



**BARTHOLOMEW COUNTY
BOARD OF ZONING APPEALS
(January 27th, 2014 Meeting)**

STAFF REPORT

Docket No. / Project Title: B/CU-13-09 (William Gelfius - Ag. Land LLC)
Staff: Leanne Wells
Applicant: William Gelfius – Ag Land, LLC
Property Size: 378.11 acres
Zoning: AG (Agriculture General Rural)
Location: 20565 East 200 North, Clifty Township.

Background Summary:

The applicant has indicated that the proposed conditional use will allow a concentrated area feeding operation (CAFO) Type II facility located at the address listed above. Their intent is to construct two swine buildings that are approximately 80 feet wide x 400 feet long with a 10 foot deep manure pit below each building. Each building will house 4400 head of wean-to-finish swine—the animals will be brought in at approximately 30 lbs. and raised to market weight of approximately 275 lbs. This size farm is regulated by the Indiana Department of Environmental Management due to the number of animals. Currently, the land is being utilized for grain production.

According to Section 14.2 of the zoning ordinance, the definition of a concentrated animal feeding operation (CAFO) is the raising of animals for food, fur, or recreation in lots, pens, ponds, sheds, or buildings where they are confined, fed, and maintained for at least 45 days during any calendar year, and where there is no vegetation present over at least half of the animal's confinement area. A CAFO Type II farm is one which is subject to regulation by the Indiana Department of Environmental Management.

Since the initial application for the conditional use, the number of animals per hog barn has increased from 4200 to 4400. The reason for this change is to allow for death loss upon transport and to remain compliant with IDEM. The confined feeding operation will operate under a separate entity—Innovate Ag LLC but will be owned by William Gelfius.

Preliminary Staff Recommendation:

Approval: All four criteria have been met. Approval should be contingent upon the applicants obtaining all necessary approvals from the Indiana Dept. of Environmental Management and providing copies of those approvals to the planning department.

Zoning District Intent:

The Agriculture General Rural (AG) zoning district is intended to provide for a mixture of agricultural and residential land uses. This mixture is intended to support the long-term viability of agricultural operations, while also allowing increased non-agricultural development in areas adjacent to developed infrastructure. This district should be used to provide unique, rural housing options and the future ability to extend urban infrastructure.

Current Property Information:	
Land Use:	Agriculture (crop production)
Site Features:	Wooded area and Agriculture Field
Flood Hazards:	There are no flood hazards present on this property.
Vehicle Access:	County Road 200 North (Collector)

Surrounding Zoning and Land Use:		
	Zoning:	Land Use:
North:	AP and AG (Agriculture Preferred, Agriculture General)	Agriculture (crop production), Anderson Falls County Park Fall Fork Creek (a tributary of Clifty Creek) Single Family Residential
South:	AP (Agriculture Preferred)	Agriculture (crop production)
East:	Bartholomew Co.—AP and AG (Agriculture Preferred, Agriculture General) Decatur Co.—Agriculture and Single Family Residential R-4	Bartholomew Co.—Agriculture (crop production) and woods Decatur Co.—Agriculture (crop production) and Single Family Residence (Waynesburg approx. 1 mile east)
West:	AP (Agriculture Preferred)	Agriculture (crop production)

Interdepartmental Review:	
County Highway Department:	County highway has no issues with this request. It will be a high volume of truck traffic but average for the whole year, shouldn't have a significant impact.
BCREMC:	No comments.
Bartholomew County Parks Board	No comments.
Bartholomew County Purdue Extension Agent	No comments.

INDOT	INDOT has indicated the intersection of SR 46 and CR 925 East is of recent re-construction and has a passing and turning lane. Its width, radii, and general design are sufficient to support the additional traffic that will be generated.
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Planning Consideration(s):

The following general site considerations, planning concepts, and other facts should be considered in the review of this application:

1. According to the Indiana Department of Environmental Management, a CFO is a confined feeding operation with the raising of animals for food, fur or recreation in lots, pens, ponds, sheds or buildings, where they are confined, fed and maintained for at least 45 days during any year, and where there is no ground cover or vegetation present over at least half of the animals' confinement area. A CAFO (concentrated area feeding operation) is a CFO but a larger operation. In Bartholomew County, there are currently 7 active CFOs, 2 of which are CAFOs. All the operations are swine. The table below describes and gives the location of each operation.

Operation Name	Address	City	ZIP	Farm Size	Nursery Pigs	Finishers	Sows	EST.
Bob Town	CR 150 W & CR 1050 S	Columbus	47201	CFO			1200	4/2/1997
Dodd Farms Incorporated	9696 N SR 9	Hope	47246	CAFO	1000	2884		10/10/1993
Hope Sow Unit	15480 Stafford Rd	Hope	47246	CAFO			2660	5/19/1993
Jay F Shoaf	CR 625 E & CR 950 N	Hope	47246	CFO		1500		10/6/1993
Jeffrey Shoaf	CR 800 N & CR 900 E	Hope	47246	CFO	4000			6/10/1994
Stafford Farms	Stafford Rd & CR 900 E	Hope	47246	CFO	3000			6/4/1996
Trotter Barn	13185 N CR 670 E	Hope	47246	CFO		1200		10/6/1993

Source: Indiana Department of Environmental Management

2. The Indiana Department of Environmental Management (IDEM) regulates CAFO Type II operations. The list below is what the State of Indiana regulates and what it does not in regard to these operations.

What IDEM regulates:

- Facility setbacks from streams, wells, roads, property boundaries, and residences
- Manure handling and storage
- Facility design and construction
- Manure application rates and setbacks
- Monitoring and record keeping
- Storm water run-off
- Closure of manure storage structures

What IDEM does not regulate:

- Property Values
- Public Road Conditions
- Place Where CFOs and CAFOs Locate
- Disposal of Dead Animals (BOAH)
- Groundwater Use
- Traffic, Odors and Vectors (e.g. flies, mosquitoes)

3. In Bartholomew County, per zoning ordinance Section 6.3 all CFOs shall meet a minimum setback of 100 feet from all property lines and be no closer than ½ mile to any Single-Family Residential or Multi-Family Residential zoning district. The applicant has indicated the distance from the nearest property line where the barns will be located is 110 feet. The closest residential zoning district is in Decatur County, at approximately 1 mile to the east and currently has 12 houses.
4. In Bartholomew County, there are currently 6 houses located to the north and east, within ½ mile of the proposed barns. There is also a wooded buffer of trees to the north and east of the proposed barns.
5. Anderson Falls County Park is located on 44 acres approximately less than one-half mile north of where the hog barns will be located. The falls are comprised of Fall Fork Creek; a tributary of Clifty Creek. Fall Fork Creek lies approximately 950 feet north and is 35 feet lower in elevation of the proposed hog barn locations. The location of the applicant's property is at the bottom of the Fall Fork Clifty Creek – Anderson Falls watershed.
6. The applicant states that there will be no impact to Fall Fork Creek or Anderson Falls County Park. IDEM uses the US Environmental Protection Agency and in turn the Clean Water Act to regulate livestock operations which allow no impact (zero discharge) to the creek. The applicant has indicated that they will also follow the USDA Natural Resources Conservation Service guide for construction of the manure pits as well as for manure application rate.
7. The applicant has stated the trucking companies that will be used for transport will comply with DOT standards so weight limitations for roads and bridges should not be of primary concern. The amount of feed for the animals will total 408.6 truckloads of feed/year. The weaned pigs would be delivered approximately 15 times/year. The number of truckloads that will be taking the animals to market is 110.4. This results in a total of 534 roundtrips per year. Most of the truck traffic will travel west on CR 200 North to State Road 46 and then either through Columbus or north on State Road 9 to west CR 450 North or 800 North to reach I-65. According to INDOT, the intersection of SR 46 and CR 925 East is of recent re-construction and has a passing and turning lane. Its width, radii, and general design are sufficient to support the additional traffic that might be generated. On County Road 200 North between 1050 East and 925 East, on the east side of State Route 46, there is a concentration of approximately 12-15 houses that the trucks will pass.

