Permit Fact Sheet

General Information

Permit Number	WI-0067521-01-0
Permittee Name and Address	Steinhorst Dairy E3866 Krok Rd, Kewaunee, WI 54216
Permitted Facility Name and Address	Steinhorst Dairy E3866 Krok Road, Kewaunee, WI 54216
Permit Term	February 01, 2025 to January 31, 2030
Discharge Location	SE ¼ SW ¼ S27 T23N R23E, Township of West Kewaunee, Kewaunee County
Receiving Water	Unnamed tributaries within the East Twin River Watershed, Lake Michigan Drainage Basin, and groundwaters of the state

Animal Units					
	Current AU		**Proposed AU** **(Note: If all zeroes, expansions are not expected during permit term)**		
Animal Type	**Mixed**	**Individual**	**Mixed**	**Individual**	**Date of Proposed Expansion**
Dairy Calves (under 400 lbs.)	16	0	0	0	
Milking and Dry Cows	980	1001	0	0	
Heifers (400 lbs. to 800 lbs.)	109	182	0	0	
Heifers (800 lbs. to 1200 lbs.)	121	110	0	0	
Total	1226	1001	0	0	

Facility Description

Steinhorst Dairy is a new Concentrated Animal Feeding Operation in Kewaunee County, WI. Steinhorst Dairy is owned and operated by Mark Steinhorst & Family. As of October of 2024, it has 700 milking and dry cows, 292 heifers, and 82 calves (1,227 animal units). Steinhorst Dairy will annually generate approximately 13,468,179 gallons of liquid manure and process wastewater and 314 tons of solid manure. As of October 2024, Steinhorst Dairy has greater than the required minimum of 180 days of storage. Steinhorst Dairy has 1,381 acres in its approved nutrient management plan, of which 641.7 acres are rented or in contract agreements and 739.3 acres are owned. Steinhorst Dairy has 1,366 acres available for land application.

Substantial Compliance Determination

Enforcement During Last Permit: This is Steinhorst Dairy's first WPDES Permit. Steinhorst Dairy was issued a Notice of Noncompliance and was required to submit a WPDES Permit Application.

After a desk top review of all the WPDES application materials and a site visit on February 22, 2024. The department has decided to move forward with permit issuance for Steinhorst Dairy.

Compliance determination made by Brittiny Mueller, Agriculture Runoff Specialist on November 25, 2024.

Sample Point Designation For Animal Waste		
Sample Point Number	**Sample Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)**	
001	Sample point 001 is for liquid waste storage facility 1 (WSF 1) located at Steinhorst Farms. WSF 1 is an in-place earthen storage located on the north side of the production site. The facility has a capacity of 8,643,491 gallons and was constructed in 2012. This storage accepts manure and process wastewater from the freestall barn, heifer barn, and will accept feed storage area. WSF 1 was last evaluated in 2024 and met permit requirements.	
002	Sample point 002 is for solid manure stacked in approved headland stacking locations. Representative samples shall be taken of this manure prior to land application. Note: Headland stacking sites are subject to production site discharge limitations; weekly visual monitoring is required during use of stacking sites to ensure discharges meet permit requirements.	
003	Sample point 003 is for solid manure sources that are directly land applied and not stored in a waste storage facility. This includes solid sources such as calf hutch manure, maternity pen bedpack, heifer bedpack, steer manure, etc. Representative samples shall be taken for each manure source type.	
004	Sample point 004 is for visual monitoring and inspection of the feed storage area and associated runoff control system. Proper operation and maintenance is required to ensure discharges of process wastewater to waters of the state do not occur. Weekly inspections are required and shall be recorded according to monitoring program.	
005	Sample point 005 is for visual monitoring and inspection of outdoor vegetated areas located east of WSF 1. Proper operation and maintenance is required to ensure sufficient vegetative cover, as defined in s. NR 243.03 is sustained. Quarterly inspections are required and shall be recorded according to monitoring program. Outdoor lot areas not managed to sustain vegetation are not permitted and shall be properly abandoned.	
006	Sample point 006 is for visual monitoring and inspection of all production site storm water conveyance systems. This includes roof gutter and downspout structures, drainage tile systems, grassed waterways and other diversion systems that transport uncontaminated storm water. Proper operation and maintenance is required to keep uncontaminated runoff diverted away from manure and process wastewater handling systems. Weekly inspections are required and shall be recorded according to monitoring program.	

1 Livestock Operations - Proposed Operation and Management

Production Area Discharge Limitations

Beginning on the effective date of the permit, the permittee may not discharge pollutants from the operation's production area (e.g., manure storage areas, outdoor animal lots, composting and leachate containment systems, milking center wastewater treatment/containment systems, raw material storage areas) to navigable waters, except in the event a 25-year, 24-hour rainfall event (or greater) causes the discharge from a structure which is properly designed and maintained to contain a 25-year, 24-hour rainfall event for this location as determined under s. NR 243.04. If an allowable discharge occurs from the production area, state water quality standards may not be exceeded.

Runoff Control

The permit requires control of contaminated runoff from all elements of the production area to prevent a discharge of pollutants to navigable waters in accordance with the Production Area Discharge Limitations and to comply with surface water quality standards and groundwater standards. Beginning on the effective date of this permit, (if needed) interim measures shall be implemented to prevent discharges of pollutants to navigable waters. In addition, permanent runoff control system(s) shall be designed, operated and maintained in accordance with the requirements found in USDA Natural Resources Conservation Service standards and ch. NR 243, Wis. Adm. Code. If any upgrading or modifications to runoff controls are necessary, formal engineering plans and specifications must submitted to the Department for approval.

Manure and Process Wastewater Storage

The permit requires the operation to have adequate storage for manure and process wastewater and that storage or containment facilities are designed, operated and maintained to prevent overflows and discharges to waters of the state. In order to prevent overflows, the permittee must maintain levels of materials in liquid storage or containment facilities at or below certain levels including a one foot margin of safety that can never be exceeded. If any upgrading or modifications to the storage facilities are necessary, formal engineering plans and specifications must submitted to the Department for approval.

The permittee currently has approximately 7 ½ months of storage for liquid manure. The permittee must maintain 180 days of storage, unless temporary reductions in required storage are approved by the Department.

Solid Manure Stacking

The operation has proposed to stack solid manure. All stacking of solid manure shall be done in accordance ch. NR 243, Wis. Adm. Code, which includes restrictions from NRCS Standard 313. Stacking of manure is considered to be part of the production area and is subject to the Production Area Discharge Limitations.

Ancillary Service and Storage Areas

The permittee shall take preventative maintenance actions and conduct visual inspections to minimize pollutant discharges from areas of the operation that are not part of the production area or land application areas. These areas are called ancillary service and storage areas and include access roads, shipping and receiving areas, maintenance areas, refuse piles and CAFO outdoor vegetated areas.

Nutrient Management

With 700 milking & dry cows, 292 heifers, and 82 calves, it is estimated that approximately 13,468,179 gallons and 314 tons of manure and process wastewater will be produced per year. The permittee owns *approximately* 739.3 acres of cropland and rents about 641.7 acres. Given the rotation commonly used by the permittee, 1,366 acres are available (or open) to receive manure and process wastewater on an annual basis. The permit requires all landspreading of manure and process wastewater be completed in accordance with an approved nutrient management plan. The permit will require sampling and analysis of manure and process wastewater that will be landspread. Landspreading rates must be adjusted based on sample analysis. The permit requires the permittee to maintain a daily log that documents landspreading activities. The permit also requires the submittal of an annual report that summarizes all landspreading activities. Plans must be updated annually to reflect cropping plans and other operational changes. Among the requirements, the plans must include detailed landspreading information including field by field nutrient budgets.

The permittee is required to implement a number or practices to address potential water quality impacts associated with the land application of manure and process wastewater. Among the permit conditions are restrictions on manure ponding, restrictions on runoff of manure and process wastewater from cropped fields, and setbacks from wells and direct conduits to groundwater (e.g., sinkholes, fractured bedrock at the surface). In addition, the permittee must implement a phosphorus based nutrient management plan that addresses phosphorus delivery to surface waters by basing manure and process wastewater applications on soil test phosphorus levels or the Wisconsin Phosphorus index. Additional phosphorus application restrictions apply to fields that are high in soil test phosphorus (>100 ppm).

The permitee must also implement conservation practices when applying manure near navigable waters and their conduits, referred to as the Surface Water Quality Management Area (SWQMA). These practices include a 100-foot setback from navigable waters and their conduits, a 35-foot vegetated buffer adjacent to the navigable water or conduit, or a practice that provides equivalent pollutant reductions equivalent to or better than the 100-foot setback.

In addition, the permittee must comply with restrictions on land application of manure and process wastewater on frozen or snow-covered ground. Included in these restrictions is a prohibition on surface applications of solid manure (≥12% solids) on frozen or snow-covered ground during February and March. Beginning, February 1, 2025, non-emergency surface applications of liquid manure (<12%) on frozen or snow-covered ground are prohibited.

Monitoring and Sampling Requirements

The permittee must submit a monitoring and inspection program that outlines how the permittee will conduct self-inspections to determine compliance with permit conditions. These self-inspections include visual inspections of water lines, diversion devices, storage and containment structures and other parts of the production area. The permit requires periodic inspections and calibrations of landspreading equipment. The permittee must take corrective actions to problems identified inspections or otherwise notify the Department. Samples of manure, process wastewater and soils receiving land applied materials from the operation must also be collected and analyzed.

Sampling Points

The permit identifies the different sources of land applied materials (e.g., manure storage facilities, milking centers, egg-washing facilities) as "Sampling Points." For these Sampling Points, the permittee is required to sample and analyze the different sources for nutrients and other parameters which serve as the basis for determining rates of application for these materials. Other areas are also identified as Sampling Points as a means of identifying them as areas requiring action by the permittee, such as an upgrade or evaluation of a certain system or structure (e.g., runoff control systems), even though sampling is not actually required.

