

WATER QUALITY TRADING PLAN

City of Richland Center

January 2024

(Revised October 2024)

TOWN & COUNTRY ENGINEERING, INC.

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EXECUTIVE SUMMARY

Introduction

The City of Richland Center WWTF completed an evaluation of phosphorous compliance alternatives as part of their WPEDS permit in May of 2017. The result of this evaluation led the City of Richland Center to pursue a Multi-Discharger Variance with a Water Quality Trading approach to phosphorus mitigation. This approach targeted the required offset via a watershed plan, incorporating aspects of Water Quality Trading (WQT).

The approach to the MDV was quite successful in generating sustainable pounds of phosphorus watershed credits. As of March 2024, Richland Centers WWTF has decided to exclusively pursue WQT as its WPDES compliance alternative and has formally selected it as its compliance alternative. WDNR form 3400-206 (Notice of Intent to Conduct Water Quality Trading), and WDNR form 3400-208 (WQT Checklist) for this plan are provided in Appendices A.

Point Source and Receiving Waters

Richland Center operates a wastewater treatment plant serving a population of 5,186. The plant provides secondary treatment and nutrient removal to a combination of domestic, commercial, and industrial wastewater.

Treatment units include raw wastewater screening and grit removal, primary clarification, activated sludge secondary treatment with biological phosphorus removal, final clarification, and seasonal disinfection using ultraviolet light. Solids produced during treatment are thickened using a rotary drum, stabilized using anaerobic digestion followed by sludge dewatering through a centrifuge. Final storage occurs in the cake sludge storage building prior to land application to DNR approved farmland. Additional information about the plant can be found the City of Richland Center WWTF publication in Appendix A.

Richland Center built a new WWTF, which went into operation in November 2015. The facility is designed to treat an annual average daily flow of 1.006 MGD and presently receives an average of 0.54 MGD in 2016. The current WWTF discharges into the Pine River on the west bank, 3538 ft downstream of the Twin Bluffs Road bridge. The Pine River is in the Pine River Watershed (HUC-10 0707000511), of the Lower Wisconsin River Basin in Richland County, WI. The Pine River is classified as a Warm Water Sport Fishery with a stream flow of 66 (cfs).

Target Phosphorus Water Quality Trading Credits

Based on phosphorus sampling taken from the Pine River, the WDNR has assigned a future Water Quality Based Effluent Limit (WQBEL) of 0.075 mg/L for this water body. The calculated phosphorus concentrations from the Cities WWTF effluent, beginning in 2017, have measured well above the concentrations for its future WQBEL (Appendix B). The City of Richland Center anticipates using between 200 and 600 lbs. of Water Quality Trading Credits during its upcoming permit term beginning July 2024. Through completion of all trades listed in this plan, Richland Center has amassed a Water Quality credit bank of 738 lbs.

Phosphorus Water Quality Trades

All projects completed for this Water Quality Trading plan are associated with streambank stabilization and protection project designs, completed in the fall of 2018. These designs were competed by the City of Richland Center, working alongside Richland County NRCS. These projects followed the design requirements provided in the United States Department of Agriculture (USDA) NRCS Engineering Field Handbook, in chapters correlating to NRCS-580; Streambank and Shoreline Protection, as well as NRCS-395; Stream Habitat Improvements and Management.

This WQT Plan describes a total of six projects that have been completed to generate Water Quality Trade credits. The first three projects described within this plan are collectively credited with the removal of 287 lbs. of phosphorus from the Pine River annually, and are associated with a typical 3:1 trade ratio assigned to projects that incorporate NRCS-580 technical standards for Streambank and Shoreline Protection. The approach and application of this trade ratio provides the WWTF with 95 lbs. of trading credits.

Projects four through six are associated with the greatest phosphorus reduction for the City's WWTF. These three projects are credited with the removal of 1,359 lbs. of phosphorus from the Pine River annually. They Utilize NRCS-580 and additionally have incorporated NRCS-395 technical standards for Stream Habitat Improvement and Management. This addition to project implementation applies a baseline Uncertainty Factor of (2) to the trade ratio for these projects. An explanation of trade ratios and their application can be found in Section 2.1 of this document. Per WDNR commentary a higher Uncertainty Factor of 3 was utilized for projects 5 and 6. The reasoning behind those decisions is detailed in section 4. Appropriate application of these Trade Ratios produced 643 lbs. of trading credits for projects 4-6. The cumulative phosphorus reduction from the Pine River for these six projects amounts to a total of 1,646 lbs. of phosphorus reduction to the Pine River and trading credits totaling 738 lbs.

Implementation

Implementation for each of these projects occurred in 2018. Documentation for projects 1-3 are established and have been registered with WDNR in accordance with the current WPDES permit and MDV watershed plan. Operations and Maintenance plans for projects 1-6 are in place and are consistent with NRCS technical standards associated with practices 395 and 580. They can be found along with the Water Quality Trade agreements and WDNR Form 3400-207 (Water Quality Practice Registration) for each of the projects 1-6 can be found in each project appendices (Appendices D-I).

This Water Quality Trading Plan is hereby submitted to the WDNR for inclusion in the City of Richland Centers WWTF reissuance of their WPDES. It is expected that newly registered Water Quality Trading Credits will begin generating usable credits with the issuance of the new WPDES permit. This final WQT plan is submitted with clarification, feedback, and correction from the WDNR. The City of Richland Center expects this WQT Plan to be public notice in conjunction with its reissued WPDES.

1. INTRODUCTION

1.1 Selected Phosphorus Compliance Alternative

The current discharge permit for the City of Richland Center Wastewater Treatment Facility (WWTF) is Wisconsin Permit Discharge Elimination System (WPDES) number WI-0020109-09-1 is in Appendix A. It has an effective date of December 1, 2022, and an expiration date of June 30, 2024 (Appendix A).

In 2017 the City of Richland Center weighed their options to satisfy phosphorus restrictions within their WPDES permit through an exploration of phosphorus compliance alternatives, which resulted in Multi Discharger Variance approach that incorporated a Watershed Plan. This Watershed Plan involved working within the watershed to reduce phosphorus loading and arrange registered trades to offset the difference between the Wastewater Treatment Facility (WWTF) discharge of phosphorus and the allowable discharge to comply with a Water Quality-Based Effluent Limit (WQBEL).

The approach to the MDV was quite successful in generating sustainable pounds of phosphorus watershed credits. As of March 2024, Richland Centers WWTF has decided to exclusively pursue WQT and has formally selected WQT as its WPDES compliance alternative. Provided in the appendices of this WQT plan are the Cities signed WDNR forms 3400-206 (Notice of Intent to Conduct Water Quality Trading), and WDNR form 3400-208 (WQT Checklist) for this plan can be found in Appendix A.

1.2 Community Background

Richland Center is a city in Richland County, Wisconsin, United States. The city also serves as the county seat. The population of the City of Richland has a current population estimate of 5,186. The State of Wisconsin Department of Administration provides a subtle growth projection, with an increase to 5,390 by 2040.

1.3 Existing Wastewater Facilities

The City of Richland Center WWTF is located at 29847 CTY Road TB and straddles the townships of Buena Vista and Orion. Construction of a new wastewater treatment facility began in 2014 and was completed in the winter of 2015. It's been designed and constructed to produce a high-quality effluent for discharge to the Pine River, and to maximize operational flexibility and energy conservation.

Current facility treatment processes include wastewater transmission through a seven-mile-long force-main, preliminary treatment including fine screening and grit removal, primary settling, secondary biological treatment including enhanced biological phosphorus removal, ultraviolet (UV) disinfection, anaerobic digestion, and biosolids dewatering and natural drying to produce a spreadable fertilizer/soil additive. Further details can be found in the WWTF permit fact sheet (Appendix A).

1.4 Richland Center WWTF Effluent Discharge Summary

Table 1-4 is a summary of the annual average effluent discharges from the Richland Center WWTF from 2017-2023.

Table 1-1 Summary of Annual Average Effluent Discharges

	Max Year	Average Year	Min Year	Max Month	Min Month
Flow (MGD)	0.624	0.529	0.456	0.745	0.394
BOD (lbs./day)	18	138	10	33	7
Suspended Solids (lbs./day)	24.8	12.7	8.6	95.8	5.5
Ammonia Nitrogen (lbs./day)	1.7	0.8	0.2	9.2	0.1
Phosphorus (mg/L)	1.97	0.62	0.21	3.95	0.11
Phosphorus (lbs./day)	6.2	2.0	0.60	14.1	0.24

1.5 Applicable Effluent Limits

The City of Richland Center's current WPDES permit includes an interim phosphorus limit of 0.80 mg/L on a monthly average, and a future WQBEL of 0.075 (mg/L) six-month seasonal average limit, with averaging periods of May through October and November through April, and a 0.33 mg/L monthly average limit.

1.6 Watershed Description, Condition and Project Area

The City of Richland Center WWTF discharges to the lower portion of the Pine River watershed. The HUC 12 and HUC 10 watershed to which they discharge is 070700051108 and 0707000511, respectively. The watershed upstream of the WWTF outfall is approximately 307.6 square miles and is made up of primarily agricultural lands, forest/scrub, grassland/pasture/wetland, and the City of Richland Center. According to the DNR's Pollutant Load Ratio Estimation Tool – Lite (PRESTO-Lite), the average annual phosphorus load is estimated to be approximately 300,000 pounds per year (Appendix B). Maps of HUC 10, and HUC 12 watersheds associated with the Richland Center WWTF are included in Appendix B. The City intends to complete future watershed projects for their current permit within the upstream HUC 10 area. Projects identified below are located within the #070700051102, #070700051002, and #070700051107 HUC 12 watersheds. Specific locations of watershed projects are listed below in the Watershed Project Descriptions. A map of watersheds #1102, #1002, and #1107 showing the general location of projects completed below is included in Appendix B.

The Pine River is listed as 303(d), for Impaired Rivers and Streams, on the WDNR Surface Water Viewer. It has a category rating of 5P for instream Phosphorus Index concentrations exceeding 0.075 mg/L of phosphorus (Appendix B). This designation begins south of Richland County Highway AA and follows south to where it discharges into the Wisconsin River. The total length of this designation is approximately 22 miles (Appendix B).

1.7 Habitat Considerations

Total Phosphorus (TP) levels of the Pine River regularly and consistently measure above the instream threshold of 0.075 (mg/L) and is listed as "poor" for condition. Instream sampling data (Appendix B), taken upstream from the WWTF outfall location supports the addition of stream habitat improvements. Upon NRCS inspection it was determined that the stream section

encompassing projects 4-6 was lacking in the presence of sufficient instream habitat. This lack of habitat quantitatively correlated to the degree of erosion that was occurring on this section of the Pine River.

Preventing soil from erosion prevents the phosphorus it contains from entering the stream. This is how the addition of instream habitat helps to prevent phosphorus from entering the water system and enhances the value of a streambank project for water quality trading.

The methodology behind streambank improvements is founded in preventing and correcting the effect of stream flow on streambank erosion. Aside from generating greater aquatic life habitat, the inclusion of stream habitat improvements serves to provide further protection within the stream preventing streambank erosion. The addition of physical features such as backwater hooks, cross channel rock weirs, log and rock deflectors and root wads are effective in focusing and redirecting the flow of water, directing the highest flow and volume to the channel of the stream, and away from the bank.

These habitat adjustments not only provide additional habitat for aquatic species, but also serve to control water flow and effectively reduce channel effects on streambank erosion, reducing subsequent phosphorus loading. Diagrams, installed by NRCS for each type of habitat improvement can be found in each associated project (Appendices G-I).

2. WATER QUALITY TRADING BACKGROUND

This chapter provides background on WQT, including calculation of the target number of WQT credits, pollution reduction activities that can result in WQT credits, trade ratios, and a description of additional environmental benefits of WQT. Subsequent chapters will describe the City of Richland Centers facilities and the associated phosphorus WQT strategy.

Wisconsin Statutes Section 283.84 and Chapter NR 217 of the Wisconsin Administrative Code allows for alternative compliance through two watershed-based compliance alternatives – WQT and watershed adaptive management (WAM). Both alternatives involve working outside of the service boundaries of the WWTF (and potentially the municipal limits) to reduce phosphorus discharges to the receiving water. This reduction is utilized to offset the mass of phosphorus discharged by the WWTF. Water quality trading credits must be generated before they can be used to offset a permit limit. In other words, pollution reduction practices must be established and effective before a reduced permit limit takes effect.

2.1 Calculation of Target Water Quality Trading Credits

The target amount of WQT credits can be calculated by comparing the amount of phosphorus discharged by the WWTF to the amount allowed by the WQBEL.

A reduction in WWTF effluent concentrations through additional phosphorus treatment could significantly reduce the amount of WQT credits required. However, the cost of additional phosphorus removal at the WWTF would need to be balanced against the cost of WQT. Once WQT has been selected as the phosphorus compliance alternative, a municipality generally commits itself to achieving the necessary reductions primarily through WQT, but additional phosphorus treatment can be used as necessary, if the necessary number of WQT credits cannot be obtained.

2.2 Pollution Reduction Activities to Generate Trading Credit

Water quality trades can occur on either a point-to-point or nonpoint-to-point basis, as described below.

2.2.1 Point-to-Point Source Water Quality Trading

Point-to-point water quality trading involves trading credits with other point sources within the same watershed as the discharger who has selected WQT as a phosphorus compliance alternative. The point source with whom trading is to occur must have excess water quality credits to trade.

2.2.2 Nonpoint-to-Point Source Water Quality Trading

Nonpoint-to-point water quality trading involves trading credits with nonpoint sources within the same watershed as the discharger who has selected WQT as a phosphorus compliance alternative.

Nonpoint source management practices that can generate trading water quality credits include agricultural practices, urban practices, and lake/reservoir dredging or wetland restoration. Agricultural practices include whole field management/nutrient management planning, planting of companion crops, changes in tilling options, buffer strips and conservation easements, barnyard improvements, and streambank stabilization. Urban practices include stormwater infiltration

structures, sedimentation devices, and detention ponds. Dredging is intended to remove in-situ sediment and nutrients to the original or native soil layer and may be done in concert with water quality treatment (e.g., use of alum as a coagulant) and restoration of lake/reservoir aquatic habitat or installation of streambank buffer strips.

The credits generated by the practice are determined by using modeling to predict the difference in phosphorus load between the improved condition and the baseline prior to improvements.

2.3 Trade Ratios

When compared to treatment-based WPDES compliance alternatives, Water Quality Trading has a higher level of uncertainty associated with it. Obtaining the required credits for WQT generally requires partnering with several landowners in the watershed and a significant effort by municipalities to identify practices, broker agreements, negotiate cost sharing, inspect, and verify implementation, and prepare annual reports to the Wisconsin DNR. A municipality pursuing WQT as a phosphorus compliance alternative would be ultimately responsible for obtaining the required credits and must devote the necessary staff and resources required to support these efforts and to meet the timeline required for permit compliance.

Given inherent uncertainties with WQT, trade ratios must be applied to each WQT project to provide certainty that water quality is being improved. A trade ratio is like a multiplier, such that a trade ratio of 3:1 means three pounds of pollution reduction is needed to take one pound of WQT credit.

Trade ratios can vary between 1 and 5 (or higher) depending upon the type of practice installed, location within the watershed, and type of trade being performed. Point-to-point trades generally have the lowest trade ratios (a minimum of 1.1) while nonpoint-to-point trades have higher trade ratios (1.2 to 5). Further, trade ratios are most favorable for phosphorus credits generated upstream of the WWTF discharge and within the same HUC-12 subwatershed, with pollution reduction practices that have a high probability of success.

Trade ratios are calculated for each WQT project, and are based on five factors: delivery, downstream, equivalence, uncertainty, and habitat adjustment. The trade ratio for a particular WQT project is calculated by adding the delivery, downstream, equivalence and uncertainty factors, while subtracting the habitat adjustment factor.

Trade Ratio= (Delivery Factor + Downstream Trading Factor + Equivalence Factor + Uncertainty Factor)

2.3.1 Delivery Factor

A delivery factor is required if trading partners are in different HUC-12 subwatersheds to account for the fate and transport of the traded pollutant in the surface water. The delivery factor would be zero for trades within the same HUC-12 subwatershed, except if there is a lake or reservoir between the credit generator and user. If a delivery factor is necessary, it would be calculated during the Total Maximum Daily Load (TMDL) development process or using the computer model known as SPARROW (Spatially Referenced Regressions On Watershed Attributes).

A TMDL is in essence a pollution “budget” for a water body or watershed that establishes reductions needed from each pollutant source to meet water quality goals. Information on Wisconsin’s TMDL development process is available online at https://dnr.wi.gov/topic/TMDLs/.

SPARROW is a USGS model that relates in-stream water quality measurements to spatially referenced characteristics of watersheds, including contaminant sources and factors influencing terrestrial and aquatic transport. SPARROW empirically estimates the origin and fate of contaminants in river networks and quantifies uncertainties in model predictions. Additional information concerning SPARROW can be found (Appendix) SPARROW is available online at http://water.usgs.gov/nawqa/sparrow/ and the Great Lakes, Ohio, Upper Mississippi, Red River Basins (MRB3) SPARROW Mapper is accessible online at https://wim.usgs.gov/sparrowmrb3/sparrowmrb3mapper.html# The output from SPARROW is the SPARROW number. A delivery factor can be calculated using the following formula: (Delivery Factor) = [1 / (SPARROW #)] – 1X

2.3.2 Downstream Factor

A downstream factor is necessary if the credit generator is downstream of the credit user. The downstream factor 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, and ranges from 0.1 to 0.8. If the credit generator is upstream of the credit user, then the downstream factor is zero.

2.3.3 Equivalence Factor

An equivalence factor is not needed (or zero) for phosphorus water quality trades.

2.3.4 Uncertainty Factor

An uncertainty factor accounts for uncertainties associated with nonpoint source trades that originate from climatic variability, potential inaccuracies in field testing or modeling of the amount of pollutant controlled by a management practice, and the reliability of the management practice to perform. A list of example uncertainty factors are shown in Table 2-1.

Table 2-1 Example Trade Ratio Uncertainty Factors

Pollution Reduction Activities	Uncertainty Factor
Agricultural Management Practices	
Whole Field Management	1
Companion Crops	1
Conservation Easement	1
Nutrient Management	2 - 3
Production Area Diversion or Roof Runoff Structure	2
Vegetated Treatment System or Constructed Wetland	4
Sediment Control Basin	2
Streambank Stabilization & Shoreline Protection	2 - 3
Dredging, Lake Treatment and Wetland Restoration	
Dredging Lakes or Reservoirs	2 - 3
Dredging Rivers or Streams	1 - 3
Wetland Restoration	1
Urban Practices	
Infiltration, Stormwater Sedimentation Devices, Detention Ponds	2

2.3.5 Habitat Adjustment Factor

A habitat adjustment factor is only used for aquatic habitat restoration efforts that meet applicable DNR and NRCS technical standards. If no aquatic habitat restoration is done as part of a trade, this factor is zero.

2.4 Environmental Benefits

Water quality trading offers greater environmental benefit through nonpoint source reductions as compared to additional wastewater treatment. Water quality trading results in greater theoretical reduction of phosphorus loadings within the watershed, and therefore, greater potential environmental benefit. In addition, nonpoint source phosphorus reduction activities have the potential to improve the efficiency of the agricultural practices within the watershed including reducing fertilizer application rates and energy required to create, transport, and apply the fertilizer.

3. TARGET PHOSPHORUS WATER QUALITY TRADING CREDITS

The amount of phosphorus WQT credits required can be calculated by comparing the amount of phosphorus discharged by a WWTF to the amount allowed by the WQBEL.

3.1 Richland Center WWTF's Current Phosphorus Effluent Discharge

Table 3-1 Monthly Average Effluent Flowrate

Monthly Averge Effluent Flowrate (MGD)							
MONTH	YEAR						
	2017	2018	2019	2020	2021	2022	2023
January	0.57	0.52	0.56	0.53	0.43	0.45	0.47
February	0.57	0.50	0.56	0.51	0.44	0.49	0.45
March	0.57	0.48	0.66	0.61	0.47	0.49	0.47
April	0.64	0.51	0.60	0.57	0.44	0.49	0.49
May	0.65	0.66	0.66	0.50	0.46	0.47	0.48
June	0.61	0.54	0.63	0.56	0.45	0.47	0.48
July	0.73	0.50	0.74	0.56	0.46	0.49	0.48
August	0.62	0.49	0.60	0.48	0.49	0.52	0.42
September	0.62	0.63	0.60	1.01	0.47	0.49	0.46
October	0.55	0.72	0.69	0.50	0.45	0.45	0.55
November	0.56	0.57	0.59	0.48	0.44	0.44	0.43
December	0.48	0.54	0.57	0.45	0.45	0.47	0.39
Annual Average	**0.60**	**0.56**	**0.62**	**0.56**	**0.45**	**0.48**	**0.47**
Max	0.73	0.72	0.74	1.01	0.49	0.52	0.55
Min	0.48	0.48	0.56	0.45	0.43	0.44	0.39

Table 3-1 depicts monthly average effluent flowrate from the City of Richland Center WWTF. Richland Center WWTF had an average monthly flow rate of 0.53 (MGD) over the period of January 2017 through December 2023.

Table 3-2 Monthly Average Effluent Phosphorus Concentration

Monthly Average Effluent Phosphorus Concentration (mg/L)							
MONTH	YEAR						
	2017	2018	2019	2020	2021	2022	2023
January	0.28	0.34	0.21	0.17	0.71	0.24	0.14
February	0.24	0.54	0.22	0.25	0.13	0.15	0.23
March	0.21	0.44	0.29	0.56	0.28	0.23	0.27
April	0.36	0.41	0.28	0.65	0.19	0.15	0.30
May	0.80	0.33	0.54	1.49	0.23	0.20	0.20
June	0.69	0.31	0.47	3.89	0.78	0.17	0.12
July	1.89	0.25	0.51	3.95	0.73	0.17	0.56
August	2.13	0.15	0.82	2.39	0.37	0.31	0.18
September	0.14	0.30	0.36	1.97	0.56	0.44	0.12
October	0.61	0.41	0.18	2.50	0.31	0.20	0.15
November	1.41	0.52	0.22	2.53	0.11	0.18	0.14
December	0.25	1.18	0.25	3.17	0.14	0.19	0.11
Annual Average	**0.75**	**0.43**	**0.36**	**1.96**	**0.38**	**0.22**	**0.21**
Max	2.13	1.18	0.82	3.95	0.78	0.44	0.56
Min	0.14	0.15	0.18	0.17	0.11	0.15	0.11

Table 3-2 depicts the monthly average phosphorus effluent concentrations from the Richland Center WWTF for January 2017 through December 2023. The City of Richland Centers WWTF had an average discharge concentration of 0.62 (mg/L) of phosphorus over the period of January 2017 through December 2023. 2020 included a biological upset at the WWTF, resulting in abnormal values. The following years, 2021 through 2023, reflect significant facility optimization to reduce phosphorus discharge.

Table 3-3 Monthly Average Effluent Phosphorus Pounds

Monthly Average Effluent Phosphorus Loading (ppd)							
MONTH	YEAR						
	2017	2018	2019	2020	2021	2022	2023
January	1.35	1.47	0.98	0.75	2.53	0.90	0.56
February	1.12	2.27	1.01	1.04	0.47	0.60	0.87
March	0.99	1.78	1.61	2.84	1.09	0.94	1.06
April	1.93	1.75	1.40	3.08	0.67	0.60	1.22
May	4.39	1.83	3.00	6.25	0.88	0.76	0.81
June	3.48	1.41	2.48	18.26	2.94	0.65	0.47
July	11.43	1.04	3.17	18.45	2.79	0.69	2.22
August	11.09	0.63	4.14	9.61	1.51	1.36	0.65
September	0.70	1.59	1.79	16.63	2.16	1.80	0.48
October	2.79	2.43	1.05	10.42	1.16	0.74	0.70
November	6.60	2.50	1.09	10.05	0.39	0.68	0.51
December	0.99	5.31	1.20	11.87	0.51	0.74	0.35
Annual Average	**3.91**	**2.00**	**1.91**	**9.10**	**1.43**	**0.87**	**0.87**
Max	11.43	5.31	4.14	18.45	2.94	1.80	2.22
Min	0.70	0.63	0.98	0.75	0.39	0.60	0.47

Table 3-3 depicts the monthly average phosphorus effluent concentrations from the Richland Center WWTF for January 2017 through December 2023. The City of Richland Center WWTF discharged an average of 2.87 pounds per day of phosphorus over the period of January 2017 – December 2023. 2020 included a biological upset at the WWTF, resulting in abnormal values. The following years, 2021 through 2023, reflect significant facility optimization to reduce phosphorus discharge.

3.2 Amount of Phosphorus Discharge Allowed by WQBEL

The future WQBEL will be 0.075 (mg/L) six-month seasonal average limit, with averaging periods of May through October and November through April, and a 0.33 mg/L monthly average limit. Therefore, 0.075 mg/L will be used as the future phosphorus WQBEL for the City of Richland Center WWTF. It is expected that with the transition to Water Quality Trading, averaging periods for trading would be January-June and July-December.

3.3 Calculation of Target Phosphorus Water Quality Trading Credits

To determine the pounds of Water Quality Trading Credits needed by the City of Richland Center WWTF, a calculated “Needed Offset” value is required. In phosphorus credit trading, the offset, or difference, is calculated between the amount of phosphorus generated and the amount of phosphorus allowed by their WQBEL. To do this, six-month averages of Concentration (mg/L) and Flow (MGD) were used to calculate the average annual pounds of phosphorus the WWTF generated. The offset is calculated by applying the same flow rates for those years and multiplying them against the new WQBEL for phosphorus. By analyzing the difference in pounds of phosphorous between them, an estimate of pounds in Water Quality Trading Credits can be generated.

The years 2017 and 2020 reflected an unoptimized condition at the Richland Center WWTF and are therefore not going to be used as benchmarking for Water Quality Trading needs. These years are associated with optimization for a new WWTF (2017) and biological upset (2020) and are not reflective of typical facility operation.

Based on existence of anomalous data, the threshold for necessary WQT credits has been made only using the most consistent data, for years 2018-2019, and 2021-2023. From these data it has been determined that an average offset of approximately 200-600 pounds is needed by Richland Center WWTF to meet their future WQBEL.

Design Flow 1.006 (MGD)		Six Month Total (Lbs.)	Added Annual (Lbs)	New WQBEL (0.075 mg/L)		6 Month Offset	Added Annual Offset (Lbs.)
				6 Month (Lbs.)	Added Annual (Lbs.)		
2017	Jan-June	394	1384	68	136	326	
	July-Dec	990		68		922	1248
	Jan-June	321	734	61	127	260	
	July-Dec	413		66		347	606
2019	Jan-June	310	688	69	142	241	
	July-Dec	378		73		305	546
2020	Jan-June	980	3425	62	129	918	
	July-Dec	2445		67		2378	3296
2021	Jan-June	264	521	51	104	213	
	July-Dec	257		53		204	417
2022	Jan-June	135	318	54	109	82	
	July-Dec	182		55		127	209
2023	Jan-June	150	289	54	99	96	
	July-Dec	139		45		94	191
Cumulative 6-month averages.		255	510	58	116	466	**394**

Table 3-4 WQT Threshold

Table 3-4 tabulates the associated calculations used to determine Richland Centers Credit offset needs. Greyed out years of 2017 and 2020 were not considered in this evaluation.

738 pounds of phosphorus credits have been generated through project implementation for this Water Quality Trading Plan, and approximately 400 lbs. of credit will be needed annually. A typical safety factor is required for trading when setting a credit goal. The completion of projects has produced an approximate excess of 338 lbs. to act as a buffer for unforeseen WWTF circumstances. It also places the city in a unique position to potentially sell these credits moving forward.

4. WATER QUALITY TRADES

4.1 Project 1: Mike Fry

The location of this streambank restoration project occurred within the Pine River watershed, was identified within the Town of Ithaca, along Willow Creek, south and east of Willow Creek Road. This section of Willow Creek flows under Willow Creek Road in the Town of Ithica, with project extents including approximately 400 feet of shoreline downstream the Willow Creek Road bridge on the Michael Fry property. The address of the project location is 29275 Willow Creek Road, Richland Center, Wisconsin 53581.