Comprehensive Plan Consideration(s):

The Future Land Use Map indicates the future use of this property as Agriculture Preferred. The district includes prime farmland in Bartholomew County outside developed areas. Prime farmland in our county includes most of the eastern and northern parts of the county. There are a few areas of prime farmland in the south and west. Element 1 of the comprehensive plan includes the goal of preserving productive farmland, as well as 18 policies directly relating to farmland preservation (Goal 1, Policies 1-A through 1-R).

The area to the immediate north and east of this location is indicated as Agriculture General Rural by the Future Land Use Map. The General Rural District is viewed as less restrictive than the preferred and natural resource districts. Intensive development would be discouraged here. The area proposed as General Rural is now a mix of farmland, woodlands, residential, some institutional (such as schools, churches and fire stations), and limited commercial (such as small stores). These uses are appropriate. Most of the area proposed for this district is south and west of the City of Columbus jurisdiction. The general character here is hilly and wooded, with many areas of steep slopes and scenic beauty. There are environmentally important forests in this area. There may be other natural areas within this district, though not specifically designated at this time. Much of the district may not be suitable for septic systems. Residential development is appropriate if served by public sewer and water, and if designed with drainage systems that address the development and do not contribute to drainage problems elsewhere. Cluster development and smaller lot sizes should be encouraged to maintain open space and natural areas.

The Comprehensive Plan for Bartholomew County states general land use principles. There are two principles relevant for this case: 1.) preserve productive farmland for farming and 2.) make land use decisions that protect and improve community resources and the environment. In order to preserve productive farmland for farming, the plan committee found that over half of the land in the county planning jurisdiction is prime farmland according to a definition developed by the committee. Farming is an important part of Bartholomew County's history and economy. Farmland preservation is becoming a greater concern in

the county, and in the state overall, as more and more prime farmland is lost to development. The committee found that the county should develop a plan for preserving prime farmland. The second principle states that land use decisions and construction planning should consider impacts on county resources including, but not limited to, drainage systems, environmentally sensitive areas, surface and groundwater resources, significant forested areas, natural habitats, and historic resources.

The following Comprehensive Plan goal(s) and/or policy(ies) apply to this application:

1. **Goal 1: Preserve productive farmland and maintain the productive capacity for a strong county agricultural industry.**
2. Policy 1-D: Require appropriate buffers to allow the continued full use of adjoining farmland and to reduce conflicts between neighboring uses.
3. Policy 1-F: Direct development away from more productive farmland and agricultural areas.
4. Policy 1-G: Prevent subdivision development from interfering with ongoing agricultural operations.
5. Policy 1-J: Require development to take place in a manner that allows for preservation and conservation of farmland, open land and significant natural features.
6. Policy 1-K: Protect neighboring farmland from increased water runoff (both surface and subsurface), night lighting, sun-blocking interference, trespassing or anything else which might interfere with existing or potential farm operations.
7. Policy 1-Q: Promote development of businesses such as value-added agricultural industries that enhance agriculture and agribusiness while protecting the character and environmental quality of the county.

8. **Goal 2: Protect open space such as woodlands, flood plains, and wetlands for environmental, recreational, scenic, and life-style benefits.**
9. Policy 2-B: Ensure that development occurs in a manner that preserves farmland, wildlife habitat, woodland, and significant natural features.
10. Policy 2-C: Protect from development unique areas of the county with special natural features, for open space, parks, and wildlife habitat, for the benefit of present and future generations, while avoiding competition with private property ownership.
11. Policy 2-E: Utilize information about soil and water resources to make wise land use decisions and to prevent damage to the environment.

12. **Goal 7: Maintain and enhance the quality of the water, air and land.**
13. Policy 7-C: Ensure, to the extent possible, that new development does not cause deterioration in water quality or quantity for existing development.
14. Policy 7-L: Ensure that human and animal waste disposal is carried out in accordance with applicable environmental regulations.

15. **Goal 12: Improve Water Quality and Ensure an Ample Supply of Potable Water.**
16. Policy 12-A: Protect ground and surface water from contamination by chemicals, industrial waste, septic systems, animal waste, human waste, and sludge.

Provisional Findings of Fact/Decision Criteria

Section 12.4(D) of the Zoning Ordinance permits the Board of Zoning Appeals to allow conditional uses that meet the criteria listed below. The Board may impose reasonable conditions as part of an approval.

1. **The proposal will not be injurious to the public health, safety, and general welfare of the community.**

Provisional Findings: The approval of the concentrated animal feeding operation Type II (CAFO) will not be injurious to the public health, safety, and general welfare of the community. The applicant will be required to follow IDEM guidelines regarding construction of the facility and monitoring once the operation is built. INDOT has indicated the intersection of SR 46 and CR 925 East (where the trucks associated with this facility will likely access SR 46) is of recent reconstruction and has a passing and turning lane. Its width, radii, and general design are sufficient to support the additional traffic that will be generated. The county engineer has

indicated that no issues will result from the additional trucks on the nearby county roads. In addition, the proposed hog barns will be separated from the nearest homes by over 2,000 feet and by a large buffer of trees to the north and east. *This criterion **has** been met.*

2. The development of the property will be consistent with the intent of the development standards established by the Zoning Ordinance for similar uses.

Provisional Findings: The development of the property will be consistent with the intent of the development standards of zoning ordinance Section 6.3. The ordinance requires CAFO Type II operations to be located 100 feet from all property lines and a minimum of ½ mile from residential zoning districts. The applicant has met these criteria. *This criterion **has** been met.*

3. Granting the conditional use will not be contrary to the general purposes served by the Zoning Ordinance, and will not permanently injure other property or uses in the same zoning district and vicinity.

Provisional Findings: The proposed development is on the border of two zoning districts—Agriculture Preferred and Agriculture General Rural, the latter being more diverse in land use. The area for the proposed operation is now primarily farmland, but also includes woodlands, and some residential to the north east. While the barns are proposed in this district, there is a wooded buffer that will separate them from residential development. The applicant will be required to meet the minimum standards of IDEM, INDOT and the county engineer indicate the roads can accommodate the truck traffic and Section 6.3 of the zoning ordinance has been satisfied regarding setbacks of the hogbarns and their relation to property lines and residential zoning districts. *This criterion **has** been met.*

4. The proposed use will be consistent with the character of the zoning district in which it is located and the recommendations of the Comprehensive Plan.

Provisional Findings: The proposed use of the CAFO will be consistent with the character of the Comprehensive Plan for the Agricultural Preferred District. While the area is agricultural in nature, to the north of the applicant's property is a large district designated in the Comprehensive Plans as Agriculture General Rural with residential properties included amongst the farm land. The Comprehensive Plan Future Land Use is consistent with the existing zoning districts. That said, this area of the county is agricultural in nature and this proposed use is consistent with the surroundings. Lastly, the applicant will not be drastically altering the land to build the barns and will be regulated by IDEM that in turn looks to the Clean Water Act and the US Environmental Protection Agency. The proposed CAFO can satisfy both these Comprehensive Plan policies that affect agriculture and those that encourage environmental protection. *This criterion **has** been met.*

Board of Zoning Appeals Options:

In reviewing a request for conditional use the Board may (1) approve the petition as proposed, (2) approve the petition with conditions, (3) continue the petition to a future meeting of the Board, or (4) deny the petition (with or without prejudice). Failure to achieve a quorum or lack of a positive vote on a motion results in an automatic continuance to the next regularly scheduled meeting.