1.1 Sample Point Number: 001- WSF 1

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Nitrogen, Total		lb/1000gal	2/Month	Grab	
Nitrogen, Available		lb/1000gal	2/Month	Calculated	
Phosphorus, Total		lb/1000gal	2/Month	Grab	
Phosphorus, Available		lb/1000gal	2/Month	Calculated	

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Solids, Total		Percent	2/Month	Grab	

1.1.1 Changes from Previous Permit

This is Steinhorst Dairy's first permit. Sample point 001 will cover WSF 1 at Steinhorst Dairy.

1.1.2 Explanation of Operation and Management Requirements

Liquid manure sources must be properly sampled and land applied according to the permit and nutrient management plan.

1.2 Sample Point Number: 002- Headland Stacking; 003- Misc Solid Manure

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Nitrogen, Total		lbs/ton	Quarterly	Grab	
Nitrogen, Available		lbs/ton	Quarterly	Calculated	
Phosphorus, Total		lbs/ton	Quarterly	Grab	
Phosphorus, Available		lbs/ton	Quarterly	Calculated	
Solids, Total		Percent	Quarterly	Grab	

1.2.1 Changes from Previous Permit

This is Steinhorst Dairy's first permit. Sample point 002 will cover any solid manure stacking. Sample point 003 will cover any solid manure not stored prior to land application.

1.2.2 Explanation of Operation and Management Requirements

Solid manure sources must be properly sampled and land applied according to the permit and nutrient management plan.

1.3 Sample Point Number: 004- Feed Storage Area; 005- Outdoor Lot, and 006- Storm Water Conveyance

1.3.1 Changes from Previous Permit

This is Steinhorst Dairy's first permit. Sample point 004, 005, and 006 will cover the feed storage area, the outdoor lot, and storm water conveyance.

1.3.2 Explanation of Operation and Management Requirements

Proper operation and maintenance are required to ensure unlawful discharges to waters of the state do not occur. Weekly or quarterly inspections are required and shall be recorded according to the monitoring plan.

2 Schedules

2.1 Annual Reports

Submit Annual Reports by January 31st of each year in accordance with the Annual Reports subsection in Standard Requirements.

Required Action	Due Date
Submit Annual Report #1: To include monitoring and inspection results from the previous 12 months, consistent with the requirements of department form 3400-025E.	01/31/2026
Submit Annual Report #2: To include monitoring and inspection results from the previous 12 months, consistent with the requirements of department form 3400-025E.	01/31/2027
Submit Annual Report #3: To include monitoring and inspection results from the previous 12 months, consistent with the requirements of department form 3400-025E.	01/31/2028
Submit Annual Report #4: To include monitoring and inspection results from the previous 12 months, consistent with the requirements of department form 3400-025E.	01/31/2029
Submit Annual Report #5: To include monitoring and inspection results from the previous 12 months, consistent with the requirements of department form 3400-025E.	01/31/2030
Ongoing Annual Reports: Continue to submit Annual Reports until permit reissuance has been completed.	

2.2 Explanation of Schedules

Schedule 2.1 is included in the permit as a general permit requirement.

2.3 Emergency Response Plan

Required Action	Due Date
Develop Emergency Response Plan: Develop a written Emergency Response Plan within 30 days of permit coverage, available to the Department upon request.	03/01/2025

2.4 Explanation of Schedules

Schedule 2.3 is included in the permit as a general permit requirement.

2.5 Monitoring & Inspection Program

Use of the department's monitoring and inspection program template is encouraged, but optional.

Required Action	Due Date
Proposed Monitoring and Inspection Program: Consistent with the Monitoring and Sampling Requirements subsection, the permittee shall update and submit a proposed monitoring and	04/01/2025

inspection program within 60 days of the effective date of this permit.	

2.6 Explanation of Schedules

Schedule 2.5 is included in the permit as a general permit requirement.

2.7 Nutrient Management Plan

Submit annual nutrient management plan (NMP) updates by March 31 of each year. Note, in addition to annual NMP updates, submit NMP amendments and substantial revisions to the department for written approval prior to implementation of any changes to the NMP.

Required Action	Due Date
Management Plan Submittal: Submit any necessary updates to the Nutrient Management Plan to meet the conditions outlined in this permit (see conditions in the Livestock Operational and Sampling Requirements section).	
Submit NMP Update #1: To include actual cropping, tillage, and nutrient application data from the previous calendar or crop year, consistent with the requirements of department for 3400-025D.	03/31/2025
Submit NMP Update #2: To include actual cropping, tillage, and nutrient application data from the previous calendar or crop year, consistent with the requirements of department for 3400-025D.	03/31/2026
Submit NMP Update #3: To include actual cropping, tillage, and nutrient application data from the previous calendar or crop year, consistent with the requirements of department for 3400-025D.	03/31/2027
Submit NMP Update #4: To include actual cropping, tillage, and nutrient application data from the previous calendar or crop year, consistent with the requirements of department for 3400-025D.	03/31/2028
Submit NMP Update #5: To include actual cropping, tillage, and nutrient application data from the previous calendar or crop year, consistent with the requirements of department for 3400-025D.	03/31/2029
Ongoing Management Plan Annual Updates: Continue to submit Annual Updates to the Nutrient Management Plan until permit reissuance has been completed.	

2.8 Explanation of Schedules

Schedule 2.7 is included in the permit as a general permit requirement.

2.9 Submit Permit Reissuance Application

Required Action	Due Date
Reissuance Application: Submit a complete permit reissuance application 180 days prior to permit expiration.	07/31/2029

2.10 Explanation of Schedules

Schedule 2.9 is included in the permit as a general permit requirement.

2.11 Permanent Markers - Installation

Install MOL markers in WSP1 and submit photo documentation of completion.

Required Action	Due Date
Complete Installation: Complete installation of permanent markers. The facility shall be functional and in operation by the specified Date Due. Post construction documentation shall be submitted within 60 days of completion of the project.	06/30/2025

2.12 Explanation of Schedules

Schedule 2.11 is included in the permit to have permanent markers installed on WSF 1.

2.13 Runoff Control System - Installation

For feed storage runoff control system.

Required Action	Due Date
Plans and Specifications: Submit plans and specifications for a permanent feed storage runoff control system for Department review and approval in accordance with Chapter 281.41, Wis. Stats., and Chapter NR 243, Wis. Adm. Code. See Standard Requirements for plan content information.	08/31/2025
Complete Installation: Complete construction of runoff control system. System shall be functional and in operation by the specified Date Due. Post construction documentation shall be submitted within 60 days of completion of the project.	10/31/2026

2.14 Explanation of Schedules

Schedule 2.13 is included in the permit to have runoff controls installed for the feed storage area.

Other Comments

NA

Attachments

February 22, 2024 Permit Application Inspection Report

October 1, 2024 Conditional Nutrient Management Plan Approval

September 11, 2024 Days of Storage Review Letter

November 3, 2023 Environmental Analysis Questionnaire

Site Maps

Justification Of Any Waivers From Permit Application Requirements

None

Prepared By: Brittiny Mueller **Agriculture Runoff Specialist** **Date: FINAL**

CAFO Compliance Report (3/29/2024)

