

# LaGranders Hillside Dairy Inc. Modified Permit Fact Sheet

## 1 General Information

Permit Number:	WI-0054364-10-01
Permittee Name:	LaGranders Hillside Dairy Inc W11299 Broek Road, Stanley WI 54768
Receiving Water:	Groundwaters and the surface waters of the North Fork Eau Claire River in the North Fork Eau Claire River Watershed in the Lower Chippewa River Basin located in Clark County
StreamFlow (Q <sub>7,10</sub> ):	0.31 cfs (cubic feet per second)
Stream Classification:	Warm Water Sport Fish (WWSF) community, non-public water supply
Discharge Type:	Existing, Continual

### 1.1 Facility Description

LaGranders Hillside Dairy, Inc. located near Stanley, WI produces American-style cheese from fresh cow's milk. The facility is designed to process 800,000 pounds of milk per day. Whey, which is produced as a by-product of the cheese making operations, is processed through a fractionation process which includes ultrafiltration, reverse osmosis, and a polishing system that allows the facility to reuse condensate-of-whey (COW) water to support operations.

Major operational changes, designed to increase production by up to 50%, took place at the facility during the previous permit term. A new biomechanical treatment plant was converted from two existing storage tanks to treat the increased amount of process wastewater generated prior to discharging to a new outfall location on the North Fork of the Eau Claire River. The WWTP now consists of an influent lift station, aeration basin, ultrafiltration membrane system for solid/liquid separation, and a cooling tower which can be used as needed for cooling and post-aeration prior to discharge. Surface water outfall 007 from the treatment plant was designed to meet water quality standards at the time of construction and meets the requirements under Wisconsin Admin Code NR 207, with a design flow of up to 0.150 MGD. This outfall currently discharges 0.09 MGD process wastewater. In addition, a new land application outfall (008) was added to the permit during the previous term for the sludge generated from the treatment plant, 35 dry tons/yr, which is landspread on Department approved sites. Waste for this outfall is hauled for land application and applied 200 days per year. Previous surface water outfall 006 of whey permeate to unnamed creek 20-1 is now regulated at surface water outfall 007.

Prior to operational changes at the facility, 12,500,000 gallons per year of process wastewater was landspread via outfall 002. This waste was previously stored in an underground storage tank prior to being sent to manure pits or landspread on Department approved sites via truck, traveling gun, or center pivot system. This outfall is rarely used, but remains in the permit for use in the event of a malfunction at the treatment plant. During normal operations, process wastewater sludge is now sampled at sample point 002 prior to comingling with industrial sludge and discharge at outfall 008. Roughly 8,000,000 gallons/yr of whey permeate from cheese making is hauled out daily. This discharge is sold to a third party or landspread via outfall 003 when alternative beneficial uses are not available. Land spreading of whey permeate is also allowed in the event of a malfunction at the cheese plant.

All sanitary wastes from the facility are discharged to a holding tank, with water supplied via private wells. The facility operates 24 hours/day, 5 days/week, 12 months/year.

**Reason for permit modification:** 1) The frequency for reporting the monthly average and 6 month average WQT Computed Compliance parameters for total phosphorus has been corrected from 3/week to monthly and table notes were edited for most of the WQT-related parameters. A number of table notes were also corrected for the parameters related to WQT. 2) The WQT Plan proposes the generation of a range of 104.1 lbs/yr to 120.9 lbs/yr of phosphorus credits for the next five years, however per guidance the permittee has opted to use the average offset of 113 lbs/yr. The permit

modification replaces the offset range with the average offset of 113 lbs/yr. 3) A report due date of 01/31/2029 was added to the “Annual Water Quality Trading (WQT) Report”. 4) The sample type listed for the chlorine weekly avg and monthly avg parameters at Outfall 007 was corrected to “grab” from “calculated”.

See areas shaded grey in this fact sheet for signature changes made to the fact sheet and/or permit.

## Substantial Compliance Determination

### Enforcement During Last Permit:

LaGranders had an inconclusive WET test in Dec 2020 and completed two retakes in 2021 to confirm WET values. In February 2022 the facility missed a couple of samples due to some confusion on calendar weeks vs switchboard weeks. They have since fixed this issue with pre-enforcement contact. No further enforcement has been taken with LaGranders. After a desk top review of all discharge monitoring reports, CMARs, land app reports, compliance schedule items, and a site visit on November 15<sup>th</sup>, 2022 this facility has been found to be in substantial compliance with their current permit.

**Compliance determination made by Jenna Monahan, Compliance Engineer on 12/13/2022.**

Sample Point Designation		
Sample Point Number	Discharge Flow, Units, and Averaging Period	Sample Point Location, WasteType/sample Contents and Treatment Description (as applicable)
002	Outfall last used in 2018.	Representative industrial wastewater samples of process waste shall be collected prior to being sent to manure pits or comingling with sludge from outfall 008 (treatment plant sludge) before being landspread on Department approved sites. Discharge is limited to process wastewater from cheese making and whey fractionation. Once comingled with 008, discharge to manure pits is prohibited.
003	This outfall has never discharged.	Representative industrial wastewater samples of whey permeate shall be collected from the truck manhole prior to being sent to manure pits, landspread on Department approved sites, or sold. Discharge is limited to whey permeate.
007	0.09 MGD 2022	EFFLUENT: Process wastewater. Flow shall be monitored via inline continuous mag flow meter. Representative flow proportional composite samples shall be collected from the sampler located inline after the membrane permeate tank and flow meter. Grab samples shall be collected after the cooling tower or after the final stage of treatment. All effluent samples shall be collected prior to discharge to North Fork of the Eau Claire River at Broek Rd.
008	35 dry tons/yr reported in permit application.	Representative industrial sludge samples shall be collected prior to comingling with industrial wastewater and prior to being landspread on Department approved sites. Once comingled with industrial wastewater, discharge to manure pits is prohibited.

## 2 Surface Water - Monitoring and Limitations

### 2.1 Sample Point Number: 007- EFFLUENT FROM TRT PLANT

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Continuous	
BOD5, Total		mg/L	3/Week	24-Hr Flow Prop Comp	
BOD5, Total	Monthly Avg	8.1 lbs/day	3/Week	Calculated	WQBEL. Limit effective August only.
BOD5, Total	Monthly Avg	10.4 lbs/day	3/Week	Calculated	TBEL. Limit effective all months except August.
BOD5, Total	Daily Max	17.3 lbs/day	3/Week	Calculated	WQBEL. Limit effective August only.
BOD5, Total	Daily Max	20.8 lbs/day	3/Week	Calculated	TBEL. Limit effective all months except August.
Suspended Solids, Total		mg/L	3/Week	24-Hr Flow Prop Comp	
Suspended Solids, Total	Daily Max	26.1 lbs/day	3/Week	Calculated	TBEL.
Suspended Solids, Total	Monthly Avg	13.1 lbs/day	3/Week	Calculated	TBEL.
Dissolved Oxygen	Daily Min	5.0 mg/L	3/Week	Grab	
pH Field	Daily Max	9.0 su	3/Week	Grab	TBEL. Sample after the cooling tower.
pH Field	Daily Min	6.0 su	3/Week	Grab	TBEL. Sample after the cooling tower.
Temperature Maximum	Daily Max	96 deg F	3/Week	Continuous	Limit effective July only.
Temperature Maximum	Daily Max	92 deg F	3/Week	Continuous	Limit effective August only.
Temperature Maximum	Daily Max	95 deg F	3/Week	Continuous	Limit effective September only.
Temperature Maximum	Weekly Avg	67 deg F	3/Week	Continuous	Limit effective January only.
Temperature Maximum	Weekly Avg	75 deg F	3/Week	Continuous	Limit effective February only.

<b>Monitoring Requirements and Limitations</b>					
<b>Parameter</b>	<b>Limit Type</b>	<b>Limit and Units</b>	<b>Sample Frequency</b>	<b>Sample Type</b>	<b>Notes</b>
Temperature Maximum	Weekly Avg	102 deg F	3/Week	Continuous	Limit effective March only.
Temperature Maximum	Weekly Avg	92 deg F	3/Week	Continuous	Limit effective June only.
Temperature Maximum	Weekly Avg	91 deg F	3/Week	Continuous	Limit effective July only.
Temperature Maximum	Weekly Avg	89 deg F	3/Week	Continuous	Limit effective August only.
Temperature Maximum	Weekly Avg	82 deg F	3/Week	Continuous	Limit effective September only.
Temperature Maximum	Weekly Avg	79 deg F	3/Week	Continuous	Limit effective October only.
Temperature Maximum	Weekly Avg	96 deg F	3/Week	Continuous	Limit effective November only.
Temperature Maximum	Weekly Avg	69 deg F	3/Week	Continuous	Limit effective December only.
Nitrogen, Ammonia (NH3-N) Total		mg/L	Weekly	24-Hr Flow Prop Comp	
Chloride		mg/L	4/Month	24-Hr Flow Prop Comp	Sample on 4 consecutive days once per month.
Chlorine, Total Residual	Daily Max	38 ug/L	3/week	Grab	
Chlorine, Total Residual	Weekly Avg	15 ug/L	3/week	Grab	
Chlorine, Total Residual	Monthly Avg	15 ug/L	3/week	Grab	
Phosphorus, Total	Monthly Avg	1.0 mg/L	3/Week	24-Hr Flow Prop Comp	Limit effective throughout the permit term, as it represents a minimum control level. See Water Quality Trading (WQT) permit sections for more information.
Phosphorus, Total		lbs/day	3/Week	Calculated	Report daily mass discharged using Equation 1a. in the Water Quality Trading (WQT) permit section.

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
WQT Credits Used (TP)		lbs/month	Monthly	Calculated	Report WQT TP Credits used per month using Equation 2c. in the Water Quality Trading (WQT) section of the permit. Available TP Credits are specified in Table 2 and in the approved Water Quality Trading Plan.
WQT Computed Compliance (TP)	Monthly Avg	0.18 mg/L	Monthly	Calculated	Report the WQT TP Computed Compliance value using Equation 3a. in the Water Quality Trading (WQT) section in the permit. Value entered on the last day of the month.
WQT Computed Compliance (TP)	6-Month Avg	0.06 mg/L	Monthly	Calculated	Compliance with the 6-month avg limit is evaluated at the end of each 6 month period on June 30 and Dec 31.
WQT Computed Compliance (TP)	6-Month Avg	0.055 lbs/day	Monthly	Calculated	Report the WQT TP Computed Compliance value using Equation 3b. in the Water Quality Trading (WQT) section in the permit. Compliance with the 6-month avg limit is evaluated at the end of each 6 month period on June 30 and Dec 31.
WQT TP Annual Credits Used	Annual total	120.9 lbs/year	Annual	Calculated	Limit applies 2024. The sum of total monthly credits used may not exceed Table 2 values listed in the permit.
WQT TP Annual Credits Used	Annual total	109.2 lbs/year	Annual	Calculated	Limit applies 2025. The sum of total monthly credits used may not exceed Table 2 values listed in the permit.
WQT TP Annual Credits Used	Annual total	113.4 lbs/year	Annual	Calculated	Limit applies 2026. The sum of total monthly credits

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
					used may not exceed Table 2 values listed in the permit.
WQT TP Annual Credits Used	Annual total	115 lbs/year	Annual	Calculated	Limit applies 2027. The sum of total monthly credits used may not exceed Table 2 values listed in the permit.
WQT TP Annual Credits Used	Annual total	104.1 lbs/year	Annual	Calculated	Limit applies 2028. The sum of total monthly credits used may not exceed Table 2 values listed in the permit.
Nitrogen, Total Kjeldahl		mg/L	Quarterly	24-Hr Flow Prop Comp	
Nitrogen, Nitrite + Nitrate Total		mg/L	Quarterly	24-Hr Flow Prop Comp	
Nitrogen, Total		mg/L	Quarterly	Calculated	Total Nitrogen shall be calculated as the sum of reported values for Total Kjeldahl Nitrogen and Total Nitrite + Nitrate Nitrogen.
Acute WET		TUa	See Listed Qtr(s)	24-Hr Flow Prop Comp	See WET section in permit.
Chronic WET	Monthly Avg	2.1 TUc	See Listed Qtr(s)	24-Hr Flow Prop Comp	See WET section in permit.

### 2.1.1 Changes from Previous Permit

**Flow-** Sample type has been changed from total daily to continuous to align with the type of flow meter used at the facility.

**BOD<sub>5</sub>-** A line had been added to the monitoring table for reporting BOD<sub>5</sub> concentration data used to calculate mass-based limits. Limits for BOD<sub>5</sub> are unchanged from the previous term.

**Total Suspended Solids-** A line has been added to the monitoring table for reporting the TSS concentration data used to calculate mass-based limits. Limits for TSS are unchanged from previous terms.

**Chlorine-** A daily max limit of 38 ug/L, weekly average limit of 15 ug/L, and monthly average limit of 15 ug/L have been added.

**Nitrogen-** Quarterly monitoring for NO<sub>2</sub>+NO<sub>3</sub>, TKN and Total N has been added to the permit.

**Phosphorus-** limits associated with WQT have been updated.

## 2.1.2 Explanation of Limits and Monitoring Requirements

Refer to the WQBEL and TBEL memos prepared by Benjamin Hartenbower, Water Resources Engineer, dated October 3, 2022 for the detailed calculations used for this reissuance.

**Flow-** Flow is reported in order to assess wastewater strengths and volumes.

**BOD<sub>5</sub>, Total Suspended Solids, pH** - Cheese producers are subject to production-based, categorical limits for BOD<sub>5</sub>, TSS, and pH as outlined in ch. NR 240, Wis. Adm. Code. Additional WQBELs for BOD<sub>5</sub> were calculated in the WQBEL memo for the previous issuance using the Wisconsin Committee on Water Pollution on the Fox, Wisconsin, Oconto, and Flambeau Rivers' 26-lb method. The WQBEL calculated for August during the previous term was more restrictive than the categorical limit for that month, and thus was included in the previous permit. The WQBEL was not recalculated during this permit term.

**Dissolved Oxygen-** The limit of 5 mg/L for dissolved oxygen is set equal to the surface water criteria for waters classified for fish and aquatic life, as outlined in s. NR 102.04(4), Wis. Adm. Code.

**Temperature-** Requirements for Temperature are included in ch. NR 102 Subchapter II, Wis. Adm. Code, Water Quality Standards for Temperature and ch. NR 106 Subchapter V, Wis. Adm. Code, Effluent Limitations for Temperature. Thermal discharges must meet the Public Health criterion of 120 degrees F and the Fish & Aquatic Life criteria which are established to protect aquatic communities from lethal and sub-lethal thermal effects.

**Nitrogen, Ammonia-** Current acute and chronic ammonia toxicity criteria for the protection of aquatic life are included in Tables 2C and 4B of ch. NR 105, Wis. Adm. Code. Subchapter IV of ch. NR 106 establishes the procedure for calculating water quality based effluent limitations (WQBELs) for ammonia.

**Total Nitrogen Monitoring (NO<sub>2</sub>+NO<sub>3</sub>, TKN and Total N):** The department has included effluent monitoring for Total Nitrogen in the permit through the authority under §§ 283.55(1)(e), Wis. Stats., which allows the department to require the permittee to submit information necessary to identify the type and quantity of any pollutants discharged from the point source, and through s. NR 200.065(1)(h), Wis. Adm. Code, which allows for this monitoring to be collected during the permit term. More information on the justification to include total nitrogen monitoring in wastewater permits can be found in the "Guidance for Total Nitrogen Monitoring in Wastewater Permits" dated October 1, 2019.

**Chloride-** Acute and chronic chloride toxicity criteria for the protection of aquatic life are included in Tables 1 and 5 of ch. NR 105, Wis. Adm. Code. Subchapter VII of ch. NR 106 establishes the procedure for calculating water quality based effluent limitations (WQBELs) for chloride. If the permittee's effluent data shows that a calculated WQBEL for chloride cannot be met, then the permit will include a chloride effluent limitation. S. NR 106.83 of subchapter VII also provides for some permittees to obtain temporary relief from a chloride WQBEL through the use of a "chloride variance".

**Chlorine-** Daily limits are set in accordance with Acute Toxicity Criteria. Weekly average limits are based on Chronic Toxicity Criteria. An additional monthly average limit is included in the permit to comply with the expression of limits requirements in ss. NR 106.07 and NR 205.065(7), Wis. Adm. Codes.

**Phosphorus-** Phosphorus requirements are based on the Phosphorus Rules that became effective December 1, 2010 as detailed in NR 102 Water Quality Standards and NR 217 Effluent Standards and Limitations for Phosphorus. Chapter NR 217 of the Wis. Adm. Code addresses point source dischargers of phosphorus to surface waters. Currently in NR 217 Wis. Adm. Code there are two methods used to determine if a phosphorus limit is needed: a technology based effluent limit (TBEL) and a water quality based effluent limit (WQBEL). Based on the size and classification of the stream, the water quality criteria for the North Fork of the Eau Claire River is 0.075 mg/L. In this case, *the WQBEL is 0.18 mg/L (monthly average), 0.06 mg/L & 0.055 lbs/day (6-month average)*. For the reasons explained in the April 30, 2012 paper entitled 'Justification for Use of Monthly, Growing Season and Annual Average Periods for Expression of WPDES Permit Limits for Phosphorus Discharges in Wisconsin', WDNR has determined that it is impracticable to express the phosphorus WQBEL for the permittee as a maximum daily, weekly or monthly value. The final effluent limit for phosphorus is expressed as a 6-month average. It is also expressed as a monthly average equal to three times the derived WQBEL (which equates to 0.3 mg/L). This final effluent limit was derived from and complies with the applicable water

quality criterion. A phosphorus concentration limit is necessary to prevent backsliding during the term of the permit. The TBEL limit of 1.0 mg/L will be retained in the permit.

The wastewater treatment facility is not able to meet the WQBEL. This permit authorizes the use of trading as a tool to demonstrate compliance with the phosphorus WQBELs. This permit includes terms and conditions related to the Water Quality Trading Plan (WQT-2023-0008) or approved amendments thereof. The total ‘WQT TP Credits’ available are designated in the approved WQT Plan. LaGranders is using the conversion of cropland into permanent grassland, unharvested (natural prairie) to generate available credits. The WQT Plan proposes the generation of a range of 104.1 lbs/yr to 120.9 lbs/yr of phosphorus credits for the next five years, per guidance they have opted to use the average offset of 113 lbs/yr. The permit modification replaces the offset range with the average offset of 113 lbs/yr.

Additional WQT subsections in the permit provide information on compliance determinations, annual reporting and re-opening of the permit.

**Whole Effluent Toxicity-** Whole effluent toxicity (WET) testing requirements and limits (if applicable) are determined in accordance with ss. NR 106.08 and NR 106.09 Wis. Adm. Code, as revised August 2016. (See the current version of the Whole Effluent Toxicity Program Guidance Document and checklist and WET information, guidance and test methods at <http://dnr.wi.gov/topic/wastewater/wet.html>)

**Acute** tests are required during the following quarters: January 1- March 31, 2025; and July 1- September 30, 2028.

**Chronic** tests are required during the following quarters: July 1- September 30, 2024; January 1- March 31, 2025; April 1- June 30, 2026, October 1- December 31, 2027; July 1- September 30, 2028, and January 1- March 31, 2029.

**PFOS and PFOA-** NR 106 Subchapter VIII – Permit Requirements for PFOS and PFOA Dischargers became effective on August 1, 2022. Pursuant to s. NR 106.98(3)(b), Wis. Adm. Code, the department evaluated the need for PFOS and PFOA monitoring. Based on information available at the time the proposed permit was drafted, the department has determined the permittee does not need to sample for PFOS or PFOA as part of this permit reissuance. The department may re-evaluate the need for sampling at the next permit reissuance if new information becomes available that suggests PFOS or PFOA may be present in the discharge.

### 3 Land Application - Sludge/ Industrial Wastewater

#### 3.1 Sample Point Number: 002- PROCESS WASTEWATER

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Chloride		mg/L	Quarterly	Grab	
Nitrogen, Total Kjeldahl		mg/L	Quarterly	Grab	

##### 3.1.1 Changes from Previous Permit:

No changes from previous permit.

##### 3.1.2 Explanation of Limits and Monitoring Requirements

Requirements for land application of industrial sludge are determined in accordance with ch. NR 214 Wis. Adm. Code.

### 3.2 Sample Point Number: 003- WHEY PERMEATE WASTEWATER

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Chloride		mg/L	Quarterly	Grab	
Nitrogen, Total Kjeldahl		mg/L	Quarterly	Grab	

#### 3.2.1 Changes from Previous Permit:

No changes from previous permit.

#### 3.2.2 Explanation of Limits and Monitoring Requirements

Requirements for land application of industrial sludge are determined in accordance with ch. NR 214 Wis. Adm. Code.

### 3.3 Sample Point Number: 008- TREATMENT PLANT SLUDGE

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Solids, Total		Percent	Monthly	Grab	
Nitrogen, Total Kjeldahl		Percent	Monthly	Grab	
Chloride		Percent	Monthly	Grab	
pH Field		su	Annual	Grab	
Nitrogen, Ammonium (NH <sub>4</sub> -N) Total		Percent	Annual	Grab	
Phosphorus, Total		Percent	Annual	Grab	
Phosphorus, Water Extractable		% of Tot P	Annual	Grab	
Potassium, Total Recoverable		Percent	Annual	Grab	
PFOA + PFOS		µg/kg	Annual	Calculated	Report the sum of PFOA and PFOS. See PFAS Permit Sections for more information.
PFAS Dry Wt			Annual	Grab	Perfluoroalkyl and Polyfluoroalkyl Substances based on updated DNR PFAS List. See PFAS Permit Sections for more information.

### 3.3.1 Changes from Previous Permit:

PFAS- Annual monitoring is included in the permit pursuant to s. NR 214.18(5)(b), Wis. Adm. Code.

### 3.3.2 Explanation of Limits and Monitoring Requirements

Requirements for land application of industrial sludge are determined in accordance with ch. NR 214 Wis. Adm. Code.

**Water Extractable Phosphorus-** Water extractable phosphorus (WEP) is the coefficient for determining plant available phosphorus from measured total phosphorus. In Wisconsin, the Penn State Method is utilized and is expressed in percent. While a total P may be significant, the WEP may show that only a small percentage of the P is available to plants because of factors such as treatment processes and chemical addition that “tie-up” phosphorus limiting the amount of phosphorus that is plant available. As part of the Wisconsin’s nutrient management plan (NMP) requirements, the accounting of all fertilizers must be included over the NMP cycle. The fertilizer value of the waste needs to be communicated to the farmer and accounted for in the NMP.

**PFAS-** The presence and fate of PFAS in municipal and industrial sludges is an emerging public health concern. EPA is currently developing a risk assessment to determine future land application rates and expects to release this risk assessment by the end of 2024. In the interim, the department has developed the “Interim Strategy for Land Application of Biosolids and Industrial Sludges Containing PFAS”.

Collecting sludge data on PFAS concentrations from a wide range of wastewater treatment facilities will help protect public health from exposure to elevated levels of PFAS and determine the department’s implementation of EPA’s recommendations. To quantitate this risk, PFAS sampling has been included in the proposed WPDES permit pursuant to ss. NR 214.18(5)(b) and NR 204.06(2)(b)9., Wis. Adm. Code.

## 4 Schedules

### 4.1 Annual Water Quality Trading (WQT) Report

Required Action	Due Date
<b>Annual WQT Report:</b> Submit an annual WQT report that shall cover the first year of the permit term. The WQT Report shall include:  The number of pollutant reduction credits (lbs/month) used each month of the previous year to demonstrate compliance;  The source of each month’s pollutant reduction credits by identifying the approved water quality trading plan that details the source;  A summary of the annual inspection of each nonpoint source management practice that generated any of the pollutant reduction credits used during the previous year; and  Identification of noncompliance or failure to implement any terms or conditions of this permit with respect to water quality trading that have not been reported in discharge monitoring reports.	01/31/2025
<b>Annual WQT Report #2:</b> Submit an annual WQT report that shall cover the previous year.	01/31/2026
<b>Annual WQT Report #3:</b> Submit an annual WQT report that shall cover the previous year.	01/31/2027
<b>Annual WQT Report #4:</b> Submit the 4th annual WQT report. If the permittee wishes to continue to comply with phosphorus limits through WQT in subsequent permit terms, the permittee shall submit	01/31/2028

a revised WQT plan including a demonstration of credit need, compliance record of the existing WQT, and any additional practices needed to maintain compliance over time.	
<b>Annual WQT Report #5:</b> Submit the 5th annual WQT report. If the permittee wishes to continue to comply with phosphorus limits through WQT in subsequent permit terms, the permittee shall submit a revised WQT plan including a demonstration of credit need, compliance record of the existing WQT, and any additional practices needed to maintain compliance over time.	01/31/2029
<b>Annual WQT Report Required After Permit Expiration:</b> In the event that this permit is not reissued by the expiration date, the permittee shall continue to submit annual WQT reports by January 31 each year covering the total number of pollutant credits used, the source of the pollution reduction credits, a summary of annual inspection reports performed, and identification of noncompliance or failure to implement any terms or conditions of the approved water quality trading plan for the previous calendar year.	

**Explanation of Schedule:** Reports are required, starting in 2025, that include the following information:

- Verification that site inspections occurred;
- Brief summary of site inspection findings;
- Identification of noncompliance or failure to implement any terms or conditions of the permit or trading plan that have not been reported in discharge monitoring reports;
- Any applicable notices of termination or management practice registration; and
- A summary of credits used each month over the calendar year.

## 5 Attachments:

- Water Quality-Based Effluent Limitations for LaGrander’s Hillside Dairy Inc. WPDES Permit No. WI-0054364, prepared by Benjamin Hartenbower, Water Resources Engineer, October 3, 2022.
- Technology-Based Effluent Limitations for LaGrander’s Hillside Dairy Inc. WPDES Permit No. WI-0054364, prepared by Benjamin Hartenbower, Water Resources Engineer, October 3, 2022.
- Water Quality Trading Plan, LaGrander’s Hillside Dairy, December 15, 2023.
- LaGranders Hillside Dairy - WPDES Permit WI- 0054364 Water Quality Trading Plan – CONDITIONAL APPROVAL, Jenna Monahan, P.E., Wastewater Engineer, February 5, 2026.

## 6 Expiration Date:

March 31, 2029

## 7 Justification Of Any Waivers From Permit Application Requirements

No waivers given for permit application requirements.