**Columbus – Bartholomew County Planning Department
Conditional Use Application**

Planning Department Use Only:
Jurisdiction: Columbus Bartholomew County
Zoning: _____
Docket No.: _____
Hearing Procedure: Hearing Officer Board of Zoning Appeals



Conditional Use Application:

Applicant Information (the person or entity that will own and/or execute what is proposed):

Name: William Gelfius - Ag Land, LLC
Address: 20565 East 200 North , Hartsville, IN 47244-9758
(number) (street) (city) (state) (zip)
Phone No.: 812-546-5719 Fax No.: _____ E-mail Address: _____

Property Owner Information (the "owner" does not include tenants or contract buyers):

Name: William Gelfius - Ag Land, LLC
Address: 20565 East 200 North , Hartsville, IN 47244-9758
(number) (street) (city) (state) (zip)
Phone No.: 812-546-5719 Fax No.: _____ E-mail Address: _____

Notification Information (list the person to whom all correspondence regarding this application should be directed):

Name: Landmark Enterprises, LLC - Kristin Whittington
Address: 5522 West 900 South Edinburg, IN 46124
(number) (street) (city) (state) (zip)
Phone No.: 317-407-6021 Fax No.: _____ E-mail Address: landmarkent@lightbound.com

How would you prefer to receive information (please check one): E-mail Phone Fax Mail

Property Information:

Address: 20565 East 200 North , Hartsville, IN 47244-9758
(number) (street) (city) (state) (zip)

or General Location (if no address has been assigned provide a street corner, subdivision lot number, or attach a legal description): The confinement operation will be constructed on currently owned property in Clifty Township of Bartholomew County. A legal description is SW ¼ of NE ¼ of Section 13, Twp. 9 N R 7 E. The construction site for the confined feeding livestock buildings is approximately 3000 feet southeast of the onsite producers' residence. This location will be at the end of an extended lane south of the existing pole barns, machine shops, and grain setup. Buildings are planned in the northeast corner of a currently owned approximately 380+ acre crop production field. Approximately 11.7 acres will be deeded to Ag Land, LLC for accounting purposes and the construction site of the swine barns.

Conditional Use Requested:

I am requesting a conditional use as listed by Section 3.5 of the Zoning Ordinance to allow the following:

Construction of a swine Concentrated Animal Feeding Operation (CAFO) Type II on property zoned as Agricultural Preferred (AP). The livestock facility will be located in Clifty Township of Bartholomew County. The legal description of the property is SW ¼ of NE ¼ of Section 13, Twp 9 N R 7 E. The confinement buildings will be constructed approximately 3000 feet south-east of the residence.

We intend to construct two swine buildings that are 80' wide x 400' long with a 10' concrete pit below. The buildings will each house 4200 head of wean-to-finish swine. Pigs will be brought in at approximately 30lbs and raised to market weight of approximately 275lbs. Design and construction of the confinement buildings will be in accordance with both the regulations set forward by the Indiana Department of Environmental Management's (IDEM) Confined Feeding Regulations 327 IAC 19 and the construction standards set forth by the USDA Natural Resources Conservation Service.

Conditional Use Criteria:

The Columbus & Bartholomew County Zoning Ordinance establishes specific criteria that each must be met in order for a conditional use to be approved. Describe how the conditional use requested meets each of the following criteria.

The approval of the conditional use will not be injurious to the public health, safety, and general welfare of the community.

Construction of these confinement buildings will not be injurious to public health, public safety, or the general welfare of the community. The production of livestock in these buildings will further utilize the agricultural ground for an agricultural purpose. Manure generated by the livestock is a valuable source of fertilizer which will help further enhance the existing grain production operation for CFOs requiring a state permit.

This facility is over the animal number threshold required for state approval by IDEM. The construction, maintenance, and management of the buildings will be regulated under the Confined Feeding Rules set forth and updated by IDEM in July of 2012. These regulations provide specific requirements for the design, construction, and management of such CAFOs. Regulations and Guidelines are in place to assure public health, safety, and general welfare of the environment and community. The producer will follow standards and requirements set forth by these regulations. The producer also intends to utilize the experience and outside oversight of a local Agricultural Environmental consultant to ensure the facility is managed properly.

The development of the property will be consistent with the intent of the development standards established by the Zoning Ordinance for similar uses.

Bartholomew County Zoning Ordinances have provisions for the enhancement and continued agricultural use of property that is zoned as such. The addition of a confined feeding swine operation does just that. Through the raising and feeding of livestock, local grain commodities are further buoyed within the agricultural sector. The intent of this additional livestock operation is to both add value to locally raised grain, and naturally increase soil fertility through strategic planning and the use of facility produced manure by-product.

Granting the conditional use will not be contrary to the general purposes served by the Zoning Ordinance, and will not permanently injure other property or uses in the same zoning district and vicinity.

These new swine confinement buildings are being constructed in an area currently zoned as Agricultural Preferred (AP). The construction site is on acreage that is currently tilled and used for grain production purposes, meaning the buildings will be constructed within the confines of a currently operating grain farm. The intent of swine production buildings is to enhance the production of grain and provide a source of organic fertilizer which helps increase soil fertility.

Design and construction of the confinement buildings will be in accordance with regulations set forward by the Indiana Department of Environmental Management (IDEM) Confined Feeding Regulations 327 IAC 327 19 and construction standards set forth by the USDA Natural Resources Conservation Service. The buildings will be in an area that due to its location, will have minimal impact on neighbors or the community as a whole. The closest residence to the construction site is that of the producer. Surrounding neighbors have been contacted regarding the potential construction, and at this time have had no objections. In accordance to IDEM regulations adjacent land owners and surrounding neighbors, as well as County Commissioners, will be contacted in writing when the official application is submitted to IDEM for approval.

The conditional use will be consistent with the character of the zoning district in which it is located and the recommendations of the Comprehensive Plan.

The addition of a swine confined feeding operation to the zoned agricultural (AP) property owned by William Gelfius is an enhancement to this already existing grain farming operation. Continuing to grow agricultural entities in agricultural areas is a part of the Comprehensive Plan for Indiana and Bartholomew County.

Applicant's Signature:

The information included in and with this application is completely true and correct to the best of my knowledge and belief.

William R. Mills
(Applicant's Signature)

12/19/2013
(Date)

Property Owner's Signature (the "owner" does not include tenants or contract buyers):

I authorize the filing of this application and will allow the Planning Department staff to enter this property for the purpose of analyzing this request. Further, I will allow a public notice sign to be placed and remain on the property until the processing of the request is complete.

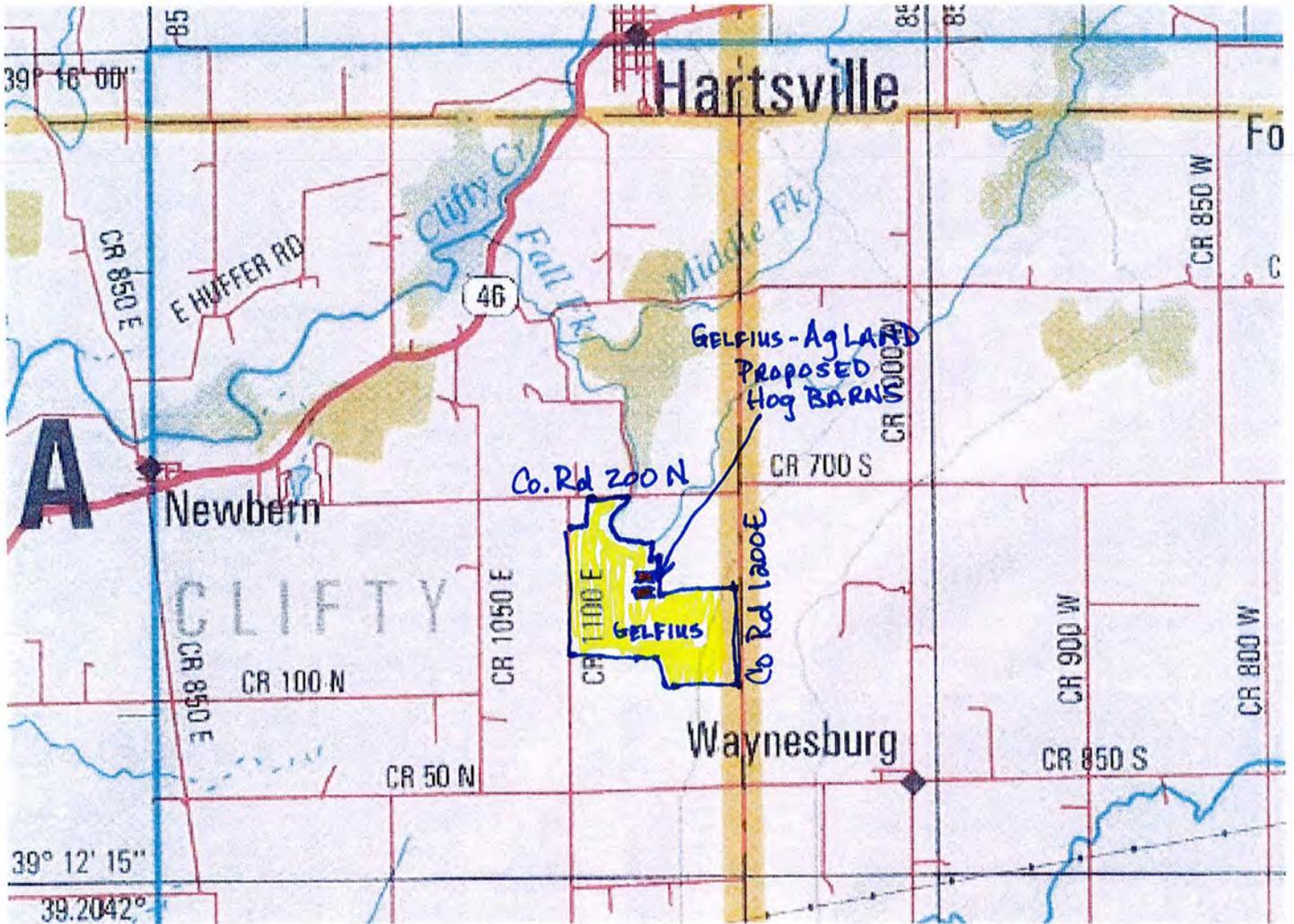
William R. Mills
(Owner's Signature)

