Permit Fact Sheet

General Information

Permit Number:	WI-0029114-10-1*Modification	
Permittee Name:	VILLAGE OF LOGANVILLE	
Address:	P O Box 128	
City/State/Zip:	Loganville WI 53943-0128	
Discharge Location:	100 feet northwest of lagoon monitoring shack. (SE ¼ of SW ¼, Section 4, T11N R4E)	
Receiving Water:	Narrows Creek (Narrows Creek/Baraboo River Watershed, LW22 – Lower Wisconsin River Basin) in Sauk County	
Stream Flow ($Q_{7,10}$):	2.6 cfs	
Stream Classification:	Warm water sport fist (WWSF) non-public water supply	
Design Flow(s)	Annual Average	0.045 MGD
Significant Industrial Loading?	None	
Operator at Proper Grade?	Yes, facility is Basic with subclasses A4 – Ponds, Lagoons, and Natural Systems; SS – Sanitary Sewage Collection System. One operator is certified.	
Approved Pretreatment Program?	N/A	

Facility Description

The Village operates a two-cell stabilization lagoon wastewater treatment facility (WWTF) providing secondary treatment to a combination of domestic and commercial wastewater. The lagoons are clay lined and were constructed in 1969. Surface area of the first lagoon is approximately 4.5 acres and the second pond approximately 1.1 acres. The facility is designed to treat an average daily flow of 0.045 MGD. Disinfection is not required. The Village provides a public water supply and has a population of about 300. No growth of the community is expected in the next five years. Biosolids are stored in the lagoons and the Village does not have plans to desludge the lagoons in the next five years. The Village has been found to be in substantial compliance with its current permit.

Permit modification -1 was completed following approval of an updated WQT Plan. The available phosphorus credits have been updated based on WQT Plan WQT-2024-0029.

Sample Point Designation		
Sample Point Number	**Discharge Flow, Units, and Averaging Period**	**Sample Point Location, Waste Type/sample Contents and Treatment Description (as applicable)**
701	0.052 MGD (Feb. 2016 – Feb. 2021 Average)	Representative influent samples shall be collected at the main lift station wet well.

Sample Point Designation		
Sample Point Number	**Discharge Flow, Units, and Averaging Period**	**Sample Point Location, Waste Type/sample Contents and Treatment Description (as applicable)**
001	0.078 MGD (Feb. 2016 – Feb. 2021 Average)	Representative effluent samples shall be collected at the outfall prior to discharge to Narrows Creek, 100 feet northwest of the lagoon monitoring shack.
002	Do not land apply sludge	Representative sludge samples shall be collected at a time and in a manner appropriate for the specific test.

1 Influent - Proposed Monitoring

Sample Point Number: 701- INFLUENT

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Total Daily	
BOD5, Total		mg/L	2/Month	Grab	
Suspended Solids, Total		mg/L	2/Month	Grab	

Changes from Previous Permit:

Flow sample frequency changed to daily from continuous for eDMR reporting purposes.

Explanation of Limits and Monitoring Requirements

Tracking of BOD_5 and Suspended Solids are required for percent removal requirements found in s. NR 210.05, Wis. Adm. Code and Section 5.4.6 of the permit. These are standard monitoring requirements for a municipal treatment facility of this size.

2 Surface Water - Proposed Monitoring and Limitations

Sample Point Number: 001- EFFLUENT

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Continuous	
BOD5, Total	Weekly Avg	45 mg/L	2/Month	Grab	
BOD5, Total	Monthly Avg	30 mg/L	2/Month	Grab	

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Suspended Solids, Total	Monthly Avg	60 mg/L	2/Month	Grab	
pH Field	Daily Max	9.0 su	2/Month	Grab	
pH Field	Daily Min	6.0 su	2/Month	Grab	
Dissolved Oxygen	Daily Min	7.0 mg/L	Monthly	Grab	
Nitrogen, Ammonia Variable Limit		mg/L	2/Month	Grab	Using the daily pH result look up the applicable ammonia limit in the pH Dependent Daily Maximum Ammonia Limit Table at 2.2.1.2 below and report the variable limit on the daily record (DMR).
Nitrogen, Ammonia (NH3-N) Total	Daily Max - Variable	mg/L	2/Month	Grab	Enter the daily ammonia result on the daily record (DMR) and compare to the Nitrogen, Ammonia Variable Limit to determine compliance.
Nitrogen, Ammonia (NH3-N) Total	Weekly Avg	96 mg/L	2/Month	Grab	April 1 - April 30
Nitrogen, Ammonia (NH3-N) Total	Weekly Avg	106 mg/L	2/Month	Grab	May 1 - September 30
Nitrogen, Ammonia (NH3-N) Total	Weekly Avg	65 mg/L	2/Month	Grab	October 1 - March 31
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	32 mg/L	2/Month	Grab	April 1 - April 30
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	47 mg/L	2/Month	Grab	May 1 - September 30
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	53 mg/L	2/Month	Grab	October 1 - March 31
Phosphorus, Total	Monthly Avg	2.9 mg/L	2/Month	Grab	Limit effective throughout the permit term, as it represents a minimum control level. Final limits become effective July 1, 2023. See TMDL section below for more explanation.

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Phosphorus, Total		lbs/month	Monthly	Calculated	Calculate the Total Monthly Discharge of phosphorus and report on the last day of the month on the DMR. See TMDL section in the permit.
Phosphorus, Total		lbs/yr	Monthly	Calculated	Calculate the 12-month rolling sum of total monthly mass of phosphorus discharged and report on the last day of the month on the DMR. See TMDL section in the permit.
Phosphorus, Total		lbs/day	2/Month	Calculated	Report daily mass discharged using Equation 1a. in the "Water Quality Trading (WQT)" section.
WQT Credits Used (TP)		lbs/month	Monthly	Calculated	Report WQT TP Credits used per month using Equation 2b. in the "Water Quality Trading (WQT)" section. Available TP Credits are specified in Table 2 and in the approved Water Quality Trading Plan.
WQT Computed Compliance (TP)	Monthly Avg	0.46 lbs/day	Monthly	Calculated	Limit is effective July 1, 2023. Report the WQT TP Computed Compliance value using Equation 3a. in the "Water Quality Trading (WQT)" section. Value entered on the last day of the month.
WQT Credits Used (TP)	Annual Total	232.5 lbs/yr	Annual	Calculated	Effective for calendar years 2024 – 2032. The sum of total monthly credits used may not exceed Table 2 values listed in the permit.
Nitrogen, Nitrite + Nitrate Total		mg/L	See Listed Qtr(s)	Grab	Annual in rotating quarters. See Nitrogen Series Monitoring section below.

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Nitrogen, Total Kjeldahl		mg/L	See Listed Qtr(s)	Grab	Annual in rotating quarters. See Nitrogen Series Monitoring section below.
Nitrogen, Total		mg/L	See Listed Qtr(s)	Grab	Annual in rotating quarters. See Nitrogen Series Monitoring section below. Total Nitrogen shall be calculated as the sum of reported values for Total Kjeldahl Nitrogen and Total Nitrite + Nitrate Nitrogen.

Changes from Previous Permit

Permit Modification: updated WQT annual credits and removed past years of WQT annual credits in the previous permit.

Flow sample frequency changed to daily from continuous for eDMR reporting purposes. New Ammonia Nitrogen weekly average limits of 96 mg/L for the month of April, 106 mg/L for the months of May through September, and 65 mg/L for the months of October through March have been added. New Ammonia Nitrogen monthly average limits of 47 mg/L for the months of May through September and 53 mg/L for the months of October through March have been added. The Total Phosphorus interim limit has been lowered to 2.9 mg/L. The Wisconsin River Basin TMDL limit of 0.46 lbs/day becomes effective during this permit term. Monitoring and reporting requirements for Water Quality Trading and the Wisconsin River TMDL have been included because the permittee has submitted a WQT plan to comply with the TMDL limit.

Total Nitrogen Monitoring (TKN, N02+N03 and Total N): Annual monitoring in rotating quarters throughout the permit term was added to the proposed permit.

Explanation of Limits and Monitoring Requirements

Please refer to the Water Quality Based Effluent Limits memo prepared by Sarah Luck, dated April 22, 2021, for explanation and the detailed calculations.

> Note: Throughout this fact sheet all citations of administrative code for example, s. NR 102.06, Wis. Adm. Code, will be referenced as s. NR 102.06, and reflect current Wisconsin Administrative Code.

Categorical Limits

BOD_5, pH, Total Suspended Solids (TSS), Dissolved Oxygen (DO) – Standard municipal wastewater requirements for BOD_5, pH, TSS, and DO are included based on NR 210 'Sewage Treatment Works' requirements for discharges to limited aquatic life streams. Chapter NR 102 'Water Quality Standards for Surface Waters' also specifies requirements for pH for fish and aquatic life streams.

Regulatory changes to s. NR 205.065, became effective September 1, 2016 and require limits in this permit to be expressed as weekly average and monthly average limits whenever practicable. These changes are based on 40 CFR 122.45(d). Minor changes have been made to fecal coliform and ammonia nitrogen limitations from the previous permit in order to comply with this regulation.

Water Quality Based Limits and WET Requirements and Disinfection (if applicable)

Phosphorus – Phosphorus requirements are based on the Phosphorus Rules that became effective 12/1/2010 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. The code categorically limits industrial dischargers of more than 60 pounds of phosphorus per month and municipal dischargers of more than 150 pounds of phosphorus per month to 1.0 mg/L unless an alternative limit is approved. NR 217 also specifies WQBELs (water quality based effluent limits) for discharges of phosphorus to surface waters of the state from publicly and privately-owned wastewater facilities, noncontact cooling water discharges which contain phosphorus, concentrated animal feeding operations that discharge through alternative treatment facilities and a facility/site that is regulated under NR 216 where the standards in NR151 and 216 are not sufficient to meet phosphorus criteria. WQBELs for phosphorus are needed whenever the discharge contains phosphorus at concentrations or loadings that will cause or contribute to an exceedance of the water quality standards.

This discharge is included in the Total Maximum Daily Load (TMDL) for Total Phosphorus, Total Suspended Solids, and Fecal Coliforms for the Wisconsin River Basin which was approved by US EPA in April 2019. The final TMDL-derived water quality based effluent limits for phosphorus are 0.46 lbs/day.

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-2024-0029) or approved amendments thereof. The total 'WQT TP Credits' available are designated in the approved WQT Plan. The Village is implementing management practices including streambank stabilization and waterway improvements. ~~barnyard practices.~~ The WQT Plan proposes the generation of 232.5 lbs/yr of phosphorus credits for the next five years. Available interim credits in 2033 are 91.77 lbs/yr. After 2033, interim credits in WQT-2024-0029 will no longer be available to use to demonstrate compliance with final phosphorus WQBELs.

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

Wisconsin River Basin Total Maximum Daily Load (TMDL) – The Wisconsin River Basin TMDL Waste Load Allocation (WLA) for Total Phosphorus and Total Suspended Solids was approved by the U.S. Environmental Protection Agency in April 2019.

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 (NO2+NO3, TKN and Total N) – The Department has included effluent monitoring for Total Nitrogen in the permit through the authority under ss. 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. Annual tests are scheduled in the following rotating quarters: November – December 2021; January – March 2022; April – June 2023; July – September 2024; October – December 2025.

3 Land Application - Proposed Monitoring and Limitations

Municipal Sludge Description						
Sample Point	**Sludge Class (A or B)**	**Sludge Type (Liquid or Cake)**	**Pathogen Reduction Method**	**Vector Attraction Method**	**Reuse Option**	**Amount Reused/Disposed (Dry Tons/Year)**
002	N/A	Liquid	N/A	N/A	N/A	Do not land apply lagoon sludge

Municipal Sludge Description						
Sample Point	**Sludge Class (A or B)**	**Sludge Type (Liquid or Cake)**	**Pathogen Reduction Method**	**Vector Attraction Method**	**Reuse Option**	**Amount Reused/Disposed (Dry Tons/Year)**
Does sludge management demonstrate compliance? **Yes**						
Is additional sludge storage required? **No**						
Is Radium-226 present in the water supply at a level greater than 2 pCi/liter? **No** If yes, special monitoring and recycling conditions will be included in the permit to track any potential problems in land applying sludge from this facility						
Is a priority pollutant scan required? **No**, design flow is less than 5 MGD. Priority pollutant scans are required once every 10 years at facilities with design flows between 5 MGD and 40 MGD, and once every 5 years if design flow is greater than 40 MGD.						

Sample Point Number: 002- LAGOON SLUDGE

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
PCB Total Dry Wt	Ceiling	50 mg/kg	Once	Composite	
PCB Total Dry Wt	High Quality	10 mg/kg	Once	Composite	
Solids, Total		Percent	Once	Composite	
Arsenic Dry Wt	Ceiling	75 mg/kg	Once	Composite	
Arsenic Dry Wt	High Quality	41 mg/kg	Once	Composite	
Cadmium Dry Wt	Ceiling	85 mg/kg	Once	Composite	
Cadmium Dry Wt	High Quality	39 mg/kg	Once	Composite	
Copper Dry Wt	Ceiling	4,300 mg/kg	Once	Composite	
Copper Dry Wt	High Quality	1,500 mg/kg	Once	Composite	
Lead Dry Wt	Ceiling	840 mg/kg	Once	Composite	
Lead Dry Wt	High Quality	300 mg/kg	Once	Composite	
Mercury Dry Wt	Ceiling	57 mg/kg	Once	Composite	
Mercury Dry Wt	High Quality	17 mg/kg	Once	Composite	
Molybdenum Dry Wt	Ceiling	75 mg/kg	Once	Composite	
Nickel Dry Wt	Ceiling	420 mg/kg	Once	Composite	
Nickel Dry Wt	High Quality	420 mg/kg	Once	Composite	

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Selenium Dry Wt	Ceiling	100 mg/kg	Once	Composite	
Selenium Dry Wt	High Quality	100 mg/kg	Once	Composite	
Zinc Dry Wt	Ceiling	7,500 mg/kg	Once	Composite	
Zinc Dry Wt	High Quality	2,800 mg/kg	Once	Composite	

Changes from Previous Permit:

New timeframe for monitoring lagoon sludge is now calendar year 2023.

Explanation of Limits and Monitoring Requirements

Requirements for land application of municipal sludge are determined in accordance with ch. NR 204 Wis. Adm. Code. Ceiling and high quality limits for metals in sludge are specified in s. NR 204.07(5). Requirements for pathogens are specified in s. NR 204.07(6) and in s. NR 204.07 (7) for vector attraction requirements. Limitations for PCBs are addressed in s. NR 204.07(3)(k).

4 Schedules

4.1 Annual Water Quality Trading (WQT) Report

Required Action	Due Date
Annual WQT Report: Submit an annual WQT report that shall cover the prior calendar year. 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.	01/31/2024
Annual WQT Report #2: Submit an annual WQT report that shall cover the previous year.	01/31/2025
Annual WQT Report #3: Submit the 3rd 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.	01/31/2026
Annual WQT Report Required After Permit Expiration: 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.	

4.1.1 Explanation of Annual Water Quality Trading (WQT) Report

Reports are required, starting in 2020, 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

4.2 Water Quality Trading (WQT) Management Plan

Required Action	Due Date
Submit Progress Report on Management Practices Installation: Submit a progress report on the installation of management practices as identified in the Water Quality Management Plan WQT-2021-0009 (or amendment thereof) as approved by the Department	06/30/2022
Submit a Facility Plan: If a facility upgrade will be used in conjunction with, or in lieu of, water quality trading, the permittee shall submit final construction plans to the Department for approval pursuant to s. 281.41, Wis. Stats., specifying treatment plant upgrades that must be constructed to achieve compliance with TMDL limits.	06/30/2022
Treatment Plant Upgrade: If a facility upgrade will be used in conjunction with, or in lieu of, water quality trading, the permittee shall initiate construction of the treatment plant upgrades in accordance with the approved plans and specifications.	01/31/2023
Complete Installation of Management Practices: Complete the installation of management practices as identified in the Water Quality Management Plan WQT-2021-0009 (or amendment thereof) as approved by the Department. Complete construction of any required facility upgrades.	06/30/2023
Management Practices: The Management Practices as identified in the Water Quality Trading Plan shall become effective and the permittee shall submit a completed Management Practice Registration Form 3400-207 for each site.	06/30/2023
Comply with Total Phosphorus Limits: Comply with the TP limits as specified in Table 2.2.1.	07/01/2023

4.2.1 Explanation of Water Quality (WQT) Management Plan

This schedule requires the Village of Loganville to submit a progress report on the installation of practices identified in the Water Quality Management Plan. The schedule also requires the permittee to install and manage the identified practices in the approved Water Quality Trading Management Plan to comply with the total phosphorus limits specified in section 2.2.1 of the permit.

Attachments:

Substantial Compliance Determination

Map(s)

WET Checklist Summary

Public Notice

Water Quality Trading Plan Approval Letter, dated November 26, 2024

Water Quality Trading Plan, dated November 2024

Proposed Expiration Date:

A permit term of five years is proposed in this reissuance with an expiration date of September 30, 2026.

Justification of Any Waivers from Permit Application Requirements

No waivers were requested from permit applications.

Prepared By:

Sean Spencer – Wastewater Specialist

BetsyJo Howe, Wastewater Specialist

Date: 10/26/2021

02/11/2025

cc: Tanner Connors

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
3911 Fish Hatchery Road
Fitchburg, WI 53711

Tony Evers, Governor

Telephone 608-266-2621
FAX 608-267-3579
TTY Access via relay - 711

WISCONSIN
DEPT. OF NATURAL RESOURCES

November 26, 2024

Mark Kruse
OIC
PO Box 128
Loganville, WI 53943

Subject: Loganville Wastewater Treatment Facility - WPDES Permit WI- 0029114
Water Quality Trading Plan – CONDITIONAL APPROVAL

Dear Mark Kruse:

The Department recently received a water quality trading plan (WQT Plan) for compliance with phosphorus effluent limits at the Loganville Wastewater Treatment Facility. The initial plan was received in July of 2024 and an updated version was received in November of 2024. Based on WDNR review, the final WQT Plan (dated November 2024) is in general conformance with the WDNR Water Quality Trading Guidance and Section 283.84 of the Wisconsin Statutes. The WQT plan proposes to utilize streambank stabilization and waterway improvement practices. The timeline for practice installation, as set forth in the WQT plan, indicates all practices were installed during the 2023 calendar year. 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. The interim credits generated from this WQT Plan are available until July 01, 2033. Available interim credits in 2033 are 91.77 pounds per year.

Table 1: Total Phosphorus Credits Available per WQT-2024-0029

Year	Available Credits (lbs/yr) – Interim	Available Credits (lbs/yr) – Long Term	Available Credits (lbs/yr) – Total
2024	183.54	48.93	232.47
2025	183.54	48.93	232.47
2026	183.54	48.93	232.47
2027	183.54	48.93	232.47
2028	183.54	48.93	232.47

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-2024-0029 and will be referenced as such in the draft WPDES permit. The final WQT plan will be included as part of the public notice package for permit reissuance. The draft 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 608-419-4155 or at betsyjo.howe@wisconsin.gov

Thank You,

BetsyJo Howe

BetsyJo Howe
SCR WQT Coordinator
Wisconsin Department of Natural Resources

e-CC:

Gina Schultz, Vierbicher
Neil Pfaff, Vierbicher
Russ Lankey, Village of Loganville
Mitchell McCarthy, Sauk County
Matt Claucherty, WDNR
Tanner Connors, WDNR

Water Quality Trading Plan Amendment

Loganville Wastewater Treatment Facility – Water Quality Trading Plan Amendment
Loganville, Wisconsin

Prepared For:
Village of Loganville
13 West Street
Loganville, Wisconsin 53943

Prepared By:
Vierbicher Associates, Inc.
201 E Main St. Suite 100
Reedsburg, Wisconsin 53959

Prepared On:
July 9, 2024
Revised On:
November 7, 2024
Project #210412

vierbicher
planners | engineers | advisors

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Description Tab

Executive Summary

EXECUTIVE SUMMARY

This Water Quality Trading Plan details the Village of Loganville's (Village) plan to comply with their Total Phosphorus (TP) Water Quality-Based Trading Effluent Limitation (WQBEL), as specified in their Wisconsin Pollutant Discharge Elimination System (WPDES) Permit Number WI-0029114-10-0. This plan supersedes the original plan submitted by Davy Engineering in April of 2021 for the Village.

This plan summarizes the Wisconsin Department of Natural Resources (WDNR) water quality trading credits methods and means as well as the projects. The Village worked with Sauk County Land Conservation Department (Sauk County), USDA Natural Resources Conservation Service (NRCS) and Vierbicher to obtain the necessary projects for the Narrows Creek watershed, to generate the total phosphorus credits for Water Quality Trading (WQT). The three projects included were chosen because of the landowners support and corporation for water quality trading.

The County was involved with initiating design plans, completing soil sampling, and obtaining an additional funding application for NRCS Environmental Quality Incentives Program (EQIP). The County was also involved in establishing the Water quality easements between the Village of Loganville and the landowners. After the completion of each construction project, the NRCS and Sauk County drafted the As-Built documents. Documentation provided by Sauk County and NRCS were used by Vierbicher to calculate the water quality credits presented in this report.

Based on the WQT projects completed during the year 2023, the Village of Loganville is exceeding the mass offset of phosphorus with interim credits.

Introduction

INTRODUCTION

2.1 Selected Phosphorus Compliance Alternative

The Village of Loganville (Village) is required by the Wisconsin Pollutant Discharge Elimination System (WPDES) Permit number WI-0029114-10-0 to develop phosphorus compliance alternatives based on the future Water Quality Based Effluent Limit (WQBEL). The WPDES permit is included within Appendix A. The Village plans to utilize Water Quality Trading (WQT) as the lowest cost but most feasible alternative to reach compliance with the WQBEL. Included in Appendix B of this plan is the WDNR Form 3400-206 (Notice of Intent to Conduct Water Quality Trading) and within Appendix C is WDNR Form 3400-208 (WQT Checklist) for the proposed projects.

2.2 Community Background

The Village of Loganville is located within west-central Sauk County. The wastewater treatment facility (WWTF) currently serves 154 Residential Equivalent Users (REUs) within the Village limits. The population of the Village of Loganville was documented at 252 during the 2021 census.

2.3 Existing Wastewater Facility

The Loganville WWTF is located approximately 1 mile northeast of the Village limits within the Town of Westfield and is bordered by Narrows Creek and agricultural farms. Narrows Creek flows approximately 18 miles, starting from Hillpoint and Lime Ridge areas to where it meets the Baraboo River in Rock Springs. The Village of Loganville WWTF was constructed in 1967 as a continuous flow system consisting of two ponds, with a surface area of approximately 5.6 acres. It was originally designed for an influent flow of 45,000 gallons per day (gpd), with a four-foot operating depth in each pond that totaled 8.7 million gallons (MG), which provided a total detention time of 193 days. No chemicals are currently used at the WWTF for the removal of phosphorus.

2.4 Village of Loganville WWTF Effluent Discharge Summary

The Loganville WWTF has one receiving water and one effluent discharge location depicted as Outfall 001: Narrows Creek which is located within the Narrows Creek/Baraboo River Watershed, LW22 – Lower Wisconsin River Basin. Table 2.4.1 summarizes the effluent discharge for the WWTF from 2020 to 2023.

Table 2.4.1: Village of Loganville WWTF Effluent Discharge Summary

Parameter	Max Year	Average Year	Min Year
Annual Average Flow (MGD)	0.21	0.046	0.00
Phosphorus (mg/L)	4.65	2.26	0.00
Phosphorus (lbs/day)	2.13	0.77	0.00

2.5 Applicable Effluent Limits

Narrows Creek is part of the Wisconsin River TMDL which has an EPA approved site-specific criteria for the effluent mass limit of phosphorus. Based on the site-specific criteria (SSC) depicted within the WPDES permit, the Village of Loganville annual waste load allocation of phosphorus is 101 lbs/year. The waste load allocation for this area is derived using daily loads and the number of days per year, but it also considers the effluent variability. Due to the variability, a coefficient of variation was calculated based on the phosphorus monitoring data, which was set at 0.46 pounds per day by WDNR. Therefore, the following limits of phosphorus are to be used as the effluent limits:

TMDL Phosphorus Mass Limit per Year Calculation:

0.46 lbs/day x 365 days/year = 168 lbs/year

2.6 Receiving Water Description and Conditions

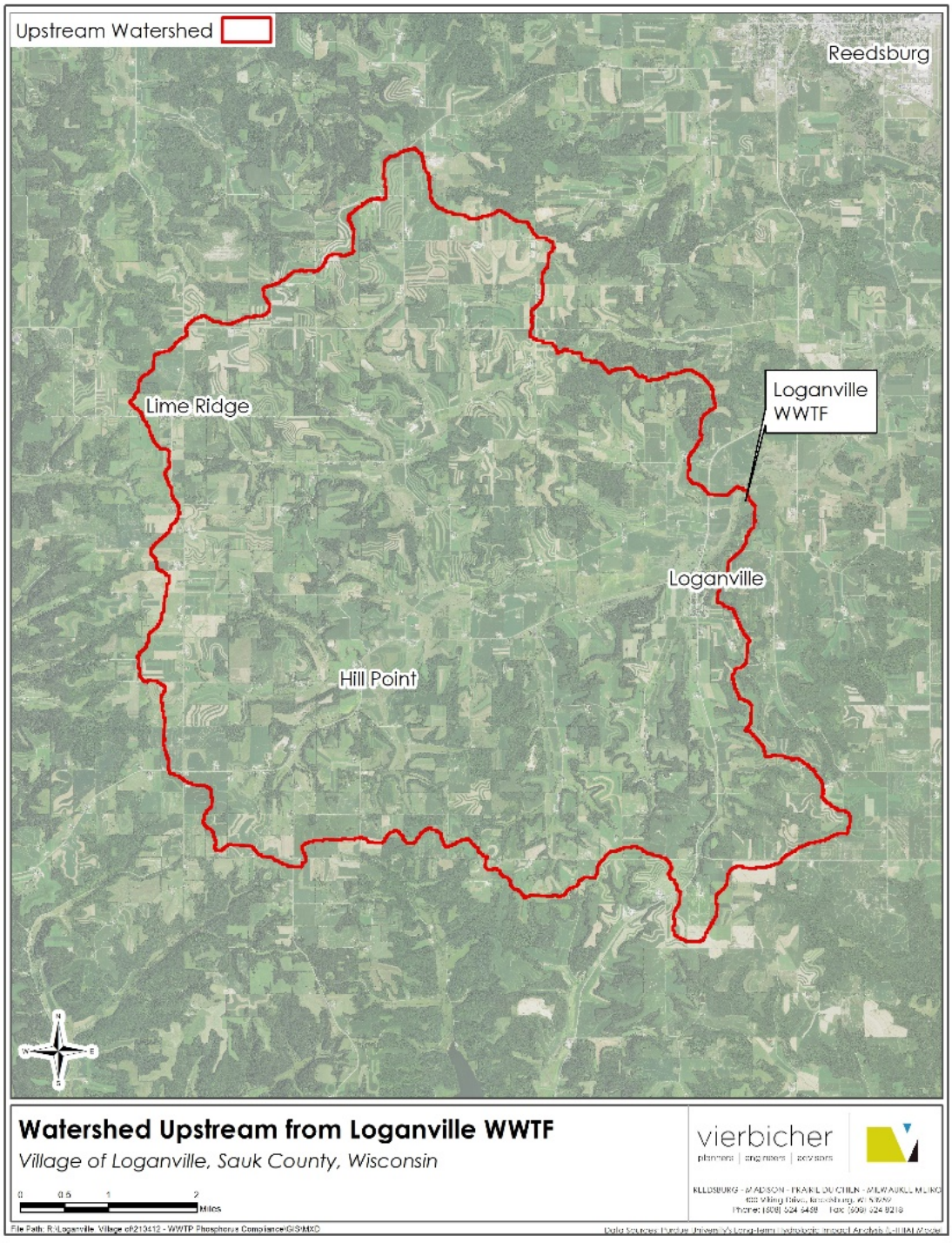
Narrows Creek is the receiving water for the Village of Loganville WWTF's effluent discharge and is a tributary of the Baraboo River. Narrows Creek and the Baraboo River are part of LW 22 watershed within the Lower Wisconsin River Basin. Per the WDNR Surface Water Database, this creek is classified as a cool to cold mainstream with a general condition of poor. Narrows Creek is identified as an impaired waterway.

2.7 Watershed Description and Condition

The WDNR uses the Pollutant Load Ratio Estimation Tool (PRESTO) to compare and measure the average annual phosphorus loads. Based on the WDNR PRESTO-LITE data, the model depicts the Narrows Creek Watershed area as 43.98 square miles, with an average annual precipitation of 33.86 inches. The Loganville Wastewater Treatment Facility, Hill Point Sanitary District WWTF and Lime Ridge Wastewater Treatment Facility are the three facilities that discharge to the Narrows Creek Watershed.

The upstream watershed map for the WWTF outfall was created using Purdue University's Long Term Hydrologic Impact Analysis (L-THIA GLWMS), an online database tool. This map is depicted as Figure 2.7.1. The land use data associated with this upstream watershed is included within Appendix D. The upstream watershed mainly consists of cultivated crops, pasture/hay, and deciduous forest.

Figure 2.7.1: Watershed Upstream of Loganville WWTF Outfall



Watersheds are divided by the United Stated Geological Survey (USGS) into hydrologic units that are classified by Hydrologic Unit Codes (HUC). The Village of Loganville WWTF is located within HUC-10 sub watershed 0707000403. This watershed encompasses 176.33 square miles made up of agricultural land, forest, and urban areas.

Water Quality Trading Documentation

WATER QUALITY TRADING DOCUMENTATION

The purpose of this chapter is to provide background on water quality trading. WQT will include calculations of the target number of credits, pollution reduction activities used for the WQT credits, trade ratios and a description of additional environmental benefits. Per Wisconsin Statutes Section 283.84, with Chapter NR 217 of the Wisconsin Administrative Code, this allows communities to utilize alternative compliance through watershed-based compliance alternatives, utilizing WQT and watershed adaptive management (WAM). These alternatives include working outside of the Village boundaries to reduce phosphorus discharges to the receiving water, allowing for an increase in the mass of phosphorus discharged.

Credits are generated by implementing projects that result in phosphorus reductions. The TMDL percent reduction is applied to the total phosphorus reduction per project site to determine interim vs long-term credits. Trade ratios are applied to the interim and long-term credits prior to offsetting the limit.

3.1 Pollution Reduction Activities to Generate Trading Credits

Water Quality Trading allows point sources, such as the Village of Loganville wastewater treatment facility to offset their pollution load to comply with the phosphorus limits, by controlling phosphorus pollution within the watershed. To utilize this pollution reduction method, the target amount of water quality trading credits is calculated by comparing the phosphorus discharged by the WWTF versus the amount allowed by the WQBEL. The amount of phosphorus within WQBEL's is based on the quality of the receiving water. The credits generated by nonpoint sources are determined using modeling, which predicts the difference between the phosphorus load of the improved condition and baseline prior to the improvement. The Village of Loganville will utilize a combination of streambank stabilization and waterway improvement practices over three project sites (Kinsinger, Muchow, and Sauk County Farms) to reduce the pollutant load.

3.2 Trade Ratios

Trade ratios are calculated for individual WQT projects which are based on five factors: delivery, downstream, equivalency, uncertainty, and habitat adjustments. Depending on the type of practice being conducted for WQT, trade ratios can vary between 1 and 5. The WDNR established a trade ratio formula depicted as:

Trade Ratio = (Deliver + Downstream + Equivalency + Uncertainty – Habitat Adjustment):1

A discussion of each factor is depicted within the following sections, with the site specific trade rations depicted within the Water Quality Trades Per Project Section.

3.2.1 Delivery Factor

The delivery factor is only necessary when the trading partners are in different HUC-12 sub watersheds, as they account for the distance between trading partner and the impact the distance. If both trading partners are located within the same HUC-12 sub watershed, then the Delivery Factor is Zero. The sparrow delivery fraction is determined by a model found on the USGS website. If the delivery factor equation is needed, the calculation is as follows:

Delivery Factor = (1/sparrow delivery fraction) -1

3.2.2 Downstream Factor

A downstream factor is required when the credit generator is downstream of the credit user. The typical range for this factor is 0.1 to 0.8, which is a function of the difference between the average annual load discharged by the credit user to the overall load at the credit user's point of discharge. If the credit generator is upstream of the credit user, the downstream factor is zero.