Inspection Date: February 22, 2024

Inspection Type: Permit Issuance Inspection

Operation Name: Steinhorst Dairy

Operation Address: E3866 Krok Road, Kewaunee, WI 54216

On-Site Representative(s): Mark Steinhorst, Owner

DNR Staff / Report Writer: James Salscheider, Agricultural Runoff Specialist

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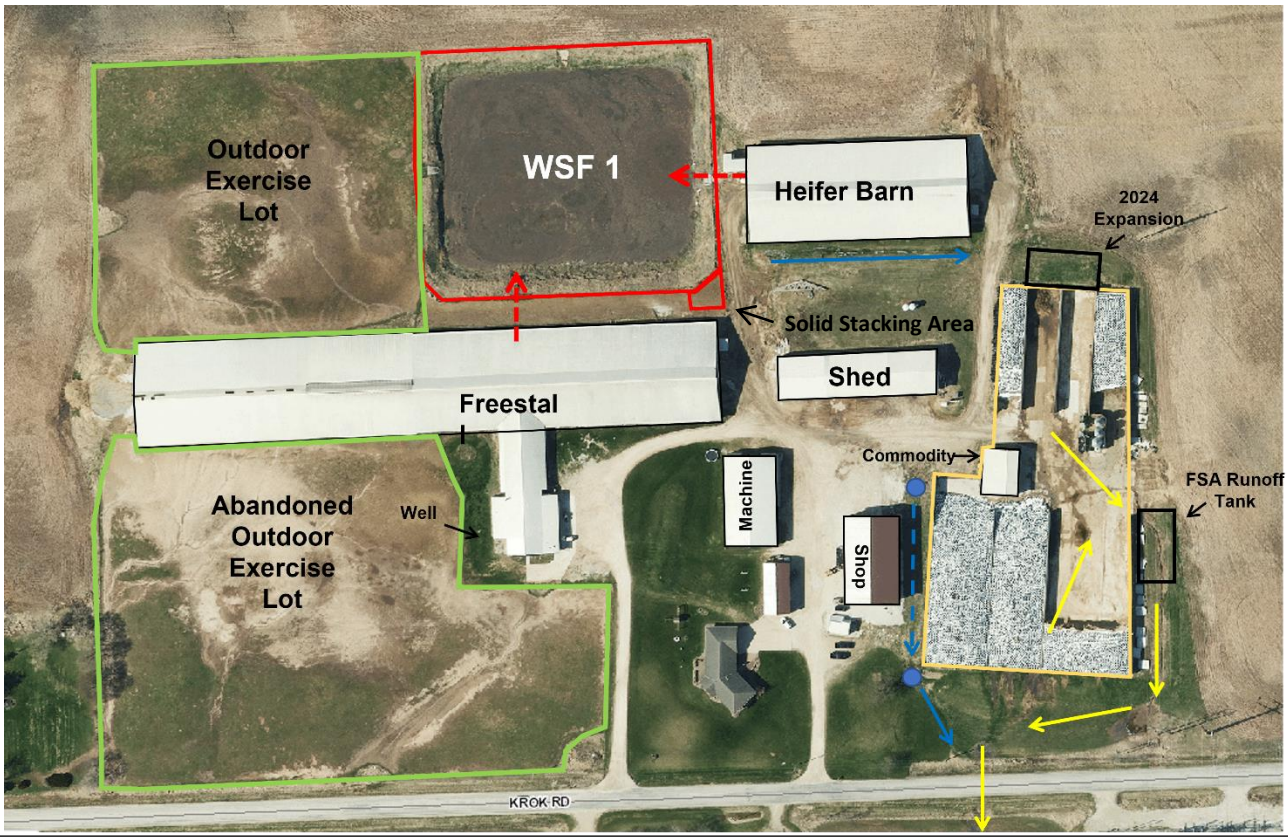
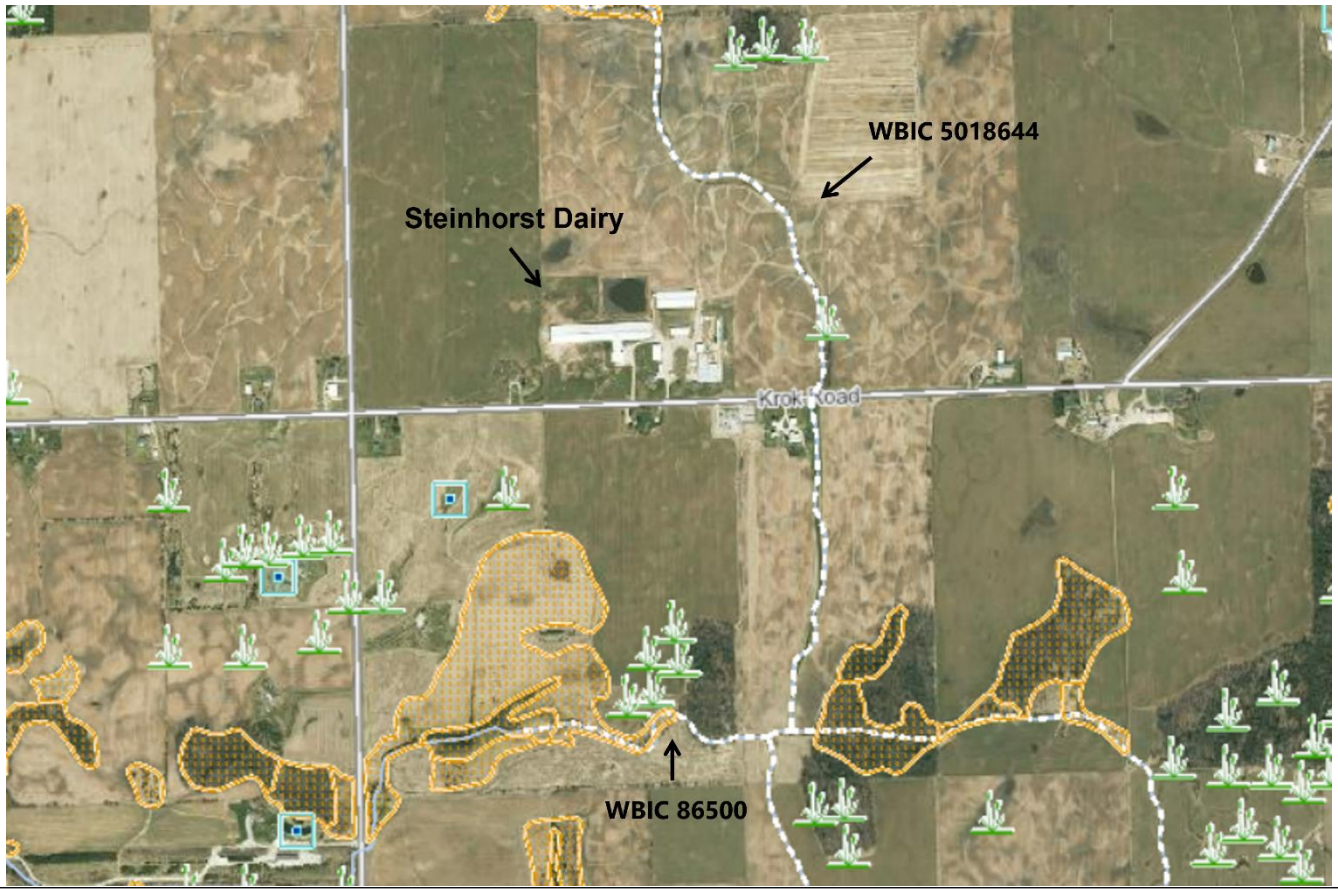
On February 22, 2023, James Salscheider (Salscheider), WDNR Agricultural Runoff Management Specialist, met with Mark Steinhorst (Steinhorst), owner of Steinhorst Dairy, to conduct a permit issuance inspection at their dairy operation as part of the WPDES permit issuance process. Salscheider was joined McKenna Arnoldi, WDNR Nutrient Management Specialist. Steinhorst was joined by Dan and David Steinhorst, and the farm's consultants Jake Geiger, agronomist with Tilth Agronomy, and Lexie Ludtke, engineer with GHD. Steinhorst Dairy submitted a preliminary WPDES permit application on December 1, 2023 in response to a Notice of Noncompliance for operating over 1,000 animal units without a permit, which does not complying with Section 283.31(1), Wis. Statutes - Water Pollutant Discharge Elimination System Permits. Steinhorst Dairy had 1,259 animal units at the time of the inspection. Steinhorst Dairy is located at E3866 Krok Road, Kewaunee, WI 54216, SE ¼ of the SW ¼ of S27, T23N R24E, Township of West Kewaunee, Kewaunee County. The weather during the inspection was approximately 40° F and dry. The most recent precipitation event was on February 15, 2024, when the area received approximately 0.22 inches of rain.



Aerial Map 1. The aerial map above illustrates the production site at Steinhorst Dairy, which consists of two animal barns, one liquid waste storage facility, one feed storage area, several machine sheds, one milking parlor, and one outdoor vegetated area. Yellow arrows represent the flow path of process wastewater from the feed storage area. The blue arrows represent the flow path of stormwater on the production site. The red arrows represent manure transfer lines. The aerial image was obtained from Kewaunee County GIS website.



Aerial Map 2. The aerial map above illustrates surface water in relation to Steinhorst Dairy. A mapped stream is located east of the production site, identified as WBIC 5018644, which is a tributary to WBIC 86500. Several wetland complexes are located south of the production site, represented by the yellow shaded areas. The aerial image was obtained from the DNR Surface Water Data Viewer.

SITE OBSERVATIONS

Feedlot Runoff

Steinhorst Dairy does not utilize any outdoor feedlots at their site. All animals are housed under roof unless allowed on the outdoor vegetated exercise area.

Calf Hutch Areas

Steinhorst Dairy does not utilize any outdoor calf hutch areas. All calves at Steinhorst Dairy are housed under roof or sent to a custom raising facility.

Waste Storage Facilities

Solid and liquid waste storage facilities are managed to not have current or past indicators of discharges (includes headland stacking sites).
Solid and liquid waste storage structures are not well-maintained, in good repair, and compliance with permit requirements.
Liquid waste storage facilities do not have permanent markers installed.

Steinhorst Dairy utilizes one liquid waste storage facility (WSF), located on the north side of the production. WSF 1 is an in-place earthen storage facility that accepts manure and process wastewater from the animal housing buildings, holding area, and milking parlor. WSF 1 was originally constructed in 1998 and expanded in 2012. WSF 1 has a usable capacity of approximately 10,000,000 gallons. WSF 1 has multiple concrete agitation pads and a concrete sump to allow the farm to safely agitate manure and prevent scouring of the liner. Steinhorst Dairy does not need to remove settled solids from the storage facility due to the ability to thoroughly agitate. Fencing was present around the storage facility. Permanent markers were not present

within the storage facility. The earthen liner appeared to be in good condition with no signs of serious erosion or degradation.

Solid manure generated within the maternity pens at Steinhorst Dairy is stored in an unconfined manure pile located near the southeast corner of WSF 1. Runoff from the pile migrated north along the east edge of WSF 1, before eventually stopping before leaving the production site. Steinhorst stated that they only stack solid manure in this location during winter months when land application is not favorable. Steinhorst stated that only 6-7 loads of solid manure is stored in this location over winter. There are no permanent designed solid manure stacking locations present at Steinhorst Dairy.

Photo 1. WSF 1 at Steinhorst Dairy. WSF 1 is located on the north side of the production site. This photo was taken facing northwest.

Photo 2. WSF 1 at Steinhorst Dairy. WSF 1 is located on the north side of the production site. This photo was taken facing southwest.

Photo 3. WSF 1 at Steinhorst Dairy. WSF 1 is located on the north side of the production site. This photo was taken facing west.

Photo 4. WSF 1 at Steinhorst Dairy. WSF 1 is located on the north side of the production site. This photo was taken on the east side of the storage facility facing south toward the freestall barn.

Photo 5. WSF 1 at Steinhorst Dairy. WSF 1 is located on the north side of the production site. This photo was taken facing southwest towards the freestall barn and outdoor exercise lot.