12/19/2013
(Date)

(Owner's Signature)

(Date)

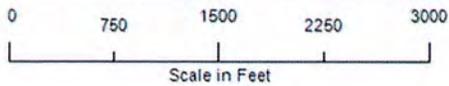
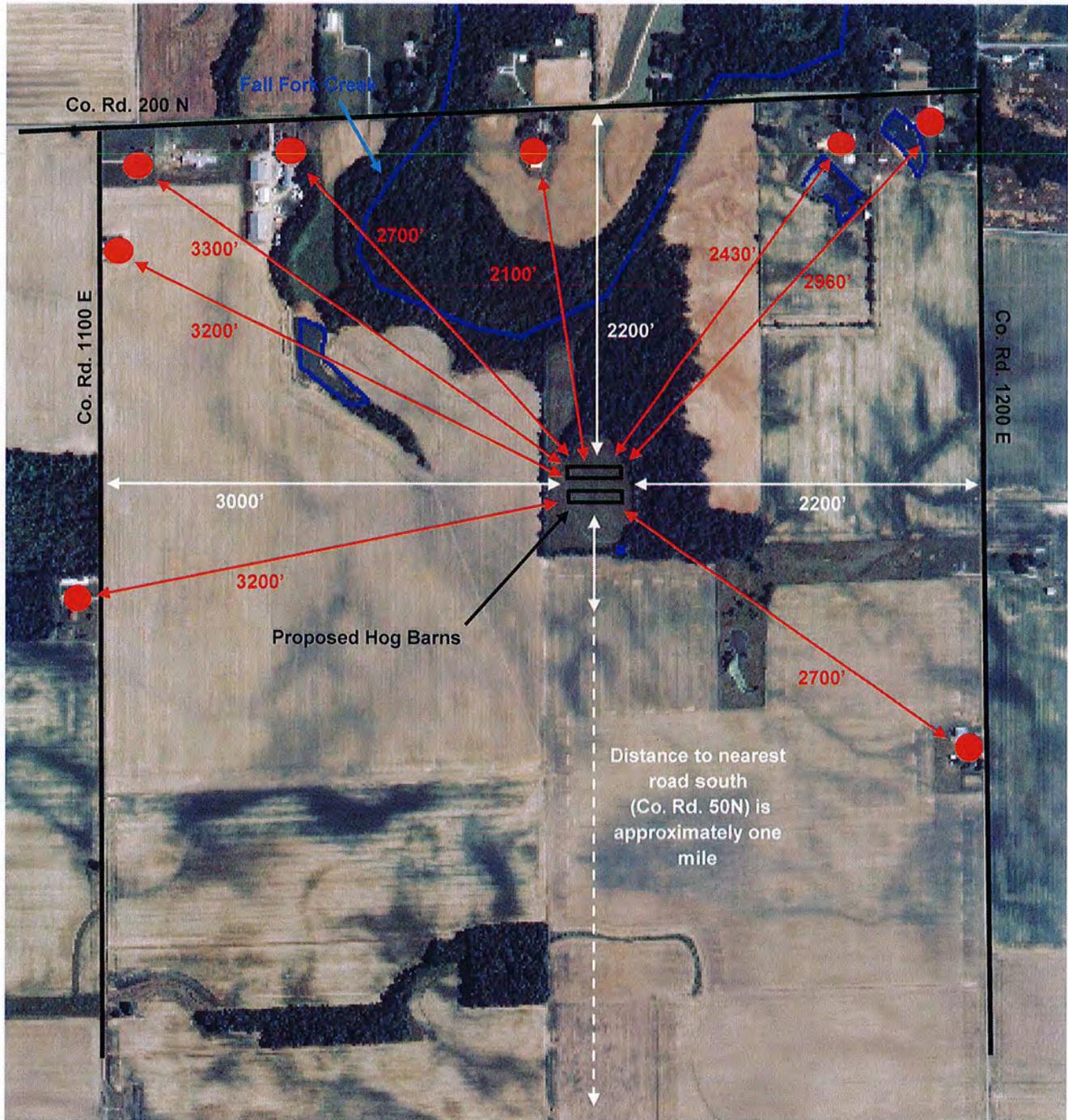
Gelfius - Ag Land, LLC Location Map



Property Information: 20565 East 200 North, Hartsville, IN 47244-9758

The confinement operation will be constructed on currently owned property in Clifty Township of Bartholomew County. A legal descriptions is SW ¼ of NE ¼ of Section 13, Twp. 9 N R 7 E. The construction site for the confined livestock buildings is approximately 3000 feet southeast of the onsite producer's residence. This location will be at the end of an extended lane south of the existing pole barns, machine shops, and grain set-up. Buildings are in the northeast corner of a currently owned approximately 380+ acre crop production field.

