

ORIGINAL

Jessica Coyle

**From:** Lousias, Christine - NRCS, Valentine, NE <christine.lousias@usda.gov>  
**Sent:** Monday, July 6, 2020 4:23 PM  
**To:** Jessica Coyle  
**Cc:** MNNRD (mnnrd@mnnrd.org); Lousias, Christine - NRCS, Valentine, NE; Kreutner, Callie - NRCS, Valentine, NE; Lancaster, Casey - NRCS, Valentine, NE; Connot, Travis - NRCS, Valentine, NE  
**Subject:** RE: CUP 001/20 Valentine Feeders Swine facility to be used for breeding, gestation and farrowing  
**Attachments:** Application Comment Notes by SO Water Quality Specialist.docx  
**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Jessica,

I asked my State Water Quality Specialist (WQS) in Lincoln (Renee Hancock) to take a look at the application. Attached are her notes on the project. Her comments are based on NRCS recommendations if the applicant had asked for our technical assistance. I highlighted the areas she wrote for my own purposes as I was reviewing the document. She did not highlight those areas, she just wrote them.

I did my own research as a quick reference check and **focused solely on soil related characteristics** and I noted some of the same concerns the WQS had which are the following:

The limitation for large animal mortality by burial during a catastrophic event on the application site is severely limited. There are many soil properties that pose a limitation for contamination of groundwater, site reclamation, or excavation equipment. Severely limited indicates that the soil has features that are unfavorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation however, it is costly to do so. Poor performance and high maintenance can be expected. The application indicates composting, but please see the notes on the composting issue in the attached document.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms. 78% of the soils on this application site have a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Depth to water table on all the soils of this application site are greater than 200 cm (6.5 feet)

The ratings for Pesticide/Nutrient Loss Potential-Leaching are used for evaluating and determining the potential of the soil to transmit pesticides/nutrients through the profile and the likelihood of the contamination of ground-water supplies. Evaluations consider movement of water through the soil and underlying fractured bedrock. The soils on this application site are "Very limited". This indicates that the soil has a high leaching potential.

"Risk of corrosion" of concrete pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens concrete. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. The potential for concrete to corrode on this application site is low to moderate.

I would emphasize a point made in the attached document: Any application of slurry should NOT be done in the fall (if no crop is fall planted) but in the spring (pre-planting). Root uptake of nutrients is more likely when the root system is active and not dormant.

I hope this helps with the Planning Commission decisions.

Call the office if you have further questions, comments or concerns.

Thank you for the opportunity to comment,

**Christine Lousias**  
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**From:** Jessica Coyle <cczoning@cherrycountyne.com>

**Sent:** Thursday, July 2, 2020 11:26 AM

**To:** mnnrd@mnnrd.org; Lousias, Christine - NRCS, Valentine, NE <christine.lousias@usda.gov>; Kreutner, Callie - NRCS, Valentine, NE <callie.kreutner@usda.gov>; Lancaster, Casey - NRCS, Valentine, NE <casey.lancaster@usda.gov>; Connot, Travis - NRCS, Valentine, NE <Travis.Connot@usda.gov>; Kortni.Burnett@usda.gov

**Subject:** CUP 001/20 Valentine Feeders Swine facility to be used for breeding, gestation and farrowing

I am reaching out to let you know that we have received the attached application in a link below for a Swine Facility to be located in Cherry County in the South East ¼ of Section 33 Township 34 Range 30W. As per our Zoning Regulations you can have input in the potential risks to ground water, runoff, erosion, and any other concerns the County needs to be aware of. This application hasn't gone before the Planning Commission or County Commissioners yet. We are potentially going to set a Public Hearing Date for the Planning Commission at their meeting on July 7 at 4:00 PM CT in

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the Cherry County Courthouse Meeting Room. I would like to get your input before their Public Hearing so that they can make an informed decision. I will notify you of the Public Hearing by mail and all information of meetings will be available on the Cherry County Zoning Website of [https://co.cherry.ne.us/webpages/planning\\_zoning/planning\\_zoning.html](https://co.cherry.ne.us/webpages/planning_zoning/planning_zoning.html). Please feel free to attend any of these meetings.

Please let me know if you have any questions or need more information. My office hours are Tuesday and Thursday 8:30 AM to NOON or you can email me.

CUP 001\_20 Danielski Farms Swine CAFO.pdf (18.4 MB)

Thank you,  
Jessica Coyle  
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Danielski

S1/2, S33-T34N-R30W, Cherry County

July 6, 2020  
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**Operation Information:**

This is a proposed swine operation that will be constructed in two Phases:

Phase I – 5132 head of gestation building with 12' Deep Pits; 4400 head gilt developing unit (GDU) with shallow pull-plug pits; and 1152 sow/litter with 2000 nursery unit with 2-foot pits that will discharge into the gestation building deep pits.

Phase II – 5123 gestation building with 12' deep pits; and 1024 sow/litter – no nursery unit with 2-foot pits with pull-plugs that discharge into the deep pit of the gestation barn.

Normal Mortality will be handled by composting. No information was provided on the composting facility, i.e. concrete floor or clay floor. No information on composting process, carbon source, or nutrient management of composted material and equipment for handling.

The application contains information on registered wells within 2000 feet of the planned operation with the static water level being 128-140 feet.