The project includes one property (parcel number 01617316000) owned by Michael Fry, who has granted access to the project site. This project has been fully implemented and has been generating approved Water Quality Trading Credits for the previous WPDES phosphorus MDV Watershed Plan. A full compilation of the project location, photos, and supporting documents are included as Appendix D. A signed WQT agreement exists on file with Richland Center.



A site evaluation occurred on February 5th, 2018, by Ken Anderson, Land and Water Technician of the Richland County Land Conservation, the portion of streambank along the south shore of Willow Creek was 400 feet long with banks 12 feet tall. The soil texture is classified as loamy sand, and lateral recession was occurring in sheets at approximately 1 foot per year. Stratified soil sampling was completed for this project site. A three-quarter inch steel soil probe was used to a depth of approximately 7 inches. A total of nine samples were collected from this site. Three samples were collected from the top of bank, three from the midpoint and three from above the waterline.

The land use around the project location is classified as light residential and cropland. Stratified soil samples were collected across the 400 feet of interest and analyzed by Rock River Laboratory, Inc. for various parameters including total phosphorus, which resulted in a

concentration of 314.1 ppm. The impact from the project is estimated at 151 lbs. NRCS erosion calculation, and soil samples results can be found in Appendix C.

The scope of work for the project included the following:

- Tapered deeply incised stream banks at a ratio of six or seven to one where possible.
- Removed approximately 7,000 cubic yards of stream-bank soil from the immediate flood plain, with the majority of soil removed off-site.
- Placed rip-rap medium to armor stream banks and improve habitat.

Implementation for this project followed the design requirements, provided in the United States Department of Agriculture (USDA) NRCS Engineering Field Handbook, in chapters correlating to NRCS-580 (Appendix C).

Trade Ratio

Delivery Factor	Downstream Trading Factor	Equivalence Factor	Uncertainty Factor	Trade Ratio
0	0	0	3	3.0

Delivery Factor: According to the associated SPARROW fraction values for this project location relative to the WWTF outfall location, the value generated for this project is zero as they are the same.

Downstream Trading Factor: This project is upstream of the WWTF outfall location, so this value is zero.

Equivalence Factor: phosphorus is the element being traded for this project, so the value is zero.

Uncertainty Factor: Per the WDNR 2020 Water Quality Trading Guidance page (151) (Appendix C) in accordance with NRCS Standard 580. Streambank Stabilization and Shoreline Protection: Without aquatic habitat adjustment- produces an Uncertainty Factor of three (3) for this project.

The added value of these four components results in a Trade Ratio of 3:1. The amount of phosphorus reduction gained from this project was 151 lbs. A (3:1) trade ratio applied to this quantification results in 50 lbs. of Water Quality Trading Credits for the Richland Center WWTF WQT Credit Bank.

4.2 Project 2: Fairgrounds

This streambank restoration project has been implemented along the Pine River. It has been identified within the City of Richland Center located west of the Richland County Fairgrounds, south of Industrial Drive between State Highway 80 and County Road AA. This section of the Pine River flows between State Highway 80 and Co Hwy AA, with project extents including approximately 200 feet of streambank adjacent to the Richland County Fairgrounds. The address for access to the project location is 23630 Co Hwy AA, Richland Center, Wisconsin 53581.

The project includes two properties (parcel numbers 276-0934-1100 & 276-0931-1000) owned by Richland County, who has granted access to the project site. This project has been fully



implemented and has been generating approved Water Quality Trading Credits for the previous WPDES phosphorus MDV Watershed Plan. A full compilation of the project location and photos is included in Appendix E.

Based on information during an evaluation on February 5th, 2018, by Ken Anderson, Land and Water Technician of the Richland County Land Conservation, the portion of streambank along the east shore of the Pine River is 200 feet long with 10 feet tall banks, the soil texture is classified as loamy sand, and is receding in sheets at approximately 1 foot per year. Stratified soil sampling was completed for this project site. A three-quarter inch steel soil probe was used to a depth of approximately 7 inches. A total of nine samples were collected from this site. Three samples were collected from the top of bank, three from the midpoint and three from above the waterline.

The land use around the project location is classified as wooded. Soil samples were collected across the 200 feet of interest and analyzed by Rock River Laboratory, Inc. for various parameters including total phosphorus, which resulted in a concentration of 299.7 ppm. The impact from the project is estimated at 60 lbs. NRCS erosion calculation, and soil sample results can be found in Appendix C.

The scope of work for the project included the following:

- Tapered deeply incised stream banks at a ratio of six or seven to one where possible

- Removed approximately 2,400 cubic yards of stream-bank soil from the immediate flood plain, with a majority of soil removed off-site.
- Placed rip-rap medium to armor stream banks and improve habitat

Implementation for this project followed the design requirements, provided in the United States Department of Agriculture (USDA) NRCS Engineering Field Handbook, in chapters correlating to NRCS-580 (Appendix C).

Trade Ratio

Delivery Factor	Downstream Trading Factor	Equivalence Factor	Uncertainty Factor	Trade Ratio
0.004	0	0	3	3.004

Delivery Factor: According to the associated SPARROW fraction value (0.952842) for this project location relative to the WWTF outfall location SPARROW fraction (0.956694), the value generated for this project is (0.004).

$$Delivery\ Fraction\text{: } 1 - \frac{(0.956694 - 0.952842)}{(0.956694)} = 0.996$$

$$Delivery\ Factor\text{: } \left(\frac{(1)}{0.996}\right) - 1 = 0.004$$

Downstream Trading Factor: This project is upstream of the WWTF outfall location, so this value is zero.

Equivalence Factor: phosphorus is the element being traded for this project, so the value is zero. Uncertainty Factor: Per the WDNR 2020 Water Quality Trading Guidance page (151) (Appendix C) in accordance with NRCS Standard 580. Streambank Stabilization and Shoreline Protection: Without aquatic habitat adjustment- produces an Uncertainty Factor of three (3) for this project.

The added value of these four components results in a Trade Ratio of (3.004:1). The amount of phosphorus reduction gained from this project was 60 lbs. A (3.004:1) trade ratio applied to this quantification results in 20 lbs. of Water Quality Trading Credits for the Richland Center WWTF WQT Credit Bank.

4.3 Project 3: Rockbridge

The location of this streambank restoration project occurred along the Pine River, within the Town of Rockbridge, west of State Highway 80 and north of County Road D, adjacent to Pier County Park. This section of the Pine River flows between State Highway 80 and County Hwy D, with project extents including approximately 300 feet of streambank at Pier County Park, adjacent to the Pine River Kayak Landing. The address for access to the project location is 17520 US-80, Rockbridge, Wisconsin 53581.



The project includes one property (parcel number 026-1024-5000) owned by Richland County, who has granted access the project site. This project has been fully implemented and has been generating approved Water Quality Trading Credits for the previous WPDES phosphorus MDV Watershed Plan. A full compilation of the project location and photos is included in Appendix F.

A site evaluation occurred on February 5th, 2018, by Ken Anderson, Land and Water Technician of the Richland County Land Conservation. This evaluation uncovered a portion of streambank along the south shore of the Pine River that was 300 feet long with banks 9.5 feet. The soil texture was classified as loamy sand and recession occurred in sheets at approximately 1 foot per year. Stratified soil sampling was completed for this project site. A three-quarter inch steel soil probe was used to a depth of approximately 7 inches. A total of nine samples were collected from this site. Three samples were collected from the top of bank, three from the midpoint and three from above the waterline.

The land use around the project location is classified as light residential and wooded. Stratified soil samples were collected across the 300 feet of interest and analyzed by Rock River Laboratory, Inc. for various parameters including total phosphorus, which resulted in a concentration of 265.2 parts per million (ppm). The impact from the project was estimated at 76 lbs. NRCS erosion calculation and soil sample results can be found in Appendix C.

The scope of work for the project included the following:

- Tapered deeply incised stream banks at a ratio of six or seven to one where possible.
- Removed approximately 3,300 cubic yards of stream-bank soil from the immediate flood plain, with a majority of soil removed off-site.
- Placed rip-rap medium to armor stream banks and improve habitat

Implementation for this project followed the design requirements, provided in the United States Department of Agriculture (USDA) NRCS Engineering Field Handbook, in chapters correlating to NRCS-580 (Appendix C).

Trade Ratio

Delivery Factor	Downstream Trading Factor	Equivalence Factor	Uncertainty Factor	Trade Ratio
0.004	0	0	3	3.004

Delivery Factor: According to the associated SPARROW fraction value (0.952842) for this project location relative to the WWTF outfall location SPARROW fraction (0.956694), the value generated for this project is (0.004).

$$Delivery\ Fraction: 1 - \frac{(0.956694 - 0.952842)}{(0.956694)} = 0.996$$

$$Delivery\ Factor: \left(\frac{(1)}{0.996}\right) - 1 = 0.004$$

Downstream Trading Factor: This project is upstream of the WWTF outfall location, so this value is zero.

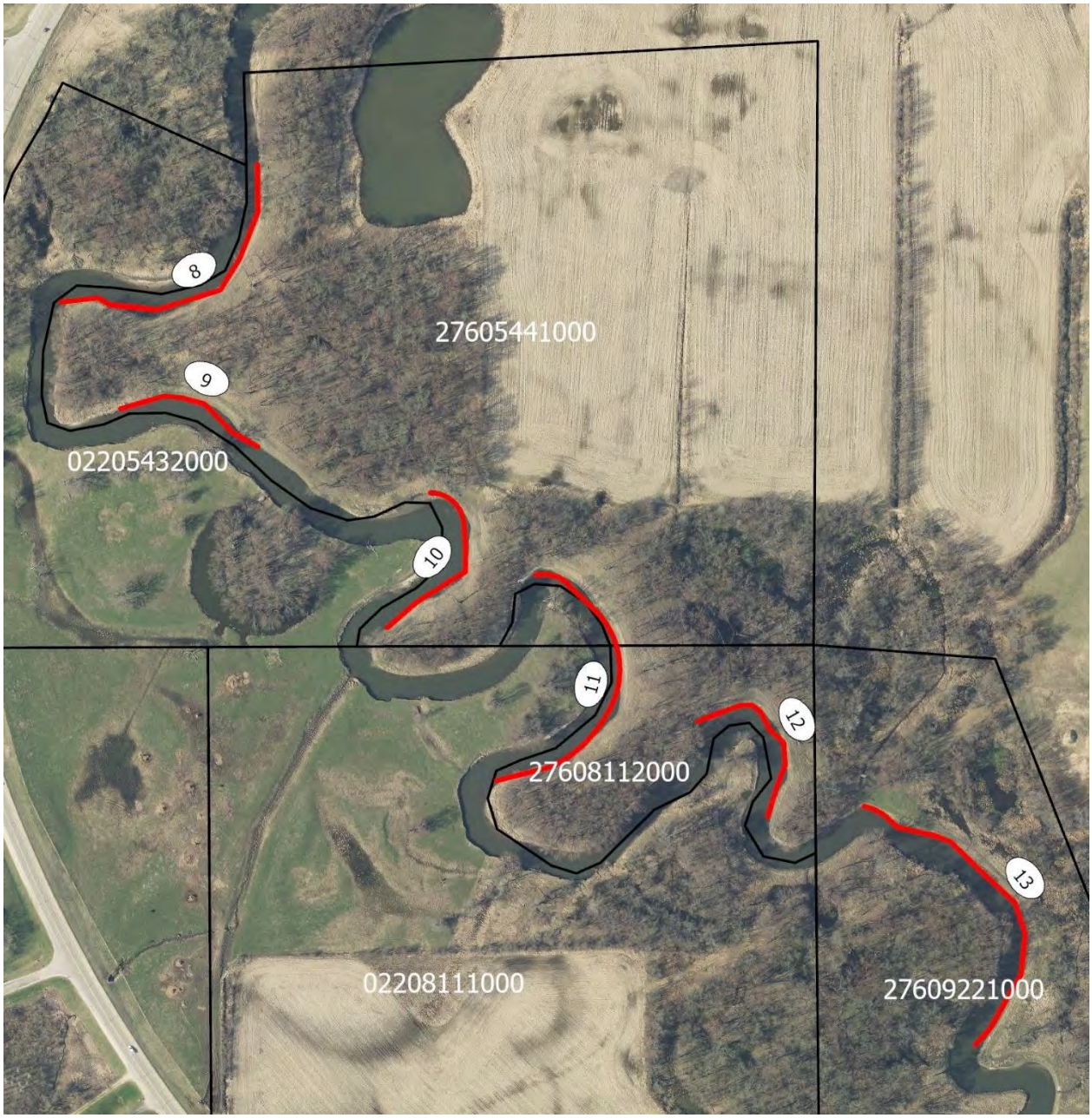
Equivalence Factor: phosphorus is the element being traded for this project, so the value is zero.

Uncertainty Factor: Per the WDNR 2020 Water Quality Trading Guidance page (151) (Appendix C) in accordance with NRCS Standard 580. Streambank Stabilization and Shoreline Protection: Without aquatic habitat adjustment-produces an Uncertainty Factor of three (3) for this project.

The added value of these four components results in a Trade Ratio of (3.004:1). The amount of phosphorus reduction gained from this project was 76 lbs. A (3.004:1) applied to this quantification results in 25 lbs. of Water Quality Trading Credits for the Richland Center WWTF WQT Credit Bank.

4.4 Project 4: Sites 8-13

This streambank project was completed in 2018, along the Pine River has been identified within the City of Richland Center located at the north end of the city, east of State Highway 80 and County Road A. The project included three properties owned by Richland Center (Parcel Numbers: 27605441000, 27608112000, 27609221000). This project has been fully implemented and has been generating approved Water Quality Trading Credits for the previous WPDES phosphorus MDV Watershed Plan. A full extent of the project location is included in Appendix G. The signed Water Quality Trade Agreement between the WDNR and the City of Richland Center can be found in Appendix A.



The following streambank project site information and data (Table 4-4) were generated during an evaluation on February 5th, 2018, by Ken Anderson, Land and Water Technician of the Richland County Land Stratified soil samples were collected across the areas of interest and analyzed by Rock River Laboratory, Inc. for various parameters including total phosphorus (Appendix C). A three-quarter inch steel soil probe was used to a depth of approximately 7 inches. A total of nine samples were collected from this site. Three samples were collected from the top of bank, three from the midpoint and three from above the waterline.

Tabulation of Bank Sites and Corresponding Values in Impact Calculations

Bank Site Number	Length (Ft.)	Bank Height (ft.)	Lateral Recession approximation (ft)	Phosphorus Concentration (ppm)	Impact (Lbs.)
8	950	11	1.0	134.5	**141**
9	340	9	1.0	255.6	**78**
10	425	10	1.0	172.2	**73**
11	700	11	1.0	342.5	**264**
12	400	10	1.0	176.9	**71**
13	750	8	1.0	423.0	**254**

NRCS erosion estimations can be found in Appendix G. These six sites were part of the original success of the WWTF in their use as satisfying compliance withing their MDV. The implementation of the following project sites comprised the bulk of the MDV watershed plan phosphorous compliance option. The total impact from the project was estimated at 881 lbs.

Implementation for these projects followed the design requirements, provided in the United States Department of Agriculture (USDA) NRCS Engineering Field Handbook, in chapters correlating to NRCS-580; Streambank and Shoreline Protection, as well as NRCS-395; Stream Habitat Improvements and Management, alongside a delineated habitat location map (Appendix C).

Trade Ratio

Delivery Factor	Downstream Trading Factor	Equivalence Factor	Uncertainty Factor	Trade Ratio
0.004	0	0	2	2.004

Delivery Factor: According to the associated SPARROW fraction value (0.952842) for this project location relative to the WWTF outfall location SPARROW fraction (0.956694), the value generated for this project is (0.004).

$$Delivery\ Fraction\text{: } 1 - \frac{(0.956694 - 0.952842)}{(0.956694)} = 0.996$$

$$Delivery\ Factor\text{: } \left(\frac{(1)}{0.996}\right) - 1 = 0.004$$

Downstream Trading Factor: This project is upstream of the WWTF outfall location, so this value is zero.

Equivalence Factor: phosphorus is the element being traded for this project, so the value is zero.

Uncertainty Factor: Per the WDNR 2020 Water Quality Trading Guidance page (151) in accordance with NRCS Standard-580. Streambank Stabilization and Shoreline Protection: With aquatic habitat adjustment produces an Uncertainty Factor of two (2) for this project (Appendix C).

The added value of these four components results in a Trade Ratio of (2.004:1). The pounds of phosphorus reduction gained from this project was 881 lbs. A (2.004:1) Trade Ratio applied to this quantification results in 440 lbs. of Water Quality Trading Credits for the Richland Center WWTF WQT Credit Bank.

4.5 Project 5: Sites 16 & 18-20

This streambank project was a continuation of project 4. It was also completed in 2018, along the Pine River, and is identified within the City of Richland Center located at the north end of the city, east of State Highway 80 and County Road A. This project included two properties owned by the City of Richland Center (Parcel Numbers: 27609221000, 2760923100). A full extent of the project location is included in Appendix H. The signed Water Quality Trade Agreement between the WDNR and the City of Richland Center can be found in Appendix A.



The following streambank project site information and data were generated during an evaluation on February 5th, 2018, by Ken Anderson, Land and Water Technician of the Richland County Land Conservation (Table 4-5). Stratified soil samples were collected across the areas of interest and analyzed by Rock River Laboratory, Inc. for various parameters including total

phosphorus (Appendix H). A three-quarter inch steel soil probe was used to a depth of approximately 7 inches. A total of nine samples were collected from this site. Three samples were collected from the top of bank, three from the midpoint and three from above the waterline.

Initial surveying and reporting, completed by a trained NRCS technician, concluded that lateral recession rates of 1.0 feet per year for each bank site of this project. However, due to pre-project photos taken at near flood stage for the project, the WDNR has requested that these lateral recession rates be reduced. Additionally due to absence of pre-project completion photos for bank site 20, the lateral recession rate was further reduced and is associated with a higher uncertainty factor. This is detailed in the NRCS erosion estimator found in Appendix C.

Tabulation of Bank Sites and Corresponding Values in Impact Calculations

Bank Site Number	Length (ft.)	Bank Height (ft.)	Lateral Recession approximation (ft.)	Phosphorus Concentration (ppm)	Impact (Lbs. P)
16	450	11	0.38	342	**64**
18	925	10	0.38	364	**128**
19	770	10	0.38	253	**74**
20	200	11	0.25	354	**19**

By applying these values to the Natural Resources Conservation Service (NRCS) streambank erosion Estimator (Appendix H), the total impact from the project was estimated at nearly 285 lbs.

Implementation for these projects followed the design requirements, provided in the United States Department of Agriculture (USDA) NRCS Engineering Field Handbook, in chapters correlating to NRCS-580; Streambank and Shoreline Protection, as well as NRCS-395; Stream Habitat Improvements and Management, alongside a delineated habitat location map (Appendix C).

Trade Ratio

Delivery Factor	Downstream Trading Factor	Equivalence Factor	Uncertainty Factor	Trade Ratio
0.004	0	0	2	2.004

Delivery Factor: According to the associated SPARROW fraction value (0.952842) for this project location relative to the WWTF outfall location SPARROW fraction (0.956694), the value generated for this project is (0.004).

$$Delivery\ Fraction: 1 - \frac{(0.956694 - 0.952842)}{(0.956694)} = 0.996$$

$$Delivery\ Factor: \left(\frac{(1)}{0.996}\right) - 1 = 0.004$$

Downstream Trading Factor: This project is upstream of the WWTF outfall location, so this value is zero.

Equivalence Factor: phosphorus is the element being traded for this project, so the value is zero.

Uncertainty Factor: Per the WDNR 2020 Water Quality Trading Guidance page (151) (Appendix C) in accordance with NRCS Standard 580. Streambank Stabilization and Shoreline Protection: With aquatic habitat adjustment- produces an Uncertainty Factor of two (2) for this project.

The added value of these four components results in a Trade Ratio of (2.004:1). The phosphorus reduction gained from this project was 285 lbs. A (2.004:1) trade ratio applied to stream banks 16, 18 and 19 results in 133 lbs. of Water Quality Trading credits for the Richland Center WWTF WQT credit bank. Per WDNR request, the trade ratio for streambank number 20 was increased to have an uncertainty factor of three (3) and a Trade Ratio of (3.004:1). By applying this trade ratio to stream bank 20, an additional 6 pounds of Water Quality Trading credits was added to Richland Centers Credit Bank. The cumulative total of project 5 resulted in 139 WQT credits generated.

4.6 Project 6: Sites 14, 15, 17

This streambank project was an additional continuation of project 4. It was also completed in 2018, along the Pine River, and is identified within the City of Richland Center located at the north end of the city, east of State Highway 80 and County Road A. This project included two properties owned by the City of Richland Center (Parcel Numbers: 02208111000, 27609221000). The full Extent of the project location is included in (Appendix I). The signed Water Quality Trade Agreement between the WDNR and the City of Richland Center can be found in Appendix A.



The following streambank project site information and data were generated during an evaluation on February 5th, 2018, by Ken Anderson, Land and Water Technician of the Richland County Land Conservation (Table 4-6. Soil Samples for these project sites are estimated as averages from opposite bank site locations from projects 4 and 5. Bank site 14 concentration is an average of bank sites 12 and 13. Bank site 15 concentration is an average of bank sites 13 and 16. Finally bank site 17 has a concentration that was averaged from values associated with banks 16 and 18.

Initial surveying and reporting, concluded that lateral recession rates of 1.0 feet per year for each bank site of this project. However, due to pre-project photos taken at near flood stage for the project, the WDNR has requested that these lateral recession rates be reduced to 0.50 linear feet per year and that they be associated with a higher Uncertainty Factor. Additionally, due to a discrepancy in property ownership, project 14 was excluded from qualifying as a trade within this projects WQT agreement with WDNR.

Tabulation of Bank Sites and Corresponding Values in Impact Calculations

Bank Site Number	Length (Ft.)	Bank Height (ft.)	Lateral Recession approximation (ft)	Phosphorus Concentration (ppm)	Impact (Lbs.)
~~14~~	~~475~~	~~9~~	~~1.0~~	~~299.9~~	~~**128**~~
15	370	9.5	0.50	383	**67**
17	680	10.5	0.50	353	**126**

By applying these values to the Natural Resources Conservation Service (NRCS) streambank erosion calculator (Appendix I), the total impact from the project was estimated at 193 lbs.

Trade Ratio

Delivery Factor	Downstream Trading Factor	Equivalence Factor	Uncertainty Factor	Trade Ratio
0.004	0	0	3	3.004

Delivery Factor: According to the associated SPARROW fraction value (0.952842) for this project location relative to the WWTF outfall location SPARROW fraction (0.956694), the value generated for this project is (0.004).

$$Delivery\ Fraction: 1 - \frac{(0.956694 - 0.952842)}{(0.956694)} = 0.996$$

$$Delivery\ Factor: \left(\frac{(1)}{0.996}\right) - 1 = 0.004$$

Downstream Trading Factor: This project is upstream of the WWTF outfall location, so this value is zero.

Equivalence Factor: phosphorus is the element being traded for this project, so the value is zero.

Uncertainty Factor: Per the WDNR 2020 Water Quality Trading Guidance page (151) (Appendix C) in accordance with NRCS Standard 580. Streambank Stabilization and Shoreline Protection: With aquatic habitat adjustment- produces an Uncertainty Factor of three (2) for this project. However due to averaging of soil samples to quantify this trade, the WDNR requested an increase of the Uncertainty Factor by a value of (1) increasing the final Uncertainty Factor for this project to three (3).

The added value of these four components results in a Trade Ratio of 3.004:1. The pounds of phosphorus reduction gained from this project was 193 lbs. A (3.004:1) trade ratio applied to this quantification results in 64 lbs. of Water Quality Trading Credits for the Richland Center WWTF WQT credit bank.

5. WQT IMPLEMENTATION SCHEDULE AND MILESTONES

5.1 Implementation Timeline

The proposed implementation timeline for this phosphorus WQT occurred as follows:

These projects were implemented in 2018 in accordance with NRCS 395 and 580 Standards.

Preliminary Compliance Alternatives Plan Submitted – May 2017

Submit WQT Notice of Intent to DNR 3/20/2018

Submit Draft WQT Plan to WDNR: January 31st ,2024

Submit Management Practice Registration Form to WDNR: January 31st, 2024

Implement WQT Management Practice: July, 2024

Submit Final WQT Plan to DNR: January 31st, 2024, Adjustments by October 16th, 2024

Permit and WQT Plan Public Comment Period: May 1st-31st, 2024

Richland Center WWTF WPDES Permit Expires: June 30th, 2024

5.2 Water Quality Trade Practice Installation and Registration

A signed DNR Form 3400-207 (WQT Management Practice Registration) form for each of the proposed water quality trades are with corresponding appendices D-I.

The purpose of the WQT management practice registration is to ratify to DNR that a management practice identified in the plan has been properly installed and is effective. This information is expected to be used by the DNR to verify compliance and perform audits, as necessary.

Management practice registration forms will not be submitted for point-to-point source trades. Any point-to-point source water quality trade will be demonstrated via effluent monitoring and will have documentation and effective date requirements specified in the WPDES permits.

5.3 Tracking, Verification, and Inspection

The Richland County Land & Conservation Department, acting in partnership with and on behalf of The City of Richland Center, will verify the performance of its WQT at project sites associated with WQT Agreements 1-6. Annual site inspections will be conducted by the City of Richland Center to ensure the terms of the Water Quality Agreements are being upheld. The City of Richland Center will take the necessary action if it is notified of any non-compliance by WDNR or the County LCD. In addition, the City of Richland Center will make its personnel available to assist the WDNR with any inspections it chooses to perform of the WQT location. Annual Water Quality Trade Report

The City of Richland Center WWTF will submit an annual report to the DNR for each of its water quality trades. The purpose of the annual report is to inform the DNR of the status of management practices, provide the DNR with an update of the trading project overall, and submit any needed

changes of the plan to DNR. The annual report will include written and visual verification that site inspections occurred, a summary of site inspection findings, any applicable notices of termination or practice registration, the amount of credit used each month over the calendar year; and other requirements as stated in the WPDES permit.

5.4 Notification of Termination

If the Water Quality Easement or this WQT Plan needs to be modified or terminated during the permit term, the City of Richland Center 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 credits it generates will change accordingly and may result in non-compliance with the City of Richland Center WPDES permit. The information on the notice of termination form will to be used by the DNR to determine if a permit modification is required due to the termination, the termination will result in non-compliance, or other permit actions are required due to the termination.

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

APPENDIX A

WDNR Forms

WPDES PERMIT

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

PERMIT TO DISCHARGE UNDER THE WISCONSIN POLLUTANT DISCHARGE ELIMINATION SYSTEM

CITY OF RICHLAND CENTER

is permitted, under the authority of Chapter 283, Wisconsin Statutes, to discharge from a facility located at
590 SOUTH ORANGE STREET, RICHLAND CENTER, WISCONSIN
to
Pine River (Willow Creek Watershed, LW12 – Lower Wisconsin River Basin) in Richland 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

November 30, 2022
Date Permit Signed/Issued

PERMIT TERM: EFFECTIVE DATE - July 01, 2019 **EXPIRATION DATE - June 30, 2024**
PERMIT MODIFICATION DATE – December 1, 2022

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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)**
703	Influent: 24-Hr flow proportional composite sampler intake located in the influent channel after the flow meter and prior to the mechanical fine screen in the headworks building.

1.2 Monitoring Requirements

The permittee shall comply with the following monitoring requirements.

1.2.1 Sampling Point 703 - COMBINED INFLUENT

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Continuous	Continuous	
BOD_5, Total		mg/L	5/Week	24-Hr Flow Prop Comp	
Suspended Solids, Total		mg/L	5/Week	24-Hr Flow Prop Comp	
Mercury, Total Recoverable		ng/L	Monthly	Grab	See 'Mercury Monitoring' Subsection

1.2.1.1 Mercury Monitoring

The permittee shall collect and analyze all mercury samples according to the data quality requirements of ss. NR 106.145(9) and (10), Wisconsin Administrative Code. The limit of quantitation (LOQ) used for the effluent and field blank shall be less than 1.3 ng/L, unless the samples are quantified at levels above 1.3 ng/L. The permittee shall collect at least one mercury field blank for each set of mercury samples (a set of samples may include combinations of intake, influent, effluent or other samples all collected on the same day). The permittee shall report results of samples and field blanks to the Department on Discharge Monitoring Reports.