Distances to Residences and County Roads

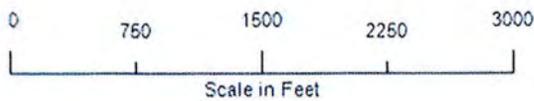
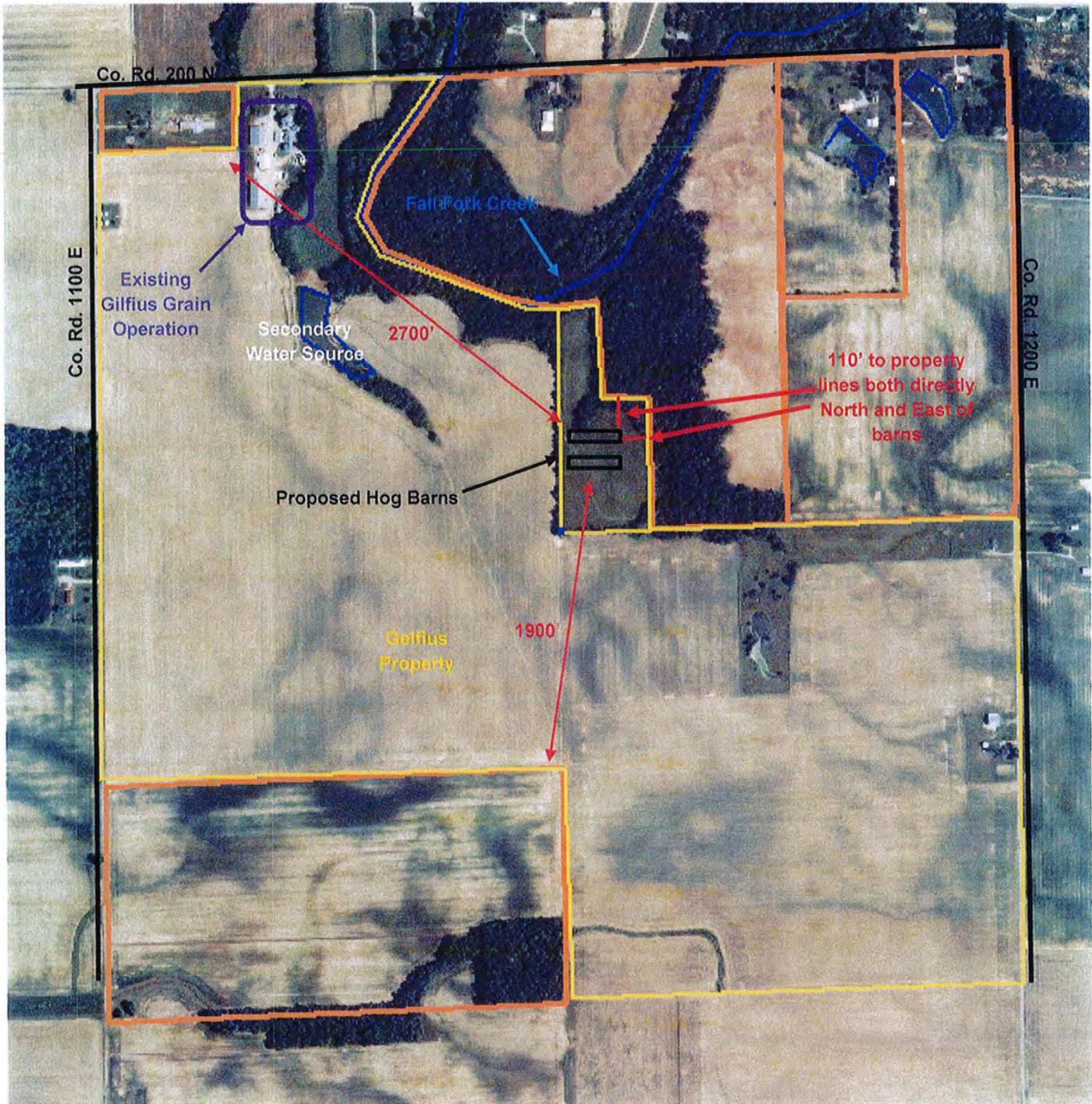


All residences are at least 1600' from proposed build site
All roads are at least 1700' from proposed build site
Proposed barns are approximately 700' from Fall Fork Creek

 = Proposed hog barns

 = Residence; All distances are approximate

Gelfius - Ag Land, LLC Build Site Property Line Distances



— Yellow Lines = Gelfius Property

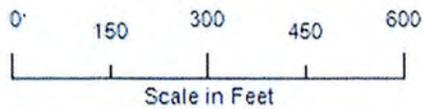
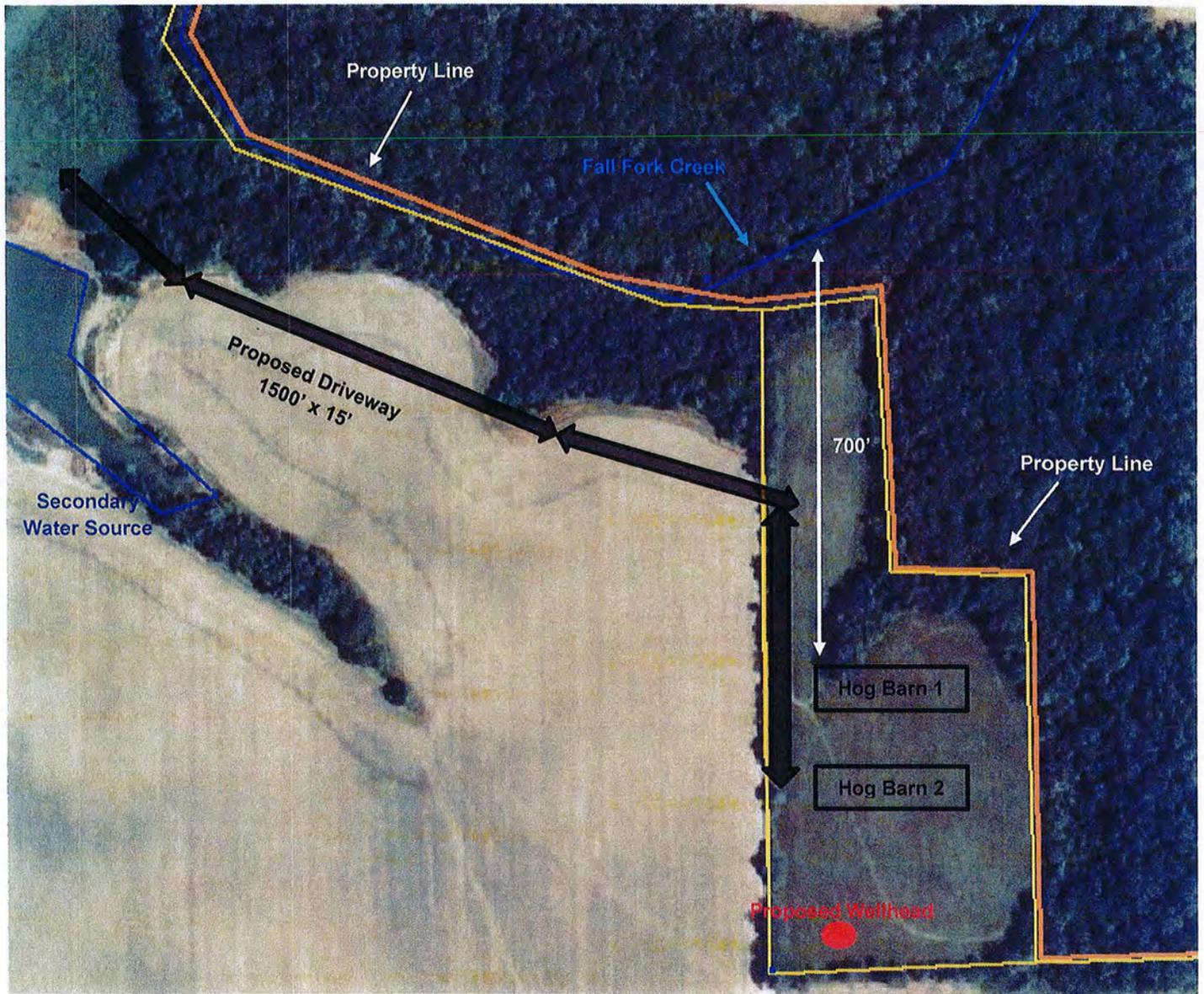
— Orange Lines = Neighboring Properties

Proposed barns are approximately 700' from Fall Fork Creek
Established farm pond will act as secondary water source