The downstream trading factor was calculated based on the WDNR table provided within the WQT guidance, as shown below and the PRESTO-Lite Report.

Table 3.2.2 WDNR Downstream Trading Factor

Credit User's Load as a Percentage of Total In-Stream Load	Downstream Trading Factor
<25%	0.1
<50%	0.2
<75%	0.4
≥75%	0.8

3.2.3 Equivalence Factor

An equivalence factor is not needed when utilizing water quality trading for phosphorus; therefore, the factor is zero.

3.2.4 Uncertainty Factor

The uncertainty factor is used to compensate for the uncertainty of the effectiveness of the WQT practice. Uncertainty originates from climatic variability, potential inaccuracies in the field testing, quantity of pollutants controlled by the management practice, and reliability of the management practice constructed.

The uncertainty factor applicable to each management practice will vary depending on the implementation. WDNR provides a more descriptive table of uncertainty factors, which is available online within the WDNR A Water Quality Trading How to Manual.

3.2.5 Habitat Adjustment Factor

The habitat adjustment factor is only used for aquatic habitat restoration. If no aquatic habitat restoration is completed, then the factor is zero.

3.3 Environmental Benefits

Water quality trading offers environmental benefits throughout the watershed as compared to treating the wastewater discharges at the single outlet point. In addition, nonpoint source phosphorus reduction practices can improve the efficiency of the agricultural practices which includes reducing fertilizer application rates.

Target Phosphorus Water Quality Trading Credits

TARGET PHOSPHORUS WATER QUALITY TRADING CREDITS

The amount of phosphorus WQT Credits required is calculated by comparing the amount of phosphorus allowed by the WQBEL to the amount discharged by the WWTF. To calculate the WQT credit need, data was used from January 2020 to December 2023. The Village of Loganville WWTF data for the 2015 and 2016 years were not used due to incomplete data sets. The WWTF data from 2017 to 2019 was not used as the system had a significant inflow and infiltration, which impacted the flow. In early 2020 the manholes were sealed to prevent inflow and infiltration, which resulted in significant flow reduction.

4.1 Loganville WWTF's Current Phosphorus Effluent Discharge

The amount of phosphorus WQT credits required is calculated by comparing the quantity of phosphorus discharged by a WWTF, to the amount allowed by the WQBEL. Table 4.1.1 summarizes the monthly average effluent flowrate from the Village of Loganville WWTF from 2020 to 2023. Based on the monthly average flow recorded, the average monthly flow from 2020 to 2023 was calculated at 0.046 MGD.

Table 4.1.1: Monthly Yearly Average Effluent Flowrate (MGD)

Month	Year			
	2020	2021	2022	2023
January	0.14	0.03	0.03	0.03
February	0.13	0.03	0.03	0.04
March	0.21	0.04	0.03	0.07
April	0.21	0.03	0.05	0.06
May	0.09	0.03	0.03	0.03
June	0.05	0.02	0.02	0.00
July	0.11	0.04	0.01	0.01
August	0.02	0.04	0.03	0.01
September	0.04	0.03	0.05	0.01
October	0.04	0.04	0.03	0.02
November	0.04	0.05	0.05	0.01
December	0.02	0.04	0.04	0.02
Annual Average	**0.09**	**0.03**	**0.03**	**0.02**
Maximum	0.21	0.05	0.05	0.07
Minimum	0.02	0.02	0.01	0.00

Table 4.1.2 summarizes the monthly average effluent phosphorus concentration from the Village of Loganville WWTF from 2020 to 2023. Based on the tabulated results below, the Village WWTF discharged an average of 2.26 mg/L of phosphorus from 2020 to 2023.

Table 4.1.2: Monthly Average Effluent Phosphorus Concentrations (mg/L)

Month	Year			
	2020	2021	2022	2023
January	0.68	2.80	3.10	4.15
February	1.95	3.10	3.85	4.65
March	1.00	3.40	3.55	3.30
April	0.77	1.95	2.35	1.95
May	1.20	1.80	1.70	1.45
June	1.10	2.15	2.70	0.00
July	1.85	1.90	2.10	1.65
August	2.30	2.40	2.80	2.20
September	1.95	2.40	2.65	1.70
October	2.30	2.45	2.80	1.60
November	2.10	2.50	2.85	1.75
December	2.15	2.65	2.75	2.00
Annual Average	**1.61**	**2.46**	**2.77**	**2.20**
Maximum	2.30	3.40	3.85	4.65
Minimum	0.68	1.80	1.70	0.00

The monthly average effluent phosphorus mass was reported in pounds per day within Table 4.1.3. The monthly average pounds per day of phosphorus discharged from the Village of Loganville WWTF was calculated at 0.77 pounds per day.

Table 4.1.3: Monthly Average Effluent Phosphorus Mass (PPD)

Month	Year			
	2020	2021	2022	2023
January	0.81	0.61	0.80	1.18
February	2.13	0.72	0.91	1.71
March	1.78	1.10	1.03	1.85
April	1.35	0.45	0.93	1.01
May	0.86	0.45	0.41	0.31
June	0.48	0.33	0.46	0.00
July	1.65	0.57	0.24	0.07
August	0.40	0.71	0.71	0.13
September	0.69	0.54	1.04	0.09
October	0.77	0.85	0.77	0.24
November	0.68	1.00	1.20	0.21
December	0.41	0.95	0.93	0.26
Annual Average	**1.00**	**0.69**	**0.79**	**0.59**
Maximum	2.13	1.10	1.20	1.85
Minimum	0.40	0.33	0.24	0.00

4.2 Amount of Phosphorus Discharge Allowed by the TMDL

The phosphorus limit mass for the Village of Loganville was based on the TMDL for Narrows Creek, which was depicts as 101 pounds per year. This equates to 0.276 pounds per day. However, per the email with Mr. Matt Claucherty of the WDNR, the permit depicts the calculated mass phosphorus limit of 0.46 pounds per day. This is due to the variability of the discharge for this creek and WWTF. The email is included within Appendix E. The Village of Loganville WWTF should target using 0.276 pounds per day as that will allow a factor of safety within the trading calculation.

4.3 Calculation of Target Phosphorus Water Quality Trading Credits

To calculate the target of phosphorus WQT credit need, the monthly average effluent flowrate and phosphorus concentrations were used from January 2020 to December 2023. The monthly averages and a target phosphorus mass limit of 0.46 pounds per day or 168 pounds per year were subtracted from the annual phosphorus loading discharged from the WWTF. The calculations are depicted within Table 4.3.1.

The formulas below depict how the phosphorus WQT credit was calculated.

WQT Required = (Q x TP x 8.34 x 365 days/year) – 168 lbs/yr
WQT Required = (0.046 MGD x 2.256 mg/L x 8.34 x 365 days/year) – 168 lbs/year
WQT Required = 149 lbs/year

Table 4.3.1: Monthly Average Water Quality Trading Effluent Phosphorus Per TMDL Target Phosphorus Mass of 0.46 lbs/day

Year	Days Per Half Year	Period (Monthly)	Average Effluent Flow Q (MGD)	Average Effluent Phosphorus Concentration (mg/L)
2020	182	Jan - June	0.139	1.116
	184	July - Dec	0.045	2.108
2021	181	Jan - June	0.028	2.533
	184	July - Dec	0.038	2.383
2022	181	Jan - June	0.032	2.875
	184	July - Dec	0.036	2.658
2023	181	Jan - June	0.039	2.583
	184	July - Dec	0.011	1.817
Annual Average (2020-2023)	365	Jan - Dec	0.046	2.26
Current Phosphorus Loading Discharged				317
TMDL Calculated Phosphorus Mass Limit				168
Reduction of Total Phosphorus at WWTF				**149**

4.4 Target Phosphorus WQT Credits

The table below summarizes the target phosphorus WQT Credit, that is required per the calculated annual mass reduction load of phosphorus for the Village of Loganville WWTF.

Table 4.4.1: Required Phosphorus Mass Offset

Description	Units	Average Amount
Average Daily Existing Flow (Jan - Dec)	MGD	0.046
Effluent Phosphorus Concentration (Jan - Dec)	mg/L	2.26
Target Phosphorus Mass for TMDL	lbs/day	0.46
Calculated Target Phosphorus Mass Limit for TMDL	lbs/year	168
Reduction of Total Phosphorus Required	**lbs/year**	**149**

However, the Village of Loganville plans to have a factor of safety within its phosphorus WQT credit target if the trades do not generate sufficient credits. Therefore, the Village is targeting using a phosphorus mass of 0.276 pounds per day. The table below depicts the phosphorus WQT credits per the calculated SSC WLA mass, which allows the 101 pounds per year of discharge.

Table 4.4.2: Phosphorus Mass Offset with Factor of Safety

Description	Units	Average Amount
Average Daily Existing Flow (Jan - Dec)	MGD	0.046
Effluent Phosphorus Concentration (Jan - Dec)	mg/L	2.259
Target Phosphorus Mass	lbs/day	0.276
Target Phosphorus Mass Limit per SSC WLA	lbs/year	101
Reduction of Total Phosphorus Required	**lbs/year**	**216**

The Village of Loganville plans to utilize streambank stabilization and waterway improvement projects, to generate the required 149 lbs per year of phosphorus credits.

Water Quality Trades for Projects

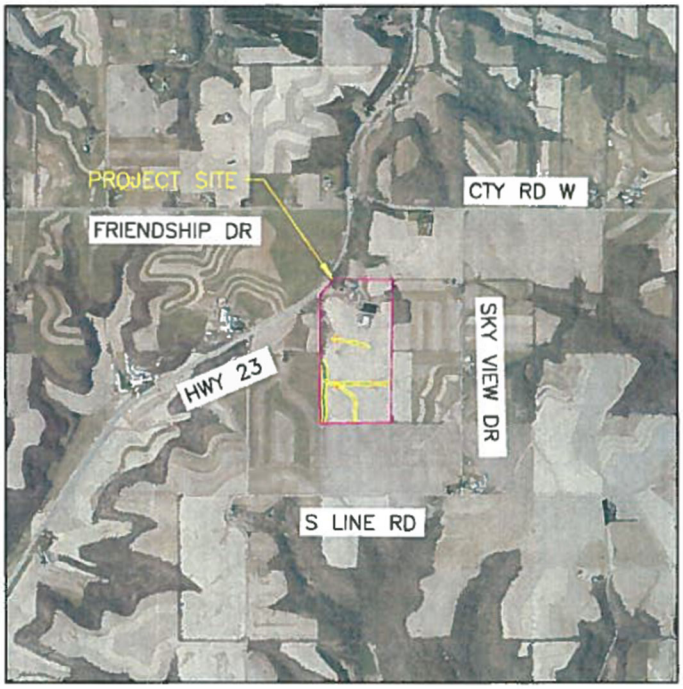
WATER QUALITY TRADES FOR PROJECTS

In the 2023 calendar year, the Village implemented two projects with private landowners, in addition to two projects with Sauk County Farms property. Of the projects identified within the approved Village of Loganville Davy Engineering WQT Plan, only the Sauk County farms project was implemented. Therefore, this amendment includes the other completed projects.

5.1 Kinsinger Property – Project Completed in 2023

Mr. and Mrs. Kinsinger's property is located at S7004 State Road 23 in the Township of Westfield, upstream of the Village of Loganville WWTF and within the same watershed. This property is currently an active dairy farm. Runoff from the farm flows west towards a stream that connects to Narrows Creek.

Figure 5.1.1: Kinsinger Property



This property was selected as a good site to generate WQT credits through waterway improvement, as the waterways were eroded. Prior to the design process, NRCS staff collected soil samples from this property at approximately 6-inches below the surface, to analyze the phosphorus within the soil. The average total soil phosphorus concentration was calculated as 0.0695 percent. Based on the erosion severity for the grass waterways and the soil phosphorus data, Sauk County and NRCS worked on the design plan.

The Village entered into a 20-year agreement with this landowner on July 5, 2023, to complete grass waterway improvements, which was completed in September 2023. This project was completed in accordance with NRCS Practice Standard 412. Four grassed waterways, which totaled 3,729 linear feet, were improved, which included an ephemeral gully and three classic gullies.

The NRCS Classic Gully Erosion Estimator was used to calculate the total tons per year of soil reduction for each grass waterway. Then the total phosphorus reduction was

calculated with an approved WDNR calculator. Based on WDNR calculator, the total phosphorus reduction for the Kinsinger property was calculated at 289.5 pounds per year.

The trade ratio for this project was based on the Management Practices table within the WDNR Guidance for Implementing Water Quality Trading in WPDES Permits and depicted below.

Table 5.1.2 Calculation of Trade Ratio for Water Quality Trading

BMP Type	Site	Delivery Factor	Downstream Factor	Equivalency Factor	Uncertainty Factor	Habitat Adjustment	Trade Ratio
Kinsinger Property	Grassed Waterway Improvements	0	0	0	2	0	2:1

Based on the trade ratio determined by summing the delivery, downstream, equivalence, uncertainty, and habitat factors was calculated at 2 to 1 ratio. The Village of Loganville Kinsinger Grassed Waterway Trading Plan As Built in Accordance NRCS Practice Standard 412 Report completed by Sauk County is included within Appendix F. Included with the As-Built Report is the operations and maintenance for this WQT management practice, as well as photos of the project.

5.2 Muchow Property – Project Completed in 2023

The Muchow property is located at S5805 Spring Valley Road in the Township of Westfield, upstream of the WWTF and within the same watershed. Runoff from the farm runs east to Spring Valley Creek, a tributary to Narrows Creek. Based on the erosion observed along the streambank, this property was selected as a good site to generate WQT credits, so the Village established a written agreement with the landowner.

Figure 5.2.1: Muchow Property

NRCS staff and Sauk County Land Resources and Environment department designed the streambank restoration. Soil samples to analyze the phosphorus concentration were collected by Sauk County at the four streambank locations. The average total percent leachable phosphorus concentration was calculated at 0.0425. The construction plan was designed by NRCS in accordance with technical standard 580. The plan included improving four eroding streambanks. In total 501 linear feet from four streambank sections were improved for this WQT credit.

The NRCS Streambank erosion estimator was used to calculate the total tons per year of soil reduction for each area of the streambank. Standardized soil bulk densities are pre-programmed into the spreadsheet, which are applied based on the site soil texture. Then the total phosphorus reduction was calculated by multiplying the percent of soil total phosphorus and the calculated soil loss for each stream bank. The total phosphorus reduction for the Muchow property was calculated at 117 pounds per year. This reduction must then have the trade ratio and interim credit applied.

The trade ratio for this project was based on the Management Practice Table within the WDNR Guidance for Implementing Water Quality Trading in WPDES Permits for streambank stabilization with aquatic habitat adjustment. This property is located upstream of the WWTF, within the same watershed. However, based on the WDNR provided tables, the Uncertainty factor was estimated at 3 due to not constructing the habitat component.

Table 5.2.2: Trade Ratio Summary for Proposed Projects

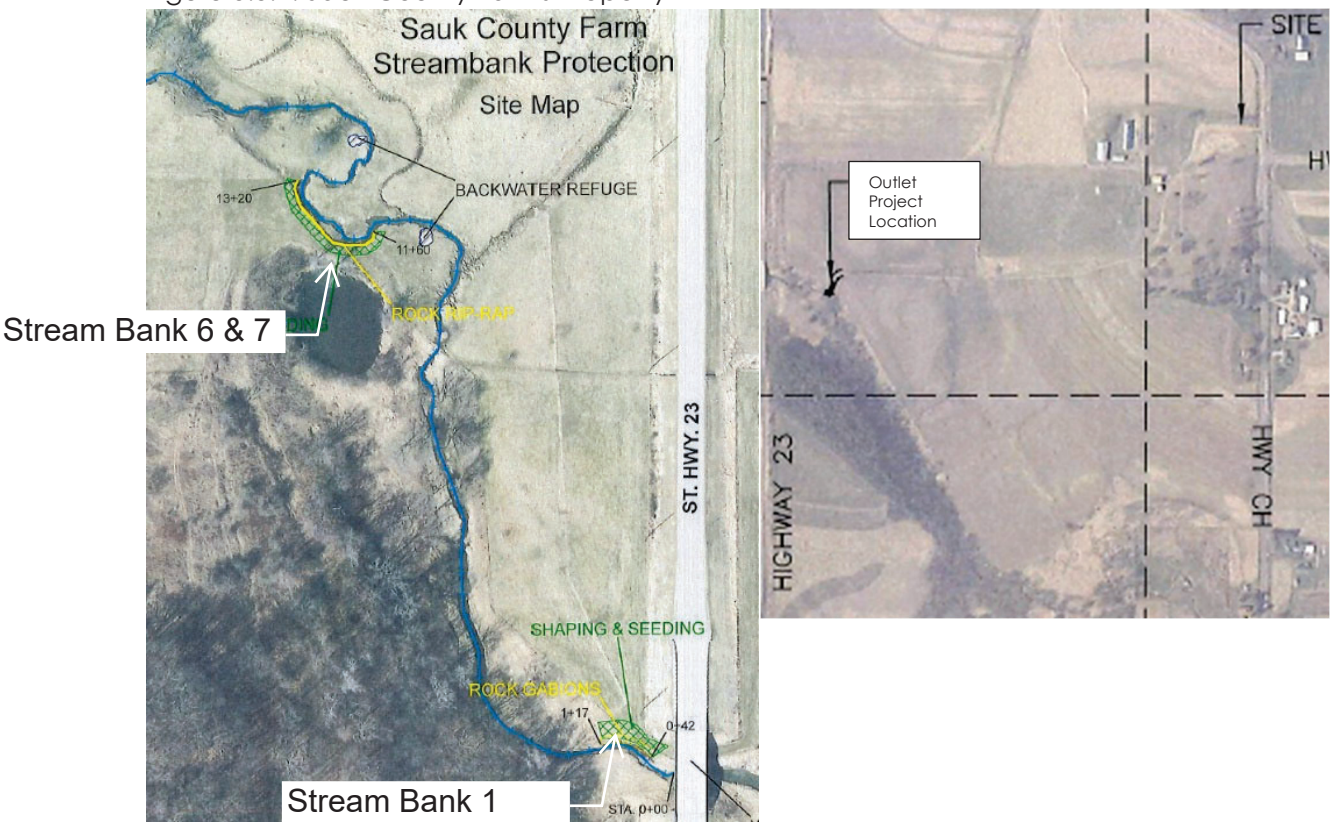
BMP Type	Site	Delivery Factor	Downstream Factor	Equivalency Factor	Uncertainty Factor	Habitat Adjustment	Trade Ratio
Muchow Property	Stream Bank Stabilization	0	0	0	3	0	3:1

Based on the trade ratio determined by summing the delivery, downstream, equivalence, uncertainty, and habitat factors were calculated at 3 to 1. The Village of Loganville Chuck Muchow Streambank Trading Plan As Built in Accordance NRCS Practice Standard 580 Report and the operation and maintenance plan for the stream bank improvements are included within Appendix G.

5.3 Sauk County Farms – Project Completed in 2023

The Sauk County farms project is located off State Highway 23 in the Township of Reedsburg, Wisconsin, about four miles north of the Village of Loganville, downstream of the WWTF and within the same watershed. The Sauk County farmland consists of flat bottoms fields along the stream that bisect the property. The property is comprised of cropland and pasture areas which have been rented out to local farmers since the 1980's. The remaining property is comprised of land where the former healthcare center stood, wooded forest and unnamed tributary of Narrows Creek which meanders through it with approximately 255 feet of eroded stream banks. The Village established a written agreement with the landowner to implement improvements to the streambank, construct aquatic habitat and outlet improvements within this property.

Figure 5.3.1: Sauk County Farms Property



This property was selected for WQT credits through waterway, streambank and habitat improvements. Sauk County Land Resources and Environment Department performed a site visit in 2020 to collect soil samples. Soil samples were collected approximately 6-inches below the surface, mid-bank, and 6-inches above bottom of the grassed waterway outlet. The average total soil phosphorus concentration was evaluated at 0.04 percent of phosphorus.

The waterway outlet project included constructing a rock riprap lined waterway outlet which was completed in accordance with NRCS 468. The outlet structure was designed and constructed to provide safe conveyance of runoff from other conservation practices and to prevent existing gully erosion. This practice will improve the water way quality with the 54 liner feet of rock riprap lined waterway. The NRCS Classic Gully Erosion estimator was used to calculate the total soil reduction for this outlet. The outlet project resulted in the phosphorus reduction for the Sauk County Farms property of 8.3 pounds per year. This reduction will then have the trade ratio and interim credit applied.

This streambank improvement project includes restoration of the waterway lining to strengthen the habitat for this tributary. The streambank improvements were completed in accordance with NRCS 580. Rock gabion baskets were installed adjacent to the stream bank. These rock gabion baskets will protect the streambank and beds and help to maintain the stability of the bank.

NRCS and the County completed visual assessments for this portion of the tributary and concluded very little habitat existed for terrestrial animals due to the steep vertical banks without vegetation and the fast current of the stream. The goal of installing backwater refuges was to create habitat diversity to allow slack water to fill these areas.

Two backwater refuges were installed, each totaling 500 square feet with a depth of approximately 1-foot. These backwater refuges had irregular bottoms with gradual graded side slopes. Backwater refuge practices also add the habitat component to the trade ratio since Narrows Creek is listed as an impaired stream, so the connecting tributary is also considered impaired.

The NRCS Streambank erosion estimator was used to calculate the total tons per year of soil reduction for each area of the streambank. Standardized soil bulk densities are pre-programmed into the spreadsheet, which are applied based on the site soil texture. Then the total phosphorus reduction was calculated by multiplying the percent of soil total phosphorus and the calculated soil loss for each stream bank. The streambank project resulted in the phosphorus reduction for the Sauk County Farms property of 94 pounds per year. This reduction must then have the trade ratio and interim credit applied.

This project is located approximately three miles downstream from the Loganville WWTF discharge point, therefore downstream factor was calculated within the trade ratio.

Table 5.3.2: Trade Ratio Summary for Completed Projects

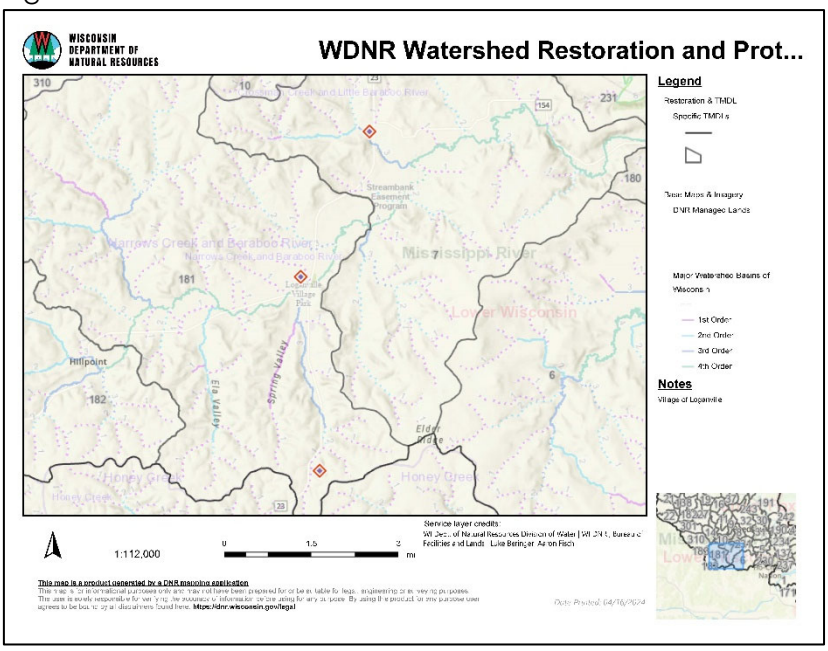
BMP Type	Site	Delivery Factor	Downstream Factor	Equivalency Factor	Uncertainty Factor	Habitat Adjustment	Trade Ratio
Sauk County Farms	Waterway Improvements	0	0.1	0	2	0	2.1:1
Sauk County Farms	Stream Bank Stabilization	0	0.1	0	2	0	2.1:1

Based on the trade ratio determined by summing the delivery, downstream, equivalence, uncertainty, and habitat factors were calculated at 2.1 to 1. In total, the outlet and streambank projects resulted in a total of 102.3 pounds per year of phosphorus reduction. The Village of Loganville Sauk County Farms Streambank with Habitat and Rock Lined Waterway Trading Plan As Built in Accordance NRCS Practice Standards 580, 468, and 395 is included within Appendix H.

5.4 Interim and Long-Term Credit

Interim and long-term credits were calculated based on the WDNR's TMDL reach subbasins. The project sites were located within TMDL Subbasin 181 and 7 as depicted on the figure below.

Figure 5.4.1 WDNR Subbasin Watershed



The percent reduction in these subbasins is 80% and 75%, respectively per Appendix E of the WDNR Water Quality Trading Guidance. The following calculation was used to generate the interim credit threshold:

Pounds generated per project site * TMDL percent reduction = interim credits

The duration of the interim credit threshold equals the lifespan of the management practice employed or the period that the management practice is effective and functioning to reduce pollutant loads or 10 years from the date of practice establishment, whichever is shorter. Based on this, the interim credits will only apply for a maximum of 10 years from 2023. Once interim credits expire, the credit user is required to replace them with new interim credits or long-term credits. As the lifespan of the projects described in this report are more than 10 years, the interim credit threshold for this WQT Plan will be 10 years.

The table below depicts the interim Phosphorus credits generated per project site within the subbasins.

Table 5.4.1 Interim Credit Generated per Site

Project Name	Watershed	Project Description	Total Pounds Phosphorus Reduced	TMDL % Reduction	Phosphorus Reduction
Kinsinger Property	TMDL Subbasin 181	Grassed Waterway Improvements - Classic Gully 1	12.90	80%	10.32
	TMDL Subbasin 181	Grassed Waterway Improvements - Classic Gully 2	83.70	80%	66.96
	TMDL Subbasin 181	Grassed Waterway Improvements - Ephemeral Gully 3	141.60	80%	113.28
	TMDL Subbasin 181	Grassed Waterway Improvements - Classic Gully 4	51.30	80%	41.04
Muchow Property	TMDL Subbasin 181	Stream Bank Improvement - Site 1	33.00	80%	26.40
	TMDL Subbasin 181	Stream Bank Improvement - Site 2	12.00	80%	9.60
	TMDL Subbasin 181	Stream Bank Improvement - Site 3	22.00	80%	17.60
	TMDL Subbasin 181	Stream Bank Improvement - Site 4	50.00	80%	40.00
Sauk County Farm - Waterway	TMDL Subbasin 7	Waterway Outlet Improvements	8.30	75%	6.23
Sauk County Farm - Stream Bank	TMDL Subbasin 7	Stream Bank Habitat Improvements - Site 1	32.00	75%	24.00
	TMDL Subbasin 7	Stream Bank Habitat Improvements - Site 6	27.00	75%	20.25
	TMDL Subbasin 7	Stream Bank Habitat Improvements - Site 7	35.00	75%	26.25
			Total Interim Credits Generated		**401.93 lbs/yr**

5.5 Trade Ratio

Trade ratios were applied to the interim and long-term credits generated within Section 5.4. The table below depicts the total phosphorus reductions per site with the trade ratios applied.

Table 5.5.1 Total Phosphorus Reduction per Year

Project Name	Date Constructed	Project Description	Phosphorus Reduction (lbs/Yr)	Trade Ratio	Interim Phosphorus Credit (lbs/Yr)	Long-Term Phosphorus Credit (lbs/Yr)
Kinsinger Property	Sep-23	Grassed Waterway Improvements - Classic Gully 1	10.32	2 : 1	5.16	1.29
	Sep-23	Grassed Waterway Improvements - Classic Gully 2	66.96	2 : 1	33.48	8.37
	Sep-23	Grassed Waterway Improvements - Ephemeral Gully 3	113.28	2 : 1	56.64	14.16
	Sep-23	Grassed Waterway Improvements - Classic Gully 4	41.04	2 : 1	20.52	5.13
Muchow Property	Dec-23	Stream Bank Improvement - Site 1	26.40	3 : 1	8.80	2.20
	Dec-23	Stream Bank Improvement - Site 2	9.60	3 : 1	3.20	0.80
	Dec-23	Stream Bank Improvement - Site 3	17.60	3 : 1	5.87	1.47
	Dec-23	Stream Bank Improvement - Site 4	40.00	3 : 1	13.33	3.33
Sauk County Farm - Waterway	Sep-23	Waterway Outlet Improvements	6.23	2.1 : 1	2.96	0.99
Sauk County Farm - Stream Bank	Sep-23	Stream Bank Habitat Improvements - Site 1	24.00	2.1 : 1	11.43	3.81
	Sep-23	Stream Bank Habitat Improvements - Site 6	20.25	2.1 : 1	9.64	3.21
	Sep-23	Stream Bank Habitat Improvements - Site 7	26.25	2.1 : 1	12.50	4.17
				Total	**183.54 lbs/Yr**	**48.93 lbs/Yr**

5.6 Management Practices Used to Generate Credits

The Village of Loganville has worked with Sauk County Land Resources and Environmental Department to evaluate sections of streambank that are or have been eroded to determine the best projects. Additionally, some landowners worked with the USDA Natural Resources Conservation Service to apply for Environmental Quality Incentives Program for the funding and design.

Standard Plans and Specifications for the streambank stabilization and waterways projects were provided by Sauk County. Sauk County Land Resources and Environmental acquired the permits and authorizations for the completed projects.

The table below depicts the pounds per year generated for the permit term for interim and long-term credits:

Table 5.6.1 Total Phosphorus Reduction per Permit Term

Year	Interim Credit (lbs/Yr)	Long-Term Credit (lbs/Yr)	Available Credit (lbs/Yr)
2023	183.54*	48.93*	232.47
2024	183.54*	48.93*	232.47
2025	183.54*	48.93*	232.47
2026	183.54*	48.93*	232.47
2027	183.54*	48.93*	232.47
2028	183.54*	48.93*	232.47
2029	183.54*	48.93*	232.47
2030	183.54*	48.93*	232.47
2031	183.54*	48.93*	232.47
2032	183.54*	48.93*	232.47
2033	183.54*	48.93*	232.47
2034	**	48.93*	48.93
2035	**	48.93*	48.93

Notes:

* = Projects must be inspected annually and kept in good working order

** = new projects must be in-place or credits purchased

Based on the calculated Phosphorous reduction from the projects included within this plan, the phosphorus interim calculations, and the reduction trade ratios the Village of Loganville has reduced their phosphorus by 232.47 pounds this year with the WQT program. The Village of Loganville has exceeded their Phosphorus reduction goal as established within this WQT Report for the next 10 years.

Implementation Schedule & Tracking

Implementation Schedule and Tracking

6.1 Timeline

The projects presented within this WQT Plan have been implemented during the 2023 calendar year. If additional projects are required, the WQT Plan will be amended, and the proposed projects will be implemented as needed.

6.2 Tracking Procedures

The Village of Loganville worked with Sauk County Department of Land Resources and Environment to track each project. The Village of Loganville will annually inspect the sites and document with photographs and note the observations of the stream debris and bank erosion. Based on the annual inspections, the Village will make an assessment as to whether the debris is impeding flow or has become a fish habitat for the bank stabilization projects. Impeding debris will be removed as outlined within the Operations and Maintenance section of the required sites.

6.3 Practice Registration

The Village has submitted a Water Quality Trading Management Practice Registration Form (Form 3400-207) to WDNR at the completion of each project. The Practice Registration Form is used to verify that the management practices have been properly installed in accordance with the WQT Plan.

WDNR tracks submitted forms using a docket numbering system, which will allow for information to be reviewed later for trade verification and auditing.

6.4 Inspection and Notifications

Inspections of the management practices shall occur during construction phases to ensure the practices are installed per code and meet applicable permits. Inspection reports will document the observations, issues if identified or addressed, and confirm that the practices are still in place. Inspections will be conducted at least annually and following major storm events.