**Prepared By:** Amanda Perdsock, Wastewater Specialist

**Date:** January 23, 2024

**Modified By:** Holly Heldstab, Wastewater Specialist

**Date:** February 5, 2026

**Notice of Issuance was published in the Stanley Republican, 200 S Broadway Street, Stanley, WI.**

# CORRESPONDENCE/MEMORANDUM

DATE: October 3, 2022

TO: Amanda Perdzock – WY/3

FROM: Benjamin Hartenbower – WCR/Eau Claire

SUBJECT: Water Quality-Based Effluent Limitations for LaGrander’s Hillside Dairy Inc.  
WPDES Permit No. WI-0054364

This is in response to your request for an evaluation of the need for water quality-based effluent limitations (WQBELs) using chapters NR 102, 104, 105, 106, 207, 210, 212, and 217 of the Wisconsin Administrative Code (where applicable), for the discharge from LaGrander’s Hillside Dairy in Clark County. This industrial discharge is to the North Fork Eau Claire River, located in the North Fork Eau Claire River Watershed in the Lower Chippewa River Basin. The evaluation of the permit recommendations is discussed in more detail in the attached report.

Based on our review, the following recommendations are made on a chemical-specific basis at Outfall 007:

Parameter	Daily Maximum	Daily Minimum	Weekly Average	Monthly Average	Six-Month Average	Footnotes
Flow Rate						1,2
BOD <sub>5</sub> August September – July	17.3 lbs/day 20.8 lbs/day			8.1 lbs/day 10.4 lbs/day		1,3
TSS	26.1 lbs/day			13.1 lbs/day		1,3
pH	9.0 s.u.	6.0 s.u.				1
Dissolved Oxygen		5.0 mg/L				1
Ammonia Nitrogen						2
Chloride						2
Chlorine	38 µg/L		15 µg/L	<b>15 µg/L</b>		4
Phosphorus MCL WQBEL				1.0 mg/L 0.18 mg/L	0.06 mg/L 0.055 lbs/day	5
Temperature January February March June July August September October November December			67 deg F 75 deg F 102 deg F 92 deg F 91 deg F 89 deg F 82 deg F 79 deg F 96 deg F 69 deg F			
TKN, Nitrate+Nitrite, and Total Nitrogen						6

Parameter	Daily Maximum	Daily Minimum	Weekly Average	Monthly Average	Six-Month Average	Footnotes
Acute WET						7
Chronic WET				2.1 TUc		7,8

Footnotes:

1. No changes from the current permit.
2. Monitoring only.
3. The mass limits are categorical limits based on ch. NR 240, Wis. Adm. Code. These limits are not addressed in this memo and may need to be adjusted based on current production.
4. Additional limits to comply with the expression of limits requirements in ss. NR 106.07 and NR 205.065(7), Wis. Adm. Codes, are included in bold.
5. WQT computed compliance limits also require corresponding Minimum Control Levels (MCL) that are to be met at the discharge.
6. As recommended in the Department's October 1, 2019 Guidance for Total Nitrogen Monitoring in Wastewater Permits, quarterly total nitrogen monitoring is recommended for all class A chees plants. Nitrogen is the sum of nitrate (NO<sub>3</sub>), nitrite (NO<sub>2</sub>), and total kjeldahl nitrogen (TKN) (all expressed as N).
7. Two acute and annual chronic WET tests are recommended in the reissued permit. Sampling WET concurrently with any chemical-specific toxic substances is recommended. Tests should be done in rotating quarters, to collect seasonal information about this discharge and should continue after the permit expiration date (until the permit is reissued).
8. The Instream Waste Concentration (IWC) to assess chronic test results is 48%. According to the *State of Wisconsin Aquatic Life Toxicity Testing Methods Manual* (s. NR 219.04, Table A, Wis. Adm. Code), chronic testing shall be performed using a dilution series of 100%, 75%, 50%, 25% & 12.5% and the dilution water used in WET tests conducted on Outfall 007 shall be a grab sample collected from the North Fork Eau Claire River.

Please consult the attached report for details regarding the above recommendations. If there are any questions or comments, please contact Benjamin Hartenbower at (715) 225-4705 or Benjamin.Hartenbower@wisconsin.gov or Diane Figiel at Diane.Figiel@wisconsin.gov.

Attachments (4) – Narrative, 2017 Ammonia Calculations, Thermal Table, & Map

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Attachment #1  
**Water Quality-Based Effluent Limitations for  
 LaGrander's Hillside Dairy Inc.**

**WPDES Permit No. WI-0054364**

Prepared by: Benjamin P. Hartenbower

**PART 1 – BACKGROUND INFORMATION**

**Facility Description**

The LaGrander's Hillside Dairy facility located near Stanley, WI produces American-style cheese from fresh cow's milk. The facility is designed to process 800,000 lbs of milk per day. Whey, which is produced as a by-product of the cheese-making operations, is processed through a fractionation process, which includes ultrafiltration (UF), reverse osmosis (RO), and a polishing system that allows the facility to reuse condensate of whey (COW water) to support operations. The surface water outfall is located at the North Fork Eau Claire River at Broek Rd.

Attachment #4 is a map of the area showing the approximate location of Outfall 007.

**Existing Permit Limitations**

The current permit, expiring on December 31, 2022, includes the following effluent limitations and monitoring requirements.

Parameter	Daily Maximum	Daily Minimum	Weekly Average	Monthly Average	Six-Month Average	Footnotes
Flow Rate						1
BOD <sub>5</sub> August September – July	17.3 lbs/day 20.8 lbs/day			8.1 lbs/day 10.4 lbs/day		2
TSS	26.1 lbs/day			13.1 lbs/day		2
pH	9.0 s.u.	6.0 s.u.				3
Dissolved Oxygen		5.0 mg/L				3
Ammonia Nitrogen						1
Chloride						1
Phosphorus MCL WQBEL				1.0 mg/L 0.18 mg/L	0.06 mg/L 0.075 lbs/day	4
Temperature						5
Acute WET						6
Chronic WET						6

Footnotes:

1. Monitoring only
2. The September-July mass limits are categorical limits based on ch. NR 240, Wis. Adm. Code

Attachment #1

3. These limitations are not being evaluated as part of this review. Because the water quality criteria (WQC), reference effluent flow rates, and receiving water characteristics have not changed, limitations for these water quality characteristics do not need to be re-evaluated at this time.
4. WQT computed compliance limits also require corresponding Minimum Control Levels (MCL) that are to be met at the discharge.
5. Temperature limits became effective July 01, 2020.

Month	Weekly Ave Limit (°F)	Daily Max Limit (°F)	Month	Weekly Ave Limit (°F)	Daily Max Limit (°F)
Jan	67	-	Jul	91	96
Feb	75	-	Aug	89	92
Mar	102	-	Sep	82	95
Apr	-	-	Oct	79	-
May	-	-	Nov	96	-
Jun	92	-	Dec	69	-

6. Acute WET Testing: July-September 2018 and January-March 2022  
Chronic WET Testing: July-September 2018, October-December 2020, and January-March 2022.  
The IWC for chronic WET was 57%

**Receiving Water Information**

- Name: North Fork Eau Claire River
- Waterbody Identification Code (WBIC): 5011570
- Classification used in accordance with chs. NR 102 and 104, Wis. Adm. Code: Warm Water Sport Fish (WWSF) community, non-public water supply.
- Low Flows used in accordance with chs. NR 106 and 217, Wis. Adm. Code: The following 7-Q<sub>10</sub> and 30-Q<sub>5</sub> values are estimated using a drainage area ratio with values from USGS Station 05365707, near Thorp.

7-Q<sub>10</sub> = 0.31 cfs (cubic feet per second)

30-Q<sub>5</sub> = 1.08 cfs

Harmonic Mean Flow = 4.64 cfs using an estimated drainage area of 69 mi<sup>2</sup>

The Harmonic Mean has been estimated based on average flow and the 7-Q<sub>10</sub> using an equation from U.S. EPA's *Technical Support Document for Water Quality-Based Toxics Control* (March 1991, EPA/505/2-90-001, pgs. 88-89).

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>7-Q<sub>10</sub> (cfs)</b>	0.97	1.35	3.15	11.38	4.86	1.39	0.73	0.47	0.61	1.42	4.61	1.24
<b>30-Q<sub>5</sub> (cfs)</b>	2.02	2.62	54.25	69.81	17.86	7.66	5.87	3.92	4.11	6.90	13.53	3.99

- Hardness = 112 mg/L as CaCO<sub>3</sub>. This value represents the geometric mean of data from STORET Station #103026 (1970-1997), n=12
- % of low flow used to calculate limits in accordance with s. NR 106.06(4)(c)5., Wis. Adm. Code: 50%
- Source of background concentration data: Metals data from the Black River at Hemlock is used for this evaluation because there is no data available for the North Fork Eau Claire River. The Black River is within the same ecological landscape so ambient water quality characteristics are expected to be similar. The numerical values are shown in the tables below. If no data is available, the background concentration is assumed to be negligible and a value of zero is used in the computations. Background data for calculating effluent limitations for ammonia nitrogen are described later.
- Multiple dischargers: None
- Impaired water status: The North Fork Eau Claire River is listed as impaired for total phosphorus.

**Effluent Information**

- Flow rate(s):
  - Peak annual average = 0.091 MGD (Million Gallons per Day)
  - Peak daily = 0.199 MGD
  - Peak weekly = 0.131 MGD
  - Peak monthly = 0.110 MGD
- For reference, the average flow from March 2018 to June 2022 was 0.082 MGD.
- Hardness = 83 mg/L as CaCO<sub>3</sub>. This value represents the geometric mean of effluent data from 11/17/2021 to 12/13/2021 (n = 4)
- Acute dilution factor used in accordance with s. NR 106.06(3)(c), Wis. Adm. Code: Not applicable – this facility does not have an approved Zone of Initial Dilution (ZID).
- Water source: Ultrafiltration membrane system process water with water supply from wells
- Additives: Three water quality conditioners (ferric sulfate, sodium hydroxide, and sodium bisulfate)
- Effluent characterization: This facility is categorized as a secondary industry, so the permit application required effluent sample analyses for a limited number of common pollutants, as specified in s. NR 200.065, Table 1, Wis. Adm. Code, primarily metal substances plus hardness. The permit required ammonia nitrogen, chloride, and phosphorus monitoring is used in this evaluation.
- Effluent data for substances for which a single sample was analyzed is shown in the tables in Part 2 below, in the column titled “MEAN EFFL. CONC.”. Otherwise, substances with multiple effluent data are shown in the tables below or in their respective parts in this evaluation.

	Chloride mg/L
1-day P <sub>99</sub>	610
4-day P <sub>99</sub>	478
30-day P <sub>99</sub>	405
Mean	367
Std	85
Sample size	213
Range	32-513

The following table presents the average concentrations and loadings at Outfall 007 from March 2018 to June 2022 for all parameters with limits in the current permit to meet the requirements of s. NR 201.03(6), Wis. Adm. Code:

**Averages of Parameters with Limits**

	Average Measurement	Average Mass Discharged
BOD <sub>5</sub>		1.6 lbs/day
TSS		1.6 lbs/day
pH field	7.36 s.u.	
Dissolved Oxygen	6.93 mg/L	
Phosphorus (MCL)	0.47 mg/L	
Phosphorus (Computed)	0.054 mg/L	0.040 lbs/day
Temperature	83 Deg F	

**PART 2 – WATER QUALITY-BASED EFFLUENT LIMITATIONS  
FOR TOXIC SUBSTANCES – EXCEPT AMMONIA NITROGEN**

Permit limits for toxic substances are required whenever any of the following occur:

1. The maximum effluent concentration exceeds the calculated limit (s. NR 106.05(3), Wis. Adm. Code)
2. If 11 or more detected results are available in the effluent, the upper 99<sup>th</sup> percentile (or P<sub>99</sub>) value exceeds the comparable calculated limit (s. NR 106.05(4), Wis. Adm. Code)
3. If fewer than 11 detected results are available, the mean effluent concentration exceeds 1/5 of the calculated limit (s. NR 106.05(6), Wis. Adm. Code)

**Daily Maximum Limit Calculation Method**

Daily maximum effluent limitations for toxic substances are based on the acute toxicity criteria (ATC), listed in ch. NR 105, Wis. Adm. Code. In accordance with s. NR 106.06(3)(b), limitations based on acute toxicity are either set equal to two times the acute criteria (the final acute value) or calculated using the mass balance equation below, whichever is more restrictive.

$$\text{Limitation} = \frac{(\text{WQC}) (Q_s + (1-f) Q_e) - (Q_s - f Q_e) (C_s)}{Q_e}$$

Where:

WQC = Acute toxicity criterion or secondary acute value according to ch. NR 105, Wis. Adm. Code.

Q<sub>s</sub> = average minimum 1-day flow which occurs once in 10 years (1-day Q<sub>10</sub>)  
if the 1-day Q<sub>10</sub> flow data is not available = 80% of the average minimum 7-day flow which occurs once in 10 years (7-day Q<sub>10</sub>).

Q<sub>e</sub> = Effluent flow (in units of volume per unit time) as specified in s. NR 106.06(4)(d), Wis. Adm. Code.

f = Fraction of the effluent flow that is withdrawn from the receiving water, and

C<sub>s</sub> = Background concentration of the substance (in units of mass per unit volume) as specified in s. NR 106.06(4)(e), Wis. Adm. Code.

In this case, limits set equal to two times the acute criteria are more restrictive and this method is used to calculate the daily maximum limits shown in the table below.

The following tables list the calculated WQBELs for this discharge along with the results of effluent sampling. All concentrations are expressed in terms of micrograms per Liter (µg/L), except for hardness and chloride (mg/L) and mercury (ng/L).

Attachment #1

**Daily Maximum Limits based on Acute Toxicity Criteria (ATC)**

RECEIVING WATER FLOW = 0.25 cfs, (1-Q<sub>10</sub> (estimated as 80% of 7-Q<sub>10</sub>)), as specified in s. NR 106.06(3)(bm), Wis. Adm. Code.

SUBSTANCE	REF. HARD. mg/L	ATC	MEAN BACK-GRD.	MAX. EFFL. LIMIT**	1/5 OF EFFL. LIMIT	MEAN EFFL. CONC.	1-day P <sub>99</sub>	1-day MAX. CONC.
Chlorine		19.0		38.1	7.6	<b>30.00</b>		
Arsenic		340		680	136	<0.989		
Cadmium	83	8.3	0.009	16.6	3.3	<0.025		
Chromium (+3)	83	1548	0.622	3096	619	<0.99		
Chromium (+6)		16.0		32.0	6.4	0.92		
Copper	83	13.0	1.265	26.0	5.2	<0.718		
Lead	83	89	0.178	179	36	<4.3		
Mercury (ng/L)		830		1660	332	<0.43		
Nickel	83	401		802	160	<0.037		
Zinc	83	102	1.710	205	41	<0.020		
Chloride (mg/L)		757	10.0	1514.0			610	513

\*\* The 2 × ATC method of limit calculation yields a more restrictive limit than consideration of ambient concentrations and 1-Q<sub>10</sub> flow rates per the changes to s. NR 106.07(3), Wis. Adm. Code, effective 09/01/2016.

**Weekly Average Limits based on Chronic Toxicity Criteria (CTC)**

RECEIVING WATER FLOW = 0.155 cfs (½ of the 7-Q<sub>10</sub>), as specified in s. NR 106.06(4)(c), Wis. Adm. Code

SUBSTANCE	REF. HARD. mg/L	CTC	MEAN BACK-GRD.	WEEKLY AVE. LIMIT	1/5 OF EFFL. LIMIT	MEAN EFFL. CONC.	4-day P <sub>99</sub>
Chlorine		7.3		15.3	3.1	<b>30.00</b>	
Arsenic		152		320	64	<0.989	
Cadmium	112	2.7	0.009	5.7	1.1	<0.025	
Chromium (+3)	112	145	0.622	305	61	<0.99	
Chromium (+6)		11.0		23.1	4.6	0.92	
Copper	112	11.4	1.265	22.6	4.5	<0.718	
Lead	112	31	0.178	66	13.	<4.3	
Mercury (ng/L)		440		926	185	<0.43	
Nickel	112	57		121	24	<0.037	
Zinc	112	133	1.710	278	56	<0.020	
Chloride (mg/L)		395	10.0	821			478

**Monthly Average Limits based on Wildlife Criteria (WC)**

RECEIVING WATER FLOW = 0.54 cfs (½ of the 30-Q<sub>5</sub>), as specified in s. NR 106.06(4), Wis. Adm. Code

SUBSTANCE	WC	MEAN BACK-GRD.	MO'LY AVE. LIMIT	1/5 OF EFFL. LIMIT	MEAN EFFL. CONC.	30-day P <sub>99</sub>
Mercury (ng/L)	1.30		6.31	1.26	<0.43	

**Monthly Average Limits based on Human Threshold Criteria (HTC)**

RECEIVING WATER FLOW = 2.32 cfs (½ of Harmonic Mean), as specified in s. NR 106.06(4), Wis. Adm. Code.

SUBSTANCE	HTC	MEAN BACK-GRD.	MO'LY AVE. LIMIT	1/5 OF EFFL. LIMIT	MEAN EFFL. CONC.
Antimony	373		6549	1310	0.88
Cadmium	370	0.009	6496	1299	<0.025
Chromium (+3)	3818000	0.622	67037772	13407554	<0.99
Chromium (+6)	7636		134076	26815	0.92
Lead	140	0.178	2455	491	<4.3
Mercury (ng/L)	1.5		26.3	5.3	<0.43
Nickel	43000		755009	151002	<0.037

**Monthly Average Limits based on Human Cancer Criteria (HCC)**

RECEIVING WATER FLOW = 2.32 cfs (½ of Harmonic Mean), as specified in s. NR 106.06(4), Wis. Adm. Code.

SUBSTANCE	HCC	MEAN BACK-GRD.	MO'LY AVE. LIMIT	1/5 OF EFFL. LIMIT	MEAN EFFL. CONC.
Arsenic	13		234	25	<0.989

In addition to evaluating the need for limits for each individual substance for which HCC exist, s. NR 106.06(8), Wis. Adm. Code, requires the evaluation of the cumulative cancer risk. Because no effluent limits are needed based on HCC, determination of the cumulative cancer risk is not needed per s. NR 106.06(8), Wis. Adm. Code.

**Conclusions and Recommendations**

Based on a comparison of the effluent data and calculated effluent limitations, effluent limitations are required for chlorine.

Chlorine - Available data/information indicates the discharge contains concentrations of chlorine or halogen above the applicable WQBELs. Therefore, a daily maximum effluent limit of 38 µg/L and a weekly average limit of 15 µg/L are needed for permit reissuance.

Sections NR 106.07(4) and NR 205.067(7), Wis. Adm. Code require WPDES permits contain daily maximum and monthly average limitations for whenever practicable and necessary to protect water quality. **Therefore a monthly average limit of 15 µg/L is required** to meet expression of limits requirements in addition to the daily max and weekly average limits.

PFOS and PFOA

The need for PFOS and PFOA monitoring is evaluated in accordance with s. NR 106.98, Wis. Adm. Code. Based on the type of discharge, it is unlikely that the effluent will contain PFOS or PFOA.

**Therefore, monitoring is not recommended.** If future sampling information of the effluent or source water indicates the presence of PFOS or PFOA, the monitoring requirements may change.

### **PART 3 – WATER QUALITY-BASED EFFLUENT LIMITATIONS FOR AMMONIA NITROGEN**

The State of Wisconsin promulgated revised water quality standards for ammonia nitrogen in ch. NR 105, Wis. Adm. Code, effective March 1, 2004 which includes criteria based on both acute and chronic toxicity to aquatic life. Given the fact that the LaGrander's Hillside Dairy Inc. does not currently have ammonia nitrogen limits, the need for limits is evaluated at this time.

#### **Daily Maximum Limits based on Acute Toxicity Criteria (ATC)**

Daily maximum limitations are based on acute toxicity criteria in ch. NR 105, Wis. Adm. Code, which are a function of the effluent pH and the receiving water classification. The acute toxicity criterion (ATC) for ammonia is calculated using the following equation:

$$\text{ATC in mg/L} = [A \div (1 + 10^{(7.204 - \text{pH})})] + [B \div (1 + 10^{(\text{pH} - 7.204)})]$$

Where:

A = 0.411 and B = 58.4 for a Warm Water Sport fishery, and  
pH (s.u.) = that characteristic of the effluent.

The effluent pH data was examined as part of this evaluation. A total of 954 sample results were reported from March 2018 to July 2022. The maximum reported value was 8.10 s.u. (Standard pH Units). The effluent pH was 7.90 s.u. or less 99% of the time. The 1-day P<sub>99</sub>, calculated in accordance with s. NR 106.05(5), Wis. Adm. Code, is 8.00 s.u. The mean plus the standard deviation multiplied by a factor of 2.33, an estimate of the upper ninety ninth percentile for a normally distributed dataset, is 7.98 s.u. Therefore, a value of 8.00 s.u. is believed to represent the maximum reasonably expected pH, and therefore most appropriate for determining daily maximum limitations for ammonia nitrogen. Substituting a value of 8.00 s.u. into the equation above yields an ATC = 8.41 mg/L.

#### **Daily Maximum Ammonia Nitrogen Effluent Limitations Calculation Method**

In accordance with s. NR 106.32(2), Wis. Adm. Code daily maximum ammonia limitations are either set equal to two times the acute criteria (the final acute value) or calculated using the mass balance equation in s. NR 106.32(2)(e), Wis. Adm. Code.

In this case, limits set equal to two times the acute criteria are more restrictive. This method is used to calculate the daily maximum limit of **17 mg/L**.

Presented below is a table of daily maximum limitations corresponding to various effluent pH values updated using the 1-Q<sub>10</sub>. Use of this table is not necessarily recommended in the permit, but it is presented herein for informational purposes.

**Daily Maximum Ammonia Nitrogen Limits – WWSF, WWFF & LFF**

Effluent pH s.u.	Limit mg/L	Effluent pH s.u.	Limit mg/L	Effluent pH s.u.	Limit mg/L
6.0 ≤ pH ≤ 6.1	108	7.0 < pH ≤ 7.1	66	8.0 < pH ≤ 8.1	14
6.1 < pH ≤ 6.2	106	7.1 < pH ≤ 7.2	59	8.1 < pH ≤ 8.2	11
6.2 < pH ≤ 6.3	104	7.2 < pH ≤ 7.3	52	8.2 < pH ≤ 8.3	9.4
6.3 < pH ≤ 6.4	101	7.3 < pH ≤ 7.4	46	8.3 < pH ≤ 8.4	7.8
6.4 < pH ≤ 6.5	98	7.4 < pH ≤ 7.5	40	8.4 < pH ≤ 8.5	6.4
6.5 < pH ≤ 6.6	94	7.5 < pH ≤ 7.6	34	8.5 < pH ≤ 8.6	5.3
6.6 < pH ≤ 6.7	89	7.6 < pH ≤ 7.7	29	8.6 < pH ≤ 8.7	4.4
6.7 < pH ≤ 6.8	84	7.7 < pH ≤ 7.8	24	8.7 < pH ≤ 8.8	3.7
6.8 < pH ≤ 6.9	78	7.8 < pH ≤ 7.9	20	8.8 < pH ≤ 8.9	3.1
6.9 < pH ≤ 7.0	72	7.9 < pH ≤ 8.0	17	8.9 < pH ≤ 9.0	2.6

**Weekly and Monthly Average Limits based on Chronic Toxicity Criteria (CTC)**

The weekly and monthly average ammonia nitrogen limits calculation from the previous memo are **more restrictive** because they were based on a greater effluent flow rate. There have been no changes to the receiving water flow rates, so reasonable potential will be assessed using the calculations from the previous WQBEL memo which are shown in attachment #2.

**Effluent Data**

The following table evaluates the statistics based upon ammonia data reported from March 2018 to July 2022, with those results being compared to the calculated limits to determine the need to include ammonia limits in the La Grandeur’s Hillside Dairy Inc. permit for the respective month ranges. That need is determined by calculating 99<sup>th</sup> upper percentile (or P<sub>99</sub>) values for ammonia during each of the month ranges and comparing the daily maximum values to the daily maximum limit.

**Ammonia Nitrogen Effluent Data**

	Ammonia Nitrogen mg/L
1-day P <sub>99</sub>	14.59
4-day P <sub>99</sub>	9.45
30-day P <sub>99</sub>	3.94
Mean	1.33
Std	4.11
Sample size	209
Range	0.04 - 37

Based on this comparison, **no limits are needed however continued monitoring is recommended.**

## PART 4 – PHOSPHORUS

### Water Quality-Based Effluent Limits (WQBEL)

Revisions to administrative rules regulating phosphorus took effect on December 1, 2010. These rule revisions include additions to s. NR 102.06, Wis. Adm. Code, which establish phosphorus standards for surface waters. Subchapter III of NR 217, Wis. Adm. Code, establishes procedures for determining WQBELs for phosphorus, based on the applicable standards in ch. NR 102, Wis. Adm. Code.

Section NR 102.06(3)(a), Wis. Adm. Code, specifically names river segments for which a phosphorus criterion of 0.100 mg/L applies. For other stream segments that are not specified in s. NR 102.06(3)(a), Wis. Adm. Code, s. NR 102.06(3)(b), Wis. Adm. Code, specifies a phosphorus criterion of 0.075 mg/L. The phosphorus criterion of 0.075 mg/L applies for the North Fork Eau Claire River.

The current **WQBEL for Phosphorus is 0.060 mg/L** with a corresponding mass limit of 0.075 lbs/day, both expressed as six-month averages. A **monthly limit of 0.180 mg/L** equal to three times the WQBEL is also in the permit. The concentration limit is below the criterion of 0.075 mg/L because the requirements of s. NR 217.13(8)(b), Wis. Adm. Code were imposed to a new surface water discharger to a phosphorus impaired water. The mass limit was calculated based on the previous estimated discharge rate of 0.15 million gallons/year.

In accordance with s. NR 217.13(2)(c), Wis. Adm. Code, this mass limit needs to be adjusted using the maximum 365 day rolling average or maximum 30 day rolling average. Using the peak monthly average of 0.110 MGD, the updated mass limit is **(0.060 mg/L × 8.34 × 0.110 MGD = 0.055 lbs/day)**.