2 In-Plant Requirements

2.1 Sampling Point(s)

Sampling Point Designation	
Sampling Point Number	**Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)**
108	In-Plant Monitoring - Collect the mercury field blank using standard sample handling procedures.

2.2 Monitoring Requirements and Limitations

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

2.2.1 Sampling Point 108 - GEN PLANT (Hg blank)

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Mercury, Total Recoverable		ng/L	Monthly	Blank	See 'Mercury Monitoring' Subsection.

2.2.1.1 Mercury Monitoring

The permittee shall collect and analyze all mercury samples according to the data quality requirements of ss. NR 106.145(9) and (10), Wisconsin Administrative Code. The limit of quantitation (LOQ) used for the effluent and field blank shall be less than 1.3 ng/L, unless the samples are quantified at levels above 1.3 ng/L. The permittee shall collect at least one mercury field blank for each set of mercury samples (a set of samples may include combinations of intake, influent, effluent or other samples all collected on the same day). The permittee shall report results of samples and field blanks to the Department on Discharge Monitoring Reports.

3 Surface Water Requirements

3.1 Sampling Point(s)

Sampling Point Designation	
Sampling Point Number	**Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)**
001	Effluent: 24-Hr flow proportional composite sampler intake located before the UV channel, prior to discharge to the Pine River. Grab samples for mercury collected at the sample point, all other grab samples collected after UV.

3.2 Monitoring Requirements and Effluent Limitations

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

3.2.1 Sampling Point (Outfall) 001 - EFFLUENT

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
BOD_5, Total	Weekly Avg	45 mg/L	5/Week	24-Hr Flow Prop Comp	
BOD_5, Total	Monthly Avg	30 mg/L	5/Week	24-Hr Flow Prop Comp	
Suspended Solids, Total	Weekly Avg	45 mg/L	5/Week	24-Hr Flow Prop Comp	
Suspended Solids, Total	Monthly Avg	30 mg/L	5/Week	24-Hr Flow Prop Comp	
Nitrogen, Ammonia (NH_3-N) Total	Daily Max	17 mg/L	5/Week	24-Hr Flow Prop Comp	
Nitrogen, Ammonia (NH_3-N) Total	Weekly Avg	17 mg/L	5/Week	24-Hr Flow Prop Comp	
Nitrogen, Ammonia (NH_3-N) Total	Monthly Avg	17 mg/L	5/Week	24-Hr Flow Prop Comp	
Fecal Coliform	Geometric Mean - Wkly	656 #/100 ml	2/Week	Grab	May through Sept
Fecal Coliform	Geometric Mean - Monthly	400 #/100 ml	2/Week	Grab	May through Sept
pH Field	Daily Max	9.0 su	5/Week	Grab	
pH Field	Daily Min	6.0 su	5/Week	Grab	
Phosphorus, Total	Monthly Avg	0.8 mg/L	5/Week	24-Hr Flow Prop Comp	This is an interim MDV limit. See the MDV/Phosphorus sections and phosphorus schedules.

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Phosphorus, Total		lbs/month	Monthly	Calculated	Report the total monthly phosphorus discharged in lbs/month on the last day of the month on the DMR. See Standard Requirements for 'Appropriate Formulas' to calculate the Total Monthly Discharge in lbs/month.
Phosphorus, Total		lbs/yr	Annual	Calculated	Report the sum of the total monthly discharges (for the months that the MDV is in effect) for the calendar year on the Annual report form.
Mercury, Total Recoverable	Daily Max	4.3 ng/L	Monthly	Grab	This is an Alternative Mercury Effluent Limit. See 'Mercury Monitoring' section and the Mercury Compliance Schedule.
Acute WET		TU_a	See Listed Qtr(s)	24-Hr Flow Prop Comp	See 'WET testing' section
Chronic WET	Monthly Avg	11.6 TUc	See Listed Qtr(s)	24-Hr Flow Prop Comp	See 'WET testing' section
Chloride		mg/L	Monthly	24-Hr Flow Prop Comp	Monitoring only in 2022
Nitrogen, Total Kjeldahl		mg/L	Quarterly	24-Hr Flow Prop Comp	
Nitrogen, Nitrite + Nitrate Total		mg/L	Quarterly	24-Hr Flow Prop Comp	
Nitrogen, Total		mg/L	Quarterly	Calculated	

3.2.1.1 Annual Average Design Flow

The annual average design flow of the permittee's wastewater treatment facility is 1.006 MGD.

3.2.1.2 Mercury Monitoring

The permittee shall collect and analyze all mercury samples according to the data quality requirements of ss. NR 106.145(9) and (10), Wisconsin Administrative Code. The limit of quantitation (LOQ) used for the effluent and field blank shall be less than 1.3 ng/L, unless the samples are quantified at levels above 1.3 ng/L. The permittee shall collect at least one mercury field blank for each set of mercury samples (a set of samples may include combinations of intake, influent, effluent or other samples all collected on the same day). The permittee shall report results of samples and field blanks to the Department on Discharge Monitoring Reports.

3.2.1.3 Mercury Variance – Implement Pollution Minimization Measures

This permit contains a variance to the water quality-based effluent limit (WQBEL) for mercury granted in accordance with s. NR 106.145(12), Wis. Adm. Code. As conditions of this variance the permittee shall (a) maintain effluent quality at or below the interim effluent limitation specified in the table above, (b) implement

the mercury pollution minimization measures specified below, (c) follow the submitted Pollution Minimization Plan and (d) perform the actions listed in the compliance schedule. (See the Schedules of Compliance section herein.):

1. Comply with required mercury testing procedures and frequency as outlined in the WPDES permit.
2. Explore possible operational influences on mercury levels between influent and effluent mercury values through research and sampling.
3. Conduct additional influent and/or collection system monitoring to identify variation in mercury levels based on time, location in the collection system or other factors annually.
4. Publicize options for residential and commercial disposal of mercury, such as Clean Sweep hazardous waste collection events.
5. Discuss mercury management in direct meeting with users in healthcare, schools and industrial dischargers to identify any remaining mercury sources.
6. Inspect dental facilities to verify amalgam separators are installed and being used properly annually.
7. Enforce City's sewer use ordinance.

3.2.1.4 MDV (Multi-Discharger Variance) Requirements

Optimization: The permittee shall continue to optimize performance to control phosphorus discharges in accordance with s. 283.16(6), Wis. Stats. See the Schedules section for optimization requirements.

Watershed Provisions: The permittee is required to implement watershed measures to reduce the amount of phosphorus entering the receiving water. The permittee has selected the following approved watershed measure.

Binding Written Agreement with the Department: The permittee has entered into a binding written agreement with the Department under which the permittee implements Watershed Plan # MDV-2018-001 that is designed to result in a reduction of phosphorus pollution in the basin in an amount equal to the difference between the amount of phosphorus discharged by the permittee minus the target value. The target value is 0.2 mg/L per s. 283.16(1)(h), Wis. Stats., and is applicable during the months that the MDV is in effect. The MDV is in effect year around. Refer to the Schedules section for the scheduled reporting requirements.
Annual Reduction of Phosphorus (Offset): The permittee's discharge that exceeds the target value shall be offset by phosphorus reductions generated under the approved Watershed Plan during the months that the MDV is in effect. The permittee shall comply with the MDV interim limit regardless of the offset generated. If the necessary offset is not generated, the permittee shall notify the Department. To determine compliance with the required offset, use the following steps.

Calculation Steps:
●Calculate pounds of phosphorus discharged for each month that the MDV is in effect:

Monthly Phosphorus Load (lbs/month) = Total Monthly Flow (MG) × Monthly Avg. TP effluent conc. (mg/L) × 8.34

●Sum the lbs/month discharged for the months that the MDV is in effect to calculate the annual phosphorus load:

Annual Phosphorus Load (lbs/year) = ∑ [Monthly Phosphorus Load (lbs/month)]

●Calculate the Target Load (lbs/month) for each month that the MDV is in effect.

Target Value = 0.2 mg/L:
Monthly Target Load (lbs/month) = Total Monthly Flow (MG) × 0.2 mg/L × 8.34

●Sum the lbs/months for the months that the MDV is in effect to calculate the Annual Target Load:

Annual Target Load (lbs/year) = ∑ [Monthly Target Load (lbs/month)]

3.2.1.5 Whole Effluent Toxicity (WET) Testing

Primary Control Water: Pine River

Instream Waste Concentration (IWC): 8.6%

Dilution series: At least five effluent concentrations and dual controls must be included in each test.

- **Acute:** 100, 50, 25, 12.5, 6.25% and any additional selected by the permittee.
- **Chronic:** 100, 30, 10, 3, 1% (if the IWC ≤30%) and any additional selected by the permittee.

WET Testing Frequency:

Acute tests 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.

- **Acute:** October – December 2019, April – June 2020, July – September 2021, October – December 2022, January – March 2023

Acute WET testing shall continue after the permit expiration date (until the permit is reissued) in accordance with the WET requirements specified for the last full calendar year of this permit. For example, the next test would be required in October – December 2024.

Chronic tests shall be conducted once per year in rotating quarters in order to collect seasonal information about the discharge. Tests are required during the following quarters.

- **Chronic:** October – December 2019, April – June 2020, July – September 2021, October – December 2022, January – March 2023

Chronic WET testing shall continue after the permit expiration date (until the permit is reissued) in accordance with the WET requirements specified for the last full calendar year of this permit. For example, the next test would be required in October – December 2024.

Testing: WET testing 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 WET tests.

Reporting: The permittee shall report test results on the Discharge Monitoring Report form, and also complete the "Whole Effluent Toxicity Test Report Form" (Section 6, "*State of Wisconsin Aquatic Life Toxicity Testing Methods Manual, 2nd Edition*"), for each test. The original, complete, signed version of the Whole Effluent Toxicity Test Report Form shall be sent to the Biomonitoring Coordinator, Bureau of Water Quality, 101 S. Webster St., P.O. Box 7921, Madison, WI 53707-7921, within 45 days of test completion. The Discharge Monitoring Report (DMR) form shall be submitted electronically by the required deadline.

Determination of Positive Results: An acute toxicity test shall be considered positive if the Toxic Unit - Acute (TU_a) is greater than 1.0 for either species. The TU_a shall be calculated as follows: $TU_a = 100 \div LC_{50}$. A chronic toxicity test shall be considered positive if the Toxic Unit - Chronic (TU_c) is greater than 11.6 for either species. The TU_c shall be calculated as follows: $TU_c = 100 \div IC_{25}$.

Additional Testing Requirements: Within 90 days of a test which showed positive results, the permittee shall submit the results of at least 2 retests to the Biomonitoring Coordinator on "Whole Effluent Toxicity Test Report

Forms". The 90 day reporting period shall begin the day after the test which showed a positive result. The retests shall be completed using the same species and test methods specified for the original test (see the Standard Requirements section herein).

4 Land Application Requirements

4.1 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	Anaerobically digested, Cake, Class B. Representative sludge samples shall be collected from the cake sludge storage building.

4.2 Monitoring Requirements and Limitations

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

4.2.1 Sampling Point (Outfall) 002 - SLUDGE

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Solids, Total		Percent	Annual	Composite	
Arsenic Dry Wt	Ceiling	75 mg/kg	Annual	Composite	
Arsenic Dry Wt	High Quality	41 mg/kg	Annual	Composite	
Cadmium Dry Wt	Ceiling	85 mg/kg	Annual	Composite	
Cadmium Dry Wt	High Quality	39 mg/kg	Annual	Composite	
Copper Dry Wt	Ceiling	4,300 mg/kg	Annual	Composite	
Copper Dry Wt	High Quality	1,500 mg/kg	Annual	Composite	
Lead Dry Wt	Ceiling	840 mg/kg	Annual	Composite	
Lead Dry Wt	High Quality	300 mg/kg	Annual	Composite	
Mercury Dry Wt	Ceiling	57 mg/kg	Annual	Composite	
Mercury Dry Wt	High Quality	17 mg/kg	Annual	Composite	
Molybdenum Dry Wt	Ceiling	75 mg/kg	Annual	Composite	
Nickel Dry Wt	Ceiling	420 mg/kg	Annual	Composite	
Nickel Dry Wt	High Quality	420 mg/kg	Annual	Composite	
Selenium Dry Wt	Ceiling	100 mg/kg	Annual	Composite	
Selenium Dry Wt	High Quality	100 mg/kg	Annual	Composite	
Zinc Dry Wt	Ceiling	7,500 mg/kg	Annual	Composite	
Zinc Dry Wt	High Quality	2,800 mg/kg	Annual	Composite	
Nitrogen, Total Kjeldahl		Percent	Annual	Composite	
Nitrogen, Ammonium (NH_4-N) Total		Percent	Annual	Composite	
Phosphorus, Total		Percent	Annual	Composite	
Phosphorus, Water Extractable		% of Tot P	Annual	Composite	

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Potassium, Total Recoverable		Percent	Annual	Composite	
PCB Total Dry Wt	Ceiling	50 mg/kg	Once	Composite	Once in 2020
PCB Total Dry Wt	High Quality	10 mg/kg	Once	Composite	Once in 2020

Other Sludge Requirements	
Sludge Requirements	**Sample Frequency**
List 3 Requirements – Pathogen Control: The requirements in List 3 shall be met prior to land application of sludge.	**Annual**
List 4 Requirements – Vector Attraction Reduction: The vector attraction reduction shall be satisfied prior to, or at the time of land application as specified in List 4.	**Annual**

4.2.1.1 List 2 Analysis

If the monitoring frequency for List 2 parameters is more frequent than "Annual" then the sludge may be analyzed for the List 2 parameters just prior to each land application season rather than at the more frequent interval specified.

4.2.1.2 Changes in Feed Sludge Characteristics

If a change in feed sludge characteristics, treatment process, or operational procedures occurs which may result in a significant shift in sludge characteristics, the permittee shall reanalyze the sludge for List 1, 2, 3 and 4 parameters each time such change occurs.

4.2.1.3 Multiple Sludge Sample Points (Outfalls)

If there are multiple sludge sample points (outfalls), but the sludges are not subject to different sludge treatment processes, then a separate List 2 analysis shall be conducted for each sludge type which is land applied, just prior to land application, and the application rate shall be calculated for each sludge type. In this case, List 1, 3, and 4 and PCBs need only be analyzed on a single sludge type, at the specified frequency. If there are multiple sludge sample points (outfalls), due to multiple treatment processes, List 1, 2, 3 and 4 and PCBs shall be analyzed for each sludge type at the specified frequency.

4.2.1.4 Sludge Which Exceeds the High Quality Limit

Cumulative pollutant loading records shall be kept for all bulk land application of sludge which does not meet the high quality limit for any parameter. This requirement applies for the entire calendar year in which any exceedance of Table 3 of s. NR 204.07(5)(c), is experienced. Such loading records shall be kept for all List 1 parameters for each site land applied in that calendar year. The formula to be used for calculating cumulative loading is as follows:

[(Pollutant concentration (mg/kg) x dry tons applied/ac) ÷ 500] + previous loading (lbs/acre) = cumulative lbs pollutant per acre

When a site reaches 90% of the allowable cumulative loading for any metal established in Table 2 of s. NR 204.07(5)(b), the Department shall be so notified through letter or in the comment section of the annual land application report (3400-55).

4.2.1.5 Sludge Analysis for PCBs

The permittee shall analyze the sludge for Total PCBs one time during **2020**. 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.

4.2.1.6 Lists 1, 2, 3, and 4

List 1 **TOTAL SOLIDS AND METALS** See the Monitoring Requirements and Limitations table above for monitoring frequency and limitations for the List 1 parameters
Solids, Total (percent)
Arsenic, mg/kg (dry weight)
Cadmium, mg/kg (dry weight)
Copper, mg/kg (dry weight)
Lead, mg/kg (dry weight)
Mercury, mg/kg (dry weight)
Molybdenum, mg/kg (dry weight)
Nickel, mg/kg (dry weight)
Selenium, mg/kg (dry weight)
Zinc, mg/kg (dry weight)

List 2 **NUTRIENTS** See the Monitoring Requirements and Limitations table above for monitoring frequency for the List 2 parameters
Solids, Total (percent)
Nitrogen Total Kjeldahl (percent)
Nitrogen Ammonium (NH4-N) Total (percent)
Phosphorus Total as P (percent)
Phosphorus, Water Extractable (as percent of Total P)
Potassium Total Recoverable (percent)

List 3
PATHOGEN CONTROL FOR CLASS B SLUDGE

The permittee shall implement pathogen control as listed in List 3. The Department shall be notified of the pathogen control utilized and shall be notified when the permittee decides to utilize alternative pathogen control.

The following requirements shall be met prior to land application of sludge.

Parameter	Unit	Limit
Fecal Coliform*	MPN/gTS or CFU/gTS	2,000,000
OR, ONE OF THE FOLLOWING PROCESS OPTIONS		
Aerobic Digestion	Air Drying	
Anaerobic Digestion	Composting	
Alkaline Stabilization	PSRP Equivalent Process	

***** The Fecal Coliform limit shall be reported as the geometric mean of 7 discrete samples on a dry weight basis.

List 4
VECTOR ATTRACTION REDUCTION

The permittee shall implement any one of the vector attraction reduction options specified in List 4. The Department shall be notified of the option utilized and shall be notified when the permittee decides to utilize an alternative option.

One of the following shall be satisfied prior to, or at the time of land application as specified in List 4.

Option	Limit	Where/When it Shall be Met
Volatile Solids Reduction	≥38%	Across the process
Specific Oxygen Uptake Rate	≤1.5 mg O_2/hr/g TS	On aerobic stabilized sludge
Anaerobic bench-scale test	<17 % VS reduction	On anaerobic digested sludge
Aerobic bench-scale test	<15 % VS reduction	On aerobic digested sludge
Aerobic Process	>14 days, Temp >40°C and Avg. Temp > 45°C	On composted sludge
pH adjustment	>12 S.U. (for 2 hours) and >11.5 (for an additional 22 hours)	During the process
Drying without primary solids	>75 % TS	When applied or bagged
Drying with primary solids	>90 % TS	When applied or bagged
Equivalent Process	Approved by the Department	Varies with process
Injection	-	When applied
Incorporation	-	Within 6 hours of application

4.2.1.7 Daily Land Application Log

Daily Land Application Log		
Discharge Monitoring Requirements and Limitations The permittee shall maintain a daily land application log for biosolids land applied each day when land application occurs. The following minimum records must be kept, in addition to all analytical results for the biosolids land applied. The log book records shall form the basis for the annual land application report requirements**.**		
Parameters	**Units**	**Sample Frequency**
DNR Site Number(s)	Number	Daily as used
Outfall number applied	Number	Daily as used
Acres applied	Acres	Daily as used
Amount applied	As appropriate * /day	Daily as used
Application rate per acre	unit */acre	Daily as used
Nitrogen applied per acre	lb/acre	Daily as used
Method of Application	Injection, Incorporation, or surface applied	Daily as used

*gallons, cubic yards, dry US Tons or dry Metric Tons

5 Schedules

5.1 Phosphorus Schedule - Continued Optimization

Required Action	Due Date
Optimization: The permittee shall continue to implement the optimization plan as previously approved to optimize performance to control phosphorus discharges. Submit a progress report on optimizing removal of phosphorus by the Due Date.	01/01/2020
Progress Report #2: Submit a progress report on optimizing removal of phosphorus.	01/01/2021
Progress Report #3: Submit a progress report on optimizing removal of phosphorus.	01/01/2022
Progress Report #4: Submit a progress report on optimizing removal of phosphorus.	01/01/2023
Progress Report #5: Submit a progress report on optimizing removal of phosphorus.	01/01/2024

5.2 Watershed Project Annual Reports

Required Action	Due Date
Annual Watershed Report: Submit an annual report by May 1 of each year that documents: 1) The calculated monthly discharge of phosphorus in lbs/month and the calculated monthly target value in lbs/month for the previous calendar year. See the calculation steps in the Surface Water section of this permit. 2) The calculated Annual Offset to be generated by the approved Watershed Plan for the previous calendar year. See the calculation steps in the Surface Water section of this permit. 3) Verification that Watershed Plan # MDV-2018-001 was implemented as approved and practices are operated and maintained consistent with the approved plan. 4) The pounds of phosphorus reduction achieved through the approved Watershed Plan for the previous calendar year. 5) The source of the phosphorus reductions with a reference to the approved Watershed Plan used to generate the offset. 6)Identification of any non-compliance or failure to implement the approved Watershed Plan.	05/01/2020
Annual Watershed Report #2: Submit an annual report that includes the documentation listed above.	05/01/2021
Annual Watershed Report #3: Submit an annual report that includes the documentation listed above.	05/01/2022
Annual Watershed Report #4: Submit an annual report that includes the documentation listed above.	05/01/2023
Annual Watershed Report #5: Submit an annual report that includes the documentation listed above.	04/01/2024

Agreement Modification: If the required offset of phosphorus is not generated by the approved Watershed Plan in any year, the permittee shall propose a modification to the binding written agreement or seek alternative compliance or variance options allowed under state law. Note: Failure to propose a modification to achieve compliance with the offset requirements may result in termination of the binding written agreement.	
Continued Coverage: If the permittee intends to seek a renewed variance, an application for the MDV (Multi Discharge Variance) shall be submitted as part of the application for permit reissuance in accordance with s. 283.16(4)(b), Wis. Stats.	
Annual Verification of Payment After Permit Expiration: In the event that this permit is not reissued prior to the expiration date, the permittee shall continue to submit annual reports to the Department including the information above by May 1 each year.	

5.3 Mercury Pollutant Minimization Program

Required Action	Due Date
Annual Mercury Progress Reports: Submit an annual mercury progress report. The annual mercury progress report shall: Indicate which mercury pollutant minimization activities or activities outlined in the approved Pollutant Minimization Plan have been implemented; Include an analysis of trends in monthly and annual total effluent mercury concentrations based on mercury sampling; and Include an analysis of how influent and effluent mercury varies with time and with significant loading of mercury such as loads from industries into the collection system. The first annual mercury progress report is to be submitted by the Due Date.	01/31/2020
Annual Mercury Progress Report #2: Submit a mercury progress report as defined above.	01/31/2021
Annual Mercury Progress Report #3: Submit a mercury progress report as defined above.	01/31/2022
Annual Mercury Progress Report #4: Submit a mercury progress report as defined above.	01/31/2023
Final Mercury Report: Submit a final report documenting the success in reducing mercury concentrations in the effluent, as well as the anticipated future reduction in mercury sources and mercury effluent concentrations. The report shall summarize mercury pollutant minimization activities that have been implemented during the current permit term and state which, if any, pollutant minimization activities from the approved pollutant minimization plan were not pursued and why. The report shall include an analysis of trends in monthly and annual total effluent mercury concentrations based on mercury sampling during the current permit term. The report shall also include an analysis of how influent and effluent mercury varies with time and with significant loading of mercury such as loads from industries into the collection system. If the permittee intends to reapply for a mercury variance per s. NR 106.145, Wis. Adm. Code, for the reissued permit, a detailed pollutant minimization plan outlining the pollutant minimization activities proposed for the upcoming permit term shall be submitted along with the final report.	12/31/2023
Annual Mercury Reports After Permit Expiration: In the event that this permit is not reissued on time, the permittee shall continue to submit annual mercury reports each year covering pollutant	

minimization activities implemented and mercury concentration trends.	

6 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).

6.1 Reporting and Monitoring Requirements

6.1.1 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.

6.1.2 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.

6.1.3 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.

6.1.4 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 BOD5 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.

6.1.5 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.

6.1.6 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.

6.1.7 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.

6.1.8 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.

6.2 System Operating Requirements

6.2.1 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.**

6.2.2 Flow Meters

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

6.2.3 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.

6.2.4 Sludge Management

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

6.2.5 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.

6.2.6 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.

6.2.7 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.

6.2.8 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.

6.2.9 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.

6.2.10 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).

6.3 Sewage Collection Systems

6.3.1 Sanitary Sewage Overflows and Sewage Treatment Facility Overflows

6.3.1.1 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.

6.3.1.2 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.

6.3.1.3 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.

6.3.1.4 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.

6.3.2 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.

6.3.3 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.

6.4 Surface Water Requirements

6.4.1 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.

6.4.2 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.

6.4.3 Effluent Temperature Requirements

Weekly Average Temperature – If temperature limits are included in this permit, Weekly Average Temperature shall be calculated as 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 pursuant to Wis. Adm. Code, s. NR 102.28. '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 pursuant to Wis. Adm. Code, s. NR 102.29.

6.4.4 Visible Foam or Floating Solids

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

6.4.5 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.

6.4.6 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.

6.4.7 Fecal Coliform

The monthly limit for fecal coliform shall be expressed as a geometric mean. In calculating the geometric mean, a value of 1 is used for any result of 0.

6.4.8 Seasonal Disinfection

Disinfection shall be provided from May 1 through September 30 of each year. Monitoring requirements and the limitations for Fecal Coliform (interim) and *E. coli* apply only during the period in which disinfection is required. Whenever chlorine is used for disinfection or other uses, the limitations and monitoring requirements for residual chlorine shall apply. A dechlorination process shall be in operation whenever chlorine is used.

6.4.9 Whole Effluent Toxicity (WET) Monitoring Requirements

In order to determine the potential impact of the discharge on aquatic organisms, static-renewal toxicity tests shall be performed on the effluent in accordance with the procedures specified in the *"State of Wisconsin Aquatic Life Toxicity Testing Methods Manual, 2nd Edition" (PUB-WT-797*, November 2004) as required by NR 219.04, Table A, Wis. Adm. Code). All of the WET tests required in this permit, including any required retests, shall be conducted on the *Ceriodaphnia dubia* and fathead minnow species. Receiving water samples shall not be collected from any point in contact with the permittee's mixing zone and every attempt shall be made to avoid contact with any other discharge's mixing zone.

6.4.10 Whole Effluent Toxicity (WET) Identification and Reduction

Within 60 days of a retest which showed positive results, the permittee shall submit a written report to the Biomonitoring Coordinator, Bureau of Water Quality, 101 S. Webster St., PO Box 7921, Madison, WI 53707-7921, which details the following:

- A description of actions the permittee has taken or will take to remove toxicity and to prevent the recurrence of toxicity;
- A description of toxicity reduction evaluation (TRE) investigations that have been or will be done to identify potential sources of toxicity, including the following actions:

    a) Evaluate the performance of the treatment system to identify deficiencies contributing to effluent toxicity (e.g., operational problems, chemical additives, incomplete treatment)

    b) Identify the compound(s) causing toxicity. Conduct toxicity screening tests on the effluent at a minimum of once per month for six months to determine if toxicity recurs. Screening tests are WET tests using fewer effluent concentrations conducted on the most sensitive species. If any of the screening tests contain toxicity, conduct a toxicity identification evaluation (TIE) to determine the cause. TIE methods are available from USEPA "Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures (EPA/600/6-91/003) and "Toxicity

Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I" (EPA/600/6-91/005F).

c) Trace the compound(s) causing toxicity to their sources (e.g., industrial, commercial, domestic)

d) Evaluate, select, and implement methods or technologies to control effluent toxicity (e.g., in-plant or pretreatment controls, source reduction or removal)

- Where corrective actions including a TRE have not been completed, an expeditious schedule under which corrective actions will be implemented;
- If no actions have been taken, the reason for not taking action.

The permittee may also request approval from the Department to postpone additional retests in order to investigate the source(s) of toxicity. Postponed retests must be completed after toxicity is believed to have been removed.

6.4.11 Reopener Clause

Pursuant to s. 283.15(11), Wis. Stat. and 40 CFR 131.20, the Department may modify or revoke and reissue this permit if, through the triennial standard review process, the Department determines that the terms and conditions of this permit need to be updated to reflect the highest attainable condition of the receiving water.

6.5 Land Application Requirements

6.5.1 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.

6.5.2 General Sludge Management Information

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

6.5.3 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.

6.5.4 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.

6.5.5 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

6.5.6 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

6.5.7 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.

6.5.8 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.

6.5.9 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.