Inspection reports will include:

- Date and time of inspection
- Name of inspector
- Detailed report on how inspection was performed
- Weather conditions
- Photos of every site including captions with Site IDs that align with this plan
- Details of the practice conditions in accordance with the Operations & Management Plan
- If rip rap or vegetative treatments fail, a timeline to correct the failure and guidance for avoiding future failure
- Location(s) of erosion throughout sites

The WDNR may also access the project sites to perform periodic inspections.

If riprap or structures in place were to fail at the sites identified, the landowners should immediately report the situation to the Sauk County Department of Land Resources and Environment to develop a remedial action plan to correct the deficiency.

6.5 Annual WQT Report Submittal

Annual inspections by the Village should be performed during the early springtime. This time of year is ideal for evaluating the conditions of the BMPs, as it follows the freeze/thaw cycle and has minimal vegetation coverage.

The following shall be submitted to the WDNR by January 31 of each year:

- Site inspection observation data, including all detailed inspection notes and photos, with a summary of findings.
- Number of pollutant reduction credits used each month.
- Source of each month's pollutant reduction credits associated with each WQT project; and
- Identification of noncompliance or failure to implement any terms or conditions of the WPDES permit associated with WQT that are not reported in discharge monitoring reports.

6.6 Notification of Termination

If the Water Quality Plan requires modifications or termination during the permit period, the Village of Loganville will submit DNR Form 3400-209 (Notice of Water Trade Agreement Termination) to the DNR. If the Water Quality Easement is modified or terminated, the phosphorus WQT credit generates will change accordingly and may result in non-compliance with the Village of Loganville WPDES Permit. The information regarding the notice of termination form will be used by WDNR to determine the permit actions required.

An unsigned version of the notice of termination form is included in Appendix I. If this form is to be used, the termination actions and form will need to be signed by the Village's authorized representative.

Appendix

Appendix A
Village of Loganville WPDES Permit

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
South Central Region Headquarters
3911 Fish Hatchery Road
Fitchburg, WI 53711-5397

Tony Evers, Governor
Preston D. Cole, Secretary
Telephone (608) 275-3266
Toll Free 1-888-936-7463
TTY Access via relay - 711

Mark Kruse
OIC
VILLAGE OF LOGANVILLE
PO Box 128
Loganville, WI 53943

SUBJECT: WPDES Permit Reissuance No. WI-0029114-10-0
Loganville Wastewater Treatment Facility, SEQ, SWQ, SEC 4, T11N, R4E,
WESTFIELD, TWP, LOGANVILLE, WISCONSIN

Dear Permittee:

Your Wisconsin Pollutant Discharge Elimination System (WPDES) Permit is enclosed. The conditions of the enclosed permit reissuance were determined using the permit application, information from your WPDES permit file, other information available to the Department, comments received during the public notice period, and applicable Wisconsin Administrative Codes. All discharges from this facility and actions or reports relating thereto shall be in accordance with the terms and conditions of the enclosed permit.

This enclosed permit requires you to submit monitoring results to the Department on a periodic basis. Monitoring forms, which must be submitted electronically, are available on the Department's web page. Go to the DNR Switchboard page at http://dnr.wi.gov/topic/switchboard/ to log in and access your monitoring forms. For your convenience, there is a 'Summary of Reports Due' at the end of the enclosed permit that shows a synopsis of the required reports and monitoring forms.

The WPDES permit program has been approved by the Administrator of the U.S. Environmental Protection Agency pursuant to Section 402(b) of the Federal Water Pollution Control Act Amendments of 1972 (33 U.S.C. Section 1342 (b)). The terms and conditions of the enclosed permit are accordingly subject to enforcement under ss. 283.89 and 283.91, Stats., and Section 309 of the Federal Act (33 U.S.C. Section 1319).

The Department has the authority under chs. 160 and 283, Wis. Stats., to establish effluent limitations, monitoring requirements, and other permit conditions for discharges to groundwater and surface waters of the State. The Department also has the authority to issue, reissue, modify, terminate, or revoke and reissue WPDES permits under ch. 283, Wis. Stats.

The enclosed permit contains water quality-based effluent limitations that are necessary to ensure the water quality standards for Narrows Creek, 100 feet northwest of lagoon monitoring shack are met. You may apply for a variance from the water quality standard used to derive the limitations pursuant to s. 283.15, Stats., by submitting an application to the Director of the Bureau of Water Quality, P.O. Box 7921, Madison, Wisconsin 53707 within 60 days of the date the permit was issued (see "Date Permit Signed/Issued" after the signature on the front page of the enclosed permit). This statute also allows the permittee to apply for a variance to the water quality standard when applying for reissuance of the permit. Subchapter III of ch. NR 200, Wis. Adm. Code, specifies the procedures that must be followed and the information that must be included when submitting an application for a variance.

If your permit contains a stringent Water Quality Based Effluent Limit for Phosphorus, there is a Compliance Schedule requirement to complete a Phosphorus Operational Evaluation and Optimization Report. To streamline the Report preparation and review process the Department has prepared a Worksheet which should be used to develop the report. The worksheet may be found at : http://dnr.wi.gov/topic/surfacewater/phosphorus.html.

To challenge the reasonableness of or necessity for any term or condition of the enclosed permit, s. 283.63, Stats., and ch. NR 203, Wis. Adm. Code, require that you file a verified petition for review with the Secretary of the Department of Natural Resources within 60 days of the date the permit was issued (see "Date Permit Signed/Issued" after the signature on the front page of the enclosed permit). For permit-related decisions that are not reviewable pursuant to s. 283.63, Stats., it may be possible for permittees or other persons to obtain an administrative review pursuant to s. 227.42, Stats., and s. NR 2.05(5), Wis. Adm. Code, or a judicial review pursuant to s. 227.52, Stats. If you choose to pursue one of these options, you should know that Wisconsin Statutes and Administrative Code establish time periods within which requests to review Department decisions must be filed.

Sincerely,

Thomas Bauman
Wastewater Field Supervisor

Dated: October 28, 2021

cc: Legal Permit File
U.S. Fish and Wildlife Service (Electronic Copy via Email)
Tanner Connors

WISCONSIN
DEPT. OF NATURAL RESOURCES

WPDES PERMIT

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

PERMIT TO DISCHARGE UNDER THE WISCONSIN POLLUTANT DISCHARGE ELIMINATION SYSTEM

VILLAGE OF LOGANVILLE

is permitted, under the authority of Chapter 283, Wisconsin Statutes, to discharge from a facility located at
SEQ, SWQ, SEC 4, T11N, R4E, WESTFIELD, TWP, LOGANVILLE, WISCONSIN
to

NARROWS CREEK (NARROWS CREEK/BARABOO RIVER WATERSHED, LW22 – LOWER WISCONSIN RIVER BASIN) IN SAUK COUNTY

in accordance with the effluent limitations, monitoring requirements and other conditions set forth in this permit.

The permittee shall not discharge after the date of expiration. If the permittee wishes to continue to discharge after this expiration date an application shall be filed for reissuance of this permit, according to Chapter NR 200, Wis. Adm. Code, at least 180 days prior to the expiration date given below.

State of Wisconsin Department of Natural Resources
For the Secretary

By _____
Thomas Bauman
Wastewater Field Supervisor

October 28, 2021
Date Permit Signed/Issued

PERMIT TERM: EFFECTIVE DATE – November 01, 2021 **EXPIRATION DATE - June 30, 2026**

TABLE OF CONTENTS

1 Influent Requirements

1.1 Sampling Point(s)

Sampling Point Designation	
Sampling Point Number	**Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)**
701	Representative influent samples shall be collected at the main lift station wet well.

1.2 Monitoring Requirements

The permittee shall comply with the following monitoring requirements.

1.2.1 Sampling Point 701 - INFLUENT

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Total Daily	
BOD_5, Total		mg/L	2/Month	Grab	
Suspended Solids, Total		mg/L	2/Month	Grab	

2 Surface Water Requirements

2.1 Sampling Point(s)

Sampling Point Designation	
Sampling Point Number	**Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)**
001	Representative effluent samples shall be collected at the outfall prior to discharge to Narrows Creek, 100 feet northwest of the lagoon monitoring shack.

2.2 Monitoring Requirements and Effluent Limitations

The permittee shall comply with the following monitoring requirements and limitations.

2.2.1 Sampling Point (Outfall) 001 - EFFLUENT

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Continuous	
BOD_5, Total	Weekly Avg	45 mg/L	2/Month	Grab	
BOD_5, Total	Monthly Avg	30 mg/L	2/Month	Grab	
Suspended Solids, Total	Monthly Avg	60 mg/L	2/Month	Grab	
pH Field	Daily Max	9.0 su	2/Month	Grab	
pH Field	Daily Min	6.0 su	2/Month	Grab	
Dissolved Oxygen	Daily Min	7.0 mg/L	Monthly	Grab	
Nitrogen, Ammonia Variable Limit		mg/L	2/Month	Grab	Using the daily pH result look up the applicable ammonia limit in the pH Dependent Daily Maximum Ammonia Limit Table at 2.2.1.2 below and report the variable limit on the daily record (DMR).
Nitrogen, Ammonia (NH_3-N) Total	Daily Max - Variable	mg/L	2/Month	Grab	Enter the daily ammonia result on the daily record (DMR) and compare to the Nitrogen, Ammonia Variable Limit to determine compliance.
Nitrogen, Ammonia (NH_3-N) Total	Weekly Avg	96 mg/L	2/Month	Grab	April 1 - April 30
Nitrogen, Ammonia (NH_3-N) Total	Weekly Avg	106 mg/L	2/Month	Grab	May 1 - September 30
Nitrogen, Ammonia (NH_3-N) Total	Weekly Avg	65 mg/L	2/Month	Grab	October 1 - March 31

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Nitrogen, Ammonia (NH_3-N) Total	Monthly Avg	32 mg/L	2/Month	Grab	April 1 - April 30
Nitrogen, Ammonia (NH_3-N) Total	Monthly Avg	47 mg/L	2/Month	Grab	May 1 - September 30
Nitrogen, Ammonia (NH_3-N) Total	Monthly Avg	53 mg/L	2/Month	Grab	October 1 - March 31
Phosphorus, Total	Monthly Avg	2.9 mg/L	2/Month	Grab	Limit effective throughout the permit term, as it represents a minimum control level. Final limits become effective July 1, 2023. See TMDL section below for more explanation.
Phosphorus, Total		lbs/month	Monthly	Calculated	Calculate the Total Monthly Discharge of phosphorus and report on the last day of the month on the DMR. See TMDL section below.
Phosphorus, Total		lbs/yr	Monthly	Calculated	Calculate the 12-month rolling sum of total monthly mass of phosphorus discharged and report on the last day of the month on the DMR. See TMDL section below.
Phosphorus, Total		lbs/day	2/Month	Calculated	Report daily mass discharged using Equation 1a. in the "Water Quality Trading (WQT)" section.
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. Available TP Credits are specified in Table 2 and in the approved Water Quality Trading Plan.

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
WQT Computed Compliance (TP)	Monthly Avg	0.46 lbs/day	Monthly	Calculated	Limit is effective July 1, 2023. Report the WQT TP Computed Compliance value using Equation 3a. in the "Water Quality Trading (WQT)" section. Value entered on the last day of the month.
WQT Credits Used (TP)	Annual Total	174.5 lbs/yr	Annual	Calculated	Effective for July 1, 2023 - December 31, 2023. The sum of total monthly credits used may not exceed Table 2 values listed below.
WQT Credits Used (TP)	Annual Total	349 lbs/yr	Annual	Calculated	Effective for calendar years 2024 - 2026. The sum of total monthly credits used may not exceed Table 2 values listed below.
Nitrogen, Nitrite + Nitrate Total		mg/L	See Listed Qtr(s)	Grab	Annual in rotating quarters. See Nitrogen Series Monitoring section below.
Nitrogen, Total Kjeldahl		mg/L	See Listed Qtr(s)	Grab	Annual in rotating quarters. See Nitrogen Series Monitoring section below.
Nitrogen, Total		mg/L	See Listed Qtr(s)	Grab	Annual in rotating quarters. See Nitrogen Series Monitoring section below. Total Nitrogen shall be calculated as the sum of reported values for Total Kjeldahl Nitrogen and Total Nitrite + Nitrate Nitrogen.

2.2.1.1 Annual Average Design Flow

The annual average design flow of the permittee's wastewater treatment facility is 0.045 MGD.

2.2.1.2 Daily Maximum pH Variable Ammonia Limits

Effluent pH s.u.	NH_3-N Limit mg/L	Effluent pH s.u.	NH_3-N Limit mg/L	Effluent pH s.u.	NH_3-N Limit mg/L
$6.0 < pH \leq 6.1$	108	$7.0 < pH \leq 7.1$	66	$8.0 < pH \leq 8.1$	14
$6.1 < pH \leq 6.2$	106	$7.1 < pH \leq 7.2$	59	$8.1 < pH \leq 8.2$	11
$6.2 < pH \leq 6.3$	104	$7.2 < pH \leq 7.3$	52	$8.2 < pH \leq 8.3$	9.4
$6.3 < pH \leq 6.4$	101	$7.3 < pH \leq 7.4$	46	$8.3 < pH \leq 8.4$	7.8
$6.4 < pH \leq 6.5$	98	$7.4 < pH \leq 7.5$	40	$8.4 < pH \leq 8.5$	6.4

$6.5 < pH \leq 6.6$	94	$7.5 < pH \leq 7.6$	34	$8.5 < pH \leq 8.6$	5.3
$6.6 < pH \leq 6.7$	89	$7.6 < pH \leq 7.7$	29	$8.6 < pH \leq 8.7$	4.4
$6.7 < pH \leq 6.8$	84	$7.7 < pH \leq 7.8$	24	$8.7 < pH \leq 8.8$	3.7
$6.8 < pH \leq 6.9$	78	$7.8 < pH \leq 7.9$	20	$8.8 < pH \leq 8.9$	3.1
$6.9 < pH \leq 7.0$	72	$7.9 < pH \leq 8.0$	17	$8.9 < pH \leq 9.0$	2.6

2.2.1.3 Nitrogen Series Monitoring

Monitoring for Total Kjeldahl Nitrogen (TKN), Nitrite + Nitrate Nitrogen, and Total Nitrogen shall be conducted once each year in rotating quarters in order to collect seasonal information about the discharge. Tests are required during the following quarters.

- **November – December 2021; January – March 2022; April – June 2023; July – September 2024; October – December 2025**

Nitrogen Series monitoring shall continue after the permit expiration date (until the permit is reissued) in accordance with the monitoring requirements specified in the last full calendar year of this permit. For example, the next test would be required in **October – December 2025**.

Testing: Monitoring shall be performed during normal operating conditions. Permittees are not allowed to turn off or otherwise modify treatment systems, production processes, or change other operating or treatment conditions during testing.

2.2.1.4 Total Maximum Daily Load (TMDL) Limitations

Approved TMDL: The Wisconsin River Basin TMDL for total phosphorus was approved by the U.S. Environmental Protection Agency on April 26, 2019. Additional Site-Specific Criteria (SSC) for Lakes Petenwell, Castle Rock, and Wisconsin and the related Waste Load Allocation (WLA) included in Appendix K of the TMDL report were approved by the U.S. Environmental Protection Agency on July 01, 2020. The permittee's approved SSC-based WLA for this permittee is 101 lbs/yr and results in a calculated phosphorus mass limit of 0.46 lbs/day as a monthly average which goes into effect pursuant to Schedule 4.1. The 12-month rolling sum of total monthly phosphorus (lbs/yr) shall be reported each month for direct comparison to the facility's WLA.

The phosphorus limit of 2.9 mg/L is an interim limit set in accordance with s. NR. 217.17, Wis. The interim limit will remain in effect unless a more stringent limit is required at a future permit issuance by ss. NR 217.13 and NR 217.16(2), Wis. Code, or the limit is relaxed following procedures outlined in ch. Sampling and reporting of phosphorus concentrations and masses discharged shall begin upon the permit effective date.

Total Monthly Discharge (lbs/month): = monthly average concentration (mg/L) x total flow for the month (MG/month) x 8.34.
12-Month Rolling Sum of Total Monthly Discharge (lbs/yr): =the sum of the most recent 12 consecutive months of Total Monthly Discharges.

2.2.1.5 Phosphorus Water Quality Trading (WQT)

The permittee may use water quality trading to demonstrate compliance with WQBELs for total phosphorus (TP) of 0.46 lbs/day as a monthly average. Pollutant reduction credits for total phosphorus are available as specified in Water Quality Trading Plan **WQT-2021-0009** or approved amendments thereof.

Table 2. Available Phosphorus Credits per WQT-2021-0009

Year	Available Credits (lbs/yr) –	Available Credits (lbs/yr) –	Available TP Credits (lbs/yr) –

	Interim	Long Term	Total
2023	34.9	139.6	174.5
2024	69.8	279.2	349
2025	69.8	279.2	349
2026	69.8	279.2	349

*In the event that this permit is not reissued prior to the expiration date, 349 lbs/yr of credits will be available in subsequent year(s).

Only those pollutant reduction credits established by a water quality trading plan approved by the Department may be used by the permittee to demonstrate compliance with the WQBELs identified in this subsection. If the permittee wishes to use pollutant reduction credits not identified in an approved water quality trading plan, the permittee must amend the plan or develop a new plan and obtain Department approval of the amended or new plan prior to use of the new pollutant reduction credits. Prior to Department approval, the amended or new water quality trading plan will be subject to notice and opportunity for public comment. Any change in the number of available credits requires a permit modification.
In the event pollutant reduction credits as defined in the approved water quality trading plan are no longer generated, the permittee shall comply with the WQBELs for TP contained in this subsection. The sum of available interim and long-term credits shown in Table 2 may be used to demonstrate compliance for a given year. Interim credits are subject to duration limits and may not be used past the duration defined in Water Quality Trading Plan **WQT-2021-0009**.

2.2.1.6 Demonstrating Compliance with TP WQBELs Using Water Quality Trading

Use the following methods to demonstrate compliance with the TP WQBELs contained in the Water Quality Trading subsection above.

TOTAL POLLUTANT DISCHARGED (TP)

Use the following equations to calculate the amount of pollutant discharged for Monthly Avg TP [lbs/day].

TP or TSS Discharged [lbs/day] = TP or TSS Discharged [mg/L] × Daily Flow [MGD] × 8.34 *(Eq. 1a.)*

Monthly or Weekly Avg = Σ daily results ÷ # of results *(Eq. 1b.)*

WQT CREDITS USED (TOTAL PHOSPHORUS)

Use the following method to calculate the credits to be used expressed as a mass in lbs/month:

WQT TP Credits Needed [lbs/day] = Monthly Avg TP [lbs/day] – 0.46 lbs/day *(Eq. 2a.)*

Note: When the TP discharge is less than 0.46 lbs/day as a monthly avg, report 0 (zero) as the "WQT Credits Used (TP)".

WQT TP Credits Used [lbs/month] = WQT TP Credits Needed [lbs/day] × # of days of discharge/month *(Eq. 2b.)*

WQT COMPUTED COMPLIANCE (TOTAL PHOSPHORUS)

Use the following method to demonstrate compliance with TP WQBELs expressed as a mass in lbs/day:

WQT TP Computed Compliance [lbs/day] = Monthly Avg TP [lbs/day] – WQT TP Credits Needed [lbs/day]

(Eq. 3a.)

2.2.1.7 Additional Water Quality Trading Requirements

When using water quality trading to demonstrate compliance with WQBELs for TP, the permittee shall comply with the following:

• Failure to implement any of the terms or conditions of the approved water quality trading plan is a violation of this permit.

• Each month the permittee shall certify that the nonpoint source management practices installed to generate pollutant reduction credits are operated and maintained in a manner consistent with that specified in the approved water quality trading plan. Such a certification may be made by including the following statement as a comment on the monthly discharge monitoring report:

> I certify that management practices identified in the approved water quality trading plan as the source of pollutant reduction credits are installed, established and properly maintained.

• At least once a year the permittee or the permittee's agent shall inspect each nonpoint source management practice that generates pollutant reduction credits to confirm the implementation of the management practice and their appropriate operation and adequate maintenance.

• The permittee shall notify WDNR by telephone within 24 hours or next business day of becoming aware that pollutant reduction credits used or intended for use by the permittee are not being implemented or generated as defined in the approved trading plan. A written notification shall be submitted to the Department within 5 days regarding the status of the permittee's pollutant reduction credits.

• The permittee shall provide WDNR written notice within 7 days of the trade agreement upon which the approved water quality trading plan is based being amended, modified, or revoked. This notification shall include the details of any amendment or modification in addition to the justification for the changes.

• The permittee shall not use pollutant reduction credits for the demonstration of compliance when pollutant reduction credits are not being generated.

2.2.1.8 Water Quality Trading Reopener Clause

Under any of the following conditions as provided by s. 283.53(2), Wis. Stats. and Wis. Adm. Code NR 203.135 and 203.136, the Department may modify or revoke and reissue this permit to modify or eliminate permit terms and conditions related to water quality trading:

• The permittee fails to implement the water quality trading plan as approved;

• The permittee fails to comply with permit terms and conditions related to water quality trading;

• New information becomes available that would change the number of credits available for the water quality trade or would change the Department's determinations that water quality trading is an acceptable option.

2.2.1.9 Submittal of Permit Application for Next Reissuance and Pollutant Trading Plan

The permittee shall submit the permit application for the next reissuance at least 6 months prior to expiration of this permit.

The permittee has submitted a Water Quality Trading Plan that was approved by WDNR on July 27th, 2021. If the permittee intends to pursue pollutant trading to achieve compliance in a future permit term, and updated

water quality trading plan is due with the application for the next reissuance. If system upgrades will be used in combination with pollutant trading the permittee shall submit plans for any system upgrade.

3 Land Application Requirements

3.1 Sampling Point(s)

The discharge(s) shall be limited to land application of the waste type(s) designated for the listed sampling point(s) on Department approved land spreading sites or by hauling to another facility.

Sampling Point Designation	
Sampling Point Number	**Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)**
002	Representative sludge samples shall be collected at a time and in a manner appropriate for the specific test.

3.2 Monitoring Requirements and Limitations

The permittee shall comply with the following monitoring requirements and limitations.

3.2.1 Sampling Point (Outfall) 002 - LAGOON SLUDGE

Sludge Management: The permittee shall contact the Department prior to recycling/disposing of any sludge. The permittee shall monitor for the following parameters during the second year of the permit, (**2023**). Analysis shall be submitted by **January 31, 2024**.

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
PCB Total Dry Wt	Ceiling	50 mg/kg	Once	Composite	
PCB Total Dry Wt	High Quality	10 mg/kg	Once	Composite	
Solids, Total		Percent	Once	Composite	
Arsenic Dry Wt	Ceiling	75 mg/kg	Once	Composite	
Arsenic Dry Wt	High Quality	41 mg/kg	Once	Composite	
Cadmium Dry Wt	Ceiling	85 mg/kg	Once	Composite	
Cadmium Dry Wt	High Quality	39 mg/kg	Once	Composite	
Copper Dry Wt	Ceiling	4,300 mg/kg	Once	Composite	
Copper Dry Wt	High Quality	1,500 mg/kg	Once	Composite	
Lead Dry Wt	Ceiling	840 mg/kg	Once	Composite	
Lead Dry Wt	High Quality	300 mg/kg	Once	Composite	
Mercury Dry Wt	Ceiling	57 mg/kg	Once	Composite	
Mercury Dry Wt	High Quality	17 mg/kg	Once	Composite	
Molybdenum Dry Wt	Ceiling	75 mg/kg	Once	Composite	
Nickel Dry Wt	Ceiling	420 mg/kg	Once	Composite	
Nickel Dry Wt	High Quality	420 mg/kg	Once	Composite	
Selenium Dry Wt	Ceiling	100 mg/kg	Once	Composite	
Selenium Dry Wt	High Quality	100 mg/kg	Once	Composite	
Zinc Dry Wt	Ceiling	7,500 mg/kg	Once	Composite	
Zinc Dry Wt	High Quality	2,800 mg/kg	Once	Composite	

3.2.1.1 Sludge Analysis for PCBs

The permittee shall analyze the sludge for Total PCBs one time during **2023**. The results shall be reported as "PCB Total Dry Wt". Either congener-specific analysis or Aroclor analysis shall be used to determine the PCB concentration. The permittee may determine whether Aroclor or congener specific analysis is performed. Analyses shall be performed in accordance with Table EM in s. NR 219.04, Wis. Adm. Code and the conditions specified in Standard Requirements of this permit. PCB results shall be submitted by January 31, following the specified year of analysis.

4 Schedules

4.1 Annual Water Quality Trading (WQT) Report

Required Action	Due Date
Annual WQT Report: Submit an annual WQT report that shall cover the prior calendar year. 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.	01/31/2024
Annual WQT Report #2: Submit an annual WQT report that shall cover the previous year.	01/31/2025
Annual WQT Report #3: Submit the 3rd 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.	01/31/2026
Annual WQT Report Required After Permit Expiration: 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.	

4.2 Water Quality Trading (WQT) Management Plan

Required Action	Due Date
Submit Progress Report on Management Practices Installation: Submit a progress report on the installation of management practices as identified in the Water Quality Management Plan WQT-2021-0009 (or amendment thereof) as approved by the Department.	06/30/2022
Submit Facility Plan: If a facility upgrade will be used in conjunction with, or in lieu of, water quality trading, the permittee shall submit an approvable facility plan to the Department for approval meeting the requirements of ss. NR 110.08 and NR 110.09, Wis. Adm. Code, specifying treatment plant upgrades that must be constructed to achieve compliance with final phosphorus TMDL limits.	06/30/2022
Submit Plans and Specifications: If a facility upgrade will be used in conjunction with, or in lieu of, water quality trading, the permittee shall submit final construction plans and specifications to the Department for approval pursuant to s. 281:41, Stats., specifying treatment plant upgrades that must be constructed to achieve compliance with final phosphorus TMDL limits, and a schedule for	09/30/2022

completing construction of the upgrades by the complete construction date specified below.	
Treatment Plant Upgrade: If a facility upgrade will be used in conjunction with, or in lieu of, water quality trading, the permittee shall initiate construction of the treatment plant upgrades in accordance with the approved plans and specifications.	01/31/2023
Request Permit Modification: If compliance measures differ from what is described in the approved water quality trading plan WQT-2021-0009, the permittee shall request modification to update the permit for either an amendment or removal of the Water Quality Trade Plan WQT-2021-0009.	01/31/2023
Complete Installation and/or Facility Construction: Complete the installation of management practices as identified in the Water Quality Management Plan WQT-2021-0009 (or amendment thereof) as approved by the Department. Complete construction of any required facility upgrades per the approved plans and specs.	06/30/2023
Management Practices: The Management Practices as identified in the Water Quality Trading Plan (or amendment thereof) shall become effective and the permittee shall submit a completed Management Practice Registration Form 3400-207 for each site.	06/30/2023
Comply with Total Phosphorus Limits: Comply with the TP limits as specified in Table 2.2.1.	07/01/2023

5 Standard Requirements

NR 205, Wisconsin Administrative Code: The conditions in ss. NR 205.07(1) and NR 205.07(2), Wis. Adm. Code, are included by reference in this permit. The permittee shall comply with all of these requirements. Some of these requirements are outlined in the Standard Requirements section of this permit. Requirements not specifically outlined in the Standard Requirement section of this permit can be found in ss. NR 205.07(1) and NR 205.07(2).

5.1 Reporting and Monitoring Requirements

5.1.1 Monitoring Results

Monitoring results obtained during the previous month shall be summarized and reported on a Department Wastewater Discharge Monitoring Report. The report may require reporting of any or all of the information specified below under 'Recording of Results'. This report is to be returned to the Department no later than the date indicated on the form. A copy of the Wastewater Discharge Monitoring Report Form or an electronic file of the report shall be retained by the permittee.

Monitoring results shall be reported on an electronic discharge monitoring report (eDMR). The eDMR shall be certified electronically by a responsible executive or municipal officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The 'eReport Certify' page certifies that the electronic report form is true, accurate and complete.

If the permittee monitors any pollutant more frequently than required by this permit, the results of such monitoring shall be included on the Wastewater Discharge Monitoring Report.

The permittee shall comply with all limits for each parameter regardless of monitoring frequency. For example, monthly, weekly, and/or daily limits shall be met even with monthly monitoring. The permittee may monitor more frequently than required for any parameter.

5.1.2 Sampling and Testing Procedures

Sampling and laboratory testing procedures shall be performed in accordance with Chapters NR 218 and NR 219, Wis. Adm. Code and shall be performed by a laboratory certified or registered in accordance with the requirements of ch. NR 149, Wis. Adm. Code. Groundwater sample collection and analysis shall be performed in accordance with ch. NR 140, Wis. Adm. Code. The analytical methodologies used shall enable the laboratory to quantitate all substances for which monitoring is required at levels below the effluent limitation. If the required level cannot be met by any of the methods available in NR 219, Wis. Adm. Code, then the method with the lowest limit of detection shall be selected. Additional test procedures may be specified in this permit.

5.1.3 Recording of Results

The permittee shall maintain records which provide the following information for each effluent measurement or sample taken:

- the date, exact place, method and time of sampling or measurements;
- the individual who performed the sampling or measurements;
- the date the analysis was performed;
- the individual who performed the analysis;
- the analytical techniques or methods used; and
- the results of the analysis.

5.1.4 Reporting of Monitoring Results

The permittee shall use the following conventions when reporting effluent monitoring results:

- Pollutant concentrations less than the limit of detection shall be reported as < (less than) the value of the limit of detection. For example, if a substance is not detected at a detection limit of 0.1 mg/L, report the pollutant concentration as < 0.1 mg/L.

- Pollutant concentrations equal to or greater than the limit of detection, but less than the limit of quantitation, shall be reported and the limit of quantitation shall be specified.

- For purposes of calculating NR 101 fees, the 2 mg/l lower reporting limits for BOD_5 and Total Suspended Solids shall be considered to be limits of quantitation

- For the purposes of reporting a calculated result, average or a mass discharge value, the permittee may substitute a "0" (zero) for any pollutant concentration that is less than the limit of detection. However, if the effluent limitation is less than the limit of detection, the department may substitute a value other than zero for results less than the limit of detection, after considering the number of monitoring results that are greater than the limit of detection and if warranted when applying appropriate statistical techniques.

- If no discharge occurs through an outfall, flow related parameters (e.g. flow rate, hydraulic application rate, volume, etc.) should be reported as "0" (zero) at the required sample frequency specified for the outfall. For example: if the sample frequency is daily, "0" would be reported for any day during the month that no discharge occurred.

5.1.5 Compliance Maintenance Annual Reports

Compliance Maintenance Annual Reports (CMAR) shall be completed using information obtained over each calendar year regarding the wastewater conveyance and treatment system. The CMAR shall be submitted and certified by the permittee in accordance with ch. NR 208, Wis. Adm. Code, by June 30, each year on an electronic report form provided by the Department.

In the case of a publicly owned treatment works, a resolution shall be passed by the governing body and submitted as part of the CMAR, verifying its review of the report and providing responses as required. Private owners of wastewater treatment works are not required to pass a resolution; but they must provide an Owner Statement and responses as required, as part of the CMAR submittal.

The CMAR shall be certified electronically by a responsible executive or municipal officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The certification verifies that the electronic report is true, accurate and complete.

5.1.6 Records Retention

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings or electronic data records for continuous monitoring instrumentation, copies of all reports required by the permit, and records of all data used to complete the application for the permit for a period of at least 3 years from the date of the sample, measurement, report or application. All pertinent sludge information, including permit application information and other documents specified in this permit or s. NR 204.06(9), Wis. Adm. Code shall be retained for a minimum of 5 years.

5.1.7 Other Information

Where the permittee becomes aware that it failed to submit any relevant facts in a permit application or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or correct information to the Department.

5.1.8 Reporting Requirements – Alterations or Additions

The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is only required when:

- The alteration or addition to the permitted facility may meet one of the criteria for determining whether a facility is a new source.
- The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification requirement applies to pollutants which are not subject to effluent limitations in the existing permit.
- The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use of disposal sites not reported during the permit application process nor reported pursuant to an approved land application plan. Additional sites may not be used for the land application of sludge until department approval is received.

