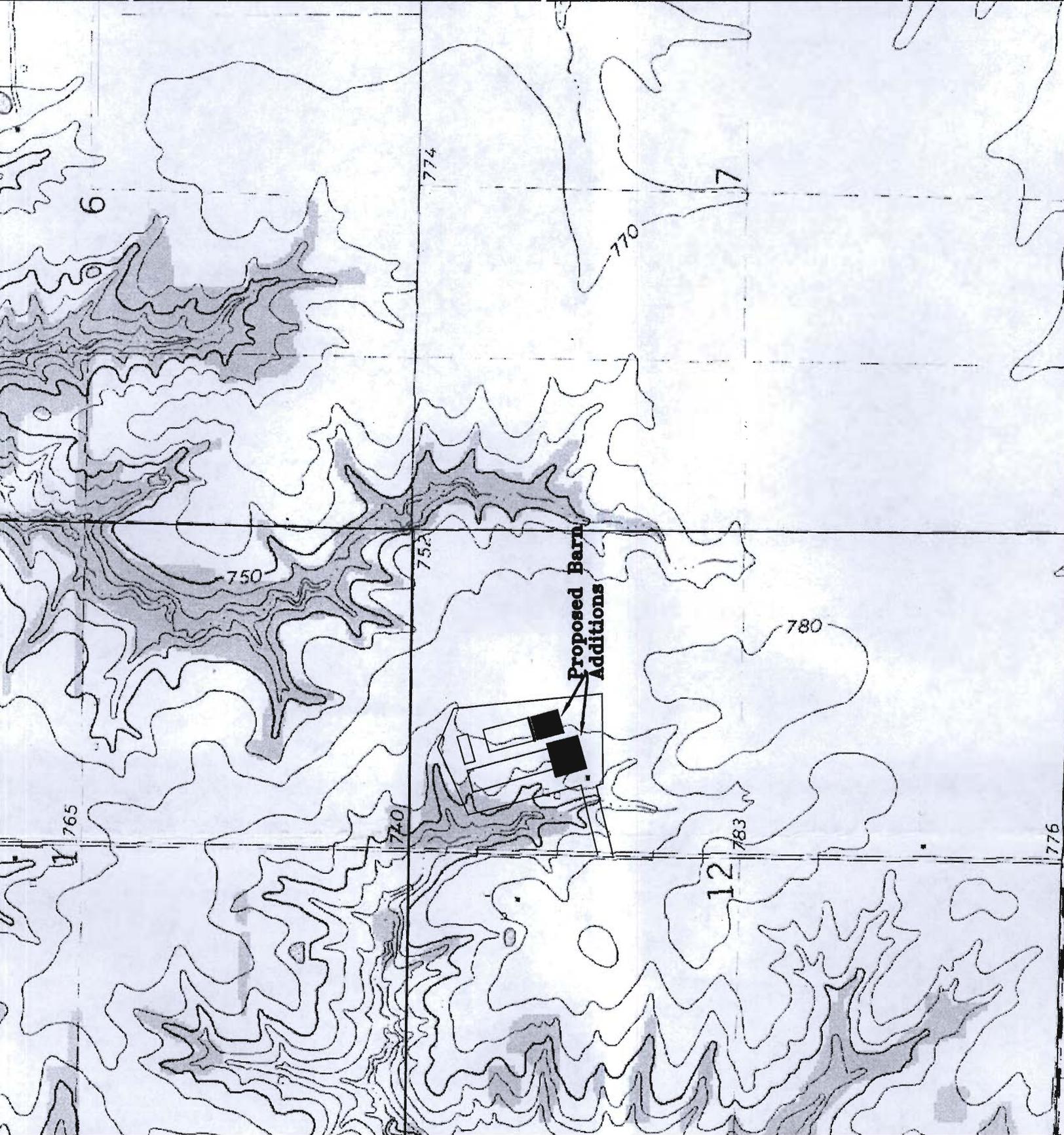
ATLANTIC PORK, LLC
 MONROE COUNTY
 T63N, R10W, SECTION 12

SHEET TITLE:
 Topographic Map

GREAT RIVER
ENGINEERING, INC.

CONSULTING ENGINEERS
 LAND SURVEYORS

224 WEST MAIN
 P.O. BOX 29
 BOWLING GREEN, MO 63334
 PHONE: (573) 324-6868



RWSD

PIT BARN CALCULATION SHEET

Atlantic Pork, LLC

Gestation Barns w/Farrowing

Calculation of Available Volume in 10' Deep Pit Barn:

Inside width of pit = 83'9"

Inside length of pit = 687'0"

Depth = 10'

Total Volume = 83'9" X 687'0" X 10' X 2 Pits = 1,150,725 cu ft = 8,607,423 gallons

Safety Volume Depth = 1'

Volume at 9' deep = 83'9" X 687'0" X 9' X 2 Pits = 1,035,653 cu ft = 7,746,681 gallons

Calculation of Available Volume in 10' Deep Pit Addition:

Inside width of pit = 85'8" X 3 = 257'

Inside length of pit = 256'3"

Depth = 10'

Total Volume = 257' X 256'3" X 10' = 658,563 cu ft = 4,926,048 gallons

Safety Volume Depth = 1'

Volume at 9' deep = 257' X 256'3" X 9' = 592,706 cu ft = 4,433,443 gallons

Calculation of waste volume stored in 10' Deep Pit Gestation Barn:

From MWPS 18, Table 7

	Number	lbs/yr/hd	gal/yr/hd	gal/yr
Farrowing	1500	11500	1,378.5	2,067,788
Gestation	9110	9100	1,090.8	<u>9,937,492</u>
				12,005,280

Total Storage Volume @ 9' = 12,180,124 gallons

PIT BARN CALCULATION SHEET

Atlantic Pork, LLC

Gilt Development Barn w/Nursery

Calculation of Available Volume in 10' Deep Pit Barn:

Inside width of pit = 85'0"

Inside length of pit = 190'4"

Depth = 10'

Total Volume = 85'0" X 190'4" X 10' = 161,781 cu ft = 1,210,118 gallons

Safety Volume Depth = 1'

Volume at 9' deep = 85'0" X 190'4" X 9' = 145,602 cu ft = 1,089,106 gallons

Calculation of waste volume stored in 10' Deep Pit Gestation Barn:

From MWPS 18, Table 7

	Number	lbs/yr/hd	gal/yr/hd	gal/yr
Gilts	2250	3500	419.6	943,990
Nursery	1900	1000	119.9	<u>227,756</u>
				1,171,747

Total Storage Volume @ 9' = 1,089,106 gallons

Missouri DNR
Nutrient Management Plan (NMP)
Export Only

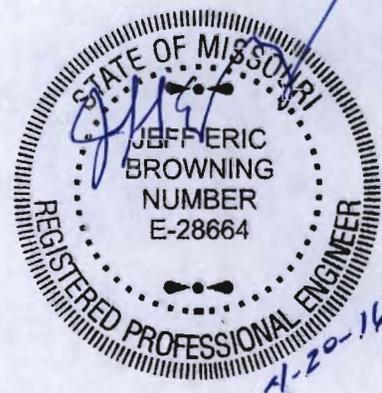
Atlantic Pork, LLC

This report is designed to document the compliance of this operation with the requirements of the Missouri DNR CAFO Nutrient Management Technical Standard.

Prepared By:

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Plan Period: October 2016 - September 2021



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	Table D-2-2. Other field information.	
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SECTION A General Site Information

1. Farm Contact Information

Farm Contact Information:

Name: Adam Hocker
Address: 1551 Larch Avenue
Washington, IA 52353

Office Phone: (319)656-3924
Mobile Phone: (319)560-9766
Email: alhocker@msn.com

2. Technical Service Provider Contact Information

Nutrient Management Planner

Name: Jeff E. Browning
Title: Professional Engineer
Certification Credentials: Professional Engineer MO Number: E-28664
NRCS TSP 05-4871
E-mail: jeff@grtriver.com

3. Narrative:

PLAN STARTING DATE: October, 2016

PLAN DURATION: 5 YEARS

This facility is located in the NW ¼, NE ¼ of section 12, Township 53N, Range 10W in Monroe County.

This farm will be a three building sow farm producing weaned pigs. The farm modifications will include construction of a 196' x 222'2" addition to the south end of the farrowing barn and a 276'6" x 258'2" addition to the south end of the gestation barn. Total proposed animal numbers

on the farm with the new barn additions will be 1,500 sows & litters, 9,110 breeding/gestating sows & boars, 2,250 gilts and 1,900 nursery pigs. This farm will have 5,334.0 animal units and will be a class IB operation.

All barns are slatted type buildings where hog manure generated from production falls beneath the floor into concrete pits. The farrowing barn has a two-foot deep pit which is periodically drained to the adjacent breeding/gestation barn via a permanent underground sewer pipe. The breeding/gestation barn and the gilt development/nursery barn have ten foot deep pits which stores the manure laden wastewater until it can be pumped to nearby farm fields. The entire nutrient handling and storage structures have been designed as a no discharge system.

The plugs in the farrowing barn are pulled approximately once per week. The building pits are not recharged which is typical in farms operated in this manner. It is estimated that an additional 1,920 gallons of water per day is added to the waste stream in the farrowing barn. The gestation barn will add an estimated additional 5,600 gallons of process water to the pit. The total calculated manure and process water collected and stored in the gestation barn pit from the farrowing and gestation barns is 5,518,238 gallons.

The nursery will be constructed over a pull-plug pit which is drained to the GDU deep-pit. The gilts are housed over the 10 foot deep-pit. It is estimated that the nursery adds 810 gallons of process water per day and the gilts add an additional 1,350 gallons per day. The total calculated manure and process water collected and stored in the GDU barn pit is 1,100,513 gallons.

Land Application

The land application system will employ drag hoses with an injection system, an irrigation pump and tankwagon to apply wastewater to the land application areas. It is planned to employ custom applicators to apply all wastewater. All waste nutrients will be exported off the farm.

Dead Animals

Dead animals will be disposed of in accordance with the Missouri Department of Agriculture regulations. Dead animals from this operation will be taken to a rendering facility or composted on-site.

Clean Water Diversion

This farm will be graded to divert storm water away from buildings, animal confinement areas and manure storage areas.

A potential source of unplanned waste from animal confinement facilities is from storm water coming into contact with pollutants. The pollutants that could potentially contaminate the water are the hogs, manure, mortalities, feed, diesel fuel, and oils and lubricants for farm equipment. All of these potential pollutants are kept under roof at this farm. They do not come into contact with clean rain water or add to the contaminated waste on the farm.

A common way for clean water to become contaminated is by contacting ventilated dust on the ground around the barn. To treat rainwater that becomes contaminated by this dust, the barn will be surrounded by grass. The grass acts as a filter and helps prevent erosion around the barns reducing suspended solids in the runoff.

Other operations at this farm that could potentially contribute to exposed pollutants are the loading and unloading of pigs, feed, manure, and mortalities. When these sources are handled messes can occur. Care should be taken to not create a mess around the door of the barns, the manure pumping ports, or at the base of the feed bins. When messes occur during these operations they will be cleaned up immediately.

Prevention of Direct Contact of Confined Animals to Waters of the State

All confined animals are housed under roof in buildings with no outside access. They have no direct access to waters of the state.