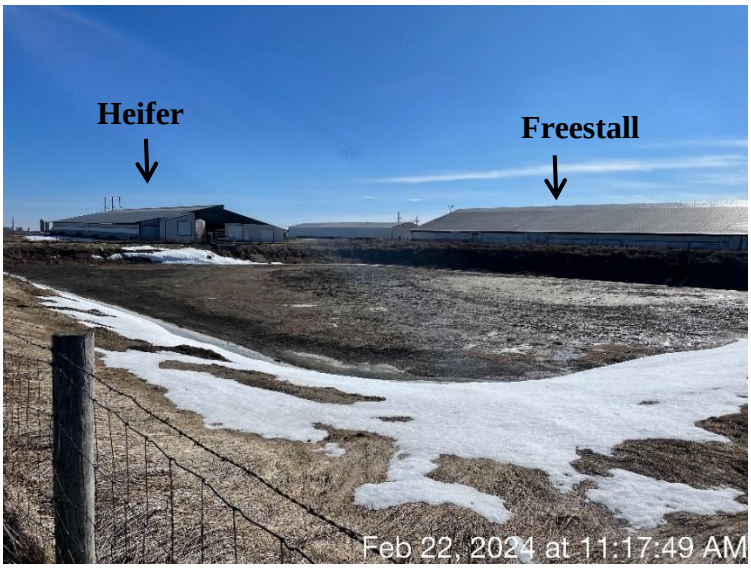


Photo 6. WSF 1 at Steinhorst Dairy. WSF 1 is located on the north side of the production site. This photo was taken facing southeast towards the freestall barn and heifer barn.

Photo 7. WSF 1 at Steinhorst Dairy. WSF 1 is located on the north side of the production site. This photo was taken facing southeast towards the freestall barn.

Photo 8. An unconfined manure pile located on the southeast corner of WSF 1. No runoff controls or stacking pad were present at the time of the inspection.

Photo 9. An unconfined manure pile located on the southeast corner of WSF 1. No runoff controls or stacking pad were present at the time of the inspection.

Photo 10. The flow path of runoff from the unconfined manure pile pictured in Photo 8 and 9, flowing north along the east side of WSF 1.

Process Wastewater (other than feed storage area leachate/runoff)

Process wastewater sources (milking center, wash water, etc.) are managed to not have current or past indicators of discharges.

Process wastewater generated in the double-24 milking parlor is flushed and comingled with manure generated in the freestall barn. Process wastewater is then transferred to permanent storage until it could be land applied. Machinery is washed outside of the milking parlor. No runoff controls were present in this location. No evidence of discharges was observed in this location.

Feed Storage Area Runoff

Feed storage areas and associated process wastewater (leachate, runoff) are managed to not have current or past indicators of discharges.

Feed storage areas and runoff control systems are not well-maintained, in good repair and in compliance with permit requirements.

Steinhorst Dairy utilizes multiple concrete bunkers on a concrete feed pad to store corn silage and haylage for animal feed. The feed storage area was originally constructed in 1998 and expanded in 2007 and again in 2016. Steinhorst Dairy is in the process of expanding the feed storage area again, with concrete already poured on the north side of the feed storage area. This project is expected to be finished in spring of 2024. No

perimeter drainage tile is present around the feed storage area. Runoff from the feed storage area flows from west to east, where it enters a concrete conveyance channel that diverts the process wastewater into a large concrete tank located east of the feed storage area. The concrete channel and tank were installed in 2022. An outlet and concrete spreader bar are located on the south side of the tank, which allows process wastewater to leave the tank and be dispersed onto a vegetated treatment area. The vegetated treatment area is approximately 340 feet in length and wraps around the southeast corner of the feed storage area, making a 90 degree turn from south to west. Concentrated flow and burnout were present within the vegetated treatment area. Runoff was observed leaving the end of the VTA, entering a road culvert that conveys runoff from the north side of Krok Road to the south side of Krok Road, where it flows through a grassed waterway until flow dissipates within a cropped field. No permanent transfer pumps or lines were present at the time of the inspection. Steinhorst stated that he uses a submersible pump and transfer hose to collect runoff from the concrete tank and load a liquid manure spreader for land application when weather and field conditions allow. Steinhorst Dairy used a piece of plastic wrap to partially block the outlet of the concrete tank to allow process wastewater to pond. Even when blocked, process wastewater still managed to outlet to the VTA.

Photo 11. The south side of the feed storage area, located on the southeast corner of the production site. This photo was taken facing west.

Photo 12. The east side of the feed storage area, located on the southeast corner of the production site. This photo was taken facing northwest.

Photo 13. The feed storage area, located on the southeast side of the production site. The yellow arrows represent the flow path of runoff on the feed storage area. This photo was taken facing west towards the commodity shed.

Photo 14. A feed bunker within the feed storage area, located on the southeast side of the production site. This photo was taken facing north.

Photo 15. Bunkers within the feed storage area, located on the southeast side of the production site. This photo was taken facing southwest towards the shop.

Photo 16. An empty bunker used for tire storage on the south side of the feed storage area. This photo was taken facing south.

Photo 17. The northwest side of the feed storage area, located on the southeast side of the production site. The yellow arrow represents the flow path of runoff. This photo was taken facing southeast.

Photo 18. The west side of the feed storage area, located on the southeast side of the production site. The yellow arrow represents the flow path of runoff. This photo was taken facing east.

Photo 19. The early stages of the 2024 expansion of the feed storage area on the north side of the feed storage area. This photo was taken facing southeast.

Photo 20. The flow path of runoff towards the collection basin, located on the east side of the feed storage area.

Photo 21. The feed storage runoff collection basin on the southeast side of the production site. This photo was taken from the southeast corner facing north.

Photo 22. The feed storage runoff collection basin on the southeast side of the production site. This photo was taken from the southwest corner facing north.

Photo 23. The outlet for the detention basin, identified by the black arrow, that allows process wastewater to flow to the concrete spreader bar and VTA.

Photo 24. The concrete and gravel spreader bar that is designed to disperse runoff across the VTA. Concentrated flow was present at the time of the inspection.

Photo 25. The flow path from the feed storage runoff tank on the southeast side of the production site across the VTA. This photo was taken from the south side of the runoff tank facing south.

Photo 26. The VTA that handles runoff from the feed storage area. The yellow area arrow represents the flow path of runoff across the VTA.

Photo 27. The flow path of runoff across the VTA on the southeast corner of the production site. This photo was taken from the south side of the feed storage area facing west along Krok Rd.

Photo 28. The vegetated treatment area on the southeast corner of the production site. This photo was taken from Krok Rd facing northeast towards the south side of the feed storage area.

Photo 29. The flow path of runoff from the VTA towards a road culvert that conveys runoff to the south side of Krok Rd. This photo was taken facing east.

Photo 30. The location where runoff enters a road culvert that conveys runoff to the south side of Krok Rd. This photo was taken facing south.

Photo 31. The road culvert that conveys runoff from north to south under Krok Rd.

Photo 32. The flow path on the south side of Krok Rd. This photo was taken facing south.

Photo 33. Grain bins and chutes located on the feed storage area.

Photo 34. The commodity shed located on the feed storage area. This photo was taken facing west.

Animal Mortality Disposal

Animal mortalities are managed to not have current or past indicators of discharges.

Steinhorst Dairy utilizes Sandy Bay Mink Ranch to handle animal mortalities. Animal carcasses are stored outside of the freestall barn until they are collected by Sandy Bay Mink Ranch, usually within a day.

Ancillary Service Areas

Preventative maintenance actions and visual inspections are occurring to minimize pollutant discharges from ancillary service and storage areas (i.e. storm water conveyance systems, driveways, etc.).
Management practices are implemented to sustain sufficient vegetative cover on CAFO outdoor vegetated areas.

Steinhorst Dairy utilizes several culverts and grassed waterways to handle clean stormwater on the production site. Salscheider observed minimal manure tracking outside of the animal barns and minimal spilled feed and bedding material present in the driveways.

Steinhorst Dairy utilizes one outdoor vegetated area as an exercise lot for dry cows and heifers. The area is located north of the freestall barn and west of the liquid waste storage facility. Vegetation on the exercise area was dormant at the time of the inspection. Salscheider observed two areas of excessive gully erosion within the exercise area. Salscheider recommended establishing better vegetative cover and grading the area to have less slope. Steinhorst stated that they will be grading a gravel driveway around WSF 1 and could use the equipment to grade the exercise lot as well. Another outdoor vegetated area is located on the south side of the freestall barn, on the southwest corner of the production site. Steinhorst Dairy is abandoning this area and turning it into a cropped field. This area also had several areas of excessive gully erosion. Salscheider expressed concerns with the field meeting “T” if it were planted into corn without establishing a vegetative cover or grassed waterways prior to planting into corn. Geiger and Steinhorst discussed methods to fix the gully erosion issues.

Steinhorst Dairy stores bedding material (sawdust) in a shed located between the freestall barn and feed storage area. Minimal bedding debris was observed outside of the storage shed.

Photo 35. A stormwater culver that outlets near the southwest corner of the feed storage area. No evidence of discharge was observed.

Photo 36. The inlet associated with the outlet pictured in Photo 35. The culvert accepts runoff from the driveway area west of the feed storage area. This photo was taken facing south.

Photo 37. The flow path of stormwater towards the culvert pictured in Photo 36.

Photo 38. The stormwater flow path on the south side of the heifer barn. This photo was taken from the southeast corner of the heifer barn facing west towards the freestall barn and WSF 1.

Photo 39. The east side of the freestall barn. Minimal manure tracking was present at the time of the inspection. This photo was taken facing northwest.

Photo 40. The west side of the freestall barn. Minimal manure tracking was present at the time of the inspection. This photo was taken facing south towards the abandoned outdoor exercise lot.

Photo 41. The driveway area near the machine sheds and shop. Runoff from this area flows into the culvert pictured in Photos 35-37.

