# July 12, 2021

WATER QUALITY TRADING PLAN

Village of Patch Grove Wastewater Treatment Facility WPDES Permit No. WI-002275-08-0 S.T.H. '35', SW ¼, SE ¼, Sec 4, T5N, R5W Patch Grove, Wisconsin 53817

Prepared by:

# Delta 3 Engineering, Inc.

875 S Chestnut St. | Platteville, WI 53818 Phone: (608) 348-5355 mail@delta3eng.biz EVERY ANGLE COVERED

Project Number: D20-005

www.delta3eng.biz

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#### Attachments

- 1) Notice of Intent to Conduct Water Quality Trading
- 2) Water Quality Trading Checklist
- 3) Location & Topography Map
- 4) Wastewater Treatment Facility Flow Schematic
- 5) HUC-12 Watershed Map
- 6) Wetland Map
- 7) Soils Map and Testing Data
- 8) Current State of Eroding Streambanks Documentation
- 9) NRCS Streambank Erosion Estimator Report
- 10) Operation and Maintenance (O&M) Plan
- 11) WQT Plans and Specifications

# I. <u>Executive Summary -</u>

This Water Quality Trading Plan summarizes the Village of Patch Grove's (Village) plan to utilize Water Quality Trading (WQT) for compliance with the final total phosphorus limit as provided in the Wisconsin Pollutant Discharge Elimination System (WPDES) Permit #WI 0022705-08-0. The Wastewater Treatment Facility (WWTF) treated 0.044 MGD in 2019 and 0.053 MGD in 2020. The WWTF had an average effluent Total Phosphorus (TP) concentration of 0.63 mg/L in 2020. The WWTF will be required to perform chemical treatment and use WQT Credits to offset approximately 174 lbs. of TP in order to meet the final annual six-month average limit of 0.075 mg/L and a monthly average limit of 0.225 mg/L, which will become effective April 1, 2023 if the Village does not reapply for the Multi-Discharger Variance (MDV).

NRCS Streambank Erosion modeling methods were used to calculate the total phosphorus credits that would be generated based on the installation of best management practices (BMPs). These credits will be used to demonstrate compliance with the final total phosphorus limit as proposed in the WPDES Permit.

As demonstrated in modeling results from Table 1.1, the WWTF has the ability to register approximately 201 credits. The implementation of this WQT Plan will result in compliance with the final TP limits. The WWTF intends to monitor TP credit usage and intends to perform construction of additional BMPs as needed for future effluent TP to comply with WPDES Permits Limits. A new Water Quality Trading Plan will be submitted at that time for new BMP practices and credit production.

Reach	Current Phosphorus Loading (lbs./yr.)	Proposed Phosphorus Loading (lbs./yr.)	Proposed Phosphorus Reductions (lbs./yr.)	Trade Ratio	Proposed Phosphorus Credits
1 (Right)	280	0	280	2.2:1	127
1 (Left)	161	0	161	2.2:1	73
				Total	201

<u>Table 1.1 – Modeling Results</u>

NOTE:

**Trade Ratio** = (Delivery + Downstream + Equivalency + Uncertainty – Habitat Adjustment):1 **Delivery** = 0 (Trading within same HUC-12 Watershed)

**Downstream** = 0 (For trades upstream of Outfall 001)

**Downstream** = 0.2 (For trades downstream of Outfall 001)

**Equivalency** = 0 (Not necessary of Total Phosphorus)

**Uncertainty**: *Streambank Stabilization with Habitat Restoration* = 2

## II. <u>Background -</u>

The purpose of this Water Quality Trading Plan (Plan) is to describe the Village's use of Water Quality Trading to comply with the total phosphorus limits as provided in the Village's WPDES Permit #WI-0022705-08-0. The Plan was developed following the Notice of Intent to Conduct Water Quality Trading, provided in Attachment #1. The Water Quality Trading Checklist Form 3400-208 is provided in Attachment #2.

The Village of Patch Grove is located in Grant County along Wisconsin State Trunk Highway '35' and U.S. Route '18' in southwestern Wisconsin. The Village operates and maintains a Wastewater Treatment Facility (WWTF) which serves a population of approximately 198 residents.