5.2 System Operating Requirements

5.2.1 Noncompliance Reporting

Sanitary sewer overflows and sewage treatment facility overflows shall be reported according to the 'Sanitary Sewer Overflows and Sewage Treatment Facility Overflows' section of this permit.

The permittee shall report the following types of noncompliance by a telephone call to the Department's regional office within 24 hours after becoming aware of the noncompliance:

- any noncompliance which may endanger health or the environment;
- any violation of an effluent limitation resulting from a bypass;
- any violation of an effluent limitation resulting from an upset; and
- any violation of a maximum discharge limitation for any of the pollutants listed by the Department in the permit, either for effluent or sludge.

A written report describing the noncompliance shall also be submitted to the Department's regional office within 5 days after the permittee becomes aware of the noncompliance. On a case-by-case basis, the Department may waive the requirement for submittal of a written report within 5 days and instruct the permittee to submit the written report with the next regularly scheduled monitoring report. In either case, the written report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times; the steps taken or planned to reduce, eliminate and prevent reoccurrence of the noncompliance; and if the noncompliance has not been corrected, the length of time it is expected to continue.

A scheduled bypass approved by the Department under the 'Scheduled Bypass' section of this permit shall not be subject to the reporting required under this section.

NOTE: Section 292.11(2)(a), Wisconsin Statutes, requires any person who possesses or controls a hazardous substance or who causes the discharge of a hazardous substance to notify the Department of Natural Resources **immediately** of any discharge not authorized by the permit. **The discharge of a hazardous substance that is not authorized by this permit or that violates this permit may be a hazardous substance spill. To report a hazardous substance spill, call DNR's 24-hour HOTLINE at 1-800-943-0003.**

5.2.2 Flow Meters

Flow meters shall be calibrated annually, as per s. NR 218.06, Wis. Adm. Code.

5.2.3 Raw Grit and Screenings

All raw grit and screenings shall be disposed of at a properly licensed solid waste facility or picked up by a licensed waste hauler. If the facility or hauler are located in Wisconsin, then they shall be licensed under chs. NR 500-555, Wis. Adm. Code.

5.2.4 Sludge Management

All sludge management activities shall be conducted in compliance with ch. NR 204 "Domestic Sewage Sludge Management", Wis. Adm. Code.

5.2.5 Prohibited Wastes

Under no circumstances may the introduction of wastes prohibited by s. NR 211.10, Wis. Adm. Code, be allowed into the waste treatment system. Prohibited wastes include those:

- which create a fire or explosion hazard in the treatment work;
- which will cause corrosive structural damage to the treatment work;
- solid or viscous substances in amounts which cause obstructions to the flow in sewers or interference with the proper operation of the treatment work;
- wastewaters at a flow rate or pollutant loading which are excessive over relatively short time periods so as to cause a loss of treatment efficiency; and
- changes in discharge volume or composition from contributing industries which overload the treatment works or cause a loss of treatment efficiency.

5.2.6 Bypass

This condition applies only to bypassing at a sewage treatment facility that is not a scheduled bypass, approved blending as a specific condition of this permit, a sewage treatment facility overflow or a controlled diversion as provided in the sections titled 'Scheduled Bypass', 'Blending' (if approved), 'SSO's and Sewage Treatment Facility Overflows' and 'Controlled Diversions' of this permit. Any other bypass at the sewage treatment facility is prohibited and the Department may take enforcement action against a permittee for such occurrences under s. 283.89, Wis. Stats. The Department may approve a bypass if the permittee demonstrates all the following conditions apply:

- The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
- There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities or adequate back-up equipment, retention of untreated wastes, reduction of inflow and infiltration, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance. When evaluating feasibility of alternatives, the department may consider factors such as technical achievability, costs and affordability of implementation and risks to public health, the environment and, where the permittee is a municipality, the welfare of the community served; and
- The bypass was reported in accordance with the Noncompliance Reporting section of this permit.

5.2.7 Scheduled Bypass

Whenever the permittee anticipates the need to bypass for purposes of efficient operations and maintenance and the permittee may not meet the conditions for controlled diversions in the 'Controlled Diversions' section of this permit,

the permittee shall obtain prior written approval from the Department for the scheduled bypass. A permittee's written request for Department approval of a scheduled bypass shall demonstrate that the conditions for bypassing specified in the above section titled 'Bypass' are met and include the proposed date and reason for the bypass, estimated volume and duration of the bypass, alternatives to bypassing and measures to mitigate environmental harm caused by the bypass. The department may require the permittee to provide public notification for a scheduled bypass if it is determined there is significant public interest in the proposed action and may recommend mitigation measures to minimize the impact of such bypass.

5.2.8 Controlled Diversions

Controlled diversions are allowed only when necessary for essential maintenance to assure efficient operation. Sewage treatment facilities that have multiple treatment units to treat variable or seasonal loading conditions may shut down redundant treatment units when necessary for efficient operation. The following requirements shall be met during controlled diversions:

- Effluent from the sewage treatment facility shall meet the effluent limitations established in the permit. Wastewater that is diverted around a treatment unit or treatment process during a controlled diversion shall be recombined with wastewater that is not diverted prior to the effluent sampling location and prior to effluent discharge;
- A controlled diversion does not include blending as defined in s. NR 210.03(2e), Wis. Adm. Code, and as may only be approved under s. NR 210.12. A controlled diversion may not occur during periods of excessive flow or other abnormal wastewater characteristics;
- A controlled diversion may not result in a wastewater treatment facility overflow; and
- All instances of controlled diversions shall be documented in sewage treatment facility records and such records shall be available to the department on request.

5.2.9 Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training as required in ch. NR 114, Wis. Adm. Code, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

5.2.10 Operator Certification

The wastewater treatment facility shall be under the direct supervision of a state certified operator. In accordance with s. NR 114.53, Wis. Adm. Code, every WPDES permitted treatment plant shall have a designated operator-in-charge holding a current and valid certificate. The designated operator-in-charge shall be certified at the level and in all subclasses of the treatment plant, except laboratory. Treatment plant owners shall notify the department of any changes in the operator-in-charge within 30 days. Note that s. NR 114.52(22), Wis. Adm. Code, lists types of facilities that are excluded from operator certification requirements (i.e. private sewage systems, pretreatment facilities discharging to public sewers, industrial wastewater treatment that consists solely of land disposal, agricultural digesters and concentrated aquatic production facilities with no biological treatment).

5.3 Sewage Collection Systems

5.3.1 Sanitary Sewage Overflows and Sewage Treatment Facility Overflows

5.3.1.1 Overflows Prohibited

Any overflow or discharge of wastewater from the sewage collection system or at the sewage treatment facility, other than from permitted outfalls, is prohibited. The permittee shall provide information on whether any of the following conditions existed when an overflow occurred:

- The sanitary sewer overflow or sewage treatment facility overflow was unavoidable to prevent loss of life, personal injury or severe property damage;
- There were no feasible alternatives to the sanitary sewer overflow or sewage treatment facility overflow such as the use of auxiliary treatment facilities or adequate back-up equipment, retention of untreated wastes, reduction of inflow and infiltration, or preventative maintenance activities;
- The sanitary sewer overflow or the sewage treatment facility overflow was caused by unusual or severe weather related conditions such as large or successive precipitation events, snowmelt, saturated soil conditions, or severe weather occurring in the area served by the sewage collection system or sewage treatment facility; and
- The sanitary sewer overflow or the sewage treatment facility overflow was unintentional, temporary, and caused by an accident or other factors beyond the reasonable control of the permittee.

5.3.1.2 Permittee Response to Overflows

Whenever a sanitary sewer overflow or sewage treatment facility overflow occurs, the permittee shall take all feasible steps to control or limit the volume of untreated or partially treated wastewater discharged, and terminate the discharge as soon as practicable. Remedial actions, including those in NR 210.21 (3), Wis. Adm. Code, shall be implemented consistent with an emergency response plan developed under the CMOM program.

5.3.1.3 Permittee Reporting

Permittees shall report all sanitary sewer overflows and sewage treatment overflows as follows:

- The permittee shall notify the department by telephone, fax or email as soon as practicable, but no later than 24 hours from the time the permittee becomes aware of the overflow;
- The permittee shall, no later than five days from the time the permittee becomes aware of the overflow, provide to the department the information identified in this paragraph using department form number 3400-184. If an overflow lasts for more than five days, an initial report shall be submitted within 5 days as required in this paragraph and an updated report submitted following cessation of the overflow. At a minimum, the following information shall be included in the report:

  ◦The date and location of the overflow;
  ◦The surface water to which the discharge occurred, if any;
  ◦The duration of the overflow and an estimate of the volume of the overflow;
  ◦A description of the sewer system or treatment facility component from which the discharge occurred such as manhole, lift station, constructed overflow pipe, or crack or other opening in a pipe;
  ◦The estimated date and time when the overflow began and stopped or will be stopped;
  ◦The cause or suspected cause of the overflow including, if appropriate, precipitation, runoff conditions, areas of flooding, soil moisture and other relevant information;
  ◦Steps taken or planned to reduce, eliminate and prevent reoccurrence of the overflow and a schedule of major milestones for those steps;
  ◦A description of the actual or potential for human exposure and contact with the wastewater from the overflow;
  ◦Steps taken or planned to mitigate the impacts of the overflow and a schedule of major milestones for those steps;
  ◦To the extent known at the time of reporting, the number and location of building backups caused by excessive flow or other hydraulic constraints in the sewage collection system that occurred

concurrently with the sanitary sewer overflow and that were within the same area of the sewage collection system as the sanitary sewer overflow; and
◦The reason the overflow occurred or explanation of other contributing circumstances that resulted in the overflow event. This includes any information available including whether the overflow was unavoidable to prevent loss of life, personal injury, or severe property damage and whether there were feasible alternatives to the overflow.

NOTE: A copy of form 3400-184 for reporting sanitary sewer overflows and sewage treatment facility overflows may be obtained from the department or accessed on the department's web site at http://dnr.wi.gov/topic/wastewater/SSOreport.html. As indicated on the form, additional information may be submitted to supplement the information required by the form.

- The permittee shall identify each specific location and each day on which a sanitary sewer overflow or sewage treatment facility overflow occurs as a discrete sanitary sewer overflow or sewage treatment facility overflow occurrence. An occurrence may be more than one day if the circumstances causing the sanitary sewer overflow or sewage treatment facility overflow results in a discharge duration of greater than 24 hours. If there is a stop and restart of the overflow at the same location within 24 hours and the overflow is caused by the same circumstance, it may be reported as one occurrence. Sanitary sewer overflow occurrences at a specific location that are separated by more than 24 hours shall be reported as separate occurrences; and
- A permittee that is required to submit wastewater discharge monitoring reports under NR 205.07 (1) (r) shall also report all sanitary sewer overflows and sewage treatment facility overflows on that report.

5.3.1.4 Public Notification

The permittee shall notify the public of any sanitary sewer and sewage treatment facility overflows consistent with its emergency response plan required under the CMOM (Capacity, Management, Operation and Maintenance) section of this permit and s. NR 210.23 (4) (f), Wis. Adm. Code. Such public notification shall occur promptly following any overflow event using the most effective and efficient communications available in the community. At minimum, a daily newspaper of general circulation in the county(s) and municipality whose waters may be affected by the overflow shall be notified by written or electronic communication.

5.3.2 Capacity, Management, Operation and Maintenance (CMOM) Program

- The permittee shall have written documentation of the Capacity, Management, Operation and Maintenance (CMOM) program components in accordance with s. NR 210.23(4), Wis. Adm. Code. Such documentation shall be available for Department review upon request. The Department may request that the permittee provide this documentation or prepare a summary of the permittee's CMOM program at the time of application for reissuance of the WPDES permit.
- The permittee shall implement a CMOM program in accordance with s. NR 210.23, Wis. Adm. Code.
- The permittee shall at least annually conduct a self-audit of activities conducted under the permittee's CMOM program to ensure CMOM components are being implemented as necessary to meet the general standards of s. NR 210.23(3), Wis. Adm. Code.

5.3.3 Sewer Cleaning Debris and Materials

All debris and material removed from cleaning sanitary sewers shall be managed to prevent nuisances, run-off, ground infiltration or prohibited discharges.

- Debris and solid waste shall be dewatered, dried and then disposed of at a licensed solid waste facility.
- Liquid waste from the cleaning and dewatering operations shall be collected and disposed of at a permitted wastewater treatment facility.

- Combination waste including liquid waste along with debris and solid waste may be disposed of at a licensed solid waste facility or wastewater treatment facility willing to accept the waste.

5.4 Surface Water Requirements

5.4.1 Permittee-Determined Limit of Quantitation Incorporated into this Permit

For pollutants with water quality-based effluent limits below the Limit of Quantitation (LOQ) in this permit, the LOQ calculated by the permittee and reported on the Discharge Monitoring Reports (DMRs) is incorporated by reference into this permit. The LOQ shall be reported on the DMRs, shall be the lowest quantifiable level practicable, and shall be no greater than the minimum level (ML) specified in or approved under 40 CFR Part 136 for the pollutant at the time this permit was issued, unless this permit specifies a higher LOQ.

5.4.2 Appropriate Formulas for Effluent Calculations

The permittee shall use the following formulas for calculating effluent results to determine compliance with average concentration limits and mass limits and total load limits:

Weekly/Monthly/Six-Month/Annual Average Concentration = the sum of all daily results for that week/month/six-month/year, divided by the number of results during that time period. [Note: When a six-month average effluent limit is specified for Total Phosphorus the applicable periods are May through October and November through April.]

Weekly Average Mass Discharge (lbs/day): Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the week.

Monthly Average Mass Discharge (lbs/day): Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the month.

Six-Month Average Mass Discharge (lbs/day): Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the six-month period. [Note: When a six-month average effluent limit is specified for Total Phosphorus the applicable periods are May through October and November through April.]

Annual Average Mass Discharge (lbs/day): Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the entire year.

Total Monthly Discharge: = monthly average concentration (mg/L) x total flow for the month (MG/month) x 8.34.

Total Annual Discharge: = sum of total monthly discharges for the calendar year.

12-Month Rolling Sum of Total Monthly Discharge: = the sum of the most recent 12 consecutive months of Total Monthly Discharges.

5.4.3 Effluent Temperature Requirements

Weekly Average Temperature – The permittee shall use the following formula for calculating effluent results to determine compliance with the weekly average temperature limit (as applicable): Weekly Average Temperature = the sum of all daily maximum results for that week divided by the number of daily maximum results during that time period.

Cold Shock Standard – Water temperatures of the discharge shall be controlled in a manner as to protect fish and aquatic life uses from the deleterious effects of cold shock. 'Cold Shock' means exposure of aquatic organisms to a rapid decrease in temperature and a sustained exposure to low temperature that induces abnormal behavior or physiological performance and may lead to death.

Rate of Temperature Change Standard – Temperature of a water of the state or discharge to a water of the state may not be artificially raised or lowered at such a rate that it causes detrimental health or reproductive effects to fish or aquatic life of the water of the state.

5.4.4 Fill and Draw Systems

The permittee shall notify the Department at least 7 days prior to an anticipated discharge from a fill and draw system. The pond contents shall be sampled prior to any discharge to assure that adequate stabilization has taken place.

5.4.5 Visible Foam or Floating Solids

There shall be no discharge of floating solids or visible foam in other than trace amounts.

5.4.6 Surface Water Uses and Criteria

In accordance with NR 102.04, Wis. Adm. Code, surface water uses and criteria are established to govern water management decisions. Practices attributable to municipal, industrial, commercial, domestic, agricultural, land development or other activities shall be controlled so that all surface waters including the mixing zone meet the following conditions at all times and under all flow and water level conditions:

a) Substances that will cause objectionable deposits on the shore or in the bed of a body of water, shall not be present in such amounts as to interfere with public rights in waters of the state.

b) Floating or submerged debris, oil, scum or other material shall not be present in such amounts as to interfere with public rights in waters of the state.

c) Materials producing color, odor, taste or unsightliness shall not be present in such amounts as to interfere with public rights in waters of the state.

d) Substances in concentrations or in combinations which are toxic or harmful to humans shall not be present in amounts found to be of public health significance, nor shall substances be present in amounts which are acutely harmful to animal, plant or aquatic life.

5.4.7 Percent Removal

During any 30 consecutive days, the average effluent concentrations of BOD_5 and of total suspended solids shall not exceed 15% of the average influent concentrations, respectively. This requirement does not apply to removal of total suspended solids if the permittee operates a lagoon system and has received a variance for suspended solids granted under NR 210.07(2), Wis. Adm. Code.

5.5 Land Application Requirements

5.5.1 Sludge Management Program Standards And Requirements Based Upon Federally Promulgated Regulations

In the event that new federal sludge standards or regulations are promulgated, the permittee shall comply with the new sludge requirements by the dates established in the regulations, if required by federal law, even if the permit has not yet been modified to incorporate the new federal regulations.

5.5.2 General Sludge Management Information

The General Sludge Management Form 3400-48 shall be completed and submitted prior to any significant sludge management changes.

5.5.3 Sludge Samples

All sludge samples shall be collected at a point and in a manner which will yield sample results which are representative of the sludge being tested, and collected at the time which is appropriate for the specific test.

5.5.4 Land Application Characteristic Report

Each report shall consist of a Characteristic Form 3400-49 and Lab Report. The Characteristic Report Form 3400-49 shall be submitted electronically by January 31 following each year of analysis.

Following submittal of the electronic Characteristic Report Form 3400-49, this form shall be certified electronically via the 'eReport Certify' page by a responsible executive or municipal officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The 'eReport Certify' page certifies that the electronic report is true, accurate and complete. The Lab Report must be sent directly to the facility's DNR sludge representative or basin engineer unless approval for not submitting the lab reports has been given.

The permittee shall use the following convention when reporting sludge monitoring results: Pollutant concentrations less than the limit of detection shall be reported as < (less than) the value of the limit of detection. For example, if a substance is not detected at a detection limit of 1.0 mg/kg, report the pollutant concentration as < 1.0 mg/kg .

All results shall be reported on a dry weight basis.

5.5.5 Calculation of Water Extractable Phosphorus

When sludge analysis for Water Extractable Phosphorus is required by this permit, the permittee shall use the following formula to calculate and report Water Extractable Phosphorus:
Water Extractable Phosphorus (% of Total P) =
[Water Extractable Phosphorus (mg/kg, dry wt) ÷ Total Phosphorus (mg/kg, dry wt)] x 100

5.5.6 Monitoring and Calculating PCB Concentrations in Sludge

When sludge analysis for "PCB, Total Dry Wt" is required by this permit, the PCB concentration in the sludge shall be determined as follows.

Either congener-specific analysis or Aroclor analysis shall be used to determine the PCB concentration. The permittee may determine whether Aroclor or congener specific analysis is performed. Analyses shall be performed in accordance with the following provisions and Table EM in s. NR 219.04, Wis. Adm. Code.

- EPA Method 1668 may be used to test for all PCB congeners. If this method is employed, all PCB congeners shall be delineated. Non-detects shall be treated as zero. The values that are between the limit of detection and the limit of quantitation shall be used when calculating the total value of all congeners. All results shall be added together and the total PCB concentration by dry weight reported. **Note**: It is recognized that a number of the congeners will co-elute with others, so there will not be 209 results to sum.
- EPA Method 8082A shall be used for PCB-Aroclor analysis and may be used for congener specific analysis as well. If congener specific analysis is performed using Method 8082A, the list of congeners tested shall include at least congener numbers 5, 18, 31, 44, 52, 66, 87, 101, 110, 138, 141, 151, 153, 170, 180, 183, 187, and 206 plus any other additional congeners which might be reasonably expected to occur in the particular sample. For either type of analysis, the sample shall be extracted using the Soxhlet extraction (EPA Method 3540C) (or the Soxhlet Dean-Stark modification) or the pressurized fluid extraction (EPA Method 3545A). If Aroclor analysis is performed using Method 8082A, clean up steps of the extract shall be performed as necessary to remove interference and to achieve as close to a limit of detection of 0.11 mg/kg as possible. Reporting protocol, consistent with s. NR 106.07(6)(e), should be as follows: If all Aroclors are less than the LOD, then the Total PCB Dry Wt result should be reported as less than the highest LOD. If a single Aroclor is detected then that is what should be reported for the Total PCB result. If multiple Aroclors are detected, they should be summed and reported as Total PCBs. If congener specific analysis is done using Method 8082A, clean up steps of the extract shall be performed as necessary to remove interference and to achieve as close to a limit of detection of 0.003

mg/kg as possible for each congener. If the aforementioned limits of detection cannot be achieved after using the appropriate clean up techniques, a reporting limit that is achievable for the Aroclors or each congener for the sample shall be determined. This reporting limit shall be reported and qualified indicating the presence of an interference. The lab conducting the analysis shall perform as many of the following methods as necessary to remove interference:

3620C – Florisil	3611B - Alumina
3640A - Gel Permeation	3660B - Sulfur Clean Up (using copper shot instead of powder)
3630C - Silica Gel	3665A - Sulfuric Acid Clean Up

5.5.7 Annual Land Application Report

Land Application Report Form 3400-55 shall be submitted electronically by January 31, each year whether or not non-exceptional quality sludge is land applied. Non-exceptional quality sludge is defined in s. NR 204.07(4), Wis. Adm. Code. Following submittal of the electronic Annual Land Application Report Form 3400-55, this form shall be certified electronically via the 'eReport Certify' page by a responsible executive or municipal officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The 'eReport Certify' page certifies that the electronic report form is true, accurate and complete.

5.5.8 Other Methods of Disposal or Distribution Report

The permittee shall submit electronically the Other Methods of Disposal or Distribution Report Form 3400-52 by January 31, each year whether or not sludge is hauled, landfilled, incinerated, or exceptional quality sludge is distributed or land applied. Following submittal of the electronic Report Form 3400-52, this form shall be certified electronically via the 'eReport Certify' page by a responsible executive or municipal officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The 'eReport Certify' page certifies that the electronic report form is true, accurate and complete.

5.5.9 Approval to Land Apply

Bulk non-exceptional quality sludge as defined in s. NR 204.07(4), Wis. Adm. Code, may not be applied to land without a written approval letter or Form 3400-122 from the Department unless the Permittee has obtained permission from the Department to self approve sites in accordance with s. NR 204.06 (6), Wis. Adm. Code. Analysis of sludge characteristics is required prior to land application. Application on frozen or snow covered ground is restricted to the extent specified in s. NR 204.07(3) (l), Wis. Adm. Code.

5.5.10 Soil Analysis Requirements

Each site requested for approval for land application must have the soil tested prior to use. Each approved site used for land application must subsequently be soil tested such that there is at least one valid soil test in the four years prior to land application. All soil sampling and submittal of information to the testing laboratory shall be done in accordance with UW Extension Bulletin A-2100. The testing shall be done by the UW Soils Lab in Madison or Marshfield, WI or at a lab approved by UW. The test results including the crop recommendations shall be submitted to the DNR contact listed for this permit, as they are available. Application rates shall be determined based on the crop nitrogen recommendations and with consideration for other sources of nitrogen applied to the site.

5.5.11 Land Application Site Evaluation

For non-exceptional quality sludge, as defined in s. NR 204.07(4), Wis. Adm. Code, a Land Application Site Request Form 3400-053 shall be submitted to the Department for the proposed land application site. The Department will

evaluate the proposed site for acceptability and will either approve or deny use of the proposed site. The permittee may obtain permission to approve their own sites in accordance with s. NR 204.06(6), Wis. Adm. Code.

6 Summary of Reports Due

FOR INFORMATIONAL PURPOSES ONLY

Description	Date	Page
Annual Water Quality Trading (WQT) Report -Annual WQT Report	January 31, 2024	11
Annual Water Quality Trading (WQT) Report -Annual WQT Report #2	January 31, 2025	11
Annual Water Quality Trading (WQT) Report -Annual WQT Report #3	January 31, 2026	11
Annual Water Quality Trading (WQT) Report -Annual WQT Report Required After Permit Expiration	See Permit	11
Water Quality Trading (WQT) Management Plan -Submit Progress Report on Management Practices Installation	June 30, 2022	11
Water Quality Trading (WQT) Management Plan -Submit Facility Plan	June 30, 2022	11
Water Quality Trading (WQT) Management Plan -Submit Plans and Specifications	September 30, 2022	12
Water Quality Trading (WQT) Management Plan -Treatment Plant Upgrade	January 31, 2023	12
Water Quality Trading (WQT) Management Plan -Request Permit Modification	January 31, 2023	12
Water Quality Trading (WQT) Management Plan -Complete Installation and/or Facility Construction	June 30, 2023	12
Water Quality Trading (WQT) Management Plan -Management Practices	June 30, 2023	12
Water Quality Trading (WQT) Management Plan -Comply with Total Phosphorus Limits	July 1, 2023	12
Compliance Maintenance Annual Reports (CMAR)	by June 30, each year	14
General Sludge Management Form 3400-48	prior to any significant sludge management changes	21
Characteristic Form 3400-49 and Lab Report	by January 31 following each year of analysis	22
Land Application Report Form 3400-55	by January 31, each year whether or not non-exceptional quality sludge is land applied	23
Other Methods of Disposal or Distribution Report Form 3400-52	by January 31, each year whether or not sludge is hauled, landfilled, incinerated, or exceptional quality sludge is distributed	23

	or land applied	
Wastewater Discharge Monitoring Report	no later than the date indicated on the form	13

Report forms shall be submitted electronically in accordance with the reporting requirements herein. Any facility plans or plans and specifications for municipal, industrial, industrial pretreatment and non industrial wastewater systems shall be submitted to the Bureau of Water Quality, P.O. Box 7921, Madison, WI 53707-7921. All other submittals required by this permit shall be submitted to:
South Central Region, 3911 Fish Hatchery Road, Fitchburg, WI 53711-5397

STATE OF WISCONSIN DEPARTMENT OF NATURAL RESOURCES

NOTICE OF FINAL DETERMINATION TO REISSUE A WISCONSIN POLLUTANT DISCHARGE ELIMINATION SYSTEM (WPDES) PERMIT No. WI-0029114-10-0

Permittee: VILLAGE OF LOGANVILLE, P O Box 128, Loganville, WI, 53943-0128

Facility Where Discharge Occurs: Loganville Wastewater Treatment Facility, SEQ, SWQ, SEC 4, T11N, R4E, WESTFIELD, TWP, LOGANVILLE, WISCONSIN

Receiving Water and Location: Narrows Creek, 100 feet northwest of lagoon monitoring shack. (SE ¼ of SW ¼, Section 4, T11N R4E).

Brief Facility Description: The Village operates a two-cell stabilization lagoon wastewater treatment facility (WWTF) providing secondary treatment to a combination of domestic and commercial wastewater. The lagoons are clay lined and were constructed in 1969. Surface area of the first lagoon is approximately 4.5 acres and the second pond approximately 1.1 acres. The facility is designed to treat an average daily flow of 0.045 MGD. Disinfection is not required. The Village provides a public water supply and has a population of about 300. No growth of the community is expected in the next five years. Biosolids are stored in the lagoons and the Village does not have plans to desludge the lagoons in the next five years. The Village has been found to be in substantial compliance with its current permit.

Permit Drafter's Name, Address and Phone: Sean Spencer, DNR, 3911 Fish Hatchery Rd, Fitchburg, WI, 53711, (608) 275-7775

Basin Engineer's Name, Address, and Phone: Tanner Connors, 3911 Fish Hatchery Road, Fitchburg, WI 53711, (608) 575-6891

Date Permit Signed/Issued: October 29, 2021/November 1, 2021
Date of Effectiveness: November 1, 2021
Date of Expiration: September 30, 2026

Public Informational Hearing Held On: N/A

Following the public notice period, the Department has made a final determination to reissue the WPDES permit for the above-named permittee for this existing discharge. The permit application information from the WPDES permit file, comments received on the proposed permit and applicable Wis. Adm. Codes were used as a basis for this final determination.

The Department has the authority to issue, modify, suspend, revoke and reissue or terminate WPDES permits and to establish effluent limitations and permit conditions under ch. 283, Stats.

Following is a summary of significant comments and any significant changes which have been made in the terms and conditions set forth in the draft permit: New Schedule items were included in Schedule 4.2 for Loganville to submit a Facility Plan, Initiate Construction if necessary, and Complete Construction if they are unable to find new trades for use in generating Water Quality Trading credits for phosphorus or wish to upgrade and use trading.
Comments Received from the Applicant, Individuals or Groups and Any Permit Changes as Applicable
From Mark Kruse, Operator in Charge: I would like to see our phosphorous limit maybe 3.1 to be confident we could meet that without violation. Also, we are looking at different WQT projects that will be more financially feasible for a Village of our size.

Department Response: The phosphorus limit of 2.9 was calculated based on the need for an interim limit to meet the final TMDL limit and is based on effluent data from the last five years that indicate the facility can meet the limit. The Department understands Loganville has encountered obstacles in implementing their Water Quality Trade plan and is in the process of finding new trades to offset future phosphorus loads. Additional text has been added to schedule 4.2 to accommodate an amended water quality trading plan, if needed. The schedule has also been modified to include steps for implementing a facility upgrade if biological or chemical phosphorus removal will be used in conjunction with, or in lieu of, water quality trading to meet TMDL limits.

Comments Received from EPA or Other Government Agencies and Any Permit Changes as Applicable
No comments received.

As provided by s. 283.63, Stats., and ch. 203, Wis. Adm. Code, persons desiring further adjudicative review of this final determination may request a public adjudicatory hearing. A request shall be made by filing a verified petition for review with the Secretary of the Department of Natural Resources within 60 days of the date the permit was signed (see permit signature date above). Further information regarding the conduct and nature of public adjudicatory hearings may be found by reviewing ch. NR 203, Wis. Adm. Code, s. 283.63 Stats., and other applicable law, including s. 227.42, Stats.

Information on file for this permit action may be inspected and copied at either the above named permit drafter's address or the above named basin engineer's address, Monday through Friday (except holidays), between 9:00 a.m. and 3:30 p.m. Information on this permit action may also be obtained by calling the permit drafter at (608) 275-7775 or by writing to the Department. Reasonable costs (15 cents per page for copies and 7 cents per page for scanning) will be charged for copies of information in the file other than the public notice and fact sheet. Pursuant to the Americans with Disabilities Act, reasonable accommodation, including the provision of informational material in an alternative format, will be made to qualified individuals upon request.