▭ = Proposed hog barns

All distances are approximate

Gelfius - Ag Land, LLC Proposed Build Site



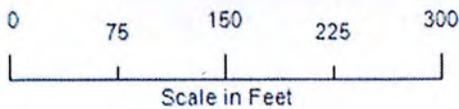
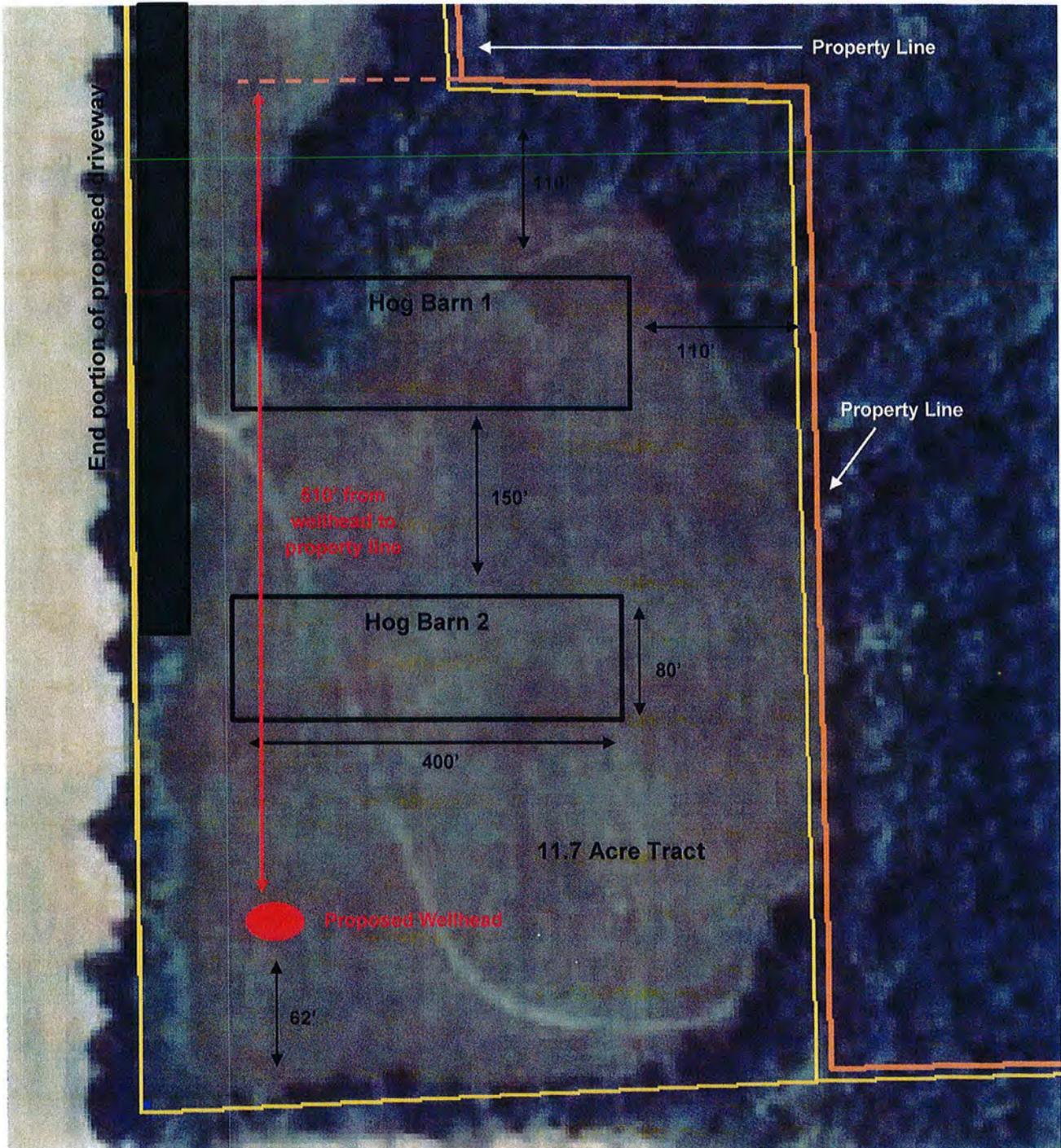
- Yellow Lines = Gelfius Property
- Orange Lines = Neighboring Properties
- Proposed barns are approximately 700' from Fall Fork Creek
- Established farm pond will act as secondary water source
- Proposed driveway will be approximately 1500' x 15'

= Proposed Driveway

= Proposed Wellhead
(As a water source for livestock)

= Proposed hog barns
All distances are approximate

Gelfius - Ag Land, LLC Proposed Build Site



 = proposed wellhead
(As a water source for livestock)

11.7 Acre tract is owned by Ag Land, LLC

 Yellow Lines = Gelfius Property

 Orange Lines = Neighboring Properties

Proposed barns are approximately 700' from Fall Fork Creek

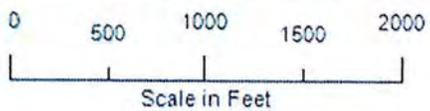
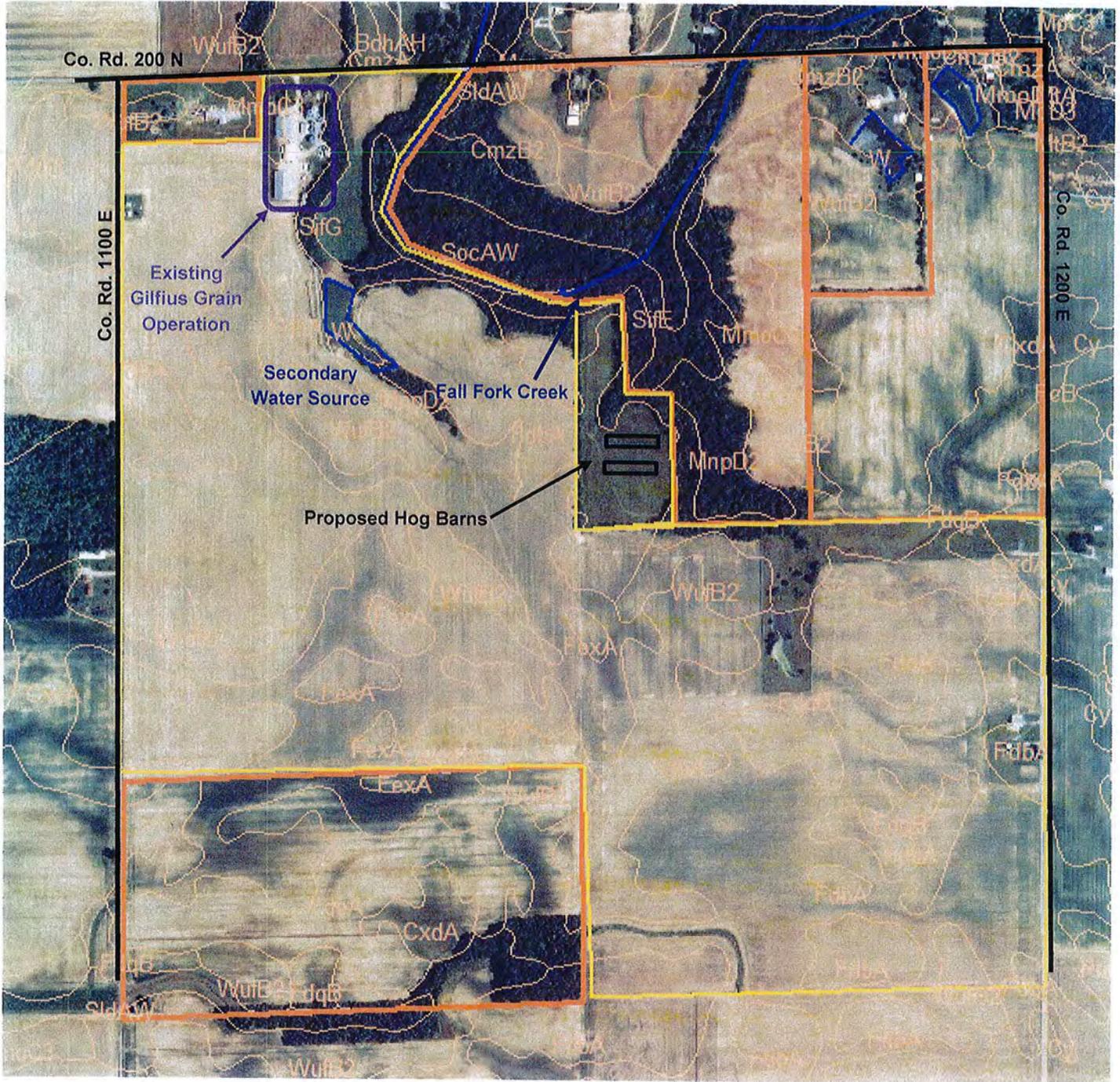
Established farm pond will act as secondary water source