6.5.10 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.

6.5.11 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.

6.5.12 Class B Sludge: Anaerobic Digestion

Treat the sludge in the absence of air for a specific mean cell residence time at a specific temperature. Values for the mean cell residence time and temperature shall be between 15 days at 35° C to 55° C and 60 days at 20° C. Straight-line interpolation to calculate mean cell residence time is allowable when the temperature falls between 35° C and 20° C.

6.5.13 Vector Control: Volatile Solids Reduction

The mass of volatile solids in the sludge shall be reduced by a minimum of 38% between the time the sludge enters the digestion process and the time it either exits the digester or a storage facility. For calculation of volatile solids reduction, the permittee shall use the Van Kleeck equation or one of the other methods described in "Determination of Volatile Solids Reduction in Digestion" by J.B. Farrell, which is Appendix C of EPA's *Control of Pathogens in Municipal Wastewater Sludge* (EPA/625/R-92/013). The Van Kleeck equation is:

$$VSR\% = \frac{VS_{IN} - VS_{OUT}}{} \times 100$$

$$VS_{IN} - (VS_{OUT} \text{ X } VS_{IN})$$

Where: VS_{IN} = Volatile Solids in Feed Sludge (g VS/g TS)

VS_{OUT} = Volatile Solids in Final Sludge (g VS/g TS)

VSR% = Volatile Solids Reduction, (Percent)

7 Summary of Reports Due

FOR INFORMATIONAL PURPOSES ONLY

Description	Date	Page
Phosphorus Schedule - Continued Optimization -Optimization	January 1, 2020	13
Phosphorus Schedule - Continued Optimization -Progress Report #2	January 1, 2021	13
Phosphorus Schedule - Continued Optimization -Progress Report #3	January 1, 2022	13
Phosphorus Schedule - Continued Optimization -Progress Report #4	January 1, 2023	13
Phosphorus Schedule - Continued Optimization -Progress Report #5	January 1, 2024	13
Watershed Project Annual Reports -Annual Watershed Report	May 1, 2020	13
Watershed Project Annual Reports -Annual Watershed Report #2	May 1, 2021	13
Watershed Project Annual Reports -Annual Watershed Report #3	May 1, 2022	13
Watershed Project Annual Reports -Annual Watershed Report #4	May 1, 2023	13
Watershed Project Annual Reports -Annual Watershed Report #5	April 1, 2024	13
Watershed Project Annual Reports -Agreement Modification	See Permit	14
Watershed Project Annual Reports -Continued Coverage	See Permit	14
Watershed Project Annual Reports -Annual Verification of Payment After Permit Expiration	See Permit	14
Mercury Pollutant Minimization Program -Annual Mercury Progress Reports	January 31, 2020	14
Mercury Pollutant Minimization Program -Annual Mercury Progress Report #2	January 31, 2021	14
Mercury Pollutant Minimization Program -Annual Mercury Progress Report #3	January 31, 2022	14
Mercury Pollutant Minimization Program -Annual Mercury Progress Report #4	January 31, 2023	14
Mercury Pollutant Minimization Program -Final Mercury Report	December 31, 2023	14
Mercury Pollutant Minimization Program -Annual Mercury Reports After Permit Expiration	See Permit	15
Compliance Maintenance Annual Reports (CMAR)	by June 30, each year	17
General Sludge Management Form 3400-48	prior to any significant sludge management changes	25
Characteristic Form 3400-49 and Lab Report	by January 31 following each year of analysis	25
Land Application Report Form 3400-55	by January 31, each year whether or not non-exceptional quality sludge is land	26

	applied	
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	27
Wastewater Discharge Monitoring Report	no later than the date indicated on the form	16

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 Reg - Dodgeville, 1500 N. Johns Street, Dodgeville, WI 53533-2116

Permit Fact Sheet

General Information

Permit Number:	WI-0020109-09-1 Permit Modification	
Permittee Name:	CITY OF RICHLAND CENTER	
Address:	P O Box 312	
City/State/Zip:	Richland Center WI 53581	
Discharge Location:	West bank of the Pine River, 3,538 ft downstream of the Twin Bluffs Road bridge	
Receiving Water:	Pine River (Willow Creek Watershed, LW12, Lower Wisconsin River Basin) in Richland County	
StreamFlow ($Q_{7,10}$):	66 cfs	
Stream Classification:	Warm Water Sport Fishery (WWSF)	
Design Flow(s)	Annual Average	1.006 MGD
Significant Industrial Loading?	Yes, Allied Machinery and Rockwell Automation. In February 2017, Rockwell Automation received a categorical Pretreatment Industrial Notification from the department.	
Operator at Proper Grade?	Yes, A1, B, C, D, L, and SS	
Approved Pretreatment Program?	N/A	

Facility Description

Richland Center operates a wastewater treatment plant serving a population of 5,186. The plant provides secondary treatment and nutrient removal to a combination of domestic, commercial, and industrial wastewater. Treatment units include: raw wastewater screening and grit removal, primary clarification, activated sludge secondary treatment with biological phosphorus removal, final clarification, and seasonal disinfection using ultraviolet light. Solids produced during treatment are stabilized using anaerobic digestion followed by sludge dewatering through a rotary drum thickener and centrifuge, with final storage in the cake sludge storage building prior to land application to DNR approved farmland.

The facility is designed to treat an average daily flow of 1.006 MGD and presently receives an average of 0.54 MGD in 2016. Richland Center Renewable Energy (RCRE) (WI-0064718-02-0), a wastewater treatment facility jointly owned by Schreiber Foods and Foremost Farms Cooperative USA, now receives much of the industrial wastewater previously sent to the City's WWTP. RCRE's WPDES permit originally became effective on January 1, 2012 and they began discharging in September 2012. Richland Center built a new WWTP, which went into operation in November 2015 with the addition of biological phosphorus removal technology. The old WWTP was located in the City, the new one is a couple of miles southeast of the City. The Department found the permittee to be in compliance with the current permit.

Note: Shaded cells indicate changes from the previous permit.

Permit modification completed to update the due dates on the Final Mercury Report that was listed as 1/31/23 and should have been listed as 12/31/23. The fact sheet listed this date correctly and therefore no changes were made in the fact sheet.

Sample Point Designation

Sample Point Number	Discharge Flow, Units, and Averaging Period	Sample Point Location, WasteType/sample Contents and Treatment Description (as applicable)
703	0.54 MGD (CY 2016)	Influent: 24-Hr flow proportional composite sampler intake located in the influent channel after the flow meter and prior to the mechanical fine screen in the headworks building.
001	N/A not required	Effluent: 24-Hr flow proportional composite sampler intake located before the UV channel, prior to discharge to the Pine River. Grab samples for mercury collected at the sample point, all other grab samples collected after UV.
002	77 dry U.S. tons (CY 2017)	Anaerobically digested, Cake, Class B. Representative sludge samples shall be collected from the cake sludge storage building.
108	N/A	In-Plant Monitoring - Collect the mercury field blank using standard sample handling procedures.

1 Influent - Proposed Monitoring

Sample Point Number: 703- COMBINED INFLUENT

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Continuous	Continuous	
BOD5, Total		mg/L	5/Week	24-Hr Flow Prop Comp	
Suspended Solids, Total		mg/L	5/Week	24-Hr Flow Prop Comp	
Mercury, Total Recoverable		ng/L	Monthly	Grab	See 'Mercury Monitoring' section

Changes from Previous Permit:

Mercury monitoring increased to monthly and sample type changed to grab which is the standard mercury sample type.

Explanation of Limits and Monitoring Requirements

BOD_5 and Total Suspended Solids: Tracking of BOD_5, and Suspended Solids are required for percent removal requirements found in s. NR 210.05, Wis. Adm. Code and in the Standard Requirements of the permit.

Mercury, Total Recoverable: Mercury monitoring is included in the proposed permit pursuant to s. NR 106.145, Wis. Adm. Code. Required field blanks for Mercury monitoring per ss. NR 106.145(9) and (10), Wis. Adm. Code, requirements. The permittee shall collect a mercury field blank for each set of mercury samples (a set of samples may include a combination of influent, effluent or other samples all collected on the same day). The permittee shall report results of influent and effluent samples and field blanks to the Department on Discharge Monitoring Reports.

2 Inplant - Proposed Monitoring and Limitations

Sample Point Number: 108- GEN PLANT (Hg blank)

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Mercury, Total Recoverable		ng/L	Monthly	Blank	See 'Mercury Monitoring' section

Changes from Previous Permit:

Sample frequency changed to monthly.

Explanation of Limits and Monitoring Requirements

Required field blanks for Mercury monitoring per ss. NR 106.145(9) and (10), Wis. Adm. Code, requirements. The permittee shall collect a mercury field blank for each set of mercury samples (as set of samples may include a combination of influent, effluent or other samples all collected on the same day). The permittee shall report results of influent and effluent samples and field blanks to the Department on Discharge Monitoring Reports.

3 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**
BOD5, Total	Weekly Avg	45 mg/L	5/Week	24-Hr Flow Prop Comp	
BOD5, Total	Monthly Avg	30 mg/L	5/Week	24-Hr Flow Prop Comp	
Suspended Solids, Total	Weekly Avg	45 mg/L	5/Week	24-Hr Flow Prop Comp	
Suspended Solids, Total	Monthly Avg	30 mg/L	5/Week	24-Hr Flow Prop Comp	
Nitrogen, Ammonia (NH3-N) Total	Daily Max	17 mg/L	5/Week	24-Hr Flow Prop Comp	
Nitrogen, Ammonia (NH3-N) Total	Weekly Avg	17 mg/L	5/Week	24-Hr Flow Prop Comp	
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	17 mg/L	5/Week	24-Hr Flow Prop Comp	
Fecal Coliform	Geometric Mean - Wkly	656 #/100 ml	2/Week	Grab	May through Sept
Fecal Coliform	Geometric Mean - Monthly	400 #/100 ml	2/Week	Grab	May through Sept

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
pH Field	Daily Max	9.0 su	5/Week	Grab	
pH Field	Daily Min	6.0 su	5/Week	Grab	
Phosphorus, Total	Monthly Avg	1.0 mg/L	5/Week	24-Hr Flow Prop Comp	This is an interim MDV limit. See the MDV/Phosphorus sections and phosphorus schedules.
Phosphorus, Total		lbs/month	Monthly	Calculated	Report the total monthly phosphorus discharged in lbs/month on the last day of the month on the DMR. See Standard Requirements for 'Appropriate Formulas' to calculate the Total Monthly Discharge in lbs/month.
Phosphorus, Total		lbs/yr	Annual	Calculated	Report the sum of the total monthly discharges (for the months that the MDV is in effect) for the calendar year on the Annual report form.
Mercury, Total Recoverable	Daily Max	4.3 ng/L	Monthly	Grab	This is an Alternative Mercury Effluent Limit. See 'Mercury Monitoring' section and the Mercury Compliance Schedule.
Acute WET		TUa	See Listed Qtr(s)	24-Hr Flow Prop Comp	See 'WET testing' section
Chronic WET	Monthly Avg	11.6 TUc	See Listed Qtr(s)	24-Hr Flow Prop Comp	See 'WET testing' section
Chloride		mg/L	Monthly	24-Hr Flow Prop Comp	Monitoring only in 2022
Nitrogen, Total Kjeldahl		mg/L	Quarterly	24-Hr Flow Prop Comp	
Nitrogen, Nitrite + Nitrate Total		mg/L	Quarterly	24-Hr Flow Prop Comp	
Nitrogen, Total		mg/L	Quarterly	Calculated	

Changes from Previous Permit

Fecal Coliform geometric mean weekly average added. Mercury AEL was added in the proposed permit and monitoring frequency increased to monthly. Acute and Chronic WET testing annually added along with a chronic WET limit. Nitrogen series monitoring added.

Phosphorus MDV - The permittee has applied for a multi-discharger variance (MDV) for phosphorus for this permit term and the application has been approved by the Department. An MDV interim limit of 0.8 mg/L has been added that goes into effect per a compliance schedule. The permittee is now required to report the total amount of phosphorus discharged in lbs/month and lbs/year.

Explanation of Limits and Monitoring Requirements

Categorical Limits

BOD_5, Total Suspended Solids, pH, Dissolved Oxygen, and Fecal Coliforms: Standard municipal wastewater requirements for BOD_5, total suspended solids, dissolved oxygen, pH, and fecal coliforms are included based on ch. NR 210, Wis. Adm. Code 'Sewage Treatment Works' requirements for discharges to fish and aquatic life streams. Chapter NR 102, Wis. Adm. Code 'Water Quality Standards for Surface Waters' also specifies requirements for pH for fish and aquatic life streams.

Regulatory changes to s. NR 205.065, Wis. Adm. Code, 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). Fecal coliform limitations weekly average geometric mean limits have been added to from the previous permit in order to comply with this regulation.

Water Quality Based Limits and WET Requirements

Refer to the WQBEL memo for the detailed calculations, prepared by the Water Quality Bureau dated February 12, 2018 used for this reissuance.

Nitrogen, Ammonia: Current acute and chronic ammonia toxicity criteria for the protection of aquatic life are included in Table 2C and Table 4B of ch. NR 105, Wis. Adm. Code (effective March 1, 2004). Subchapter IV of ch. NR 106 establishes procedures for calculating water quality-based effluent limitations (WQBELs) for ammonia (effective March 1, 2004). The current daily maximum, ammonia limits are retained in the proposed permit. Weekly average, and monthly average were added. Regulatory changes to s. NR 205.065, Wis. Adm. Code, 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).

Phosphorus – Phosphorus rules became effective December 1, 2010 per NR 217, Wis. Adm. Code, that required the permittee to comply with water quality based effluent limits (WQBELs) for total phosphorous. The final phosphorus WQBELs are 0.225 mg/L monthly average and 0.075 mg/L six-month average and were to become effective as scheduled unless a variance was granted. For this permit term, the permittee has applied for the Multi-Discharger Variance (MDV) for phosphorus as provided for in s. 283.16, Wis. Stats., and approved by USEPA on February 6, 2017 until February 5, 2027. The permittee qualifies for the MDV because it is an existing source and a major facility upgrade is needed to comply with the applicable phosphorus WQBELs, thereby creating a financial burden. The effluent limit for total phosphorus is 0.8 mg/L as an average monthly limit as an MDV interim limit. The limit was derived using DMR data from January 2015 to September 2017.

Conditions of the MDV require the permittee to optimize phosphorus removal throughout the proposed permit term, comply with interim limits and implement a plan that is designed to result in annual reductions from other sources in the basin based on the pounds of phosphorus discharged during the previous year in excess of the specified target value.

Temperature and Chloride: When the representative data is compared to the calculated limits, the data shows there is no reasonable potential for the permittee to exceed the calculated limits for temperature and chlorides. Therefore, no limits are included in the proposed permit. Temperature monitoring was removed from the proposed permit. The proposed permit includes monthly chloride monitoring in the fourth year of the permit, calendar year 2022 that will be used for the next permit reissuance.

Mercury, Total Recoverable: Effluent data indicates that a mercury limit is required. An analysis was completed to determine the mercury concentration from the City of Richland Center at the receiving water outfall. These data were used to determine that there is reasonable potential to exceed the calculated mercury limitation of 1.3 ng/L. However, s. NR

106.145, Wis. Adm. Code, provides for a variance from water quality standards for this substance in light of its presence in the environment and Richland Center is requesting this variance. An Alternative Mercury Effluent Limit (AMEL) is established as the limit contained in the previous permit of 4.3 ng/L. The permit requires Richland Center to perform monthly, field blank and effluent monitoring, maintain mercury discharge concentrations at or below 4.3 ng/L as a daily maximum, and implement a Pollutant Minimization Program designed to minimize mercury influent to the plant. Requirements for mercury are included in s. NR 106.145, Wis. Adm. Code., and s. NR 106.145(4), Wis. Adm. Code, establishes eligibility for alternative mercury effluent limits.

Acute and Chronic WET: Whole effluent toxicity (WET) testing requirements are determined in accordance with ss. NR 106.08 and NR 106.09 Wis. Adm. Code, as revised in August 2016. (See the current version of the Whole Effluent Toxicity Program Guidance Document and checklist and WET information, guidance and test methods at http://dnr.wi.gov/topic/wastewater/wet.html). Acute and Chronic WET tests are scheduled in the rotating quarters annually as listed in the permit. In accordance with the requirements specified in s. NR 106.08, Wis. Adm. Code, a chronic WET limit is required. A minimum annual chronic WET monitoring is required when a limit is present in accordance with Federal regulations at 40 CFR 122.44(i).

Total Nitrogen Monitoring (NO2+NO3, TKN and Total N): Based on the "Guidance for Total Nitrogen Monitoring in WPDES Permits" dated October 2012, quarterly effluent monitoring for Total Nitrogen is required for municipal majors discharging to the Mississippi River Basin. Also, quarterly effluent monitoring for Total Nitrogen is required for municipal facilities discharging to the Mississippi River Basin whose permit applications show > 40 mg/L Total Nitrogen due to industrial contribution.

4 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	B	Cake	Anaerobic Digestion	Volatile Solids Reduction	Land Application	80

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 landapplying sludge from this facility

Is a priority pollutant scan required? **NA**

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- SLUDGE

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Solids, Total		Percent	Annual	Composite	
Arsenic Dry Wt	Ceiling	75 mg/kg	Annual	Composite	
Arsenic Dry Wt	High Quality	41 mg/kg	Annual	Composite	
Cadmium Dry Wt	Ceiling	85 mg/kg	Annual	Composite	
Cadmium Dry Wt	High Quality	39 mg/kg	Annual	Composite	
Copper Dry Wt	Ceiling	4,300 mg/kg	Annual	Composite	
Copper Dry Wt	High Quality	1,500 mg/kg	Annual	Composite	
Lead Dry Wt	Ceiling	840 mg/kg	Annual	Composite	
Lead Dry Wt	High Quality	300 mg/kg	Annual	Composite	
Mercury Dry Wt	Ceiling	57 mg/kg	Annual	Composite	
Mercury Dry Wt	High Quality	17 mg/kg	Annual	Composite	
Molybdenum Dry Wt	Ceiling	75 mg/kg	Annual	Composite	
Nickel Dry Wt	Ceiling	420 mg/kg	Annual	Composite	
Nickel Dry Wt	High Quality	420 mg/kg	Annual	Composite	
Selenium Dry Wt	Ceiling	100 mg/kg	Annual	Composite	
Selenium Dry Wt	High Quality	100 mg/kg	Annual	Composite	
Zinc Dry Wt	Ceiling	7,500 mg/kg	Annual	Composite	
Zinc Dry Wt	High Quality	2,800 mg/kg	Annual	Composite	
Nitrogen, Total Kjeldahl		Percent	Annual	Composite	
Nitrogen, Ammonium (NH4-N) Total		Percent	Annual	Composite	
Phosphorus, Total		Percent	Annual	Composite	
Phosphorus, Water Extractable		% of Tot P	Annual	Composite	
Potassium, Total Recoverable		Percent	Annual	Composite	
PCB Total Dry Wt	Ceiling	50 mg/kg	Once	Composite	Once in 2020
PCB Total Dry Wt	High Quality	10 mg/kg	Once	Composite	Once in 2020

Changes from Previous Permit:

No changes

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), Wis. Adm. Code. Requirements for pathogens are specified in s. NR 204.07(6) and in s. NR 204.07 (7), Wis. Adm. Code, for vector attraction requirements. Limitations for PCBs are addressed in s. NR 204.07(3)(k), Wis. Adm. Code.

Land application of waste shall be done in accordance with the permit conditions and applicable codes. All land application sites shall be approved prior to their use. To receive a list of approved sites, or to be notified of potential approvals, contact the WDNR Compliance Staff.

5 Schedules

5.1 Phosphorus Schedule - Continued Optimization

The permittee is required to optimize performance to control phosphorus discharges per the following schedule.

Required Action	Due Date
Optimization: The permittee shall continue to implement the optimization plan as previously approved to optimize performance to control phosphorus discharges. Submit a progress report on optimizing removal of phosphorus by the Due Date.	01/01/2020
Progress Report #2: Submit a progress report on optimizing removal of phosphorus.	01/01/2021
Progress Report #3: Submit a progress report on optimizing removal of phosphorus.	01/01/2022
Progress Report #4: Submit a progress report on optimizing removal of phosphorus.	01/01/2023
Progress Report #5: Submit a progress report on optimizing removal of phosphorus.	01/01/2024

Explanation of Schedule

Per s. 283.16(6)(a), Wis. Stats. the Department may include a requirement that the permittee optimize the performance of a point source in controlling phosphorus discharges, which may be necessary to achieve compliance with multi-discharger variance interim limits. This compliance schedule requires the permittee to continue to implement the optimization plan that was approved during the previous permit term.

5.2 Watershed Project Annual Reports

The permittee is required to submit annual watershed project reports in accordance with the following schedule. Note that this section may be modified as the MDV tracking tool becomes available.

Required Action	Due Date
Annual Watershed Report: Submit an annual report by May 1 of each year that documents: 1) The calculated monthly discharge of phosphorus in lbs/month and the calculated monthly target value in lbs/month for the previous calendar year. See the calculation steps in the Surface Water section of this permit. 2) The calculated Annual Offset to be generated by the approved Watershed Plan for the previous calendar year. See the calculation steps in the Surface Water section of this permit. 3) Verification that Watershed Plan # MDV-2018-001 was implemented as approved and practices are operated and maintained consistent with the approved plan.	05/01/2020

4) The pounds of phosphorus reduction achieved through the approved Watershed Plan for the previous calendar year. 5) The source of the phosphorus reductions with a reference to the approved Watershed Plan used to generate the offset. 6)Identification of any non-compliance or failure to implement the approved Watershed Plan. The first report is due by the specified Due Date.	
Annual Watershed Report #2: Submit an annual report that includes the documentation listed above.	05/01/2021
Annual Watershed Report #3: Submit an annual report that includes the documentation listed above.	05/01/2022
Annual Watershed Report #4: Submit an annual report that includes the documentation listed above.	04/01/2023
Agreement Modification: If the required offset of phosphorus is not generated by the approved Watershed Plan in any year, the permittee shall propose a modification to the binding written agreement or seek alternative compliance or variance options allowed under state law. Note: Failure to propose a modification to achieve compliance with the offset requirements may result in termination of the binding written agreement.	
Continued Coverage: If the permittee intends to seek a renewed variance, an application for the MDV shall be submitted as part of the application for permit reissuance in accordance with s. 283.16(4)(b), Wis. Stats.	
Annual Verification of Payment After Permit Expiration: In the event that this permit is not reissued prior to the expiration date, the permittee shall continue to submit annual reports to the Department including the information above by May 1 each year.	

Explanation of Schedule

Subsection 283.16(6)(b), Wis. Stats., requires permittees that have received approval for the multi-discharger variance (MDV) to implement a watershed project that is designed to reduce non-point sources of phosphorus within the HUC 8 watershed in which the permittee is located. The permittee has selected the "Watershed Project" watershed option described in s. 283.16(8m), Wis. Stats. Under this option the permittee shall implement a plan that is designed to result in annual reductions from other sources in the basin based on the pounds of phosphorus discharged during the previous year in excess of the specified target value. This schedule requires the permittee to submit annual reports to the Department indicating adherence to the approved watershed plan.

5.3 Mercury Pollutant Minimization Program

As a condition of the variance to the water quality based effluent limitation(s) for mercury granted in accordance with s. NR 106.145(6), Wis. Adm. Code, the permittee shall perform the following actions.

Required Action	Due Date
Annual Mercury Progress Reports: Submit an annual mercury progress report. The annual mercury progress report shall: Indicate which mercury pollutant minimization activities or activities outlined in the approved Pollutant Minimization Plan have been implemented; Include an analysis of trends in monthly and annual total effluent mercury concentrations based on	01/31/2020

mercury sampling; and Include an analysis of how influent and effluent mercury varies with time and with significant loading of mercury such as loads from industries into the collection system. The first annual mercury progress report is to be submitted by the Due Date.	
Annual Mercury Progress Report #2: Submit a mercury progress report as defined above.	01/31/2021
Annual Mercury Progress Report #3: Submit a mercury progress report as defined above.	01/31/2022
Annual Mercury Progress Report #4: Submit a mercury progress report as defined above.	01/31/2023
Final Mercury Report: Submit a final report documenting the success in reducing mercury concentrations in the effluent, as well as the anticipated future reduction in mercury sources and mercury effluent concentrations. The report shall summarize mercury pollutant minimization activities that have been implemented during the current permit term and state which, if any, pollutant minimization activities from the approved pollutant minimization plan were not pursued and why. The report shall include an analysis of trends in monthly and annual total effluent mercury concentrations based on mercury sampling during the current permit term. The report shall also include an analysis of how influent and effluent mercury varies with time and with significant loading of mercury such as loads from industries into the collection system. If the permittee intends to reapply for a mercury variance per s. NR 106.145, Wis. Adm. Code, for the reissued permit, a detailed pollutant minimization plan outlining the pollutant minimization activities proposed for the upcoming permit term shall be submitted along with the final report.	12/31/2023
Annual Mercury Reports After Permit Expiration: In the event that this permit is not reissued on time, the permittee shall continue to submit annual mercury reports each year covering pollutant minimization activities implemented and mercury concentration trends.	

Explanation of Schedule

Richland Center has applied for a variance from the mercury water quality criterion for the protection of wildlife (1.3 ng/L). As a condition of receiving a mercury variance, s. NR 106.145(7), Wis. Adm. Code, requires the permittee to continue to develop and implement a Mercury Pollutant Minimization Program (PMP). The compliance schedule requires the permittee to implement the Mercury PMP and submit annual status reports on PMP activities. Annual status reports are required to be submitted by January 31st of the following year, regardless of whether or not the permit expires without being reissued.

Special Reporting Requirements

The permittee has applied for a mercury variance and the multi-discharger variance for phosphorus these variances require additional reporting in the permit.

Attachments:

Multi-Discharger Variance (MDV) Application
MDV Conditional Approval Letter
MDV Evaluation Checklist
Mercury Variance Application
Substantial Compliance Determination

Water Quality Based Effluent Limits with Map(s)

WET Checklist Summary

Public Notice

Proposed Expiration Date:

06/30/2024

Justification Of Any Waivers From Permit Application Requirements

None

Prepared By: Jennifer Jerich, Wastewater Specialist

Date: 11/15/2018

Revision date after Fact Sheet: 12/14/2018 No changes made

Revision date after Public Notice: 02/07/2104 small typographical changes made

Modification Date: 11/9/2022 Final Mercury Report due date was incorrect in the reissued permit. No changes made in the fact sheet at the dates were correctly listed. Dates changes in permit are shown above.

City of Richland Center
2015 Wastewater Facilities

Cover Page:



Project History:

The City of Richland Center's original wastewater treatment facility was located between State Highway 14 and the Pine River, near the downtown. This facility dated back to the 1970's with improvements in 1992, 1993, and 2001. After this last upgrade the wastewater facility included preliminary treatment with screening and grit removal, primary treatment by a high rate dissolved air flotation device, activated sludge secondary treatment, anaerobic digestion, and liquid sludge storage.

In 2004 the City began planning for this most recent upgrade. The existing facility had reached its design capacity with much of the equipment and structures reaching the end of their useful life. The planning process considered upgrading infrastructure on the existing site close to the City center and relocating the facility to a remote site more than six miles to the east of the City. The resulting plan recommended relocating the facility which would provide the Richland Center Utilities more room for future expansion and better able to serve nearby communities and rural residents should they wish to contract with the City's Utilities, which would offset operational costs.

Project Description:

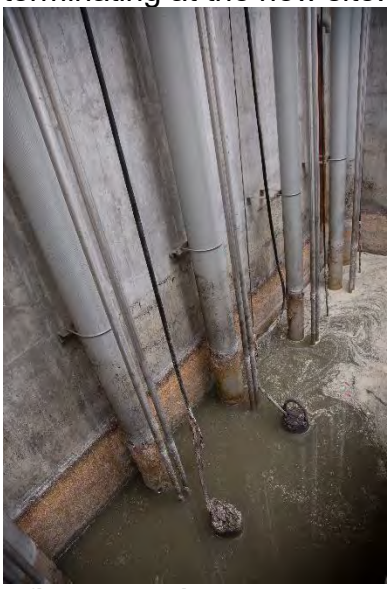
Construction of the new wastewater treatment facility began in 2014 and was substantially completed in the winter of 2015. It's been designed and constructed to produce a high-quality effluent for discharge to the Pine River, and to maximize

operational flexibility and energy conservation. The new facility is located off of Country Highway TB straddling the townships of Buena Vista and Orion.