## PART 5 – WATER QUALITY-BASED EFFLUENT LIMITATIONS FOR THERMAL

Surface water quality standards for temperature took effect on October 1, 2010. These regulations are detailed in chs. NR 102 (Subchapter II – Water Quality Standards for Temperature) and NR 106 (Subchapter V – Effluent Limitations for Temperature) of the Wisconsin Administrative Code. Daily maximum and weekly average temperature criteria are available for the 12 different months of the year depending on the receiving water classification.

In accordance with s. NR 106.53(2)(b), Wis. Adm. Code, the highest daily maximum flow rate for a calendar month is used to determine the acute (daily maximum) effluent limitation. In accordance with s. NR 106.53(2)(c), Wis. Adm. Code, the highest 7-day rolling average flow rate for a calendar month is used to determine the sub-lethal (weekly average) effluent limitation. These values were based off actual flow reported from March 2018 to June 2022.

The table below summarizes the maximum temperatures reported during monitoring from March 2018 to June 2022

**Monthly Temperature Effluent Data & Limits**

Month	Representative Highest Monthly Effluent Temperature		Calculated Effluent Limit		Current Effluent Limit	
	Weekly Maximum	Daily Maximum	Weekly Average Effluent Limitation	Daily Maximum Effluent Limitation	Weekly Average Effluent Limitation	Daily Maximum Effluent Limitation
	(°F)	(°F)	(°F)	(°F)	(°F)	(°F)
JAN	72	75	93	120	<b>67</b>	
FEB	74	76	111	120	<b>75</b>	
MAR	79	80	NA	120	<b>102</b>	
APR	82	86	NA	120		
MAY	88	90	NA	120		
JUN	88	91	110	120	<b>92</b>	
JUL	91	92	103	109	<b>91</b>	<b>96</b>
AUG	90	90	101	101	<b>89</b>	<b>92</b>
SEP	88	90	97	113	<b>82</b>	<b>95</b>
OCT	85	86	106	120	<b>79</b>	
NOV	84	88	NA	120	<b>96</b>	
DEC	79	82	103	120	<b>69</b>	

**Reasonable Potential**

Permit limits for temperature are recommended based on the procedures in s. NR 106.56, Wis. Adm. Code.

- An acute limit for temperature is recommended for each month in which the representative daily maximum effluent temperature for that month exceeds the acute WQBEL. The representative daily maximum effluent temperature is the greater of the following:
  - (a) The highest recorded representative daily maximum effluent temperature
  - (b) The projected 99th percentile of all representative daily maximum effluent temperatures
- A sub-lethal limitation for temperature is recommended for each month in which the representative weekly average effluent temperature for that month exceeds the weekly average WQBEL. The representative weekly average effluent temperature is the greater of the following:
  - (a) The highest weekly average effluent temperature for the month.
  - (b) The projected 99th percentile of all representative weekly average effluent temperatures for the month

Comparing the representative highest effluent temperature to the calculated effluent limits determines the reasonable potential of exceeding the effluent limits. The months in which limitations are recommended are shown in bold. Based on this analysis, temperature maximum limits would not be necessary. Effluent flow rates have decreased since the current thermal limits were calculated. **However, as the limits already became effective in 2020, current temperature limits and monitoring are recommended to continue.**

## PART 6 – WHOLE EFFLUENT TOXICITY (WET)

WET testing is used to measure, predict, and control the discharge of toxic materials that may be harmful to aquatic life. In WET tests, organisms are exposed to a series of effluent concentrations for a given time and effects are recorded. Decisions below related to the selection of representative data and the need for WET limits were made according to ss. NR 106.08 and 106.09, Wis. Adm. Code. WET monitoring frequency and toxicity reduction evaluation (TRE) recommendations were made using the best professional judgment of staff familiar with the discharge after consideration of the guidance in the *Whole Effluent Toxicity (WET) Program Guidance Document (October 29, 2019)*.

- Acute tests predict the concentration that causes lethality of aquatic organisms during a 48 to 96-hour exposure. To assure that a discharge is not acutely toxic to organisms in the receiving water, WET tests must produce a statistically valid LC<sub>50</sub> (Lethal Concentration to 50% of the test organisms) greater than 100% effluent, according to s. NR 106.09(2)(b), Wis. Adm Code.
- Chronic tests predict the concentration that interferes with the growth or reproduction of test organisms during a seven-day exposure. To assure that a discharge is not chronically toxic to organisms in the receiving water, WET tests must produce a statistically valid IC<sub>25</sub> (Inhibition Concentration) greater than the instream waste concentration (IWC), according to s. NR 106.09(3)(b), Wis. Adm Code. The IWC is an estimate of the proportion of effluent to total volume of water (receiving water + effluent). The IWC for chronic WET was 57% during the last permit term. The updated IWC of 48% shown in the WET Checklist summary below was calculated according to the following equation, as specified in s. NR 106.03(6), Wis. Adm Code:

$$\text{IWC (as \%)} = Q_e \div \{(1 - f) Q_e + Q_s\} \times 100$$

Where:

Q<sub>e</sub> = annual average flow = 0.091 MGD = 0.140 cfs

f = fraction of the Q<sub>e</sub> withdrawn from the receiving water = 0

Q<sub>s</sub> = ½ of the 7-Q<sub>10</sub> = 0.31 cfs ÷ 2 = 0.155 cfs

- The new IWC is lower than the previous calculation because the updated peak annual flow of 0.091 MGD was used instead of the estimated annual design flow of 0.150 MGD.
- According to the *State of Wisconsin Aquatic Life Toxicity Testing Methods Manual* (s. NR 219.04, Table A, Wis. Adm. Code), a synthetic (standard) laboratory water may be used as the dilution water and primary control in acute WET tests, unless the use of different dilution water is approved by the Department prior to use. The primary control water must be specified in the WPDES permit.
- According to the *State of Wisconsin Aquatic Life Toxicity Testing Methods Manual* (s. NR 219.04, Table A, Wis. Adm. Code), receiving water must be used as the dilution water and primary control in chronic WET tests, unless the use of different dilution water is approved by the Department prior to use. The dilution water used in WET tests conducted on Outfall 007 shall be a grab sample collected from the receiving water location, upstream and out of the influence of the mixing zone and any other known discharge. The specific receiving water location must be specified in the WPDES permit.

Attachment #1

- Shown below is a tabulation of all available WET data for Outfall 007. Efforts are made to ensure that decisions about WET monitoring and limits are made based on representative data, as specified in s. NR 106.08(3), Wis. Adm Code. Data which is not believed to be representative of the discharge was not included in reasonable potential calculations. The table below differentiates between tests used and not used when making WET determinations.

**WET Data History**

Date Test Initiated	Acute Results LC <sub>50</sub> %				Chronic Results IC <sub>25</sub> %					Footnotes or Comments
	<i>C. dubia</i>	Fathead minnow	Pass or Fail?	Used in RP?	<i>C. dubia</i>	Fathead Minnow	Algae (IC <sub>50</sub> %)	Pass or Fail?	Use in RP?	
09/25/2018	>100	>100	Pass	Yes	<b>33.2</b>	>100		Fail	Yes	
12/11/2018					>100	>100		Pass	Yes	
12/15/2020					3.7	>100		Pass	No	1
03/02/2021					<b>90.5</b>	>100		Pass	Yes	
03/16/2021					<b>78.5</b>	>100		Pass	Yes	
06/07/2022	>100	>100	Pass	Yes	>100	>100		Pass	Yes	

Footnotes:

1. *Qualified or Inconclusive Data.* Data quality concerns were noted during testing which calls into question the reliability of the test results. The receiving water control performed poorly and impacted effluent concentrations.
- According to s. NR 106.08, Wis. Adm. Code, WET reasonable potential is determined by multiplying the highest toxicity value that has been measured in the effluent by a safety factor, to predict the likelihood (95% probability) of toxicity occurring in the effluent above the applicable WET limit. The safety factor used in the equation changes based on the number of toxicity detects in the dataset. The fewer detects present, the higher the safety factor, because there is more uncertainty surrounding the predicted value. **WET limits must be given, according to s. NR 106.08(6), Wis. Adm. Code, whenever the applicable Reasonable Potential equation results in a value greater than 1.0.**

$$\text{Acute Reasonable Potential} = [(TU_a \text{ effluent}) (B)(AMZ)]$$

According to s. NR 106.08(6)(d), Wis. Adm. Code, TU<sub>a</sub> and TU<sub>c</sub> effluent values are equal to zero whenever toxicity is not detected (i.e. when the LC<sub>50</sub>, IC<sub>25</sub> or IC<sub>50</sub> ≥ 100%).

Acute Reasonable Potential = 0 < 1.0, reasonable potential is not shown, and a limit is not required.

$$\text{Chronic Reasonable Potential} = [(TU_c \text{ effluent}) (B)(IWC)]$$

**Chronic WET Limit Parameters**

TU <sub>c</sub> (maximum) 100/IC <sub>25</sub>	B (multiplication factor from s. NR 106.08(6)(c), Wis. Adm. Code, Table 4)	IWC
100/33.2 = 3.01 TU <sub>c</sub>	3.0 Based on 3 detects	48%

Attachment #1  
 $[(TU_c \text{ effluent}) (B)(IWC)] = 4.3 > 1.0$

Therefore, reasonable potential is shown chronic WET limits using the procedures in s. NR 106.08(6) and representative data from 2018 to 2022.

Expression of WET limits

Chronic WET limit =  $[100/IWC] TU_c = 2.1 TU_c$  expressed as a monthly average

The WET checklist was developed to help DNR staff make recommendations regarding WET limits, monitoring, and other related permit conditions. The checklist indicates whether acute and chronic WET limits are needed, based on requirements specified in s. NR 106.08, Wis. Adm. Code. The checklist steps the user through a series of questions, assesses points based on the potential for effluent toxicity, and suggests monitoring frequencies based on points accumulated during the checklist analysis. As toxicity potential increases, more points accumulate, and more monitoring is recommended to ensure that toxicity is not occurring. A summary of the WET checklist analysis completed for this permittee is shown in the table below. Staff recommendations based on best professional judgment are provided below the summary table. For guidance related to reasonable potential and the WET checklist, see Chapter 1.3 of the WET Guidance Document: <https://dnr.wisconsin.gov/topic/Wastewater/WET.html>.

**WET Checklist Summary**

	<b>Acute</b>	<b>Chronic</b>
<b>AMZ/IWC</b>	Not Applicable. <b>0 Points</b>	IWC = 48%. <b>10 Points</b>
<b>Historical Data</b>	Two tests used to calculate RP. No tests failed. <b>0 Points</b>	Five tests used to calculate RP. One test failed. <b>0 Points</b>
<b>Effluent Variability</b>	Little variability, no violations or upsets, consistent WWTF operations. <b>0 Points</b>	Same as Acute. <b>0 Points</b>
<b>Receiving Water Classification</b>	WWSF (5 pts) <b>5 Points</b>	Same as Acute. <b>5 Points</b>
<b>Chemical-Specific Data</b>	Reasonable potential for limits for Chlorine based on ATC; (5 pts) Ammonia, Chloride, and Chromium detected. (3 pts) Additional Compounds of Concern: None <b>8 Points</b>	Reasonable potential limits for Chlorine based on CTC; (5 pts) Ammonia, Chloride, and Chromium detected. (3 pts) Additional Compounds of Concern: None <b>8 Points</b>
<b>Additives</b>	Three Water Quality Conditioners added. (3 pts) P treatment chemical other than Ferric Chloride (FeCl), Ferrous Sulfate (FeSO <sub>4</sub> ), or alum used: No <b>3 Points</b>	All additives used more than once per 4 days. <b>3 Points</b>
<b>Discharge Category</b>	Cheese Production (5 pts) <b>5 Points</b>	Same as Acute. <b>5 Points</b>
<b>Wastewater Treatment</b>	Secondary or Better <b>0 Points</b>	Same as Acute. <b>0 Points</b>

## Attachment #1

	<b>Acute</b>	<b>Chronic</b>
<b>Downstream Impacts</b>	No impacts known <b>0 Points</b>	Same as Acute. <b>0 Points</b>
<b>Total Checklist Points:</b>	<b>21 Points</b>	<b>31 Points</b>
<b>Recommended Monitoring Frequency (from Checklist):</b>	2 tests during permit term (year 2, 4, 6, etc.)	1x yearly
<b>Limit Required?</b>	No	Yes Limit = 2.1 TU <sub>c</sub>
<b>TRE Recommended? (from Checklist)</b>	No	No

- After consideration of the guidance provided in the Department's WET Program Guidance Document (2019) and other information described above two acute and annual chronic WET tests are recommended in the reissued permit. Tests should be done in rotating quarters to collect seasonal information about this discharge. WET testing should continue after the permit expiration date (until the permit is reissued).
- According to the requirements specified in s. NR 106.08, Wis. Adm. Code, a chronic WET limit is required. The chronic WET limit shall be expressed as 2.1 TU<sub>c</sub> as a monthly average in the effluent limits table of the permit.
- A minimum of annual chronic monitoring is required because a chronic, or acute and chronic WET limit is required. Federal regulations in 40 CFR Part 122.44(i) require that monitoring occur at least once per year when a limit is present.

Ammonia Nitrogen Calculations from the November 2<sup>nd</sup>, 2017 WQBEL Memo**Ammonia (as N) Limits**

Effluent Flow (mgd): 0.15

Effluent Flow (cfs): 0.232

**Background Information:**

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
7Q10 (cfs)	0.97	1.35	3.15	11.38	4.86	1.39	0.73	0.47	0.61	1.42	4.61	1.24
7Q2 (cfs)	2.02	2.62	54.25	69.81	17.86	7.66	5.87	3.92	4.11	6.9	13.53	3.99
Ammonia (mg/L) (1)	0.21	0.21	0.21	0.07	0.07	0.04	0.04	0.04	0.06	0.06	0.06	0.21
Temperature (deg C) (2)	0.6	1.1	3.3	8.9	14.4	18.9	20.6	19.4	15.6	10.0	4.4	1.7
pH (std. units) (3)	7.5	7.5	7.5	7.5	8.00	8	8	8	8	7.5	7.5	7.50
% of river flow used:	50	50	50	50	50	100	100	100	50	50	50	50
Reference weekly flow:	0.2425	0.3375	0.7875	2.845	2.43	1.39	0.73	0.47	0.305	0.355	1.1525	0.31
Reference monthly flow:	0.4	0.6	11.5	14.8	7.6	6.5	5.0	3.3	1.7	1.5	2.9	0.8

**Criteria (mg/L):**

4-day Chronic (@ backgrd. pH):

early life stages present 10.91

early life stages absent 10.91

30-day Chronic (@ backgrd. pH)

early life stages present 4.36

early life stages absent 4.36

**Effluent Limits at Full Assimilative Capacity (mg/L):**

Weekly average 33

Monthly average 20

(1) Default data 84

(2) Default data 417

(3) NF Eau Claire River data 24

277

553

69

80

32

52

17

36

13

27

13

19

13

19

193

181

57

5.84

7.09

7.09

14.60

17.71

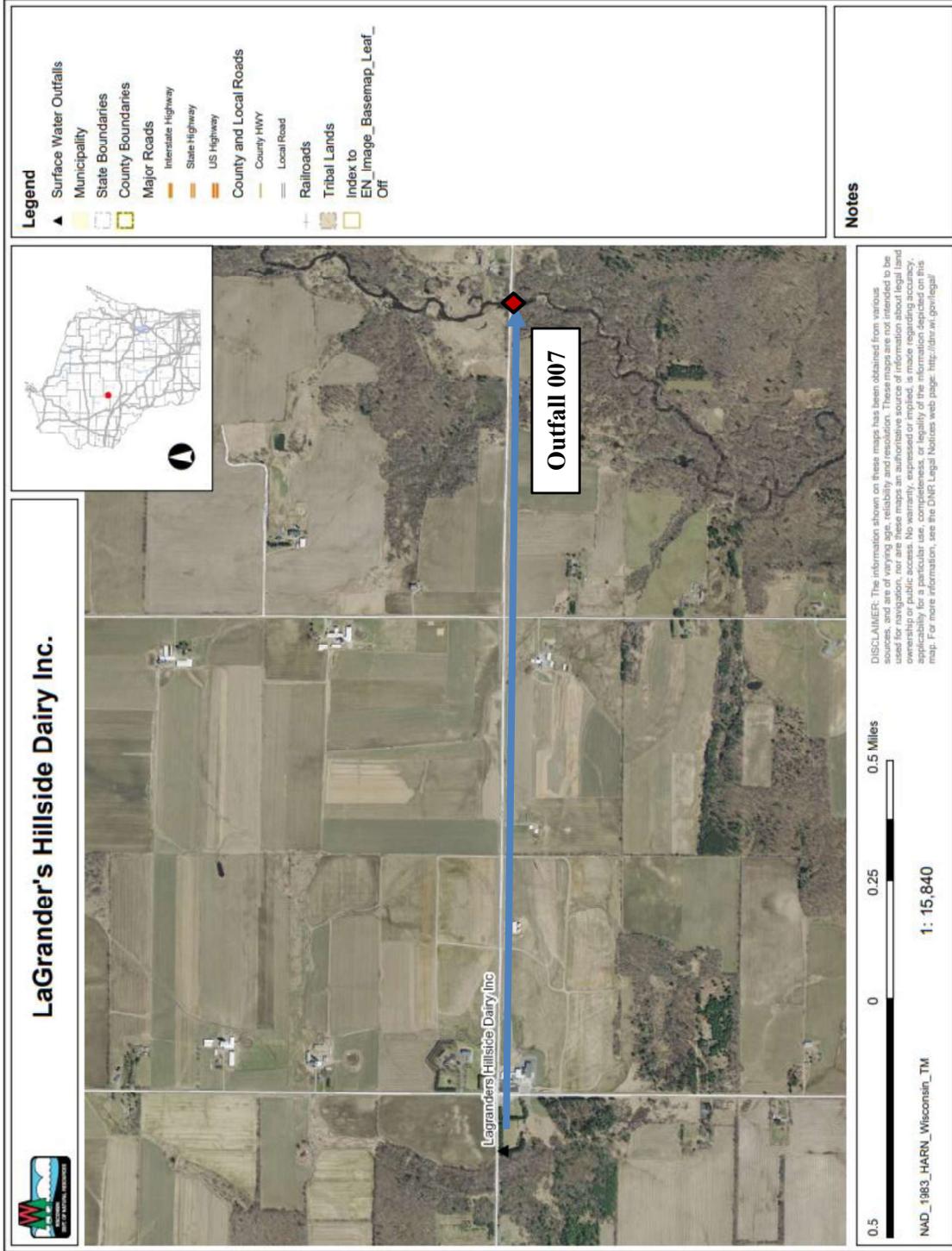
17.71

### Temperature limits for receiving waters with unidirectional flow

(calculation using default ambient temperature data)

<b>Facility:</b>	LaGrander's Hillside Dairy Inc	<b>7-Q<sub>10</sub>:</b>	Variable	<b>Flow Dates</b>	03/27/18
<b>Outfall(s):</b>	007	<b>Dilution:</b>	50%	<b>Start:</b>	03/27/18
<b>Date Prepared:</b>	08/24/2022	<b>f:</b>	0	<b>End:</b>	06/30/22
<b>Design Flow (Qe):</b>	0.09 MGD	<b>Stream type:</b>	Small warm water sport or forage fish community		
<b>Storm Sewer Dist.</b>	0 ft	<b>Qs:Qe ratio:</b>	1.1		
		<b>Calculation Needed?</b>	YES		

Month	Water Quality Criteria		Receiving Water Flow Rate (Qs) (cfs)	Representative Highest Effluent Flow Rate (Qe) (MGD)		Representative Highest Effluent Temperature		Calculated Effluent Limit	
	Ta (default) (°F)	Sub-Lethal WQC (°F)		Acute WQC (°F)	7-day Rolling Average (Qesl) (MGD)	Daily Maximum Flow Rate (Qea) (MGD)	Weekly Average (°F)	Daily Maximum (°F)	Weekly Average Effluent Limit (°F)
JAN	33	49	76	0.114	0.134	0	72	93	120
FEB	34	50	76	0.114	0.153	0	74	111	120
MAR	38	52	77	0.117	0.165	0	79	NA	120
APR	48	55	79	0.108	0.179	0	82	NA	120
MAY	58	65	82	0.113	0.199	0	88	NA	120
JUN	66	76	84	0.131	0.198	0	88	110	120
JUL	69	81	85	0.129	0.160	0	91	103	109
AUG	67	81	84	0.106	0.153	0	90	101	101
SEP	60	73	82	0.108	0.140	0	88	97	113
OCT	50	61	80	0.112	0.140	0	85	106	120
NOV	40	49	77	0.111	0.144	0	84	NA	120
DEC	35	49	76	0.105	0.151	0	79	103	120



DATE: October 3, 2022

TO: Amanda Perdsock – WY/3

FROM: Benjamin Hartenbower – WCR/Eau Claire

SUBJECT: Technology-Based Effluent Limitations for LaGrandier's Hillside Dairy Inc.  
WPDES Permit No. WI-0054364

**Technology-Based Effluent Limitations (TBELs) Recommended for Outfall 007:**

<b>Parameter</b>	<b>Daily Maximum</b>	<b>Daily Minimum</b>	<b>Monthly Average</b>
BOD <sub>5</sub> , Total	20.8 lbs/day		10.4 lbs/day
TSS	26.1 lbs/day		13.1 lbs/day
pH	9.0 su	6.0 su	

**PART 1 – BACKGROUND INFORMATION**

The LaGrander's Hillside Dairy facility located near Stanley, WI produces American-style cheese from fresh cow's milk. The facility is designed to process 800,000 lbs of milk per day. Whey, which is produced as a by-product of the cheese-making operations, is processed through a fractionation process, which includes ultrafiltration (UF), reverse osmosis (RO), and a polishing system that allows the facility to reuse condensate of whey (COW water) to support operations. The surface water outfall is located at the North Fork Eau Claire River at Broek Rd.

**PART 2 – INDUSTRIAL CATEGORIES**

Chapter NR 240, Wis. Adm. Code, specifies effluent guidelines for discharges from dairy product categories of point sources and subcategories. LaGrander's Hillside Dairy Inc. would fall under the "Natural and Processed Cheese" and "Condensed Whey" subcategories as defined in s. NR 240.02, Wis. Adm. Code. These guidelines are based on federal effluent guidelines in 40 CFR Part 405 Subparts F and K. The permittee must meet the applicable effluent limit guidelines as described in this chapter. These effluent limit guidelines include:

- Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT) in s. NR 240.10, Wis. Adm. Code.
- Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT) in s. NR 240.11, Wis. Adm. Code.
- If determined to be a new source, new source performance standards (NSPS) in s. NR 240.12, Wis. Adm. Code.

If the calculated limits are less than or equal to the limits in the current permit, then the limits would be set equal to the recalculated limits. If the recalculated limits are less restrictive than the limits from the current permit, they cannot be increased unless the the antidegradation and anti-backsliding provisions of ch. NR 207, Wis. Adm. Code, are met.

Section NR 220.13, Wis. Adm. Code, includes provisions that address cases where federal and state rule differ. Section 283.11, Wis. Stats., address compliance with federal standards. In this case, the state rules are consistent with federal rules with a few exceptions. In such cases, the permit will in all cases be based on the state rule notwithstanding the federal regulations. The omissions are described below.

- The state or federal rules do not specify a date for the definition for a new source. Therefore, it is necessary to review available federal guidance. The Boornazian memo (September 28, 2006) specifies a new source date for 40 CFR Part 405 Subparts A – L of May 28, 1974. The Department relies on the Boornazian memo to establish date of applicability for NSPS.
- State rules incorrectly list best available treatment (BAT) standards for BOD, TSS, and pH. BAT applies to priority pollutants and nonconventional pollutants and does not apply to BOD, TSS or pH.
- The federal standard rule lists revised BCT standards requirements. All BCT limitations are set to be the same as the best practicable control technology (BPT) standards. State rules in ch. NR 240, Wis. Adm. Code, do not list standards for BCT.

### PART 3 – LEVELS OF CONTROL

All production lines have processes which construction commenced after May 28, 1974. Therefore, the process wastewater from these lines is subject to BPT, BCT, BAT and NSPS standards for the “Natural and Processed Cheese” and “Condensed Whey” subcategory are applicable as specified in 40 CFR Part 405 Subparts F and K and ch. NR 240.12, Wis. Adm. Code.

### PART 4 – CURRENT PRODUCTION LEVELS

The current levels of production for each Subcategory are provided by LaGrandier’s Hillside Dairy Inc.

#### Cheese

Process	Material Used (lbs/day)	Material Used (lbs/month)
Cheese	800,000	24,000,000

#### Condensed Whey

Process	Material Used (lbs/day)	Material Used (lbs/month)
Condensed Whey	720,000	21,600,000

### PART 5 – BOD INPUT

The BOD<sub>5</sub> input is the 5-day biochemical oxygen demand of raw materials that enter the process. The current production levels in Part 4 are converted to BOD input equivalents by multiplying the amount of raw material by BOD factors specified in s. NR 240.03(1) or s. NR 240.07 Wis. Adm. Code and 40 CFR Part 405.

#### Cheese

Process	Material Used (lbs/month)	BOD Factor <sup>1</sup> (lbs/100 lbs)	Adjusted Total BOD Input <sup>2</sup> (lbs/month)	Adjusted Total BOD Input <sup>3</sup> (lbs/day)
Condensed Whey	24,000,000	10.39	2,493,600	83,120
<b>Total</b>				<b>83,120</b>

#### Condensed Whey

Process	Material Used (lbs/month)	BOD Factor <sup>1</sup> (lbs/100 lbs)	Adjusted Total BOD Input <sup>2</sup> (lbs/month)	Adjusted Total BOD Input <sup>3</sup> (lbs/day)
Condensed Whey	21,600,000	4.72	1,019,520	33,984
<b>Total</b>				<b>33,984</b>

Footnotes:

1. The BOD Factors are listed in ch. NR 240.07 Wis. Adm. Code, Table 1 for generally accepted published values for protein, fat, and carbohydrate content.
2. Adjusted Total BOD input = BOD input \* BOD factor / 100
3. BOD input (lbs/day) = adjusted BOD input (lbs/month) / 30 days

## PART 6 – TBEL CALCULATIONS FOR NATURAL AND PROCESSED CHEESE

### pH

Any discharge subject to BPT, BCT, or NSPS limitations or standards in this part must remain within the pH range of 6.0 to 9.0.