Appendix B
WDNR Form 3400-206 (Notice of Intent to Conduct Water Quality Trading)

State of Wisconsin
Department of Natural Resources
101 South Webster Street
Madison WI 53707-7921
dnr.wi.gov

Notice of Intent to Conduct Water Quality Trading

Form 3400-206 (1/14)

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	Permit Number WI-	Facility Site Number

Facility Address	City	State	ZIP Code

Project Contact Name (if applicable)	Address	City	State	ZIP Code

Project Name

Receiving Water Name	Parameter(s) being traded	HUC 12(s)

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):

- ☐ Permitted Discharge (non-MS4/CAFO)
- ☐ Permitted MS4
- ☐ Permitted CAFO
- ☐ Urban nonpoint source discharge
- ☐ Agricultural nonpoint source discharge
- ☐ 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?
◯ Traditional ◯ MS4 ◯ CAFO				◯ Yes ◯ No ◯ Unsure
◯ Traditional ◯ MS4 ◯ CAFO				◯ Yes ◯ No ◯ Unsure
◯ Traditional ◯ MS4 ◯ CAFO				◯ Yes ◯ No ◯ Unsure
◯ Traditional ◯ MS4 ◯ CAFO				◯ Yes ◯ No ◯ Unsure
◯ Traditional ◯ MS4 ◯ CAFO				◯ Yes ◯ No ◯ Unsure

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

List the practices that will be used to generate credits:

Method for quantifying credits generated:
- ☐ Monitoring
- ☐ Modeling, Names: _____
- ☐ Other: _____

Projected date credits will be available:

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

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

Appendix C
WDNR Form 3400-208
(Water Quality Trading Checklist)

State of Wisconsin
Department of Natural Resources
101 South Webster Street
Madison WI 53707-7921
dnr.wi.gov

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	Permit Number WI-	Facility Site Number

Facility Address	City	State	ZIP Code

Project Contact Name (if applicable)	Address	City	State	ZIP Code

Project Name

Receiving Water Name	Parameter(s) being traded	HUC 12(s)

Credit Generator Information

Credit generator type (select all that apply):

- ☐ Permitted Discharge (non-MS4CAFO)
- ☐ Permitted MS4
- ☐ Permitted CAFO
- ☐ Urban nonpoint source discharge
- ☐ Agricultural nonpoint source discharge
- ☐ 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
◯ Traditional ◯ MS4 ◯ CAFO				
◯ Traditional ◯ MS4 ◯ CAFO				
◯ Traditional ◯ MS4 ◯ CAFO				
◯ Traditional ◯ MS4 ◯ CAFO				
◯ Traditional ◯ MS4 ◯ CAFO				

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	◯ Yes	◯ No	
b. Amount of credit being generated	◯ Yes	◯ No	
c. Timeline for credits and agreements	◯ Yes	◯ No	
d. Method for quantifying credits	◯ Yes	◯ No	
e. Tracking and verification procedures	◯ Yes	◯ No	
f. Location of credit generator in proximity to receiving water and credit user	◯ Yes	◯ No	
g. Other: _____	◯ Yes	◯ No	

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?
◯ Urban NPS ◯ Agricultural NPS ◯ Other				◯ Yes ◯ No ◯ Only in part
◯ Urban NPS ◯ Agricultural NPS ◯ Other				◯ Yes ◯ No ◯ Only in part
◯ Urban NPS ◯ Agricultural NPS ◯ Other				◯ Yes ◯ No ◯ Only in part
◯ Urban NPS ◯ Agricultural NPS ◯ Other				◯ Yes ◯ No ◯ Only in part
◯ Urban NPS ◯ Agricultural NPS ◯ Other				◯ Yes ◯ No ◯ Only in part
◯ Urban NPS ◯ Agricultural NPS ◯ Other				◯ Yes ◯ No ◯ Only in part
◯ Urban NPS ◯ Agricultural NPS ◯ Other				◯ Yes ◯ No ◯ Only in part
◯ Urban NPS ◯ Agricultural NPS ◯ Other				◯ Yes ◯ No ◯ Only in part

Does plan have a narrative that describes:			Plan Section
a. Description of existing land uses	◯ Yes	◯ No	
b. Management practices used to generate credits	◯ Yes	◯ No	
c. Amount of credit being generated	◯ Yes	◯ No	
d. Description of applicable trade ratio per agreement/management practice	◯ Yes	◯ No	
e. Location where credits will be generated	◯ Yes	◯ No	
f. Timeline for credits and agreements	◯ Yes	◯ No	
g. Method for quantifying credits	◯ Yes	◯ No	

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

Appendix D
Land Use Data and Watershed Map

N

Completed Project 2
Sauk County Farm
Parcels:
030-1086-00000
030-1090-00000
030-1057-00000
030-1091-00000
030-1087-00000
030-1060-00000

Wastewater Treatment Lagoons

Narrows Creek

Completed Project 3
Chuck Muchow
Parcels:
149-0095-00000
040-0355-00000
040-0353-00000

Completed Project 1
Stephan Kinsinger
Parcels:
040-0675-10000
040-0684-00000
040-0675-00000

Legend
- Sauk County Parcels
- Waterbody
- Completed WQT Projects
- Wastewater Treatment Lagoons

0 0.5 1 Miles

Village of Loganville WQT Completed Project Map

Village of Loganville, Sauk County, Wisconsin

January 22, 2024

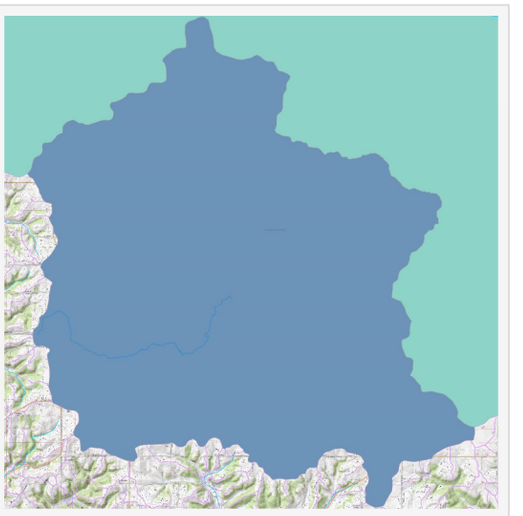
vierbicher
planners | engineers | advisors

1/22/2024 8:24 AM R:\Loganville, Village of\210412 - WWTP Phosphorus Compliance\GIS\Loganville WQT Overall Map\Loganville WQT Overall Map.aprx by pjun

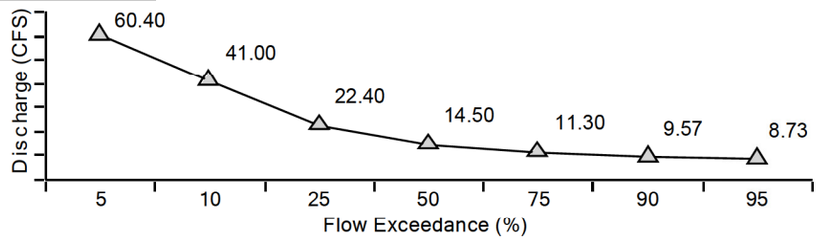
Sample Point ID	Permit No.	Facility Name	Receiving Water	Major Basin	Watershed Area (mi^2)	Nonpoint Load * (lbs)	2009-2011 Avg. Upstream Point Source Load (lbs)	2009-2011 Avg. Point Source Load (lbs)	Total Load * (lbs)	Point : Nonpoint Source Ratio * (%)	Nonpoint Source Dominated?	Model Flag **
52178	61271	EPHRAIM WASTEWATER TREATMENT FACILITY	Lake Michigan	Twin - Door - Kewaunee				45			No Result	
50309	35203	FISH CREEK SD1 WASTEWATER TREATMENT FACILITY	Lake Michigan	Twin - Door - Kewaunee				67			No Result	
49549	28894	FORESTVILLE WASTEWATER TREATMENT FACILITY	Ahnapee River	Twin - Door - Kewaunee	42.2	11411	0	449	11860	4:96	Yes	
47542	20176	KEWAUNEE WASTEWATER TREATMENT FACILITY	Kewaunee River	Twin - Door - Kewaunee	141.4	247710	357	165	248232	0:100	Yes	
50337	35874	KOSSUTH SANITARY DISTRICT NO. 2 WWTF	Unnamed	Twin - Door - Kewaunee	0.9	2314	0	28	2342	1:99	Yes	
58099	61051	MARIBEL WASTEWATER TREATMENT FACILITY	Unnamed	Twin - Door - Kewaunee	2.1	5732	0	254	5986	4:96	Yes	
48044	21369	MISHICOT WASTEWATER TREATMENT FAC	East Twin River	Twin - Door - Kewaunee	114.0	88454	316	0	88770	0:100	Yes	
52224	70581	PACKERLAND WHEY PRODUCTS INC	Unnamed	Twin - Door - Kewaunee	1.9	4527	0	93	4620	2:98	Yes	
49186	26654	SEVASTOPOL SD NO 1 WWTF	Donlans Creek	Twin - Door - Kewaunee	6.6	3524	0	39	3563	1:99	Yes	
48276	22071	SISTER BAY WASTEWATER TREATMENT FACILITY	Lake Michigan	Twin - Door - Kewaunee				133			No Result	
47954	21113	STURGEON BAY UTILITIES WWTF	Lake Michigan	Twin - Door - Kewaunee				1681			No Result	
49174	26590	TWO RIVERS WASTEWATER TREATMENT FACILITY	West Twin River	Twin - Door - Kewaunee	305.9	388941	1149	2928	393018	1:99	Yes	
49653	29343	WI DNR PENINSULA STATE PARK WWTF	Tennison Bay Marsh	Twin - Door - Kewaunee				91			No Result	
48569	23141	ABBOTSFORD WASTEWATER TREATMENT FACILITY	Unnamed	Wisconsin River	0.5	43	63	516	622	93:7	Speak with WDNR Basin Engineer	
86919	57436	ABBYLAND FOODS INC ABBOTSFORD PLANT	Unnamed	Wisconsin River	0.5	33	0	63	96	66:34	Speak with WDNR Basin Engineer	
48571	23159	ADAMS WASTEWATER TREATMENT FACILITY	Little Roche a Cri Creek	Wisconsin River	57.8	5899	0	324	6223	5:95	Yes	
48301	22144	ANTIGO CITY OF	Spring Brook	Wisconsin River	37.8	2364	0	1437	3801	38:62	Yes	
50034	31267	ARPIN WASTEWATER TREATMENT FACILITY	Hemlock Creek	Wisconsin River	5.3	1013	0	589	1602	37:63	Yes	
48365	22365	ATHENS WASTEWATER TREATMENT FACILITY	Black Creek	Wisconsin River	52.8	15762	0	1503	17265	9:91	Yes	
48386	22411	AUBURNDALE WASTEWATER TREATMENT FACILITY	Little Bear Creek	Wisconsin River	1.3	225	0	1227	1452	85:15	Speak with WDNR Basin Engineer	
51916	60151	AVOCA WASTEWATER TREATMENT FACILITY	Morrey Creek	Wisconsin River	18.6	8802	0	481	9283	5:95	Yes	
50818	43974	BADGER ARMY AMMUNITION PLANT	Wisconsin River	Wisconsin River	9010.5	1862130	248920	3320	2114370	12:88	Yes	
47737	20605	BARABOO WASTEWATER TREATMENT FACILITY	Baraboo River	Wisconsin River	573.8	419248	13637	1052	433937	3:97	Yes	
55813	31313	BETHEL CENTER WWTF	Unnamed	Wisconsin River	1.8	178	0	202	380	53:47	Speak with WDNR Basin Engineer	
50165	31950	BLENKER SHERRY SANITARY DISTRICT WWTP	Mill Creek	Wisconsin River	41.8	14454	9271	248	23973	40:60	Yes	
48634	23418	BLUE RIVER WASTEWATER TREATMENT FACILITY	Blue River	Wisconsin River	10614.7	2849180	270204	258	3119642	9:91	Yes	
50410	36749	BOAZ WASTEWATER TREATMENT FACILITY	Mill Creek	Wisconsin River	59.0	62265	0	106	62371	0:100	Yes	
48291	22110	BOSCOBEL WASTEWATER TREATMENT FACILITY	Wisconsin River	Wisconsin River	10762.7	2932360	270462	325	3203147	8:92	Yes	
48298	22136	BROKAW WASTEWATER TREATMENT FACILITY	Wisconsin River	Wisconsin River	3024.9	296700	60605	21	357326	17:83	Yes	
48656	23523	CAMBRIA WASTEWATER TREATMENT FACILITY	North Branch Duck Creek	Wisconsin River	8.7	4624	0	646	5270	12:88	Yes	
50132	31801	CAZENOVIA WASTEWATER TREATMENT FACILITY	Little Baraboo River	Wisconsin River	60.9	65477	0	551	66028	1:99	Yes	
53006	50245	CEDAR GROVE CHEESE FACTORY	Honey Creek	Wisconsin River	43.0	32083	1070	27	33180	3:97	Yes	
49979	30961	CHILI WASTEWATER TREATMENT FACILITY	Unnamed	Wisconsin River	0.7	514	0	252	766	33:67	Yes	
48680	23655	COLBY CITY WWTF	Dill Creek	Wisconsin River	12.9	3897	0	314	4211	7:93	Yes	
52176	61263	CROCKETT'S RESORT	Wisconsin River	Wisconsin River	7763.9	1347750	225538	20	1573308	14:86	Yes	
47811	20788	CROSS PLAINS WASTEWATER TREATMENT FACILITY	Black Earth Creek	Wisconsin River	26.6	12272	0	443	12715	3:97	Yes	
55376	49816	DANE IOWA WASTEWATER COMMISSION WWTF	Black Earth Creek	Wisconsin River	101.9	68697	443	731	69871	2:98	Yes	
49178	26620	DEL MONTE FOODS CAMBRIA PLANT #108	North Branch Duck Creek	Wisconsin River	11.0	6250	686	504	7440	16:84	Yes	
47375	3620	DOMTAR A W LLC	Wisconsin River	Wisconsin River	5543.1	743030	190926	22726	956682	22:78	Yes	
49094	26042	DOMTAR PAPER CO LLC	Wisconsin River	Wisconsin River	3987.6	469069	73114	9982	552165	15:85	Yes	
48251	22004	EAGLE RIVER CITY OF	Eagle River	Wisconsin River	237.7	18506	1142	451	20099	8:92	Yes	
50412	36765	EASTMAN WASTEWATER TREATMENT FACILITY	Pine Creek	Wisconsin River	12.8	13859	0	381	14240	3:97	Yes	
48191	21784	EDGAR WASTEWATER TREATMENT FACILITY	Scotch Creek	Wisconsin River	15.2	7335	0	948	8283	11:89	Yes	
48740	23931	ELROY WASTEWATER TREATMENT FACILITY	Baraboo River	Wisconsin River	65.5	75277	551	1404	77232	3:97	Yes	
47355	3565	ERCO WORLDWIDE (USA) INC - PORT EDWARDS	Wisconsin River	Wisconsin River	5548.6	744793	213873	1826	960492	22:78	Yes	
50061	31411	FENWOOD WASTEWATER TREATMENT FACILITY	Fenwood Creek	Wisconsin River	16.3	7355	0	18	7373	0:100	Yes	
61012	49964	FISH, CRYSTAL AND MUD LAKE REHABILITATION DISTRICT	Wisconsin River	Wisconsin River	9032.0	1863530	252240	387	2116157	12:88	Yes	
47467	4413	FOREMOST FARMS USA - RICHLAND CENTER	Pine River	Wisconsin River	191.1	175589	11939	0	187528	6:94	Yes	
52926	3859	FOREMOST FARMS USA COOP PLOVER	Wisconsin River	Wisconsin River	5163.6	661101	118956	3215	783272	16:84	Yes	
47423	3875	FOREMOST FARMS USA COOP ROTHSCHILD	Wisconsin River	Wisconsin River	4002.2	470291	83096	466	553853	15:85	Yes	
44787	35	FOREMOST FARMS USA REEDSBURG	Baraboo River	Wisconsin River	386.8	314608	5858	38	320504	2:98	Yes	
48337	22268	GAYS MILLS WASTEWATER TREATMENT FACILITY	Kickapoo River	Wisconsin River	616.1	577675	4497	557	582729	1:99	Yes	
50352	35998	GOETZ COMPANIES INC (PORTAGE PETRO TRAVEL P)	Baraboo River	Wisconsin River	648.5	447878	14689	141	462708	3:97	Yes	
51359	51764	GRANDE CHEESE CORP WYOCENA	Unnamed	Wisconsin River	74.6	22121	1190	34	23345	5:95	Yes	
50037	31275	HEWITT SANITARY DISTRICT WWTP	Mill Creek	Wisconsin River	10.3	1596	8683	588	10867	85:15	Speak with WDNR Basin Engineer	
50417	36790	HIGHLAND WASTEWATER TREATMENT FACILITY	Unnamed	Wisconsin River	0.3	163	0	460	623	74:26	Speak with WDNR Basin Engineer	
50316	35483	HILL POINT SANITARY DISTRICT WWTF	Hill Point Creek	Wisconsin River	9.4	11849	0	143	11992	1:99	Yes	
47726	20583	HILLSBORO WASTEWATER TREATMENT FACILITY	West Branch Baraboo River	Wisconsin River	39.3	34508	0	439	34947	1:99	Yes	
51147	49689	HUB ROCK SANITARY DISTRICT #1 WWTF	Pine River	Wisconsin River	121.1	120796	0	231	121027	0:100	Yes	
50183	32085	HUSTLER WASTEWATER TREATMENT FACILITY	Little Lemonweir River	Wisconsin River	37.9	60511	0	103	60614	0:100	Yes	
49401	28070	JUNCTION CITY WASTEWATER TREATMENT FACILITY	Unnamed	Wisconsin River	0.7	280	0	139	419	33:67	Yes	
47704	20516	KENDALL WASTEWATER TREATMENT FACILITY	Baraboo River	Wisconsin River	16.0	18548	0	551	19099	3:97	Yes	
48816	24465	LA FARGE WASTEWATER TREATMENT PLANT	Kickapoo River	Wisconsin River	301.6	287653	2237	560	290450	1:99	Yes	
49545	28878	LA VALLE WASTEWATER TREATMENT FACILITY	Baraboo River	Wisconsin River	307.8	267080	4643	225	271948	2:98	Yes	
52374	36374	LAKE TOMAHAWK TOWNSHIP SANITARY DISTRICT 1	Wisconsin River	Wisconsin River	745.5	47832	1593	460	49885	4:96	Yes	
48514	22837	LAKELAND SANITARY DISTRICT	Tomahawk River	Wisconsin River	71.6	2127	12	502	2641	19:81	Yes	
51824	57738	LAKESIDE FOODS INC. - REEDSBURG	Baraboo River	Wisconsin River	385.7	314535	4868	990	320393	2:98	Yes	
47308	3450	LIGNOTECH USA INC	Wisconsin River	Wisconsin River	3987.3	469036	72778	336	542150	13:87	Yes	
50391	36447	LIME RIDGE WASTEWATER TREATMENT FACILITY	Narrows Creek	Wisconsin River	0.9	462	0	58	520	11:89	Yes	
48538	22918	LODI WASTEWATER TREATMENT FACILITY	Spring Creek	Wisconsin River	37.7	11501	0	986	12487	8:92	Yes	
49604	29114	LOGANVILLE WASTEWATER TREATMENT FACILITY	Narrows Creek	Wisconsin River	43.3	51798	201	284	52283	1:99	Yes	
54387	60488	LYNDON STATION WASTEWATER TREATMENT FACILITY	Lyndon Creek	Wisconsin River	6.8	2012	0	306	2318	13:87	Yes	
47589	20273	MARATHON WATER & SEWER DPT WW TREATMNT PLANT	Big Rib River	Wisconsin River	370.4	110935	2582	813	114330	3:97	Yes	
61228	21021	MARSHFIELD WASTEWATER TREATMENT FACILITY	Mill Creek	Wisconsin River	8.5	1105	0	8683	9788	89:11	Speak with WDNR Basin Engineer	
48848	24635	MAUSTON WASTEWATER TREATMENT FACILITY	Lemonweir River	Wisconsin River	567.0	250955	3782	755	255492	2:98	Yes	
51632	54518	MCCAIN FOODS USA, INC., PLOVER	Wisconsin River	Wisconsin River	5314.4	701691	133627	11250	846568	17:83	Yes	
47532	20150	MERRILL CITY OF	Wisconsin River	Wisconsin River	2750.1	248984	52848	2587	304419	18:82	Yes	

PRESTO-Lite Watershed Delineation Report

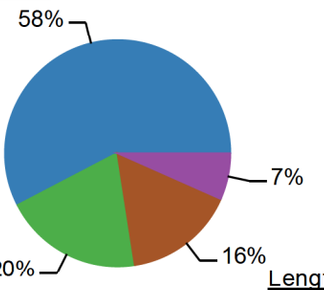
Reach ID: 200041526	
Watershed Name: Narrows Creek	
Waterbody Name: Narrows Creek	
HUC08: Baraboo	
Watershed Area: 43.98 mi²	
Average Annual Precipitation: 33.86in	



Stream Flow

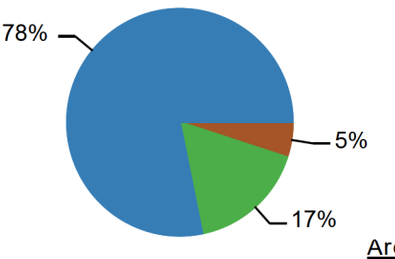


Tributary Stream Type



Type	Length
Cool-Cold Headwater	93144 ft
Macroinvertebrates	32109 ft
Coldwater	25779 ft
Cool-Cold Mainstem	10670 ft
Cold Headwater	0 ft
Cold Mainstem	0 ft
Large River	0 ft
Warm Headwater	0 ft
Warm Mainstem	0 ft

Landcover



Type	Area
Agriculture	34.08 mi²
Forest	7.33 mi²
Urban	2.18 mi²
Grassland	0.28 mi²
Wetland	0.08 mi²
Barren	0.01 mi²

PRESTO Phosphorus Load Estimate

Avg. Annual Nonpoint Phosphorous Load (80% Confidence Interval)	44,031 (18,755 - 103,372) lbs
Number of Facilities (Individual Facility Information below)	3
Avg. Annual Point-source Phosphorous Load (2010 - 2012 total of all facilities)	702lbs
Most Likely Point : Nonpoint Phosphorous Ratio	2% : 98%
Low Estimate Point : Nonpoint Phosphorous Ratio (Adaptive Management)	1% : 99%

Adaptive Management Results

Facilities Discharging to the Narrows Creek Watershed:

Facility Name	Permit #	Outfall #	Waste Type	Receiving Water	Avg. Phosphorus Load (lbs.) (2010 - 2012)
LOGANVILLE WASTEWATER TREATMENT FACILITY	0029114	001	Municipal	Narrows Creek	509
HILL POINT SANITARY DISTRICT WWTF	0035483	001	Municipal	Hill Point Creek	130
LIME RIDGE WASTEWATER TREATMENT FACILITY	0036447	001	Municipal	Narrows Creek	63

Watershed Analysis Limitations

- This analysis relies on pre-defined catchments from the Wisconsin Hydrography Data-Plus and may not delineate from the exact location required. When assessing phosphorus loads for specific facility in support of efforts such as adaptive management, care should be taken to ensure that additional downstream point sources do not exist. For adaptive management information related to specific facilities please reference the PRESTO website http://dnr.wi.gov/topic/surfacewater/presto.html
- Delineation of watersheds is based on a topographic assessment and therefore do not account for modified drainage networks such as stormwater sewer systems and ditched agriculture.
- If a watershed requires delineation from an exact location the user may use the desktop version of PRESTO that requires ESRI ArcGIS. The PRESTO tool and default datasets can be downloaded at http://dnr.wi.gov/topic/surfacewater/presto.html
- Data sources for this report originate from the WDNR's Wisconsin Hydrography Data-Plus value-added dataset and the point and non-point source loading information including in the WDNR's PRESTO model.
- If you have questions about the report generated from the PRESTO-Lite application please contact: DNRWATERQUALITYMODELING@wisconsin.gov

Village of Loganville
Table - Land Use in HUC8: Baraboo (07070004)

Land Use	Soil Group	Area (Acres)	Sub-Total (acres)	% of Watershed
Open Water	B	0.67	12.9	0.002%
	C	0.89		0.003%
	D	11.34		0.041%
Developed, Open Space	A	0.67	893.36	0.002%
	B	203.27		0.738%
	C	610.25		2.214%
	D	79.17		0.287%
Developed, Low Intensity	A	0.22	517.96	0.001%
	B	129.21		0.469%
	C	303.35		1.101%
	D	85.18		0.309%
Developed, Medium Intensity	A	0.44	121.64	0.002%
	B	27.35		0.099%
	C	79.39		0.288%
	D	14.46		0.052%
Developed, High Intensity	B	5.56	21.79	0.020%
	C	12.23		0.044%
	D	4		0.015%
Barren Land (Rock/Sand/Clay)	B	5.78	22.9	0.021%
	C	17.12		0.062%
Deciduous Forest	A	112.98	5191.81	0.410%
	B	2143.22		7.777%
	C	2796.84		10.149%
	D	138.77		0.504%
Evergreen Forest	B	4.67	16.68	0.017%
	C	11.34		0.041%
	D	0.67		0.002%
Mixed Forest	A	18.9	518.18	0.069%
	B	181.25		0.658%
	C	287.56		1.043%
	D	30.47		0.111%
Shrub/Scrub	A	0.67	34.91	0.002%
	B	6.89		0.025%
	C	26.02		0.094%
	D	1.33		0.005%
Grassland/Herbaceous	A	0.22	44.03	0.001%
	B	7.56		0.027%
	C	28.02		0.102%
	D	8.23		0.030%

Village of Loganville
Table - Land Use in HUC8: Baraboo (07070004)

Land Use	Soil Group	Area (Acres)	Sub-Total (acres)	% of Watershed
Pasture/Hay	A	5.78	9211.15	0.021%
	B	1444.23		5.241%
	C	6561.54		23.810%
	D	1199.6		4.353%
Cultivated Crops	A	4	10789.26	0.015%
	B	1564.33		5.677%
	C	7922.37		28.748%
	D	1298.56		4.712%
Woody Wetlands	B	12.01	78.28	0.044%
	C	0.22		0.001%
	D	66.05		0.240%
Emergent Herbaceous Wetlands	B	2.45	82.95	0.009%
	C	0.44		0.002%
	D	80.06		0.291%
		Total	27557.8	Acres

Source: NLCD 2019 Purdue University Long-Term Hydrologic Impact Analysis (L-THIA GLWMS) Model

Appendix E
WDNR Email for Future WQBEL

vierbicher
planners | engineers | advisors

Gina Schultz <gsch@vierbicher.com>

Loganville Phosphorus Limits Question

1 message

Claucherty, Matthew L - DNR <Matthew.Claucherty@wisconsin.gov> Tue, Dec 5, 2023 at 3:17 PM
To: Gina Schultz <gsch@vierbicher.com>
Cc: "Luck, Sarah D - DNR" <Sarah.Luck@wisconsin.gov>, "Howe, Betsyjo M - DNR" <betsyjo.howe@wisconsin.gov>, "Connors, Tanner J - DNR" <Tanner.Connors@wisconsin.gov>

Gina- good talking with you this morning. Your question, as I understand it, pertains to the phosphorus limit that will be applicable to the Loganville WWTF now and in future permit terms. This is needed to identify the number of credits required under water quality trading effort.

I've copied Sarah, DNR limits calculator, to provide any insight she may have into the question.

See attached limits memo. The TMDL-based limit for this permit term is 0.46 lbs/day, and supplants any concentration based limits previously calculated under NR 217.13. Page 11 of the memo shows that the TMDL wasteload allocation directly translates to 0.277 lbs/day. A monthly average multiplier of 1.65 was used to arrive at 0.46 lbs/day as the calculated limit. It would be beneficial for the trading effort to understand the likelihood of a future effluent limits calculation using a lower monthly average multiplier, thereby resulting in a lower limit.

Best practice in this case is to target offsetting effluent phosphorus discharged in excess of 0.277 lbs/day. However, the minimum credit quantities needed to have an approvable WQT plan would be based on the current limit – 0.46 lbs/day. Using the higher limit for credit need calculations imparts some risk that future limits will be calculated lower and would potentially cause a credit shortfall. Any thoughts are appreciated. Thanks!

We are committed to service excellence.

Visit our survey at http://dnr.wi.gov/customersurvey to evaluate how I did.

Matt Claucherty
Phosphorus Implementation Coordinator – Water Quality Bureau
Wisconsin Department of Natural Resources
101 S. Webster Street

Madison, WI 53707-7921

Phone: (608) 400–5596

Matthew.Claucherty@wisconsin.gov

dnr.wi.gov

Loganville WQBEL.pdf
917K

Appendix F
Village of Loganville Kinsinger Grassed Waterway
Trading Plan As Built in Accordance NRCS Practice 412

MAY 20, 2024

Revised October 23, 2024

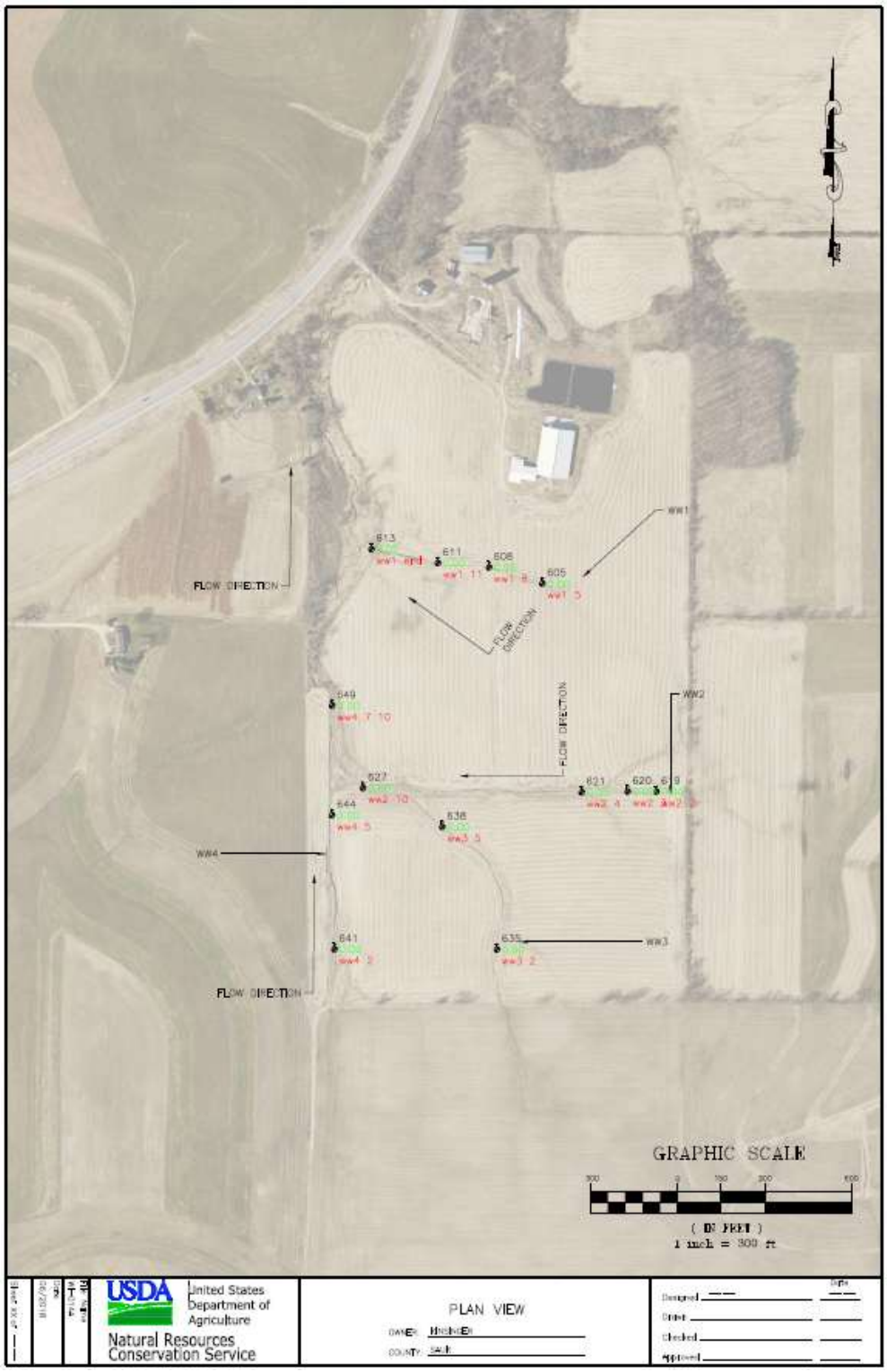
Village of Loganville Kinsinger Grassed Waterway Trading Plan As Built in accordance NRCS Practice Standard 412

PREPARED BY MITCHELL MCCARTHY

SAUK COUNTY

Table of Contents

Section 1. Soil Sample Locations with Photos



Map of Sample Locations at Kinsinger

Pt	Northing	Easting	Elev	Description
605	207245.8	572992.2	0	ww1 5
608	207301.6	572808.5	0	ww1 8
611	207316.8	572632.3	0	ww1 11
613	207364.7	572403.2	0	ww1 end
619	206528.2	573385.8	0	ww2 2
620	206528.9	573287	0	ww2 3
621	206526.3	573127.9	0	ww2 4
627	206540.9	572373.8	0	ww2 10
635	205984.4	572835.9	0	ww3 2
638	206407.1	572647.1	0	ww3 5
641	205985.2	572275.4	0	ww4 2
644	206446.9	572267.1	0	ww4 5
649	206824.7	572267.4	0	ww4 7 10

Sample Locations at Kinsinger

Site ID Site 1 Before

Site ID: 2 Before

Site ID: 3 Before

Site ID: 4 Before

Section 2. Soil Test Results

Soil test data was collected in 2023 by NRCS Staff. Samples were taken at 6" below surface. The average total soil phosphorus concentration in ppm is 68.7.