Facility treatment processes include wastewater transmission through a seven mile long force-main, preliminary treatment including fine screening and grit removal, primary settling, secondary biological treatment including enhanced biological phosphorus removal, ultraviolet (UV) disinfection, anaerobic digestion, and biosolids dewatering and natural drying to produce a spreadable fertilizer/soil additive.

Influent Pumping and Force-main:

The new main pumping station is located on the site of the original Richland Center wastewater treatment facility and includes five (5) submersible pumps equipped with variable frequency drives used to regulate flow to the new wastewater treatment facility. Influent pumps direct raw wastewater from the City through the seven mile long pipeline terminating at the new site.



Influent Pumping

In order to reduce fouling of the pipeline and reduce odor issues associated with the long detention time, the pumping system is provided with flushing and “pigging” capabilities. Periodic flushing is achieved through automatic controls which allow the wet well to surcharge and then activating multiple pumps to develop high flows and velocities in the pipeline. “Pigging” involves the insertion of an 18-inch diameter foam swab, or “pig”, into the pipeline to aid in scouring the inside of the pipe. The pig is retrieved at the Hauled Waste Receiving station at the new WWTF site.



Pump Piping with Pig Launcher

Liquid Treatment:

Preliminary Treatment

Preliminary treatment is a mechanical process that removes plastics and rags by means of screening, and sand through use of a grit separator and washer. This process protects downstream equipment from unnecessary wear and damage and reduces the buildup of heavy deposits in tanks. Preliminary treatment is located in the Headworks building and includes a mechanical fine screen using a stair-style bar screen, and grit removal using a vortex grit chamber and conical grit washer.



Influent Stair Screen



Grit Washer

Influent flow metering and sampling are also accomplished at the Headworks building. Wastewater samples are tested in the on-site laboratory to determine the amount of pollutants flowing to the facility.

Odor issues were expected at the Headworks building due to the length of the pipeline extending to the site and discharging at this structure. To combat odors and corrosion

in the Headworks building an odor control system was installed to evacuate and treat process air from the influent channels.



Odor Control System

Hauled Waste Receiving

A receiving station was constructed at the new site to accept hauled wastes from the surrounding rural community as well as local industries. The station includes a rock trap for large debris, flow meter, discrete sampler, and mechanical screen. Two underground tanks are provided to allow for temporary storage and segregation of liquid wastes. The facility's SCADA (Supervisory Control and Data Acquisition) system allows for logging of haulers' information and generates billing information for resulting fees.



Hauled Waste Receiving Building



Hauled Waste Receiving Screen

Primary Clarification

Primary treatment is performed with two activated primary clarifiers that provide settling of heavier organic material and inert solids in the raw wastewater prior to secondary treatment. This heavier organic material and solids settle to the floor of the clarifiers and are drawn to a center sump in the bottom of the tank. From the sump the solids are pumped by double disk pumps to the anaerobic digestion process to become stabilized.



Primary Clarifier



Primary Sludge Pumping

Allowing heavy organic matter to sit in the clarifiers without oxygen and to be recycled around the clarifiers promote a fermentation process in which volatile fatty acids are produce to aid in the removal of phosphorus in the secondary treatment process.

Secondary Treatment

The secondary treatment process consists of selector basins, aeration basins and final clarifiers and provides biological treatment of wastewater where most of the BOD (biochemical oxygen demand) is removed, ammonia is converted to a less toxic nitrate form, and phosphorus is taken up biologically.

The liquid discharge from the primary clarifiers blends with the return activated sludge (RAS) in the ***selector basins***. The selector basins are operated to maintain anoxic and anaerobic conditions that promote an environment to remove the phosphorus biologically rather than via chemical addition.



Selector Basins

The ***aeration basins*** receive flow from the selector basins and are used to reduce BOD, convert ammonia to nitrate, and further promote biological phosphorus uptake. Two basins are provided with fine bubble diffusers to provide air to promote the growth of aerobic microbes to consume the biological waste. Instrumentation is provided to monitor the dissolved oxygen concentration in the basins and to provide a means to automatically control air flow to the basins.



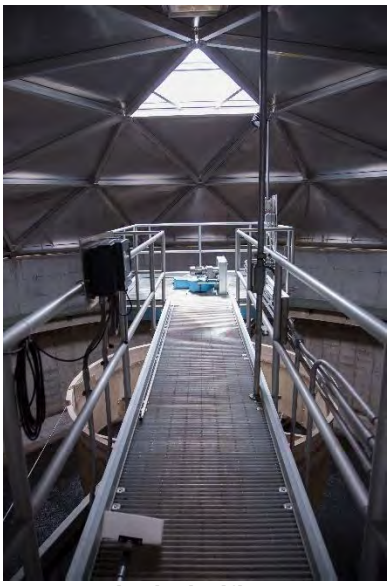
Aeration Basin



Aeration Blowers

High efficiency blowers, located in the Process Control Building, are automatically controlled to maintain an adequate air flow to the basins. Control is achieved through the facility's SCADA system using "most open valve" control strategy. This provides an adequate balance of air between the basins and helps to maintain an adequate dissolved oxygen concentration in the aeration basins.

Effluent from the aeration basins flows to the ***final clarifiers*** which provide the final settling of solids and treatment microbiology. Microbial floc or activated sludge settles to the bottom of the clarifier and the clear liquid is allowed to overflow the perimeter weirs to continue on to the disinfection process. The settled sludge is pumped back to the selector basin as RAS, since this material contains the aerobic microbes that are used in the secondary treatment process. A smaller portion of this sludge is wasted by pumping it to the waste activated sludge (WAS) thickener and eventually on to the anaerobic digester for final stabilization.



Final Clarifier



RAS Pumps and Piping

Ultraviolet Disinfection

Clear water from the final clarifiers then flows to the ultraviolet disinfection process where UV light is used to reduce the disease causing bacteria, or pathogens, in the water discharged to the Pine River. The effluent wastewater is again sampled to verify that adequate treatment is being provided and meets the limits established by the WDNR and EPA before being discharged to the river.



UV Disinfection

Biosolids Treatment:

Waste Activated Sludge Thickening

Waste activated sludge from the final clarifiers is pumped to the rotary drum thickener (RDT), located in the Sludge Processing Building where polymer is added to improve thickening characteristics. Sludge thickening increases the sludge concentration to between 4% and 5% solids before being pumped to the anaerobic digester.



Sludge Thickener

Anaerobic Digestion

Following thickening, waste activated sludge is combined with primary sludge from the activated primary clarifiers, which typically has a solids concentration between 3.5% and 4.5%. Combined primary sludge and thickened WAS are fed to the anaerobic digester, where the sludge is held for up to 40 days at 98°F and in the absence of oxygen. The anaerobic digestion process stabilizes the sludge and produces methane gas. Digester temperature is maintained by recirculating sludge through a combination boiler/heat exchanger. Methane gas from the anaerobic digestion process is used as a fuel in the boiler system to provide heat for the process and could be used to supply building heat in the future.



Combination Boiler/Heat Exchanger



Anaerobic Digester and Flare

Sludge Dewatering

After digestion, liquid biosolids are y pumped to a sludge dewatering centrifuge where it is combined with polymer and dewatered to a solids concentration of near 20%. The product is then called biosolids cake. Cake solids are further concentrated by natural drying on an asphalt pad, and then stored inside of the covered Cake Solids Storage Building until they are able to be land applied on surrounding farm fields in the spring and fall. Land application of biosolids provides a soil supplement that is rich in organic matter and nutrients.



Biosolids Dewatering Centrifuge



Biosolids Cake Storage Building

SCADA Controls

Need write up

Administration and Maintenance Facilities

Existing Administration Building

The construction project included renovations to the City's existing administration building to remove process equipment and expand garage facilities. This building now provides a home base for the City's collection system maintenance fleet.



Existing Administration Building

New Administration Building and Maintenance Facility

The new facility was constructed with many new features that improved the work environment for the utility staff. A new administration building and maintenance building was constructed which includes offices, process control space, conference room and a state of the art laboratory. The laboratory is used to analyze influent and effluent samples as well as samples from other facilities and industries.



New Administration Building and Maintenance Facility



Laboratory



Conference Room

The maintenance garage provides increased storage for vehicles and equipment, work bay area for maintenance and equipment repairs and a vehicle wash bay. The improved work space areas provide a significant improvement to the tools available to the operators to maintain and fix equipment.



Maintenance Bay

Project Funding:

The project was broken up into two separate construction contracts; one for the force-main and the second for the wastewater treatment plant. The total budget for the two contracts was $32 million. The project was funded by the City of Richland Center, USDA Rural Development, Wisconsin DNR's Clean Water Fund, and the Wisconsin DOA's Community Development Block Grants and included approximately $7 million of grants.



Wastewater Utility Staff (L-R)
Dave Huth, Todd Fischer, Jim Stanek, Jim Birch, Darrick Marchwick

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	Facility Site Number
Richland Center WWTF	WI- 0020109-09-1	

Facility Address	City	State	ZIP Code
29847 CTY Road TB	Lone Rock	WI	53556

Project Contact Name (if applicable)	Address	City	State	ZIP Code
Todd Fischer	450 South Main Street	Richland Center	WI	53581

Project Name
Richland Center Water Quality Trading Practice

Receiving Water Name	Parameter(s) being traded	HUC 12(s)
Pine River	Phosphorus	51102, 51002, 51107, 51108

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: 51102, 51002, 51107
- ○ 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	NRCS 580	NRCS Erosion Est	1	○ Yes ○ No ◉ Only in part
○ Urban NPS ◉ Agricultural NPS ○ Other	NRCS 580	NRCS Erosion Est	2	○ Yes ○ No ◉ Only in part
○ Urban NPS ◉ Agricultural NPS ○ Other	NRCS 580	NRCS Erosion Est	3	○ Yes ○ No ◉ Only in part
○ Urban NPS ◉ Agricultural NPS ○ Other	NRCS 580, 395	NRCS Erosion Est	4	○ Yes ○ No ◉ Only in part
○ Urban NPS ◉ Agricultural NPS ○ Other	NRCS 580, 395	NRCS Erosion Est	5	○ Yes ○ No ◉ Only in part
○ Urban NPS ◉ Agricultural NPS ○ Other	NRCS 580, 395	NRCS Erosion Est	6	○ 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	1.6
b. Management practices used to generate credits	◉ Yes	○ No	4.1-4.6
c. Amount of credit being generated	◉ Yes	○ No	Summary, 4
d. Description of applicable trade ratio per agreement/management practice	◉ Yes	○ No	4
e. Location where credits will be generated	◉ Yes	○ No	4
f. Timeline for credits and agreements	◉ Yes	○ No	5.1
g. Method for quantifying credits	◉ Yes	○ No	1,4

Does plan have a narrative that describes:			Plan Section
h. Tracking procedures	◉ Yes	○ No	5.3
i. Conditions under which the management practices may be inspected	◉ Yes	○ No	4, 5.3
j. Reporting requirements should the management practice fail	◉ Yes	○ No	5.5
k. Operation and maintenance plan for each management practice	◉ Yes	○ No	Appendix D-I
l. Location of credit generator in proximity to receiving water and credit user	◉ Yes	○ No	4.1-4.6
m. Practice registration documents, if available	◉ Yes	○ No	Appendix D-I
n. History of project site(s)	◉ Yes	○ No	4.1-4.6
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
	1/30/2024

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

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	Facility Site Number
City of Richland Center WWTF	WI- 0020109	

Facility Address	City	State	ZIP Code
29847 CTY Road TB	Lone Rock	WI	53556

Project Contact Name (if applicable)	Address	City	State	ZIP Code
Todd Fischer	450 South Main Street	Richland Center	WI	53581

Project Name

Receiving Water Name	Parameter(s) being traded	HUC 12(s)
Pine River	Phosphorus	070700051108

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: Streambank Stabilization

Are any of the credit generators in a different HUC 12 than the applicant?

- ◉ Yes; HUC 12: 070700051107
- ◯ 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:

Stabilization of streambanks along the Pine River between Seminary Drive and Bohmann Drive in Richland Center, WI.

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

Projected date credits will be available: 01/31/2018

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

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

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Stabilization of streambanks along the Pine River between Seminary Drive and Bohmann Drive in Richland Center, WI.

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

Projected date credits will be available: 01/31/2018

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
BA	12/21/17

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
Todd E. Fischer	12/21/17

Water Quality Trade (04) Agreement between
The City of Richland Center and Wisconsin Department of Natural Resources

This Water Quality Trade Agreement (this "Agreement") is made by and between The City of Richland Center ("CRC") and the Wisconsin Department of Natural Resources ("the Department") and together "the Parties".

1. Recitals

a. Water quality trading is an alternative compliance option for Wisconsin Permit Discharge Elimination System ("WPDES") Permit holders and is authorized by Wis. Stat. § 283.84.

b. Wis. Stat. § 283.84(l)(e) provides that, "the [the Department] may authorize a person required to obtain a permit to increase the discharge of pollutants above levels that would otherwise be authorized in the permit if the person . . . reaches a binding, written agreement with [the Department] under which the person constructs a project or implements a plan that results in reducing the amount of water pollution from sources other than the source covered by the permit."

c. The Department has issued guidance regarding water quality trading, including:

1) Guidance for Implementing Wisconsin's Phosphorus Water Quality Standards for Point Source Discharges, No. 3400-2020-12, (Edition 3, June 1, 2020);

2) Guidance for Implementing Water Quality Trading in WPDES Permits, No. 3200-3400-3800-2020-03 (June 1, 2020).

d. CRC submitted a Permit application for issuance of a WPDES Permit on January, 2, 2024. The Permit is for a wastewater discharge from its WWTF facility located in Lone Rock, Wisconsin.

e. The WPDES Permit will contain phosphorus water quality based effluent limits ("WQBELs") for Outfall 001, which is located in HUC-12 subwatershed 070700051108.

f. CRC owns and has implemented Streambank Stabilization and Habitat Restoration and Improvement Practices within the same hydrologic region as Outfall 001.

g. The descriptions of the lands that include Streambank Protection and Instream Habitat Restoration and Improvement Practices are: Located on Richland

County Parcel IDs: 27605441000, 27608112000, 27609221000, 27609231000
These parcels contain projects: 4-6 (Bank Sites 8-20)

CRC submitted to the Department a Water Quality Trading Plan (WQT Plan) under which CRC has installed Streambank protection and instream habitat improvement practices to reduce pollution to surface waters of the State.

h. The management practices are installed and maintained relative to the NRCS Conservation Practice Standard listed below in Table One:

Table One – Conservation Practice Standards

NRCS Conservation Practice Standard	Number
NRCS Standards	395, 580

l. The WQT Plan includes an Operation and Maintenance Plan for the streambank protections, and instream habitat restoration improvement practices.

2. Agreement Terms

a. CRC has established streambank protection and instream habitat restoration improvement practices consistent with the requirements in the approved WQT Plan (including the Operation and Maintenance Plan).

b. The Department will propose to reissue the WPDES Permit to allow CRC to use water quality trading as a compliance option, in accordance with the WQT Plan as approved by the Department.

c. Subject to the terms of this Agreement and the terms of the WPDES Permit issued to CRC, the Department shall allow CRC to utilize phosphorus credits in the amount set forth in the approved WQT Plan to demonstrate compliance with phosphorus WQBELs in the WPDES Permit, provided CRC implements the approved WQT Plan and complies with the related trading terms of the Permit.

d. Any duly authorized officer, employee or representative of the Department shall have the right to access and inspect project sites 8-20 contained within parcel numbers: 27605441000, 27608112000, 27609221000, 27609231000 pursuant to Wis. Stat. § 283.55(2) so long as this Agreement remains in effect.

e. The Agreement shall become effective on the later date of the completion of the following conditions: i.) the Department approves a WQT plan that is consistent with this Agreement; and ii.) The WPDES Permit includes trading terms that are consistent with both the approved WQT Plan and the terms of this Agreement.

f. The Agreement applies and is effective for the term of the issued Permit unless, subject to this section the Permit is modified, terminated or revoked and reissued by the Department to eliminate the trade or to revise the trading terms in a manner that is inconsistent with this Agreement. If the trade is removed or revised through a Permit action, this Agreement is terminated. In accordance with Wis. Stat. § 227.51(2), if the trade has not been eliminated or modified through a Permit action, and if CRC files a timely application for the reissuance of the Permit, the terms of the Agreement will continue until the later of the following: 1.) the application has been finally acted upon by the Department, 2.) the last day for seeking review of the agency's decision or 3.) a later date fixed by a reviewing court. The Agreement may extend into a subsequent reissued Permit upon approval of the Department.

g. The Parties may terminate this Agreement by written mutual agreement at any time.

h. CRC may terminate this Agreement by providing at least sixty (60) days written notice to the Department of CRC's intent to terminate the Agreement.

i. In accordance with paragraph (h) and the procedures and requirements of Wis. Stat. § 283.53(2) and Wis. Admin. Code §§ NR 203.135 and 203.136, the Department may terminate this Agreement and modify or remove the terms of the Permit related to the trade if any one of the following occur:

1) CRC fails to implement the WQT Plan as approved by the Department;

2) CRC fails to comply with WPDES Permit terms and conditions related to water quality trading;

3) New information becomes available that causes the Department to determine that water quality trading is no longer an acceptable option, including an objection or disapproval of the trade by USEPA.

j. Any action by the Department to terminate this Agreement or otherwise to reduce or eliminate the number of phosphorus credits in the reissued WPDES Permit and approved WQT Plan shall be implemented through a modification, revocation and reissuance or reissuance of the W PDES Permit. Prior to termination of this agreement, the Department shall notify CRC of its intent to terminate the trading agreement and shall provide an opportunity for CRC to discuss the proposed termination with the Department. If appropriate and feasible, the Department shall provide CRC with a reasonable time period to correct the grounds for the proposed termination.

k. This Agreement may be amended only by a further written document signed by each of the Parties. The WQT Plan, Agreement and Permit terms may be revised as part of a future Permit reissuance or modification.

l. This Agreement shall be interpreted pursuant to the laws of the State of Wisconsin.

m. This Agreement may be executed in one or more counterparts, and all such executed counterparts shall constitute the same agreement. A signed copy of this Agreement transmitted by facsimile or email shall be treated as an original and shall be binding against the party whose signature appears on such copy.

n. If any provision of this Agreement is held invalid or unenforceable, the invalidity or unenforceability shall be limited to the particular provision involved and shall not affect the validity or enforceability of the remaining provisions. The Parties shall work together in good faith to modify this Agreement if necessary to preserve its original intent.

o. In no event shall the Department be liable to any party under this Agreement or to any third party in contract, tort or otherwise for incidental or consequential damages of any kind, including, without limitation, punitive or economic damages or lost profits, except as provided under federal or state laws.

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the day and year entered below.

City of Richland Center	WISCONSIN DEPARTMENT OF NATURAL RESOURCES
By: Todd E. Fischer	By: Adrian Stocks
Title: Wastewater Supt	Title: Water Quality Bureau Director
Date: 10-10-2024	Date: 11/6/2024

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	Facility Site Number
City of Richland Center WWTF	WI- 0020109-09-1	

Facility Address	City	State	ZIP Code
29847 CTY Road TB	Lone Rock	WI	53556

Project Contact Name (if applicable)	Address	City	State	ZIP Code
Todd Fischer	450 South Main Street	Richland Center	WI	53581

Project Name
Richland Center Watershed Quality Trading Plan

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
1,190	

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

APPENDIX B

Watershed Data

Monitoring Station

Station ID 10020942
Station Name Pine River At Twin Bluff Road Bridge

Show specific parameter: PHOSPHORUS TOTAL

Sample Results

Previous 1-1 of 1 Next

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
SCR_CWA_Baseline_2007	06/12/2007 09:54 AM	PHOSPHORUS TOTAL		0.212	MG/L		

Monitoring Station

Station ID 10031637
Station Name Pine River at STH 60

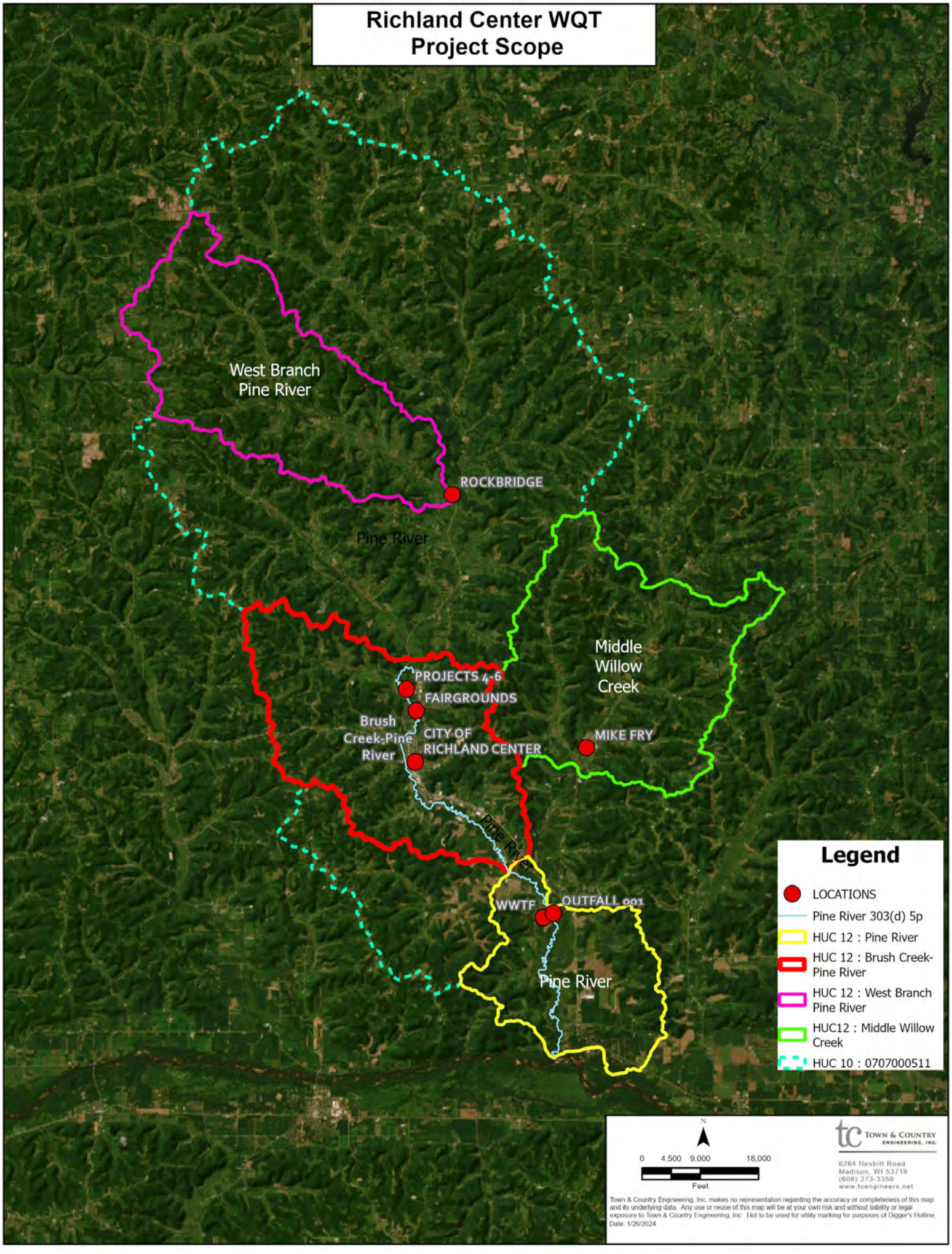
Show specific parameter: PHOSPHORUS TOTAL

Sample Results

Previous 1-11 of 11 Next

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
SCR Watershed Rotation Sites (Non_LTT)	09/13/2011 01:03 PM	PHOSPHORUS TOTAL		0.134	MG/L		
SCR Watershed Rotation Sites (Non_LTT)	08/15/2011 12:00 PM	PHOSPHORUS TOTAL		0.144	MG/L		
SCR Watershed Rotation Sites (Non_LTT)	07/18/2011 01:05 PM	PHOSPHORUS TOTAL		0.133	MG/L		
SCR Watershed Rotation Sites (Non_LTT)	06/15/2011 12:47 PM	PHOSPHORUS TOTAL		0.166	MG/L		
SCR Watershed Rotation Sites (Non_LTT)	05/17/2011 01:01 PM	PHOSPHORUS TOTAL		0.149	MG/L		
SCR Watershed Rotation Sites (Non_LTT)	04/18/2011 12:30 PM	PHOSPHORUS TOTAL		0.115	MG/L		
SCR Watershed Rotation Sites (Non_LTT)	03/16/2011 12:53 PM	PHOSPHORUS TOTAL		0.160	MG/L		
SCR Watershed Rotation Sites (Non_LTT)	02/15/2011 01:02 PM	PHOSPHORUS TOTAL		0.079	MG/L		
SCR Watershed Rotation Sites (Non_LTT)	12/20/2010 01:12 PM	PHOSPHORUS TOTAL		0.058	MG/L		
SCR Watershed Rotation Sites (Non_LTT)	11/17/2010 01:33 PM	PHOSPHORUS TOTAL		0.087	MG/L		
SCR Watershed Rotation Sites (Non_LTT)	10/20/2010 02:00 PM	PHOSPHORUS TOTAL		0.079	MG/L		

Median = 0.133

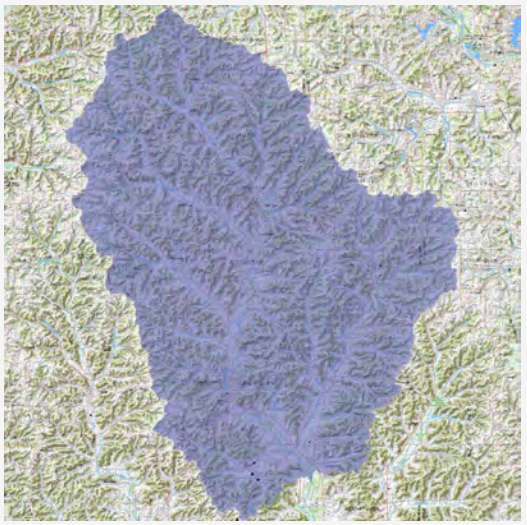

Richland Center WQT
Project Scope
West Branch
Pine River
ROCKBRIDGE
Pine River
Middle
Willow
Creek
PROJECTS 4-6
FAIRGROUNDS
Brush
Creek-Pine
River
CITY OF
RICHLAND CENTER
MIKE FRY
Pine River
WWTF
OUTFALL 001
Pine River
Legend
LOCATIONS
Pine River 303(d) 5p
HUC 12 : Pine River
HUC 12 : Brush Creek-
Pine River
HUC 12 : West Branch
Pine River
HUC12 : Middle Willow
Creek
HUC 10 : 0707000511
N
0 4,500 9,000 18,000
Feet
TOWN & COUNTRY
ENGINEERING, INC.
6264 Nesbitt Road
Madison, WI 53719
(608) 273-3350
www.tcengineers.net
Town & Country Engineering, Inc. makes no representation regarding the accuracy or completeness of this map and its underlying data. Any use or reuse of this map will be at your own risk and without liability or legal exposure to Town & Country Engineering, Inc. Not to be used for utility marking for purposes of Digger's Hotline.
Date: 1/26/2024