SECTION B

Livestock Production System and Land Description

1. Manure Storage and Animal Inventory

Table B-1-1. Manure Storage Descriptions.

Storage ID	Type of Storage	Pumpable or Spreadable Capacity	Estimated Annual Manure Collected	Units Manure Storage	Estimated Maximum Days of Storage
Gestation Barn	Underfloor liquid storage	12,180,124	12,005,280	Gal	370
GDU Barn	Underfloor liquid storage	1,089,106	1,171,747	Gal	339

Table B-1-2. Animal Inventory.

Animal Group	Type or Phase of Production	Number of Animals	Average Wt. (lbs)	Confinement Period	Manure Collected (%)	Storage ID where Manure will be Stored
Farrowing Sows	Sow & litter	1,500	450	Early Jan - Late Dec	100	Gestation Barn
Gestation Sows	Gestating sow	9,110	375	Early Jan - Late Dec	100	Gestation Barn
Gilts	Grow-finish pig	2,250	130	Early Jan - Late Dec	100	GDU Barn
Nursery Pigs	Nursery pig	1,900	30	Early Jan - Late Dec	100	GDU Barn

- (1) Number of Animals is the average number of animals that are present in the production facility at any one time.
 (2) If Manure Collected is less than 100%, this indicates that the animals spend a portion of the day outside of the production facility or that the production facility is unoccupied one or more times during the confinement period.

2. Manure Exports, Imports and Transfers

Table B-2-1. Planned manure exports off the Farm.

Export Month	Export Year	Manure Source Storage ID	Target Export Amount	Export Units	Receiving Operation
3	2017	Gestation Barn	5,500,000	Gal	Off Farm
3	2017	GDU Barn	900,000	Gal	Off Farm
10	2017	Gestation Barn	9,000,000	Gal	Off Farm
10	2017	GDU Barn	600,000	Gal	Off Farm
3	2018	Gestation Barn	3,500,000	Gal	Off Farm
3	2018	GDU Barn	500,000	Gal	Off Farm
10	2018	Gestation Barn	8,000,000	Gal	Off Farm
10	2018	GDU Barn	700,000	Gal	Off Farm
3	2019	Gestation Barn	3,500,000	Gal	Off Farm
3	2019	GDU Barn	300,000	Gal	Off Farm
10	2019	Gestation Barn	9,000,000	Gal	Off Farm
10	2019	GDU Barn	900,000	Gal	Off Farm
3	2020	Gestation Barn	3,500,000	Gal	Off Farm
3	2020	GDU Barn	500,000	Gal	Off Farm
10	2020	Gestation Barn	7,500,000	Gal	Off Farm
10	2020	GDU Barn	500,000	Gal	Off Farm
3	2021	Gestation Barn	6,000,000	Gal	Off Farm
3	2021	GDU Barn	600,000	Gal	Off Farm

Table B-2-2. Planned manure imports onto the Farm.

Import Month	Import Year	Originating Operation	Manure Animal Type	Target Import Amount	Import Units	Receiving Storage ID
No planned manure imports onto the Farm.						

Table B-2-3. Planned internal manure transfers.

Transfer Month	Transfer Year	Manure Source Storage ID	Target Transfer Amount	Transfer Units	Receiving Storage ID
No planned internal manure transfers.					

3. Land Application Equipment

All land application for this farm will be done by a custom applicator.

Table B-3-1. Summary of manure applicators. **(Not Used)**

4. Mortality Handling Narrative

Table B-4-1. Estimated annual amount of animal mortalities.

Animal Group	Type or Phase of Production	Number of Animals ¹	Annual Mortality (%) ²	Total Animals per Year ³	Estimated Average Annual Mortality (tons)
Farrowing Sows	Sow & litter	1500	5.8	87	19.6
Gestation Sows	Gestating sow	9110	5.8	528	99
Gilts	Grow-finish pig	2250	2	45	3
Nursery Pigs	Nursery pig	1900	2	38	.6
Total	-	-	-	-	122

¹ Number of Animals is the typical number of animals that are present in the operation during the confinement period.

² As a percentage of number of animals.

³ Calculate as Number of Animals X Annual Mortality.

To decrease non-point source pollution of surface and ground water resources, reduce the impact of odors that result from improperly handled animal mortality, and decrease the likelihood of the spread of disease or other pathogens, approved handling and utilization methods shall be implemented in the handling of normal mortality losses. NRCS Standard 316, Animal Mortality Facility, will be followed for proper management of dead animals.

Plan for Proper Management of Dead Animals

The following table describes the management plan for normal animal mortality in a manner that protects surface and ground water quality.

Dead animals will be composted. The proper carbon to nitrogen ratio shall be maintained by using a mix of 100 cubic feet of sawdust per 1000 pounds of carcass or other mix as specified to maintain a carbon to nitrogen ratio of 20-30 to 1. Ammonium nitrate may be added as needed to reach the optimum CN ratio.

The proper moisture content shall be maintained at 50-60 percent by: 1) using damp (but not wet) sawdust, 2) Adding extra water as needed, or 3) allowing green (wet) sawdust to dry before using in compost.

The temperature of the compost shall be monitored and shall reach a minimum of 135 degrees F. The temperature probe shall penetrate one third of the distance from the outside of the pile to the center of mass. Compost that does not reach this temperature shall be dismantled, corrected, and rebuilt in order to reach optimal temperature. When the temperature of the compost reaches 105 degrees F, compost shall be turned to a secondary storage bin.

The following shall be followed: 1) One foot of sawdust shall be placed on the bottom of the bin. 2) Carcasses shall be placed in layers with at least one foot of sawdust in between each layer. 3) Carcasses shall be completely covered with at least one foot of sawdust. 4) Large carcasses shall have one foot of sawdust in between carcasses within a layer. 5) A minimum of 6 inches of sawdust shall be maintained between the carcasses and the sides of the bins.

Compost shall be loaded in bins in the following manner: 1) The first bin shall be filled over a two month period. 2) The second bin shall be filled over the second two month period. 3) After the second two month period, compost from the first bin shall be turned into the third bin for secondary composting. 4) Bin number 1 shall now be filled again for two months. 5) After the two month period, compost from bin 3 shall be removed for final disposal and bin 2 shall be turned to bin 3. 6) bin 2 shall now be filled again. This method shall then be repeated as necessary.

SECTION C

Sustainability/Feasibility Evaluation

1. Farm Nutrient Balances

Table C-1-1. Whole-farm manure nutrient balance accounting for nutrients in manure exported, imported or used for land application.

	N	P ₂ O ₅	K ₂ O
	(lbs.)	(lbs.)	(lbs.)
Manure Nutrients On-Hand at Start of Plan	81,795	14,962	50,540
Manure Nutrients Collected	1,620,774	296,483	1,001,454
Manure Nutrients Imported	0	0	0
Manure Nutrients Exported	1,500,600	274,500	927,200
Manure Nutrients Applied On-Farm			
Manure Nutrients on Hand at End of Plan (calc)	201,969	36,946	124,794

Table C-1-2. Nutrient balance on spreadable acres accounting for plant-available nutrients applied in manure and other fertilizers and removed by crops.

(Not Used)

1. Available manure nutrients applied on the farm accounting for state-specific nutrient losses due to time and method of application.
 2. Values indicate nutrient utilization potential of crops grown. For N the value generally is based on crop N recommendation for non-legume crops and crop N uptake or other state-imposed limit for N application rates for legumes. P₂O₅ and K₂O values generally are based on fertilizer recommendations or crop removal (whichever is greatest).
 3. Interpretation:
 - For N,
 - Non-trivial positive values indicate the plan was not developed properly;
 - Negative numbers may or may not be intentional. For example plans that have legume crops will typically not utilize the full nitrogen removal capacity resulting in negative numbers.
 - For P₂O₅ and K₂O,
 - Positive numbers may indicate build up of P₂O₅ and K₂O above agronomic need and/or removal.
- Negative numbers indicate applications below recommended rates or depletion of P₂O₅ and/or K₂O from the soil on some fields. This may be beneficial on fields with high or very high soil test phosphorus.

2. Projected Land Requirements for N-based Versus P-based Management

Farm Attributes:

Table C-2-1. Crop land summary.

Crop and Forage Acres	Acres Suitable for Manure Application (Spreadable Acres)
0.0	0.0

Table C-2-2. Average annual land requirements for N-based versus P-based management of manure.

Calculation Basis	N-based Management	P-based Management
	<i>acres/year</i>	
Projection based on total nutrients collected	2657	972
Projection based on plant available nutrients applied	1771	972

All estimates assume plant nutrient availability in manure and nutrient utilization by the crop is similar to how manure and crops are managed in the plan.

For these calculations:

Manure nitrogen availability was calculated to be 66%

Crop N utilization was calculated to be 122 lbs. N/acre/year

Crop P₂O₅ utilization was calculated to be 61 lbs. P₂O₅/acre/year.

SECTION D

Land Application Site Information

1. Field Maps (Not Used)

Map D-1-1. Field delineation map showing field and sub-field ID with aerial photo background.

Map D-1-2. Manure application sensitive feature map including manure application setbacks. Map lists field ID, sub-field ID, field size and spreadable acres for each field.

2. Other Field Information (Not Used)

Table D-2-1. Soil survey data.

No fields defined for this plan.

Table D-2-2. Other field information.

No fields defined for this plan.

¹Land Tenure: Owned = Own, Rented = Rent, Spreading Agreement = SA, Other = O.

3. Land Treatment Practices Needed to Meet Manure Management Objectives (Not Used)

Table D-3-1. Land treatment practices (conservation practices) used on a field to meet manure management objectives. List those practices required to reduce erosion and runoff as part of properly implementing the manure management plan.

No fields defined for this plan.

SECTION E:

Recurring Activities and Data Related to Land Application of Manure

1. Soil Testing Results (Not Used)

Table E-1-1. Soil test results used to develop the nutrient management plan.

No fields defined for this plan.

1. In Missouri Neutralizable Acidity (N.A.) is entered under Buffer pH in MMP. Used in developing Lime Recommendations.
2. CEC=Cation Exchange Capacity.

2. Crop Fertilizer Recommendations and Crop Removal Values (Not Used)

Table E-2-1. Recommended fertilizer rate and crop removal rate for each crop in each rotation for each field.

No fields defined for this plan.

1. When yes, please provide a table of the fields receiving custom fertilizer rate recommendations and listing the source of the custom recommendation.

3. Manure Test Values Used for Planning Purposes

Table E-3-1. Manure test values used in calculating manure application rates for planning purposes.

Provide justification for the selection of manure test values in Appendix 5.

Storage ID	Storage Type	DM (%)	Total N	Ammonia N	Phosphate (P ₂ O ₅)	Potash (K ₂ O)	Units	Analysis Source (date)
Gestation Barn	Underfloor liquid storage		24.6	12.0	4.5	15.2	lbs/1000Gal	DHIA Lab #257268
GDU Barn	Underfloor liquid storage		24.6	12.0	4.5	15.2	lbs/1000Gal	DHIA Lab #257268

4. Phosphorus Loss Assessment (Not Used)

Table E-4-1. Supporting information for fields assessed with the Missouri P Index – other supporting data and results.

No fields defined for this plan.

Table E-4-2. Report steps that will be taken to reduce phosphorus loss from fields rated high or very high by phosphorus loss assessment.

No fields defined for this plan.