Soil and Forage Analysis Lab
WISCONSIN STATE LABORATORY OF HYGIENE
UNIVERSITY OF WISCONSIN-MADISON

4702 University Avenue
Madison, WI 53705
608.262.4364
soil-lab@mailplus.wisc.edu
https://uwlab.soils.wisc.edu

Mitch McCarthy / Sauk LRE
505 Broadway St
Baraboo, WI 53913

Date 6/9/2023
Acct # 558967
Lab # 2230

Comments

Soil Analysis

Sample #	*Sample ID*	*pH*	*Sikora Buffer*	*P ppm*	*K ppm*	*OM%*
1	WW1 Pt 5,8,11	7.3		106	293.7	3.7
2	WW1 ww1 end	7.1		108	250.4	3.6
3	WW2 Pt 2,3	6.9		35	158.7	3.1
4	WW2 PT 4	6.2	6.8	42	132.2	3.5
5	WW2 Pt 10	5.8	6.6	58	218.4	4.1
6	WW3 PT 2	6.5	6.9	55	186.5	3.2
7	WW3 PT 5	6.9		58	111.1	2.9
8	WW4 PT 2	6.5	6.9	56	111.0	3.3
9	WW4 PT 5	7.1		116	241.7	4.1
10	WW4 PT 10	6.6		53	158.5	4.1

Converting soil test P ppm to Total % P

Sample #	Soil Test P (ppm)	Organic Matter (%)	Total Phosphorus (ppm)	Total Phosphorus (%)	WW #
1	106	3.7	816.2	0.08162	1
2	108	3.6	804.2	0.08042	1
3	35	3.1	536.7	0.05367	2
4	42	3.5	622.2	0.06222	2
5	58	4.1	764.2	0.07642	2
6	55	3.2	603.7	0.06037	3
7	58	2.9	560.2	0.05602	3
8	56	3.3	623.2	0.06232	4
9	116	4.1	909.2	0.09092	4
10	53	4.1	751.7	0.07517	4

Section 3. NRCS Erosion Estimator

Gully formation was estimated using air photos and landowner interview.

2022

2010

Site ID: Sites 1,2,3,4

NRCS Classic Gully Erosion Estimator

Clear Form

Farmer / Cooperator Name: Stephen Kinsinger Before
Tract Number: 1952
Evaluated By:
Evaluation Date:

Field Number	Gully	Total Active Gully Length (Feet) *	Gully Average Top Width	Gully Average Bottom Width	Gully Average Depth (Feet)	Estimated Total Volume (FT^3) Eroded	Gully Formation: Estimated Number	Soil Texture	Approximate Pounds of Soil per FT^3	Estimated Total Gully Soil Loss (Tons)	Estimated Gully Soil Loss Per Year (Tons/yr)
	1	485.0	4.0	2.3	1.31	2,001.4	10.0	Silt Loam	95	95.1	9.5
	2	1,153.0	8.5	3.6	2.2	15,346.4	10.0	Silt Loam	95	729.0	72.9
	3	0.0	0.0	0.0	1.2	0.0	20.0	Silt Loam	95	0.0	0.0
				Total Estimated Annual Gully Soil Loss (Tons/yr):							82.4

Field Number	Gully	Total Active Gully Length (Feet) *	Gully Average Top Width	Gully Average Bottom Width	Gully Average Depth (Feet)	Estimated Total Volume (FT^3) Eroded	Gully Formation: Estimated Number	Soil Texture	Approximate Pounds of Soil per FT^3	Estimated Total Gully Soil Loss (Tons)	Estimated Gully Soil Loss Per Year (Tons/yr)
	4	1,223.0	11.6	3.3	0.91	8,291.3	10.0	Silt Loam	95	393.8	39.4

NRCS Ephemeral Gully Erosion Estimator

Clear

Farmer / Cooperator Name:
Tract Number:
Evaluated By:
Evaluation Date:

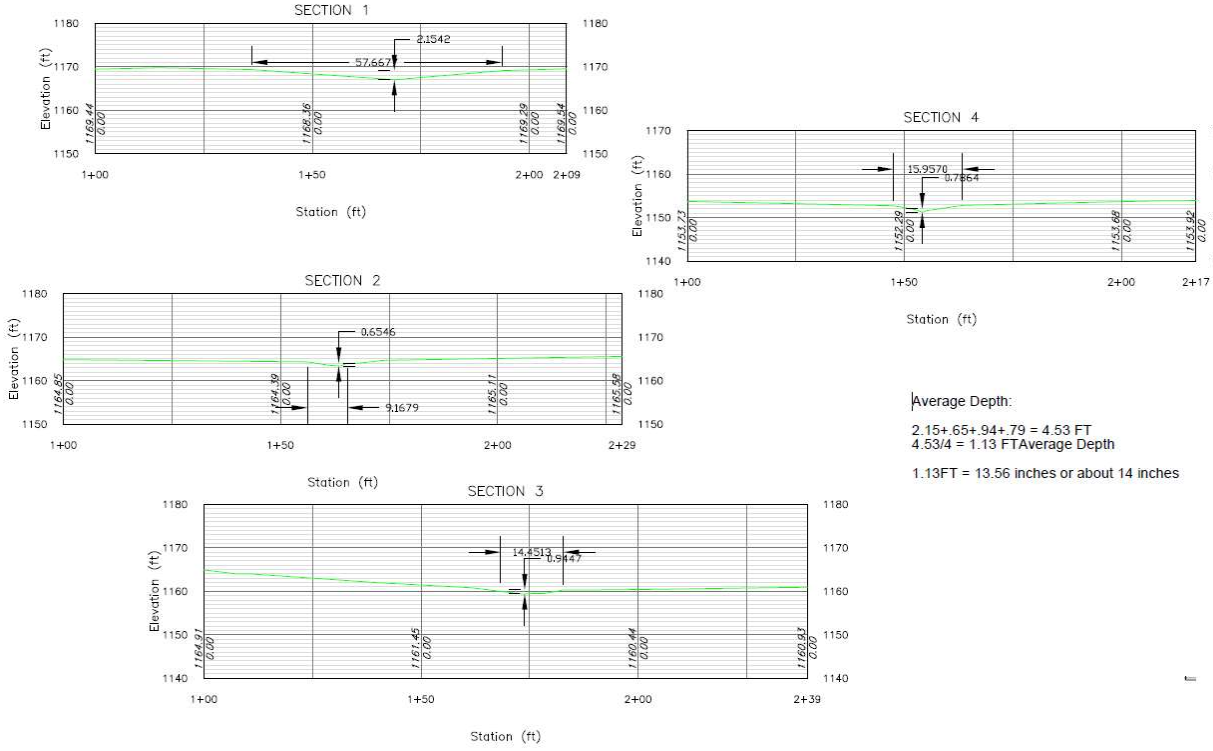
Field Number	Ephemeral Gully (EG)	Gully Length (Feet)	Gully Average Width (Feet)	Gully Average Depth (Inches)	Volume (FT^3) Eroded Estimate	Soil Texture	Pounds of Soil per FT^3 Estimate	Number of Similar EGs In Field	Soil Loss (Tons per Occurrence) Estimate	Number of Occurrences per Year Estimate	Total EG Soil Loss per Year Estimate
	1										
	2										
	3	868.0	2.8	14	2835.5	Silt Loam	95	1	134.7	1	134.7
						Total Estimated Ephemeral Gully Soil Loss Per Year (Tons/yr):					134.7

Total Sediment Loss 256.5
Total P Loss 289.5

		Gully 1			Gully 2			Ehpemeral Gully 3			Gully 4
Soil Test P*	%	107	Soil Test P*	%	45	Soil Test P*	%	56.5	Soil Test P*	%	75
% Organic Matter	%	3.65	% Organic Matter	%	3.56	% Organic Matter	%	3.05	% Organic Matter	%	3.8
Sediment Loss	tons/yr	9.5	Sediment Loss	tons/yr	72.9	Sediment Loss	tons/yr	134.7	Sediment Loss	tons/yr	39.4
P Loss	pounds/yr	12.9	P Loss	pounds/yr	83.7	P Loss	pounds/yr	141.6	P Loss	pounds/yr	51.3

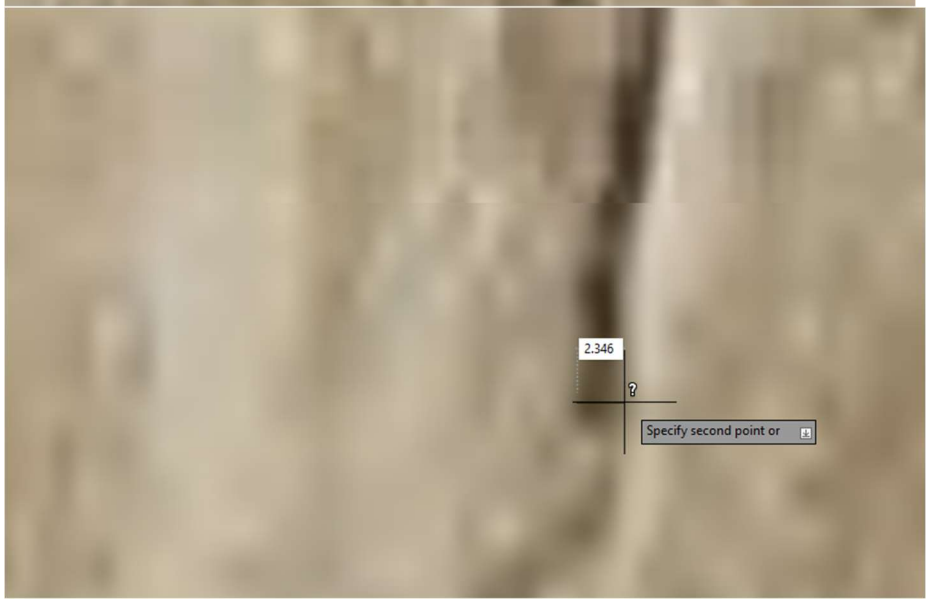
Phosphorus reductions for 3,729 Lin. Ft. of grassed waterway= 289.5 pounds/yr

Additional Documentation for Site 3 Ephemeral gully erosion



2020 leaf-off photo provides an example of the widths of the erosion at that time (roughly 3 years prior to construction).


2.114
Specify second point or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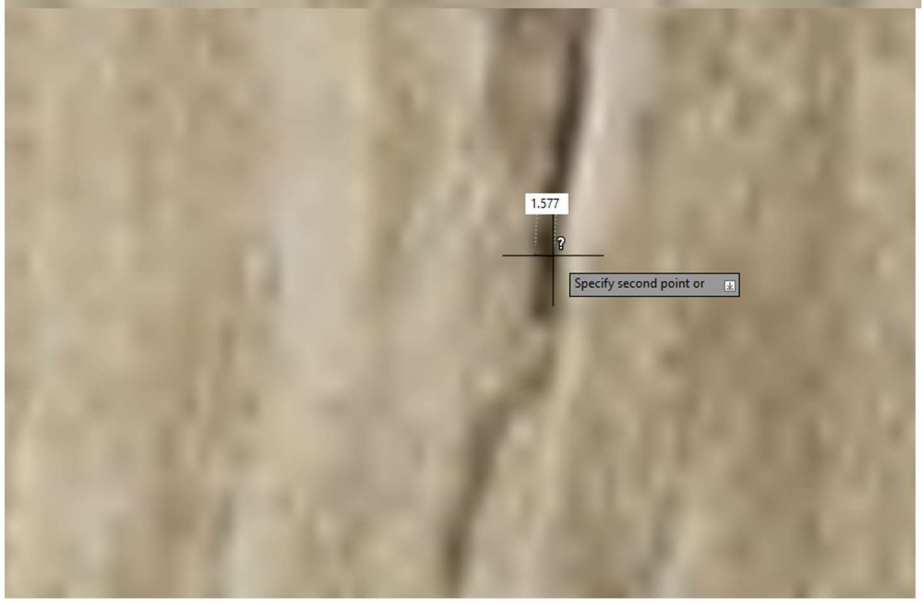
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4.626
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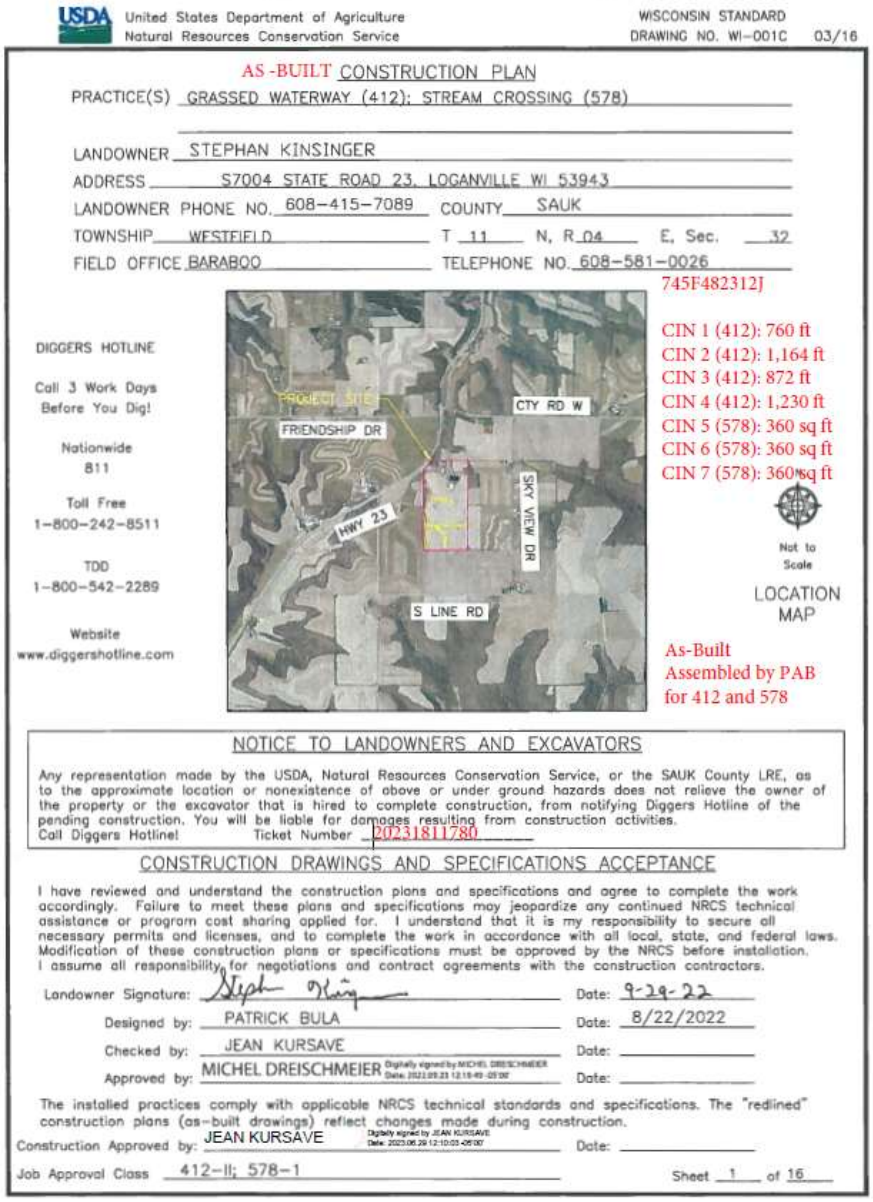
Section 4. As-Built Documentation
Grassed Waterway
Site ID: Sites 1,2,3,4



United States Department of Agriculture
Natural Resources Conservation Service

WISCONSIN STANDARD
DRAWING NO. WI-001C 03/16

AS-BUILT CONSTRUCTION PLAN

PRACTICE(S) GRASSED WATERWAY (412); STREAM CROSSING (578)

LANDOWNER STEPHAN KINSINGER
ADDRESS S7004 STATE ROAD 23, LOGANVILLE WI 53943
LANDOWNER PHONE NO. 608-415-7089 COUNTY SAUK
TOWNSHIP WESTFIELD T 11 N, R 04 E, Sec. 32
FIELD OFFICE BARABOO TELEPHONE NO. 608-581-0026

745F482312J

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FRIENDSHIP DR
CTY RD W
HWY 23
SKY VIEW DR
S LINE RD

CIN 1 (412): 760 ft
CIN 2 (412): 1,164 ft
CIN 3 (412): 872 ft
CIN 4 (412): 1,230 ft
CIN 5 (578): 360 sq ft
CIN 6 (578): 360 sq ft
CIN 7 (578): 360 sq ft

Not to Scale

LOCATION MAP

As-Built
Assembled by PAB
for 412 and 578

NOTICE TO LANDOWNERS AND EXCAVATORS

Any representation made by the USDA, Natural Resources Conservation Service, or the SAUK County LRE, as to the approximate location or nonexistence of above or under ground hazards does not relieve the owner of the property or the excavator that is hired to complete construction, from notifying Diggers Hotline of the pending construction. You will be liable for damages resulting from construction activities.
Call Diggers Hotline! Ticket Number 20231811780

CONSTRUCTION DRAWINGS AND SPECIFICATIONS ACCEPTANCE

I have reviewed and understand the construction plans and specifications and agree to complete the work accordingly. Failure to meet these plans and specifications may jeopardize any continued NRCS technical assistance or program cost sharing applied for. I understand that it is my responsibility to secure all necessary permits and licenses, and to complete the work in accordance with all local, state, and federal laws. Modification of these construction plans or specifications must be approved by the NRCS before installation. I assume all responsibility for negotiations and contract agreements with the construction contractors.

Landowner Signature: Stephan Kinsinger Date: 9-29-22
Designed by: PATRICK BULA Date: 8/22/2022
Checked by: JEAN KURSAVE Date:
Approved by: MICHEL DREISCHMEIER Digitally signed by MICHEL DREISCHMEIER Date: 2023.09.23 12:19:49 -05'00' Date:

The installed practices comply with applicable NRCS technical standards and specifications. The "redlined" construction plans (as-built drawings) reflect changes made during construction.

Construction Approved by: JEAN KURSAVE Digitally signed by JEAN KURSAVE Date: 2023.09.29 12:10:03 -05'00' Date:

Job Approval Class 412-II; 578-1 Sheet 1 of 16

Kisinger As Built Cover Page

OPERATION AND MAINTENACE PLAN

Operation and Maintenance Plan
Grassed Waterway

Must be adopted to the landowner's site

Cooperator: _____ Date: _____

By: _____ Title: _____

Project Location: _____

I agree to the following for the next 10 years.

1. During the first year of the seeding establishment growing season, waterway vegetation must be clipped by August 1 to allow seeded grasses to compete with weed species.
2. Vegetation height should be mowed or grazed no lower than 4 inches.
3. Channel bottom will not be used as a field access road. Lift tillage equipment when crossing waterways.
4. Graze only when the ground is firm. Waterway will be fenced if necessary to avoid excessive grazing.
5. Chemicals which kill grass will not be sprayed onto or allowed to drain into the waterway. This includes runoff from barnyards, feeding areas, etc.
6. Waterway side slopes are not to be tilled.
7. After vegetation has been established one or more years, delay mowing until after August 1 to allow nesting birds to complete nesting. Haying when conditions are dry enough is allowed.
8. A maintenance program shall be established to maintain waterway capacity, vegetative cover, and outlet stability. Vegetation damaged by machinery, herbicides, or erosion must be repaired promptly.
9. Inspect grassed waterways regularly, especially following heavy rains. Damaged areas will be filled, Landowners should be advised to avoid areas where forbs have been established when applying herbicides.
10. Avoid using waterways as turn-rows during tillage and cultivation operations.

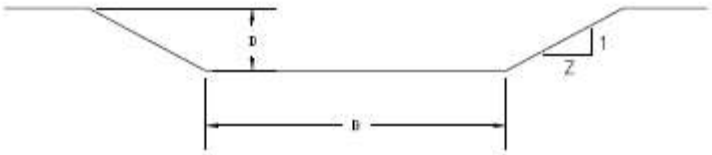
Cooperator's signature: Stephan Kinsinger Date: 9-29-22

I have discussed the maintenance guidelines with the above cooperator.

Conservationist's signature: Patrick Bida Date: 3-17-25

USDA United States Department of Agriculture Natural Resources Conservation Service	OPERATION AND MAINTENANCE PLAN CLIENT: STEPHAN KINSINGER COUNTY: SAUK	Designed PAB Date 8-12-2022 Drawn PAB Checked JMK Approved MOD	Drawing Name Date 08/14 Sheet 15 of 16

Kisinger O&M Page



TRAPEZOIDAL CROSS SECTION

CONSTRUCTION DETAILS

WATERWAY NUMBER	REACH		CHANNEL SLOPE(%)	BOTTOM WIDTH(B) FEET	MINIMUM DEPTH(D) FEET	SIDE SLOPE(Z)	LENGTH FEET
	FROM	TO					
1	0+00	~~7+29~~ 7+60	2.5-4.5%	~~8~~ 14	0.8	8	~~729~~ 760

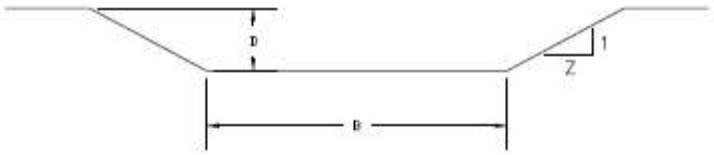
NOTES AND SPECIFICATIONS:

1. TOPSOIL SHALL BE STOCKPILED AND RESPREAD ON THE WATERWAY WHEN NEEDED TO FACILITATE REVEGETATION.
2. PLACE SPOIL WHERE IT WILL NOT INTERFERE WITH SURFACE WATER FLOW INTO THE WATERWAY.
3. MAINTENANCE ITEMS – REPAIR AREAS OF DAMAGED VEGETATION. DO NOT USE THE WATERWAY FOR A TRAVEL LANE. DO NOT PLOW INTO THE WATERWAY SIDES.
4. WATERWAY MAY BE GRAZED AND/OR CLIPPED – FOLLOW GRAZING PLAN REQUIREMENTS. DO NOT GRAZE/CLIP WATERWAY LOWER THAN 4" HEIGHT. DO NOT GRAZE/CLIP WHEN SOIL IS SATURATED.
5. USE ROCK CROSSINGS TO TRANSPORT LIVESTOCK AND EQUIPMENT ACROSS WATERWAY.

WI-402A Page 1 of 2

USDA United States Department of Agriculture Natural Resources Conservation Service	TRAPEZOIDAL GRASSED WATERWAY WATERWAY – 1 AS-BUILT CLIENT: STEPHAN KINSINGER COUNTY: SAUK	Designed PAB Date 8-12-202 Drawn PAB Checked JMK Approved MOD PAB 5/23	File Name WI-402A Date 07/14 Sheet 5 of 16

Kisinger As Built WW 1



TRAPEZOIDAL CROSS SECTION

CONSTRUCTION DETAILS

WATERWAY NUMBER	REACH		CHANNEL SLOPE(%)	BOTTOM WIDTH(B) FEET	MINIMUM DEPTH(D) FEET	SIDE SLOPE(Z)	LENGTH FEET
	FROM	TO					
2	0+00	8+05	1.2–4%	20	1.1	10	805
	8+05	9+50	1.0–3.5%	34	1.2	10	145
	9+50	~~11+50~~ 11+64	0.8–3%	34	1.3	10	~~200~~ 21

NOTES AND SPECIFICATIONS:

1. TOPSOIL SHALL BE STOCKPILED AND RESPREAD ON THE WATERWAY WHEN NEEDED TO FACILITATE REVEGETATION.
2. PLACE SPOIL WHERE IT WILL NOT INTERFERE WITH SURFACE WATER FLOW INTO THE WATERWAY.
3. MAINTENANCE ITEMS – REPAIR AREAS OF DAMAGED VEGETATION. DO NOT USE THE WATERWAY FOR A TRAVEL LANE. DO NOT PLOW INTO THE WATERWAY SIDES.
4. WATERWAY MAY BE GRAZED AND/OR CLIPPED – FOLLOW GRAZING PLAN REQUIREMENTS. DO NOT GRAZE/CLIP WATERWAY LOWER THAN 4" HEIGHT. DO NOT GRAZE/CLIP WHEN SOIL IS SATURATED.
5. USE ROCK CROSSINGS TO TRANSPORT LIVESTOCK AND EQUIPMENT ACROSS WATERWAY.
6. WATERWAY 2 WILL TRANSITION FROM A 20' WIDE TO A 34' WIDE BOTTOM WHERE IT INTERSECT WATERWAY 4

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USDA United States Department of Agriculture
Natural Resources Conservation Service

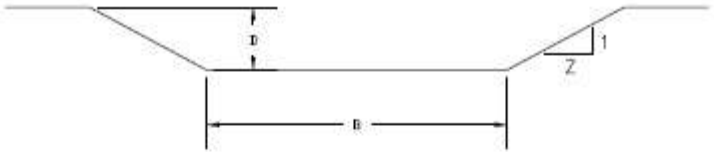
TRAPEZOIDAL GRASSED WATERWAY
WATERWAY – 2 AS BUILT

CLIENT: STEPHAN KINSINGER
COUNTY: SAUK

Designed PAB Date 8–12–20
Drawn PAB
Checked JMK
Approved MOD PAB 5/23

File Name WI–402A
Date 07/14
Sheet 6 of 16

Kisinger As Built WW 2



TRAPEZOIDAL CROSS SECTION

CONSTRUCTION DETAILS

WATERWAY NUMBER	REACH		CHANNEL SLOPE(%)	BOTTOM WIDTH(B) FEET	MINIMUM DEPTH(D) FEET	SIDE SLOPE(Z)	LENGTH FEET
	FROM	TO					
3	0+00	~~8+68~~8+72	1.1–3.5% ✓	~~12~~ 14	1 ✓	8 ✓	~~868~~ 872

NOTES AND SPECIFICATIONS:

1. ✓ TOPSOIL SHALL BE STOCKPILED AND RESPREAD ON THE WATERWAY WHEN NEEDED TO FACILITATE REVEGETATION.
2. ✓ PLACE SPOIL WHERE IT WILL NOT INTERFERE WITH SURFACE WATER FLOW INTO THE WATERWAY.
3. MAINTENANCE ITEMS – REPAIR AREAS OF DAMAGED VEGETATION. DO NOT USE THE WATERWAY FOR A TRAVEL LANE. DO NOT FLOW INTO THE WATERWAY SIDES.
4. WATERWAY MAY BE GRAZED AND/OR CLIPPED – FOLLOW GRAZING PLAN REQUIREMENTS. DO NOT GRAZE/CLIP WATERWAY LOWER THAN 4" HEIGHT. DO NOT GRAZE/CLIP WHEN SOIL IS SATURATED.
5. USE ROCK CROSSINGS TO TRANSPORT LIVESTOCK AND EQUIPMENT ACROSS WATERWAY.

W|–402A Page 1 of 2

USDA United States Department of Agriculture
Natural Resources Conservation Service

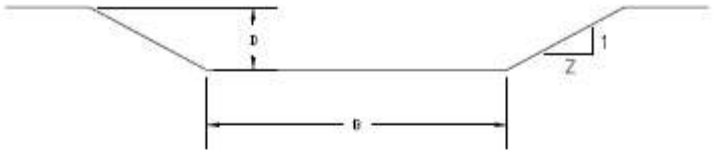
TRAPEZOIDAL GRASSED WATERWAY
WATERWAY – 3 AS BUILT

CLIENT: STEPHAN KISINGER
COUNTY: SAUK

Designed PAB Date 8–12–202
Drawn PAB
Checked JMK
Approved MOD PAB 3/23

File Name W–402A
Date 07/14
Sheet 7 of 16

Kisinger As Built WW 3



TRAPEZOIDAL CROSS SECTION

CONSTRUCTION DETAILS

WATERWAY NUMBER	REACH		CHANNEL SLOPE(%)	BOTTOM WIDTH(B) FEET	MINIMUM DEPTH(D) FEET	SIDE SLOPE(Z)	LENGTH FEET
	FROM	TO					
4	0+00	~~12+23~~2+80	1.0–3.0%	~~12~~ 14	1.3	8	~~1,223~~1230

NOTES AND SPECIFICATIONS:

1. TOPSOIL SHALL BE STOCKPILED AND RESPREAD ON THE WATERWAY WHEN NEEDED TO FACILITATE REVEGETATION.
2. PLACE SPOIL WHERE IT WILL NOT INTERFERE WITH SURFACE WATER FLOW INTO THE WATERWAY.
3. MAINTENANCE ITEMS – REPAIR AREAS OF DAMAGED VEGETATION. DO NOT USE THE WATERWAY FOR A TRAVEL LANE. DO NOT PLOW INTO THE WATERWAY SIDES.
4. WATERWAY MAY BE GRAZED AND/OR CLIPPED – FOLLOW GRAZING PLAN REQUIREMENTS. DO NOT GRAZE/CLIP WATERWAY LOWER THAN 4" HEIGHT. DO NOT GRAZE/CLIP WHEN SOIL IS SATURATED.
5. USE ROCK CROSSINGS TO TRANSPORT LIVESTOCK AND EQUIPMENT ACROSS WATERWAY.