The Village is comprised primarily of residential development and is situated along the Blake Fork. The area consists of rolling hills with the grade typically sloping between 5% and 15%. The topography of the area is provided in Attachment #3.

The existing sanitary sewer collection consists of approximately 52 sanitary manholes and 13,207 feet of eight-inch (8") sanitary sewer. The gravity sanitary sewer main varies in composition between concrete, clay, and PVC. The manholes vary in composition between brick, block, and precast structures.

The Village of Patch Grove owns and operates a WWTF that utilizes an extended-aeration activated sludge system. Wastewater enters the WWTF by first passing through a comminutor. Wastewater then proceeds to the extended-aeration activated sludge tank. Starting on January 1, 2020, the Village began a Chemical Addition Pilot Study adding 0.5 gallons/day of RE-300 to the activated sludge tank. Sludge is settled out in the final clarifier. Effluent is aerated and sampled prior to being discharged by an effluent pump station to the Tributary to Blake Fork. Activated sludge is either returned to the head of the process for further treatment or wasted to aerobic sludge holding tanks, where it is digested and stored prior to land application on DNR-approved sites. The current WWTF treats 0.053 MGD on an annual average with a design flow of 0.055 MGD. Please see Attachment #4 for the WWTF flow schematic. The Village of Patch Grove's WWTF has one (1) receiving water and effluent discharge location, Outfall 001: Tributary to Blake Fork (Middle Grant River Watershed, GP05 – Grant-Platte River Basin).

The monthly average influent and effluent flows and loadings at the WWTF for 2019 and 2020 are provided in Table 2.1 and Table 2.2, respectively.

Month	Flow	BC	DD5	Suspende	ended Solids Total Phosphorus			us Phosphorus	
	(MGD)	(mg/L)		(mg/L)		(mg	g/L)	(lbs./day)	
	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent	Effluent	
Jan. ('19)	0.040	120	5	125	7	-	1.13	0.38	
Feb. ('19)	0.035	46	3	46	11	-	1.57	0.46	
Mar. ('19)	0.044	113	4	121	13	-	1.23	0.45	
Apr. ('19)	0.035	148	6	129	13	-	1.41	0.41	
May ('19)	0.038	133	5	177	8	-	1.59	0.50	
June ('19)	0.034	113	3	99	8	-	1.61	0.46	
July ('19)	0.027	101	3	123	6	-	1.47	0.33	
Aug. ('19)	0.024	101	2	127	5	-	1.99	0.40	
Sept. ('19)	0.057	84	3	104	7	-	1.25	0.59	
Oct. ('19)	0.063	63	4	93	9	-	0.82	0.43	
Nov. ('19)	0.061	70	5	103	10	-	0.92	0.47	
Dec. ('19)	0.070	67	5	99	10	-	0.74	0.43	
Annual Average =	0.044	97	4	112	9	-	1.31	0.44	

Table 2.1 – 2019 Monthly Averages

#### Table 2.2 – 2020 Monthly Averages

Month Flow BOD <sub>5</sub>		Suspende	ed Solids	-	tal horus	Total Phosphorus			
	(MGD)	(mg	g/L)	(mg	;/L)	(mg	g/L)	(lbs./day)	
	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent	Effluent	
Jan. ('20)	0.059	120	6	88	10	-	0.72	0.35	
Feb. ('20)	0.053	73	5	113	11	-	0.83	0.37	
Mar. ('20)	0.066	89	5	103	16	-	0.94	0.52	
Apr. ('20)	0.075	76	8	88	14	-	0.54	0.34	
May ('20)	0.044	76	4	136	14	-	0.60	0.22	
June ('20)	0.073	89	3	115	13	-	0.49	0.30	
July ('20)	0.062	43	2	62	11	-	0.39	0.20	
Aug. ('20)	0.044	82	3	121	8	-	0.70	0.26	
Sept. ('20)	0.045	72	2	135	10	-	0.70	0.26	
Oct. ('20)	0.043	124	4	134	13	-	0.62	0.22	
Nov. ('20)	0.039	83	3	122	10	-	0.49	0.16	
Dec. ('20)	0.034	111	3	119	10	-	0.52	0.15	
Annual Average =	0.053	87	4	111	12	-	0.63	0.28	

To reduce effluent TP, the Village has made efforts to optimize TP reduction at the WWTF. The Village has also implemented source reduction measures such as investigating potential TP

contributors. The Village has checked local businesses for Phosphorus contribution and will continue its investigation of Phosphorus contributors.