Photo 42. The outdoor exercise lot located on the northwest corner of the production site. This photo was taken from the northeast corner of WSF 1, facing west.

Photo 43. The outdoor exercise lot located on the northwest corner of the production site. This photo was taken from the north side of the lot, facing south towards the freestall barn.

Photo 44. The outdoor exercise lot located on the northwest corner of the production site. Erosion within a concentrated flow channel was observed. This photo was taken facing east.

Photo 45. Gully erosion present within the outdoor exercise lot located on the northwest corner of the production site. This photo was taken facing west.

Photo 46. The location where sediment eroded within the exercise lot settles out on the west side of the lot.

Photo 47. The outdoor exercise lot located on the northwest corner of the production site. This photo was taken from the southwest corner of the lot, facing northeast.

Photo 48. An abandoned exercise lot located on the southwest corner of the production site. This photo was taken facing south.

Photo 49. The abandoned exercise lot on the southwest corner of the production site. This photo was taken facing east.

Photo 50. A concentrated flow channel through the abandoned outdoor exercise lot located on the southwest corner of the production site. This photo was taken facing southwest.

Photo 51. The well located on the southwest side of the milking parlor, on the east side of the abandoned outdoor exercise lot. This photo was taken facing north.

Photo 52. Sawdust bedding storage, located in the shed located directly east of the freestall barn.

SUMMARY

Areas of Concern

Feed Storage Runoff Control System

- Will be addressed through compliance schedules.

Unconfined solid manure pile

- Determine a location to store solid manure, which may result in a permit compliance schedule to construct a stacking pad.

Erosion within the outdoor vegetated area

- Grade the outdoor vegetated area and establish vegetative cover to prevent erosion.

Action Items

Submit final permit application to the Department by **April 15, 2024**

Items for Next Permit Term

Any upgrades or construction deemed necessary from evaluations submitted with the permit application.

Final Permit Application Requirements

Required materials must be submitted together as a complete permit application through the ePermitting System: http://dnr.wi.gov/permits/water/. The system will not allow you to electronically sign and submit your application until all of the following are included:

- 3400-025 form (Livestock/Poultry Operation WPDES Permit Application)
- 3400-025A form (Animal Units Calculation Worksheet)
- 3400-025G form (Evaluated Facilities of Systems Checklist)
- 3400-025C form (Reviewable Facilities of Systems Checklist)
- A soil survey map of the dairy's production area
- A labeled aerial map showing the existing and proposed features and structures of the dairy's production area
- Calculations documenting days liquid manure and process wastewater storage
- Supporting documentation for days storage calculations
- A complete 5-year Nutrient Management Plan (NMP). If necessary, include a description of permanent spray irrigation systems and any other land spreading or treatment systems (proposed or active)
- Plans and specifications for any proposed facilities
- Engineering evaluations for all existing reviewable facilities
    - Waste storage facilities
    - Feed storage area
    - Runoff control systems
    - Waste transfer lines

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Madison, WI 53707

Tony Evers, Governor
Telephone 608-266-2621
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October 1st, 2024

Kewaunee County
Approval

Mark Steinhorst
Steinhorst Dairy
E3866 Krok Road
Kewaunee, WI 54216

SUBJECT: Conditional Approval of Steinhorst Dairy Nutrient Management Plan, WPDES Permit No. 0067521-01-0

Dear Mark Steinhorst:

After completing a review of Steinhorst Dairy 2025-2029 Nutrient Management Plan (NMP) the Wisconsin Department of Natural Resources (Department) is providing conditional approval that it is consistent with Nutrient Management Requirements in s. NR 243, Wis. Adm. Code. This part of your WPDES permit application is now ready for the public notice and comment process as required by Ch. 283 Stats.

Before applying manure onto approved fields each season, the Department recommends Steinhorst Dairy review the NMP with those individuals involved with manure applications to ensure all remain familiar with the approved manure spreading protocol, spreading maps, field and map verification, record keeping requirements, and all the conditions of this approval. Specifically, some fields in Steinhorst Dairy may have:

- Soils that may have bedrock or groundwater within 24 inches of surface,
- Multiple setback areas due to streams, conduits to streams, grassed waterways, wetlands or wells, and
- Evidence of possible soil erosion/flow channels. Note: road ditches or other man-made channels may be considered flow channels or conduits to navigable water and may be subject to a SWQMA and setback.

Reviewing the NMP and checking fields for these features and soil conditions prior to manure applications will help Steinhorst Dairy maintain compliance with their WPDES permit and Ch. NR 243 requirements.

FINDINGS OF FACT

The Department confirms that:

1. A current dairy herd size of 1,227 animal units (700 milking & dry cows, 292 heifers, and 82 calves). Currently there are no planned expansions in the next permit term.
2. Manure generation and spreading records indicate your herd will annually generate approximately 13,468,179 gallons of manure and process wastewater and 314 tons of solid manure in the first year of the permit term.
3. The use of application restriction options 1 and 5 within surface water quality management areas.
4. The use of phosphorus delivery method P Index.
5. That Steinhorst Dairy currently has 1,381 acres (739.3 owned and 641.7 controlled through contracts, rental agreements or leases, or under manure agreements) of which 1.366 are spreadable acres.

6. That some fields included in the NMP are directly adjacent to or have high potential to deliver nutrients and sediment to East Twin River (listed 303(d) impaired water by 'total phosphorus').
7. That no fields are directly adjacent to or have high potential to deliver nutrients and sediment to outstanding/exceptional waters.
8. That 23 fields are tiled.

- 01	- 02	- 03	- 04
- 05	- 06	- Dave-1	- Dave-2
- DR-1	- Karls	- Kenny N	- Kenny S
- KS-1	- KS-2	- KS-4	- KS-5
- Mike-1	- Mike-2	- Mike-3	- Mike-4
- Mindoc	- MP-1	- Ron SW	

9. That all fields will be checked for the following features prior to/during manure or process wastewater applications: soil areas with possible shallow groundwater (i.e., within 24 inches of surface) at the time of manure application; required setbacks associated with wells, navigable waters, conduits to navigable waters, grassed waterways, wetlands, possible soil erosion/flow channels.
10. That surface applications of manure will not be completed when precipitation capable of producing runoff is forecasted within 24 hours of the time of planned application.

CONDITIONAL NUTRIENT MANAGEMENT PLAN APPROVAL

The Department hereby approves the 2025-2029 Steinhorst Dairy Nutrient Management Plan subject to the following conditions and the applicable requirements of Ch. NR 243, Wis. Adm. Code:

FIELD AND MANURE MANAGEMENT

1. Fields not included in the NMP and new fields shall not receive manure or process wastewater applications until they have been properly soil sampled, entered into Snap Plus, evaluated for their nutrient needs, and approved by the Department.

2. The following fields are prohibited from receiving applications of manure or process wastewater:
   - Ron SWR (Silurian area in 0-2' depth)

   If Steinhorst Dairy wishes to use these fields for applications of manure or process wastewater all necessary information shall be submitted to the Department prior to application to demonstrate compliance with NR 243 and other applicable codes. Written Department approval amending this condition approval must be received prior to application.

3. If existing fields yield a soil test results equal to or greater than 200 ppm P, those fields would be prohibited from receiving manure or process wastewater applications, unless you obtain Department approval in accordance with NR 243.14(5)(b)2., Wis. Adm. Code.

4. All liquid manure samples collected may be analyzed, at a minimum, for percent dry matter, total nitrogen, percent NH_4-N, percent NO_3-N, phosphorus, potassium, and sulfur.

5. If manure sample results have a dry matter (DM) content less than 2.0% and the percent ammonium (NH_4^+) is greater than 75% of the total N, Steinhorst Dairy may use the following equation to adjust the first-year available nitrogen when applications are injected or incorporated within 1 hour:

$$\text{First-Year Available N} = NH_4\text{-N} + [0.25 \times (\text{Total N} - NH_4\text{-N})]$$

6. Steinhorst Dairy shall record daily manure applications by using form 'Steinhorst Manure Log'. These forms shall be retained at the farm and provided to the department upon request.

7. Steinhorst Dairy shall annually submit a spreading report that summarizes the land application activities listed under NR 243.19(3)(c)5., Wis. Adm. Code by using form 3200-123 or 'CAFO Annual Spreading Reports' generated by Snap Plus.

WINTER SPREADING

8. Liquid manure applications during winter conditions, as defined by NR 243.14(7), Wis. Adm. Code, are prohibited with the exception of emergency applications.

9. The following field(s) are approved for winter spreading solid manure, emergency applications of liquid manure and frozen liquid manure:
   - 01
   - Albrecht F
   - Albrecht B
   - Karls
   - Mike-1
   - Mindoc
   - MP-1
   -

10. Winter spreading of solid and liquid manure may not occur during the "high risk runoff period" pursuant to s. NR 243.14(6)(c) and NR 243.14(7)(c), respectively.

11. Winter applications of liquid manure shall only occur under emergency situations, after notifying the Department and receiving verbal approval.

12. Liquid applications shall be limited to 3,500 gallons per acre or 30 lbs. P per acre, whichever is less, on slopes 2-6% and 7,000 gallons per acre or 60 lbs. P per acre, whichever is less, on slopes 0-2%. Winter applications of solid manure shall be limited to 60 lbs. P per acre.

HEADLAND STACKING

13. No headland stacking sites are approved.

NR243.143/151.075 SILURIAN BEDROCK PERFORMANCE STANDARDS

14. Manure generated by Steinhorst Dairy that is mechanically applied to the following approved fields meet planning requirements under NR243.143/151.075, Silurian bedrock performance standards. The following fields are required to meet all requirements under NR243.143/151.075, Silurian bedrock performance standards immediately following this approval.
   - Kenny N
   - Kenny S
   - Ron SE
   - Ron SW
   - Ron SWR

MANURE & PROCESS WASTEWATER IRRIGATION

15. Irrigation of manure or process wastewater is prohibited.

SUBMITAL AND RECORDKEEPING REQUIREMENTS

16. A copy of this conditional approval shall be included in all future annual Nutrient Management Plan Updates in addition to the NR 243 and NRCS 590 checklists.