WI–402A Page 1 of 2

USDA United States Department of Agriculture Natural Resources Conservation Service	TRAPEZOIDAL GRASSED WATERWAY WATERWAY – 4 AS BUILT CLIENT: STEPHAN KISINGER COUNTY: SAUK	Designed PAB Date 8–12–2022 Drawn PAB Checked JMK Approved MOD PAB 5/23	File Name WI–402A Date 07/14 Sheet 8 of 16

Kisinger As Built WW 4

Site ID: 1 **(After)**

Site ID: 2 **(After)**

Site ID: 3 **(After)**

Site ID: 4 **(After)**

Appendix G
Village of Loganville Chuck Muchow Streambank Trading Plan As Built in Accordance NRCS Practice Standard 580

APRIL 15, 2024

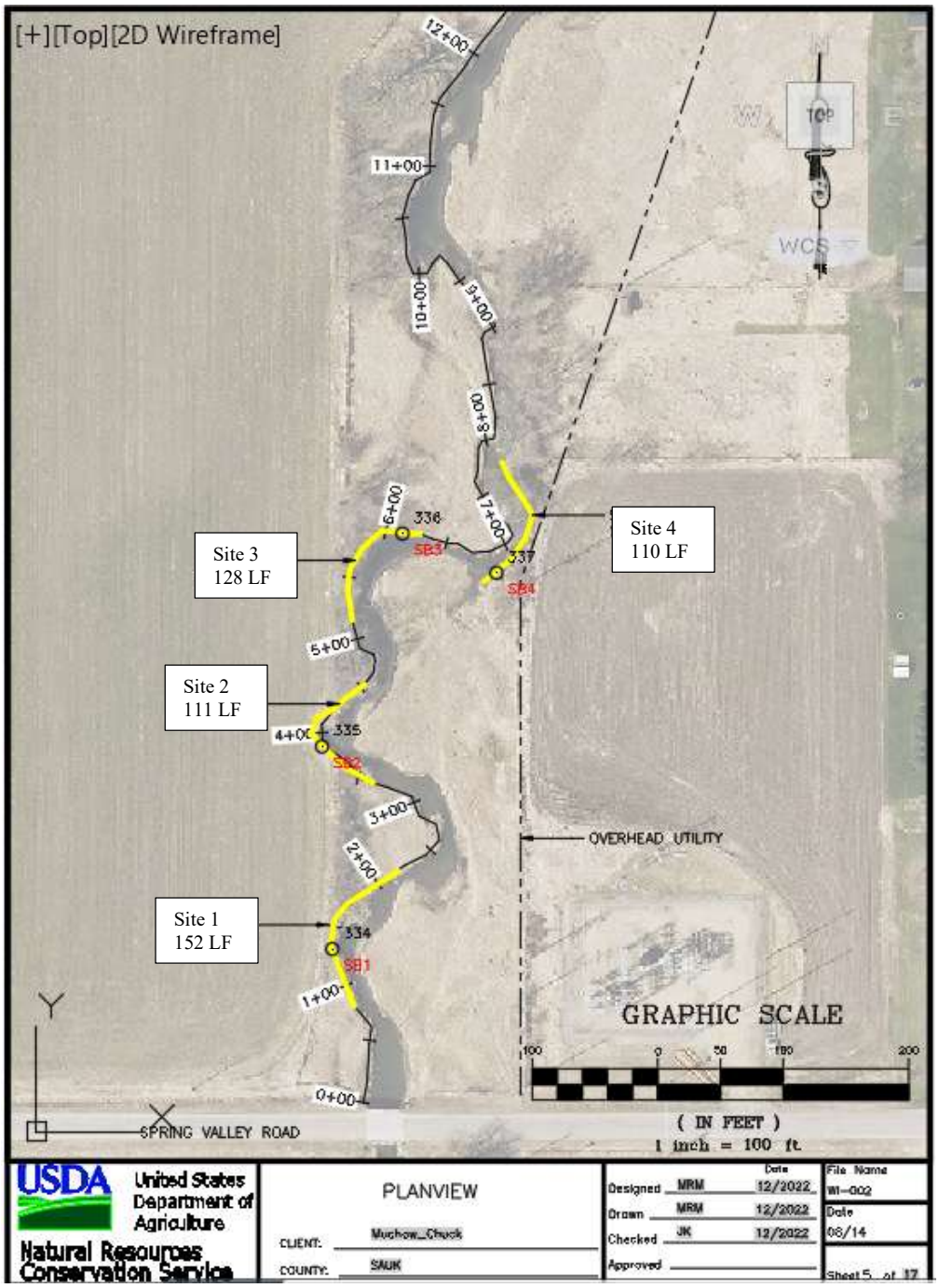
Revised October 30, 2024

Village of Loganville Chuck Muchow Streambank Trading Plan As Built in accordance NRCS Practice Standard 580

PREPARED BY MITCHELL MCCARTHY
SAUK COUNTY

Table of Contents

Section 1. Soil Sample Locations with Photos



Map of Sample Locations at Chuck Muchow's

Site ID: 1. (Before)
EASTING: 571719.16'
NORTHING: 224462.64'

Site ID: 2.
EASTING: 571710.93'
NORTHING: 224624.02'

Site ID: 3.
EASTING: 571775.13'
NORTHING: 224793.63'

Site ID: 4.
EASTING: 571850.03'
NORTHING: 224762.34'

Section 2. Soil Test Results

Soil test data was collected in 2023 by Mitch McCarthy. Samples were taken at 6” below surface, mid-bank, and 6” above bottom of the Streambank. The total soil phosphorus concentration is in % P

Soil and Forage Analysis Lab
WISCONSIN STATE LABORATORY OF HYGIENE
UNIVERSITY OF WISCONSIN-MADISON

4702 University Avenue
Madison, WI 53705
608-262-4364
soil-lab@mailplus.wisc.edu
https://uwlab.soils.wisc.edu

Mitch McCarthy / Sauk LRE
505 Broadway St
Baraboo, WI 53913

Date 6/9/2023
Account # 558967
Lab # 2234

COMMENTS:

Soil Total Leachable P

Sample #	Sample ID	Total Leachable P ppm
1	SB1	0.04
2	SB 2	0.02
3	SB 3	0.03
4	SB 4	0.08

Section 3. NRCS Erosion Estimator

Site ID: 1,2,3,4

NRCS Streambank Erosion Estimator (Direct Volume Method) — Clear Form

Farmer / Cooperator Name: Chuck Muchow
Tract Number:
Evaluated By:
Evaluation Date:

Field Number	Eroding Streambank Reach Number	Eroding Bank Length (Feet)	Eroding Bank Height * (Feet)	Area of Eroding Streambank (FT^2)	Lateral Recession Rate (Estimated) (FT / Year)	Estimated Volume (FT^3) Eroded Annually	Soil Texture	Approximate Pounds of Soil per FT^3	Estimated Soil Loss (Tons/Year)
North	1	152.0	7.3	1,110	0.75	832.2	Silt Loam	95	39.5
	2	111.0	7.4	821	0.75	616.1	Silt Loam	95	29.3
	3	128.0	7.5	960	0.75	720.0	Silt Loam	95	34.2
				Total Estimated Annual Streambank Erosion Soil Loss (Tons):					103.0

Field Number	Eroding Streambank Reach Number	Eroding Bank Length (Feet)	Eroding Bank Height * (Feet)	Area of Eroding Streambank (FT^2)	Lateral Recession Rate (Estimated) (FT / Year)	Estimated Volume (FT^3) Eroded Annually	Soil Texture	Approximate Pounds of Soil per FT^3	Estimated Soil Loss (Tons/Year)
North	4	110.0	7.5	825	0.75	618.8	Silt Loam	95	29.4
				Total Estimated Annual Streambank Erosion Soil Loss (Tons):					29.4

Phosphorus reductions for 501 Lin. Ft. of Streambank stabilized = 117.0 lbs P/year

$$\text{Site 1 } P_L = (L)\,(H)\,(R)\,(P_c)$$

L = Stream bank length in linear feet	152.0
H = Average stream bank height in feet	7.3
R = Annual recession rate of stream bank in feet / year	0.75
P_c = Total soil phosphorus concentration in units of % P	0.04

P_L = Phosphorus loss in lbs P/year	33

Site 1

L = Stream bank length in linear feet	111.0
H = Average stream bank height in feet	7.4
R = Annual recession rate of stream bank in $\frac{\text{feet}}{\text{year}}$	0.75
P_c = Total soil phosphorus concentration in units of % P	0.02

P_L = Phosphorus loss in lbs P/year	12

Site 2

Site 3 $P_L = (L)\,(H)\,(R)\,(P_c)$

L = Stream bank length in linear feet	128.0
H = Average stream bank height in feet	7.5
R = Annual recession rate of stream bank in $\frac{\text{feet}}{\text{year}}$	0.75
P_c = Total soil phosphorus concentration in units of % P	0.03

P_L = Phosphorus loss in lbs P/year	22

Site 3

Site 4 $P_L = (L)\ (H)\ (R)\ (P_c)$

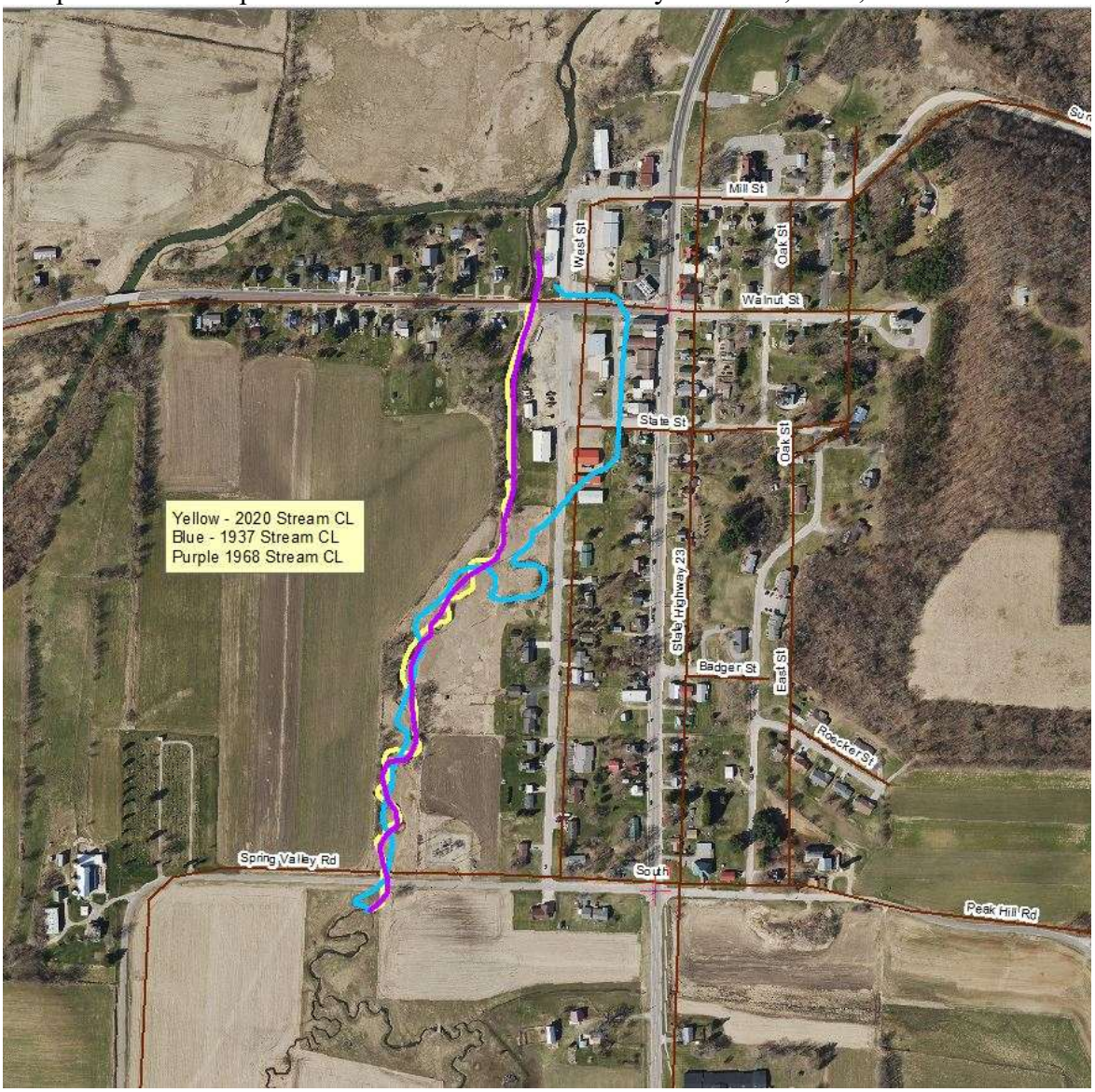
L = Stream bank length in linear feet	110.0
H = Average stream bank height in feet	7.5
R = Annual recession rate of stream bank in feet / year	0.75
P_c = Total soil phosphorus concentration in units of % P	0.08

P_L = Phosphorus loss in lbs P/year	50

Site 4

Recession measurements were completed by Jean Kursave a civil engineer technician with NRCS in August of 2022. The calculations were based on movement of the creek between 2010 and 2020 LiDar and aerial photography. Based on Jeans assessments, erosion had been active within the last 10 years with movement in some areas of 20 to 30 feet. Spring Valley Creek through this stretch was partially straightened in 1937 and straightened again around 1968. This can be seen in the 1937 and 1968 aerial imagery (see attached photos). There are stretches upstream from the site that have minimal sections that have been straightened which show what the channel likely looked like prior to straightening. The 2020 aerial imagery you can see that the stream is trying to find its meander again by cutting into the certified wetland area and cropland surrounding the site. Per NRCS streambank training, recession rates were calculated and only projects with recession rates greater than 0.5 feet per year are eligible for cost share assistance.

The photo below depicts the stream movement for the years 1937, 1968, and 2020.



1937 Aerial Photography of Charles Muchow's site

1968 Aerial Photography of Charles Muchow's site

2020 Aerial Photography of Charles Muchow's site

Section 4. As-Built Documentation
Site ID: 1,2,3,4
Note this project meets NRCS technical standard 580

AS-BUILT

USDA United States Department of Agriculture
Natural Resources Conservation Service

WISCONSIN STANDARD
DRAWING NO. WI-001C 03/16

CONSTRUCTION PLAN

PRACTICE(S) STREAMBANK AND SHORELINE PROTECTION (580)

LANDOWNER Muchow_Chuck
MAILING ADDRESS S5805 SPRING VALLEY RD LOGANVILLE, WI 53943
LANDOWNER PHONE NO. 608-963-5325 COUNTY SAUK
TOWNSHIP WESTFIELD T 11 N, R 4 E, Sec. 17
FIELD OFFICE BARABOO TELEPHONE NO. 608-355-4836

DIGGERS HOTLINE

Call 3 Work Days
Before You Dig!

Nationwide
811

Toll Free
1-800-242-8511

TDD
1-800-542-2289

Website
www.diggershotline.com

Contract # 745F482182
CIN 1 501 FT

N

Not to Scale

LOCATION MAP

NOTICE TO LANDOWNERS AND EXCAVATORS

Any representation made by the USDA, Natural Resources Conservation Service, or the SAUK County LRE, as to the approximate location or nonexistence of above or under ground hazards does not relieve the owner of the property or the excavator that is hired to complete construction, from notifying Diggers Hotline of the pending construction. You will be liable for damages resulting from construction activities.
Call Diggers Hotline! Ticket Number 20235203726

CONSTRUCTION DRAWINGS AND SPECIFICATIONS ACCEPTANCE

I have reviewed and understand the construction plans and specifications and agree to complete the work accordingly. Failure to meet these plans and specifications may jeopardize any continued NRCS technical assistance or program cost sharing applied for. I understand that it is my responsibility to secure all necessary permits and licenses, and to complete the work in accordance with all local, state, and federal laws. Modification of these construction plans or specifications must be approved by the NRCS before installation. I assume all responsibility for negotiations and contract agreements with the construction contractors.

Landowner Signature: Charles Muchow Date: 3-31-23

Designed by: MITCHELL MCCARTHY Date: DECEMBER 2022

Checked by: Jean Kursave Date: 12/16/22

Approved by: MICHEL DREISCHMEIER Digitally signed by MICHEL DREISCHMEIER Date: 2023.12.16 14:27:57 -06'00' Date:

The installed practices comply with applicable NRCS technical standards and specifications. The "redlined" construction plans (as-built drawings) reflect changes made during construction.

Construction Approved by: Date:

Job Approval Class V

Sheet 1 of 17

Operation and Maintenance Plan
Streambank Protection (Riprap)

Cooperator: Muchow_Chuck Date: 12/2022

By: MITCHELL MCCARTHY Title: WATERSHED COORDINATOR

Project Location: S5805 SPRING VALLEY RD LOGANVILLE, WI 53943

I agree to the following for the next 10 years.

1. Check the riprap, plantings, and/or tree revetments at least once each year and immediately after severe floods. Rock removed or displaced shall be replaced as needed. Replant any dead or damaged tree plantings. Repair or replace any damaged or missing revetments. Repair work shall take place during periods of low stream flow.
2. Logs, trees, driftwood, and other debris lodged in or near the riprap shall be removed.
3. Check for sloughing, erosion, or damage to vegetative cover. Damaged areas shall be graded, shaped, and re-vegetated as soon as possible.
4. If fences are installed, they shall be maintained to prevent unauthorized human or livestock access.
5. Immediately repair any vandalism, vehicle or livestock damage.
6. Eliminate access of foot traffic to the streambank within the buffer area with the exception of any designated pathway areas.
7. Eliminate all burrowing rodents and repair damage caused by them.
8. Additional Recommendations:

Cooperator's signature: Charles Muchow Date: 3-31-23

I have discussed the maintenance guidelines with the above cooperator.

Conservationist's signature: Jon P. Kelley Date: 3-31-23

USDA United States Department of Agriculture Natural Resources Conservation Service	OPERATIONS & MAINTENANCE PLAN CLIENT: Muchow_Chuck COUNTY: SAUK	Designed MRM Date 12/2022 Drawn Checked Approved	File Name Date 08/14 Sheet 1 of 1

Site 1 completed.

AS-BUILT

CERTIFICATION PHOTOS
PRODUCER Charles Muchow .
CONTRACT NUMBER 745F4823182 .
CIN 1 PRACTICE 580- Streambank & Shoreline Protection .
ON SITE RMB, MM, DS DATE 12/19/23, 1/2/24 .
LOCATION Westfield T11N R4E Section 17 .

Site 1 completed.

AS-BUILT

Site 2 completed.

Site 1 at roughly 2:1 slope with acequate mulch.

CERTIFICATION PHOTOS
PRODUCER Charles Muchow
CONTRACT NUMBER 745F4823182
CIN 1 PRACTICE 580- Streambank & Shoreline Protection
ON SITE RMB, MM, DS DATE 12/19/23, 1/2/24
LOCATION Westfield T11N R4E Section 17

Site 2 completed.

Site 1 completed.

AS-BUILT

Site 3 at a slope of 2:1 with adequate mulch.

Site 3 completed.

CERTIFICATION PHOTOS
PRODUCER Charles Muchow
CONTRACT NUMBER 745F4823182
CIN 1 PRACTICE 580- Streambank & Shoreline Protection
ON SITE RMB, MM, DS DATE 12/19/23, 1/2/24
LOCATION Westfield T11N R4E Section 17

Site 3 completed.

Site 2 at a slope of 2:1 with adequate mulch

AS-BUILT

Site 3 rip rap covered with soil.

Site 4 at a 2:1 slope with adequate mulch.

CERTIFICATION PHOTOS
PRODUCER Charles Muchow .
CONTRACT NUMBER 745F4823182 .
CIN 1 PRACTICE 580- Streambank & Shoreline Protection .
ON SITE RMB, MM, DS DATE 12/19/23, 1/2/24 .
LOCATION Westfield T11N R4E Section 17 .

Site 2 rip rap covered with soil.

Site 4 completed.

Appendix H
Village of Loganville Sauk County Farms Streambank with Habitat and Rock Lined Waterway Trading Plan As Built in Accordance NRCS Practice Standards 580, 468, and 395

APRIL 15, 2024

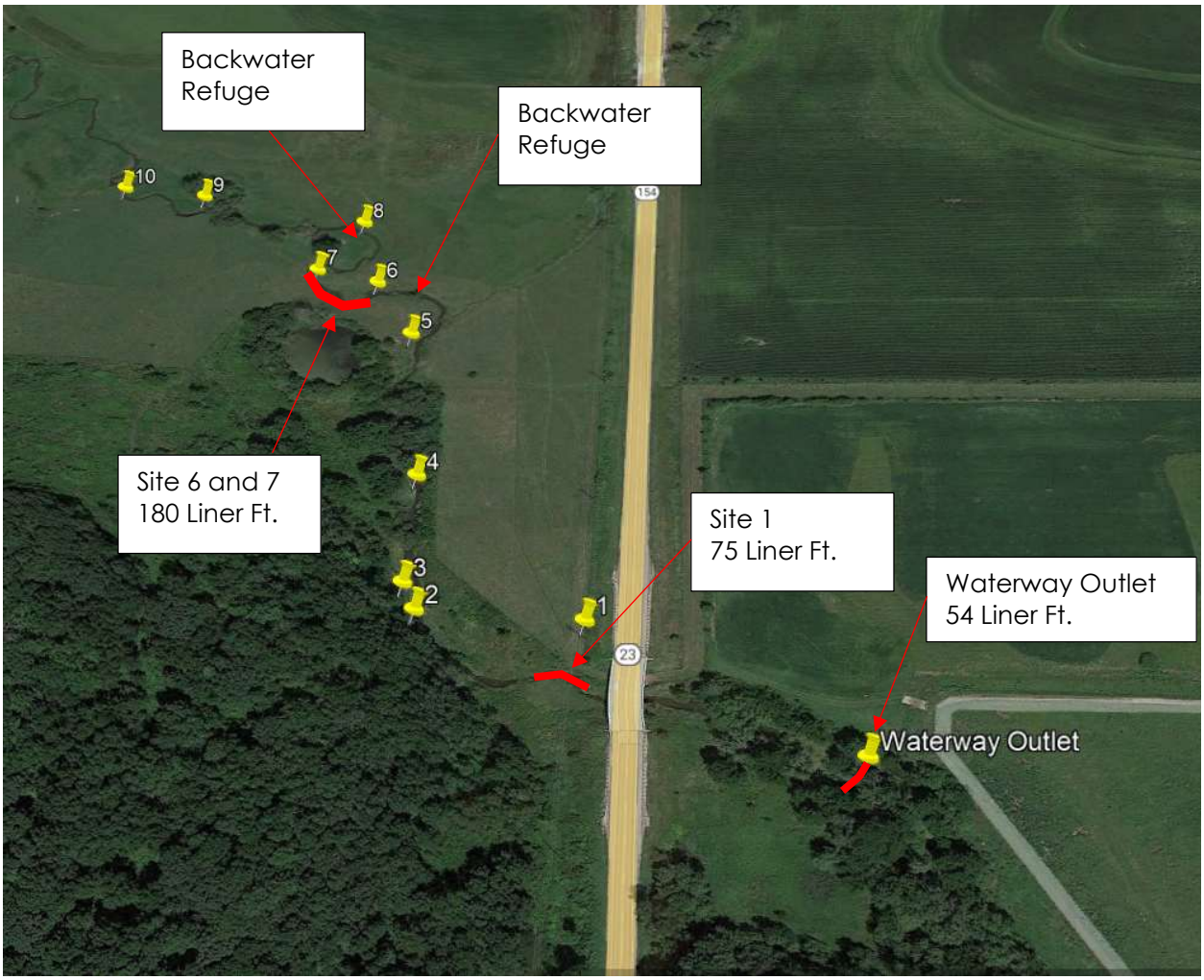
Revised October 24, 2024

Village of Loganville Sauk County Farms Streambank with habitat and Rock Lined Waterway Trading Plan
As Built in accordance NRCS Practice Standards 580, 468 and 395

PREPARED BY MITCHELL MCCARTHY
SAUK COUNTY

Table of Contents

Section 1. Project Site Locations with Associated Soil Samples and Photos



Map of Sample Locations at the Sauk County HCC

Legend :

= Project Locations

= Soil Sample Locations

Site ID: Waterway Outlet (Before)
Latitude: 43.477915
Longitude: -90.012772

Site ID: 1. (Before)
Latitude: 43.478506
Longitude: -90.014198

Site ID: 6. (Before)
Latitude: 43.480426
Longitude: -90.015637

Site ID: 7. (Before)
Latitude: 43.480497
Longitude: -90.016031

Looking upstream near HWY 23 bridge.

Looking at center proposed riprap near pond.

Section 2. Soil Test Results

Soil test data was collected in 2020 by Mitch McCarthy. Samples were taken at 6" below surface, mid-bank, and 6" above bottom of the gully at the Waterway Outlet of the Sauk County Farm. The average total soil phosphorus concentration in units of % P is 0.04 based on lab results.

Soil and Forage Analysis Lab
COLLEGE OF AGRICULTURAL & LIFE SCIENCES
UNIVERSITY OF WISCONSIN-MADISON

2611 Yellowstone Drive
Marshfield WI 54449
715-387-2523
http://uwlab.soils.wisc.edu

Sauk County LRE
505 Broadway
Baraboo WI 53913

Date	5/29/2020
Account #	558967
Report #	1690

Soil Total Mineral Analysis

Sample ID	*P* %
County Farm waterway outlet	0.04

Soil test data was collected in 2020 by Mitch McCarthy. Samples were taken at 6" below surface, mid-bank and 6" above the water edge at the site locations on the streambank at the Sauk County Farm. The average total soil phosphorus concentration in units of % P is 0.037 based on lab results.

Soil and Forage Analysis Lab
COLLEGE OF AGRICULTURAL & LIFE SCIENCES
UNIVERSITY OF WISCONSIN-MADISON

2611 Yellowstone Drive
Marshfield WI 54449
715-387-2523
http://uwlab.soils.wisc.edu

Melissa Schlupp
Sauk County LRE
505 Broadway
Baraboo WI 53913

Date 3/26/2021
Account # 558967
Report # 1541

Soil Total Mineral Analysis

Sample ID	*P* %
SB1	0.04
SB2	0.07
SB3	0.03
SB4	0.03
SB5	0.03
SB6	0.03
SB7	0.04
SB8	0.03
SB9	0.04
SB10	0.04
~~Roeker 4~~	~~0.05~~
~~Roeker 5~~	0.05

Section 3. NRCS Erosion Estimator

Site ID: Waterway Outlet

NRCS Classic Gully Erosion Estimator — Clear Form

Farmer / Cooperator Name: Sauk County Farm Loganville WQT
Tract Number:
Evaluated By:
Evaluation Date:

Field Number	Gully	Total Active Gully Length (Feet) *	Gully Average Top Width (Feet)	Gully Average Bottom Width (Feet)	Gully Average Depth (Feet)	Estimated Total Volume (FT^3) Eroded	Gully Formation: Estimated Number of Years	Soil Texture	Approximate Pounds of Soil per FT^3	Estimated Total Gully Soil Loss (Tons)	Estimated Gully Soil Loss Per Year (Tons/yr)
Waterway Outlet	1	54.0	10.0	2.0	4	1,296.0	5.0	Silty Clay Loam	95	61.6	12.3
	2	0.0	0.0	0.0	0		0.0	Silty Clay Loam	95	#VALUE!	#VALUE!
	3	0.0	0.0	0.0	0		0.0	Silty Clay Loam	95	#VALUE!	#VALUE!
				Total Estimated Annual Gully Soil Loss (Tons/yr):							#VALUE!

Phosphorus reductions for 54 Lin. Ft. Rock lined waterway stabilized = **8.3 lbs of P per year**

Waterway Outlet

Soil Test P	%	0.04
% Organic Matter	%	2
Sediment Loss	tons/yr	12.3
P Loss	pounds/yr	8.3

Gully formation was calculated from comparing 2011 Lidar with 2021 Lidar, historic and current air photos, and landowner interview.

2020 Air Photo

2015 Air Photo

Site ID: Sites 1,6,7

NRCS Streambank Erosion Estimator (Direct Volume Method) — Clear Form

Farmer / Cooperator Name: Sauk County Farm Streambank
Tract Number:
Evaluated By:
Evaluation Date:

Field Number	Eroding Streambank Reach Number	Eroding Bank Length (Feet)	Eroding Bank Height * (Feet)	Area of Eroding Streambank (FT^2)	Lateral Recession Rate (Estimated) (FT / Year)	Estimated Volume (FT^3) Eroded Annually	Soil Texture	Approximate Pounds of Soil per FT^3	Estimated Soil Loss (Tons/Year)
Sauk Co Farm	1	75.0	9.0	675	1.20	810.0	Silty Clay Loam	95	38.5
	6	90.0	10.0	900	1.00	900.0	Silty Clay Loam	95	42.8
	7	90.0	10.0	900	0.98	882.0	Silty Clay Loam	95	41.9
				Total Estimated Annual Streambank Erosion Soil Loss (Tons):					123.1

Phosphorus reductions for 255 Lin. Ft. streambank stabilization = 94 lbs P/year

$$P_L = (L)\,(H)\,(R)\,(P_c)$$

L = Stream bank length in linear feet	75.0
H = Average stream bank height in feet	9.0
R = Annual recession rate of stream bank in feet / year	1.20
P_c = Total soil phosphorus concentration in units of % P	0.04

P_L = Phosphorus loss in lbs P/year	32

Site 1

$$P_L = (L)\,(H)\,(R)\,(P_c)$$

L = Stream bank length in linear feet	90.0
H = Average stream bank height in feet	10.0
R = Annual recession rate of stream bank in feet / year	1.00
P_c = Total soil phosphorus concentration in units of % P	0.03

P_L = Phosphorus loss in lbs P/year	27

Site 6

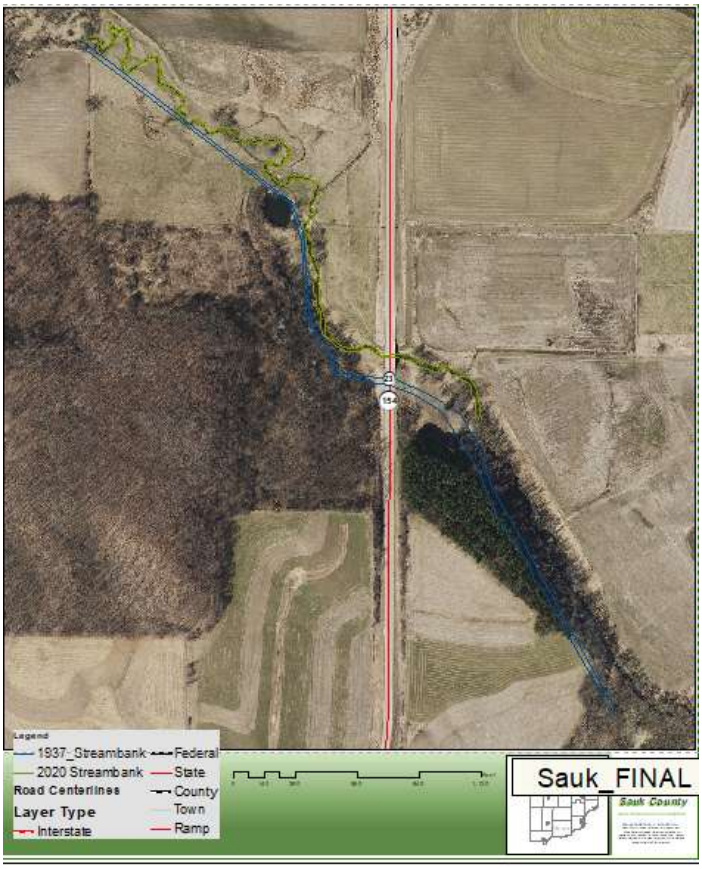
$$P_L = (L)\,(H)\,(R)\,(P_c)$$

L = Stream bank length in linear feet	90.0
H = Average stream bank height in feet	10.0
R = Annual recession rate of stream bank in feet / year	0.98
P_c = Total soil phosphorus concentration in units of % P	0.04