Proposed driveway will be approximately 1500' x 15'

 = Proposed hog barns

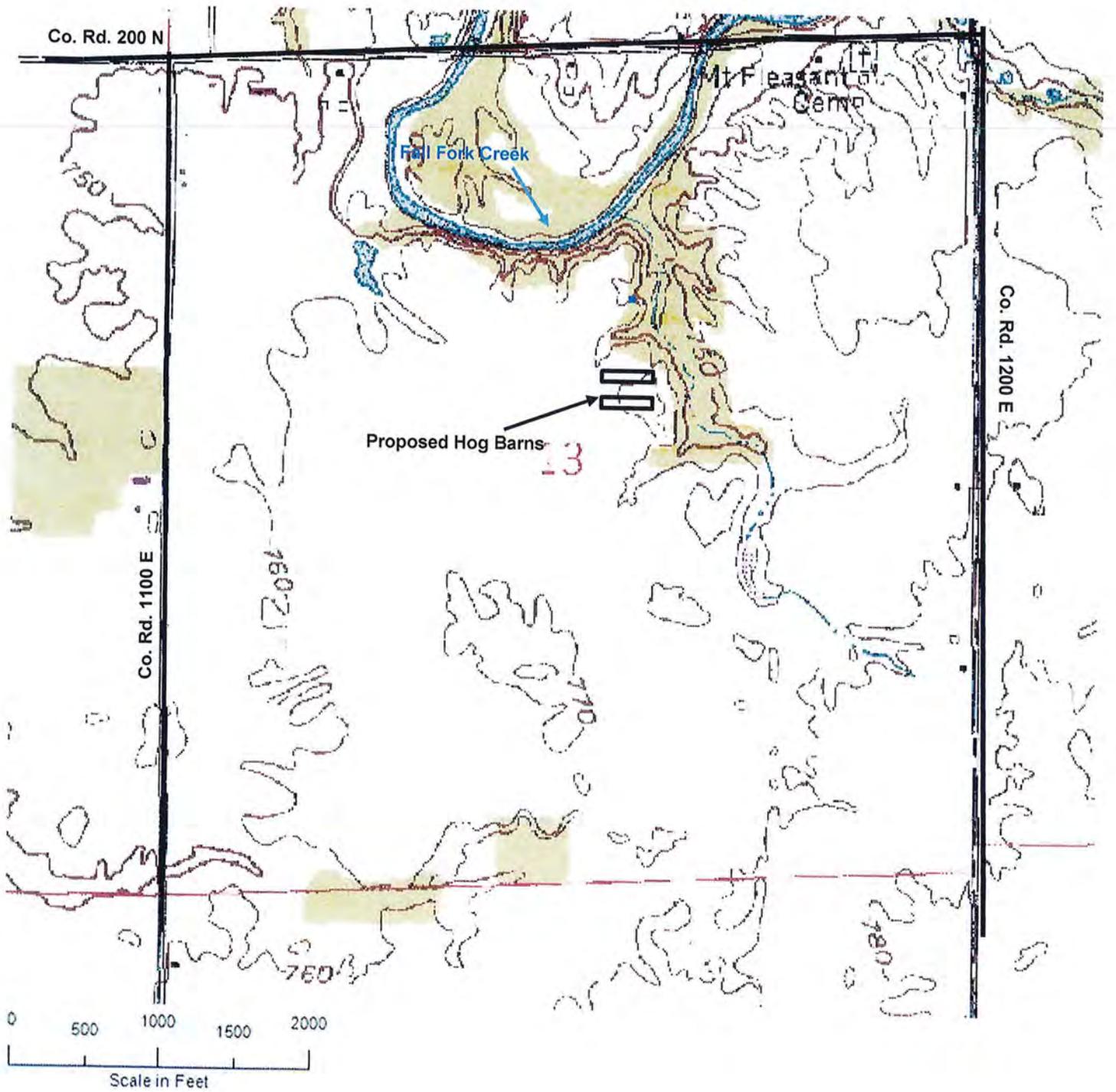
All distances are approximate

Gelfius - Ag Land, LLC Project Site USGS Soils Map



- Yellow Lines = Gelfius Property**
- Orange Lines = Neighboring Properties**
- Proposed barns are approximately 700' from Fall Fork Creek**
- Established farm pond will act as secondary water source**
- ▭ = Proposed hog barns**
- All distances are approximate**

Gelfius -Ag Land, LLC - USGS Topography Map





MEMORANDUM

TO: Bartholomew County Board of Zoning Appeals
FROM: Leanne Wells, Associate Planner
DATE: January 21, 2014
RE: Purdue Extension Document on CAFOs

The following document is an excerpt and courtesy of Purdue University/Extension and their online publications published for the general public in regard to Confined Area Feeding Operations. The full articles can be found at: <http://www.ansc.purdue.edu/cafo/list.shtml>

CAFOs—Odor and its Possible Health Effects

Odors associated with livestock manure are foremost among complaints made by individuals who live in the vicinity of concentrated animal feeding operations (CAFOs). While some view these odors as nothing more than a nuisance, others are concerned that livestock odors could potentially affect their health.

How are humans affected by odor?

Humans instinctively react to odor whether the odor is pleasant or offensive. The most common reaction is a disturbance in mood. For example, agreeable odors can induce feelings of relaxation and pleasure while offensive odors can induce feelings of anger, or even fatigue. Since odors can cause quantifiable increases in measurable stress responses such as blood pressure and blood sugar levels, the effects of odor on mood disturbances are not entirely psychological.

Can odor make us sick?

In rare cases, reactions to offensive odors can actually result in physical symptoms. Such ailments are said to be annoyance-mediated. That is, the physical symptoms of illness are a result of a psychological reaction to odor and not any toxin-mediated irritation. For instance, individuals exposed to irritating odors may report head aches, nausea, and irritation of the eyes, nose, and throat and other self-reported physical symptoms. Therefore, humans can respond both mentally and physically to unpleasant odors. The two types of reactions, however, may not be mutually exclusive. In fact, one study examining odors associated with a hazardous waste site described the relationship between worry (a mood disturbance) and physical symptoms such as headaches, and eye and throat irritations as one where physical and psychological effects of the irritating odor acted synergistically to produce overall reactions.

What about livestock odors?

A few studies have documented respiratory ailments in CAFO neighbors. In each study, the symptoms reported by the affected individuals were self-reported symptoms such as headaches, nausea, itchy eyes and throats, among other symptoms. These symptoms are usually considered separate from more objective measurements such as decreased lung capacity, blood parameters, and inflammation, although they are not considered less real. Nevertheless, in each study objective measurements were not affected in CAFO neighbors. The fact that neighbors regularly report mood disturbances in response to odor coupled with respiratory ailments being largely self-reported or perceived indicates that the two reactions are possibly interconnected in that respiratory ailments may be largely annoyance-mediated, i.e. resulting from the reaction of exposed individuals to irritating odors and not specific toxins.

CAFOs—Manure and Pathogens

Concentrated animal feeding operations (CAFOs) can generate large quantities of manure, most of which is applied to fields as fertilizer. Plants are able to utilize many manure nutrients such as nitrogen and phosphorous; and in doing so, they limit the entry of these compounds into water resources where high concentrations can be harmful to both environmental and human health. Livestock manure can also contain disease causing microorganisms; and if manure is improperly stored or mishandled, these pathogens could pose a health hazard if they come in contact with water or raw foods. As such, there are concerns that the manure generated by CAFOs could result in infectious disease outbreaks in surrounding communities.

How can contamination occur?