### New Source Performance Standards (NSPS)

The production process for Cheese commenced construction after May 28<sup>th</sup>, 1974. Therefore, the NSPS limitations of 40 CFR Part 405.65 would apply.

Total BOD Input (lbs/day)	NSPS Effluent Limitations				Calculated Limits			
	BOD (lbs/1,000 lbs)		TSS (lbs/1,000 lbs)		BOD (lbs/day) <sup>1</sup>		TSS (lbs/day) <sup>1</sup>	
	Avg	Max	Avg	Max	Avg	Max	Avg	Max
83,120	0.08	0.16	0.10	0.20	6.6	13.3	8.3	16.6

Footnotes:

1. The limits (lbs/day) = total BOD input (lbs/day) / 1000 \* NSPS limitations

## PART 7 – TBEL CALCULATIONS FOR CONDENSED WHEY

### pH

Any discharge subject to BPT, BCT, or NSPS limitations or standards in this part must remain within the pH range of 6.0 to 9.0.

### New Source Performance Standards (NSPS)

The production process for Condensed Whey commenced construction after May 28<sup>th</sup>, 1974. Therefore, the NSPS limitations of 40 CFR Part 405.115 would apply.

Total BOD Input (lbs/day)	NSPS Effluent Limitations				Calculated Limits			
	BOD (lbs/1,000 lbs)		TSS (lbs/1,000 lbs)		BOD (lbs/day) <sup>1</sup>		TSS (lbs/day) <sup>1</sup>	
	Avg	Max	Avg	Max	Avg	Max	Avg	Max
33,984	0.11	0.22	0.14	0.28	3.7	7.5	4.8	9.5

Footnotes:

1. The limits (lbs/day) = total BOD input (lbs/day) / 1000 \* NSPS limitations

**PART 8 – FINAL CALCULATED LIMITS**

Per s. NR 240.06(3) Wis. Adm. Code, the total discharge limits shall be the total of the amounts calculated from the BOD input in the final product subcategory and all of the other subcategories with intermediate products in Parts 6 and 7 of this memo.

For each production line, the most restrictive calculated set of limits are used in the calculation of the final total discharge limits.

<b>Subcategory</b>	<b>Monthly average BOD (lbs/day)</b>	<b>Daily maximum BOD (lbs/day)</b>	<b>Monthly average TSS (lbs/day)</b>	<b>Daily maximum TSS (lbs/day)</b>
Cheese	6.6	13.3	8.3	16.6
Condensed Whey	3.7	7.5	4.8	9.5
<b>Total</b>	<b>10.4</b>	<b>20.8</b>	<b>13.1</b>	<b>26.1</b>

<b>Final Calculated Effluent Limitations</b>			
<b>Parameter &amp; Units</b>	<b>Daily Maximum</b>	<b>Daily Minimum</b>	<b>Monthly Average</b>
BOD <sub>5</sub> August <sup>1</sup> September – July	17.3 lbs/day 20.8 lbs/day		8.1 lbs/day 10.4 lbs/day
TSS	26.1 lbs/day		13.1 lbs/day
pH	9.0 su	6.0 su	

Footnotes:

The Water Quality Based Effluent Limits for BOD<sub>5</sub> are more restrictive for the month of August.



Technology-Driven Wastewater Solutions.  
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# WATER QUALITY TRADING PLAN

CREATED FOR  
LaGrander's Hillside Dairy  
Stanley, WI

December 15, 2023



# TABLE OF CONTENTS

1	INTRODUCTION	2
2	BACKGROUND	2
2.1	PURPOSE FOR WATER QUALITY TRADE	2
2.2	LOCATION OF OUTFALL AND FIELDS	3
2.2.1	LOCATION OF OUTFALL 007	3
2.2.2	LOCATION OF THE FIELDS	3
3	HISTORIC LAND USE OF THE FIELDS, SOIL SAMPLING, AND MODELING OF TRADEABLE PHOSPHORUS	4
3.1	HISTORIC LAND USE OF THE FIELDS	4
3.2	SOIL SAMPLING	4
3.3	SNAPPLUS MODELING OF PTP UNDER HISTORIC CONDITIONS	4
3.4	SNAPPLUS MODELING OF PTP WITH PERMANENT GRASSLAND, NOT HARVESTED	5
4	TRADE RATIO CALCULATION	6
4.1	INDIVIDUAL TRADE RATIO FACTORS	6
4.1.1	DELIVERY FACTOR:	6
4.1.2	DOWNSTREAM FACTOR:	6
4.1.3	EQUIVALENCY FACTOR:	7
4.1.4	UNCERTAINTY FACTOR:	7
4.1.5	HABITAT ADJUSTMENT FACTOR:	7
4.2	CALCULATION OF TRADE RATIO BASED ON INDIVIDUAL FACTORS	7
5	CREDIT GENERATION CALCULATION	7
	MANAGEMENT PRACTICE DESCRIPTION	8
5.1	INSTALLATION PLAN	8
5.2	OPERATION AND MAINTENANCE PLAN	8
6	TIMELINE	9
6.1	SCHEDULE FOR CONSTRUCTION AND INITIAL OPERATION OF WASTEWATER TREATMENT PLANT	9
6.2	SCHEDULE FOR INSTALLATION OF PERMANENT VEGETATIVE PRACTICE	9
7	INSPECTIONS AND REPORTING	9
7.1	WATER QUALITY TRADING MANAGEMENT PRACTICE REGISTRATION	9
7.2	MONTHLY CERTIFICATION	9



<b>7.3 ANNUAL INSPECTIONS</b>	<b>10</b>
<b>7.4 NOTIFICATION OF PROBLEMS WITH PERMANENT VEGETATIVE COVER MANAGEMENT PRACTICE</b>	<b>10</b>
<b>7.5 WDNR RIGHT TO INSPECT THE FIELDS</b>	<b>11</b>

### **Attachments**

- A – Notice of Intent (NOI) to Conduct Water Quality Trading
- B – Lease agreement between LaGrander's and William Henke
- C – Watershed, Subwatershed, and Field Maps
- D – SnapPlus Modeling Reports (Current)
- E – SnapPlus Modeling Reports (Prairie)
- F – Soil Sampling Results
- G – Prairie Establishment Plan (2017)
- H – Prairie O&M Plan (2017)
- I – Existing Farming Practices Information
- J – WQT Compliance History and Photos
- K – Practice Registration Form 3400-207
- L – Water Quality Trading Checklist





## 1 INTRODUCTION

This water quality trading plan summarizes LaGrander's Hillside Dairy's (LaGrander's) plan to continue to use water quality trading to comply with phosphorus discharge limits in its Wisconsin Discharge Elimination System (WPDES) permit for Outfall 007. To assist in complying with LaGrander's phosphorus discharge limits, LaGrander's has installed and will continue to maintain permanent vegetative cover (aka. conservation easement) on previously farmed fields within the same subwatershed as Outfall 007 on property owned by a third party: William (Bill) Henke. LaGrander's has entered into a written agreement with Bill Henke for a permanent conservation easement to be placed on these lands.

LaGrander's has used SnapPlus modeling to quantify the amount of potentially tradable phosphorus from the fields assuming historic farming practices continued and the amount after installation and maintenance of a permanent vegetative cover, which occurred in 2017. Using a credit ratio of 1.2:1, LaGrander's calculated the phosphorus water quality credits available per year based on the change in management practice from farming to permanent vegetative cover at the three farm fields. LaGrander's will use these credits to demonstrate compliance with its total phosphorus limit in its WPDES permit.

## 2 BACKGROUND

### 2.1 *PURPOSE FOR WATER QUALITY TRADE*

The purpose of this Water Quality Trading Plan ("Plan") is to describe LaGrander's use of water quality trading to comply with the Total Phosphorus limits on Outfall 007 of WPDES permit WI-0054364. This Plan was developed pursuant to the Notice of Intent to Conduct Water Quality Trade included in Attachment A.

In particular, LaGrander's trades with property owned by Bill Henke ("the Fields") within the same HUC-12 subwatershed as Outfall 007. These fields were placed into perennial vegetation in 2017 and use the phosphorus credits generated from this management practice change to comply with the Total Phosphorus limits their WPDES permit. LaGrander's has entered into a written lease agreement with Bill Henke; this is provided in Attachment B.

LaGrander has a total phosphorus 6-month average limit of 0.06 mg/L. Since the start of the Trade, LaGrander has used 54.5 – 117.9 lbs/yr of credits, see Table 1 below.

**Table 1: WQT TP Credits (lbs/yr)**

YEAR	WQT CREDIT USE [LBS]	WQT CREDIT AVAILABILITY [LBS]
2019	90.9	116
2020	117.9	123
2021	54.5	126

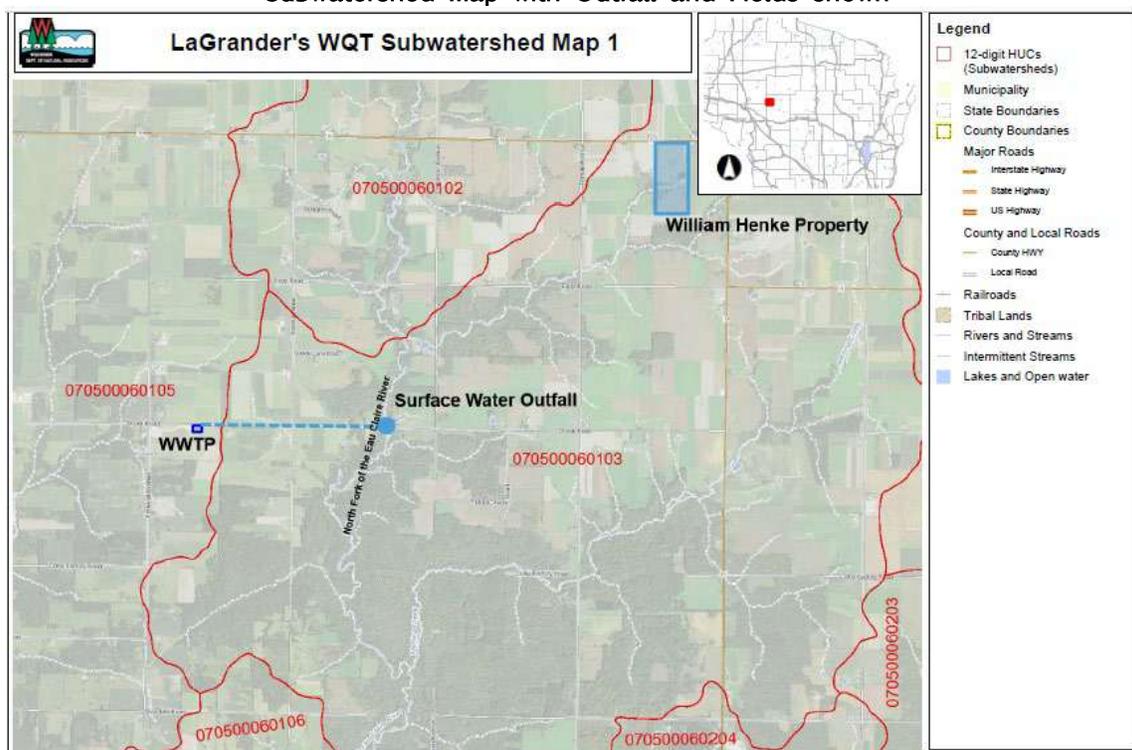


## 2.2 LOCATION OF OUTFALL AND FIELDS

### 2.2.1 LOCATION OF OUTFALL 007

LaGrander's discharges treated process wastewater to the North Fork of the Eau Claire River through Outfall 007 at approximately latitude: 44.90821°N, longitude 90.847978°W. Outfall 007 is located in HUC12 Subwatershed 070500060103, which is also known as the Sterling Creek-North Fork Eau Claire River Subwatershed. The Sterling Creek-North Fork Eau Claire River Subwatershed is part of the larger North Fork Eau Claire River Watershed (0705000601), which drains to the Eau Claire River on its way to the Mississippi River. The Sterling Creek-North Fork Eau Claire River Subwatershed is not subject to a TMDL and is not upstream of a watershed subject to a TMDL. Figure 1 below depicts the location of Outfall 007 in the Subwatershed; this is also given in Attachment C.

Figure 1  
 Subwatershed Map with Outfall and Fields shown



### 2.2.2 LOCATION OF THE FIELDS

LaGrander's modified management practices generate phosphorus credits on the Fields upstream of Outfall 007 that are also within the Sterling Creek-North Fork Eau Claire River Subwatershed. The map included in Attachment C shows that the Fields are upstream of Outfall 007. An intermittent stream WBIC 5011064 bisects the Henke property; this stream drains to an unnamed stream WBIC 2148600 that in turn drains directly into the North Fork of the Eau Claire River upstream of Outfall 007.

The Fields are located within Town of Worden (Clark County, WI) Parcels 064.0233.00 and 034.0232.00. The Property descriptions for these two properties are SW-NE SEC 12 TWP 28 N R 4 W, and NW-NE EX HWY R/W AS DESC IN 239 REC 179 SEC 12 TWP 28 N R 4 W, respectively. These



are the only properties owned by William Henke within the Sterling Creek-North Fork Eau Claire River Subwatershed.

Table 1 below describes the current and future land use

**Table 1**  
**Parcels owned by William Henke in Subwatershed**

PARCEL ID	PROPERTY DESCRIPTION	TOTAL ACREAGE	TOTAL PREVIOUSLY FARMED ACREAGE	UNFARMED ACREAGE	FARMLAND CONVERTED TO CONSERVATION EASEMENT
064.0233.00	SW-NE SEC 12 TWP 28 N R 4 W	40.00	22.81	17.19	9.80
0.64.0232.00	NW-NE EX HWY R/W AS DESC IN 239 SEC 12 TWP 28 N R 4 W	39.00	25.30	13.7	5.41
<b>TOTAL</b>	<b>-</b>	<b>79.00</b>	<b>48.11</b>	<b>30.89</b>	<b>15.21</b>

### 3 HISTORIC LAND USE OF THE FIELDS, SOIL SAMPLING, AND MODELING OF TRADEABLE PHOSPHORUS

#### 3.1 HISTORIC LAND USE OF THE FIELDS

Table 1 above shows how much land was farmed on each parcel before the conversion to permanent prairie. A portion of that land was converted to generate credits for this water quality trade. The unfarmed acreage contains a single-family residence with a mowed lawn as well as other unfarmed land. The unfarmed acreage was not converted as part of the conservation easement used for water quality trading. There is an unnamed intermittent stream WBIC 5011064 that runs on both of the parcels of which most of the fields drain. This unnamed intermittent stream drains to a permanent unnamed stream WBIC 2148600.

#### 3.2 SOIL SAMPLING

Soil samples were taken on April 20, 2017, for seven fields (1 through 7) located on the Henke properties. A map of the seven fields is given in Attachment C. The soil sample results are included in the SnapPlus reports in both Attachments D and E.

#### 3.3 SNAPPLUS MODELING OF PTP UNDER HISTORIC CONDITIONS

The following shows how much of each of the seven fields was converted to natural prairie (i.e. permanent grassland, unharvested):

- Field 1            0.00 acres
- Field 2            0.85 acres
- Field 3            6.77 acres
- Field 4            4.63 acres
- Field 5            2.41 acres
- Field 6            0.55 acres
- Field 7            0.00 acres
- **TOTAL**            **15.21 acres**



SnapPlus (version 20.4) was used to model the seven fields under historic conditions. The seven fields had all seen identical cropping in 2014, 2015, and 2016: Soybeans, Corn Silage, and Corn Silage, respectively. The fields also had the following fertilizers and manure applications:

- 2014: 200lb/acre Potash, 100 lb/acre DAP, no manure
- 2015: 5 gal/acre starter fertilizer, 12,000 gal/acre liquid manure
- 2016: 5 gal/acre starter fertilizer, 12,000 gal/acre liquid manure

Attachment I includes information regarding historic farming practices including a completed Existing Farming Practices (EFP) questionnaire completed by William Henke as well as aerial photographs of the farm fields. No crop sales or insurance information is available.

This cropping and application data was modeled as a 3-year rotation through the year 2028.

Attachment D includes the following SnapPlus reports:

- Narrative and Crop Report
- Soil Test Report
- Application Summary Report
- Manure Tracking Report
- Fields Data and 590 Assessment Plan
- Nutrient Management Report
- Nutrient Management Sorted by Crop Report
- P Trade Report

Table 2 below summarizes the Potentially Tradeable Phosphorus (PTP) from the P Trade Report using the current crop and application rotation (please note that any discrepancies in total PTP values are due to SnapPlus rounding to the nearest whole number):

**Table 2**  
**SnapPlus Potentially Tradable Phosphorus Report - Current**

	ACRES	2022	2023	2024	2025	2026	2027	2028
Field 1	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Field 2	0.85	6	8	8	8	8	8	7
Field 3	6.77	50	65	66	59	61	62	56
Field 4	4.63	31	38	39	35	36	37	33
Field 5	2.41	19	27	27	24	26	26	24
Field 6	0.55	5	6	6	6	6	6	6
Field 7	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTAL</b>	<b>15.21</b>	<b>111</b>	<b>144</b>	<b>146</b>	<b>132</b>	<b>137</b>	<b>139</b>	<b>126</b>

### ***3.4 SNAPPLUS MODELING OF PTP WITH PERMANENT GRASSLAND, NOT HARVESTED***

The fields were then modeled by replacing the historic crop rotation with a permanent grassland, not harvested. The same SnapPlus reports as were done for the historic crop rotation are available for the permanent grassland modeling in Attachment E. Table 3 below summarizes the Potentially Tradable Phosphorus (PTP) given in the P Trade Report (please note that any discrepancies in total PTP values are due to SnapPlus rounding to the nearest whole number).





**Table 3**  
**SnapPlus Potentially Tradable Phosphorus Report – Permanent Grassland, not harvested**

	ACRES	2022	2023	2024	2025	2026	2027	2028
Field 1	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Field 2	0.85	0	0	0	0	0	0	0
Field 3	6.77	1	1	1	1	1	1	1
Field 4	4.63	1	0	0	0	0	0	0
Field 5	2.41	0	0	0	0	0	0	0
Field 6	0.55	0	0	0	0	0	0	0
Field 7	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTAL</b>	<b>15.21</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>

## 4 TRADE RATIO CALCULATION

The PTP generated by the SnapPlus modeling is adjusted by the applicable trade ratio to determine the amount of credits the credit user can receive for the management practice. As described in WDNR’s “Guidance for Implementing Water Quality Trading in WPDES Permits” dated June 1, 2020 (“WQT Guidance”), the trade ratio is the sum of the delivery, downstream, equivalency, and uncertainty factors less any habitat adjustment factor. The trade ratio can be summarized as:

$$\text{Trade Ratio} = (\text{Delivery} + \text{Downstream} + \text{Equivalency} + \text{Uncertainty} - \text{Habit Adjustment}):1$$

See WQT Guidance at Section 2.4. For trades between point sources and nonpoint sources, there is a minimum trade ratio of 1.2:1. See WQT Guidance at Section 2.4.

As described in further detail by factor below, LaGrander’s management practice results in the minimum trade ratio of 1.2:1.

### 4.1 *INDIVIDUAL TRADE RATIO FACTORS*

#### 4.1.1 DELIVERY FACTOR:

As discussed earlier, the Fields subject to the permanent vegetative cover management practice are within the same HUC12, the Sterling Creek-North Fork Eau Claire River Subwatershed as LaGrander’s Outfall 007. In addition, the Fields are close, approximately two-and-a-half miles, from Outfall 007. Because the Fields are within the same HUC12 as the Outfall, the delivery factor is not needed (i.e., it is zero). See WQT Guidance at § 3.4.

#### 4.1.2 DOWNSTREAM FACTOR:

The Fields are located upstream of the Outfall. Because the Fields are upstream the downstream factor is not needed (i.e., it is zero). See WQT Guidance at Section 2.11.2. The Fields generally drain to an unnamed, intermittent stream WBIC 5011064. This stream discharges to unnamed stream WBIC 2148600 which in turn drains to North Fork of the Eau Claire River WBIC 2145400 approximately 0.6 mi upstream from the Outfall.





#### 4.1.3 EQUIVALENCY FACTOR:

The permanent vegetative cover management practice on the Fields will reduce phosphorus loadings to the subwatershed. LaGrander's is using the phosphorus credits generated by the permanent vegetative cover management practice to comply with the phosphorus limits on Outfall 007. Because phosphorus reductions are being used to generate phosphorus credits, an equivalency factor is not needed (i.e., it is zero). See WQT Guidance at § 3.4.

#### 4.1.4 UNCERTAINTY FACTOR:

The Fields were placed into permanent vegetative cover, as described in Section 6. According to the WQT Guidance, land in perennial vegetation that was established and is maintained consistent with NRCS Technical Standard 327 results in an uncertainty factor of 1. See WQT Guidance at § 3.4.

#### 4.1.5 HABITAT ADJUSTMENT FACTOR:

LaGrander's is not claiming any beneficial habitat adjustment, so a habitat adjustment is not needed (i.e., it is zero). See WQT Guidance at § 3.4.

### 4.2 CALCULATION OF TRADE RATIO BASED ON INDIVIDUAL FACTORS

Inserting the above factors into the WQT Guidance's trade ratio formula results in a trade ratio of 1:1:

$$\begin{aligned} \text{Trade Ratio} &= (0 + 0 + 0 + 1 - 0):1 \\ &= 1:1 \end{aligned}$$

However, because the minimum trade ratio for a point to nonpoint source trade is 1.2:1, LaGrander's will use a 1.2:1 trade ratio for estimating credits generated by the management practice.

## 5 CREDIT GENERATION CALCULATION

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For each year, the credit generated from the management practice is the difference between the PTP based on SnapPlus modeling assuming the prior crop rotation was continued and the PTP based on SnapPlus modeling assuming a permanent vegetative cover is installed and maintained on the Fields, divided by the credit ratio.

$$\text{Phosphorus Credits Per Year} = (\text{PTP Assuming Crops Rotation Continued} - \text{PTP Assuming Permanent Vegetative Cover}) \div \text{trade ratio}$$

Table 2 in Section 3.3 summarizes the PTP for each year assuming the crop rotation from 2014 through 2016 continued into the future. Table 3 in Section 4.1 summarizes the PTP for each year assuming the installed permanent vegetative cover is maintained on the Fields. As discussed in Section 5, the applicable trade ratio is 1.2:1.

Table 4 below summarizes the credit generated for each year through 2027 after the trade ratio of 1.2 is applied.





**Table 4**  
**SnapPlus PTP total (lbs/yr) - (trade ratio of 1.2 applied)**

	ACRES	2022	2023	2024	2025	2026	2027	2028
Field 1	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Field 2	0.85	5	6.7	6.7	6.7	6.7	6.7	5.8
Field 3	6.77	40.8	53.3	54.2	48.3	50	50.8	45.8
Field 4	4.63	25	31.7	32.5	29.2	30	30.8	27.5
Field 5	2.41	15.8	22.5	22.5	20	21.7	21.7	20
Field 6	0.55	4.2	5	5	5	5	5	5
Field 7	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTAL</b>	<b>15.21</b>	<b>90.8</b>	<b>119.2</b>	<b>120.9</b>	<b>109.2</b>	<b>113.4</b>	<b>115.0</b>	<b>104.1</b>

For example, in 2022 for Field 2:

PTP Assuming Crop Rotation Continues: 6 lbs P/yr (from Table 2)  
 PTP Assuming Permanent Vegetative Cover: 0 lbs P/yr (from Table 3)  
 Difference: 6 lb P/yr (6-0)  
 Trade ratio: 1.2:1 (from Section 5.2)  
 Difference (Trade ratio applied): **5 lb P/yr** ( $6.0 \div 1.2$ )

LaGrander’s generates water quality trade credits for total Phosphorus (TP) based on conversion of historical agricultural land managed in a 3-year crop rotation of Soybean-Corn Silage-Corn Silage to permanent prairie. The conversion to permanent prairie occurred in 2017. Rotational averaging results in 111 lbs/yr.

## MANAGEMENT PRACTICE DESCRIPTION

LaGrander’s has installed and will continue to maintain permanent vegetative cover on the Fields consistent with the requirements of NRCS Technical Standard 327. In particular, LaGrander’s has installed and will continue to maintain permanent vegetative cover on the Fields in accordance with the Establishment Plan included in Attachment G and the Operation and Maintenance Plan in Attachment I. These plans were prepared by Carl Korfmacher, Owner, Midwest Prairies, LLC for LaGrander’s. Mr. Korfmacher’s contact information is included in both the Establishment and Operation and Maintenance Plans.

### ***5.1 INSTALLATION PLAN***

An Establishment Plan was developed by Carl Korfmacher of Midwest Prairies which outlines what soil preparation, seed mix, erosion control measures, and other measures occurred to install the native prairie in 2017, consistent with NRCS Technical Standard 327. The seed mix includes all native grasses and sedges, and wildflower forbs. The plan is specific to each field and a map is included. The Establishment Plan is provided in Attachment G.

### ***5.2 OPERATION AND MAINTENANCE PLAN***

A separate operations plan was also prepared by Carl Korfmacher of Midwest Prairies and has been included as Attachment I. This plan outlines regular maintenance requirements to keep the prairie



healthy. It also includes other irregular activities that may be required after inspections by a prairie expert.

## 6 TIMELINE

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### **6.1 SCHEDULE FOR CONSTRUCTION AND INITIAL OPERATION OF WASTEWATER TREATMENT PLANT**

Construction of the upgrades to the facility Industrial Wastewater Treatment Plant at LaGrander's began in 2017. The first discharge from Outfall 007 occurred in March 2018. Since that time, LaGrander's has been discharging in accordance with their WPDES permit.

### **6.2 SCHEDULE FOR INSTALLATION OF PERMANENT VEGETATIVE PRACTICE**

- Installation and initial establishment occurred as planned in the 2017 WQT Plan. A full establishment and maintenance summary is provided in Attachment J along with a summary of credits available and credits used each year during the current and upcoming permit terms.
- Annually by January 31<sup>st</sup> each year, LaGrander's submitted the WQT Annual Report described further in section 7 of this report. The annual reports discussed credits used as well as maintenance activities completed each year. A summary is provided in Attachment J along with site photos from inspections.