SPECIFIC CONSIDERATIONS

17. The farm is currently using 90% or greater of their land base annually for manure planned out over the permit term with only what is generated by Steinhorst Dairy. If the farm intends to accept transferred manure from another CAFO facility, the farm should be looking to add additional acres or not pursue any added manure until land is added.

18. The farm sends liquid manure to a local digestor where every load that is sent in results in an equal amount received back. This should be monitored regularly to make sure the farm is accurately accounting for any potential additional manure that could come because of the transfers to the digestor.

This conditional approval does not limit the Department's regulatory authority to require NMP revisions (based upon new information or manure irrigation research findings) or request additional information in order to confirm or ensure your farm operation remains in compliance with NR 243 and your WPDES permit conditions. If additional information, project changes or other circumstances indicate a possible need to modify this approval, the Department may ask you to provide further information relating to this activity.

Please keep in mind that approval by the Department of Natural Resources – Runoff Management Program does not relieve you of obligations to meet all other applicable federal, state or locate permits, zoning and regulatory requirements.

If you have any questions regarding this approval, I can be reached at 608-212-8460 or Ashley.Scheel@Wisconsin.gov.

Sincerely,

Ashley Scheel, CCA
WDNR Nutrient Management Plan Reviewer
Wisconsin Department of Natural Resources

cc: Brittiny Mueller, WDNR Agricultural Runoff Management Specialist (Brittiny.Mueller@Wisconsin.gov)
Joe Baeten, WDNR Watershed Field Supervisor (Joseph.Baeten@Wisconsin.gov)
Christopher Clayton, WDNR Runoff Management Section Chief (Christopherr.Clayton@Wisconsin.gov)
Aaron O'Rourke, WDNR Nutrient Management Program Coordinator (Aaron.Orourke@Wisconsin.gov)
Falon French, WDNR Intake Specialist (Falon.French@Wisconsin.gov)
Tabby Davis, WDNR CAFO Engineer (Tabatha.Davis@Wisconsin.gov)
Davina Bonness, Kewaunee County (bonness.davina@kewauneeco.org)
Jake Geiger, Tilth Agronomy (jake@tilthag.com)
File

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WISCONSIN DEPT. OF NATURAL RESOURCES

September 11, 2024

FILE REF: R-2024-0103
WPDES Permit #: WI-0063274

Mark Steinhorst
Steinhorst Dairy
E3866 Krok Road
Kewaunee, WI 54216

Subject: Days of Storage Review for Steinhorst Dairy, SE¼ of SW¼ of T23N, R24E, Section 27 in West Kewaunee Township, Kewaunee County – NO ADDITIONAL ACTION REQUIRED

Dear Mark Steinhorst:

This letter is to inform you that the Wisconsin Department of Natural Resources (Department) has completed its review of the calculation of days of storage submitted under certification by Doug Gatrell, GHD Services, Inc. on April 9, 2024 on behalf of Steinhorst Dairy.

The Department reviewed the submitted calculations in accordance with ss. NR 243.14(9) and NR 243.15(3)(i) to (k), Wis. Adm. Code. Under s. NR 243.17(3)(c), Wis. Adm. Code, the permittee shall demonstrate compliance with the 180-day design storage capacity requirement at specified times. For the following liquid manure storage calculations, the Department has determined **no additional actions** on your part are required.

Days of Available Liquid Waste Storage: The submitted information states that Steinhorst Dairy has 278 days of liquid waste storage under existing conditions based on the volumes listed in the table below with respect to s. NR 243.15(3)(i) to (k), Wis. Adm. Code. The current number of animal units provided for the calculation is 1227 animal units. The liquid waste volumes are based on the NRCS spreadsheet and other estimated or calculated values for a collection period of 365 days. The farm plans to add leachate collection as part of the upcoming permit. The proposed conditions reflect total collection of Feed Storage Area runoff up to the 25-year 24-hour storm. The submitted information states Steinhorst Dairy will have 229 days of liquid waste storage under proposed conditions. There is no change to animal units in the proposed conditions.

Existing Conditions:

Total Liquid Waste Storage Capacity (gallons)						
Waste Storage	Total Vol. from Settled Top to Bottom	-Solids Storage	-25-yr, 24-hr Precip. on Storage	25-yr, 24-hr Collected Runoff	Freeboard Vol.	Max. Operating Level (MOL) Vol.
WSF 1	10,176,582	666,219	231,002		635,870	8,643,491
					Total MOL Vol:	8,643,491
					Days of Storage:	**278**

Total Annual Liqud Waste Volume (NRCS Table Values)	
Liquids Collected/Stored	Annual Gallons
Manure and Bedding	9,837,334
Parlor Wastewater	438,000
Net Precipitation on Storage Surface(s)	1,092,692
TOTAL:	**11,368,026**

Proposed (with Feed Storage Runoff Collection):

Total Liquid Waste Storage Capacity (gallons)						
Waste Storage	Total Vol. from Settled Top to Bottom	-Solids Storage	-25-yr, 24-hr Precip. on Storage	25-yr, 24-hr Collected Runoff	Freeboard Vol.	Max. Operating Level (MOL) Vol.
WSF 1	10,176,582	666,219	231,002	259,065	635,870	8,384,426
LCB	109,967		13,135		36,656	60,176
					Total MOL Vol:	8,444,602
					Days of Storage:	**229**

Total Annual Liquid Waste Volume (NRCS Table Values)	
Liquids Collected/Stored	Annual Gallons
Manure and Bedding	9,837,334
Parlor Wastewater	438,000
Feed Storage Leachate	67,320
Feed Storage Runoff Collected	1,970,701
Net Precipitation on Storage Surface(s)	1,092,692
Net Precipitation on LCB	62,131
TOTAL:	**13,468,178**

Should you have any questions, please contact Tabby Davis, DNR Madison office or your regional CAFO Specialist.

NOTICE OF APPEAL RIGHTS

If you believe that you have a right to challenge this decision, you should know that the Wisconsin statutes and administrative rules establish time periods within which requests to review Department decisions must be filed. For judicial review of a decision pursuant to WIS. STAT. §§ 227.52 and 227.53, you have 30 days after the decision is mailed, or otherwise served by the Department, to file your petition with the appropriate circuit court and serve the petition on the Department. Such a petition for judicial review must name the Department of Natural Resources as the respondent.

To request a contested case hearing pursuant to WIS. STAT. § 227.42, you have 30 days after the decision is mailed, or otherwise served by the Department, to serve a petition for hearing on the Secretary of the Department of Natural Resources. All requests for contested case hearings must be made in accordance with WIS. ADMIN. CODE § NR 2.05(5), and served on the Secretary in accordance with WIS. ADMIN. CODE § NR 2.03. The filing of a request for a contested case hearing does not extend the 30-day period for filing a petition for judicial review.

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

Bernie Michaud, P.E.
CAFO Engineer Supervisor
Watershed Management Program

Tabby Davis
CAFO Review Engineer
Watershed Management Program

Email:
Mark Steinhorst; Steinhorst Dairy
(920) 255-1712; marksteinhorst@hotmail.com

Doug Gatrell; GHD Services, Inc.
(248) 893-3411; doug.gatrell@ghd.com

Davina Bonness; Kewaunee County LCD
(920) 845-9743; bonness.davina@kewauneeco.org

Matt Woodrow; DATCP
(920) 427-8505; matthew.woodrow@wisconsin.gov

Tabatha A Davis; DNR-Central Office
(608) 712-2324; tabatha.davis@wisconsin.gov

Brittiny Mueller; DNR-Northeast Region
(608) 228-9184; brittiny.mueller@wisconsin.gov

Ashley Scheel; DNR, Central Office
(608) 261-6419; ashley.scheel@wisconsin.gov

Joe B Baeten; DNR-Northeast Region
(920) 366-2072; Joseph.Baeten@wisconsin.gov

ENVIRONMENTAL ANALYSIS QUESTIONNAIRE
for Concentrated Animal Feeding Operations

The Environmental Analysis Questionnaire (EAQ) for Concentrated Animal Feeding Operations (CAFOs) is part of the Department of Natural Resources' (DNR) programmatic procedures for meeting the requirements of the Wisconsin Environmental Policy Act (WEPA), s. 1.11, Stats and Ch. NR 150, Wis. Adm. Code.

WEPA requires state agencies to analyze, consider and publicly disclose the anticipated environmental and socioeconomic effects of certain agency actions. Under NR 150, this includes the issuance, reissuance, or modification of individual Wisconsin Pollutant Discharge Elimination System (WPDES) permits for new source CAFOs.

A completed EAQ is not a decision document. It is an information tool that is part of the DNR's analysis and disclosure of the environmental and socioeconomic effects of proposed CAFOs and CAFO expansions.

Fill in the information below.

Operation Name:	Steinhorst Dairy
Contact Name/Title:	Mark Steinhorst
Phone:	920-255-1712
Email:	mark.steinorst@hotmail.com
EAQ Preparer Name (if different than above):	Jennifer Keuning
Title/Company:	Sr. Project Manager/GHD Services Inc.
Phone:	920-362-1560
Email:	jennifer.keuning@ghd.com
Date Prepared/Completed:	11/3/2023

Proceed to the "Screening Questions" on the next page.

Screening Questions

Answer the screening questions below for the animal feeding operation for which you are applying for a Wisconsin Pollution Discharge Elimination (WPDES) permit. Your responses will determine whether you need to complete the Environmental Analysis Questionnaire. Use a computer to answer these screening questions. (This section is a fillable form and cannot be completed by hand.) As you answer each question, it will auto-populate the form and direct you to the next step.