In most modern livestock operations, manure is collected and stored for variable amounts of time before being applied to pasture or cropland. Producers use different types of manure collection and storage systems, including pits (located underneath the buildings that house the animals), separate outbuildings, and man-made lagoons, as well as others. Indiana regulations do not allow any direct (point source) discharge of manure or contaminated water into the waters of the state from manure storage facilities. In the past, the transfer of manure or effluent through pipes to lagoons has resulted in a high number of spills. The majority of new CAFOs in Indiana, however, do not use lagoon systems. Therefore, if collection and storage facilities are properly designed and maintained, there should be minimal risk of manure spillage, seepage, or overflow during this stage. After a period of storage, producers then apply manure in varying stages of decomposition to fields as fertilizer. At this stage, non-point source introduction of manure into water is possible if the manure is improperly applied (e.g., applied to sloped land, eroding or saturated soil, or at rates that would saturate, the soils, etc.). Therefore, because the manure is less contained at the stage of land application, there is probably a greater risk of contamination of water resources.

What can be done to mitigate risk?

In Indiana, CAFO operators are required to produce and adhere to a manure management plan. In basic terms, a manure management plan describes the actions to be taken by the operator to ensure that the storage of manure, and its land application to cropland or pasture, will not result in over-fertilization and contamination of waterways. CAFO operators must outline how manure is collected and stored, how both manure and soil are regularly tested, and how much manure will be applied to fields, all the while, taking into account topography of their land, soil types, drainage courses, and nearby streams, ditches, or lakes. While not specifically designed for pathogen reduction, measures that guard against over-fertilization, i.e., application at agronomic rates, should decrease the risk of pathogens entering water supplies by allowing time for large percentages of the pathogens to die out. The following are recommended “best management practices” that CAFO operators can employ to further decrease the risks of manure pathogens entering water or food supplies.

1. Do not apply manure to wet or saturated soils.
2. Inject liquid manure or incorporate (mechanically mix into soil) solid manure on the day it is applied.
3. Apply manure only to frozen land if approved by the manure management plan, and only to land not prone to flooding, i.e., land with less than a 2% slope or land with proper erosion control practices in place.
4. Incorporate liquid manure in karst areas (areas with a limestone landscape, which are characterized by caves, long cracks, and underground streams).
5. Incorporate manure on non-erosive soils unless erosion control practices are used.
6. Use cover crops and other erosion control practices with erosion-prone land.
7. Ensure that storage sites are impeccably maintained and managed

CAFOs—Insect Considerations

The most common insects found around all types of farm animals are house and stable flies, although horse, face and blow flies also may be present. House flies breed in manure, especially in piles of almost

pure fecal material. Stable flies and many of the other fly varieties lay their eggs in decaying organic materials such as livestock bedding contaminated with feces and urine found in loafing areas, feedlots or stalls. A generation of flies can go from egg to adult in just 10 days. To avoid insect problems, livestock operations that use solid manure management systems need to spread materials cleaned out of animal areas at least once a week. Since swine operations usually use lagoons, or liquid manure management systems, to dispose of animal manure and urine, flies generally aren't too much of a problem. Mosquitoes can be a problem anywhere standing water is present, including the edges of waste lagoons that provide a natural environment for the tiny blood-sucking insect. Cutex mosquitoes, that transmit West Nile virus to humans and animals, breed in water if allowed to remain in gutters, tires, buckets, water troughs, birdbaths, even puddles – anywhere water can collect and is not cleaned out on a regular basis.

CAFOs—Community Impact and Property Values

As rural communities debate the siting of CAFO operations, an important distinction must be made between community-wide impacts and those that impact individuals. Improvements in the income tax base or CAFO deterrence of other industries are likely to be shared economic impacts across all residents. An often noted impact that is not shared in the same manner by all residents is the impact on property value. In general, those who are closest to a potential CAFO site feel they will disproportionately suffer financial harm as their property loses market value.

Rural non-farm families tend to have a majority of their wealth in their home and property. A nearby CAFO may cause deterioration in the market value of this asset due to loss of amenities or the risk of water or air pollution derived from the CAFO. Ulmer and Massey provide a review of the academic literature on property value impacts of animal feeding operations. They discuss the effects of distance, animal numbers, and management practices as sources of impact on residential property values. Property price impacts (percentage changes) from two of the studies reviewed by Ulmer and Massey and two unpublished studies are reported in Table 1. We note that the impacts as estimated in these studies are quite uncertain ranging from a six percent reduction to a four percent increase in house prices. Market prices for homes are expected to decline the closer the home is to the CAFO, and each of the studies in Table 1 provides evidence of this. Instances of positive impacts on home prices typically occur because: 1) the area is already well-populated with livestock, or 2) that the purchases of homes were made by the CAFO operator or those who work on the CAFO.

Authors	State	Animal Type	Change in Value
Bayoh, Irwin, Roe	Ohio	Various	Small
Herriges, Secchi, Babcock	Iowa	Swine	-6% - +4%
Kim, Goldsmith, Thomas	North Carolina	Swine	-2%
Palmquist, Roka, Vukina	North Carolina	Swine	-3.6% - 0%

Notes: Estimates reflect the percentage reduction of the price of a house when a CAFO (1000 animal units) is located at a distance of 1 mile from the home. The exception is Herriges, Secchi, and Babcock whose range of estimates is for a 1.5 mile distance from the home. Kim, Goldsmith, and Thomas use assessed value of the home rather than a purchase price.

An interesting point raised in the study of Iowa property values is that larger operations (in terms of animal numbers) tend to be newly built and employ best available technologies for dealing with waste and odor. As a result, it may be that larger operations are not necessarily more harmful than smaller feeding operations.

The obvious implication from the estimates in Table 1 is that individuals will realize different impacts from the location of a CAFO. Each of the studies report that property value impacts diminish to negligible effects beyond a distance of two miles. One study considered the prevailing winds direction. A downwind home will realize a significantly larger decline in value relative to a home upwind that is the same distance from the CAFO (Herriges, Secchi, and Babcock). The potential inequities of these different factors of home location indicate that communities and operators must choose to site CAFOs in a manner that either minimizes differential impacts on home values or compensates those individuals disproportionately

impacted. Appropriately discounting property value assessments for taxation purposes represents one avenue discussed by Ulmer and Massey that has been handled through court cases.

Disproportionate impacts on community residents' wealth through property value changes represent a source of conflict in community decisions regarding CAFOs. An important step for communities when considering the siting of a new CAFO is to understand the unequal wealth impacts may be realized and formally address how and to what degree a concession or compensation might be made to those with the greatest potential for loss. Any proposed economic redress to the CAFO siting would then need to be incorporated into discussions of the overall benefits and costs being considered by the community as a whole.

Request for Continuance

We are requesting a continuance of the hearing on the [**B/CU-13-09: William Gelfius – Ag Land LLC**] under the Rules of Procedure for the Bartholomew County Board of Zoning Appeals, **Article V, Section 5(a)**, for a period of thirty (30) days. The applicant has had sufficient time to prepare his application and prepare for the meeting, and justice should require that those receiving notice of the hearing deserve more than the **11** days provided for their own preparation. The remonstrators need additional time to investigate, and, if necessary, retain counsel. There are several serious implications of this variance request. As such, this carries such a potential impact on so many community members that this deserves more research in order to provide a balanced presentation to the Board of Zoning Appeals. This way a properly informed decision for the overall good of the county can be made. We respectfully request that the Board provide its decision on the granting of a continuance to Chaley Jordan by no later than Friday, January 24, 2014. [**Chaley Jordan – chaleyjordan@yahoo.com – (812) 603-3135**]

Dated this 21st day of January, 2014.

BARTHOLOMEW COUNTY BOARD OF ZONING APPEALS

By: Chaley Jordan

Chaley Jordan

(Printed Name)

Chaley Jordan

(Signature)

RECEIPT

I, the undersigned representative on behalf of the Bartholomew County Board of Zoning Appeals, hereby acknowledge receipt of a letter dated January 21, 2014 from Chaley Jordan requesting a continuance of the Board of Zoning Appeals hearing on the CAFO variance application of William Gelfius and Ag Land LLC scheduled to be heard on January 27, 2014.

Leanne Wells,

(Printed Name)

Leanne Wells

(Signature)

1-21-14

(Date)