## 7 INSPECTIONS AND REPORTING

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### **7.1 WATER QUALITY TRADING MANAGEMENT PRACTICE REGISTRATION**

LaGrander's completed Registration Form 3400-207 for Water Quality Trading Management Practice Registration ("Practice Registration Form") from 2017 is included in Attachment K.

### **7.2 MONTHLY CERTIFICATION**

Each month LaGrander's will inspect the Fields generating the phosphorus reduction credits to confirm continued cover of the permanent vegetative management practice. If, during these inspections, any attention is needed to the permanent vegetative management practice, the issue will be addressed immediately. Any photos taken during these inspections can be used to supplement the annual inspections described further in Section 8.5.

Each month, LaGrander's will certify that the permanent vegetative cover management practice is operated and maintained in a manner consistent with that specified in this Water Quality Trading Plan or a statement noting noncompliance with this Plan. A certification of compliance may be made by including the following statement as a comment on the monthly discharge monitoring report:

*I certify that to the best of my knowledge the management practice identified in the approved water quality trading plan as the source of phosphorus reduction credits is installed, established and properly maintained.*



### ***7.3 ANNUAL INSPECTIONS***

Once per year, LaGrander's or its prairie restoration consultant will inspect the Fields generating the phosphorus reduction credits to confirm implementation of the permanent vegetative cover management practice and that the management practice is being appropriately maintained. This inspection will confirm compliance with the appropriate standards and identify any erosion issues. This annual inspection shall occur between mid-August and mid-September each year and shall include at least two photographs of each of the Fields; one overall site photo, and one close-up photo of a representative area of the field. The inspector will also take notes regarding plant diversity, density, overall ecological health, and any erosion issues.

The inspection reports will include:

- The name of the inspector;
- The inspection date;
- The relevant standards set forth in the Establishment Plan or Operation and Maintenance Plan for the growing season in which the inspection occurs and whether the Fields have met the standards;
- Whether erosion concerns were identified and, if so, what those concerns are;
- When and how any identified issues with meeting standards and erosion concerns were addressed;
- When and how any identified issues with meeting standards and erosion concerns will be addressed in the future.

Inspection reports generated during each inspection will be included with the Annual Water Quality Trading Report submitted by LaGrander.

### ***7.4 NOTIFICATION OF PROBLEMS WITH PERMANENT VEGETATIVE COVER MANAGEMENT PRACTICE***

LaGrander's will notify WDNR by a telephone call to WDNR's regional wastewater compliance engineer within 24 hours after becoming aware that total phosphorus reduction credits used or intended for use by LaGrander's are not being implemented or generated as set forth in this Water Quality Trading Plan and its attachments, including the Establishment Plan and Operation and Maintenance Plan.

LaGrander's will follow up with a written notice to WDNR's regional wastewater compliance engineer within five (5) days after LaGrander's becomes aware that the total phosphorus reduction credits are not being implemented or generated as set forth in this Plan and its attachments. WDNR may waive the requirement for submittal of a written notice within five days and instruct LaGrander's to submit the written notice with the next regularly scheduled monitoring report required by LaGrander's WPDES Permit. The written notice will contain a description of how and why the total phosphorus credits are not being implemented or generated as set forth in this Plan and its attachments; the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the identified problem; and the length of time the identified problem is expected to continue. LaGrander's will work to rectify the identified problem in accordance with this Plan and its attachments, including the Establishment Plan and Operation and Maintenance Plan. Annual Water Quality Trading Report

LaGrander's shall report to WDNR by January 31 of each year the following:

- The number of phosphorus reduction credits (lbs/month) used each month of the previous year to demonstrate compliance;



- Photographs from the annual inspection of the permanent vegetative cover management practice that generated the phosphorus reduction credits used during the previous years; and
- Identification of noncompliance or failure to implement any terms or conditions WPDES permit WI-0054364 with respect to water quality trading that have not been reported in discharge monitoring reports.

### ***7.5 WDNR RIGHT TO INSPECT THE FIELDS***

WDNR has the right to inspect the permanent vegetative cover management practice at any time it deems necessary to ensure the management practice is in compliance with the NRCS Technical Standard 327 and the terms of this Plan.



**ATTACHMENT A**  
**Notice of Intent (NOI) to Conduct Water**  
**Quality Trading**

**Notice:** Pursuant to s. 283.84, Wis. Stats., and ch. NR 217 Wis. Adm. Code, this form must be completed by any WPDES permittee that is using water quality trading as a method of complying with a permit limitation. Failure to complete this form would not result in penalties. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records Law (ss. 19.31 - 19.39, Wis. Stats.).

**Applicant Information**

Permittee Name LaGrandier's Hillside Dairy		Permit Number WI- 0054364	Facility Site Number	
Facility Address W11299 Brock Rd.		City Stanley	State WI	ZIP Code 54768
Project Contact Name (if applicable) Heather Schoff, Probst Group	Address 17035 W. Wisconsin Ave, Ste 120	City Brookfield	State WI	ZIP Code 53005
Project Name LaGrandier's Hillside Dairy Water Quality Trade				
Receiving Water Name North Fork Eau Claire River	Parameter(s) being traded Total Phosphorus	HUC 12(s) 070500060103		

Is the permittee in a point or nonpoint source dominated watershed?  
 (See PRESTO results - <http://dnr.wi.gov/topic/surfacewater/presto.html>)

Point source dominated  
 Nonpoint source dominated

**Credit Generator Information**

Credit generator type (select all that apply):

<input type="checkbox"/> Permitted Discharge (non-MS4/CAFO)	<input type="checkbox"/> Urban nonpoint source discharge
<input type="checkbox"/> Permitted MS4	<input checked="" type="checkbox"/> Agricultural nonpoint source discharge
<input type="checkbox"/> Permitted CAFO	<input type="checkbox"/> Other - Specify: _____

Are any of the credit generators in a different HUC 12 than the applicant?  Yes; HUC 12: \_\_\_\_\_  
 No  
 Unsure

Are any of the credit generators downstream of the applicant?  Yes  
 No  
 Unsure

Will a broker/exchange be used to facilitate trade?  Yes; Name: \_\_\_\_\_  
 No  
 Unsure

**Point to Point Trades (Traditional Municipal / Industrial Discharge, MS4, CAFO)**

Discharge Type	Permit Number	Name	Contact Address	Is the point source credit generator currently in compliance with their permit requirements?
<input type="radio"/> Traditional <input type="radio"/> MS4 <input type="radio"/> CAFO				<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unsure
<input type="radio"/> Traditional <input type="radio"/> MS4 <input type="radio"/> CAFO				<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unsure
<input type="radio"/> Traditional <input type="radio"/> MS4 <input type="radio"/> CAFO				<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unsure
<input type="radio"/> Traditional <input type="radio"/> MS4 <input type="radio"/> CAFO				<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unsure
<input type="radio"/> Traditional <input type="radio"/> MS4 <input type="radio"/> CAFO				<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unsure

**Point to Nonpoint Trades (Non-permitted Agricultural, Non-Permitted Urban, etc.)**

List the practices that will be used to generate credits:

Conservation Easement (natural prairie restoration) with portions of parcels 064.0232.000 and 064.0233.000 located in Clark County, owned by William A Henke. Acreage to be 15.21.

Method for quantifying credits generated:  Monitoring  
 Modeling, Names: SnapPlus 15.1  
 Other: \_\_\_\_\_

Projected date credits will be available: 01/01/2023

**The preparer certifies all of the following:**

- I am familiar with the specifications submitted for this application, and I believe all applicable items in this checklist have been addressed.
- I have completed this document to the best of my knowledge and have not excluded pertinent information.

Signature of Preparer	Date Signed
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**Authorized Representative Signature**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision. Based on my inquiry of those persons directly responsible for gathering and entering the information, the information is, to the best of my knowledge and belief, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature of Authorized Representative	Date Signed
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**ATTACHMENT B**  
**Lease agreement between LaGrander's**  
**and William Henke**

# Farmland Lease

## for Point to Nonpoint Source Trade Agreement

### RECITALS

WHEREAS, concurrently herewith, Landlord and Tenant have entered into a Trade Agreement for Point to Nonpoint Source Trades (the "Trade Agreement") so that Tenant may discharge treated process wastewater to the North Fork of the Eau Claire River through Outfall 007 at approximately latitude: 43° 44' 12.11 "N, longitude 88° 10' 24.89"W.

WHEREAS, in order to implement its Water Quality Trading Plan ( the "Trading Plan"), Tenant intends to plant a native prairie and maintain it as a permanent vegetative cover on 15.21 acres of the Property in order to reduce phosphorus loadings to the Sterling Creek-North Fork Eau Claire River Subwatershed. Tenant intends to use the phosphorus credits generated by the permanent vegetative cover management practice to comply with the phosphorus limits on Outfall 007.

### SECTION I. PARTIES, PROPERTY AND TERM.

1. This lease is made this 7 day of July, 2017, between **WILLIAM A. HENKE and BRENDA K. HENKE**, herein called the *landlord*, and **LaGRANDER'S HILLSIDE DAIRY, INC.**, herein called the *Tenant*.
2. The Landlord, in consideration of the agreements with the Tenant herein after set forth, hereby leases to the Tenant, to occupy and to use for the purposes described in the Trading Plan as well as for agricultural purposes, the property described as follows:  
Fifty (50) tillable acres located in W 1/2 of the NE 1/4 of Section 12, Township 28 North, Range 4 West, Town of Worden, Clark County Wisconsin (referred to herein as the "Property").
3. The provisions of this agreement shall be in effect for **60 months** commencing on the 1<sup>st</sup> day of January, 2018 and ending **December 31, 2022**.
4. This lease shall renew itself automatically from year to year on the same terms and conditions unless either party notifies the other in writing on or before **January 1** in the year in which expiration of the lease agreement is desired.

### SECTION II. RENT

1. **Rent:** The rent for this Property to be paid by the Tenant to the Landlord is [REDACTED] [REDACTED] for the first year due on January 1, 2018 and shall be due on the same day of each year thereafter (the "Due Date") during the initial term and any extension renewal or extension of this lease. After 2018, the amount of the rent shall be adjusted annually on or before the Due Date by mutual agreement of the parties. If the amount of the annual rent cannot be settled by mutual agreement after thorough discussion, it shall be submitted for arbitration to a committee of three disinterested persons, one selected by each party hereto and the third by the two thus selected. The committee's decision shall be accepted by both parties.
2. **Prompt Payment.** All sums of money or charges required to be paid by Tenant under this Lease shall be promptly paid by Tenant when the same are due without any deductions or set-off whatsoever. Tenant's failure to pay any such amounts or charges when due shall carry with it the same consequences as Tenant's failure to pay rent. All such amounts or charges shall be payable to Landlord at the place where the Rent is payable. In addition to any other right or remedy available to Landlord by law or under this Lease, if Tenant shall fail to pay any Rent or other charges hereunder when the same shall be due and payable, such unpaid

amounts shall bear interest from the due date thereof to the date of payment at the rate of [REDACTED]

**SECTION III. THE LANDLORD AGREES AS FOLLOWS:**

1. **Quiet Enjoyment:** Tenant, on paying the Rent, and performing the covenants, agreements, conditions and terms aforesaid, shall quietly and peacefully have, hold and enjoy the Property during the term of this Lease.

**SECTION IV. THE TENANT AGREES AS FOLLOWS:**

1. **Farming Practices:** As to those parts of the Property not subject to restrictions of the Trading Plan, to preserve and maintain established watercourses, tile drains, tile outlets, grass waterways and terraces and to refrain from any operating in a manner that will injure them unless otherwise agreed; and to follow the soil conservation plan, or; if no conservation plan, those farming practices that are generally recommended and best adapted to this type of Property and for this locality unless other practices are agreed upon.
2. **Weed Control:** To cut, spray or otherwise control noxious weeds before they go to seed. Noxious weeds are defined as those described and/or referred to in sec. 66.0407 Wisconsin Statutes.
3. **Fences.** To keep and maintain, at Tenant's expense, the fences on the Property in good condition and repair. If Tenant desires additional fences on the Property, or additional fences are required under Chapter 90 Wis. Stats., Tenant shall build the same at Tenant's expense.
4. **Alterations and Improvements.** Ditching and tiling may be done on the Property, at the Tenant's discretion and expense, without Landlord's consent. No other improvements to the Property shall be made without first obtaining Landlord's written consent, and Tenant shall not commit waste nor suffer waste to be committed upon the Property.
5. **Relinquishing Possession:** To yield peaceable possession of the Property at the termination of this lease. All alterations, changes and improvements built, constructed or placed on the Property by the Tenant, with the exception of movable personal property, shall, unless otherwise provided by written agreement between Landlord and Tenant, be the property of Landlord and remain on the Property at the expiration or termination of the lease.
6. **Liens.** To keep the Property free of all liens and encumbrances at all times EXCEPT those liens and encumbrances created by the act or omission of the Landlord.
7. **Laws and Regulations:** To conduct all operations on the Property in a manner consistent with all applicable local, state, and federal environmental codes, regulations, and statutes and shall bear sole responsibility for any violations thereof. The Tenant shall be solely responsible for securing any permits or approvals necessary for his or her activities on the property. In the event of any legally prohibited release of materials to the environment, the operator will indemnify the Landlord for any costs of environmental cleanup and restoration as well as any penalties, fines, judgments or other amounts incurred by landowner as a result of such release.
8. **Indemnification.** To protect, indemnify and save harmless Landlord, its successors and assigns from and against all liabilities, obligations, claims, damages, penalties, causes of action, costs and expenses (including without limitation, reasonable attorneys' fees and expenses) imposed upon or incurred by or asserted against Landlord by reason of (1) any accident, injury to or death of persons or loss of or damage to property resulting from any act or omission of Tenant or anyone claiming by, through or under Tenant; (2) any failure on the part of Tenant to perform or comply with any of the terms of this Lease; or (3) performance of any labor or services or the furnishing of any materials or other property in respect of the Property or any part thereof. In case any action, suit or proceeding is brought against Landlord by reason of any occurrence described in this Section, Tenant will, at Tenant's expense, resist and defend such action,

suit or proceeding, or cause the same to be resisted and defended. The obligations of Tenant under this Section shall survive the expiration of this Lease.

- 9. Insurance.** Tenant shall maintain in effect at all times during the term of this Lease a policy of commercial general liability insurance naming Landlord and any other party designated by Landlord as the insured, to insure against injury to property, person, or loss of life arising out of Tenant's use and occupancy of the Property with limits of coverage that are at levels customarily maintained by businesses in the community in which the Property is located. For each year during the Term and any renewal or extension hereof, Tenant shall provide Landlord and the other parties designated by Landlord with a copy of the insurance policy endorsement or wording showing that Landlord and the other parties have been added as additional insureds. The policy shall contain a supplemental endorsement covering contractual liability voluntarily assumed by the insured under this Agreement. Insurance required of Tenant under this Lease shall be written by companies duly qualified to do business in the State of Wisconsin and shall be satisfactory in all respects to Landlord. Tenant shall deliver to Landlord copies of the policies or certificates evidencing the existence and amounts of the insurance with loss payable clauses satisfactory to Landlord. No such policy shall be cancelable or subject to reduction of coverage or modification except after 30 days' prior written notice to Landlord. At least 30 days before the expiration of Tenant's policies, Tenant shall furnish Landlord with renewals or "binders" of the policies, or Landlord may order such insurance and charge the cost to Tenant. Tenant shall not do or permit anything to be done that will invalidate the insurance policies furnished by Tenant. Landlord may from time to time require that the policy limits of any or all such insurance be increased to reflect the effects of inflation and changes in normal commercial insurance practice.

#### **SECTION V. DEFAULT.**

- 1. Failure to Pay.** If the Tenant fails to pay the rent due or fails to keep the agreements of this lease, all costs and attorney fees of the landlord in enforcing collection or performance shall be added to and become a part of the obligations payable by the Tenant hereunder.
- 2. Landlord's Right to Repossess, Operate, or Relet.** (1) If the rent, other charges, or any part thereof, to be paid under this lease agreement by Tenant, are not paid when due and shall remain unpaid for a period of 5 days after written notice, or (2) if Tenant shall fail to promptly perform any other covenant, condition, or provision by him to be performed under this lease agreement and such failure shall continue for a period of 30 days after notice in writing specifying the nature of the failure, or (3) if Tenant abandons the Property, or (4) if Tenant breaches any obligation under this lease agreement, by it to be performed, which cannot be cured, then Tenant shall be deemed to be in default and Landlord, without further notice, may, at its option, reenter and take possession of the Property, including all improvements on the Property located at, in, or about the Property, and take, operate, or relet the Property in whole, or in part, for the account of Tenant at such rental and on such agreement and conditions and to such tenant or tenants as Landlord in good faith may deem proper for a term not exceeding the unexpired period of the full term of this lease agreement. Landlord shall receive all proceeds and rent accruing from the operation or reletting of the Property and shall apply the proceeds and rent in the following costs and expenses in order of priority: (1) to the payment of all costs and expenses incurred by Landlord in obtaining possession and in the operation or reletting of the Property, including reasonable attorney fees, commissions, and collection fees; (2) to the cost and expense of any alterations or repairs reasonably necessary to enable Landlord to operate or relet the Property; and (3) to the payment of all such other amounts as may be due or become payable under the provisions of this lease agreement. The balance remaining, if any, at the expiration of the full term of this lease agreement or on the sooner termination of this lease agreement by written notice of termination given by Landlord to Tenant shall be paid over to Tenant.
- 3. Repossession or Reletting Not a Termination.** Landlord's Right to Terminate Not Forfeited. No reentry, repossession, operation, or reletting of the Property shall be construed as an election by Landlord to terminate this lease agreement unless a written notice of such intention is given by Landlord to Tenant. Notwithstanding any such operation or reletting without terminating this lease agreement, Landlord may at

any time thereafter elect to terminate this lease agreement in the event at such time Tenant remains in default under the provisions of this lease agreement.

4. **Tenant's Obligation to Pay Deficiencies.** In the event the proceeds or rentals received by Landlord under the provisions of this section are insufficient to pay all costs and expenses and all amounts due and becoming due under this lease agreement, Tenant shall pay to Landlord on demand any deficiency as may from time to time occur or exist.
5. **Landlord's Right to Perform Tenant's Duties at Tenant's Cost.** In spite of any provision as to notice contained in this lease agreement, if in the judgment of Landlord the continuance of any default by Tenant, other than for the payment of money, for the full period of the notice otherwise provided for will jeopardize the Property or the rights of Landlord, Landlord may, without notice, elect to perform those acts in respect of which Tenant is in default, at the expense of Tenant, and Tenant shall then reimburse Landlord, with interest at the rate of 10% per annum on 5 days' notice by Landlord to Tenant.
6. **Landlord's Remedies Cumulative.** Each and all of the remedies given to Landlord in this lease agreement or by law shall be cumulative, and the exercise of one right or remedy by Landlord shall not impair its right to exercise any other right or remedy.

#### **SECTION VI. MISCELLANEOUS PROVISIONS.**

1. **Waiver.** The waiver, by Landlord, of any covenant or condition herein contained shall not vitiate the same or any other covenant or condition herein, and all of the covenants, conditions and terms of this lease shall be binding upon the respective parties and their successors and assigns.
2. **Assignment.** The Tenant shall not assign this lease to any person or persons without written consent of the Landlord. Tenant may sublet the Property, or parts thereof, for a period no longer than the initial term or any extensions thereof. The sublease of the Property, or part thereof, shall not be construed as a waiver or release of Tenant from the terms of any covenant or obligation under this Lease.
3. **Construction.** It is hereby understood and agreed that in construing this instrument, all words used herein in the singular number shall include the plural, and the present tense shall include the future and the masculine gender shall include the feminine and neuter.
4. **Entire Agreement.** This lease and the Trade Agreement for Point to Nonpoint Source Trades of even date herewith shall constitute the entire agreement between the parties. Any prior understanding or representation of any kind preceding the date of this lease shall not be binding on either party except to the extent incorporated in this lease.
5. **Amendments and Alterations.** Amendments and alterations to this lease shall be in writing and shall be signed by both the Landlord and Tenant.
6. **No partnership is established.** The terms of this lease shall not be construed as establishing a partnership relation between the Landlord and the Tenant, and neither party is to be held liable for any debts or obligations incurred by the other without written consent.
7. **Binding Effect.** The provisions of this lease shall be binding upon the heirs, executors, administrators, assigns and successors of both Landlord and Tenant in like manner as upon the original parties, except as provided by mutual written agreement.

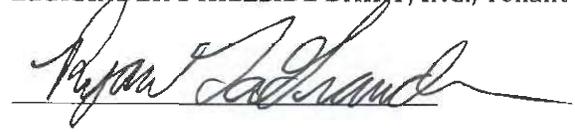
Date: July 7, 2017

  
\_\_\_\_\_  
William A. Henke, Landlord

  
\_\_\_\_\_  
Brenda K. Henke, Landlord

Date: July 11, 2017

**LaGRANDER'S HILLSIDE DAIRY, INC.**, Tenant

  
\_\_\_\_\_

# ATTACHMENT C

## Watershed, Subwatershed, and Field Maps



# LaGrander's WQT Subwatershed Map 1



**William Henke Property**

**Surface Water Outfall**

North Fork of the Eau Claire River

**WWTP**

070500060102

070500060105

070500060103

070500060203

070500060204

070500060106

## Legend

- 12-digit HUCs (Subwatersheds)
- Municipality
- State Boundaries
- County Boundaries
- Major Roads
- Interstate Highway
- State Highway
- US Highway
- County and Local Roads
- County HWY
- Local Road
- Railroads
- Tribal Lands
- Rivers and Streams
- Intermittent Streams
- Lakes and Open water

## Notes

DISCLAIMER: The information shown on these maps has been obtained from various sources, and are of varying age, reliability and resolution. These maps are not intended to be used for navigation, nor are these maps an authoritative source of information about legal land ownership or public access. No warranty, expressed or implied, is made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map. For more information, see the DNR Legal Notices web page: <http://dnr.wi.gov/legal/>

1.5 Miles

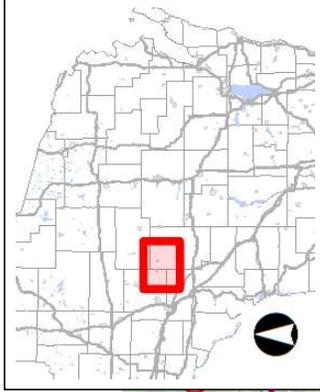


1: 47,520

NAD\_1983\_HARN\_Wisconsin\_TM

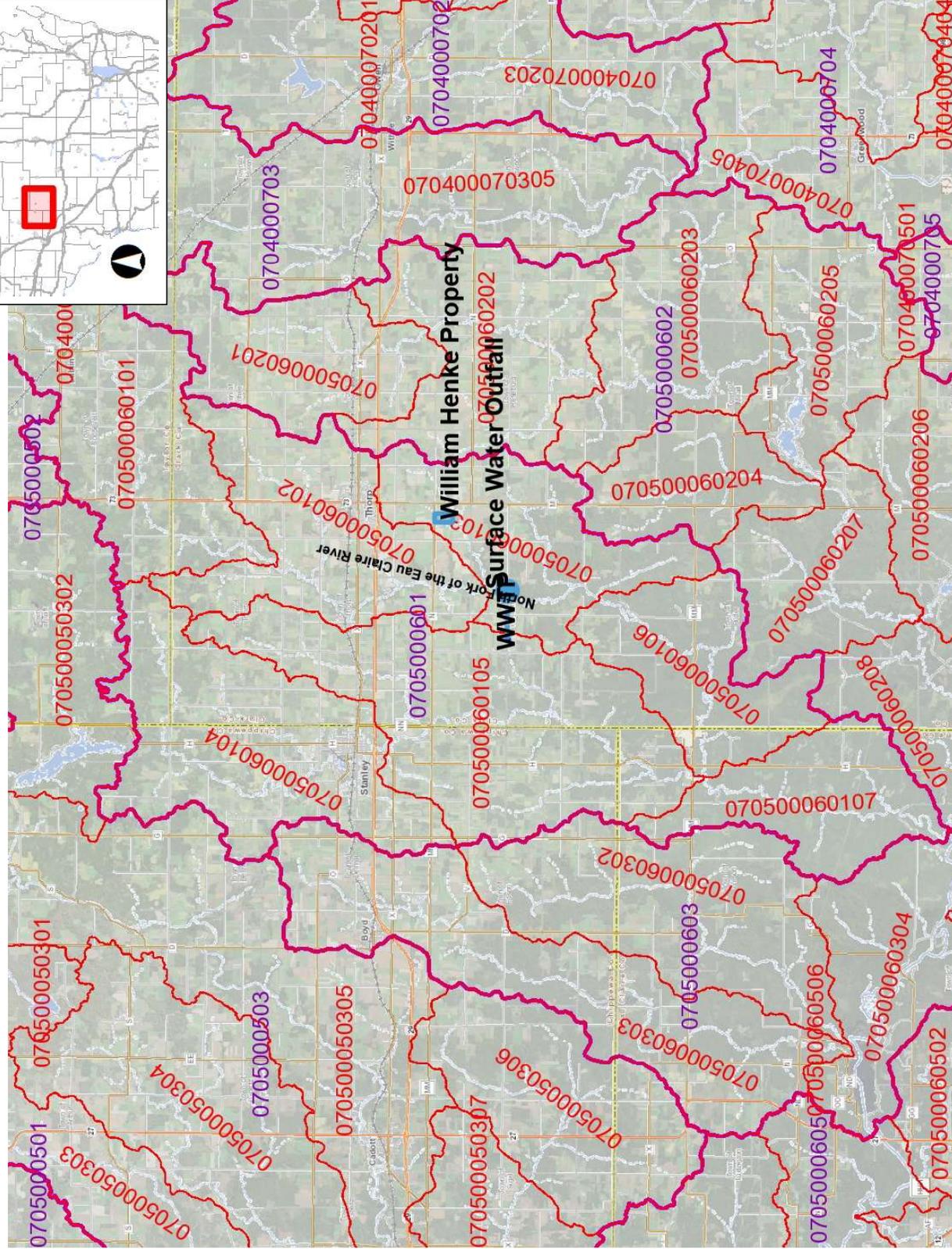


# LaGrander's WQT Watershed Map 2



## Legend

- 12-digit HUCs (Subwatersheds)
- 10-digit HUCs (Watersheds)
- Municipality
- State Boundaries
- County Boundaries
- Major Roads
  - Interstate Highway
  - State Highway
  - US Highway
- County and Local Roads
  - County HWY
  - Local Road
- Railroads
- Tribal Lands
- Rivers and Streams
- Intermittent Streams
- Lakes and Open water



## Notes

DISCLAIMER: The information shown on these maps has been obtained from various sources, and are of varying age, reliability and resolution. These maps are not intended to be used for navigation, nor are these maps an authoritative source of information about legal land ownership or public access. No warranty, expressed or implied, is made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map. For more information, see the DNR Legal Notices web page: <http://dnr.wi.gov/legal/>



NAD\_1983\_HARN\_Wisconsin\_TM  
1: 253,440





**ATTACHMENT D**  
**SnapPlus Modeling Reports (Current)**

# WQ1: P Trade Report

<b>Reported For</b>	Joey Lagrander	
<b>Printed</b>	2023-11-21	
<b>Plan Completion/Update Date</b>	2017-10-01	
<b>SnapPlus Version</b>	20.4 built on 2021-06-03	
<b>C:\Users\lmeronek\OneDrive - Probst Group\Desktop\Joey Lagrander original rotation.snapDb</b>		

**Prepared for:**  
 Joey Lagrander  
 attn:Joey Lagrander  
 W11299 Broek Road  
 Stanley , 54768

The P Trade Report estimates the annual pounds of phosphorus (P) in surface runoff from cropland entering surface waters. These P loss calculations are based on a field's soil test P concentration, crops, tillage, nutrient management practices and estimates of average runoff and sheet and rill erosion for the predominant soil type. Losses from concentrated flow channel or gully erosion with a field are not included in these calculations. Field runoff losses are calculated for each year as **PTP** (lb P/field/yr). Fields are only included if there are at least 2 years of crops before the selected start year. Before using this report as part of a Water Quality Trade activity, phosphorus losses (PTP) must be converted into 'P credits' according to DNR guidance.