Wisconsin 2018 Approved 303(d) list

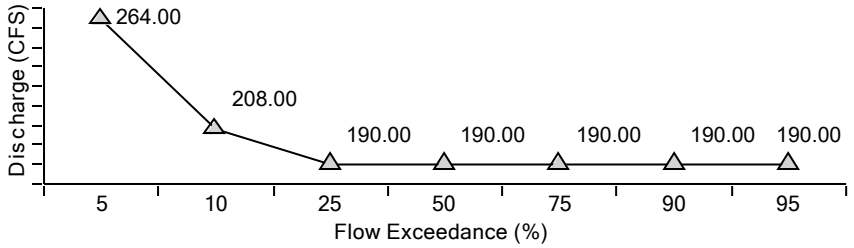
Local Waterbody Name	Official Waterbody Name	Water Type	WATERS ID (AU)	EPA_ID 305B	WBIC	Counties	Start Mile	End Mile	Size	Units	Source Category	Pollutant	Impairment Indicator	TMDL Priority
Otter Creek	Otter Creek	RIVER	6923581	6923582	2156800	Taylor, Chippewa	9.83	18.45	8.62	MILES	NPS	Total Phosphorus	Impairment Unknown	Low
Paukotuk-Candlish Creek	Unnamed	RIVER	5691806	10036155	132200	Winnebago	0	7.92	7.92	MILES	NPS	Total Phosphorus	Impairment Unknown	High
Pecatonica River	Pecatonica River	RIVER	13677	6901736	889100	Green, Lafayette	93.05	144.8	51.75	MILES	NPS	Total Phosphorus	Impairment Unknown	Low
Pecatonica River	Pecatonica River	RIVER	6901738	6901966	889100	Lafayette	144.8	158.67	13.87	MILES	NPS	Total Phosphorus	Impairment Unknown	Low
Pecatonica River	Pecatonica River	RIVER	6901822	6901823	889100	Lafayette, Iowa	158.67	187	28.33	MILES	NPS	Total Phosphorus	Impairment Unknown	Low
Pensaukee River	Pensaukee River	RIVER	10866	10000855	412900	Oconto, Shawano	0	60.4	60.4	MILES	PS/NPS	Total Phosphorus	Impairment Unknown	Low
Phantom Lake	Phantom Lake	LAKE	10500	10000590	766000	Waukesha			110.24	ACRES	PS/NPS	Total Phosphorus	Impairment Unknown	Low
Pigeon River	Pigeon River	RIVER	1496062	10024946	62300	Manitowoc, Sheboygan	0	18.1	18.1	MILES	NPS	Total Phosphorus	Impairment Unknown	Low
Pigeon River	Pigeon River	RIVER	9711	10000025	293100	Waupaca	0	10.7	10.7	MILES	PS/NPS	Total Phosphorus	Impairment Unknown	High
Pine Creek	Pine Creek	RIVER	9866	10000129	66300	Manitowoc	2	6	4	MILES	NPS	Total Phosphorus	Impairment Unknown	Medium
Pine Creek	Pine Creek	RIVER	14293	10003212	1758900	Taylor	0	20	20	MILES	NPS	Total Phosphorus	Impairment Unknown	Low
Pine River	Pine River	RIVER	18493	10010168	1220600	Richland	0	22.35	22.35	MILES	PS/NPS	Total Phosphorus	Impairment Unknown	Low
Platte River	Platte River	RIVER	13865	10002941	943600	Grant	0	37.8	37.8	MILES	NPS	Total Phosphorus	Impairment Unknown	Low
Plum Creek	Plum Creek	RIVER	13021	10002441	1287700	Sauk	0	7.7	7.7	MILES	NPS	Total Phosphorus	Impairment Unknown	High
Plum Creek	Plum Creek	RIVER	15591	10004272	2051300	Pepin	0	7.23	7.23	MILES	PS/NPS	Total Phosphorus	Impairment Unknown	Low
Pokegema River	Pokegama River	RIVER	17467	10008212	2844000	Douglas	0	25.74	25.74	MILES	PS/NPS	Total Phosphorus	Impairment Unknown	Low
Popple River East Fork	East Fork Popple River	RIVER	14282	10003203	1754500	Clark	0	7	7	MILES	NPS	Total Phosphorus	Impairment Unknown	Medium
Porcupine Creek	Porcupine Creek	RIVER	15593	10004273	2051500	Pierce, Pepin	0	9.3	9.3	MILES	NPS	Total Phosphorus	Impairment Unknown	Low
Quarter Creek	Quarter Creek	RIVER	15697	10004352	2077200	Dunn	0	3.27	3.27	MILES	NPS	Total Phosphorus	Impairment Unknown	Low
Raeder Creek	Raeder Creek	RIVER	18335	10006306	1430800	Marathon	0	3	3	MILES	NPS	Total Phosphorus	Impairment Unknown	High
Red Cedar River	Red Cedar River	RIVER	15856	10004471	2063500	Barron, Dunn	28.72	73.6	44.88	MILES	NPS	Total Phosphorus	Impairment Unknown	Low
Red River	Red River	RIVER	10250	10000395	101000	Kewaunee	0	8.87	8.87	MILES	NPS	Total Phosphorus	Impairment Unknown	Low
Richland Creek	Richland Creek	RIVER	13669	10002831	889200	Green	21.61	35.11	13.5	MILES	NPS	Total Phosphorus	Impairment Unknown	Medium

PRESTO-Lite Watershed Delineation Report

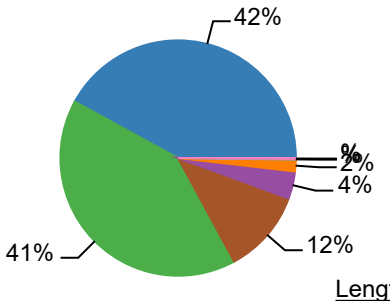
Reach ID: 200210375
Watershed Name: Pine River
Waterbody Name: Pine River
HUC08: Lower Wisconsin River
Watershed Area: 307.62 mi²
Average Annual Precipitation: 34.06in



Stream Flow

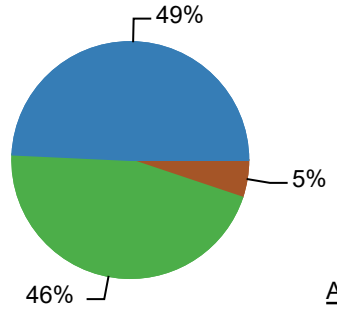


Tributary Stream Type



Type	Length
Cool-Cold Headwater	468997 ft
Coldwater	455848 ft
Cool-Cold Mainstem	128459 ft
Cold Mainstem	41815 ft
Macroinvertebrates	17767 ft
Large River	1314 ft
Warm Mainstem	1292 ft
Cold Headwater	0 ft
Warm Headwater	0 ft

Landcover



Type	Area
Agriculture	148.09 mi²
Forest	137.11 mi²
Urban	15.47 mi²
Barren	3.13 mi²
Grassland	2.28 mi²
Wetland	1.49 mi²

PRESTO Phosphorus Load Estimate

Avg. Annual Nonpoint Phosphorous Load (80% Confidence Interval)	72,761 (34,037 - 155,539) lbs
Number of Facilities (Individual Facility Information below)	4
Avg. Annual Point-source Phosphorous Load (2010 - 2012 total of all facilities)	11,854lbs
Most Likely Point : Nonpoint Phosphorous Ratio	14% : 86%
Low Estimate Point : Nonpoint Phosphorous Ratio (Adaptive Management)	7% : 93%

Adaptive Management Results

Facilities Discharging to the Pine River Watershed:

Facility Name	Permit #	Outfall #	Waste Type	Receiving Water	Avg. Phosphorus Load (lbs.) (2010 - 2012)
RICHLAND CENTER WASTEWATER TREATMENT FAC	0020109	001	Municipal	Pine River	11210
SEXTONVILLE SANITARY DISTRICT #1 WWTF	0060038	002	Municipal	Willow Creek	428
HUB ROCK SANITARY DISTRICT #1 WWTF	0049689	001	Municipal	Pine River	216
FOREMOST FARMS USA - RICHLAND CENTER	0004413	001	Industrial	Pine River	0

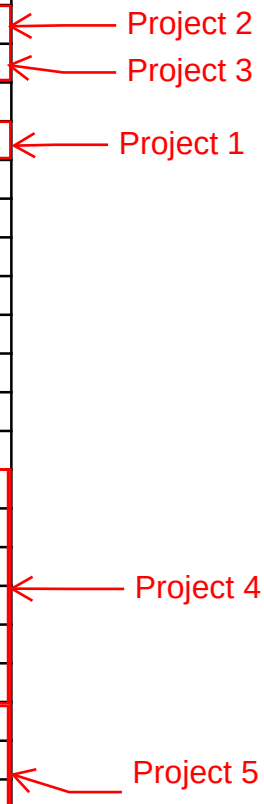
Watershed Analysis Limitations

- 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

APPENDIX C

NRCS Support

Field	Sample	Element	Concentration	Unit
BS #1	1	P	206.1	ppm
BS #2	1	P	385.2	ppm
BS #2	2	P	248.3	ppm
BS #3	3	P	239.1	ppm
BS#4	4	P	195.2	ppm
BS #5	5	P	181.5	ppm
BS #6	6	P	443.4	ppm
Fairgrounds	2	P	299.7	ppm
Rockbridge	3	P	265.2	ppm
SR	4	P	285.4	ppm
Mike Fry	1	P	314.1	ppm
Snowmobile Bridge	5	P	351.2	ppm
Site 1-17	1	P	190.1	ppm
Site 1-17	2	P	414.4	ppm
Site 1-17	3	P	359.3	ppm
Site 1-17	4	P	330.3	ppm
Site 1-17	5	P	374.7	ppm
Site 1-17	6	P	107.9	ppm
Site 1-17	7	P	358.7	ppm
Site 1-17	8	P	134.5	ppm
Site 1-17	9	P	255.6	ppm
Site 1-17	10	P	172.2	ppm
Site 1-17	11	P	342.5	ppm
Site 1-17	12	P	176.9	ppm
Site 1-17	13	P	423	ppm
Site 1-17	~~14~~ 16	P	342	ppm
Site 1-17	~~15~~ 18	P	364.4	ppm
Site 1-17	~~16~~ 19	P	252.7	ppm
Site 1-17	~~17~~ 20	P	353.6	ppm



From:	Dustin Sawyer
To:	Peter Riddle
Cc:	Ben Heidemann
Subject:	Re: Richland Center Total Phosphorus Verification
Date:	Tuesday, January 16, 2024 9:54:14 AM
Attachments:	TotalP_town&country.011624.xlsx

Thank you for sharing this information. I was not able to find the file that Andy sent to you, but using this information I was able to find the original output file from our instrument. I've attached an Excel version of that. I can say with confidence that the values in the PDF document are total P values that we analyzed on March 9, 2018 for a customer named "R C Wastewater."

Please let me know if I can offer any further assistance.

Dustin Sawyer, MSc
Laboratory Director, Rock River Laboratory, Inc
Research fellow, Barak Lab, University of Wisconsin - Madison
Office: 920-261-0446
www.rockriverlab.com

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On Tue, Jan 16, 2024 at 9:31 AM Peter Riddle <priddle@tcengineers.net> wrote:

> Dustin,
>
> Thank you for the time you're putting into this for us. I have attached the original file, provided to us from Andy Schroeder, as well as the email correspondence from which the file originated. Hopefully, this helps guide the search.
>
> Best,
>
> *Peter*
>
> **Peter Riddle**

priddle@tcengineers.net

Town & Country Engineering, Inc.

6264 Nesbitt Road

Madison, WI 53719

(608) 273-3350

NRCS Streambank Erosion Estimator (Direct Volume Method)

Farmer / Cooperator Name: City of Richland Center WWTP
Tract Number:
Evaluated By: TCE
Evaluation Date: October 4, 2024

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)*	Total P (% Mass)	Lbs P/Year	**Trade Ratio**	WTQ Lbs Actual
Prior to Streambank Erosion Control	1 - Rockbridge	300.0	9.5	2,850	1.00	2,850.0	Loamy Sand	100	142.5	0.0265%	76	3.004	25
	4 - Mike Fry	400.0	12.0	4,800	1.00	4,800.0	Loamy Sand	100	240.0	0.0314%	151	3.000	50
	5 - Fairgrounds	200.0	10.0	2,000	1.00	2,000.0	Loamy Sand	100	100.0	0.0300%	60	3.004	20
	Site #8	950.0	11.0	10,450	1.00	10,450.0	Loamy Sand	100	522.5	0.0135%	141	2.004	70
	Site #9	340.0	9.0	3,060	1.00	3,060.0	Loamy Sand	100	153.0	0.0256%	78	2.004	39
	Site #10	425.0	10.0	4,250	1.00	4,250.0	Loamy Sand	100	212.5	0.0172%	73	2.004	37
	Site #11	700.0	11.0	7,700	1.00	7,700.0	Loamy Sand	100	385.0	0.0343%	264	2.004	132
	Site #12	400.0	10.0	4,000	1.00	4,000.0	Loamy Sand	100	200.0	0.0177%	71	2.004	35
	Site #13	750.0	8.0	6,000	1.00	6,000.0	Loamy Sand	100	300.0	0.0423%	254	2.004	127
	Site #15 (added)	370.0	9.5	3,515	0.50	1,757.5	Loamy Sand	100	87.9	0.0383%	67	3.004	22
	Site #16 (formerly 14)	450.0	11.0	4,950	0.38	1,881.0	Loamy Sand	100	94.1	0.0342%	64	2.004	32
	Site #17 (added)	680.0	10.5	7,140	0.50	3,570.0	Loamy Sand	100	178.5	0.0353%	126	3.004	42
	Site #18 (formerly 15)	925.0	10.0	9,250	0.38	3,515.0	Loamy Sand	100	175.8	0.0364%	128	2.004	64
	Site #19 (formerly 16)	770.0	10.0	7,700	0.38	2,926.0	Loamy Sand	100	146.3	0.0253%	74	2.004	37
	Site #20 (formerly 17)	200.0	11.0	2,200	0.25	550.0	Loamy Sand	100	27.5	0.0354%	19	3.004	6
				Total Estimated Annual Streambank Erosion Soil Loss (Tons):					4443.0		1646		

Total WQT Credits **738**

From: Kenny Anderson
To: Peter Riddle
Subject: RE: Soil sample method for Richland Center
Date: Wednesday, January 17, 2024 8:29:36 AM

Yes ¾ inch probe. I added that in the message.

From: Peter Riddle <priddle@tcengineers.net>
Sent: Wednesday, January 17, 2024 8:04 AM
To: Kenny Anderson <kenny.anderson@vernoncounty.org>
Subject: Re: Soil sample method for Richland Center

> **Caution:** This email originated from outside of the organization! Do not click links, open attachments or reply, unless you recognize the sender's email address and know the content is safe!

Did you use a probe for this?

Best,

Peter Riddle
608-217-5540

> On Jan 17, 2024, at 7:28 AM, Kenny Anderson <kenny.anderson@vernoncounty.org> wrote:
>
> I took nine samples per site using a ¾ inch probe. Took three samples of the exposed bank one at the top, middle and top of water at three locations on each site. So nine samples were mixed in a bucket and then placed in the soil bag. This was done in a canoe at every site.
>
> Kenny Anderson
> Richland County LCD Technician
>
> ---
>
> **From:** Peter Riddle <priddle@tcengineers.net>
> **Sent:** Tuesday, January 16, 2024 4:22 PM
> **To:** Kenny Anderson <kenny.anderson@vernoncounty.org>
> **Cc:** Ben Heidemann <ben@tcengineers.net>
> **Subject:** Soil sample method for Richland Center
>
> > You don't often get email from priddle@tcengineers.net. Learn why this is important

> **Caution:** This email originated from outside of the organization! Do not click links, open attachments or reply, unless you recognize the sender's email address and know the content is safe!

Kenny,

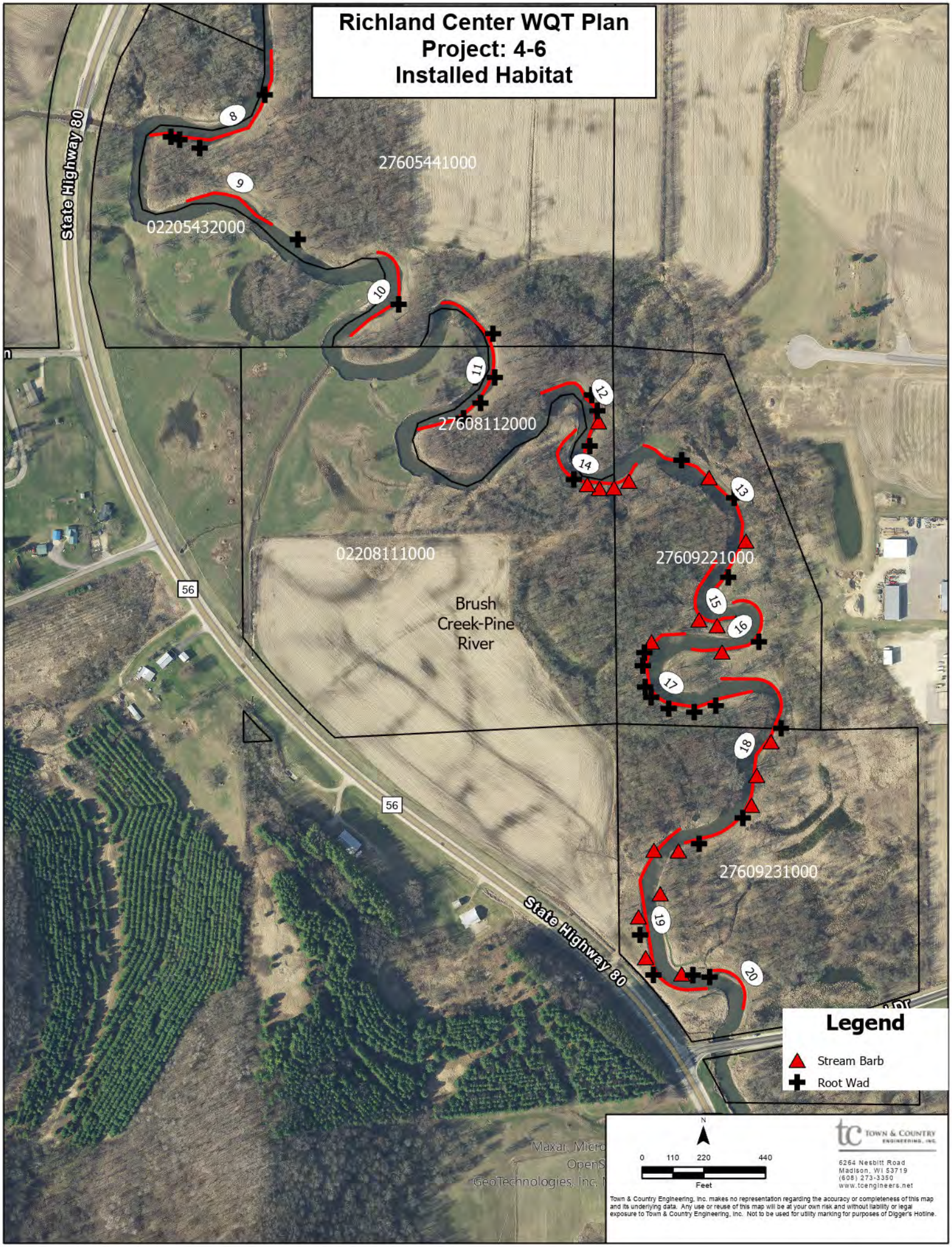
Thank you for taking the time to answer my questions on our phone call. Would you mind providing us a short written statement about your methodology in collecting the soil samples for the projects in 2018 for the City of Richland Centers WWTF? Thank you for your time.

Best,

Peter
Peter Riddle
priddle@tcengineers.net
Town & Country Engineering, Inc.
6264 Nesbitt Road
Madison, WI 53719
(608) 273-3350

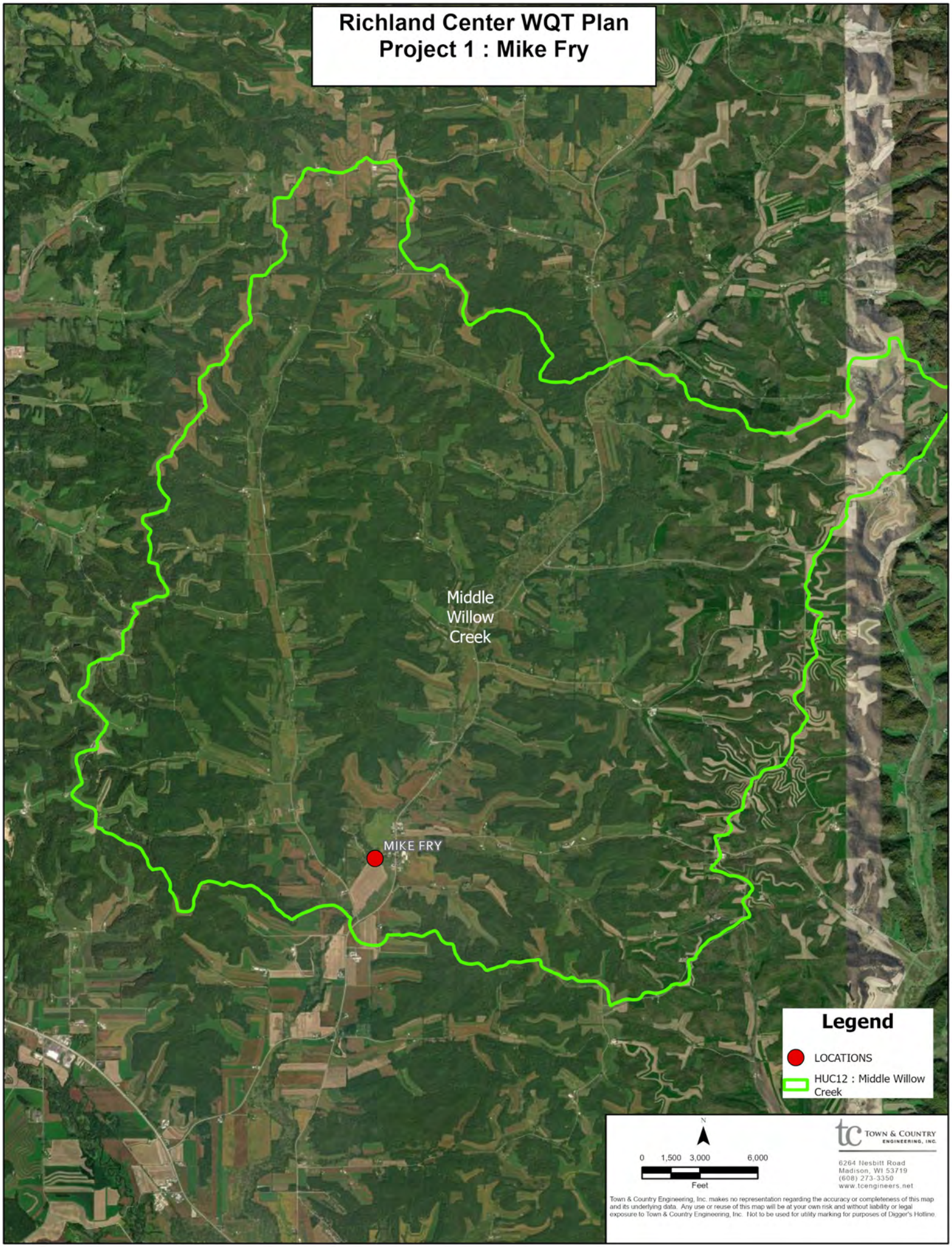
Management Practice	Uncertainty Factor[1]	Applicable Technical Standard	Method for Calculating Pollutant Load Reductions	Notes
Streambank Stabilization and Shoreline Protection			Appropriate methods include NRCS recession calculation. See Appendix F for detailed methods.	For livestock producers, streambank stabilization must be accompanied by riparian fencing or other controls to prevent destruction of streambanks.
Without aquatic habitat adjustment	3	NRCS 580 NRCS 382		
With aquatic habitat adjustment	2	NRCS 580 NRCS 395		
Dredging, Lake Treatment and Wetland Restoration				
Lakes and Reservoirs			Load reductions calculated by determining seasonal flux rate.	Dredging must remove sediment to the original or native layer. Seasonal flux rate should be calculated based on a calibrated model and monitoring data. Annual load reductions are generated based on the calculated seasonal flux rate. Load reductions are generated on a prorated annual basis until the flux rate returns to pre-dredging flux rate conditions. Contact WDNR when developing monitoring plan.
Dredging and removal of in-situ sediment and nutrients or treatment (i.e., alum)	3			
Dredging and removal of in-situ sediment and nutrients or treatment accompanied by aquatic habitat restoration.	2	NRCS 395		
Rivers or Streams				
Dredging with stable stream banks, installation of appropriately wide buffer strips and supporting upland practices addressing pollutants of concern	2	NRCS 580		
Dredging without stabilized stream banks or without supporting upland practices	3			
Wetland Restoration	1	NRCS 657 NRCS 658	SnapPlus or equivalent model results compared to baseline	Load Reductions are generated for land placed out of production such as the conversion of agricultural land back to wetland. Credits may not be generated by using wetlands to treat runoff. See Appendix J – Wetland Restoration for more information.

Management Practice	Uncertainty Factor[1]	Applicable Technical Standard	Method for Calculating Pollutant Load Reductions	Notes
Streambank Stabilization and Shoreline Protection			Appropriate methods include NRCS recession calculation. See Appendix F for detailed methods.	
Without aquatic habitat adjustment	3	NRCS 580 NRCS 382		For livestock producers, streambank stabilization must be accompanied by riparian fencing or other controls to prevent destruction of streambanks.
With aquatic habitat adjustment	2	NRCS 580 NRCS 395		
Dredging, Lake Treatment and Wetland Restoration				
Lakes and Reservoirs			Load reductions calculated by determining seasonal flux rate.	
Dredging and removal of in-situ sediment and nutrients or treatment (i.e., alum)	3			Dredging must remove sediment to the original or native layer. Seasonal flux rate should be calculated based on a calibrated model and monitoring data. Annual load reductions are generated based on the calculated seasonal flux rate. Load reductions are generated on a prorated annual basis until the flux rate returns to pre-dredging flux rate conditions. Contact WDNR when developing monitoring plan.
Dredging and removal of in-situ sediment and nutrients or treatment accompanied by aquatic habitat restoration.	2	NRCS 395		
Rivers or Streams				
Dredging with stable stream banks, installation of appropriately wide buffer strips and supporting upland practices addressing pollutants of concern	2	NRCS 580		
Dredging without stabilized stream banks or without supporting upland practices	3			
Wetland Restoration	1	NRCS 657 NRCS 658	SnapPlus or equivalent model results compared to baseline	Load Reductions are generated for land placed out of production such as the conversion of agricultural land back to wetland. Credits may not be generated by using wetlands to treat runoff. See Appendix J – Wetland Restoration for more information.


Richland Center WQT Plan
Project: 4-6
Installed Habitat
State Highway 80
27605441000
02205432000
27608112000
02208111000
27609221000
Brush
Creek-Pine
River
56
56
27609231000
State Highway 80
8
9
10
11
12
13
14
15
16
17
18
19
20
Legend
Stream Barb
Root Wad
N
0 110 220 440
Feet
Town & Country Engineering, Inc.
6264 Nesbitt Road
Madison, WI 53719
(608) 273-3350
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APPENDIX D

Project 1


Richland Center WQT Plan
Project 1 : Mike Fry
Middle
Willow
Creek
MIKE FRY
Legend
LOCATIONS
HUC12 : Middle Willow Creek
N
0 1,500 3,000 6,000
Feet
TOWN & COUNTRY ENGINEERING, INC.
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(608) 273-3350
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City of Richland Center
Project 1: Mike Fry Property
HUC 070700051002



N

0 100 200 400

Feet

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Date: 1/25/2024















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

Water Quality Trading Management Practice Registration

Form 3400-207 (R 1/14)

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

Applicant Information

Permittee Name	Permit Number	Facility Site Number
City of Richland Center WWTP	WI- 0020109-08-0	

Facility Address	City	State	ZIP Code
29847 CTY Road TB	Lone Rock	WI	53556

Project Contact Name (if applicable)	Address	City	State	ZIP Code
Todd Fischer	450 South Main Street	Richland Center	WI	53581

Project Name
Mike Fry

Broker/Exchange Information (if applicable)

Was a broker/exchange be used to facilitate trade? ○ Yes ◉ No

Broker/Exchange Organization Name	Contact Name

Address	Phone Number	Email

Trade Registration Information (Use a separate form for each trade agreement)

Type	Trade Agreement Number	Practices Used to Generate Credits	Anticipated Load Reduction	Trade Ratio	Method of Quantification
○ Urban NPS ◉ Agricultural NPS ○ Other	City of Richland Center Water Quality Trade Agreement #1	Streambank Restoration	151	3:1	NRCS Streambank Erosion Estimator & soil testing for total phosphorus

County	Closest Receiving Water Name	Land Parcel ID(s)	Parameter(s) being traded
Richland	Willow Creek	01617316000	Total Phosphorus

The preparer certifies all of the following:

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

Signature of Preparer	Date Signed
Peter C. Anderson	10/4/2024

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
Todd E. Fischer	10-8-24

Leave Blank – For Department Use Only

Date Received		Trade Docket Number
Entered in Tracking System ☐ Yes	Date Entered	Name of Department Reviewer

Operation and Maintenance Plan
Streambank Protection: NRCS - 580

Responsible Party: Todd E. Fischer Date: 10-10-2024

Prepared By: _____ Title: Wastewater Supt.