The Nebraska Department of Environment and Energy has not decided if ground water monitoring will be required for the planned livestock waste control facilities. NDEE determines the requirement numbers of monitoring wells. If required, at a minimum three monitor wells will be installed around the waste control facilities – one upstream of ground water flow and two downstream of ground water flows. Ground water samples are collected in the spring and fall by certified individuals and reports are sent into NDEE.

**Nutrient Management:**

The following is from the Application:

This Nutrient Management Plan has been prepared for Valentine Feeders, which encompasses 2,000 head of nursery swine, 12,440 head of sows, and 4,400 head of GDU. The manure will be properly utilized by applying it to cropland as fertilizer or irrigation water. The plan will provide management with a system to comply with state and federal regulations and provide the Nebraska Department of Environment and Energy with a means of monitoring, measuring and determining compliance.

The operation has 2500 acres of cropland listed for nutrient management of the manure nutrients.

- Average yields for the estimated acres was based on the NASS – National Agricultural Statistical Service. The Yields for Cherry County do not average 200 bu/acre for irrigated corn. The Information from NASS is attached. Average yields are much lower. But one must consider the void in yields based on missing years. Producer yields on record at FSA may be closer to 200 bu/ac but was not included in the application.

- Also, a factor 10% was added to the average yield so the planned nutrient budgets based on projected yields of 220 bu/year. I cannot confirm the accuracy of their information. NRCS adds 5% to the average year for planning nutrient budgets.
- Sites 1-10 are not owned by the livestock operation and written easements have been obtained for these sites. I am not sure if the operation operates these acres or if the manure is being sold to the land operators. If the land is not operated by the livestock operation, the manure nutrients may not be managed in accordance with nutrient management requirements set forth by the University of Nebraska-Lincoln.
- All the land application sites, except for site 59, are listed at having a HIGH potential for nitrogen leaching from nitrogen fertilizer or manure with high ammonia levels (i.e. deep pit liquid manure) if the manure is injected in the fall months when spring planting.
  - It should be noted that Site 59 has a medium-high leaching potential for nitrogen, so there is also a concern for nitrogen leaching to ground water.
- The application states that the applicant will inject the swine slurry any time after crop harvest in the fall up to planting in the spring. **UNL recommends that due to the high potential for nitrogen leaching from the injected swine slurry, manure is injected prior to planting, NOT in the fall for spring planted crops when the leaching potential is HIGH.**
- Manure Nutrient Land Requirements:
  - The consultant estimated that 1800 acres is required on an annual basis for the manure nutrients produced in the manure for both phases. They used a modified version on the UNL software (Manure Nutrients and Land Estimator Requirements) using yields goals of 220 bu/ac.
  - My estimates for annual land needs for the manure nutrients are 1790 for N based rates. Close to what was estimated.
  - My concern would be they have adequate acres for 1.5 years. Annual injecting manure slurry to the same field is not recommended. The Higher the rate, more organic N will be available and must be considered for the following crop year's budget.
  - Note that the manure quantity and manure nutrient analysis will vary based on stocking capacity, feed rations, etc. Also depending on the application rate, less land may be necessary on an annual basis.

Application information

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Species (Cattle, Dairy, Swine, etc.)	Average Weight (in lbs.)	Indicate Head Numbers Below			
		Existing	Proposed (+ or -)	Previously Exempted	New Total
Swine	< 55		2,000		2,000
Swine	> 55		16,840		16,840

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Design Report by Engineer

Five buildings are proposed to be built and certified in two phases.

**Phase 1**

Gestation Building 1 will be constructed to house up to 5,132 gestating sows. A 12-foot-deep concrete manure storage pit will be constructed beneath it to provide the required liquid manure storage for Phase 1. Farrowing Building 1 will be constructed to provide space for up to 1,152 sow and litter groups as well as space for up to 2,000 weaned nursery swine. It will be constructed with 2-foot-deep shallow pits that will be plumbed to drain into the deep pit beneath Gestation Building 1. A gilt development building (GDU) will also be constructed in Phase 1. It will also have shallow pits that will drain into the deep pit beneath the Gestation Building.

**Phase 2**

Gestation Building 2 will be constructed to house up to 5,132 gestating sows. A 12-foot-deep concrete manure storage pit will be constructed beneath it to provide the required liquid manure storage for Phase 2. Farrowing Building 2 will be constructed to provide space for up to 1,024 sow and litter groups. It will be constructed with 2-foot-deep shallow pits that will be plumbed to drain into the deep pit beneath Gestation Building 1.

Phase I Gestating Sows	5132	
Phase I Sows/Litters	1152	
Phase I Gilt Development	4400	
Phase I Nursery		2000
Phase II Gestation	5132	
Phase II Sows/Litters	1024	
Total Swine > 55 average pounds		2000
Total Swine < 55 average pounds	16,840	

Below – this is clipped from their application. Totals Sows should be a combination of Gestation and Sows/Litters (Phase I Gestation plus Phase I Sows/litters plus Phase II Gestation plus Phase II Sows/litter (- does not match above numbers

<b>Herd/Flock Summary:</b>			
Species and Animal Facility	One-Time Capacity	Animals Finished per Year	Average Weight
Swine-Nursery Pigs: Manure Storage	2,000	16,000	32.5 lb
Swine-Gilts: Manure Storage	4,400	4,400	150 lb
Swine-Total Sows:	12,440		-
Sows-Gestating Sow: Manure Storage			400 lb
Sows-Lactating Sow: Manure Storage			487.5 lb
:			
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