**Questions?** Please contact  
 DNRphosphorus@wisconsin.gov

For more information go to <http://dnr.wi.gov/> and type keyword: **Water Quality Trading**

*This report was developed for Wisconsin DNR Water Quality Trading and Adaptive Management purposes and cannot be used to demonstrate compliance with NR 151 or NRCS 590 NM plan requirements.*

Field Name	Soil Series	Soil Symbol	Acres	PTP						
				2022	2023	2024	2025	2026	2027	2028
2	LOYAL	LoB	1	6	8	8	8	8	8	7
3	LOYAL	LoB	7	50	65	66	59	61	62	56
4	LOYAL	LoB	5	31	38	39	35	36	37	33
5	LOYAL	LoB	2	19	27	27	24	26	26	24
6	LOYAL	LoB	1	5	6	6	6	6	6	6
<b>Total</b>			<b>15</b>	<b>111</b>	<b>144</b>	<b>146</b>	<b>132</b>	<b>137</b>	<b>139</b>	<b>126</b>

**ATTACHMENT E**  
**SnapPlus Modeling Reports (Prairie)**

# WQ1: P Trade Report

<b>Reported For</b>	Joey Lagrander	
<b>Printed</b>	2023-12-15	
<b>Plan Completion/Update Date</b>	2017-10-01	
<b>SnapPlus Version</b>	20.4 built on 2021-06-03	
<b>C:\Users\lmeronek\OneDrive - Probst Group\Desktop\Joey Lagrander</b>		
<b>WQT Rotation.snapDb</b>		

**Prepared for:**  
 Joey Lagrander  
 attn:Joey Lagrander  
 W11299 Broek Road  
 Stanley , 54768

The P Trade Report estimates the annual pounds of phosphorus (P) in surface runoff from cropland entering surface waters. These P loss calculations are based on a field's soil test P concentration, crops, tillage, nutrient management practices and estimates of average runoff and sheet and rill erosion for the predominant soil type. Losses from concentrated flow channel or gully erosion with a field are not included in these calculations. Field runoff losses are calculated for each year as **PTP** (lb P/field/yr). Fields are only included if there are at least 2 years of crops before the selected start year. Before using this report as part of a Water Quality Trade activity, phosphorus losses (PTP) must be converted into 'P credits' according to DNR guidance.

**Questions?** Please contact  
 DNRphosphorus@wisconsin.gov

For more information go to <http://dnr.wi.gov/> and type keyword: **Water Quality Trading**

*This report was developed for Wisconsin DNR Water Quality Trading and Adaptive Management purposes and cannot be used to demonstrate compliance with NR 151 or NRCS 590 NM plan requirements.*

Field Name	Soil Series	Soil Symbol	Acres	PTP						
				2022	2023	2024	2025	2026	2027	2028
2	LOYAL	LoB	1	0	0	0	0	0	0	0
3	LOYAL	LoB	7	1	1	1	1	1	1	1
4	LOYAL	LoB	5	1	0	0	0	0	0	0
5	LOYAL	LoB	2	0	0	0	0	0	0	0
6	LOYAL	LoB	1	0	0	0	0	0	0	0
<b>Total</b>			<b>15</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>

# ATTACHMENT F

## Soil Sampling Results



Submitted By: **BN03060**  
**JOEY LAGRANDER**  
W/11299 Broek Road  
Stanley, WI 54768-8215

106 N. Cecil Street  
Bonduel, WI 54107  
Phone 715-758-2178  
bonduel@agsource.com

Submitted For:  
**Joey LaGrander**

Laboratory Sample #  
**BA68284 - BA68291**

**Soil Analysis**

Date Received:  
**20-Apr-2017**

Date Processed:  
**21-Apr-2017**

Information Sheet #  
**792405**

Sample Id	Soil pH	Buffer pH	OM %	Bray 1		K	Ca	Mg	B	Mn	Zn	S	Cu	Fe	60 - 69 Tons	pH6.6	pH6.8	Est CEC	Total CEC	% Base Saturation			
				P	P															K	Ca	Mg	Tot

<b>Field Id: 1</b>																				
Min:	6.2	7.3	2.0	21	66										2.0	2.0				
Max:	6.2	7.3	2.0	21	66										2.0	2.0				
Avg:	6.2	7.3	2.0	21	66										2.0	2.0				
1	6.2	7.3	2.0	21	66										2.0	2.0				

<b>Field Id: 2</b>																				
Min:	6.1	7.2	2.7	22	73										2.0	2.0				
Max:	6.1	7.2	2.7	22	73										2.0	2.0				
Avg:	6.1	7.2	2.7	22	73										2.0	2.0				
1	6.1	7.2	2.7	22	73										2.0	2.0				

<b>Field Id: 3</b>																				
Min:	6.0	7.3	2.6	22	73										2.0	2.0				
Max:	6.0	7.3	2.6	22	73										2.0	2.0				
Avg:	6.0	7.3	2.6	22	73										2.0	2.0				
1	6.0	7.3	2.6	22	73										2.0	2.0				

<b>Field Id: 4</b>																				
Min:	6.4	7.3	2.4	12	68										2.0	2.0				
Max:	6.4	7.3	2.4	12	68										2.0	2.0				
Avg:	6.4	7.3	2.4	12	68										2.0	2.0				
1	6.4	7.3	2.4	12	68										2.0	2.0				

<b>Field Id: 5</b>																				
Min:	6.4	7.3	3.1	18	99										2.0	2.0				
Max:	6.4	7.3	3.1	18	99										2.0	2.0				
Avg:	6.4	7.3	3.1	18	99										2.0	2.0				
1	6.4	7.3	3.1	18	99										2.0	2.0				

**DISCLAIMER:** Data and information in this report are intended solely for the individual(s) for whom samples were submitted. Reproduction of this report must be in its entirety. Levels listed are guidelines only. Data was reported based on standard laboratory procedures and deviations.



# Soil Analysis

Sample Id	Soil pH	Buffer pH	OM %	Bray 1 P	K	Ca	Mg	B	Mn	Zn	S	Cu	Fe	60 - 69 Tons	69 - 80 Tons	Est CEC	Total CEC	% K	% Ca	% Mg	% Tot	% H
-----------	---------	-----------	------	----------	---	----	----	---	----	----	---	----	----	--------------	--------------	---------	-----------	-----	------	------	-------	-----

## Field Id: 6

1	6.0	7.1	3.3	10	55									2.0	2.0								
	Max:	6.0	7.1	3.3	10	55								2.0	2.0								
	Avg:	6.0	7.1	3.3	10	55								2.0	2.0								

## Field Id: 7

1	6.0	7.1	3.7	16	79									2.0	2.0								
	Max:	6.0	7.1	3.7	16	79								2.0	2.0								
	Avg:	6.0	7.1	3.7	16	79								2.0	2.0								

## Field Id: G

1	6.9	---	2.5	38	122									---	---								
	Min:	6.9	2.5	38	122									---	---								
	Max:	6.9	2.5	38	122									---	---								
	Avg:	6.9	2.5	38	122									---	---								

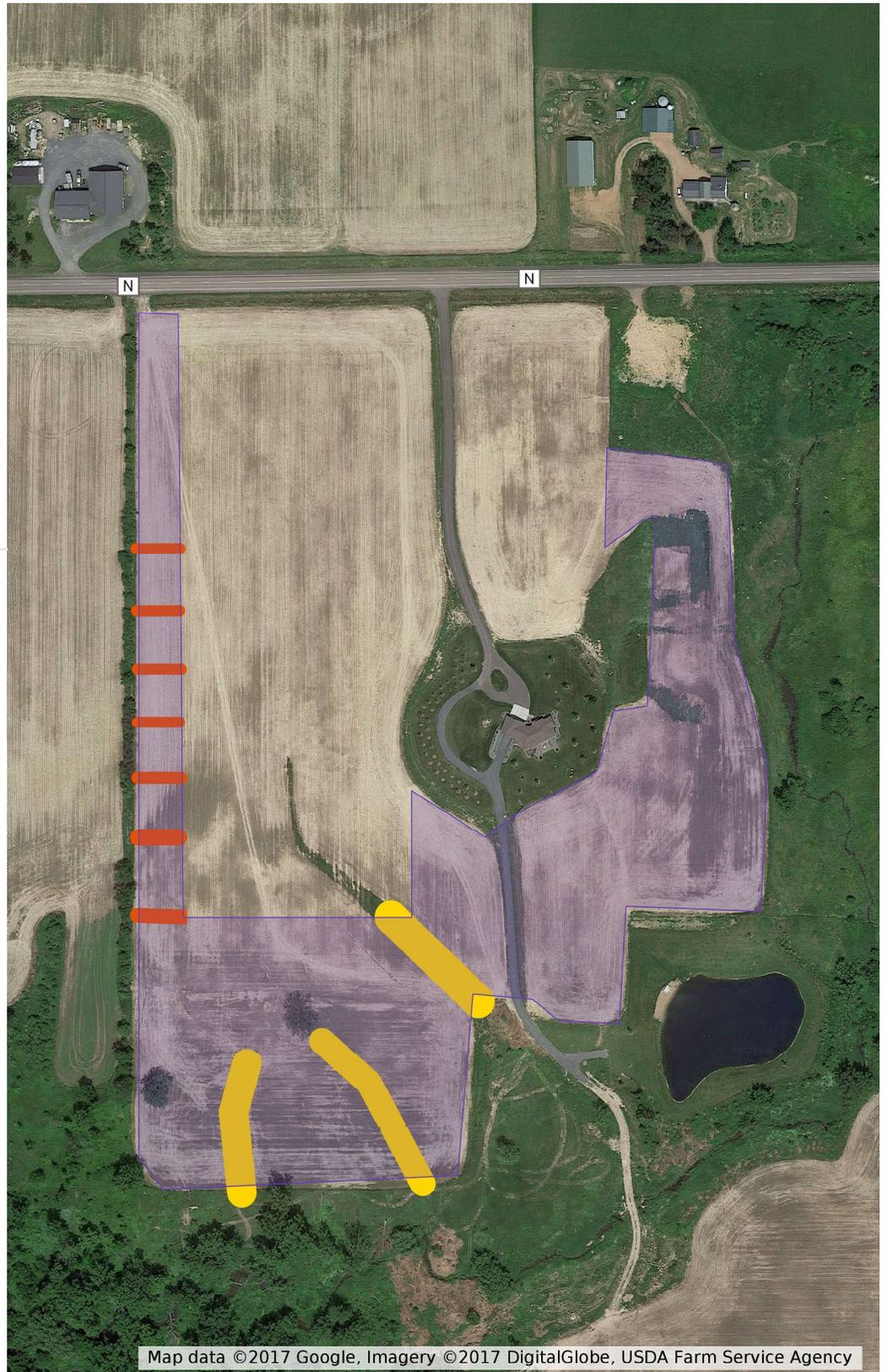
# ATTACHMENT G

## Prairie Establishment Plan

# Lagrande Erosion Control

Untitled layer

-  Planting Area - Straw Mulch
-  Erosion Mat - Type 1
-  Erosion Mat - Type 1
-  Erosion Mat - Type 1
-  Erosion Mat - Type 1
-  Erosion Mat - Type 1
-  Erosion Mat - Type 1
-  Erosion Mat - Type 1
-  Erosion Mat - Type 2
-  Erosion Mat - Type 2
-  Erosion Mat - Type 2



# Lagrande Planting Zones

Untitled layer

- Planting Zone 1 a - 6.0 ac
- Planting Zone 1 b - 1.6 ac
- Planting Zone 2 a - 2.2 ac
- Planting Zone 2 b - 2.2 ac
- Planting Zone 1 d - 0.4 ac
- Planting Zone 1 c - 0.4 ac
- Planting Zone 2 c - 0.9 ac
- Planting Zone 1 e - 1.5 ac



## **Lagrander Hillside Dairy Prairie Plantings Establishment Plan**

This Establishment Plan was developed to establish permanent conservation cover consistent with the requirements and recommendations of NRCS Technical Standard 327. The primary purpose of the installation of conservation cover at the sites is to reduce downstream surface water quality degradation by nutrients and sedimentation.

### **Soil Preparation**

The fields were planted in corn in 2016. Some areas will require moderate regrading where heavy rains washed out areas. After these areas are re-graded, fields will be disced and cultipacked prior to seed installation.

### **Seed Products**

Seed, with the exception of cover crop, shall be species native to west-central Wisconsin and from a genetic source within the Midwest. Species selected are known to grow in Clark County, WI, as listed by the University of Wisconsin's state herbarium records. Seed provided shall be measured as pure live seed, properly labeled and shipped in accordance with Wisconsin law. The species chosen have been carefully selected to ensure they are adapted to the local soils, ecological conditions and climactic conditions of the region.

Three seeding mixes will be used to ensure that species planted are adapted to the particular area of the site where they will be installed. The seed mixes include a heavier seeding of grasses than is typical because the primary purpose of the conservation cover is to reduce downstream surface water quality degradation by nutrients and sedimentation and to ensure quick site stabilization. Further, each unit includes a fairly dense seeding of *Elymus canadensis* (Canada wild rye), which establishes quickly. Unlike the other prairie grass species, *Elymus canadensis* is a cool season grass that typically germinates more readily without stratification and will provide a secondary cover after the oat cover crop (described below) begins to senesce in the late summer. The remaining warm season grasses are slower to establish, but will eventually come to dominate the site and provide a permanent cover that, if properly maintained, will last indefinitely. These species have deep root systems and will completely stabilize the soil at maturity.

Wildflower, or forb, seeds will also be installed. These species have been selected to be complimentary with the grasses. Each species occupies a different niche and provides habitat and food value to different insect, bird and animal species.

In order to ensure that the primary purpose of the conservation cover will be met, seed for native grass species will be applied at a minimum rate of 10 lbs/acre. In addition, seed for wildflower or forb species will be applied at a rate of 10 oz/acre.

Oats will be seeded at a rate of 35 lbs/acre and used as a cover crop during the first year. Oats will be used as a cover crop because they germinate quickly and will provide ample cover within a few weeks. Other cover crop species have various drawbacks that oats do not have, such as an allelopathic effect (winter rye or winter wheat) and or they tend to persist longer than desired (annual rye).

The property has been broken into three units: hill top, slope, and valley, which are described below:

Planting Zone 1: These units are moderately sloped areas. The species selected and rates are biased toward more mesic species.

<i>Grasses and Sedges</i>		<i>9.9 ac</i>		
<i>Scientific Name</i>	<i>Common Name</i>	<i>Rate/Ac</i>	<i>Unit</i>	<i>Total Seed Qty</i>
Andropogon scoparius	Little Bluestem	3.000	lb	29.700
Bouteloua curtipendula	Side-oats Grama	2.000	lb	19.800
Andropogon gerardii	Big bluestem	1.000	lb	9.900
Sorghastrum nutans	Indiangrass	1.000	lb	9.900
Carex brevior	Plains Oval Sedge	0.100	lb	0.990
Elymus canadensis	Canada Wild Rye	3.000	lb	29.700
Panicum virgatum	Switch Grass	1.000	lb	9.900
<i>Wildflowers</i>		<i>Total grasses and sedges</i>	<i>11.100</i>	<i>lb</i>
Asclepias tuberosa	Butterfly Weed	1.000	oz	9.900
Asclepias sericea	Common milkweed	1.000	oz	9.900
Echinacea pallida	Coneflower - Pale Purple	1.000	oz	9.900
Heliopsis helianthoides	Sunflower - Early (Ox-eyed)	1.000	oz	9.900
Liatris aspera	Blazing star, rough	0.500	oz	4.950
Lespideza captiata	Round headed bush clover	1.000	oz	9.900
Lupinus perennis	Lupine, Wild	1.000	oz	9.900
Monarda fistulosa	Bergamot, Wild	1.000	oz	9.900
Rudbeckia hirta	Black-eyed Susan	1.000	oz	9.900
Solidago speciosa	Showy goldenrod	1.000	oz	9.900
Tradescantia ohiensis	Spiderwort, Ohio	1.000	oz	9.900
Zizia aurea	Alexanders, Golden	1.000	oz	9.900
		<i>Total wildflowers (forbs)</i>	<i>11.500</i>	<i>oz</i>

Planting Zone 2: These units are relatively flat to somewhat sloped and contain hydric soil types. These soil types historically supported wetland vegetation. Therefore the plants selected are wet mesic to wet prairie species.

<i>Grasses and Sedges</i>		5.2	ac		
<i>Scientific Name</i>	<i>Common Name</i>	<i>Rate/Ac</i>	<i>Unit</i>	<i>Total Seed Qty</i>	
Andropogon scoparius	Little Bluestem	1.000	lb	5.200	
Bouteloua curtipendula	Side-oats Grama	1.000	lb	5.200	
Andropogon gerardii	Big bluestem	2.000	lb	10.400	
Sorghastrum nutans	Indiangrass	1.000	lb	5.200	
Carex brevior	Plains Oval Sedge	1.000	oz	5.200	
Carex vulpinoidea	Fox Sedge	2.000	oz	10.400	
Elymus canadensis	Canada Wild Rye	3.000	lb	15.600	
Panicum virgatum	Switch Grass	1.500	lb	7.800	
<i>Wildflowers</i>		<i>Total grasses and sedges</i>		<i>12.500</i>	
Aster nova anglieae	New England aster	1.000	oz	5.200	
Asclepias sericea	Common milkweed	2.000	oz	10.400	
Asclepias incarnata	Swamp milkweed	0.500	oz	2.600	
Eupatorium maculatum	Spotted Joe Pye weed	1.000	oz	5.200	
Heliopsis helianthoides	Sunflower - Early (Ox-eyed)	1.000	oz	5.200	
Liatris pycnostachya	Blazing Star, Prairie	0.500	oz	2.600	
Physostegia virginiana	Obedient plant	1.000	oz	5.200	
Monarda fistulosa	Bergamot, Wild	1.000	oz	5.200	
Rudbeckia hirta	Black-eyed Susan	1.000	oz	5.200	
Solidago nemoralis	Old field goldenrod	1.000	oz	5.200	
Tradescantia ohioensis	Spiderwort, Ohio	1.000	oz	5.200	
Zizia aurea	Alexanders, Golden	1.000	oz	5.200	
		<i>Total wildflowers (forbs)</i>		<i>12.000</i>	

Erosion Control: Areas that are to receive type 1 and Type 2 erosion matting will be seeded with the seed mix that corresponds to the Planting Zone they are located in. Before installing the mat, seed from the species below will also be installed.

<i>Scientific Name</i>	<i>Common Name</i>	<i>Qty</i>	<i>Unit</i>	<i>Total Seed Qty</i>
Spartina pectinata	Cord grass	1.000	lb	1.000
Bromus ciliatus	Fringed brome	1.000	lb	1.000
Carex comosa	Bristly sedge	2.000	lb	1.000

The seeding mixes will be applied to the sites in accordance with the attached map.

### **Seed Installation**

Seed will be planted in 2017. All grass seeds and one-half of the available forb species will be planted in late June or early July of 2017 with a no-till drill specifically manufactured for the purpose of planting prairie seed. The other half of the forb seeds will be broadcast in November 2017 to aid establishment of forbs. It is generally recognized that forb seed installations do better when installed in the fall. Many of these species require cold/moist stratification and will be more likely to germinate and thrive when installed right before snowfall. In addition, many forb seeds are small and germinate on the surface of the soil. Such species when planted with a drill may be installed too deep. By splitting the forb seed into two applications we will maximize the opportunity to get all species established.

By applying forb seed using two methods and in two seasons, we expect to maximize germination success.

### **Erosion Control**

See erosion control plan.

A mulch of straw or shall be applied in all areas (except those covered by erosion mat described below) after seed has been installed at a rate of 1 ton per acre. This practice has been used for many years in reclamation activities but has not been widely used in CRP plantings or ecological restoration in general. We have chosen to use it on this project to further ensure that the planting will quickly establish and also to inhibit erosion during the establishment phase.

The designed rate of 1 ton per acre will provide moderate cover allowing light to penetrate to the soil while reducing evaporation from the soil at the surface and also reducing the impact of rain droplets that can start the erosion process. This will accelerate germination and protect young seedlings. This is important for the first few weeks after planting especially if seed is installed later in the growing season or if a hot, dry spell occurs.

Erosion matting will be placed in locations where significant erosion has been noted in the past. The erosion control plan shows the locations of Type 1 and Type 2 erosion mat. Additional locations may also be identified.

Type 1 is defined as: Class 1 Type A Urban (EG1SNN) is the single net straw with biodegradable net

- Single net straw: 100% straw with a single biodegradable jute netting. It is designed to provide erosion protection and assist with vegetation establishment for 8 to 12 months on slopes up to 3:1 and low-flow channels.

Type 2 is defined as: Class 1 Type B Urban (EG2SNN) is the double net straw with biodegradable nets

- Double net straw: 100% straw between two biodegradable jute nettings. It is designed to provide erosion control and assist with vegetation establishment assistance for 8 to 12 months on 2:1 to 3:1 slopes and in moderate-flow channels.

## **Seed Establishment Standards**

Standards for 2017, the Year of Planting

- Germination of cover crop shall occur within 20 days of installation. Cover crop establishment shall be uniform and consistent. Any area of more than 1 square yard that is devoid of cover crop shall be reseeded within three weeks of installation.
- Germination of native grass species shall be apparent by mid-August. Areas of erosion where seed has likely been lost will be reseeded and appropriate erosion control measures applied.
- Establishment of native grasses should be consistent and widespread by the middle of September 2017, although seedlings are likely to be inconspicuous. Areas greater than 100 square yards that do not have native grasses shall be reseeded with native grasses in November.

## **Seed Establishment Activities**

Mowing: The purpose of mowing is to keep weeds from going to seed and to allow sunlight to penetrate to native grasses seedlings and to limit competition for water by weed species.

During the Year of Planting, seeded areas shall be mowed at a height of 8 to 12 inches when vegetation has reached a height of 18 inches. Depending on the growing conditions, this may require mowing as frequently as every two weeks. In no event will mowing be conducted at a height less than 8 inches.

Herbicide Applications: Herbicide shall be applied to perennial weeds such as Canada thistle or woody plants that invade the areas seeded with prairie seed. The herbicide used shall be the most selective possible given the target species and shall be applied only to the target species to the extent practicable. Herbicide shall not be applied to annual weeds unless they cannot be controlled by mowing and if they have developed a monoculture that precludes establishment of native grasses.

## **Site Inspections**

The sites will be inspected one month after installation to ensure cover crop germination. The site will also be inspected to confirm initial germination of native grasses in mid-September 2017 in order to provide ample time to develop a cover cropping plan for winter, if necessary. After that, the sites will be inspected per the operation and maintenance standards.

# ATTACHMENT H

## Prairie O&M Plan



## **Lagrander Hillside Dairy Prairie Plantings Operation and Maintenance Plan**

The goal of this Operation and Maintenance Plan is to ensure native cover remains consistently and exclusively throughout the site in perpetuity. The primary purpose of the installation and maintenance of conservation cover at the site is to reduce downstream surface water quality degradation by nutrients and sedimentation. This Maintenance Plan was developed to ensure this goal is achieved and is consistent with the requirements and recommendations of NRCS Technical Standard 327.

Prairie plants require regular maintenance and management to remain healthy. The concept of adaptive management is critical. Adaptive management implies that while we can and will prepare for certain activities to occur on site, we also must respond to changing conditions that are not always predictable. As a result, this Plan outlines certain activities to ensure the prairie plants remain healthy, but management practices will remain flexible and consistent with the principles outlined below, in order to adapt to any changing circumstances on-site.

As outlined below, the site will be inspected to ensure that management tools are used appropriately. The inspector will walk the entire site and take photos and notes regarding plant diversity, density, overall ecological health, and any erosion issues. Based on those findings, a more detailed prescription for remedial and maintenance activities will be developed specific to the current conditions on the site to ensure that consistent, perennial native cover remains on the site. The prescriptions for such activities will follow the standards and practices below.

### **Prairie Cover Standards for Seasons after the First Season**

Standards for Second Growing Season:

- It is unlikely, but it is possible that it will be necessary to re-seed cover crop in the spring of 2018. If native grasses are sparse and there is danger of erosion due to lack of cover, a cover crop of oats shall be seeded again in May 2018 when danger of frost has passed.
- Native grasses shall be found consistently throughout the site by mid-July 2018. Areas greater than 25 square yards that exclusively have plants that are not native grasses or forbs shall be reseeded with native grasses prior to November 30, 2018.
- Seedlings of native forb species shall be apparent throughout the site by mid-July 2018. If forb species are not apparent in parts of the site, areas larger than 100 square yards will be reseeded with the original forb species in November 2018.