SECTION F
Field-by-Field Planned Manure and Fertilizer Applications and Projected Nutrient Balances

1. Planned Manure and Fertilizer Applications (Not Used)

Table F-1-1. Manure and fertilizer applications – focus on nutrient application rate.

Field	Sub-Field ID	App Month	App Year	Target Crop	Nutrient Source (Storage ID/ Fertilizer Product)	Equipment Type/ Application Method	Rate/Acre	Total Amount Applied	Applied Units	Acres Cov.	Avail N (Lbs/A)	Avail P ₂ O ₅ (Lbs/A)	Avail K ₂ O (Lbs/A)

2. Field Nutrient Balance (Not Used)

Table F-2-1. Field nutrient balance based on crop removal. Note that nitrogen crop values based on fertilizer recommendations for non-legume crops. Note that manure cannot be applied on a field with a phosphate balance greater than 500 lbs/acre.

No fields defined for this plan.

3. Annual Summary of Projected Manure Inventory

Table F-3-1. Summary of projected manure collection, imports, exports and transfers and end-of-year totals.

Manure Source	Plan Period	On Hand at Start of Period	Total Generated	Total Imported	Total Transferred In	Total Applied	Total Exported	Total Transferred Out	On Hand at End of Period	Units
Gestation Barn	Oct '16 - Sep '17	3,000,000	12,005,280	0	0	0	5,500,000	0	9,505,280	Gal
Gestation Barn	Oct '17 - Sep '18	9,505,280	12,005,280	0	0	0	12,500,000	0	9,010,560	Gal
Gestation Barn	Oct '18 - Sep '19	9,010,560	12,005,280	0	0	0	11,500,000	0	9,515,840	Gal
Gestation Barn	Oct '19 - Sep '20	9,515,840	12,005,280	0	0	0	12,500,000	0	9,021,120	Gal
Gestation Barn	Oct '20 - Sep '21	9,021,120	12,005,280	0	0	0	13,500,000	0	7,526,400	Gal
GDU Barn	Oct '16 - Sep '17	325,000	1,171,747	0	0	0	900,000	0	596,747	Gal
GDU Barn	Oct '17 - Sep '18	596,747	1,171,747	0	0	0	1,100,000	0	668,494	Gal
GDU Barn	Oct '18 - Sep '19	668,494	1,171,747	0	0	0	1,000,000	0	840,241	Gal
GDU Barn	Oct '19 - Sep '20	840,241	1,171,747	0	0	0	1,400,000	0	611,988	Gal
GDU Barn	Oct '20 - Sep '21	611,988	1,171,747	0	0	0	1,100,000	0	683,735	Gal

Document Source Information

Report based on information from Manure Management Planer MMP 0.3.5.0

Plan:

File: C:\Projects\2016\16-3326 Atlantic Pork\atlantic.mmp
Initialized: 3/24/2015
Last Saved: 4/21/2016 1:45:40 PM
Exported: 4/21/2016 1:58:12 PM
Title: Southern Hills 2 CNMP
Years in Plan: 5
Plan Start Year: 2016
Plan Start Month: 10

Operation:

Name: Atlantic Pork, LLC

Operation Contact:

Adam Hocker
1551 Larch Avenue
Washington IA 52353
(319)656-3924 (office)
alhocker@msn.com

Appendix 1

Narrative Summary of Design

ATLANTIC PORK, LLC NARRATIVE SUMMARY OF DESIGN

This facility is located in the NW ¼, NE ¼ of section 12, Township 53N, Range 10W in Monroe County. This farm is a three building sow farm producing weaned pigs. The farm modifications will include construction of a 196' x 222'2" addition to the south end of the farrowing barn and a 276'6" x 258'5" addition to the south end of the gestation barn. Proposed animal numbers with the new barn additions will be 1,500 sows & litters, 9,110 breeding/gestating sows & boars, 2,250 gilts and 1,900 nursery pigs. This farm will have 5,334.0 animal units and will be a class IB operation.

All barns are slatted type buildings where hog manure generated from production falls beneath the floor into concrete pits. The farrowing barn has a two-foot deep pit which is periodically drained to the adjacent breeding/gestation barn via a permanent sewer pipe under-ground. The breeding/gestation barn and the gilt development/nursery barn have ten foot deep pits which stores the manure laden wastewater until it can be pumped to nearby farm fields.

The proposed farm additions will be designed and constructed to meet the current standards of the Missouri Department of Natural Resources. The entire nutrient handling and storage structures operate as a no discharge system. Dead animals will be removed to a rendering plant or composted.

The plugs in the farrowing barn are pulled approximately once per week. The building pits are not recharged which is typical in farms operated in this manner. The total calculated manure and process water expected to be collected and stored in the gestation barn pit from the farrowing and gestation barns based on MWPS 18 table 7 is 12,004,938 gallons.

The nursery is drained to the GDU deep-pit. The gilts are housed over the 10 foot deep-pit. The total calculated manure and process water collected and stored in the GDU barn pit is 1,171,910 gallons.

Land Application

The land application system will employ drag hoses with an injection system, an irrigation pump and tankwagon to apply wastewater to the land application areas. It is typical to employ custom applicators to apply all wastewater. All waste nutrients will be exported off the farm.

Dead Animals

Dead animals will be disposed of in accordance with the Missouri Department of Agriculture regulations. Dead animals from this operation will be taken to a rendering facility.

Clean Water Diversion

This farm is graded to divert storm water away from buildings, animal confinement areas and manure storage areas.

A potential source of unplanned waste from animal confinement facilities is from storm water coming into contact with pollutants. The pollutants that could potentially contaminate the water are the hogs, manure, mortalities, feed, diesel fuel, and oils and lubricants for farm equipment. All of these potential pollutants are kept under roof at this farm. They do not come into contact with clean rain water or add to the contaminated waste on the farm.

A common way for clean water to become contaminated is by contacting ventilated dust on the ground around the barn. To treat rainwater that becomes contaminated by this dust, the barn will be

surrounded by grass. The grass acts as a filter and helps prevent erosion around the barns reducing suspended solids in the runoff.

Other operations at this farm that could potentially contribute to exposed pollutants are the loading and unloading of pigs, feed, manure, and mortalities. When these sources are handled messes can occur. Care should be taken to not create a mess around the door of the barns, the manure pumping ports, or at the base of the feed bins. When messes occur during these operations they will be cleaned up immediately.

Prevention of Direct Contact of Confined Animals to Waters of the State

All confined animals are housed under roof in buildings with no outside access. They have no direct access to waters of the state.

Chemical Handling

If checked, the indicated measures will be taken to prevent chemicals and other contaminants from contaminating process waste water or storm water storage and treatment systems.

	This is not a regulatory-agency permitted facility. This section does not apply.
--	----------------------------------------------------------------------------------

	<i>Measure</i>
X	All hog farm chemicals are stored in proper containers. Expired chemicals and empty containers are properly disposed of in accordance with state and federal regulations.
X	Chemical storage areas are self-contained with no drains or other pathways that will allow spilled chemicals to exit the storage area.
X	Chemical storage areas are covered to prevent chemical contact with rain or snow.
	Emergency procedures and equipment are in place to contain and clean up chemical spills.
	Chemical handling and equipment wash areas are designed and constructed to prevent contamination of surface waters and waste water and storm water storage and treatment systems.

Appendix 2

Example Record Keeping Documents



MISSOURI DEPARTMENT OF NATURAL RESOURCES
 WATER PROTECTION PROGRAM
CAFO RECORD KEEPING FORMS CHECKLIST

INSTRUCTIONS

1. Use the checklist to determine which of the record keeping forms are required for your operation and include them in your record keeping file. Forms for all record keeping requirements of the MOG01 (NPDES) and MOGS1 (State No Discharge) operating permits are included.
2. There will be multiple copies of some pages due to the unique characteristics of each operation. The forms can be filled out on a computer or they can be printed or copied and kept in a binder.
3. Information on the forms can be used to complete the annual report, which must be submitted by Feb. 15, of each year. Only specified forms need to be submitted with the annual report
4. All records must be retained for five years along with your operating permit, and nutrient management plan.

CHECKLIST

OPERATION NAME:	PERMIT NUMBER: MO-	YEAR
MANURE STORAGE		
1A. Spills and Overflows		
1B. Liquid Manure Storage Level Readings		
1C. Transfers Off-Farm		—
1D. Rainfall Records (Required only for operations with open liquid storage)		
1E. Mortality Management		
TESTING RESULTS		
2A. Manure		—
2B. Soils		—
INSPECTIONS		
3A. Production Area Visual Inspections		
3B. Land Application Area Visual Inspections		L
3C. Problems and Repairs		—
LAND APPLICATION		
4A. Operational Monitoring		—
4B. Nitrogen		—
4C. Phosphorus		—

1B - MANURE STORAGE. Liquid Manure Storage Level Readings

MANURE SOURCE		PERMIT NUMBER	YEAR
		MO	
Week	Date	Level Reading - Feet Below Overflow	
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
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Instructions: Record the liquid level weekly for each unique liquid manure storage structure. Use a separate sheet for each separate structure.

1D - MANURE STORAGE. Rainfall (Required for open liquid storage only)

PERMIT NUMBER

YEAR

MO

Day	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1												
2												
3												
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27												
28												
29												
30												
31												
Monthly Total												
YTD												

Instructions: Collect rainfall data for operations with open liquid manure storages only.

3A - INSPECTIONS. Production Area Visual Inspections (List any deficiencies and corrective actions taken in 3C.)

PERMIT NUMBER	YEAR
MO	

Week	Stormwater ¹ Date and Initial	Water Lines ² Date and Initial	Manure Containment Structure ³ Date and Initial
1			
2			
3			
4			
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9			
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Notes

¹ Record the weekly inspections of all stormwater diversion devices directing clean water away from the production area and channeling contaminated water to manure storages.

² Record each week the daily inspections of all wastewater lines within the production area and all drinking or cooling water lines that have the potential to leak into manure, litter or process wastewater structures. Record weekly that you inspected daily.

³ Record weekly inspections of all manure, litter and process wastewater storage structures.

Appendix 3

Operation & Maintenance Plan

Operation & Maintenance Plan

INSPECTION PROCEDURE

BARN

In order to ensure continuing DEEP-PIT integrity, the following monitoring procedures will be conducted:

FREQUENCY: Once per week.

1. Visually inspect barn for condition and concrete integrity. Concrete shall be evaluated to ensure the following:
 - a. No cracks
 - b. No leaning of walls
 - c. The presence of rodent burrows/signs of rodent activities
 - d. Signs of erosion (around building foundation)
2. On A Weekly Basis: Check pit level. Read level from the measuring marker stick by dropping the stick between the slatted floor to the pit bottom and then removing the stick to read water level. Measure the level to the nearest .1 foot above the pit floor.

MAINTENANCE

FARM FACILITIES

When problems (e.g. burrowing rodents, etc.) are noted that require follow up but are not considered emergency situations (i.e. no immediate threat to the environment), the following steps shall be taken to ensure the problem is corrected in a timely fashion:

1. Record repairs made to irrigation lines, as well as other equipment associated with land and nutrient management activities. Record the following information:
 - Description of problem
 - Date repair made
 - Material used to complete repair
 - Personnel involved
2. In the event that a maintenance problem occurs which constitutes an immediate threat to the environment, employees are instructed to follow the Emergency Response Plan immediately.