Prepared For: _____

Project Location: Richland Center WWTF WQT Project 1

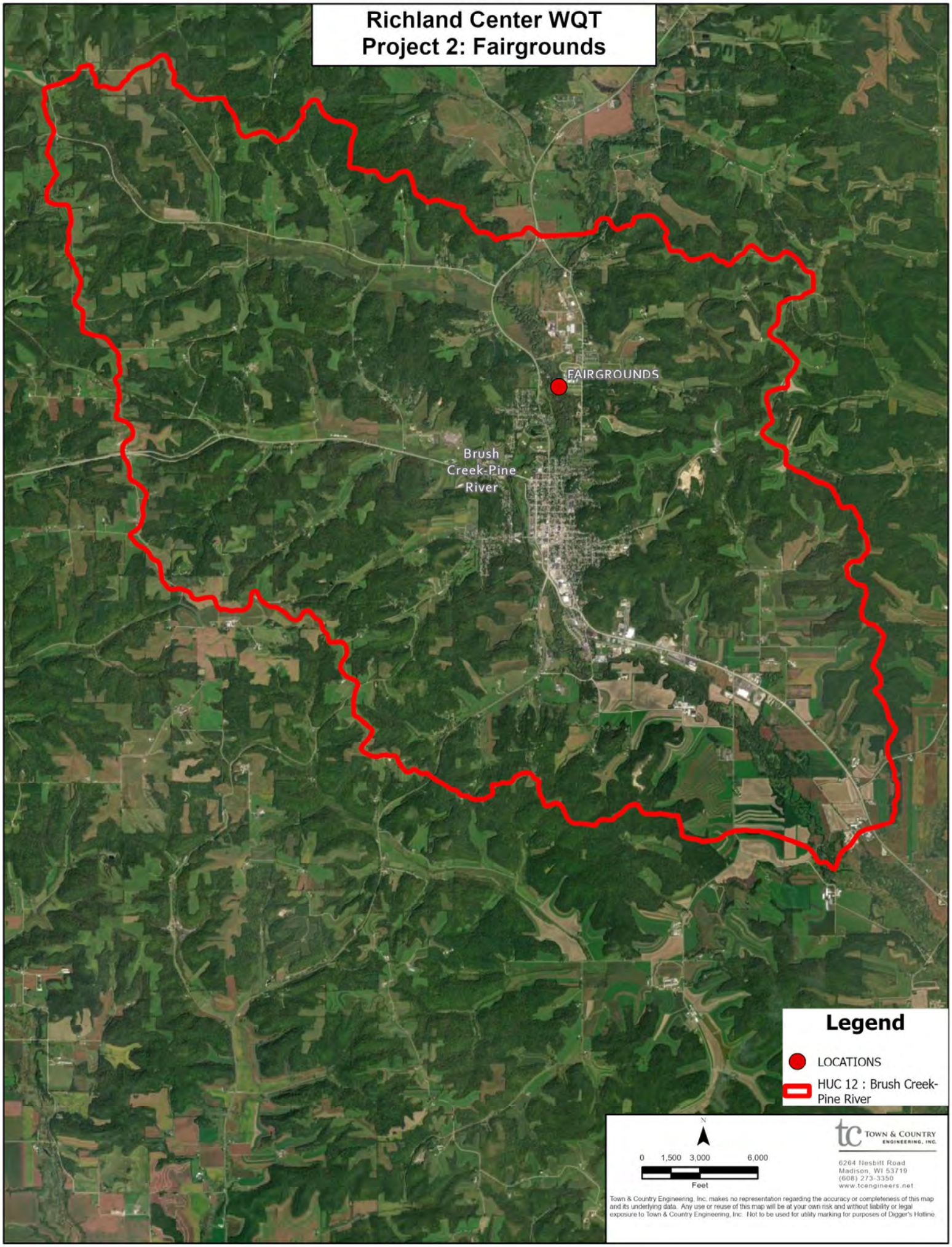
This party _____ agrees to the following for the next _____ years.

1. Check the riprap, plantings where applicable, and/or tree revetments once each year and immediately after sever floods, or other high flow events. Rock removed or displaced shall be replaced as needed. Replant any 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 where applicable. 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 to foot traffic to the streambank within the buffer zone except for any designated pathway or landings.
7. Eliminate all burrowing rodents and repair damage caused by them
8. All damage, repairs, and site conditions shall be reported annually to the WDNR as required

Responsible Parties Signature: Todd E. Fischer Date: 10-10-2024

APPENDIX E

Project 2


Richland Center WQT
Project 2: Fairgrounds
FAIRGROUNDS
Brush
Creek-Pine
River
Legend
LOCATIONS
HUC 12 : Brush Creek-Pine River
N
0 1,500 3,000 6,000
Feet
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City of Richland Center
Project 2: Fairgrounds
HUC 070700051107
Pine River
Pine River
Fairgrounds
Pine River
Pine River
Esri Community Maps
Esri, TomTom, Garmi
EPA, NPS,
N
0 100 200 400
Feet
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Date: 1/25/2024







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

Water Quality Trading Management Practice Registration

Form 3400-207 (R 1/14)

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Applicant Information

Permittee Name	Permit Number	Facility Site Number
City of Richland Center WWTP	WI- 002109-08-0	

Facility Address	City	State	ZIP Code
29847 CTY Road TB	Lone Rock	WI	53556

Project Contact Name (if applicable)	Address	City	State	ZIP Code
Todd Fischer	450 South Main Street	Richland Center	WI	53581

Project Name
Fairgrounds

Broker/Exchange Information (if applicable)

Was a broker/exchange be used to facilitate trade? ○ Yes ◉ No

Broker/Exchange Organization Name	Contact Name	
Address	Phone Number	Email

Trade Registration Information (Use a separate form for each trade agreement)

Type	Trade Agreement Number	Practices Used to Generate Credits	Anticipated Load Reduction	Trade Ratio	Method of Quantification
○ Urban NPS ◉ Agricultural NPS ○ Other	City of Richland Center Water Quality Trade Agreement #2	Streambank Restoration	60	3:1	NRCS Streambank Erosion Estimator & soil testing for total phosphorus

County	Closest Receiving Water Name	Land Parcel ID(s)	Parameter(s) being traded
Richland	Pine River	27609311000 & 934-11	Total Phosphorus

The preparer certifies all of the following:

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

Signature of Preparer	Date Signed
Peter C. Anderson	10/4/2024

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
Todd E. Fischer	10-8-24

Leave Blank – For Department Use Only

Date Received		Trade Docket Number
Entered in Tracking System ☐ Yes	Date Entered	Name of Department Reviewer

Water Quality Trade Agreement No. 2
City of Richland Center

This is a Water Quality Trade Agreement between the City of Richland Center, Wisconsin and Richland County, Wisconsin for a streambank stabilization project along the Pine River in 2018. This section of the Pine River flows between State Highway 80 and Co Hwy AA, with project extents including approximately 200 feet of shoreline adjacent to the Richland County Fairgrounds. The address for access to the project location is 23630 Co Hwy AA, Richland Center, Wisconsin 53581. The project includes two properties (parcel numbers 276-0934-1100 & 276-0931-1000) owned by Richland County, who has granted access the project site.

The scope of work for the project included the following:

- Tapered deeply incised stream banks at a ratio of six or seven to one where possible;
- Removed approximately 2,400 cubic yards of stream-bank soil from the immediate flood plain, with a majority of soil removed off-site;
- Placed rip-rap medium to armor stream banks and improve habitat;

Below is specific information requested by the Wisconsin DNR for a WQT agreement:

- Credit User: City of Richland Center, Wisconsin
- Credit Generator: Richland County, Wisconsin
- Amount of Pollutant Load Reduction: 60 lbs of total phosphorus per year
- Start Date of Pollutant Reduction Credits: January 1, 2019
- End Date of Pollutant Reduction Credit: Not Applicable
- Types/Frequency of Verification Needed: Verifications will be done via inspections performed annually and after each 10-year flood event per NRCS Conservation Practice Standard 580.
- Financial Conditions: None.
- Liability Conditions: None.
- Trade Termination Procedures: Written notification 90 days in advance to the other party.
- Agreement Duration: Effective until terminated by either party.
- Reporting Requirements for Unavailability of Credits: None. No other WQT trades are permitted for this project.
- Installation/Construction Schedule: Construction performed in late 2018.
- Inspection Conditions: Either party may inspect the project site at any point.
- Reporting Requirements Should Management Practice Fail: Not Applicable.

Todd E. Fischer 10-8-24

Todd Fischer — Date Signed
WWTP Superintendent
City of Richland Center, Wisconsin

Cathy Cooper 10-8-24

NAME — Date Signed
Richland County

Operation and Maintenance Plan
Streambank Protection: NRCS - 580

Responsible Party: Todd E. Fischer Date: 10-10-2024

Prepared By: _____ Title: wastewater Supt.

Prepared For: _____

Project Location: Richland Center WWTF WQT Project 2

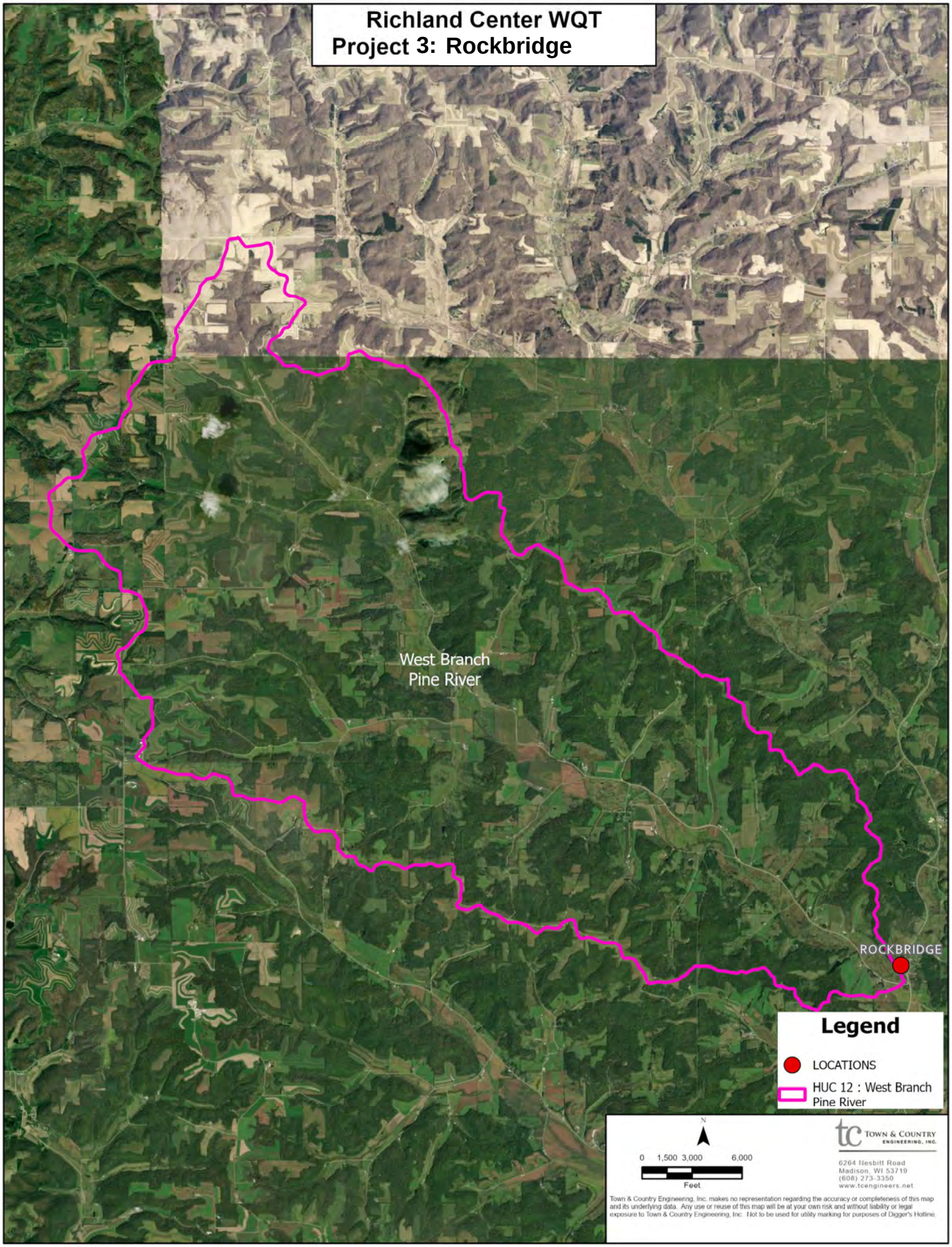
This party _____ agrees to the following for the next _____ years.

1. Check the riprap, plantings where applicable, and/or tree revetments once each year and immediately after sever floods, or other high flow events. Rock removed or displaced shall be replaced as needed. Replant any 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 where applicable. 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 to foot traffic to the streambank within the buffer zone except for any designated pathway or landings.
7. Eliminate all burrowing rodents and repair damage caused by them
8. All damage, repairs, and site conditions shall be reported annually to the WDNR as required

Responsible Parties Signature: Todd E. Fischer Date: 10-10-2024

APPENDIX F

Project 3


Richland Center WQT
Project 3: Rockbridge
West Branch
Pine River
ROCKBRIDGE
Legend
LOCATIONS
HUC 12 : West Branch
Pine River
N
0 1,500 3,000 6,000
Feet
TOWN & COUNTRY
ENGINEERING, INC.
6264 Nesbitt Road
Madison, WI 53719
(608) 273-3350
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City of Richland Center
Project 3: Rockbridge
HUC 070700051102
Lodge St
State Highway 80
Pine River
Schoonover St
Rockbridge
Pine River
State Highway 80
N
0 100 200 400
Feet
Esri Community Maps
Esri, TomTom, Garmin
EPA, NPS
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(608) 273-3350
www.tcengineers.net
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Date: 1/25/2024





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

Water Quality Trading Management Practice Registration

Form 3400-207 (R 1/14)

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

Applicant Information

Permittee Name	Permit Number	Facility Site Number
City of Richland Center WWTP	WI- 002109-08-0	

Facility Address	City	State	ZIP Code
29847 CTY Road TB	Lone Rock	WI	53556

Project Contact Name (if applicable)	Address	City	State	ZIP Code
Todd Fischer	450 South Main Street	Richland Center	WI	53581

Project Name
Rockbridge

Broker/Exchange Information (if applicable)

Was a broker/exchange be used to facilitate trade? ○ Yes ◉ No

Broker/Exchange Organization Name	Contact Name	
Address	Phone Number	Email

Trade Registration Information (Use a separate form for each trade agreement)

Type	Trade Agreement Number	Practices Used to Generate Credits	Anticipated Load Reduction	Trade Ratio	Method of Quantification
○ Urban NPS ◉ Agricultural NPS ○ Other	City of Richland Center Water Quality Trade Agreement #3	Streambank Restoration	76	3:1	NRCS Streambank Erosion Estimator & soil testing for total phosphorus

County	Closest Receiving Water Name	Land Parcel ID(s)	Parameter(s) being traded
Richland	Pine River	02610245000	Total Phosphorus

The preparer certifies all of the following:

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

Signature of Preparer	Date Signed
Peter C. Anderson	10/4/2024

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
Todd E. Fischer	10-8-24

Leave Blank – For Department Use Only

Date Received		Trade Docket Number
Entered in Tracking System ☐ Yes	Date Entered	Name of Department Reviewer

Water Quality Trade Agreement No. 3
City of Richland Center

This is a Water Quality Trade Agreement between the City of Richland Center, Wisconsin and Richland County, Wisconsin for a streambank stabilization project along the Pine River in 2018. This section of the Pine River flows between State Highway 80 and County Hwy D, with project extents including approximately 300 feet of shoreline at Pier County Park, adjacent to the Pine River Kayak Landing. The address for access to the project location is 17520 US-80, Rockbridge, Wisconsin 53581. The project includes one property (parcel number 026-1024-5000) owned by Richland County, who has granted access the project site.

The scope of work for the project included the following:

- Tapered deeply incised stream banks at a ratio of six or seven to one where possible;
- Removed approximately 3,300 cubic yards of stream-bank soil from the immediate flood plain, with a majority of soil removed off-site;
- Placed rip-rap medium to armor stream banks and improve habitat;

Below is specific information requested by the Wisconsin DNR for a WQT agreement:

- Credit User: City of Richland Center, Wisconsin
- Credit Generator: Richland County, Wisconsin
- Amount of Pollutant Load Reduction: 76 lbs of total phosphorus per year
- Start Date of Pollutant Reduction Credits: January 1, 2019
- End Date of Pollutant Reduction Credit: Not Applicable
- Types/Frequency of Verification Needed: Verifications will be done via inspections performed annually and after each 10-year flood event per NRCS Conservation Practice Standard 580.
- Financial Conditions: None.
- Liability Conditions: None.
- Trade Termination Procedures: Written notification 90 days in advance to the other party.
- Agreement Duration: Effective until terminated by either party.
- Reporting Requirements for Unavailability of Credits: None. No other WQT trades are permitted for this project.
- Installation/Construction Schedule: Construction performed in late 2018.
- Inspection Conditions: Either party may inspect the project site at any point.
- Reporting Requirements Should Management Practice Fail: Not Applicable.

Todd E. Fischer 10-8-24

Todd Fischer — Date Signed
WWTP Superintendent
City of Richland Center, Wisconsin

Cathy Cooper 10-8-24

NAME — Date Signed
Richland County

Operation and Maintenance Plan
Streambank Protection: NRCS - 580

Responsible Party: Todd E. Fischer Date: 10-10-2024

Prepared By: _____ Title: Wastewater Supt.

Prepared For: _____

Project Location: Richland Center WWTF WQT Project 3

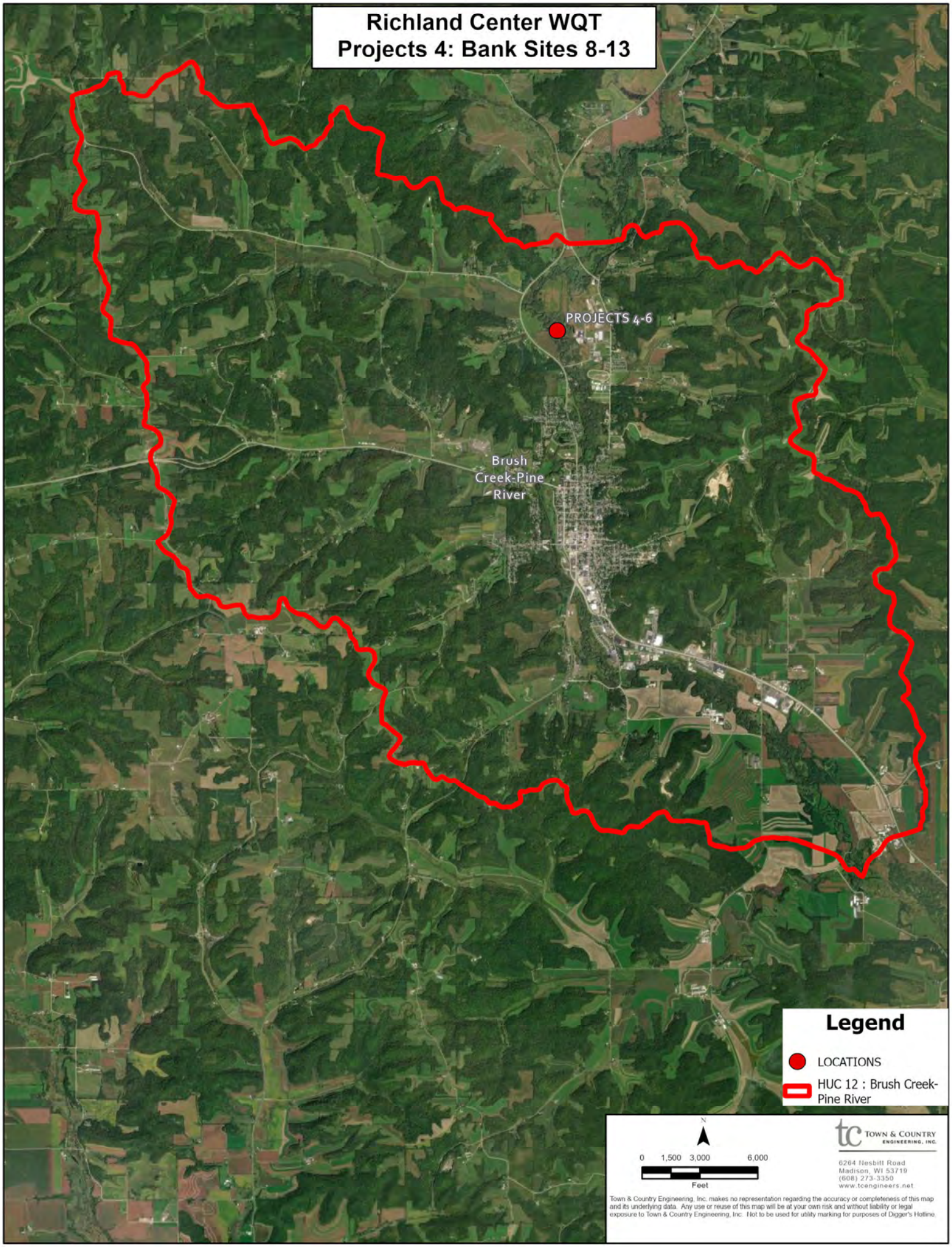
This party _____ agrees to the following for the next _____ years.

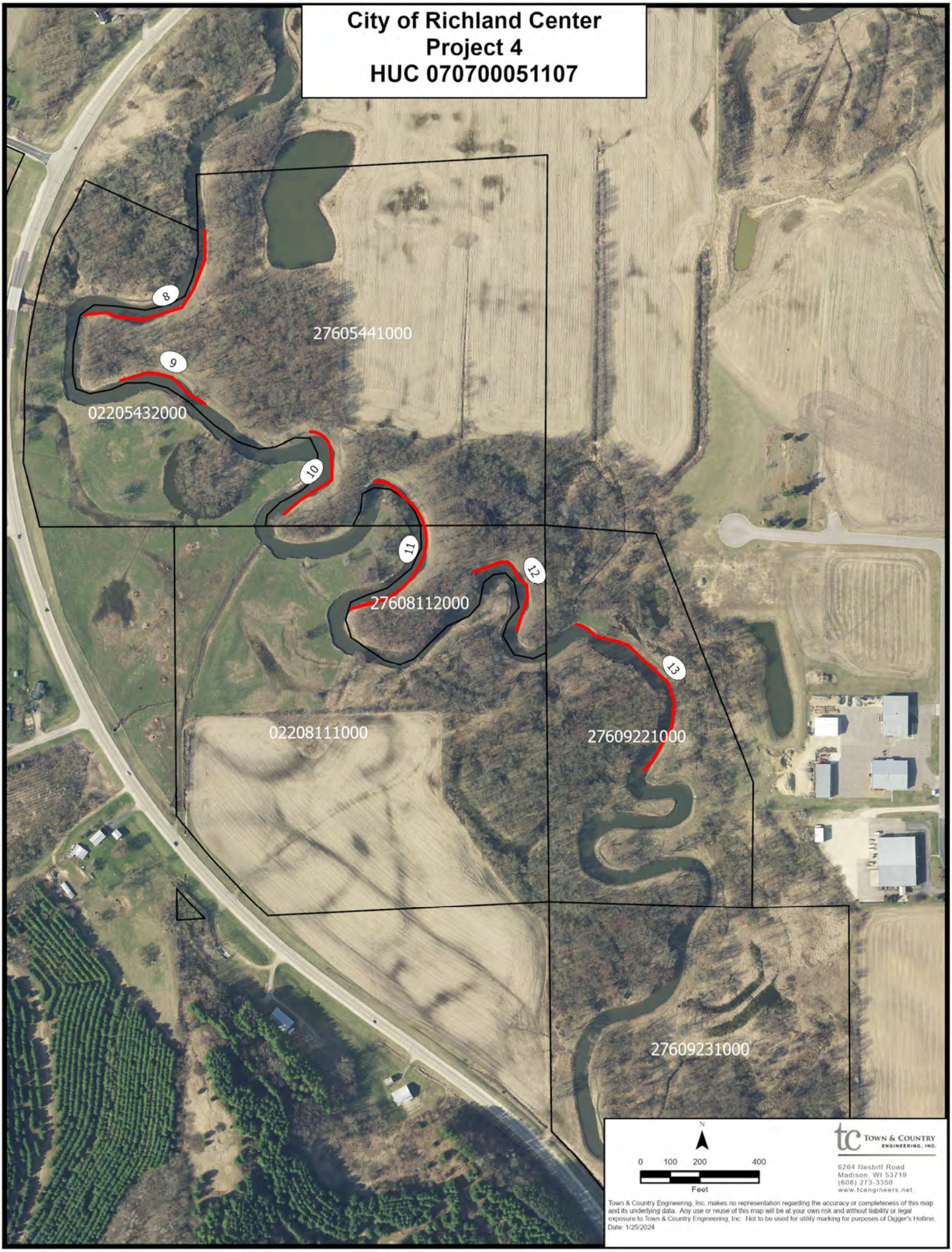
1. Check the riprap, plantings where applicable, and/or tree revetments once each year and immediately after sever floods, or other high flow events. Rock removed or displaced shall be replaced as needed. Replant any damaged tree plantings. Repair or replace any damaged or missing revetments. Repair 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 where applicable. 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 to foot traffic to the streambank within the buffer zone except for any designated pathway or landings.
7. Eliminate all burrowing rodents and repair damage caused by them
8. All damage, repairs, and site conditions shall be reported annually to the WDNR as required