#### Standards for Third and Fourth Growing Seasons:

- Native grasses shall be found consistently throughout the site by mid-July 2019 and 2020. Areas greater than 5 square yards that exclusively have plants that are not native grasses or forbs shall be reseeded with native grasses prior to the end of November 2019 and 2020.
- Seedlings of native forb species shall be apparent throughout the site during the fourth growing season. Identification of at least 30% of forb species shall be made within the zones the species were planted. If at least 30% of forb species are not identified, those species not identified will be re-seeded in November.

#### Standards for the Fifth Growing Season and Subsequent Seasons:

- Native grasses shall be found consistently throughout the site as determined during the annual inspection each year. Areas greater than 5 square yards that exclusively have plants that are not native grasses or forbs shall be reseeded with native grasses in November of that same year.
- Seedlings of native forb species shall be apparent throughout the site. Identification of at least 50% of forb species shall be made within the zones the species were planted. If at least 50% of forb species are not identified during the annual inspection, those species not identified will be re-seeded in November of that same year.
- Once the native forb species diversity test above has been met, it will not remain a test thereafter. This is because prairie plantings that are not grazed often tend to have fewer forbs and more grasses as time goes on. The only way to remedy this other than grazing, is to chisel plow to break up the sod, which would create a potential erosion problem.

Reseeding activities shall continue in following seasons as necessary to ensure the standards for the Fifth Growing Season continue to be met in later years.

#### **Early Maintenance Activities for Prairie Through 2021**

Herbicide Applications: Herbicide shall be applied to perennial weeds such as Canada thistle or woody plants that invade the areas seeded with prairie seed. The herbicide used shall be the most selective possible given the target species and shall be applied only to the target species to the extent practicable. Herbicide shall not be applied to annual weeds unless they cannot be controlled by mowing or burning and if they have a developed a monoculture that precludes native grasses.

Prescribed Burning: The primary management tool for prairies is prescribed burning. Prescribed burning simulates the effects of wildfires that were part of Wisconsin's pre-settlement environment in which native plant communities, including prairies, thrived. Native prairie grasses and forbs, including those species planted at the site, develop deep roots and buds beneath the soil, enabling them to withstand



the heat of a fire. The deep roots of native prairie plants also stabilize the site after a fire and enable native prairie plants to quickly regenerate. The Wisconsin Department of Natural Resources has additional information regarding prescribed burning and its benefits to native plant communities, such as prairies, on its website at: <http://dnr.wi.gov/topic/wildlifehabitat/burn.html>.

Because fire is a critical element in sustaining native prairies, prescribed burning will be used as a management tool at the site. If fuel levels allow, seeded areas may be burned in the spring of 2020 or 2021. Prescribed burning will only occur if fuel levels and weather conditions are appropriate to ensure a prescribed burn can be conducted in a safe and controlled manner and that the site will benefit ecologically from the burn. Because burning will occur at the earliest in the fourth growing season after native vegetation is well-established, nutrient runoff is not expected. However, after a burn is conducted, the site will be monitored for any erosion issues. If erosion issues are identified, they will be addressed pursuant to the below sections titled, “Methods to Address Minor Erosion Control Concerns” and “Methods to Address Effects of Catastrophic and Anomalous Events.”

### **Long-Term Maintenance and Management of Prairie after 2021**

Prescribed Burning: As described in the immediately preceding section, the primary management tool for prairies is prescribed burning. Prescribed burning is ecologically beneficial to native prairie plants and will be used as a management tool, as appropriate, to ensure the continued health of the prairie at the site. Generally speaking, after 2021, one third of the site should be burned every year, creating a 3 year rotation. However, certain weeds and woody invasive species may be controlled with more or less frequent fire. In light of that, the determination of which area will be burned and when that area will be burned will be based on the best judgment of the inspector and his/her prescription for maintenance activities.

Prescribed burning will only occur if fuel levels and weather conditions are appropriate to ensure a prescribed burn can be conducted in a safe and controlled manner and that the site will benefit ecologically from the burn. Because burning will occur when the site is well-established, nutrient runoff is not expected. However, after a burn is conducted, the site will be monitored for any erosion issues. If erosion issues are identified, they will be addressed pursuant to the below sections titled, “Methods to Address Minor Erosion Control Concerns” and “Methods to Address Effects of Catastrophic and Anomalous Events.”

Herbicide Applications: Management of some invasive species can often only be accomplished through the use of herbicides. Herbicide shall be applied to perennial weeds such as Canada thistle or woody plants that invade the areas seeded with prairie seed. The herbicide used shall be the most selective possible given the target species and shall be applied only to the target species to the extent practicable.



Herbicide shall not be applied to annual weeds unless they cannot be controlled by burning and if they have a developed a monoculture that precludes native grasses.

### **Site Inspections**

The site will be inspected one time each during the spring, summer, and fall in the second, third, and fourth growing seasons. Thereafter, the site will be inspected once on an annual basis. This annual inspection will occur between mid-August and mid-September of each year. The site inspections will ensure compliance with seed establishment standards and identify any erosion issues. The site will also be inspected following any major events that could cause erosion as soon as the safety of the inspector can be assured, and if any erosion issues are identified, they will be addressed in accordance with the seed establishment standards above and erosion control sections below. During inspections, the inspector will walk the site and take close-up and distant photos of the site. The inspector will also take notes regarding plant diversity, density, overall ecological health, and any erosion issues. Based on those findings, a more detailed prescription for remedial and maintenance activities will be developed that will ensure that consistent, perennial native cover remains on the site. If the inspection identifies areas at the site that are not meeting the applicable seed establishment standards for the growing season, the remedial action identified in each standard will be taken. If the inspection identifies erosion issues, they will be addressed pursuant to the sections in this Plan titled “Methods to Address Minor Erosion Control Concerns” and “Methods to Address Effects of Catastrophic and Anomalous Events.”

The inspection reports and associated documentation will be submitted to the Wisconsin Department of Natural Resources with the Lagrander Hillside Dairy Annual Report, which is described in the Water Quality Trading Plan.

### **Methods to Address Minor Erosion Control Concerns**

The site will be inspected for any bare spots, gullies, or other erosion control concerns. Erosion concerns will be addressed as follows:

- If bare spots larger than five square yards are identified during the growing season (May 15 through September 30), they will be immediately reseeded with cover crop and covered with a light straw mulch.
- If bare spots larger than five square yards occur outside the growing season, they will be addressed with temporary erosion matting, mulching, or the application of polyacrylamide, as necessary. Erosion events that occur outside of the growing season will be seeded with cover crop once the growing season begins.
- In the event of a major erosion event, such as the formation of a gully greater than one foot wide and one foot deep, the area will be regraded first and then reseeded per above.



All bare spots or gullies described above will also be reseeded with native grasses. Bare spots or gullies will be re-seeded with forbs if they are larger than 100 square yards. Reseeding of native grasses and forbs in eroded areas must occur prior to July 15 or after November 1. Any eroded areas that are reseeded will be treated as newly established prairie and must meet the requirements for each growing season per the standards in the Establishment Plan and listed above.

### **Methods to Address Effects of Catastrophic and Anomalous Events**

Certain catastrophic events may require the development of a more intense and urgent plan than the events outlined under the “Methods to Address Minor Erosion Control Concerns” above. These primarily include events that would cause flooding. For instance, in 1996 the Joliet, Illinois, area received over seventeen inches of rain in less than 48 hours. The level of flooding and related erosion was greater than had ever been experienced. Should such an event take place, it would be very difficult if not impossible to address while the event was in progress.

It is impossible to predict all the potential catastrophic or anomalous events that could cause significant damage to prairie plantings. If a catastrophic or anomalous event occurs, a site inspection would be done as soon as the safety of the inspector can be assured and an emergency plan will be developed and implemented promptly following inspection unless weather or other conditions indicate it should be implemented later. The emergency plan will be consistent with the standards and practices outlined in the Establishment Plan and this Plan to ensure native perennial cover remains consistently throughout the site.

If a catastrophic flood event occurs during the growing season, an erosion plan that includes practices that closely resemble the standards and practices outlined in the Establishment Plan and in this Plan would be developed and implemented. If such an event occurred in mid-September or later, it would be impossible to establish cover prior to winter. Therefore, an erosion plan that includes standard physical erosion control structures would have to be prepared and implemented. This might include placing silt fence, straw wattles or perhaps even the excavation of a settling basin, if so warranted. In addition, a plan would be developed for the next growing season to grade if necessary and reseed in accordance with the standards and practices outlined in the Establishment Plan and this Plan. That plan would be implemented prior to July 1 of that growing season unless weather or other conditions indicate that it should be implemented later.

Other catastrophic events may be wind-based events, such as a tornado or intense straight-line winds, and these may cause trees to fall into the site from the surrounding fence lines. A site inspection would be done as soon as the safety of the inspector can be assured. Any fallen trees will be promptly removed and to the extent the prairie plantings are damaged, erosion issues will be addressed and the area reseeded per the standards and practices above.



Vandalism is another possible hazard. This would most likely involve off road vehicles illegally accessing the property and creating ruts. Ruts would be promptly filled, erosion issues would be addressed, and the area would be reseeded per the standards and practices above.

As previously stated, it is impossible to predict all the possible hazards. However, prairie plantings, in the form of Conservation Reserve Program plantings, private prairies, and remnant prairie plant communities have been shown to be exceptionally resilient in the face of disturbance.

### **Plan Preparation**

This Plan was prepared by Carl Korfmacher, Owner, Midwest Prairies, LLC, 11847 Washington Road Edgerton, WI 53534, 800.382.1132, on behalf of Lagrander Hillside Dairy for inclusion in the Water Quality Trading Plan.

# ATTACHMENT I

## Historic Farming Practices Information

Field	A	B	C	D
Nutrient Management Plan available?	YES	YES	YES	YES
2016 crop & estimated yield	20 TON CORN	20 TON CORN	20 TON CORN	20 TON CORN
2015 crop & estimated yield	SILAGE PER ACRE	SILAGE PER ACRE	SILAGE PER ACRE	SILAGE PER ACRE
2014 crop & estimated yield	35 BUSHELS SOYBEANS PER ACRE			
2016 fertilizer (incl. quantity)	5 GALS LIQUID STARTER PER ACRE			
2015 fertilizer (incl. quantity)	LI	LI	LI	LI
2014 fertilizer (incl. quantity)	200# POT ASH 100# DAP PER ACRE			
2016 manure quantity	12,000 GAL LIQUID MANURE PER ACRE			
2015 manure quantity	---	---	---	---
2014 manure quantity	---	---	---	---
Is manure incorporated?	YES	YES	YES	YES
Irrigated?	NO	NO	NO	NO
2016 tilling <sup>1</sup>	SPRING CHISELED, DISKED			→
2015 tilling <sup>1</sup>	u	u	u	u
2014 tilling <sup>1</sup>	—SPRING	MB PLOW	→	

<sup>1</sup>Choose one of the following:

- Fall chiseled, disked
- Fall chiseled, no disked
- Fall cultivated
- Fall MB Plow
- Fall vertical tillage
- No Till
- Spring chiseled, disked
- Spring chiseled, no disked
- Spring cultivated
- Spring MB Plow
- Spring vertical tillage

**ATTACHMENT J**  
**WQT Compliance History and Photos**



17035 W. Wisconsin Avenue, Suite 120  
Brookfield, WI 53005  
Phone: (262) 264-5665  
Web: probstgroup.com

January 29, 2020

Mr. Jarrod Nelson  
Wisconsin Department of Natural Resources  
1300 West Clairemont Ave  
Eau Claire, WI 54701

Re: Water Quality Trading Annual Report  
LaGrander's Hillside Dairy - Stanley, WI  
WI-0054364-09-0

Dear Mr. Nelson,

This letter is submitted to the Wisconsin Department of Natural Resources (WDNR) by The Probst Group, LLC (Probst) on behalf of LaGrander's Hillside Dairy (LaGrander's) in Stanley, WI. In accordance with the facility's Wisconsin Pollutant Discharge Elimination System (WPDES) permit, an annual water quality trading (WQT) report is due to WDNR on January 31<sup>st</sup> each year.

In accordance with the establishment plan submitted as part of the water quality trading plan (WQT-20171112), 15.21 acres of permanent prairie was maintained in 2019. See enclosures for full inspection reports with photos.

The current WPDES permit for LaGrander's became effective on February 1, 2018. As approved in the water quality trading plan (WQT-20171112) and implemented in the WPDES permit, 116 phosphorus credits were available for use in 2019. As shown in Table 1 below, in 2019, LaGrander's used 90.9 of their 116 phosphorus credits.

**Table 1**  
**Phosphorus Water Quality Trade Credits Used**

Month	Credits Used [lbs/month]	Month	Credits Used [lbs/month]
January	10.9	July	7.4
February	7.8	August	5.2
March	4.1	September	6.8
April	6.9	October	6.3
May	10.4	November	8.7
June	5.3	December	11.1



There have been no instances of noncompliance or failure to implement any terms or conditions of the WPDES permit with respect to the WQT.

If you have questions or concerns as you review the information presented in this letter, please feel free to reach out at your convenience.

Best regards,

A handwritten signature in black ink, appearing to read 'Lynn Morrison'.

**Lynn Morrison, P.E. | Permitting Engineer**

Direct: (262) 402-6077 | Cell: (608) 577-2196

Email: [lmorrison@probstgroup.com](mailto:lmorrison@probstgroup.com)

Enclosure: June 4, 2019 Inspection Report  
July 19, 2019 Inspection Report  
October 16, 2019 Inspection Report

Ecc: Joe LaGrandeur, LaGrandeur's

# Lagrand Hillside Dairy

## Inspection Report

By Carl Korfmacher, Owner, Midwest Prairies, LLC  
July 13, 2019

The site was inspected by Carl Korfmacher on June 4, 2019. All areas were inspected thoroughly by foot. Notes regarding plant diversity, density, overall ecological health, and any erosion control concerns were noted. Close up and distance photographs of salient site characteristics were taken and are described below.

### Seed Establishment

The following standards taken from the O&M Plan for the third and fourth growing year of establishment are included for your reference:

- Native grasses shall be found consistently throughout the site by mid-July 2019 and 2020. Areas greater than 5 square yards that exclusively have plants that are not native grasses or forbs shall be reseeded with native grasses prior to the end of November 2019 and 2020.
- Seedlings of native forb species shall be apparent throughout the site during the fourth growing season. Identification of at least 30% of forb species shall be made within the zones the species were planted. If at least 30% of forb species are not identified, those species not identified will be re-seeded in November.

### Lagrand Planting Zones



The great majority of the site met the seed establishment criteria. All eroded areas that had been previously repaired in 2017 were stable. A small area in planting zone 1a where straw had been stored has sparse native plant cover but is meeting the standard (Figure 5). This area was reseeded by hand over the winter. It represents about 100 square yards and remains stable. All other areas are meeting the criteria.

Native grasses including *Elymus Canadensis* (Canada wild rye), *Bouteloua curtipendula* (side oats grama), *Sorghastrum nutans* (Indian grass), and *Schizachrium scoparium* (little bluestem) were found throughout the site. Flowers including *Rudbeckia hirta* (black eyed Susan), *Monarda fistulosa* (Bergamot), and *Zizia aurea* (golden Alexanders) were also found throughout the site in their respective seeding zones. It was not possible to identify 30% of the species yet but it is anticipated that additional species will be noted in future inspections.

### **Erosion**

Areas that were covered with erosion mat during initial installation all remain stable and seeded plants have grown up through the matting as expected. In many cases the matting is nearly invisible. In 2017, several eroded areas were graded, seeded and covered with erosion mat. All are now stable.

Rill erosion was noticeable and areas of compaction and poor establishment were found in the narrow access point in zone 1a leaving up to the main road in the past. These areas continue to stabilize and at this time very little if any rill erosion is present

A small field road has recently formed in zone 2c (Figure 6). No erosion appears to be occurring and the access point should not need to be used in the future. We expect this area to fill back in as plants that are matted down now should re-grow.

### **Weed competition**

There are many weeds noted on site although none appear to be in danger of overwhelming the prairie plantings. The highest concern is Canada thistle. This perennial weed is present but did not appear in great numbers. Other weeds include clover and dandelion. No annual weeds such as velvet leaf and mare's tail were found. These weed are diminishing and areas that formerly had significant populations have zero or almost zero weed competition as of this inspection. Seed heads of dandelion can be seen prominently in most photographs but we expect this weed to be greatly reduced in coming years.

**Site Inspections:** the site will be inspected informally by Joe Lagrander throughout the summer and fall. In addition to the site inspection conducted in June, other formal site inspections by Carl Korfmacher will occur in late summer and early fall.

**Remedial Work:** No remedial work is anticipated at this time.

**Establishment Activities:** A prescribed burn will be conducted in the spring of 2020.

# Lagrande Hillside Dairy

By Carl Korfmacher, Owner, Midwest Prairies, LLC

June 4, 2019

Photographic References – See report for details



*Figure 1: Looking northwest across Zone 1a*



*Figure 2: Looking south along west boundary from road.*



*Figure 3: Monarda fistulosa seedling*



*Figure 4: Looking north across eastern edge of Zone 1a*



*Figure 5: Close up of area where straw was stockpiled*



*Figure 6: Ruts left by farm equipment*



*Figure 7: Looking east across Zone 1e*



*Figure 8: This area is receiving some runoff from the adjacent farm field, but remains stable.*



*Figure 9: Looking east across 1e*



*Figure 10: Monarda fistulosa, native grasses, clover and dandelion*



*Figure 11: Looking east across Zone 1b and 2b*

# Lagrand Hillside Dairy

## Inspection Report

By Carl Korfmacher, Owner, Midwest Prairies, LLC  
August 3, 2019

The site was inspected by Carl Korfmacher on July 19, 2019. All areas were inspected thoroughly by foot. Notes regarding plant diversity, density, overall ecological health, and any erosion control concerns were noted. Close up and distance photographs of salient site characteristics were taken and are described below.

### Seed Establishment

The following standards taken from the O&M Plan for the third and fourth growing year of establishment are included for your reference:

- Native grasses shall be found consistently throughout the site by mid-July 2019 and 2020. Areas greater than 5 square yards that exclusively have plants that are not native grasses or forbs shall be reseeded with native grasses prior to the end of November 2019 and 2020.
- Seedlings of native forb species shall be apparent throughout the site during the fourth growing season. Identification of at least 30% of forb species shall be made within the zones the species were planted. If at least 30% of forb species are not identified, those species not identified will be re-seeded in November.

### Lagrand Planting Zones



The great majority of the site met the seed establishment criteria. All eroded areas that had been previously repaired in 2017 were stable. A small area in planting zone 1a where straw had been stored has sparse native plant cover but is meeting the standard (Figure 11). This area was reseeded by hand over the winter. It represents about 100 square yards and remains stable. All other areas are meeting the criteria.

All native grasses that were planted were observed in great abundance. Flowers including *Rudbeckia hirta* (black eyed Susan), *Monarda fistulosa* (Bergamot), *Asclepias tuberosa* (Butterfly weed), *Asclepias syriaca* (common milkweed), *Heliopsis helianthoides* (Early sunflower), were also found throughout the site in their respective seeding zones. *Zizia aurea* (golden Alexander's) was found in the spring but not the fall. Therefore, the site is meeting the standard of 30% of native wildflowers found.

### **Erosion**

Areas that were covered with erosion mat during initial installation all remain stable and seeded plants have grown up through the matting as expected. In many cases the matting is nearly invisible. In 2017, several eroded areas were graded, seeded and covered with erosion mat. All are now stable.

Rill erosion was noticeable and areas of compaction and poor establishment were found in the narrow access point in zone 1a leaving up to the main road in the past. At this time no rill erosion is present

A small field road was formed in zone 2c in the spring (Figure 10). It has filled back with native plants and is fully stable although sparse in a few places.

### **Weed competition**

There are many weeds noted on site although none appear to be in danger of overwhelming the prairie plantings. The highest concern is Canada thistle. This perennial weed is present but did not appear in great numbers. Other weeds include clover and dandelion. Daisy fleabane (a native annual weed) was found in abundance, but should not hinder perennial grasses and forbs. No annual weeds such as velvet leaf and mare's tail were found.

**Site Inspections:** the site will be inspected informally by Joe Lagrander throughout the summer and fall. In addition to the site inspection conducted in June, other formal site inspections by Carl Korfmacher will occur in late summer and early fall.

**Remedial Work:** No remedial work is anticipated at this time.

**Establishment Activities:** A prescribed burn will be conducted in the spring of 2020.

## Lagrande Hillside Dairy

By Carl Korfmacher, Owner, Midwest Prairies, LLC  
July 19, 2019

Photographic References – See report for details



*Figure 1: Looking northwest across zone 1a. Switchgrass and Canada wild rye are prominent*



*Figure 2: Looking south along access neck. Canada wild rye is abundant. Other warm season grasses are well established also even in areas that formerly showed minor erosion.*



*Figure 3: Black eyed Susan with Canada wild rye and red clover*



*Figure 4: A patch of bergmot, black eyed Susan and early sunflower*



*Figure 5: This area receives runoff from the cornfield seen in the background but remains stable.*



*Figure 6: Evening primrose, a common native biennial*



*Figure 7: Looking north across 1b*



*Figure 8: Blue vervain (Verbena hastata)*



*Figure 9: Looking north along eastern edge of Zone 1a*



*Figure 10: This area was used as farm access in the spring and has stabilized.*



*Figure 11: Straw stockpile area is stable but native cover remains sparse*



*Figure 12: Looking northeast along zones 1b and 2b*



*Figure 13: Looking west in Zone 1e*

# Lagrand Hillside Dairy

## Inspection Report

By Carl Korfmacher, Owner, Midwest Prairies, LLC  
October 23, 2019

The site was inspected by Carl Korfmacher on October 16, 2019. All areas were inspected thoroughly by foot. Notes regarding plant diversity, density, overall ecological health, and any erosion control concerns were noted. Close up and distance photographs of salient site characteristics were taken and are described below.

### Seed Establishment

The following standards taken from the O&M Plan for the third and fourth growing year of establishment are included for your reference:

- Native grasses shall be found consistently throughout the site by mid-July 2019 and 2020. Areas greater than 5 square yards that exclusively have plants that are not native grasses or forbs shall be reseeded with native grasses prior to the end of November 2019 and 2020.
- Seedlings of native forb species shall be apparent throughout the site during the fourth growing season. Identification of at least 30% of forb species shall be made within the zones the species were planted. If at least 30% of forb species are not identified, those species not identified will be re-seeded in November.

### Lagrand Planting Zones



The entire site met the seed establishment criteria. All eroded areas that had been previously repaired in 2017 were stable. A small area in planting zone 1a where straw had been stored has sparse native plant cover but is meeting the standard (Figure 2). This area was reseeded by hand over the winter and was again reseeded with native grasses during this site visit. It represents about 100 square yards and remains stable. All other areas are meeting the criteria.

All native grasses that were planted were observed in great abundance. Flowers including *Rudbeckia hirta* (black eyed Susan), *Monarda fistulosa* (Bergamot), *Asclepias tuberosa* (Butterfly weed), *Asclepias syriaca* (common milkweed), *Heliopsis helianthoides* (Early sunflower), *Aster novae angliae* (New England Aster) and *Aesclepias incarnata* (swamp milkweed) were also found throughout the site in their respective seeding zones. *Ziza aurea* (golden Alexander's) was found in the spring but not the fall. Therefore, the site is meeting the standard of 30% of native wildflowers found.

### **Erosion**

Areas that were covered with erosion mat during initial installation all remain stable and seeded plants have grown up through the matting as expected. In many cases the matting is nearly invisible. In 2017, several eroded areas were graded, seeded and covered with erosion mat. All are now stable.

Rill erosion was noticeable and areas of compaction and poor establishment were found in the narrow access point in zone 1a leaving up to the main road in the past. At this time no rill erosion is present

A small field road was formed in zone 2c in the spring. It has filled back with native plants and is fully stable although sparse in a few places (Figure 13).

### **Weed competition**

There are many weeds noted on site although none appear to be in danger of overwhelming the prairie plantings. The highest concern is Canada thistle. This perennial weed is present but did not appear in great numbers. Other weeds include clover and dandelion. No annual weeds such as velvet leaf and mare's tail were found.

**Remedial Work:** No remedial work is anticipated at this time.

**Establishment Activities:** A prescribed burn will be conducted in the spring of 2020.

# Lagrande Hillside Dairy

By Carl Korfmacher, Owner, Midwest Prairies, LLC  
August 23, 2019

Photographic References – See report for details



*Figure 1: Looking north planting zone 1e*



*Figure 2: Looking north along access point where straw bales were stockpiled*



*Figure 3: Black eyed Susan and dense grass cover*



*Figure 4: A weedier patch with some native grass and forb cover along with some dandelion and other weeds*



*Figure 5: Typical cover with prominent Canada wild rye seed heads*



*Figure 6: Looking northwest along zoned 1a. Canada wild rye and New England aster are visible.*



*Figure 7: Looking south along the eastern edge of zone 1a*



*Figure 8: Looking southeast zone 1b and 2b*



*Figure 9: New England aster*



*Figure 10: Looking south along western margin of zone 1a*



*Figure 11: Looking north in 1a where eroded gully was formerly found*



*Figure 12: Typical cover of native grass with a few weeds.*



*Figure 13: Looking west in zone 1e where field road was noted in the spring*



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17035 W. Wisconsin Avenue, Suite 120  
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Phone: (262) 264-5665  
Web: [probstgroup.com](http://probstgroup.com)

January 25, 2021

Mr. Jarrod Nelson  
Wisconsin Department of Natural Resources  
1300 West Clairemont Ave  
Eau Claire, WI 54701

Re: Water Quality Trading Annual Report  
LaGrander's Hillside Dairy – Stanley, WI  
WI-0054364-09-0  
WQT No. WQT-2017-0006

Dear Mr. Nelson,

This letter is submitted to the Wisconsin Department of Natural Resources (WDNR) by The Probst Group, LLC (Probst) on behalf of LaGrander's Hillside Dairy (LaGrander) in Stanley, WI.

LaGrander's Water Quality Trading (WQT) plan became effective on February 1, 2018 in their individual Wisconsin Pollutant Discharge Elimination System (WPDES) permit. In accordance with Section 3.2 of the WPDES permit, an annual WQT report is due to WDNR on January 31<sup>st</sup> each year.