SEWERS

After draining the farrowing pits the valve in the sewer line at barn G must be opened to completely drain the sewer line to prevent solid build-up and clogs in the line.

MOWING

Periodic mowing is necessary at various locations on the farm to prevent potential environmental problems, and to improve aesthetics.

Barns

A 50' area around the barn is maintained with a cool season grass cover. The primary objectives of the vegetation maintenance program is to:

1. Mow the grass as often as necessary to maintain it at 8" or less in height and to prevent the "heading out" of any grass or weed species that are present.
2. Maintain the grass at as even level as possible.

The area around the barn shall be kept free of burrowing animals so as not to jeopardize integrity of the pit.

EMERGENCY MAINTENANCE

If a problem is discovered that requires immediate attention, take the following actions:

1. If work can be completed in-house, mobilize the appropriate personnel to rectify the problem.
2. If work cannot be completed in-house, enlist any necessary outside service directly to repair the problem.

In situations posing a potential threat to the integrity of the deep-pit operation or any of the land and nutrient management program refer to the **Emergency Response Plan** for guidance in formulating appropriate follow-up actions.

NUTRIENT MANAGEMENT PLANNING

OVERVIEW

Manure is a by-product of any type of livestock operation. At The **Atlantic Pork Farm**, the barn pits have numerous air turnovers per hour to ensure a healthy environment for the employees and animals.

Manure components collected in the deep pit barn, namely, nitrogen, phosphorus, and potassium, (as well as trace minerals and nutrients) are beneficial to crops and can be effectively used as replacements for chemical fertilizer in normal farming activities.

Typical crops raised on the farm include but may not be limited to: corn and soybeans.

WASTEWATER NUTRIENTS

The primary nutrients found in Hog manure are nitrogen, phosphorus and potassium. Nitrate nitrogen (nitrate is $\text{NO}_3\text{-N}$, a water soluble, negatively charged ion) in water can be harmful to humans. Excessive nutrients and decomposing organic nutrients (N, P, K, S) can be responsible for algae blooms and weed growth in water, which can reduce available oxygen for aquatic species. Along with the nutrients, manure may increase salinity on some soils. Hog manure does benefit soil quality. Along with nitrogen, phosphorus and potassium, several trace minerals are also found in manure. If properly managed, the nutrients can reduce or eliminate commercial fertilizer needs for many crops. Along with the nutrient value, Hog manure can increase microorganisms and improve soil organic matter, soil tilth, and soil structure. These improvements in soil quality can reduce erosion, improve drainage, and increase soil productivity.

Nitrogen: Nitrogen is important for all plants and animals; the nitrogen in manure is no different than the nitrogen found in synthetic fertilizers. Nitrogen comes from many sources and in many different forms. The nutrient and pollution potential of manure nitrogen depends on the form and amount in the environment. Understanding the different forms allows you to better manage this important nutrient.

The two main forms of nitrogen (N) in Hog manure are organic N (proteins, amino acids and urea, which are unavailable to plants) and inorganic N (ammonium, nitrates, ammonia). Ammonium N is the predominant component of available nitrogen in manure.

When manure is applied to soil, the organic N begins to break down to inorganic N, which is available to plants. This process is called ammonification or mineralization, and is affected by temperature, moisture, and time. Warm conditions have a higher rate of organic N conversion than cooler temperatures. Approximately 33-55% of organic N is converted to ammonium or available N each year after the manure is land applied.

When organic N is converted to available N, it starts as ammonium N. Ammonium N is available for plant uptake and is not mobile in the soil. The process of nitrification eventually converts ammonium N to nitrate N. While nitrate N is available to plants, it is also susceptible to denitrification (loss to the air) and to leaching. Ammonia N can be quickly lost by being converted to ammonium and volatilized.

Phosphorus and Potassium: Phosphorus and potassium are also important nutrient components of manure. Both nutrients are needed for proper plant and root growth. While they generally bind tightly with soil, they can move into surface waters by moving on eroded soil particles. Phosphorus may move directly into surface waters in areas with extremely high phosphorus levels. Excessive concentrations of phosphorus in water can contribute to excessive aquatic plant growth and depletion of oxygen. However, phosphorus and potassium

have little potential for leaching and have no direct toxic effects on humans or wildlife. By using proper conservation techniques (such as conservation tillage, terraces, filter strips, etc.) movement of phosphorus or potassium into surface water can be reduced.

DEVELOPING A NUTRIENT MANAGEMENT PLAN

Several factors are considered in the development of a sound nutrient management plan, including: separated solids analysis, lagoon water analysis, the amount of plant available nitrogen (PAN), amount of land available, cropping program, and application procedures.

WASTEWATER ANALYSIS

Current regulations dictate that nutrient management plans be based on nitrogen and phosphorus levels, therefore land requirements to fulfill land application goals are based partially on the concentration of nitrogen in the wastewater and solid manure to be land applied. More than the other two primary nutrients in manure (phosphorus and potassium) the concentration of nitrogen in wastewater varies with water temperature and weather conditions. In order to develop the best overall estimate of total nitrogen levels in the deep-pit, it must be sampled annually.

SAMPLING PROTOCOL

It is recommended that UMC Science and Technology Guide "Collecting and Preserving Waste and Wastewater Samples for Analysis" and University Extension Water Quality publication "Laboratory Analysis of Manure" be followed.

WASTEWATER

1. Using plastic bottles, collect samples of wastewater at varying depths below surface.
2. Pour 50 ml of liquid into a second sample bottle. Discard the remainder of the first sample into the lagoon.
3. Repeat this process at at least six more spots, each time pouring approximately 50 ml into the second sample bottle so that the second bottle consist of 350 ml of lagoon liquid more or less, collected from a minimum of seven different locations.
4. Secure the lid for each sample bottle and fill out and attach the appropriate sample identification label and date each bottle.
5. Deliver samples directly to laboratory.

SAMPLE ANALYSIS

Each sample shall be analyzed by a qualified analytical laboratory for the constituents identified in the following table:

Table of Analysis Constituents

<u>Constituent</u>	<u>Unit</u>
Kjeldahl Nitrogen	mg/l
Ammonia Nitrogen as N	mg/l
Nitrate Nitrogen as N	mg/l
Total phosphorus as P	mg/l

A copy of the analysis shall be used in the preparation and modification of the annual cropping plans.

DETERMINING LAND NEEDS

Nutrient management plans using DNR recommended methodologies shall be prepared each year for each field in the operation to achieve the best program for even distribution of nutrients from the manure.

It is recommended that University Extension Water Quality Guide "Reduce Environmental Problems with Proper Land Application of Animal Waste" and "Land Application Considerations for Animal Waste" be reviewed by all Land Application personnel.

Crops

Plants have different capacities to utilize nutrients, in particular nitrogen. Current state regulations dictate that cropping plans be developed to account for nitrogen loading and uptake by crops. Several references are recommended by the DNR to determine nutrient uptake potential of different crops. They are:

Midwest Plan Service. 1993. **Livestock Waste Facilities Handbook.**

Buchholz, D. 1983, Reprinted 1989. **Soil Test Interpretations and Recommendations Handbook.** University of Missouri; College of Agriculture.

Natural Resources Conservation Service. **Soil Interpretation Manual.**

Soil Sampling

In order to correctly estimate the available nutrients in the soil, soil tests should be conducted every year.

Sampling locations should be determined based on soil type and statistically sound sampling methods. A standard soil sampling protocol (MU Guide: "How To Get A Good Soil Sample") should be followed.

Deep Pit Pumpdown Levels

Pumping operations will be initiated before the water level reaches the upper pumpdown marker on the pumdown stick. The pit shall be pumped down as close as possible to the floor each year to insure that full storage is available during the winter and spring months.

The pits have the following pumpdown volumes for each barn:

	<u>Gestation Barn</u>	<u>GDU Barn</u>
Annual Volume (<i>gallons</i>)	12,004,938	1,171,910

DETERMINING PLANT AVAILABLE NITROGEN

Plant Available Nitrogen (PAN) is a measurement of the amount of nitrogen in the soil which is in a form which is readily available for use by vegetation. As previously stated, nitrogen exists in many forms, however some forms are more easily accessed by plants than others. Nitrate nitrogen (NO₃) is the form most commonly used by plants. PAN calculations take into consideration the amount of nitrogen present in all forms—the amount of nitrogen available in the manure, nitrogen from "native/soil" sources {sRON} and from previous manure or applications {mRON} – and compares these values with the nitrogen needs of the crop to be grown. The Missouri DNR has developed a worksheet to determine PAN. This worksheet should be used in the formulation of a nutrient management plan. A copy of the worksheet is provided. A professional agronomist or engineer should be employed on an annual basis to aid in completing the calculations.

The procedure for determining PAN follows:

Procedure to Determine Plant Available Nitrogen

1. One Missouri DNR PAN worksheet shall be used for each field on each farm.
2. Fill out worksheet on a field by field basis, using the crop that is planed to be grown the following year in the calculation.
3. Use soil sample analysis to fill in Soil Residual Organic Nitrogen (sRON).

4. Use Wastewater analysis to determine Manure Plant Available Nitrogen (mPAN).
5. Use past pumping records, water use records, and rainfall data to calculate total volume of wastewater to be pumped in upcoming growing season.
6. Using DNR worksheet and crop to be grown, calculate nutrient loading for every field. In no case should nutrient loading projections exceed land use capacity. If PAN requirements exceed nutrient loading capacity of pumping acreage, modifications shall be made to the cropping plan to incorporate crops with a heavier nutrient loading capacity.
7. If modifications to cropping scenario do not alleviate nutrient loading concerns, then additional land shall be secured to apply waste on.

SCHEDULING APPLICATION ACTIVITIES

Several conditions (mostly weather-related) may require modification and adjustment of application schedules. These are described below.

Determining Number of Days Suitable for Application

Application is permitted to occur during seasons when the ground is not frozen, typically from March 1 through December 15 (approximately 285 days). If conditions remain favorable for application beyond the duration of the permitted pumping schedule, then application may continue.

Land application is not permitted during rain events. The normal occurrence of rainy days must be included in the preparation of application schedules for this time period. In order to develop an accurate estimate of the number of non-rainy days during the season, the following shall be conducted, prior to commencing the land application season every year.

1. Review the land application history for the three previous growing seasons.
2. Total up the number of days on which land application occurred during the previous three seasons.
3. Divide by three to determine the number of days available for the current growing season.