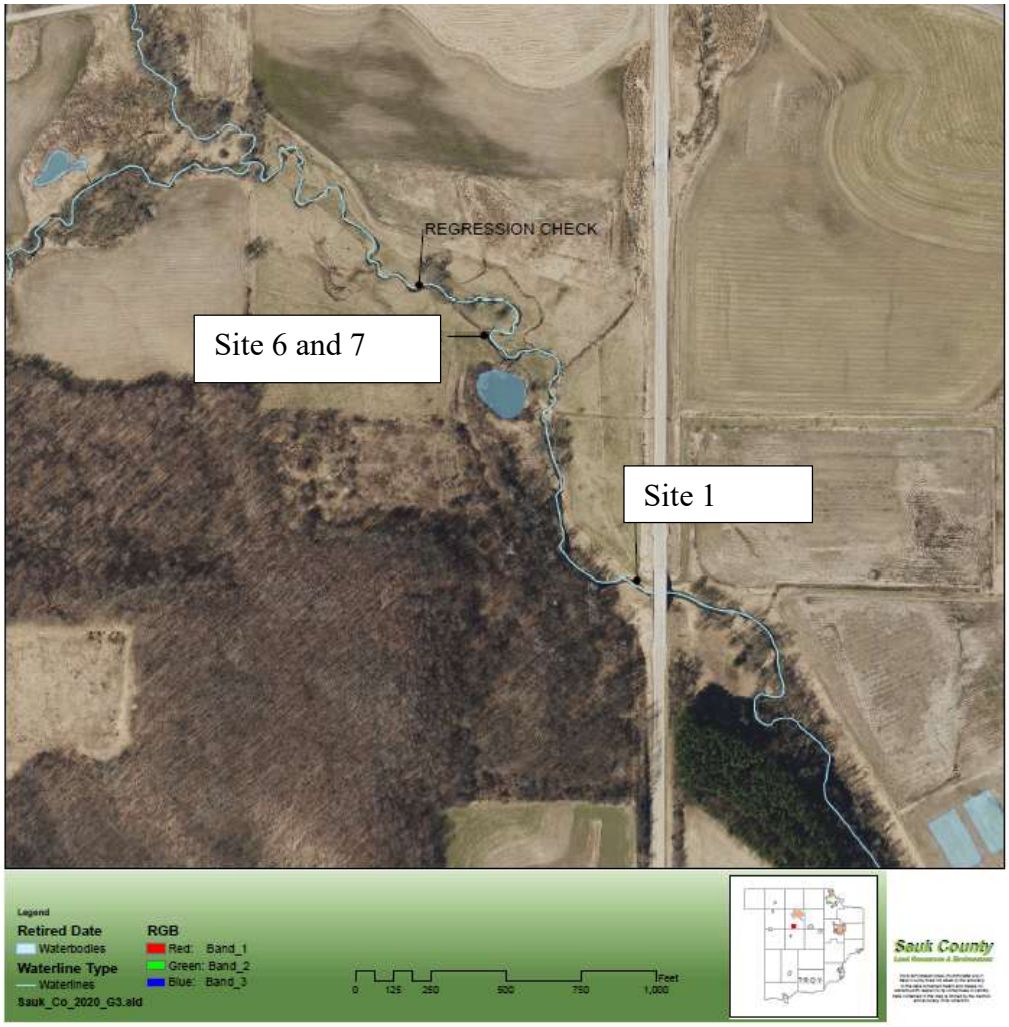
P_L = Phosphorus loss in lbs P/year	35

Site 7

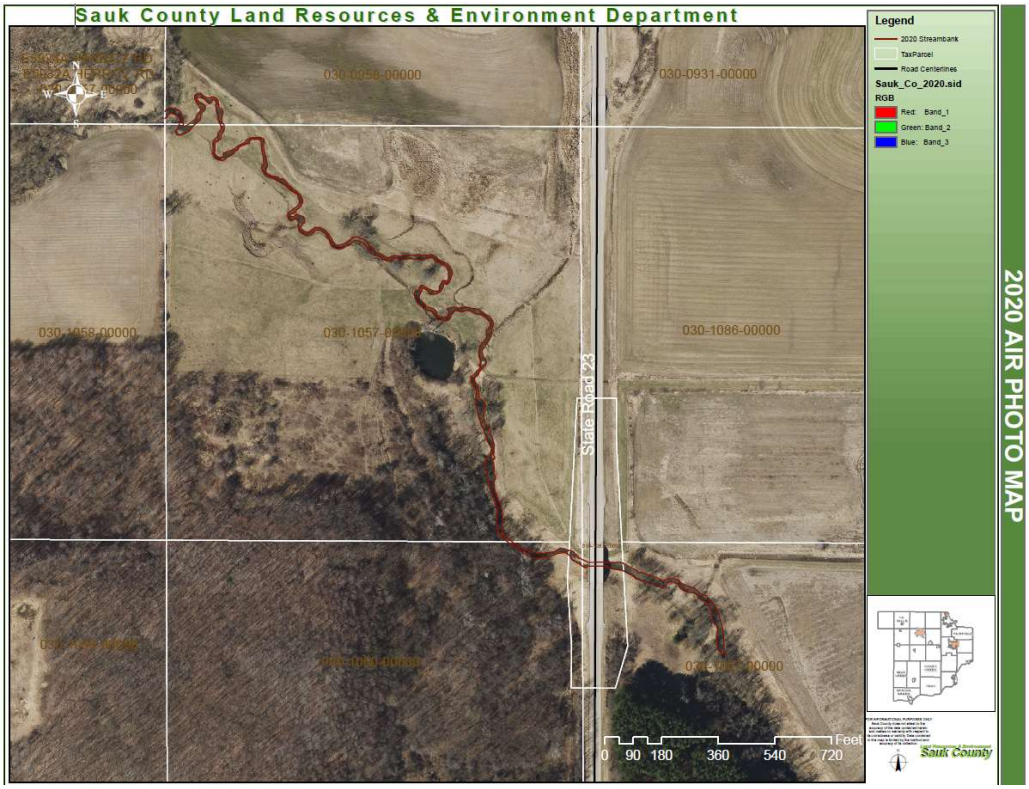
The stream was checked for soil recession using GIS 2011 and 2020 LIDAR. The stream is unnamed tributary to Narrows Creek in Central Sauk County. Movement of these sites can be seen between 2010 and 2020 Lidar and aerial photography. The erosion has been active within the last ten years with movement in some areas of 20-30 feet, most in the areas of proposed rock is 10-15 feet. This stretch was partially straightened in 1937. This can be seen in the 1937 aerial imagery (see attached photos). There are stretches upstream from the site that have minimal sections that have been straightened which show what the channel likely looked like prior to straightening. The 2020 aerial imagery you can see that the stream is trying to find its meander again by cutting into the area near the pond and HWY 23 bridge



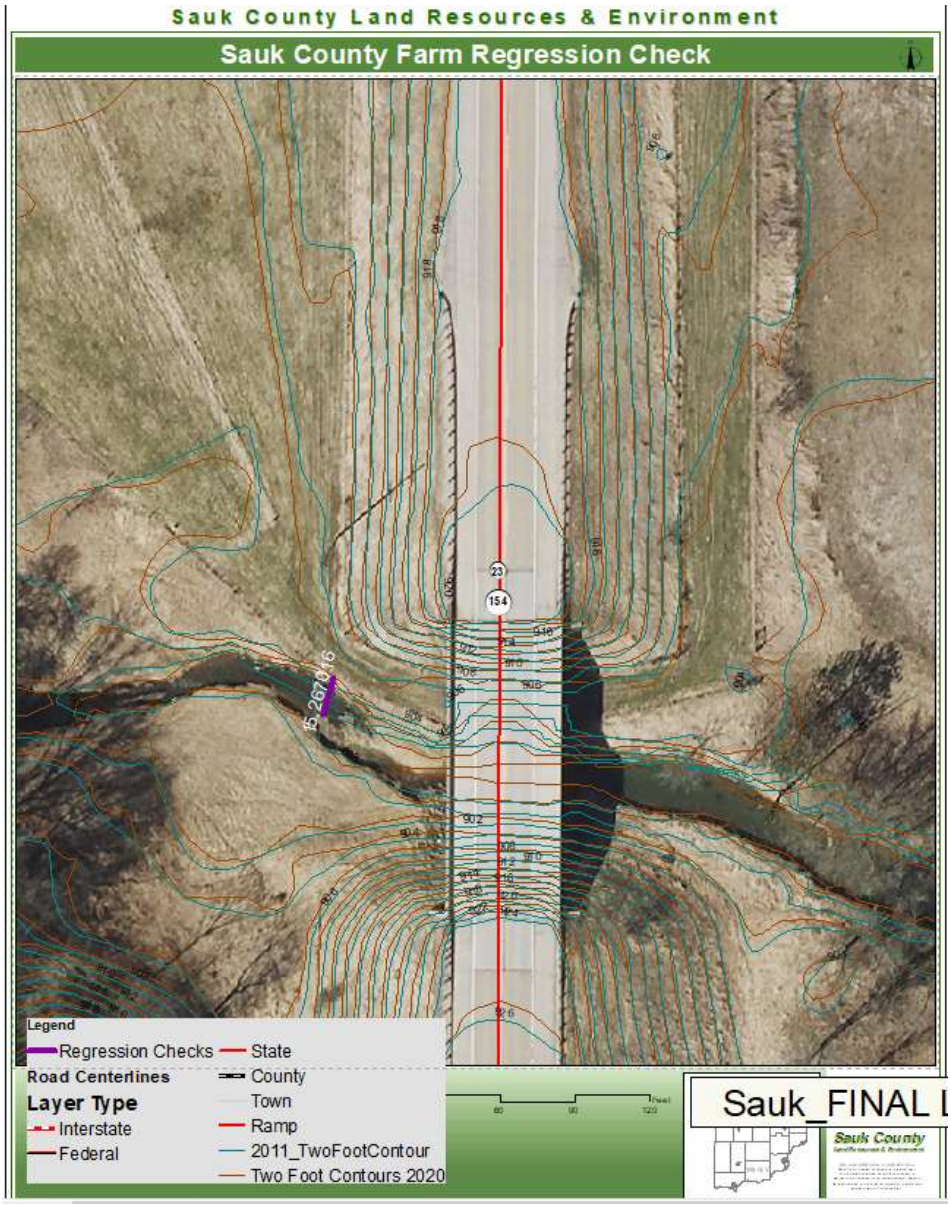
Additionally Sauk County interviewed the landowner. The stream banks are predominantly bare, with vegetative overhang with some exposed slumps. Using the data, the lateral recession rate for Streambank 1 was estimated at 1.2 feet per year, for streambank 6 it was estimated at 1.0 feet per year and for streambank 7 it was estimated at 0.98 feet per year.


REGRESSION CHECK
Site 6 and 7
Site 1
Legend
Retired Date
Waterbodies
Waterline Type
Waterlines
Sauk_Co_2020_G3.sid
RGB
Red: Band_1
Green: Band_2
Blue: Band_3
0
125
250
500
750
1,000
Feet
Sauk County

1937 Aerial Photography of County Farm site



2020 Aerial Photography of Sauk County site



Recession Check Sauk County site

Recession Check Sauk County site

Section 4. As-Built Documentation
Site ID: Waterway Outlet
Note this project meets NRCS technical standard 468

As Built August 2023 MRM

USDA United States Department of Agriculture
Natural Resources Conservation Service

WISCONSIN STANDARD
DRAWING NO. WI-001C 03/16

CONSTRUCTION PLAN

PRACTICE(S) LINED WATERWAY OR OUTLET (468)
LANDOWNER SAUK COUNTY
ADDRESS S4555 COUNTY RD CH REEDSBURG WI
LANDOWNER PHONE NO. 608-355-3245 COUNTY SAUK
TOWNSHIP REEDSBURG T 12 N, R 04 E, Sec. 34
FIELD OFFICE BARABOO TELEPHONE NO. 608-355-3245

DIGGERS HOTLINE

Call 3 Work Days Before You Dig!

Nationwide 811

Toll Free 1-800-242-8511

TDD 1-800-542-2289

Website www.diggershotline.com

N

Not to Scale

LOCATION MAP

NOTICE TO LANDOWNERS AND EXCAVATORS

Any representation made by the USDA, Natural Resources Conservation Service, or the SAUK County LCD, as to the approximate location or nonexistence of above or under ground hazards does not relieve the owner of the property or the excavator that is hired to complete construction, from notifying Diggers Hotline of the pending construction. You will be liable for damages resulting from construction activities.
Call Diggers Hotline! Ticket Number 20233101097

CONSTRUCTION DRAWINGS AND SPECIFICATIONS ACCEPTANCE

I have reviewed and understand the construction plans and specifications and agree to complete the work accordingly. Failure to meet these plans and specifications may jeopardize any continued NRCS technical assistance or program cost sharing applied for. I understand that it is my responsibility to secure all necessary permits and licenses, and to complete the work in accordance with all local, state, and federal laws. Modification of these construction plans or specifications must be approved by the NRCS before installation. I assume all responsibility for negotiations and contract agreements with the construction contractors.

Landowner Signature: [signature] Date: 9/1/2023
Designed by: Mitch McCarthy Date: 5/2020
Checked by: Kelli Weitzel Date: 5/2020
Approved by: Kelli Weitzel Date: 6/8/2020

The installed practices comply with applicable NRCS technical standards and specifications. The "redlined" construction plans (as-built drawings) reflect changes made during construction.

Construction Approved by: Taylor Smagacz Digitally signed by Taylor Smagacz Date: 2023.09.05 07:19:04 -05'00' Date:

Job Approval Class II

Sheet 1 of 9

As built cover page

OPERATIONS AND MAINTENANCE PLAN

Cooperator: SAUK COUNTY_____ Date: 9-1-2023

By: MITCHELL MCCARTHY_____Title: WATERSHED CORRDINATOR

Project Location: S4555 COUNTY RD CH REEDSBURG WI

I agree to the following for the next 10 years.

1. Lined Waterway should not be used as an access road or turn-around and do not cross with equipment.
2. Inspect channel linings and outlets periodically and after runoff events.
3. Ensure geotextile fabric is not undermined to allow water beneath it..
4. Replace weathered or displaced rock riprap to its original grade.
5. Remove all debris that hinders systen operation.
6. Eradicate or otherwise remove all burrowing animals. Immediately repair any damage caused by their activity.
7. Repair any damage to structures, vegetated areas adjacent to structures or any appurtenances.
8. Remove/control noxious weeds and woody vegetation

Cooperator's signature: _____ Date: 9/1/2023

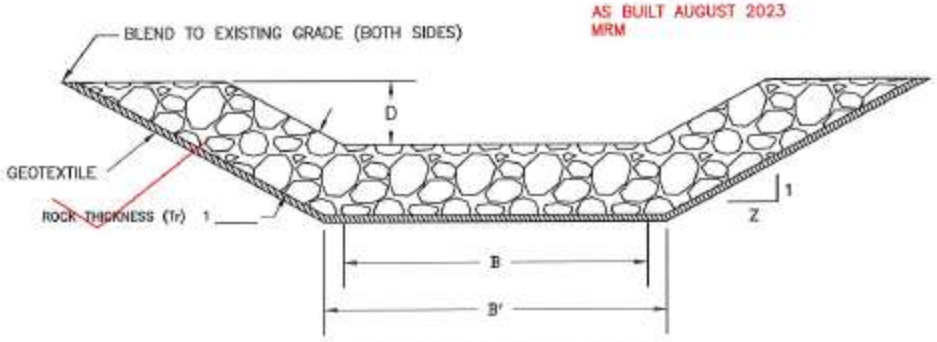
I have discussed the maintenance guidelines with the above cooperator.

Conservationist's signature: _____ Date: 9-1-2023

USDA United States Department of Agriculture Natural Resources Conservation Service	OPERATIONS & MAINTENANCE PLAN CLIENT: SAUK COUNTY COUNTY: SAUK	Designed MRM Date 6-2020 Drawn MRM 6-2020 Checked KN 6-2020 Approved	File Name Date 08/14 Sheet 1 of 1

Lined Waterway O&M

AS BUILT AUGUST 2023
MRM



TRAPEZOIDAL CROSS SECTION

NOTES:

1. PLACE SPOIL WHERE IT WILL NOT INTERFERE WITH SURFACE WATER FLOW INTO THE WATERWAY.
2. DO NOT USE THE WATERWAY FOR A TRAVEL LANE.
3. B IS DESIGN BOTTOM WIDTH. B' IS REQUIRED CONSTRUCTED WIDTH OF FOUNDATION BEFORE PLACEMENT OF GEOTEXTILE AND ROCK.
   B'=B+(Tr/Z) WHERE Tr = THICKNESS OF ROCK IN FEET.

CONSTRUCTION DETAILS

WATERWAY NUMBER	REACH		CHANNEL SLOPE(%)	BOTTOM WIDTH(B) FEET	DEPTH(D) FEET	SIDE SLOPE(Z)	LENGTH FEET
	FROM	TO					
1	0+00	~~0+5054~~	~~6~~ 8.4	~~10~~ 9	~~1.5~~ 1.8	~~2~~ 4	~~50~~ 54

PERCENT PASSING	SIZE[1] (in.)
100	1.5xD50 – 2.0xD50
85	1.3xD50 – 1.8xD50
50	1.0xD50 – 1.5xD50
10	0.8xD50 – 1.3xD50

[1] ROUND UP TO NEAREST INCH.

EXCAVATION (W.C.S.* 2)	JOB
ROCK RIPRAP (W.C.S. 9)	54 ~~43~~ CU. YD.
GEOTEXTILE (W.C.S. 13) CLASS I (NONWOVEN)	238 ~~100~~ SQ. YD.
SEEDING	DISTURBED AREAS

* ESTIMATED TO THE NEAT LINES AND GRADE
• WIS. CONSTRUCTION SPECIFICATION

USDA United States Department of Agriculture
Natural Resources Conservation Service

ROCK RIPRAP LINED WATERWAY

CLIENT: SAUK COUNTY
COUNTY: SAUK

		Date
Designed	MRM	6-2020
Drawn	MRM	6-2020
Checked	KN	6-2020
Approved		

Drawing Name: WI-402E
Date: 07/14
Sheet 7 of 9

Lined Waterway AB cross section

Site ID: Waterway Outlet **After**

Site ID: Waterway Outlet **After**

Site ID: Site 1, 6 & 7.
Streambank Protection. Note this project meets NRCS technical standard 580

USDA United States Department of Agriculture
Natural Resources Conservation Service

WISCONSIN STANDARD
DRAWING NO. WI-001C 03/16

AS-BUILT

CONSTRUCTION PLAN

PRACTICE(S) STREAMBANK & SHORELINE PROTECTION (580)

LANDOWNER SAUK COUNTY FARM

ADDRESS S4655 COUNTY ROAD CH, REEDSBURG, WI 53959

LANDOWNER PHONE NO. (608) 355-3245 COUNTY SAUK

TOWNSHIP REEDSBURG T 12 N, R 04 E/W, Sec. 33

FIELD OFFICE SAUK CO. LRE DEPT. TELEPHONE NO. (608) 355-3245

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Website
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N

Not to Scale

LOCATION MAP

NOTICE TO LANDOWNERS AND EXCAVATORS

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Call Diggers Hotline! Ticket Number 20233101027

CONSTRUCTION DRAWINGS AND SPECIFICATIONS ACCEPTANCE

I have reviewed and understand the construction plans and specifications and agree to complete the work accordingly. Failure to meet these plans and specifications may jeopardize any continued NRCS technical assistance or program cost sharing applied for. I understand that it is my responsibility to secure all necessary permits and licenses, and to complete the work in accordance with all local, state, and federal laws. Modification of these construction plans or specifications must be approved by the NRCS before installation. I assume all responsibility for negotiations and contract agreements with the construction contractors.

Landowner Signature: [signature] Date: 9/11/2023

Designed by: GUS JOHNSON Date: 12/13/2022

Checked by: Taylor Smagacz Date: 12/13/2022

Approved by: Kelli Neitzel Digitally signed by Kelli Neitzel Date: 2022.12.13 16:29:51 -06'00' Date: 12/13/2022

The installed practices comply with applicable NRCS technical standards and specifications. The "redlined" construction plans (as-built drawings) reflect changes made during construction.

Construction Approved by: Taylor Smagacz Digitally signed by Taylor Smagacz Date: 2023.09.11 15:34:55 -05'00' Date:

Job Approval Class IV

Sheet 1 of 13

Streambank Protection As Built Cover Page

USDA United States Department of Agriculture

Natural Resources Conservation Service

OPERATION AND MAINTENANCE PLAN
Streambank and Shoreline Protection (Code 580)

Landowner/Operator: **Sauk County Farm** _____ Date: _____

NRCS Service Center: **N/A** _____ Land Conservation Department: **Sauk Co. LRE Dept.** __

Practice Location: _____ Tract/Field ID: _____
(Lat/Long or UTM Coord, or Sec/TS/R)

Expected Lifespan
This practice was designed and installed to stabilize and protect the banks of streams, constructed channels, or shorelines of lakes and reservoirs. The minimum expected lifespan of this practice is at least 20 years. The specific operation, inspection, and maintenance activities below will ensure safe and satisfactory performance. I agree to the following for the lifespan of the practice:

- Periodically inspect the bank protection at least once each year and immediately after large storm events to determine if repairs are needed.
- Promptly repair or replace damaged components.
- Promptly repair erosion damage that occurs at or near the protected area.
- Remove and control undesirable vegetation such as trees, brush, and invasive species by approved chemical or mechanical means.
- Inspect rock riprap sections for excessive weathering, promptly repairing damaged or displaced rock riprap.
- Maintain vigorous vegetative protection and immediately seed, plant, and mulch damaged areas as needed. This may include fertilization and controlled application of herbicides, if necessary. Periodically mow vegetation to control height.
- Investigate all settlement and cracks in soil to determine cause and promptly repair. Resurface and reseed or replant as needed.
- Promptly remove large debris that may threaten the integrity of the protected section, including immediately upstream and downstream of the treated area. Observe requirements of any Local, State or Federal permits that may be in effect during removal of debris from streams and floodplains.
- Inspect for damage by rodents and burrowing animals, promptly repairing damage and taking appropriate corrective actions to avoid further damage.
- If present, maintain fences to prevent damage to the protected area by vehicles and livestock. If area is unfenced, control access by livestock.
- Immediately repair any damage caused by vandalism, vehicles, or livestock.

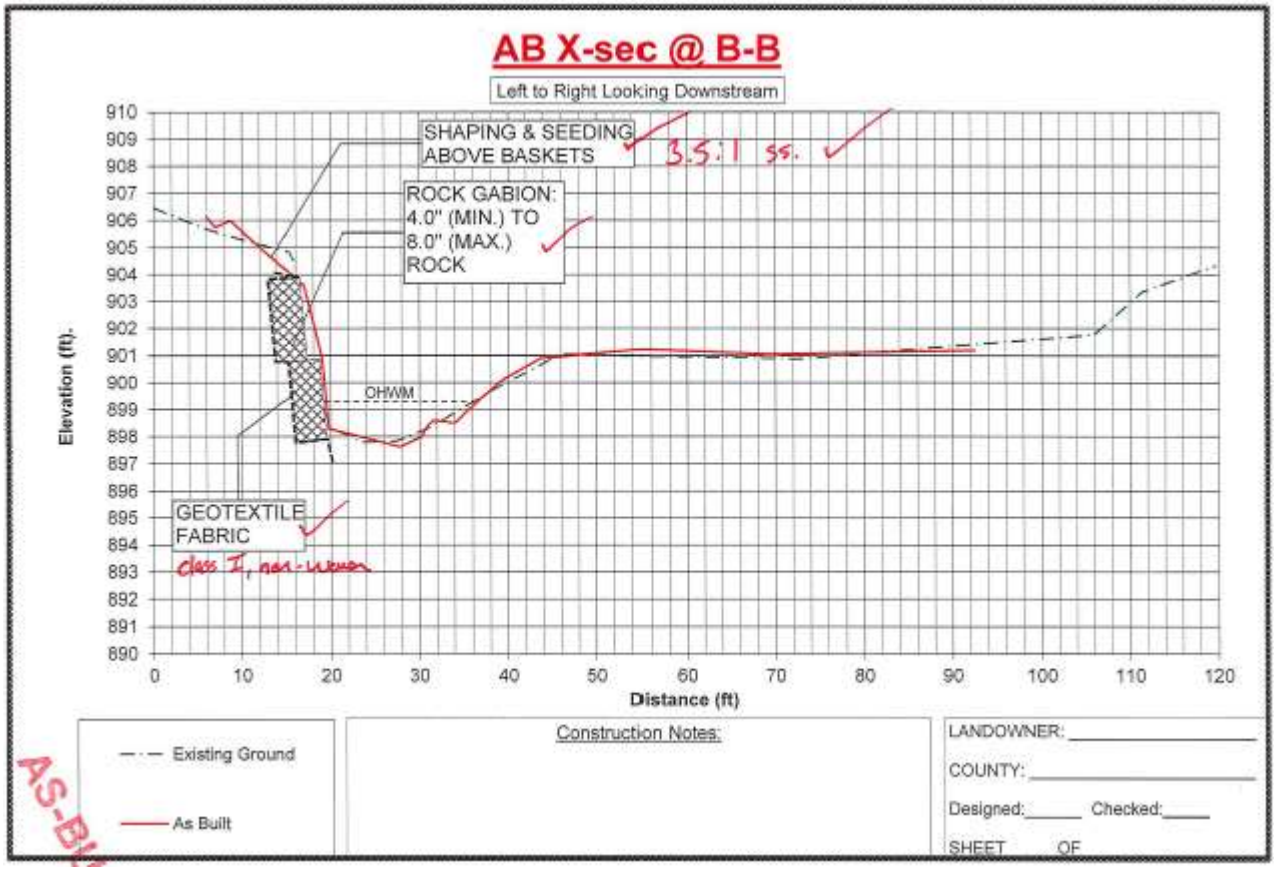
Cooperator's signature: _____ Date: 9/11/2023

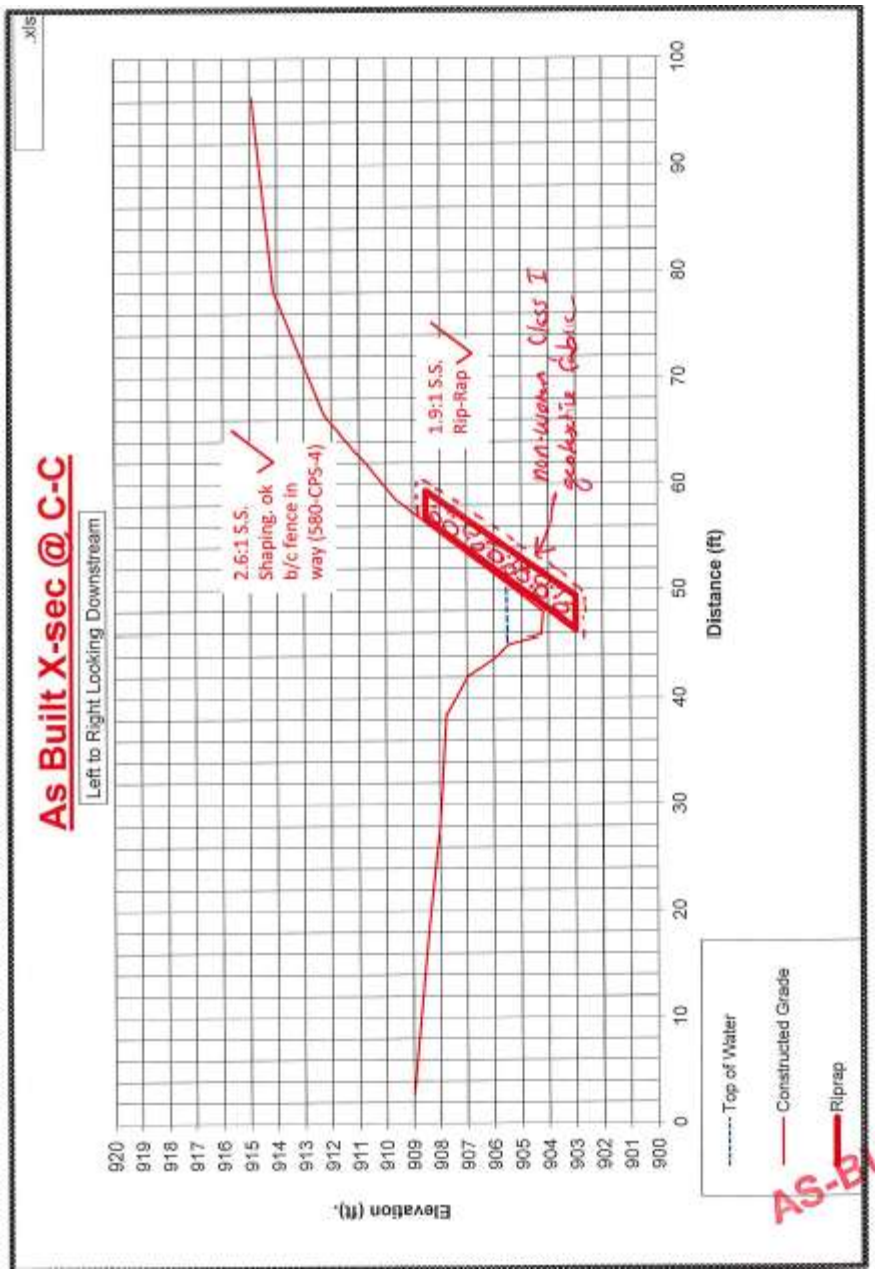
I have discussed the maintenance guidelines with the above cooperator.

Conservationist's signature: _____ Date: 9/8/23

Streambank O&M

Site 1 AB cross section



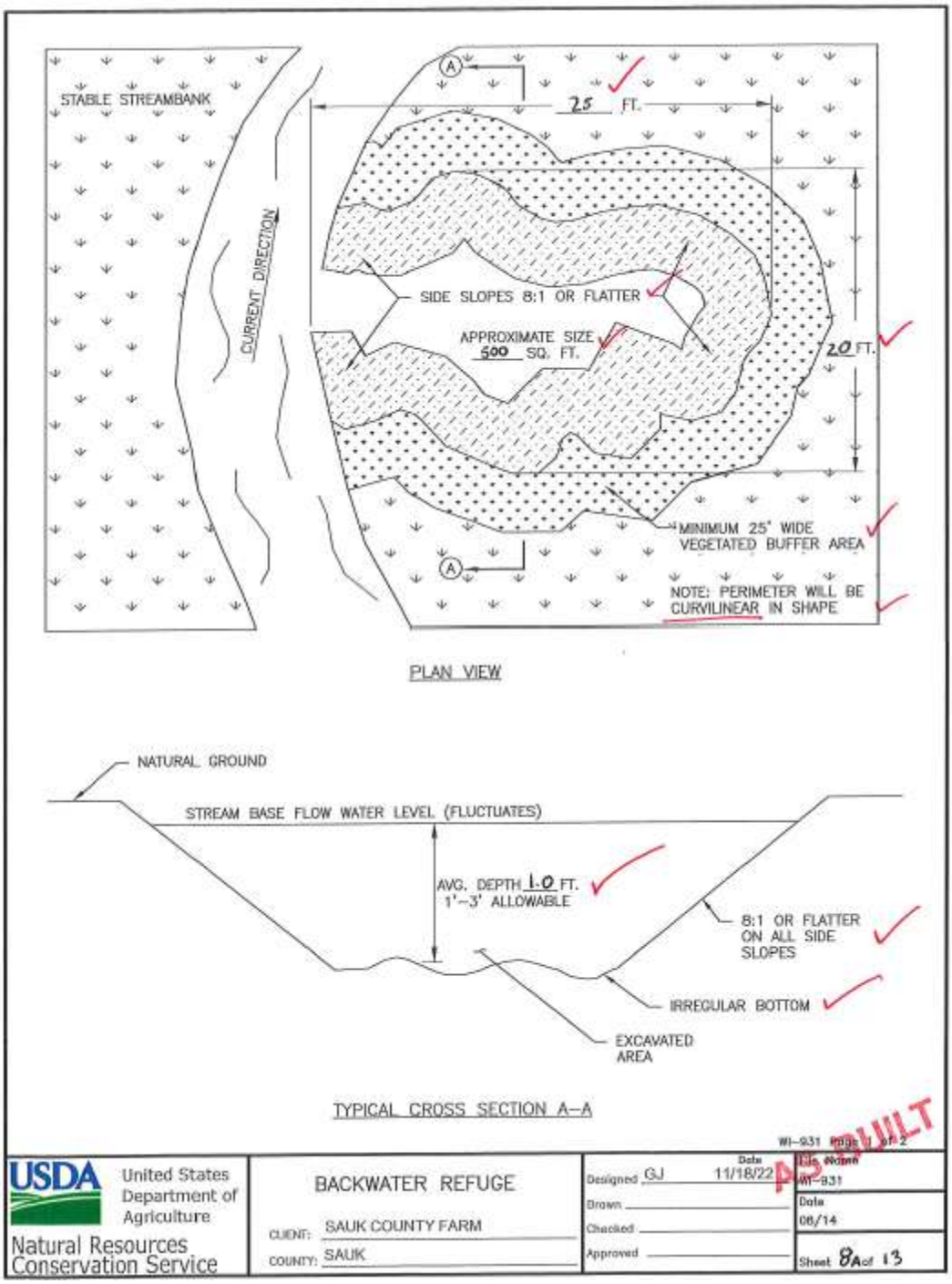


Site 6&7 AB cross section

Site ID Site 1 **(After)**

Site ID: Site 6&7 **(After)**

Site ID: Site 6&7 **(Backwater Refuge Habitat, After)**



Site 6&7 **(Backwater Refuge Habitat, as built)**

Appendix I
WDNR Form 3400-209 (Notice of Water Trade Agreement Termination)

State of Wisconsin
Department of Natural Resources
101 South Webster Street
Madison WI 53707-7921
dnr.wi.gov

Notification of Water Trade Agreement Termination

Form 3400-209 (1/14)

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	Permit Number WI-	Facility Site Number

Facility Address	City	State	ZIP Code

Project Contact Name (if applicable)	Address	City	State	ZIP Code

Project Name

Credit Generator Information

Credit generator type (select all that apply):

- ☐ Permitted Discharge (non-MS4/CAFO)
- ☐ Permitted MS4
- ☐ Permitted CAFO
- ☐ Urban nonpoint source discharge
- ☐ Agricultural nonpoint source discharge
- ☐ Other - Specify:

Trade Agreement number(s) to be terminated including affected land parcel ID(s):

Amount of trading credit being terminated	Effective date of termination

Reason for termination

Is this agreement being updated or replaced?

- ◯ Yes
- ◯ No
- ◯ Unsure

Will this termination result in non-compliance with the effective limit or other permit requirements?

- ◯ Yes; Name: _____
- ◯ No
- ◯ Unsure

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

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