The intent of this letter is to address topics described in Section 3.2, Annual WQT Report of LaGrander's WPDES permit.

### **SUMMARY OF INSPECTIONS PREFORMED**

Fields were inspected by Carl Korfmacher of Midwest Prairies in December of 2020. All areas were inspected thoroughly by foot. Notes regarding plant diversity, density, overall ecological health, and any erosion control concerns were noted. Close up and distance photographs were taken and are included with the inspection reports enclosed.

## POLLUTANT CREDITS USED

---

As approved in the WQT plan and implemented in the WPDES permit, 123 lbs of Total Phosphorus (TP) credits were available for use in 2020. 117.9 lbs of the 123 lbs of available TP credits were used in 2020. A summary of TP credits used each month is summarized in Table 2 below.

Table 2:  
WQT TP Credits (lbs/month) Used in 2020

MONTH	WQT TP CREDITS (LBS/MONTH)	MONTH	WQT TP CREDITS (LBS/MONTH)
January	9.13	July	17.67
February	9.59	August	8.23
March	7.42	September	8.11
April	6.52	October	7.43
May	13.81	November	9.57
June	11	December	9.41

## WQT COMPLIANCE DETERMINATION

---

The inspection report from December demonstrates that the prairie is established and remains in place. LaGrander was under their TP credit allotment for the year, using only 117.9 lbs of the available 123 lbs of TP. Therefore, LaGrander has implemented the terms and conditions of the approved water quality trading plan and there have been no instances of noncompliance with the Trade.

If you have questions or concerns as you review the information presented in this letter, please feel free to reach out at your convenience.

Best regards,



**Lynn Morrison, P.E.** | Permitting Engineer

Direct: (262) 402-6077 | Cell: (608) 577-2196

Email: [lmorrison@probstgroup.com](mailto:lmorrison@probstgroup.com)

Enclosure: December 1, 2020 Inspection Report

Ecc: Joe LaGrander, LaGrander's  
Jarrod Nelson, WDNR  
Abby Czerwinski, The Probst Group

# Lagrand Hillside Dairy

## Inspection Report

By Carl Korfmacher, Owner, Midwest Prairies, LLC  
December 1, 2020

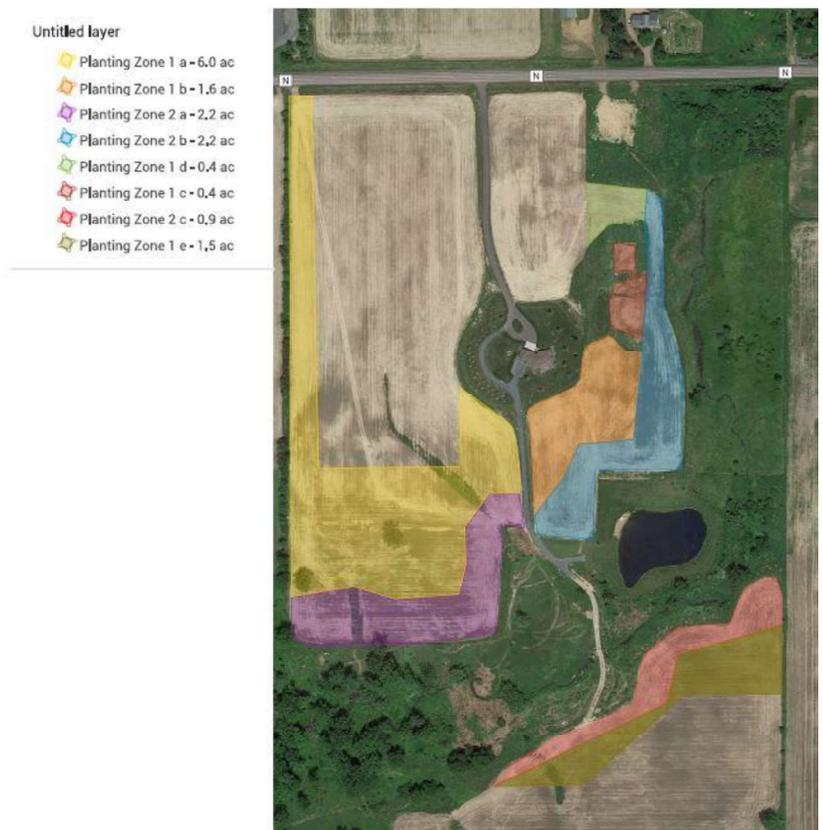
The site was inspected by Carl Korfmacher on December 1, 2020. All areas were inspected thoroughly by foot. Notes regarding plant diversity, density, overall ecological health, and any erosion control concerns were noted. Close up and distance photographs of salient site characteristics were taken and are described below.

### Seed Establishment

The following standards taken from the O&M Plan for the third and fourth growing year of establishment are included for your reference:

- Native grasses shall be found consistently throughout the site by mid-July 2019 and 2020. Areas greater than 5 square yards that exclusively have plants that are not native grasses or forbs shall be reseeded with native grasses prior to the end of November 2019 and 2020.
- Seedlings of native forb species shall be apparent throughout the site during the fourth growing season. Identification of at least 30% of forb species shall be made within the zones the species were planted. If at least 30% of forb species are not identified, those species not identified will be re-seeded in November.

### Lagrand Planting Zones



The entire site met the seed establishment criteria. All eroded areas that had been previously repaired were stable.

All native grasses that were planted were observed in great abundance. Flowers including *Rudbeckia hirta* (black eyed Susan), *Monarda fistulosa* (Bergamot), *Asclepias syriaca* (common milkweed), *Heliopsis helianthoides* (Early sunflower), *Aster novae angliae* (New England Aster) and *Verbena hastata* (vervain) were also found throughout the site in their respective seeding zones. Since we are now monitoring

only once a year, spring flowers were not evident but are most likely present since they were found in 2019. Regardless, the standard continues to be met based on senesced plants that were identifiable

### **Erosion**

No active erosion is present anywhere on site. Areas that were covered with erosion mat during initial installation all remain stable and seeded plants have grown up through the matting as expected. In many cases the matting is nearly invisible. In 2017, several eroded areas were re-graded, seeded and covered with erosion mat. All are now stable.

A field road has been established on part of the site (Figure 9). The vegetation is matted down but is not dead nor is any erosion evident from this impact. Owner has been advised that repeated driving on the same track may kill vegetation and cause erosion.

### **Weed competition**

Weeds are diminishing on the site, which is to be expected as a prairie planting matures. The highest concern is Canada thistle. This perennial weed is present but did not appear in great numbers. Clover and dandelion, which have been present in the past are virtually non-existent in most places. No annual weeds such as velvet leaf and mare's tail were found. A small patch of sweet clover was noted (Figure 3).

**Remedial Work:** No remedial work is anticipated at this time.

**Establishment Activities:** A prescribed burn was scheduled for spring of 2020 but was cancelled due to DNR's statewide burn ban. A prescribed burn is scheduled for spring of 2021.

# Lagrander Hillside Dairy

By Carl Korfmacher, Owner, Midwest Prairies, LLC  
December 1, 2020

Photographic References – See report for details



*Figure 1: Looking south from Unit 1*



*Figure 2: Looking south along narrow portion of Zone 1a near road*



*Figure 3: Small patch of sweet clover in Zone 1a*



*Figure 4: Several wildflowers shown.*



*Figure 5: Blue vervain*



*Figure 6: Looking north zone 1b*



*Figure 7: Looking east Zone 1e and 2c*



*Figure 8: Looking west from 1b - former eroded area used for field access*



*Figure 9: Looking north on narrow area of 1a. Note wheel tracks.*



*Figure 10: Typical cover example including several native grasses and forbs.*



*Figure 11: Take from far northeast margin looking south. Zone 1d in foreground.*



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info@probstgroup.com



17035 W. Wisconsin Ave., Suite 120  
Brookfield, WI 53005



January 31, 2022

Ms. Geisa Thielen  
Wisconsin Department of Natural Resources  
1300 West Clairemont Ave  
Eau Claire, WI 54701

Re: Water Quality Trading Annual Report  
LaGrander's Hillside Dairy – Stanley, WI  
WI-0054364-09-0  
WQT No. WQT-2017-0006

Dear Ms. Thielen,

This letter is submitted to the Wisconsin Department of Natural Resources (WDNR) by The Probst Group, LLC (Probst) on behalf of LaGrander's Hillside Dairy (LaGrander) in Stanley, WI.

LaGrander's Water Quality Trading (WQT) plan, Trading Plan Number: WQT-2017-0006, became effective on February 1, 2018, in their individual Wisconsin Pollutant Discharge Elimination System (WPDES) permit. Under Section 3.2 of the WPDES permit, an annual WQT report is due to WDNR on January 31<sup>st</sup> each year.

The intent of this letter is to provide a summary of information as required in LaGrander's WPDES permit to verify permit compliance is being met.

## 1 SUMMARY OF INSPECTION PERFORMED

Fields were inspected by Carl Korfmacher of Midwest Prairies in October of 2021. All areas were inspected thoroughly by foot. Notes regarding plant diversity, density, overall ecological health, and any erosion control concerns were noted. Close-up and distance photographs were taken and are included with the inspection reports enclosed. See the enclosed report and photographs that verify management practices are being properly maintained.

## 2 POLLUTANT CREDITS USED

As approved in the WQT plan and in Section 1.2.1.3 Phosphorus WQT Table 2, 126 lbs of Total Phosphorus (TP) credits were available for use in 2021. The facility used 54.5 lbs of the 126 lbs of available TP WQT credits were used in 2021. A summary of TP credits used each month is summarized in Table 2 below.





Table 2  
WQT TP Credits (lbs/month) Used in 2021

MONTH	WQT TP CREDITS (LBS/MONTH)	MONTH	WQT TP CREDITS (LBS/MONTH)
January	8.69	July	4.96
February	4.33	August	2.54
March	4.75	September	0.52
April	4.01	October	4.68
May	3.14	November	1.39
June	3.33	December	12.11

### 3 WQT COMPLIANCE DETERMINATION

The inspection report and photo documentation from the October inspection demonstrate that the prairie is established and remains in place. LaGrander was under their TP credit allotment for the year, using only 54.5 lbs of the available 126 lbs of TP, and demonstrated compliance using WQT to meet TP 0.180 mg/L monthly average and 0.060 mg/L 6-month average, and 0.075 lbs/day 6-month average.

LaGrander has implemented and met the terms and conditions of the facility approved water quality trading plan with no other instances of noncompliance.

If you have questions or concerns as you review the information presented in this annual report submittal, please feel free to reach out at your convenience.

Best regards,

**Abby Czerwinski** | Compliance Specialist

Direct: (262) 402-6095

Email: [aczerwinski@probstgroup.com](mailto:aczerwinski@probstgroup.com)

Enclosures:

October 22, 2021 Inspection Report

October 22, 2021 Inspection Photographic References

Ecc: Joe LaGrander, LaGrander's  
Heather Schoff, The Probst Group  
Emily James, The Probst Group

# Lagrande Hillside Dairy

## Inspection Report

By Carl Korfmacher, Owner, Midwest Prairies, LLC  
October 22, 2021

The site was inspected by Carl Korfmacher on October 22, 2021. All areas were inspected thoroughly by foot. Notes regarding plant diversity, density, overall ecological health, and any erosion control concerns were noted. Close up and distance photographs of salient site characteristics were taken and are described below.

### Seed Establishment

The following standards taken from the O&M Plan for the third and fourth growing year of establishment are included for your reference:

*Native grasses shall be found consistently throughout the site by mid-July 2019 and 2020. Areas greater than 5 square yards that exclusively have plants that are not native grasses or forbs shall be reseeded with native grasses prior to the end of November 2019 and 2020.*

*Seedlings of native forb species shall be apparent throughout the site during the fourth growing season. Identification of at least 30% of forb species shall be made within the zones the species were planted. If at least 30% of forb species are not identified, those species not identified will be re-seeded in November.*

### Lagrande Planting Zones

- Untitled layer
- Planting Zone 1 a - 6.0 ac
  - Planting Zone 1 b - 1.6 ac
  - Planting Zone 2 a - 2.2 ac
  - Planting Zone 2 b - 2.2 ac
  - Planting Zone 1 d - 0.4 ac
  - Planting Zone 1 c - 0.4 ac
  - Planting Zone 2 c - 0.9 ac
  - Planting Zone 1 e - 1.5 ac



The entire site met the seed establishment criteria. All eroded areas that had been previously repaired were stable.

All native grasses that were planted were observed in great abundance. Flowers including *Rudbeckia hirta* (black eyed Susan), *Echinacea pallida* (pale purple coneflower), *Monarda fistulosa* (Bergamot), *Asclepias syriaca* (common milkweed), *Heliopsis helianthoides* (Early sunflower), *Aster novae angliae* (New England Aster) and *Verbena hastata* (vervain) were also found throughout the site in their

respective seeding zones. Since we are now monitoring only once a year, spring flowers were not evident but are most likely present since they were found in 2019. Regardless, the standard continues to be met based on senesced plants that were identifiable

### **Erosion**

No active erosion is present anywhere on site. Areas that were covered with erosion mat during initial installation all remain stable and seeded plants have grown up through the matting as expected. In many cases the matting is nearly invisible. In 2017, several eroded areas were re-graded, seeded and covered with erosion mat. All are now stable.

### **Weed competition**

No perennial or annual weeds of major concern were noted.

**Remedial Work:** No remedial work is anticipated at this time.

**Establishment Activities:** A prescribed burn was scheduled for spring of 2020 but was cancelled due to DNR's statewide burn ban. A prescribed burn is scheduled for spring of 2021 but was not completed. A prescribed burn is scheduled for 2022.

# Lagrande Hillside Dairy

By Carl Korfmacher, Owner, Midwest Prairies, LLC

October 22, 2021

Photographic References – See report for details



*Figure 1: Looking south, planting zone 1a*



*Figure 2: Looking south along narrow access point, zone 1a*



*Figure 3: Eastern edge of 1a where major erosion channel was stabilized several years ago.*



*Figure 4: Looking north, eastern edge of 1a*



*Figure 5: Close up of native cover including bergamot*



*Figure 6: False sunflower (Heliopsis helianthoides)*



*Figure 7: Looking west planting zone 1e*



*Figure 8; Looking northwest planting zone 1b and 2b*



*Figure 9: Looking north 1b and 2b*

**ATTACHMENT K**  
**Completed “Practice Registration Form”**  
**3400-207**

**Notice:** Pursuant to s. 283.84, Wis. Stats., this form must be completed by any WPDES permittee that is using water quality trading as a method of complying with a permit limitation. Failure to complete this form would not result in penalties. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records Law (ss. 19.31 - 19.39, Wis. Stats.).

Applicant Information				
Permittee Name LaGrander's Hillside Dairy		Permit Number WI- 0054364		Facility Site Number
Facility Address W11299 Broek Rd			City Stanley	State WI
Project Contact Name (if applicable) Mark Pronley, P.E.			Address 17035 W. Wisconsin Ave.	City Brookfield
			State WI	ZIP Code 53005
Project Name LaGrander's Cheese New WWTP				

Broker/Exchange Information (if applicable)	
Was a broker/exchange be used to facilitate trade? <input type="radio"/> Yes <input checked="" type="radio"/> No	
Broker/Exchange Organization Name	Contact Name
Address	Phone Number
	Email

Trade Registration Information (Use a separate form for each trade agreement)						
Type	Trade Agreement Number	Practices Used to Generate Credits	Anticipated Load Reduction		Trade Ratio	Method of Quantification
<input type="radio"/> Urban NPS <input checked="" type="radio"/> Agricultural NPS <input type="radio"/> Other	WQT-20171112	Conservation Easement - Conversion of farmland to natural prairie per NRCS 327	2018 125.1 2019 116.4 2020 123.0 2021 125.9 2022 116.6		1.2	SnapPlus 16.3
County Clark	Closest Receiving Water Name Unnamed WBIC 2148600		Land Parcel ID(s) 064.0233.00 034.0232.00		Parameter(s) being traded Total Phosphorus	

**The preparer certifies all of the following:**

- I have completed this document to the best of my knowledge and have not excluded pertinent information.
- I certify that the information in this document is true to the best of my knowledge.

Signature of Preparer <i>Mark J. Pronley</i>	Date Signed 11/13/2017
---	---------------------------

**Authorized Representative Signature**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision. Based on my inquiry of those persons directly responsible for gathering and entering the information, the information is, to the best of my knowledge and belief, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature of Authorized Representative	Date Signed
--	-------------

**Leave Blank – For Department Use Only**

Date Received	Trade Docket Number
Entered in Tracking System <input type="checkbox"/> Yes	Date Entered
	Name of Department Reviewer

# Attachment L Water Quality Trading Checklist

**Notice:** Pursuant to s. 283.84, Wis. Stats., this form must be completed by any WPDES permittee that intends to pursue pollutant trading as a method of complying with a permit limitation. Failure to complete this form would not result in penalties. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records Law (ss. 19.31 - 19.39, Wis. Stats.).

**Applicant Information**

Permittee Name LaGrandier's Hillside Dairy		Permit Number WI- 0054364	Facility Site Number 610029200	
Facility Address W11299 Broek Rd			City Stanley	State WI
Project Contact Name (if applicable) Mark Pronley, P.E.			Address 17035 W. Wisconsin Ave	City Brookfield
			State WI	ZIP Code 53005
Project Name LaGrandier's Water Quality Trading Plan				
Receiving Water Name North Fork Eau Claire River		Parameter(s) being traded Total Phosphorus	HUC 12(s) 070500060103	

**Credit Generator Information**

Credit generator type (select all that apply):

<input type="checkbox"/> Permitted Discharge (non-MS4CAFO)	<input type="checkbox"/> Urban nonpoint source discharge
<input type="checkbox"/> Permitted MS4	<input checked="" type="checkbox"/> Agricultural nonpoint source discharge
<input type="checkbox"/> Permitted CAFO	<input type="checkbox"/> Other - Specify: _____

Are any of the credit generators in a different HUC 12 than the applicant?  Yes; HUC 12: \_\_\_\_\_  
 No

Are any of the credit generators downstream of the applicant?  Yes  
 No

Will a broker/exchange be used to facilitate trade?  Yes (include description and contact information in WQT plan)  
 No

**Point to Point Trades (Traditional Municipal / Industrial, MS4, CAFO)**

Are each of the point source credit generators identified in this section in compliance with their WDPES permit requirements?  Yes  
 No

Discharge Type	Permit Number	Name	Contact Information	Trade Agreement Number
<input type="radio"/> Traditional <input type="radio"/> MS4 <input type="radio"/> CAFO				
<input type="radio"/> Traditional <input type="radio"/> MS4 <input type="radio"/> CAFO				
<input type="radio"/> Traditional <input type="radio"/> MS4 <input type="radio"/> CAFO				
<input type="radio"/> Traditional <input type="radio"/> MS4 <input type="radio"/> CAFO				
<input type="radio"/> Traditional <input type="radio"/> MS4 <input type="radio"/> CAFO				

# Water Quality Trading Checklist

Form 3400-208 (1/14)

Page 2 of 3

**Point to Point Trades (Traditional Municipal / Industrial, MS4, CAFO) cont.**

Does plan have a narrative that describes:	Plan Section
a. Summary of discharge and existing treatment including optimization <span style="float: right;"><input type="radio"/> Yes <input type="radio"/> No</span>	
b. Amount of credit being generated <span style="float: right;"><input type="radio"/> Yes <input type="radio"/> No</span>	
c. Timeline for credits and agreements <span style="float: right;"><input type="radio"/> Yes <input type="radio"/> No</span>	
d. Method for quantifying credits <span style="float: right;"><input type="radio"/> Yes <input type="radio"/> No</span>	
e. Tracking and verification procedures <span style="float: right;"><input type="radio"/> Yes <input type="radio"/> No</span>	
f. Location of credit generator in proximity to receiving water and credit user <span style="float: right;"><input type="radio"/> Yes <input type="radio"/> No</span>	
g. Other: _____ <span style="float: right;"><input type="radio"/> Yes <input type="radio"/> No</span>	

**Point to Nonpoint Trades (Non-Permitted Urban, Agricultural, Other)**

Discharge Type	Practices Used to Generate Credits	Method of Quantification	Trade Agreement Number	Have the practice(s) been formally registered?
<input type="radio"/> Urban NPS <input checked="" type="radio"/> Agricultural NPS <input type="radio"/> Other	Conservation (natural prairie restoration)	Parcels acreage (15.21)	WQT-20171112	<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Only in part
<input type="radio"/> Urban NPS <input type="radio"/> Agricultural NPS <input type="radio"/> Other				<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Only in part
<input type="radio"/> Urban NPS <input type="radio"/> Agricultural NPS <input type="radio"/> Other				<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Only in part
<input type="radio"/> Urban NPS <input type="radio"/> Agricultural NPS <input type="radio"/> Other				<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Only in part
<input type="radio"/> Urban NPS <input type="radio"/> Agricultural NPS <input type="radio"/> Other				<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Only in part
<input type="radio"/> Urban NPS <input type="radio"/> Agricultural NPS <input type="radio"/> Other				<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Only in part
<input type="radio"/> Urban NPS <input type="radio"/> Agricultural NPS <input type="radio"/> Other				<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Only in part
<input type="radio"/> Urban NPS <input type="radio"/> Agricultural NPS <input type="radio"/> Other				<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Only in part
<input type="radio"/> Urban NPS <input type="radio"/> Agricultural NPS <input type="radio"/> Other				<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Only in part

**Does plan have a narrative that describes:**

Does plan have a narrative that describes:	Plan Section
a. Description of existing land uses <span style="float: right;"><input checked="" type="radio"/> Yes <input type="radio"/> No</span>	3
b. Management practices used to generate credits <span style="float: right;"><input checked="" type="radio"/> Yes <input type="radio"/> No</span>	5
c. Amount of credit being generated <span style="float: right;"><input checked="" type="radio"/> Yes <input type="radio"/> No</span>	5
d. Description of applicable trade ratio per agreement/management practice <span style="float: right;"><input checked="" type="radio"/> Yes <input type="radio"/> No</span>	4
e. Location where credits will be generated <span style="float: right;"><input checked="" type="radio"/> Yes <input type="radio"/> No</span>	5
f. Timeline for credits and agreements <span style="float: right;"><input checked="" type="radio"/> Yes <input type="radio"/> No</span>	6
g. Method for quantifying credits <span style="float: right;"><input checked="" type="radio"/> Yes <input type="radio"/> No</span>	4

# Water Quality Trading Checklist

Form 3400-208 (1/14)

Page 3 of 3

Does plan have a narrative that describes:		Plan Section
h. Tracking procedures	<input checked="" type="radio"/> Yes <input type="radio"/> No	7
i. Conditions under which the management practices may be inspected	<input checked="" type="radio"/> Yes <input type="radio"/> No	7.5
j. Reporting requirements should the management practice fail	<input checked="" type="radio"/> Yes <input type="radio"/> No	7.4
k. Operation and maintenance plan for each management practice	<input checked="" type="radio"/> Yes <input type="radio"/> No	7.1
l. Location of credit generator in proximity to receiving water and credit user	<input checked="" type="radio"/> Yes <input type="radio"/> No	2
m. Practice registration documents, if available	<input checked="" type="radio"/> Yes <input type="radio"/> No	7.1
n. History of project site(s)	<input type="radio"/> Yes <input checked="" type="radio"/> No	
o. Other: _____	<input type="radio"/> Yes <input type="radio"/> No	

**The preparer certifies all of the following:**

- I am familiar with the specifications submitted for this application, and I believe all applicable items in this checklist have been addressed.
- I have completed this document to the best of my knowledge and have not excluded pertinent information.
- I certify that the information in this document is true to the best of my knowledge.

Signature of Preparer	Date Signed
-----------------------	-------------

**Authorized Representative Signature**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision. Based on my inquiry of those persons directly responsible for gathering and entering the information, the information is, to the best of my knowledge and belief, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature of Authorized Representative	Date Signed
--	-------------



February 5, 2026

Joey LaGrander  
 LaGranders Hillside Dairy Inc  
 W11299 Broek Rd  
 Stanley, WI 54768

Subject: LaGranders Hillside Dairy - WPDES Permit WI- 0054364  
 Water Quality Trading Plan – CONDITIONAL APPROVAL

Dear Mr. LaGrander:

The Department received a request to utilize the average credit availability during the permit term as allowed by guidance section Appendix D for cropping practices rather than the individual yearly values. The phosphorus offset can be seen as outlined in the water quality trading plan (WQT Plan) for compliance with phosphorus effluent limits at LaGranders Hillside Dairy. The initial plan was received in July of 2022 with revised reports in November and December of 2023. Based on WDNR review, the final WQT Plan (dated December 15, 2023) is in general conformance with the WDNR Water Quality Trading Guidance and Section 283.84 of the Wisconsin Statutes. The WQT plan describes the conversion of cropland into permanent grassland, unharvested (natural prairie). Credits generated from approved practices result in available credit quantities shown in Table 1. These credits will be incorporated into the reissued WPDES permit and will be used to demonstrate compliance with final phosphorus effluent limits.

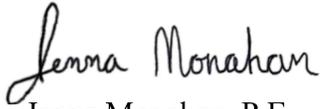
Table 1: Total Phosphorus Credits Available per WQT-2023-0008

Year	Available Credits (lbs/yr) – Total	Available Credits (lbs/yr)- Average Total
2024	120.9	113
2025	109.2	113
2026	113.4	113
2027	115.0	113
2028	104.1	113

The Department conditionally approves the WQT Plan as a basis for water quality trading during the next WPDES permit term. The Department has assigned the WQT plan a tracking number of WQT-2023-0008 and will be referenced as such in the WPDES permit. The final WQT plan will be included as part of the public notice package for permit reissuance. The WPDES permit will include a requirement for an annual trading report and effluent monitoring for total phosphorus.

If you have any questions or comments, please contact me at 715-492-4323 or at [jenna.monahan@wisconsin.gov](mailto:jenna.monahan@wisconsin.gov).

Thank You,

A handwritten signature in black ink that reads "Jenna Monahan". The signature is written in a cursive, flowing style.

Jenna Monahan, P.E.  
Wastewater Engineer – West Central Region  
Wisconsin Department of Natural Resources

e-CC:

Holly Heldstab, WDNR  
Matthew Claucherty, WDNR