4. Include the estimated available land application days in upcoming year's nutrient management plan.

Adjusting Application Rates

The PAN procedure is recommended by DNR to estimate the nutrient loading capacity of each field. Land application procedures, as outlined in this manual detail proper procedures for application. In addition to following proper procedures, the applicator must be capable of modifying the application program to accommodate a number of variables. Methods of addressing several of these variables are detailed below:

Soil Conditions

Precipitation events will reduce soil infiltration capacity while increasing soil moisture content. Overall soil field capacity (to reach saturation) will be reduced as well. Land Application procedures must take into account precipitation events, so that wastewater is not over-applied to an already saturated field. Application rates must be reduced on fields that have received (or are about to receive) significant (0.5") amounts of rainfall. When planning land application activities, the Applicator must consider the following conditions:

Conditions Requiring Adjustment of Application Rates

1. No land application shall be conducted while it is raining.
2. If land application is being conducted and it starts to rain, immediately cease all land application activities.
3. Check the local weather forecast for current weather data every morning before commencing land application activities. If a greater than 80% chance of rainfall is forecast for the next 24 hours, limit land application activities locations which can be quickly stopped should rainfall begin.
4. If a significant chance of rain is forecast, continue checking storm patterns throughout the day to determine if an imminent threat for rain still remains.
5. Following a significant rainfall (>0.5") or prolonged rainfall events, visually inspect the field before commencing land application. Signs of ponding water or saturated soils, should be noted. If these are present, no land application shall be commenced on the field. Continue to check the field to determine when conditions are appropriate to commence land application.
6. Consider the previous long-term weather and site conditions (i.e has it been several days of rain?, are soils already saturated?, or has it been a prolonged dry spell with one large rain event?) when determining the appropriate time to commence pumping following a heavy rain storm.

7. Consider the prevailing wind, both in terms of intensity and direction. If wind is such that application on specific fields upwind of neighbors could result in unusual level of odor reaching that neighbor's property, than another field shall be selected for application, if possible

Neighbor Considerations

The following program is recommended to insure that pumping activities do not unduly impose on neighbors.

1. No pumping is conducted over Holidays/Holiday weekends unless **absolutely** necessary to meet management standards.
2. If neighbors contact the Farm to inform of a special outdoor event they are planning, then no land application will be conducted upwind of that neighbor's property on the given day.
3. Land application should be minimized on lands upwind of neighbors on those days when winds are excessively strong.

NUTRIENT APPLICATION EQUIPMENT

Aerway with Drag Hose

Injector with Drag Hose

Tank wagons

Manure Spreader

Prior to commencing land application, equipment shall be inspected to ensure that it is in proper working order. If repairs to the equipment are needed, the applicator shall make the repair. If the repair is such that the integrity of land application operations will be jeopardized until it is completed, then no land application shall be conducted using the broken piece of equipment. If land application can be safely continued before the repair is made, then land application may commence. In any case, equipment should be repaired in a timely fashion.

START-UP PROCEDURES

The following general process shall be used every day before beginning land application operations:

LAND APPLICATION

1. Every morning, check the local weather forecast to be sure conditions are right for land application.
2. Select a field for land application, check pumping summary to be sure that the selected field has not yet reached its maximum application nutrient application rate.
3. If field is still able to receive manure, then continue with start up procedures. If field has already reached its maximum loading rate, then repeat selection process to pick another field.

STANDARD LAND APPLICATION PRACTICES

1. **The maximum application rate shall be 1.0 inches per day.**
2. Land application shall take place on the acres defined on the maps enclosed.
3. No surface application shall be conducted on land with greater than 15% slope.
4. Soil-plant filter areas shall have slopes less than 15%. When slopes are greater than 10%, application is limited to .25 inches per day.
5. The separation distances outlined in section 6.2 shall be maintained.

Manure Application Setback Distances

Feature	Setback Criteria	Setback Distance (feet)
Public or private drinking water well or other wells including un-plugged abandon wells	All application methods	300
Public or private drinking water lake or impoundment	All application methods	300
Public or private drinking water intake structure	All application methods	300
Classified waters of the state not used as a water supply as defined in 10 CSR 20-7.031(1)F	Permanently vegetated buffer 1	35
	No or insufficient vegetated buffer	100
Other public and privately owned lakes and impoundments not used as a water supply including impoundments with no outlet	Permanently vegetated buffer 1	35
	Up-gradient, no or insufficient vegetated buffer	100
	Down-gradient, no or insufficient vegetated buffer	35
Other perennial streams, other intermittent streams, canals, drainage ditches and wetlands	Permanently vegetated buffer 1	35
	Up-gradient, no or insufficient vegetated buffer	100
	Down-gradient, no or insufficient vegetated buffer	35

Feature	Setback Criteria	Setback Distance (feet)
Tile line inlet (if left un-plugged during manure application)	Up-gradient, permanently vegetated buffer ¹	35
	Up-gradient, no or insufficient vegetated buffer	100
	Down-gradient	0
Losing stream	All application methods	300
Cave entrance	All application methods	300
Spring	All application methods	300
Active Sinkhole	All application methods	300
Non-owned occupied residence	Spray irrigation	150
Public use area including non-owned businesses	Spray irrigation	150
Public road	All application methods	50
Property boundary	All application methods	50

1. Vegetated Buffer - A permanent strip of dense perennial vegetation established parallel to the contours of and perpendicular to the dominant slope of the field for the purposes of effectively slowing water runoff, enhancing water infiltration, and minimizing the risk of any potential nutrients or pollutants from leaving the field and reaching surface waters.

RECORDKEEPING

Careful record keeping is essential to the success of the Nutrient Management program. The following information shall be recorded with each land application event.

- Date
- Field location
- Crop Type
- Weather conditions
- Application rate
- Estimated total application

The application summaries will provide a detailed overview of application activities; specifically which fields were applied on, total manure applied per field, and a running total of manure applied per field in relation to its total projected application rate in the Land and Nutrient Management Plan developed for the crop year. The summary reports will enable the applicator to apply the proper amount of manure to fields, while properly spacing applications over an appropriate period in the growing season.

Dead Animal Disposal

Dead animal carcasses from the Swine operation will be managed according to the Missouri Department of Agriculture's requirements for dead animal disposal. Dead animals from this site will be composted.

If in the event it is necessary to bury any animals, the following Missouri Department of Agriculture regulations shall be followed:

- 1) For areas defined by the Department of Natural Resources, Division of Geology and

Land Survey, as not having major groundwater contamination potential (Note: this area is defined as such), the maximum loading rate shall be limited to:

- a) Seven cattle, **44 swine**, forty seven sheep, and beginning July 1, 1995, four hundred turkey carcasses or 2000 poultry carcasses on any given acre per year; or
 - b) All other species and immature cattle, **swine**, sheep, and beginning July 1, 1995, turkeys or poultry shall be limited to 7000 pounds of animals on any given acre per year;
- 2) The maximum amount of land that shall be used for on-site burial of animals on any person's property during a given year shall be limited to ten percent of the total land owned by that person or one acre, whichever is greater; and
 - 3) Burial sites shall not be located in low-lying areas subject to flooding; and
 - 4) The lowest elevation of the burial pits shall be six feet or less below the surface of the ground; and
 - 5) The dead animals shall be immediately covered with a minimum of six inches of soil and a final cover of a minimum of thirty inches of soil; and
 - 6) Carcasses shall not be placed on the ground, in a ditch, at the base of a hill, or in a cavern and covered with soil; and
 - 7) The abdominal cavity of carcasses over 150 pounds shall be punctured to allow escape of putrefactive gasses; and
 - 8) The location of dead animal burial sites shall be in accordance with the following separation distances:
 - a) At least 300 feet from any wells, surface water intake structures, public water supply lakes, springs or sinkholes; and
 - b) At least 50 feet from adjacent property lines; and
 - c) At least 300 feet from any existing neighboring residence; and
 - d) More than 100 feet from any body of surface water such as a stream, lake pond, or intermittent stream.

Appendix 4

Emergency Response Plan

Appendix 4 -

Emergency Response Plan

All buildings will be tied into an emergency alarm system that will ring to the production office, and the barn manager's mobile phone in the event that there is a power loss to the production facility. Generators will supply back-up power to the buildings and the water supply wells in the event of a power failure at the production buildings.

Plan for Catastrophic Death Animal Disposal

In the event there is a catastrophic death loss, Atlantic Pork plans to use composting or rendering as the disposal method. Atlantic Pork will work with MDNR to ensure that all laws are followed (See contacts below).

In Case of an Emergency Storage Facility Spill, Leak or Failure

Implement the following first containment steps:

- a. Stop all other activities to address the spill.
- b. Use skid loader or tractor with blade to contain or divert spill or leak, if possible.
- c. Call for help and excavator if needed.
- d. Complete the clean-up and repair the necessary components.
- e. Assess the extent of the emergency and request additional help if needed.

The land application equipment will be constantly monitored by the person conducting the land application of manure. In order to prevent an accident or spill during land application, Atlantic Pork should complete an inspection of the land application equipment to ensure proper function prior to performing land application. In addition, weather conditions (wind speed and direction, precipitation, etc.) and field conditions (proper setbacks noted, soil moisture, etc.) should be verified prior to land application.

In Case of an Emergency Spill, Leak or Failure During Transport or Land Application

Implement the following first containment steps:

- a. Stop all other activities to address the spill.
- b. Call for help if needed.
- c. If the spill posed a hazard to local traffic, call for local traffic control assistance and clear the road and roadside of spilled material.
- d. Contain the spill or runoff from entering surface waters using straw bales, saw dust, soil or other appropriate materials.
- e. If flow is coming from a tile, plug the tile with a tile plug immediately.
- f. Assess the extent of the emergency and request additional help if needed.

Emergency Contacts

Department / Agency	Phone Number
Fire	911
Ambulance	911
Sheriff	911
Brenneman Pork Office	(319)656-3924
Adam Hocker	(319)560-9766

Available equipment/supplies for responding to emergency

Equipment Type	Contact Person	Phone Number
Nearest excavation equipment	Paris Equipment	(660) 327-4455

Contacts to be made by the owner or operator within 24 hours

Organization	Phone Number
EPA Region 7 Emergency Spill Hotline	(913) 281-0991
MDNR Emergency Spill Hotline	(573) 634-2436
MDNR Regional Office-Macon	(660) 385-8000
Monroe County Health Department	(660)327-4653
Monroe County Emergency Management	(660) 327-4630

Be prepared to provide the following information:

- a. Your name and contact information.
- b. Farm location and other pertinent identification information.
- c. Description of emergency.
- d. Estimate of the amounts, area covered, and distance traveled.
- e. Whether manure has reached surface waters or major field drains.
- f. Whether there is any obvious damage: employee injury, fish kill, or property damage.
- g. Current status of containment efforts.