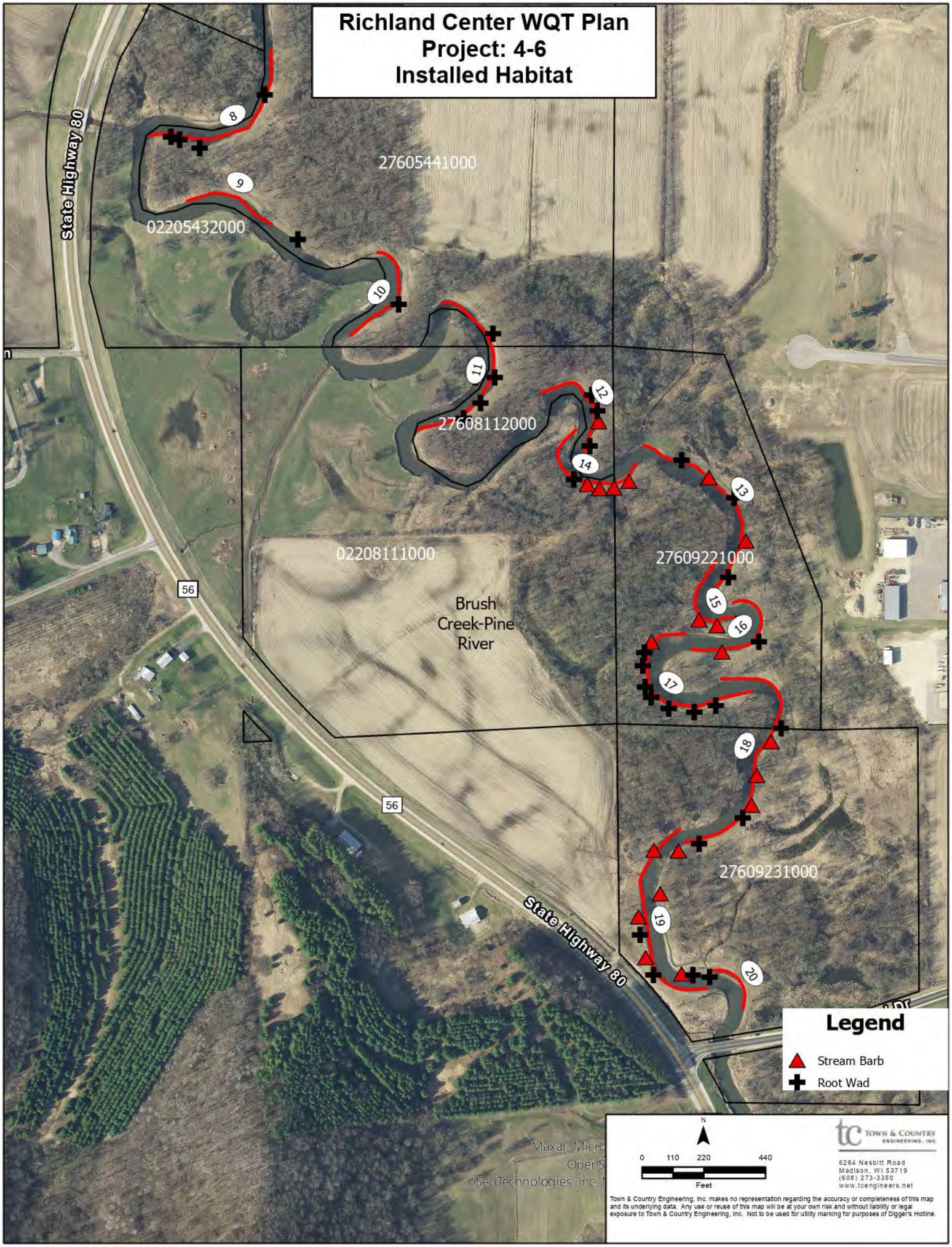
Responsible Parties Signature: Todd E. Fischer Date: 10-10-2024

APPENDIX G

Project 4


Richland Center WQT
Projects 4: Bank Sites 8-13
PROJECTS 4-6
Brush
Creek-Pine
River
Legend
LOCATIONS
HUC 12 : Brush Creek-Pine River
N
0 1,500 3,000 6,000
Feet
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City of Richland Center
Project 4
HUC 070700051107
8
9
10
11
12
13
27605441000
02205432000
27608112000
02208111000
27609221000
27609231000
N
0 100 200 400
Feet
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Date: 1/25/2024


Richland Center WQT Plan
Project: 4-6
Installed Habitat
State Highway 80
27605441000
02205432000
27608112000
02208111000
27609221000
Brush
Creek-Pine
River
56
56
27609231000
State Highway 80
8
9
10
11
12
13
14
15
16
17
18
19
20
Legend
Stream Barb
Root Wad
N
0 110 220 440
Feet
Town & Country Engineering, Inc.
6264 Nesbitt Road
Madison, WI 53719
(608) 273-3350
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Sites 8 – 13



8



9



10



11



12



13

Save... Print... Clear Data

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Department of Natural Resources
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Madison WI 53707-7921
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Water Quality Trading Management Practice Registration

Form 3400-207 (R 1/14)

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

Applicant Information

Permittee Name	Permit Number	Facility Site Number
City of Richland Center WRRF	WI- 0020109-09-1	

Facility Address	City	State	ZIP Code
29847 CTY Road TB	Lone Rock	WI	53556

Project Contact Name (if applicable)	Address	City	State	ZIP Code
Todd Fischer	450 South Main Street	Richland Center	WI	53581

Project Name
RICHLAND CENTER WWTF WATER QUALITY TRADING PROJECT 4

Broker/Exchange Information (if applicable)

Was a broker/exchange be used to facilitate trade? ○ Yes ◉ No

Broker/Exchange Organization Name	Contact Name

Address	Phone Number	Email

Trade Registration Information (Use a separate form for each trade agreement)

Type	Trade Agreement Number	Practices Used to Generate Credits	Anticipated Load Reduction	Trade Ratio	Method of Quantification
○ Urban NPS ◉ Agricultural NPS ○ Other	04	Streambank protections (NRCS 580) and Stream Habitat Improvement (NRCS 395)	556	2:1	NRCS EROSION ESTIMATOR

County	Closest Receiving Water Name	Land Parcel ID(s)	Parameter(s) being traded
Richland	PINE RIVER	27605441000, 27608112000, 27609221000	PHOSPHORUS

The preparer certifies all of the following:

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

Signature of Preparer	Date Signed
Peter C. Richter	1/30/2024

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
Todd E. Fischer	1/30/24

Leave Blank – For Department Use Only

Date Received		Trade Docket Number
Entered in Tracking System ☐ Yes	Date Entered	Name of Department Reviewer

Operation and Maintenance Plan
Streambank Protection: NRCS - 580

Responsible Party: _____ Date: _____

Prepared By: Peter C. Riddle Title: Watershed Specialist- Town and Country Engineering, Inc.

Prepared For: Todd Fischer

Project Location: Richland Center WWTF WQT Project 4: Bank Sites 8-13

This party _____ agrees to the following for the next _____ years.

1. Check the riprap, plantings where applicable, and/or tree revetments once each year and immediately after sever floods, or other high flow events. Rock removed or displaced shall be replaced as needed. Replant any 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 where applicable. 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 to foot traffic to the streambank within the buffer zone except for any designated pathway or landings.
7. Eliminate all burrowing rodents and repair damage caused by them
8. All damage, repairs, and site conditions shall be reported annually to the WDNR as required

Responsible Parties Signature: Todd E. Fischer Date: 1/30/24

APPENDIX H

Project 5





Bank 16 before (near flood stage) and after project completion, Project # 5





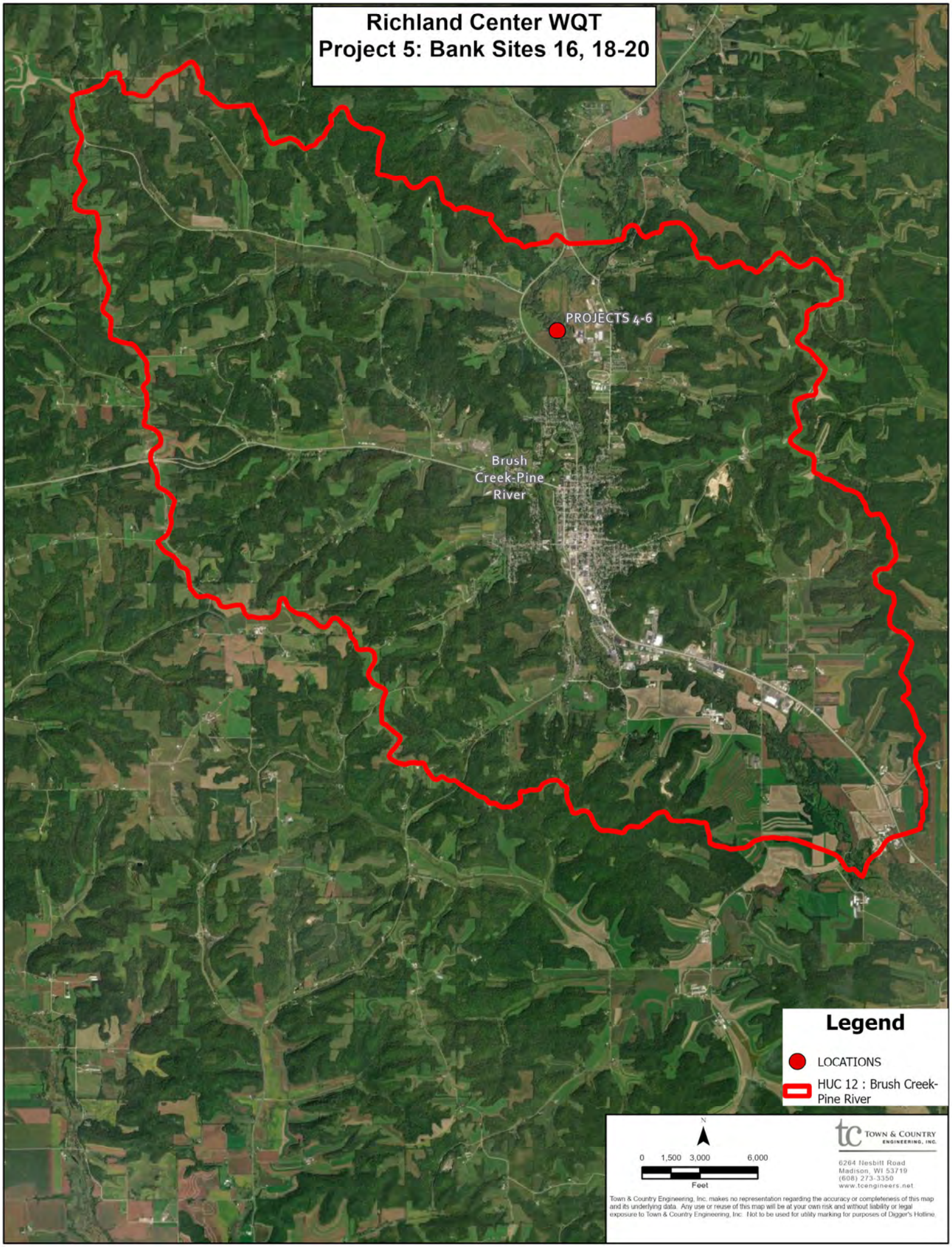
Bank site 18 before (near flood stage) and after project completion, Project # 5



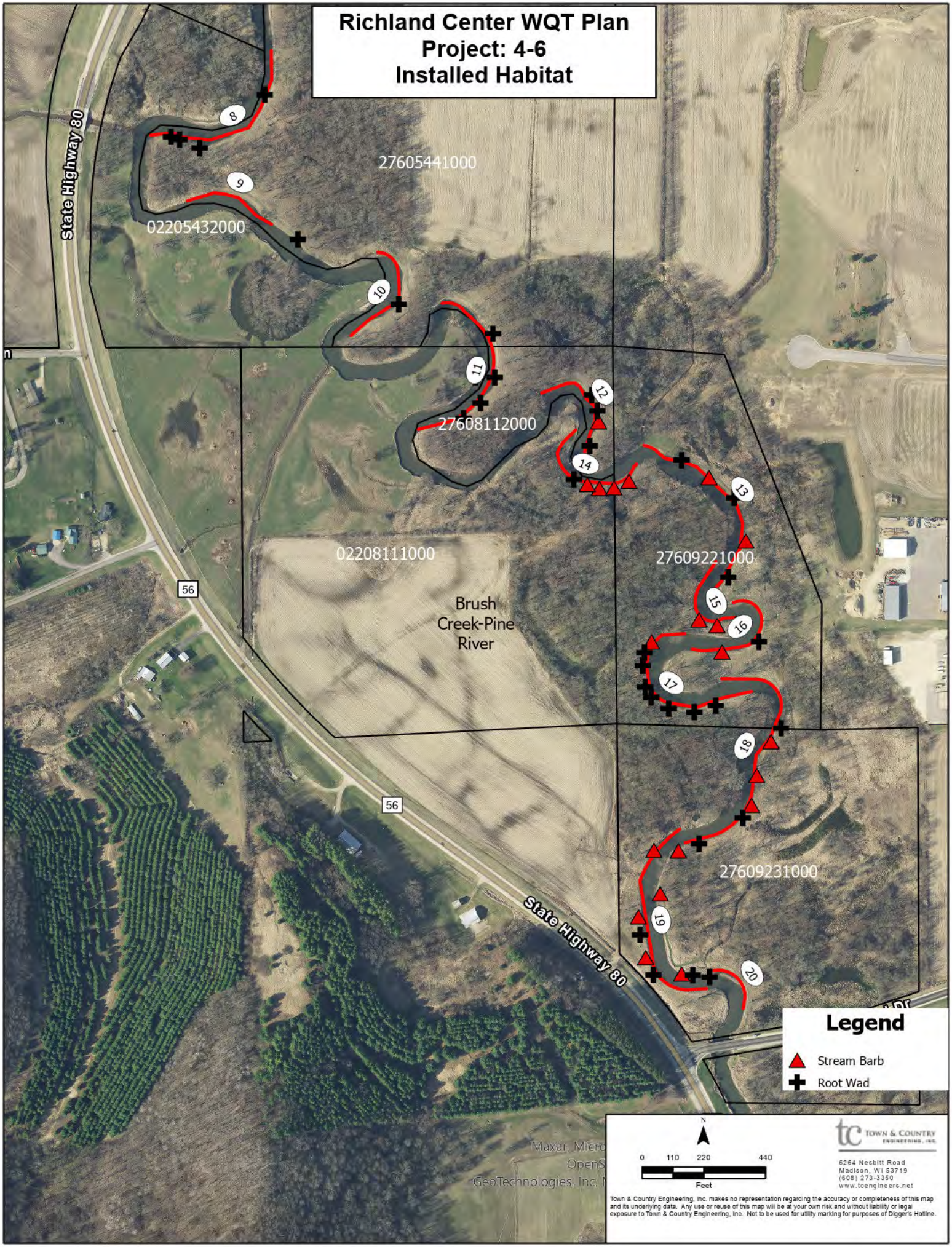
Bank site 19 before and after project completion, Project # 5



Bank Stie 20 post project completion, Project # 5


Richland Center WQT
Project 5: Bank Sites 16, 18-20
PROJECTS 4-6
Brush
Creek-Pine
River
Legend
LOCATIONS
HUC 12 : Brush Creek-Pine River
N
0 1,500 3,000 6,000
Feet
TOWN & COUNTRY ENGINEERING, INC.
6264 Nesbitt Road
Madison, WI 53719
(608) 273-3350
www.tcengineers.net
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City of Richland Center
Project 5: Bank Sites 16, 18-20
HUC 070700051107
02208111000
27609221000
16
18
27609231000
19
20
56
Pine River
Industrial Dr
State Highway
Esri Community Maps
Esri, TomTom, Garmin
EPA, NPS
N
0 100 200 400
Feet
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Date: 1/25/2024


Richland Center WQT Plan
Project: 4-6
Installed Habitat
State Highway 80
27605441000
02205432000
27608112000
02208111000
27609221000
Brush
Creek-Pine
River
56
56
27609231000
State Highway 80
8
9
10
11
12
13
14
15
16
17
18
19
20
Legend
Stream Barb
Root Wad
N
0 110 220 440
Feet
Town & Country Engineering, Inc.
6264 Nesbitt Road
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State of Wisconsin
Department of Natural Resources
101 South Webster Street
Madison WI 53707-7921
dnr.wi.gov

Water Quality Trading Management Practice Registration

Form 3400-207 (R 1/14)

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Applicant Information

Permittee Name	Permit Number	Facility Site Number
City of Richland Center WWTP	WI- 0020109-09-1	

Facility Address	City	State	ZIP Code
29847 CTY Road TB	Lone Rock	WI	53556

Project Contact Name (if applicable)	Address	City	State	ZIP Code
Todd Fischer	450 South Main Street	Richland Center	WI	53581

Project Name
RICHLAND CENTER WATER QUALITY TRADING PROJECT 5

Broker/Exchange Information (if applicable)

Was a broker/exchange be used to facilitate trade? ○ Yes ◉ No

Broker/Exchange Organization Name	Contact Name	
Address	Phone Number	Email

Trade Registration Information (Use a separate form for each trade agreement)

Type	Trade Agreement Number	Practices Used to Generate Credits	Anticipated Load Reduction	Trade Ratio	Method of Quantification
○ Urban NPS ◉ Agricultural NPS ○ Other	05	Streambank protections (NRCS 580) and Stream Habitat Improvement (NRCS 395)	556	2:1	NRCS Erosion Estimator

County	Closest Receiving Water Name	Land Parcel ID(s)	Parameter(s) being traded
Richland	Pine River	27609221000, 27609231000	Phosphorus

The preparer certifies all of the following:

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

Signature of Preparer	Date Signed
Peter C. Rubin	1/30/2024

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
Todd E. Fischer	1/30/24

Leave Blank – For Department Use Only

Date Received		Trade Docket Number
Entered in Tracking System ☐ Yes	Date Entered	Name of Department Reviewer

Operation and Maintenance Plan
Streambank Protection: NRCS - 580

Responsible Party: _____ Date: _____

Prepared By: Peter C. Riddle Title: Watershed Specialist- Town and Country Engineering, Inc.

Prepared For: Todd Fischer

Project Location: Richland Center WWTF WQT Project 5: Bank Sites 16, 18-20

This party _____ agrees to the following for the next _____ years.

1. Check the riprap, plantings where applicable, and/or tree revetments once each year and immediately after sever floods, or other high flow events. Rock removed or displaced shall be replaced as needed. Replant any 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 where applicable. 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 to foot traffic to the streambank within the buffer zone except for any designated pathway or landings.
7. Eliminate all burrowing rodents and repair damage caused by them
8. All damage, repairs, and site conditions shall be reported annually to the WDNR as required

Responsible Parties Signature: Todd E. Fischer Date: 1/30/24

APPENDIX I

Project 6



Bank site 15 (right) of the Pine River at near flood stage, Project # 6

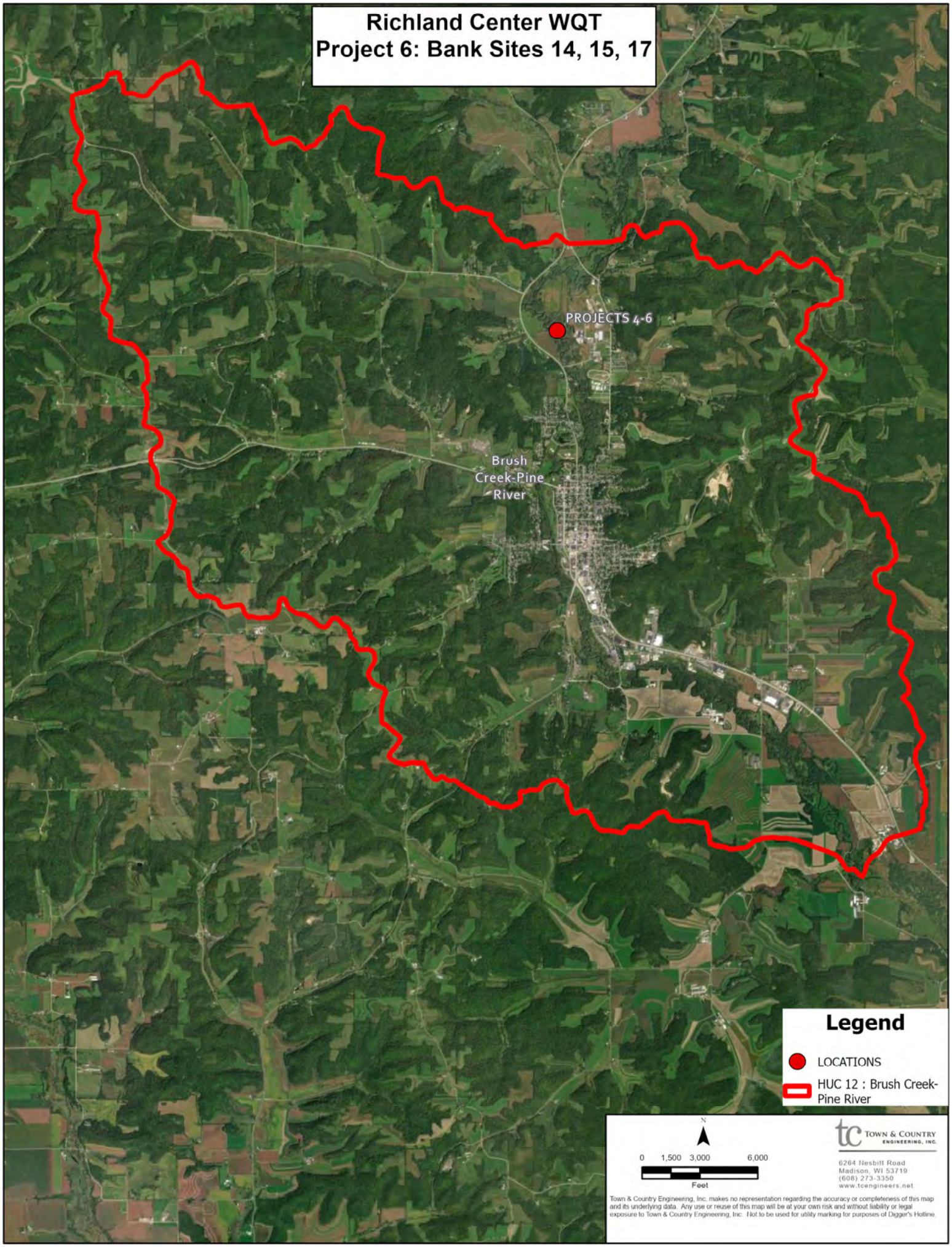




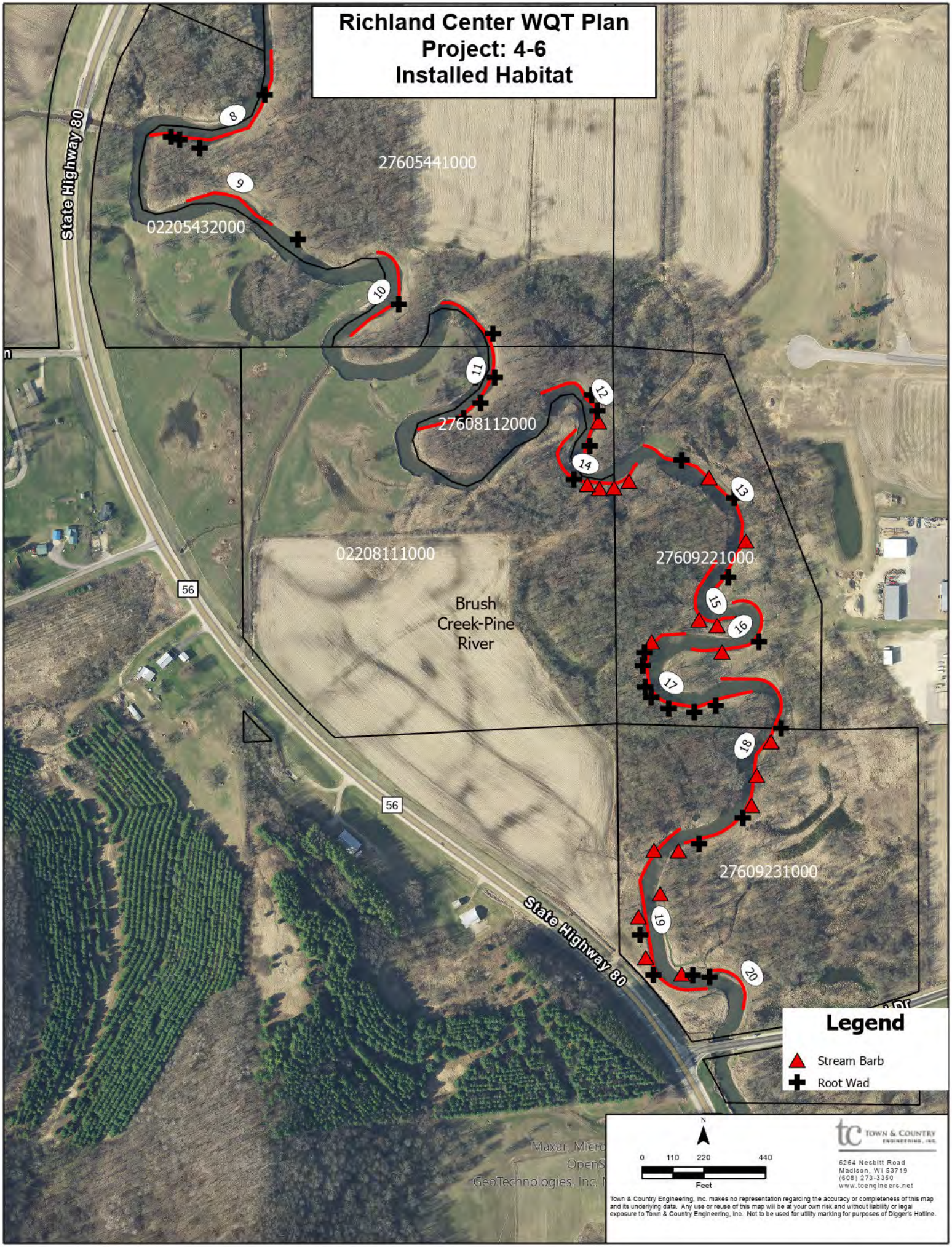
Bank Site 15 post project completion, Project # 6



Bank Site # 17 Before (near flood stage) and after project completion, Project # 6


Richland Center WQT
Project 6: Bank Sites 14, 15, 17
PROJECTS 4-6
Brush
Creek-Pine
River
Legend
LOCATIONS
HUC 12 : Brush Creek-Pine River
N
0 1,500 3,000 6,000
Feet
TOWN & COUNTRY ENGINEERING, INC.
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Madison, WI 53719
(608) 273-3350
www.tcengineers.net
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City of Richland Center
Project 6: Bank Sites 14, 15, 17
HUC 070700051107
27605441000
02205432000
Pine River
27608112000
14
Pine River
Bowen Cir
27609221000
02208111000
15
17
W Robb Rd
State Highway 80
Fleming Dr
27609231000
56
Industrial Dr
Pine River
State Highway
0 100 200 400
Feet
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Date: 1/25/2024
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Madison, WI 53719
(608) 273-3350
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Richland Center WQT Plan
Project: 4-6
Installed Habitat
State Highway 80
27605441000
02205432000
27608112000
02208111000
27609221000
Brush
Creek-Pine
River
56
56
27609231000
State Highway 80
8
9
10
11
12
13
14
15
16
17
18
19
20
Legend
Stream Barb
Root Wad
N
0 110 220 440
Feet
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Facility Address	City	State	ZIP Code
29847 CTY Road TB	Lone Rock	WI	53556

Project Contact Name (if applicable)	Address	City	State	ZIP Code
Todd Fischer	450 South Main Street	Richland Center	WI	53581

Project Name
RICHLAND CENTER WATER QUALITY TRADING PROJECT 6

Broker/Exchange Information (if applicable)

Was a broker/exchange be used to facilitate trade? ○ Yes ◉ No

Broker/Exchange Organization Name	Contact Name

Address	Phone Number	Email

Trade Registration Information (Use a separate form for each trade agreement)

Type	Trade Agreement Number	Practices Used to Generate Credits	Anticipated Load Reduction	Trade Ratio	Method of Quantification
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- I certify that the information in this document is true to the best of my knowledge.

Signature of Preparer	Date Signed
Peter C. Rutkowski	1/30/2024

Authorized Representative Signature

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Signature of Authorized Representative	Date Signed
Todd E. Fischer	1/30/24

Leave Blank – For Department Use Only

Date Received		Trade Docket Number
Entered in Tracking System ☐ Yes	Date Entered	Name of Department Reviewer

Operation and Maintenance Plan
Streambank Protection: NRCS - 395

Responsible Party: _____ Date: _____

Prepared By: Peter C. Riddle Title: Watershed Specialist- Town and Country Engineering, Inc.

Prepared For: Todd Fischer

Project Location: Richland Center WWTF WQT Project 6: Bank Sites 14, 15, 17

This party _____ agrees to the following for the next _____ years.

1. Check to ensure instream habitat and other applicable habitat improvements are maintaining functional intention.
2. Logs, trees, driftwood, and other debris lodged in the stream near the structure shall be removed. Unintended logs, trees, driftwood and other debris lodged in the stream shall be removed
3. Check for sloughing, erosion, or damage to vegetative cover where applicable. Damaged areas shall be graded, shaped, and re-vegetated as soon as possible. Installed instream habitat shall be replaced or repaired as needed to maintain habitat installations.
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 to foot traffic to the streambank within the buffer zone except for any designated pathway or landings.
7. Eliminate all burrowing rodents and repair damage caused by them
8. All damage, repairs, and site conditions shall be reported annually to the WDNR as required

Responsible Parties Signature: Todd E. Fischer Date: 1/30/24