Part I. Determine whether the proposed operation is a "New Source CAFO" as defined under section NR 243.03 (41), Wis. Adm. Code.

1. Will the operation be entirely new (i.e., constructed on a site where no other animal feeding operation is currently located)?	No
2. Is the operation a large CAFO (housing 1,000 or more Animal Units) that was constructed on or after April 14, 2003, on a site where no other animal feeding operation was located?	No
3. Is the operation an animal feeding operation housing less than 1,000 Animal Units that was constructed on or after April 14, 2003, on a site where no other animal feeding operation was located – and is now proposing to become a large CAFO?	No
4. Is the operation a large CAFO that was in existence prior to April 14, 2003, but that *completely replaced* (or is proposing to replace) all of its production or processing equipment on or after April 14, 2003?	No
5. Is the operation (as it exists or as it's proposed) *an addition* to an existing large CAFO that was added on or after April 14, 2003? **And if so**, is it *essentially a new production area*, completely independent of the production area that was in existence on the site before April 14, 2003?	No

The operation is not a New Source CAFO as defined in NR 243.03(41). You do not need to fill out anything else. Please save this document, including the information you provided above, and submit along with your permit application.

ENVIRONMENTAL ANALYSIS QUESTIONNAIRE

Directions: Answer each of the following questions. If a question does not apply, explain why. For questions that require narrative responses (e.g., 'explain', 'describe', 'detail', 'discuss'…), your answer should be thorough and clear. Please note that this portion of the EAQ is not a fillable form.

If the proposed operation has, or will have, more than one production area (i.e., multiple locations), provide specific information on each of them, not just the main production area.

Some questions require attachments. These are specially noted. If you need additional space for a written response, include it as an attachment. Be sure to include all attachments with your completed EAQ, along with references to them in the EAQ itself (for example, "See Attachment 3: Soil Disturbance Map").

The symbol ❶ is used to indicate online sources of information requested in the EAQ, as well as additional information that may be of interest to members of the public reviewing your completed EAQ.

DESCRIPTION OF THE PROPOSED OPERATION OR EXPANSION

❶ For the public: *Additional information on the proposed project can be found in the WPDES permit application file. This includes the Permit Application (Form 3400-25) Animal Unit Calculation Worksheet (Form 3400-25A), Plans and Specifications, and Nutrient Management Plan. Search for the permit application file on the DNR Water Permits website:* https://permits.dnr.wi.gov/water/SitePages/Permits.aspx*. You will need a free WAMS ID to access. For more information, and to apply for a WAMS ID visit*: https://dnr.wisconsin.gov/permits/water

1. Provide a detailed overview of the proposed operation, including:

    a. Current Site Characteristics (including land use, buildings, manure storage facilities, runoff control systems, etc.)
    b. Proposed Changes (to above)
    c. Current and Proposed Animal Units
    d. Approximate timeline for construction
    e. Estimated cost
    f. Products (milk, eggs, feeder beef/swine, market ready beef/swine, etc.)
    g. Purpose or Need for the proposed operation or expansion

2. Attach a map showing the location of all current and proposed land application areas. The map should include county, town and municipal boundaries, roads and surface water features. Also include the location of the production area.

❶ Detailed maps of individual fields, showing setbacks or restricted areas for land application of manure or process wastewater, can be found in the Nutrient Management Plan.

3. Will the proposed operation involve applying for additional DNR permits or approvals (not including the CAFO WPDES Permit)? Check all that apply below:

    ☐ DNR Storm Water Construction Site Permit
    ☐ DNR High Capacity Well Permit
    ☐ DNR Non-Transient Non-Community System Testing
    ☐ DNR Chapter 30 Waterway Permit

- ☐ DNR Wetland Disturbance Permit
- ☐ DNR Air Permit
- ☐ DNR Solid or Hazardous Waste License
- ☐ DNR Wastewater Discharge Permit
- ☐ Other: _____
- ☐ Unsure or Undetermined

4. List any non-DNR permits or approvals (local, other state agency, federal, etc.) that will be required for the proposed operation or expansion of an existing operation.

LAND DISTURBANCE

ℹ *Any construction activities that disturb over 1 acre require coverage under the DNR Construction Site Storm Water Runoff General Permit. Information can be found at https://dnr.wi.gov/topic/stormwater.*

5. Estimate the total acreage of soil excavation and disturbance that will occur during the construction of proposed structures (amount of disturbance should also include disturbance that will take place outside the footprint of the proposed structure). Provide following information:

    a. Total Acres: _____
    b. Start Date: _____
    c. Disturbance Length of Time: _____

6. If an erosion control plan has been developed, attach a copy.

7. If a plan has not been developed provide:

    a. A description of the erosion control measures that will be used during soil disturbance to prevent offsite discharges of sediment runoff to wetlands and waterways.

    b. Attach a map showing planned areas of soil disturbance, including stockpile locations.

SOLID & HAZARDOUS WASTES

ℹ *For more information on what is defined as solid or hazardous waste: https://dnr.wisconsin.gov/topic/Waste*

8. Provide an estimate of monthly animal mortalities at the operation (quantity and types or percentage). Describe current or planned disposal methods.

9. List other types of solid waste that will be generated at the operation (e.g., plastic, garbage, etc.). Describe storage, use, disposal, and recycling methods.

10. List types and amounts of hazardous wastes (e.g., veterinary waste, cleaning chemicals, etc.) that will be used and generated at your operation. Describe storage, use, disposal, and recycling methods.

DRINKING WATER AND GROUNDWATER

ℹ *The questions in this section focus on drinking and groundwater associated with the production area. For information on groundwater and bedrock depths at land application sites (spreading fields) see the Nutrient Management Plan in the WPDES permit application file.*

ℹ *For more information on groundwater visit: https://dnr.wisconsin.gov/topic/Groundwater.*

11. Attach a site map showing all current private wells within the production area (including any residential wells on the property, if applicable). Attach a well log record for each well shown on the map.

    ℹ *An online mapping and information tool can be used to show the approximate location of wells and to access well log information. Visit: https://dnr.wi.gov/WellConstructionSearch/#!/PublicSearch/Index.*

12. How many residences and businesses have private wells located within one mile of the production area? Attach a map of the locations of the wells.

13. If any groundwater monitoring has been conducted, attach the latest groundwater monitoring report. Information should include results of parameters analyzed, groundwater depth measurements, general groundwater flow.

14. What is the average groundwater depth at the production area? Attach a site map that shows groundwater depths and groundwater flow direction (if determined). Indicate how this information was derived and attach supporting documentation (soil boring logs, temporary monitoring well measurements, general site assessment data collected, etc.)

15. Are you aware of any known pollutants (nitrates, bacteria, arsenic, etc.) detected in private wells located near the production area and land application sites? Please list pollutants and provide references to any reports.

    ℹ *Regional groundwater quality data can be found on the Groundwater Quality Viewer: https://gissrv3.uwsp.edu/webapps/gwc/pri_wells/*

16. Provide current water use information for the production area:
    a. Current daily water use (in gallons):
    b. Current annual water use (in gallons):

17. Specify if the above numbers are actual (metered) or estimated. If estimated, include information on how the estimates are calculated.

18. List any new wells proposed for the production area and their associated pumping rates (gallons per minute).

19. Provide water use estimates for the production area after new well installation is complete:
    a. Proposed Daily Water Use (in gallons):
    b. Proposed Annual Water Use (in gallons):

SURFACE WATER RESOURCES – WETLANDS & WATERWAYS

ℹ *An online interactive mapping tool, Surface Water Data Viewer (SWDV), is available to assist in answering the questions and for providing maps. Learn about its features and launch it from here: https://dnr.wi.gov/topic/SurfaceWater/swdv/*

Note: Other GIS mapping systems may be used provided they include appropriate map layers.

20. Attach an overview map of the production area that shows all nearby surface water resources (intermittent and perennial streams, mapped wetlands, and hydric soil areas). Label stream names (if an unnamed stream indicate which named stream it flows into, "unnamed tributary to…"). Show on map any areas that may be disturbed for planned construction.

21. Attach a map that identifies with arrows storm water surface drainage flow paths in the production area. If subsurface storm water features (e.g., underground tile, french drains, manholes, etc.) are present and/or proposed, clearly identify those features on the map. Label all outfalls (i.e., points at which storm water leaves production area).

22. Are there any proposed physical changes to land application sites that could impact water resources (i.e., stream channel changes, tile installation, wetland fill or grading, tree clearing, etc.)? If yes, describe the extent of disturbance and attach a map(s) showing proposed areas of disturbance.

AIR QUALITY

ℹ *For more information on air quality see: https://dnr.wi.gov/topic/AirQuality/Toxics.html. (See the "Ag Waste BMPs" tab for extensive information on air quality and livestock operations.) These references may be helpful for estimating emissions: https://www.ars.usda.gov/northeast-area/up-pa/pswmru/docs/dairy-gas-emissions-model/ or https://water.unl.edu/documents/Ammonia%20Emissions%20Estimator%20-%20Daily%20VersionV03.pdf*

23. List any odor mitigation measures that will be implemented for each production area facility.

24. Will odors from gaseous emissions be controlled from manure transport and land application? List any specific mitigation measures.

25. Refer to s. NR 415.04, Wis. Adm. Code (fugitive dust) to help answer the following.

    a. What will the sources of fugitive dust be during construction? What mitigation measures will be taken during construction to minimize fugitive dust?

    b. What will the sources of fugitive dust be at the operation? What mitigation measures will be taken to minimize these impacts. [Note: Fugitive dust is dust arising from a process that does not go through a fan or exhaust port.].