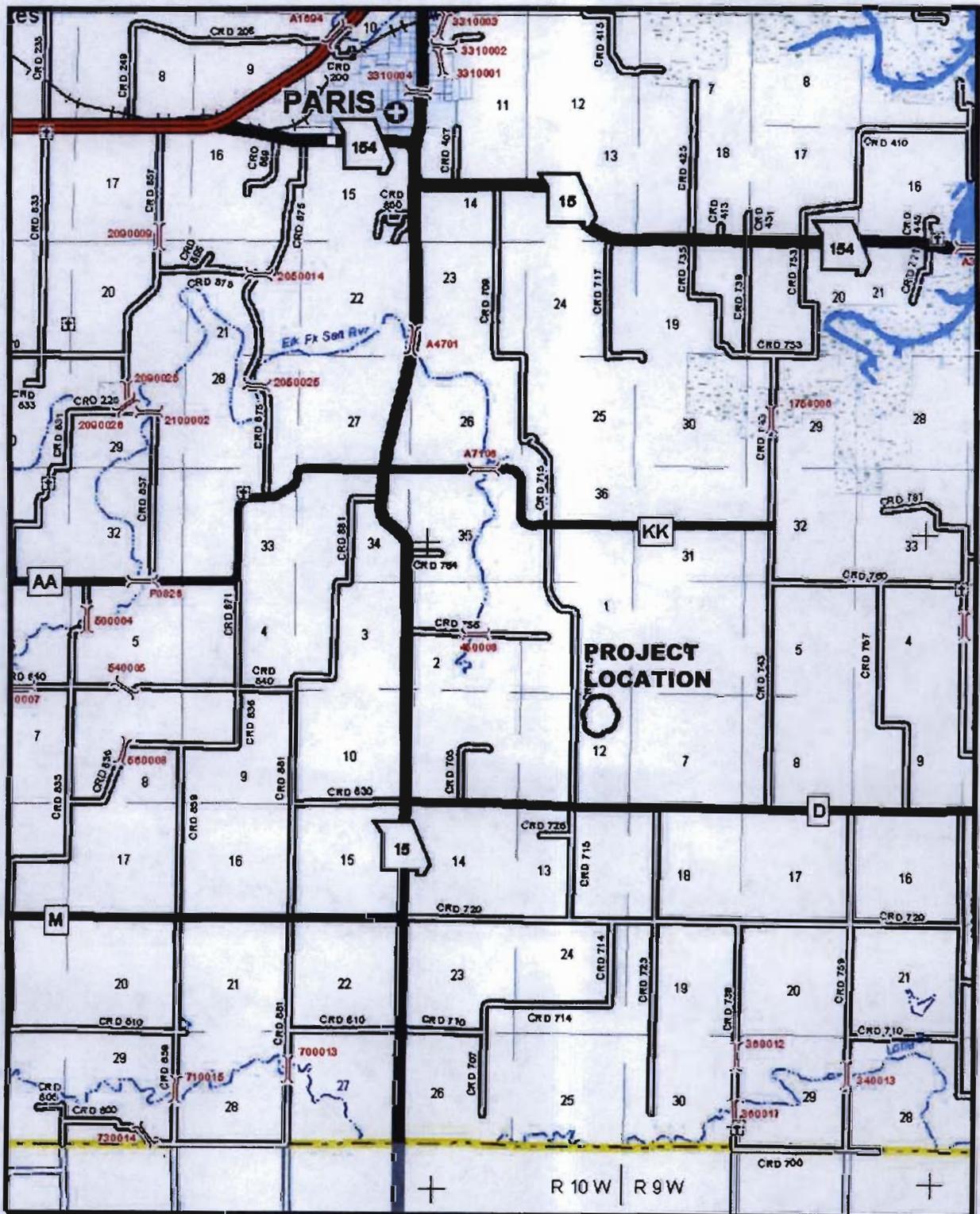
Biosecurity Measures

Biosecurity is critical to protecting livestock and poultry operations. Visitors must contact and check in with the producer before entering the operation or any production or storage facility.

Catastrophic Mortality Management

Refer to NRCS standards, or state guidance, regarding appropriate catastrophic animal mortality handling methods. The preferred method will be rendering.

ATLANTIC PORK ADDITION





PROPERTY LINE

PROPERTY LINE

PROPERTY LINE

PROPERTY LINE

50.00' SETBACK

PARKING

169.83'

216.00'

93.00'

EXISTING GDU SUBGRADE
657.74

EXISTING GESTATION SUBGRADE
654.74

695.00'

196.00'

EXISTING FARROWING SUBGRADE
665.74

374.83'

20.00'

196.00'

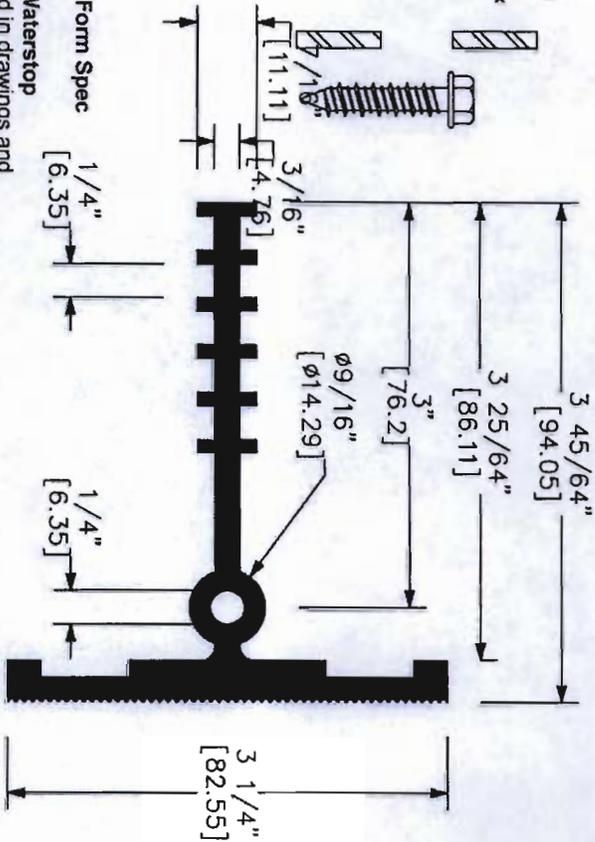
PROP. ADDITION SUBGRADE
665.74

222.16'

43.25'

65.42'

- Included components:**
- ? 42 each (per 10 lft waterstop length) ? 1-1/4" x 1/4" Climaseal coated Topcon anchors.
 - ? 2 each (per 10 lft waterstop length) ? 1/8" x 5/8" x 119.5" stainless steel batten bar (prepunched 6" on-center to accommodate anchors).



Available with factory installed brass eyelets. The eyelets provide for a convenient and durable tie-off point for wiring the waterstop to the steel reinforcement prior to the concrete pour. JP Specialists installs the brass eyelets at 12" centers, between the last two ribs, to provide maximum resistance and rigidity to the poured concrete weight.

Note to specifier: To refer to your Earth Shield specification, simply precede the specified part number with E.T. Example: If you want the optional eyelets call out part number EJP325.

Suggested Short Form Spec

Flexible Retrofit Waterstop

Waterstop indicated in drawings and specifications for expansion and construction joints to be Earth Shield® Thermoplastic Vulcanizate (TPV) Part No. JP325T as manufactured by JP Specialties, Inc. - 551 Birch Street, Lake Elsinore, CA 92530 - Phone 888-836-5778; International 951-674-6869; Fax 951-674-1315; Web www.earthshield.com; E-mail davidp@earthshield.com

1. Thermoplastic Vulcanizate (TPV) Waterstop shall be certified for use in potable water per NSF/ANSI Standard 61. Third-party certified documentation to be provided by manufacturer.

2. No equals or substitutions allowed.

3. Install per manufacturer's recommendations.



JP Specialties, Inc. / Earth Shield® 551 Birch Street • Lake Elsinore, CA 92530 www.jp-specialties.com phone 800-821-3869 • International 951-674-6869 • fax 951-674-1315			
TITLE	3	T-Shaped Retrofit	
PART NUMBER	JP 325T	DRAWN BY	DRP
CAD FILE NAME	JP325T	APPROVALS	SIZE
			A

Suggested Short Form Spec

Flexible Retrofit Waterstop

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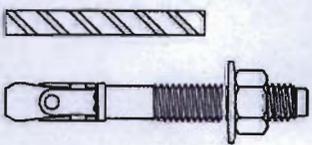
1. Thermoplastic Vulcanizate (TPV) Waterstop shall be certified for use in potable water per NSF/ANSI Standard 61. Third-party certified documentation to be provided by manufacturer.

2. No equals or substitutions allowed.

3. Install per manufacturer's recommendations.

Included components:

- ? 20 each (per 10 lft waterstop length) ? 2-1/4" x 1/4" stainless steel wedge anchor.
- ? 1 each (per 10 lft waterstop length) ? 3/16" x 1-1/2" x 119.5" stainless steel batten bar (prepunched 6" on-center to accommodate anchors).

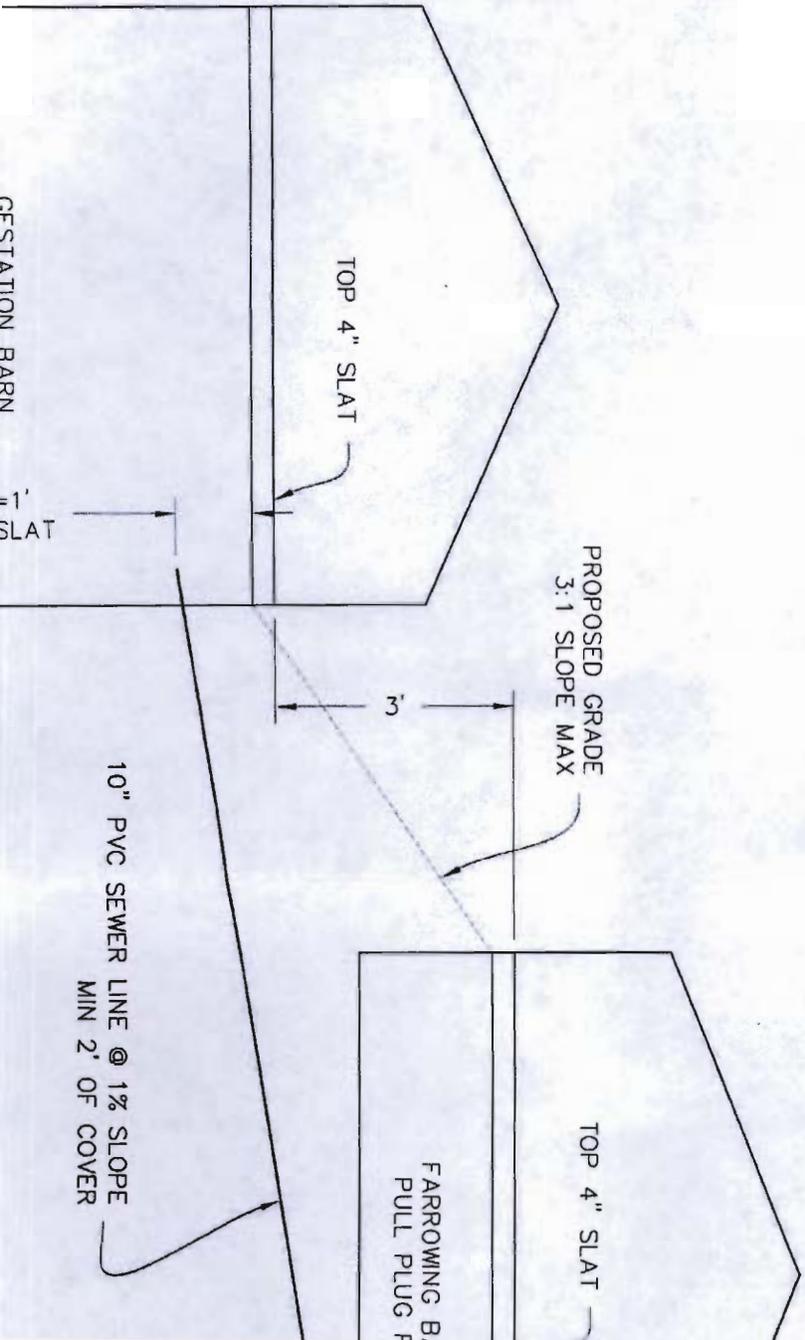


Available with factory installed brass eyelets. The eyelets provide for a convenient and durable tie-off point for wiring the waterstop to the steel reinforcement prior to the concrete pour. JP Specialists installs the brass eyelets at 12" centers, between the last two ribs, to provide maximum resistance and rigidity to the poured concrete weight.



GESTATION BARN
DEEP PIT

FARROWING BARN
PULL PLUG PIT



TOP 4" SLAT

PROPOSED GRADE
3:1 SLOPE MAX

3'

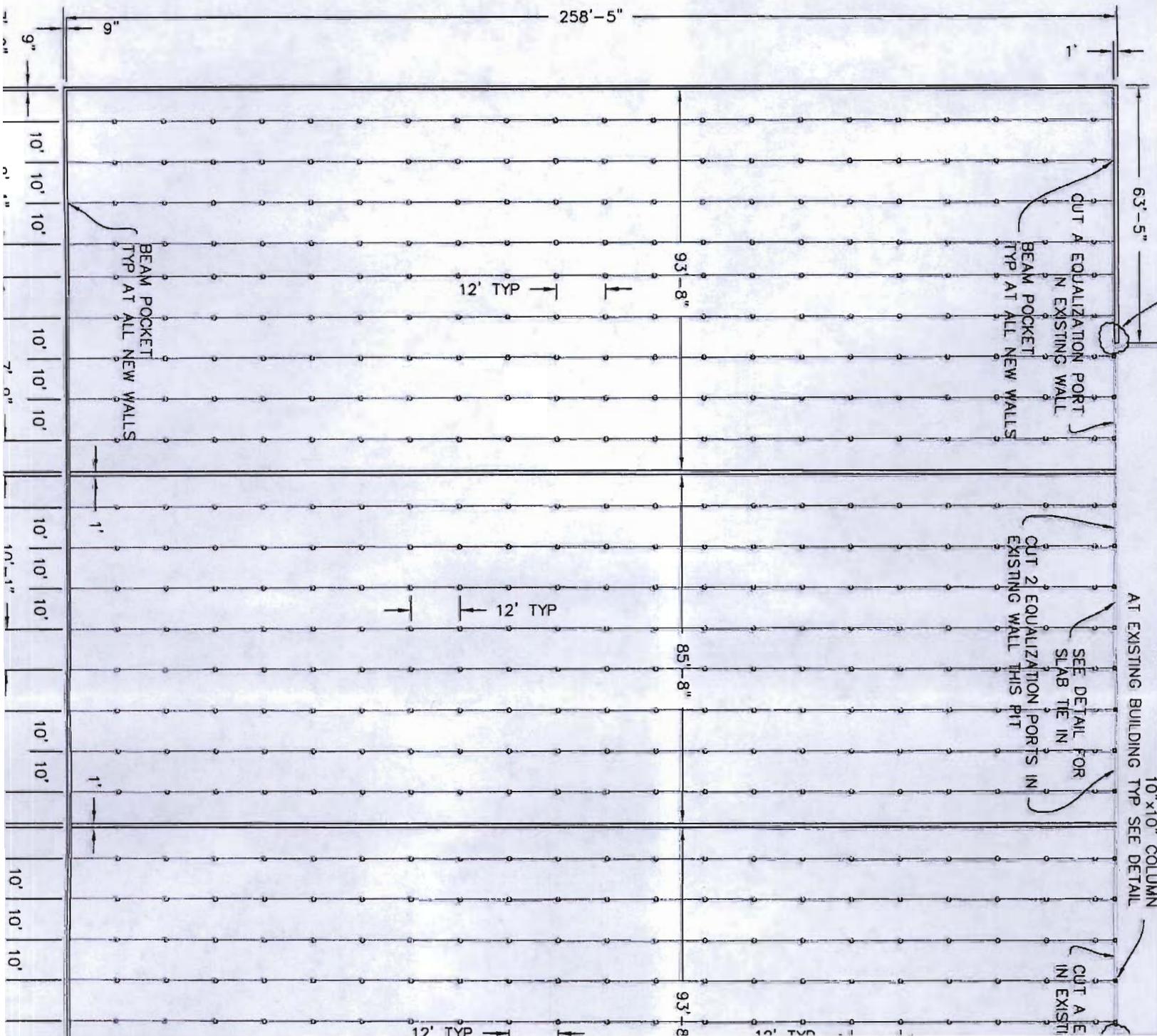
10" PVC SEWER LINE @ 1% SLOPE
MIN 2' OF COVER

TOP 4" SLAT

FARROWING B
PULL PLUG P

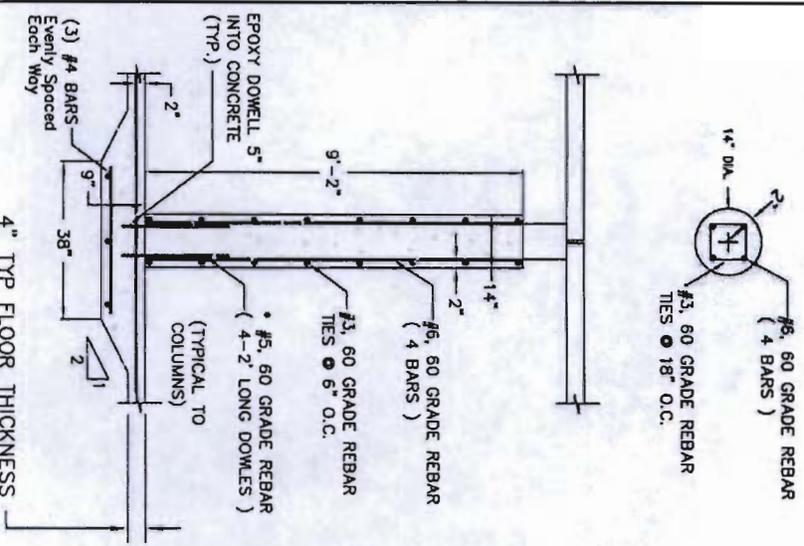
GESTATION BARN

1'
SLAT

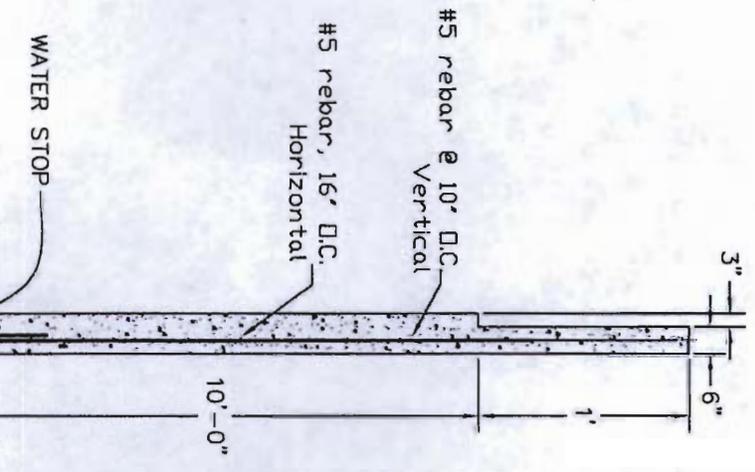


- * Concrete shall be proportioned utilizing Type I cement (except, concrete exposed directly to soil with high sulfate content shall use Type II cement). Concrete susceptible to freezing shall be formulated for maximum frost resistance in accordance with the ACI Manual of Concrete Practice.
- * Contractor shall install a water stop at location of all construction joints in pit walls and floor slab. Water stops shall be securely fixed in place to prevent voids or "foldover" of water stop. Vibrate around water stop to ensure water tight seal with no voids. All construction joints shall be made with canted 2 by 4 key at least 2.5 inches from face of concrete. All detailing, fabrication, and placement of reinforcing steel shall be in accordance with the ACI Manual of Concrete Practice.
- * Reinforcing bars shall conform to ASTM Specification A615-79 and shall be grade 60.
- * Minimum concrete protection for reinforcement shall be in accordance with ACI 318.
- * Column ties shall be #3 bars at 18 inch centers or equivalent area.
- * When backfilling walls, no heavy clays (CH) with high shrink-swell

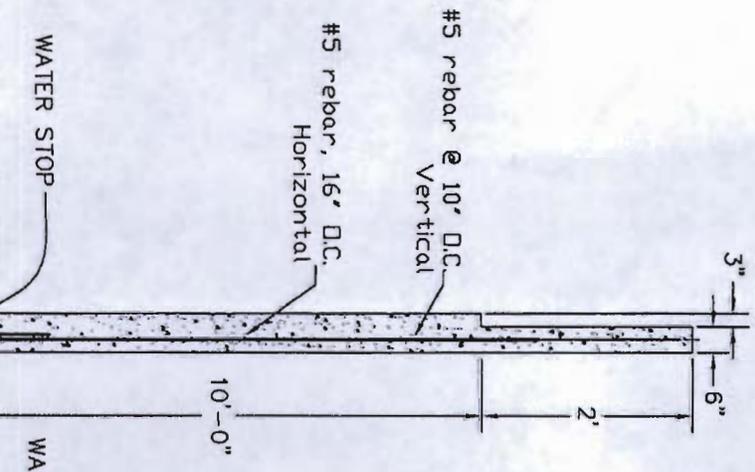
COLUMN DETAIL



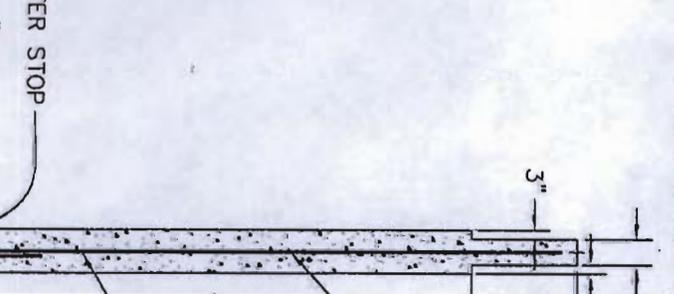
EXTERIOR PIT SIDE WALL DETAIL



EXTERIOR PIT SOUTH END WALL DETAIL



INTERIOR PIT CENTER WALL DETAIL



OF 3,500 PSI CONCRETE.

* ALL WALLS AND COLUMNS ARE TO BE CONSTRUCTED OF 4,000 PSI CONCRETE.

* HEAVY EQUIPMENT WILL NOT BE OPERATED WITHIN 5' OF FACILITY.

* CONCRETE SLATS WILL BE UTILIZED FOR FLOORING.

* TWO-PART EPOXY USED FOR DOWELLS SHALL BE SIMPSON STRONG TIE ANCHOR SYSTEMS-EPOXY TIE ET22.