26. Provide a calculated estimate of potential hydrogen sulfide and ammonia emissions from the production area. List specific hydrogen sulfide and ammonia mitigation measures (if any) that will be practiced at the production area.

27. If applicable, discuss odor and emissions from the facility types below. Add any information on facilities specific to your operation.
    a. Anaerobic digester:
    b. Burning or drying systems:
    c. Sand lanes or sand washing systems:
    d. Composting:
    e. Mortality management:
    f. Spray irrigation of manure or process wastewater:
    g. Other:

ENDANGERED RESOURCES

Complete the steps below if the proposed operation or expansion will result in a change in land use (e.g., forested land converted to land application areas, wetland changes, etc.). If no land use change is proposed, no screening is necessary (Answer: "Not applicable"). Note: DNR will supplement the information you provide with specific data from its endangered resource records.

ⓘ Use the NHI Public Portal to generate an Endangered Resources Preliminary Assessment report for the proposed operation or expansion: *https://dnr.wi.gov/topic/ERReview/PublicPortal.html*.

28. Attach a copy of the Endangered Resources (ER) Preliminary Assessment.

29. According to the ER Preliminary Assessment, does the proposed operation or expansion have the potential to impact areas where state or federally listed endangered or threatened species may be present? Please specify.

PUBLIC LANDS

30. Attach a map of any public lands (natural areas, parks, public hunting lands, etc.) located within approximately five miles of the proposed production area.

    ⓘ *Use the public lands mapping tool: https://dnrmaps.wi.gov/H5/?Viewer=Public_Access_Lands*

31. What affects will the proposed operation or expansion have on users of these public properties?

TRAFFIC NOISE & SAFETY

32. Discuss changes in traffic volume and potential impacts of those changes during the following times (include specific information on the number and types of vehicles, frequency, duration, and noise and safety considerations):
    a. During construction (short term traffic)
    b. Post construction (long term traffic), (e.g., manure and process wastewater hauling; field preparation and harvest; livestock, feed, and milk transport; etc.)

33. Describe primary methods of manure and process wastewater hauling (e.g., temporary hose lines, permanent lines, tractor/tanker, semi-trucks, irrigation, etc.). How do each these methods affect traffic noise and safety?

More information on manure and process wastewater land application methods and spill response can be found within the Nutrient Management Plan.

ARCHAELOGICAL / HISTORICAL

Note: The DNR will supplement the information you provide here with data from its historical and archeological records.

34. Are you aware of any state or national historical sites on or adjacent to the proposed operation?

35. How will these sites be impacted? Include short-term (i.e. during construction) and long-term impacts.

36. Are you aware of any archaeological sites (for example, but not limited to, Native American burial sites) that are on or adjacent to the proposed operation?

37. How will these sites be impacted by the proposed project? Include short-term (i.e. during construction) and long-term impacts.

SOCIO-ECONOMIC

38. In the table below, provide the approximate number of homes, businesses and farmsteads within the proximities listed (from the production area).

	Within one mile	Within 5 miles
Residential homes		
Businesses (non-farm)		
Farmsteads		

39. Do you expect the value of nearby properties to increase, decrease, or remain the same in response to the proposed operation? What is the basis for this expectation?

40. Provide employee numbers for the operation in the table below. Provide current employees and an estimate of how many employees after the proposed operation or expansion is complete.

	Full-time Employees	Part-time Employees	Seasonal Employees
Current			
Proposed (after expansion)			

41. Provide information on local services/businesses your operation currently utilizes or will utilize after proposed operation completion. List types (veterinary, agronomic, equipment maintenance, etc.)

42. Describe any additional economic impacts (positive and negative) anticipated as a result of the proposal, and the basis for these expectations. Include specific dollar amounts (if available) entering or leaving the local economy.

PUBLIC CONTROVERSY

43. Describe any past or present public controversy associated with the operation. For example, contentious public meetings, petitions, signage, media coverage, etc.

44. What was or is the stated basis of the controversy or controversies? For example, concerns over particular waterbodies, economic impacts, odor impacts, increased traffic, etc.

45. Do you anticipate any additional public controversy in response to the proposed project?

ALTERNATIVES

Per the questions below, provide a summary of alternatives considered. Be as specific as possible.

46. Describe any alternatives that were considered, but not selected, in planning for the proposed operation or expansion. Describe how each alternative differed from the proposal in terms of the following

    a. Location:

    b. Production Area Size (footprint)):

    c. Animal Numbers (larger, smaller):

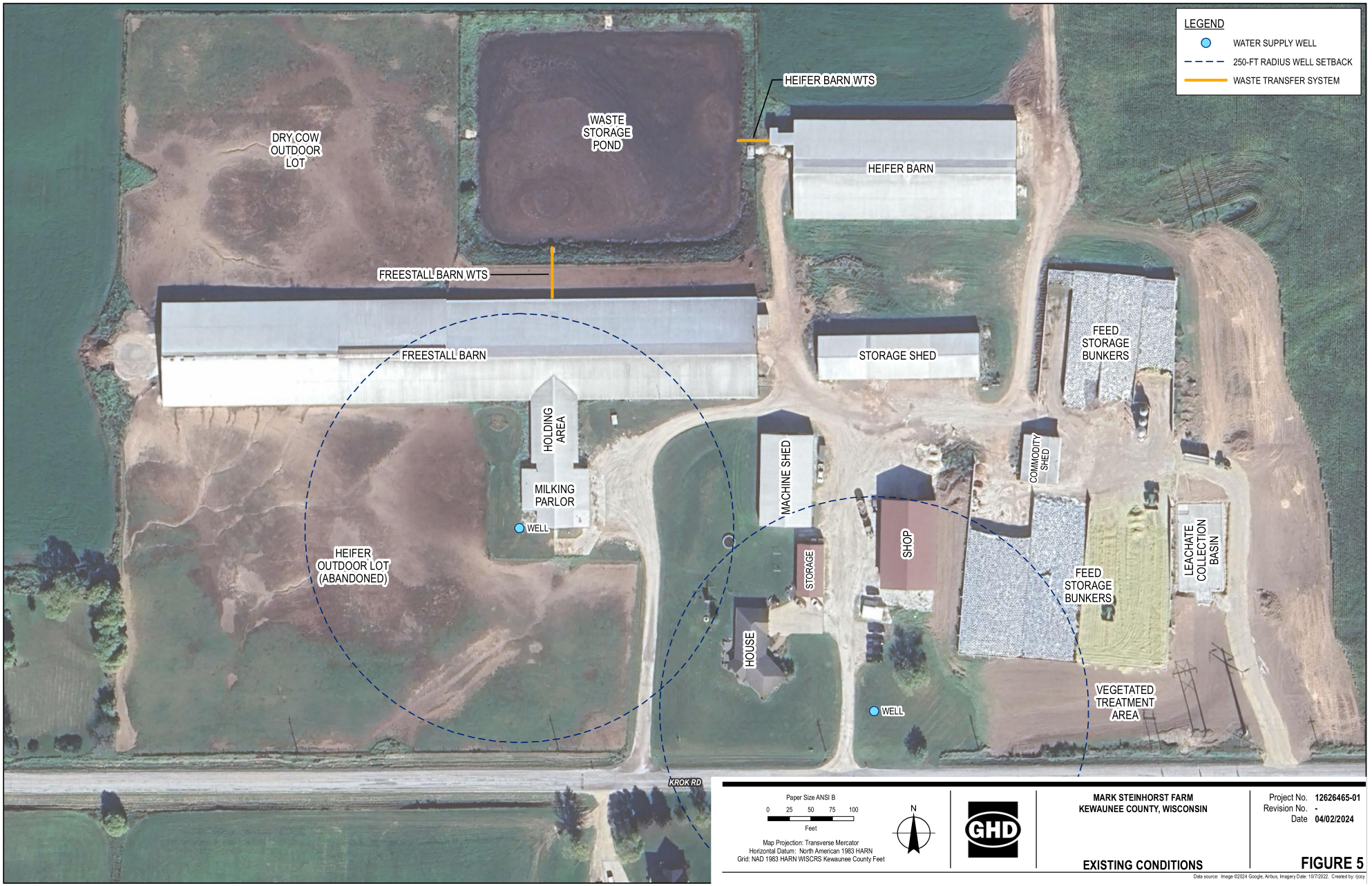
    d. Other:

47. Explain why each alternative was not selected for the proposed operation/expansion.

48. If no alternatives were considered, explain why.

ADDITIONAL INFORMATION

49. Describe any other factors or pertinent information that should be considered in evaluating the overall environmental and socioeconomic effects of the proposed operation. Include any new technologies, best-practices, conservation or other measures not described above.


LEGEND
WATER SUPPLY WELL
250-FT RADIUS WELL SETBACK
WASTE TRANSFER SYSTEM
HEIFER BARN WTS
WASTE STORAGE POND
DRY COW OUTDOOR LOT
HEIFER BARN
FREESTALL BARN WTS
FREESTALL BARN
STORAGE SHED
FEED STORAGE BUNKERS
HOLDING AREA
MACHINE SHED
COMMODITY SHED
MILKING PARLOR
WELL
HEIFER OUTDOOR LOT (ABANDONED)
SHOP
STORAGE
LEACHATE COLLECTION BASIN
FEED STORAGE BUNKERS
HOUSE
VEGETATED TREATMENT AREA
WELL
KROK RD
Paper Size ANSI B
0 25 50 75 100
Feet
N
Map Projection: Transverse Mercator
Horizontal Datum: North American 1983 HARN
Grid: NAD 1983 HARN WISCRS Kewaunee County Feet
GHD
MARK STEINHORST FARM
KEWAUNEE COUNTY, WISCONSIN
EXISTING CONDITIONS
Project No. 12626465-01
Revision No. -
Date 04/02/2024
FIGURE 5
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