OPTIONS FOR FLOOR SLABS

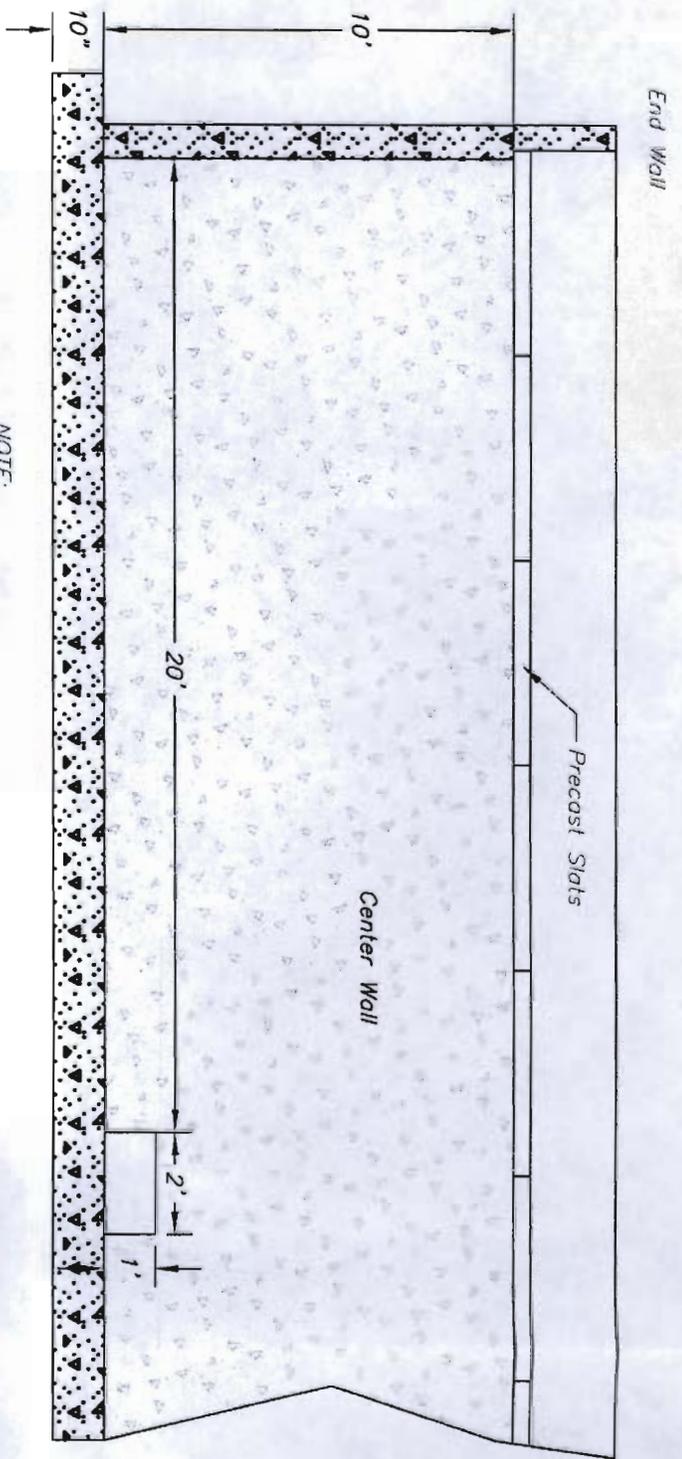
- The following are options for 4" floor slabs:
- * All 4" slabs shall have 6 mil plastic under slab
 - * Steel shall be:
 - #3 bars - 15" o.c.e.w. "or"
 - #4 bars - 18" o.c.e.w. "or"
 - 4" X 4" - 6 Ga X 6 Ga WWF "or"
 - 4" X 4" - W2.9 X W2.9 WWF

- The following are options for 5" floor slabs:
- * Steel shall be:
 - #3 bars - 12" o.c.e.w. "or"
 - #4 bars - 18" o.c.e.w. "or"
 - 4" X 4" - 4 Ga X 4 Ga WWF "or"
 - 4" X 4" - W4 X W4 WWF

ROCK FILL PER IA-24 SPEC.

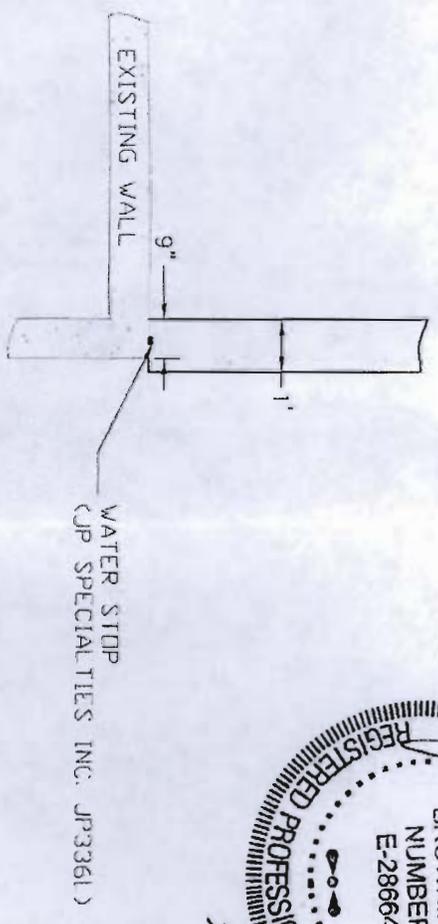
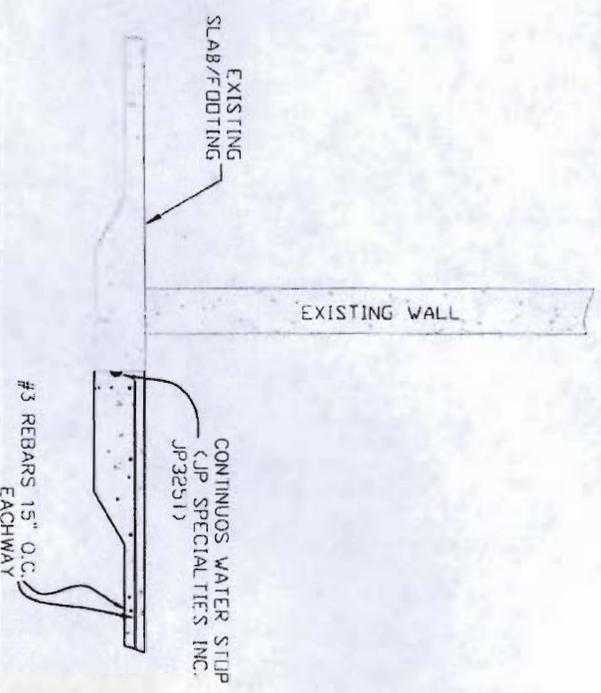
FOUNDATION
4" DIA. FOUNDATION (TYPICAL TO E

NOTE: ALL ST ABOVE THE S VERIFIED WITH CONTRACTOR



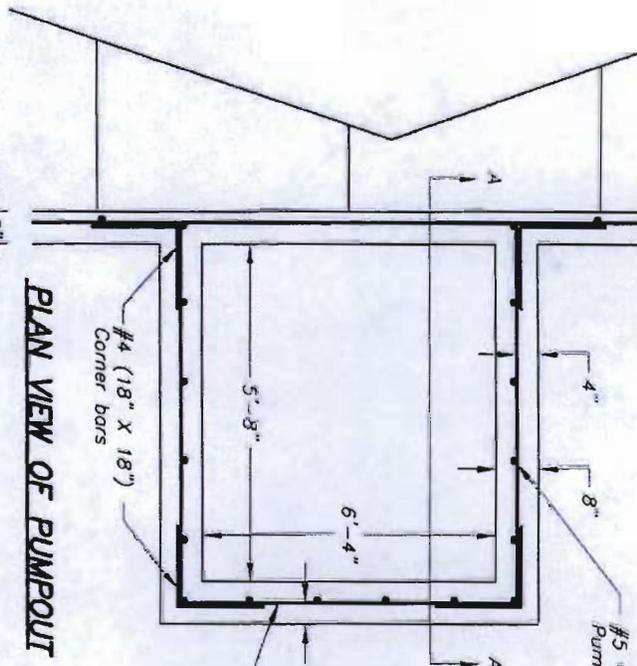
NOTE:
Place cutouts every 20 ft along center wall.

ELEVATION - CENTER WALL



SLAB TIE IN DETAIL

WALL TIE IN DETAIL (PLAN VIEW)



PLAN VIEW OF PUMPOUT

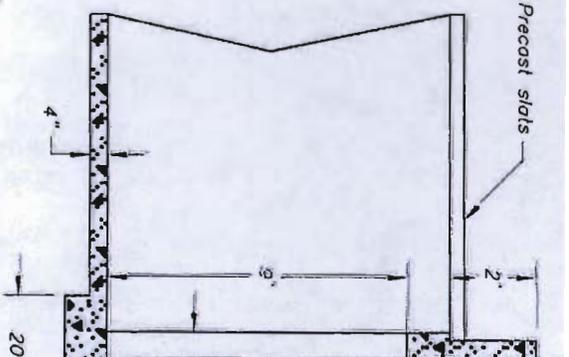
#5 vertical rebar 12" O.C. Pumpout walls

NOTE:
Fabricate cover or grating for top of pumpout.

#4 horizontal rebar 12" O.C. Pumpout walls

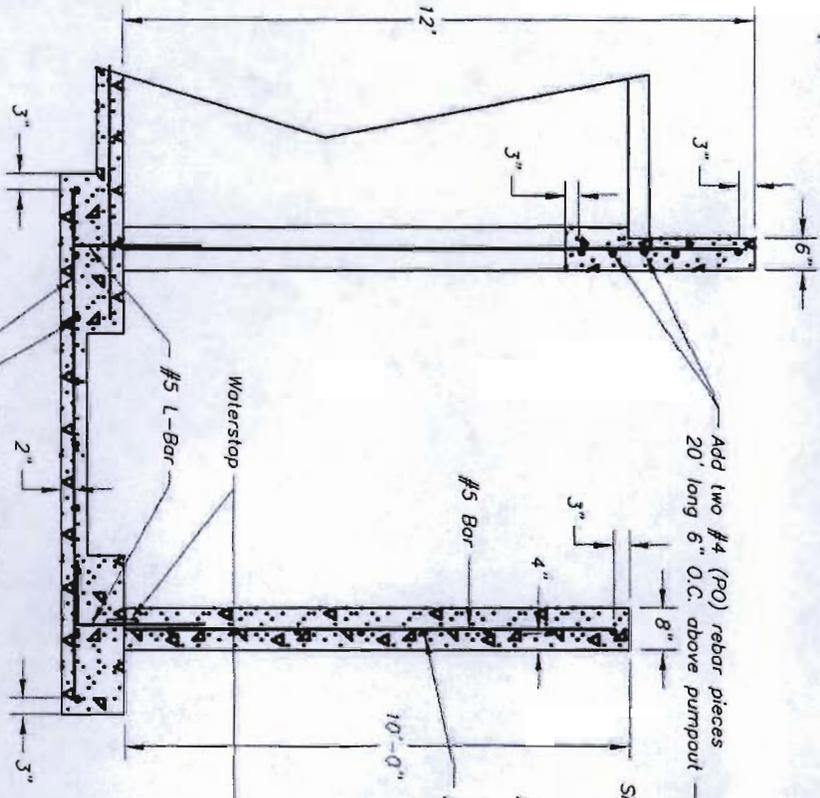
Add 10 pieces of #4 (FO) rebar above pumpout approximately 12 degrees from vertical and 6" O.C.

PROFILE C



Precast slats

Top of Pit Wall



ELEVATION VIEW OF PUMPOUT A-A

Add two #4 (FO) rebar pieces 20' long 6" O.C. above pumpout

Waterstop

#5 L-Bar

#4 bars in footing

#4 ties 24" O.C. in footing

3"

2"

3"

12'

Slot seal

#4 Bar

#4 Bar

10'-0"

#4 Bar

9"

Pit Floor

3"

3"

6'-4"

5'-0"

ELEVATION VIEW OF PIT WALL WITH PRECAST SLATS

NOTE:
See owner for pump out locations.