During the initial evaluation of sanitary dischargers, it was determined that the businesses were not major contributors of Phosphorus. Currently, the Village has been able to maintain an average Total Phosphorus effluent of 0.63 mg/L which is well within the WPDES interim limit of 6.0 mg/L. The Village will continue to investigate options for TP removal at the WWTF.

Additionally, the Village has investigated watershed compliance alternatives such as Water Quality Trading (WQT) and Adaptive Management (AM). Utilizing the results from PRESTO, the watershed of the WWTF has a nonpoint source ratio of 32:68 and is considered to be nonpoint-source dominated. Stream monitoring in 2013 confirmed that the Blake Fork was an impaired water due to TP. Water Quality Based Effluent Limits (WQBELs) for TP were calculated based on a background concentration of 0.159 mg/L from the Blake Fork. In 2015, the Blake Fork was determined to have a degraded biological community. Following discussion with the County and initial investigation, the Village elected to move forward with WQT. The Village intends to perform WQT projects within the Village's Hydrological Unit Code - 12 (HUC-12) watershed #070600030201 as provided in Attachment #5.

Flow and loading data from 2020 was utilized to determine credits needed. Annual effluent TP was estimated at 102 lbs. The final limit would allow annual discharge of 12 lbs. The Village would be required to offset at least 90 lbs. of effluent TP. Calculations for required WQT reductions are provided below.

**1**) The current annual Phosphorus loading discharged at the WWTF is calculated as follows:

Seasonal Average Daily Flow (Q) = 0.053 MGD Average Phosphorus concentration = 0.63 mg/L

0.63 mg/L x 0.053 MGD x 8.34 x 365 days/yr. = 102 lbs./yr.

**2**) The proposed allowable annual Phosphorus mass limit at the WWTF is calculated as follows:

Seasonal Average Daily Flow (Q) = 0.053 MGDProposed Seasonal Phosphorus Concentration Limit = 0.075 mg/L

0.075 mg/L x 0.053 MGD x 8.34 x 365 days/yr. = 12 lbs./yr.

**3**) Reduction of Total Phosphorus required at WWTF - 102 lbs./yr. – 12 lbs./yr. = **90 lbs./yr.** 

To provide an adequate safety factor for credits generated, the Village will generate credits to meet the Maximum Monthly Phosphorus Discharge. The calculation for credits required to meet the Maximum Monthly Phosphorus Discharge is provided below:

Maximum Month Flow (Q) = 0.066 MGD

Maximum Month Phosphorus Concentration = 0.94 mg/LProposed Seasonal Phosphorus Concentration Limit = 0.075 mg/L

(0.94 – 0.075) mg/L x 0.066 MGD x 8.34 x 365 days/yr. = **174 lbs./yr.** 

# III. Location and Description of Credit Generation Sites -

The Village discharges to unnamed Tributary to Blake Fork (Middle Grant River Watershed, GP05 – Grant-Platte River Basin) at Outfall 001. As mentioned previously, the Village intends to perform WQT projects within the Village's HUC-12 #070600030201. The Village plans to perform streambank stabilization which will utilize grading and/or riprap to prevent the erosion of sediment from the streambanks. Streambank stabilization will not only prevent sediment from entering the stream, but will also prevent phosphorus, nitrogen, and other pollutants from discharging to Blake Fork. See Figure 3.1 for additional project location information.



Figure 3.1 – Stream Reach location in relation to Outfall 001.

## IV. Methods for Nonpoint Source Load Reduction -

The Village needs to acquire at least 174 WQT trading credits to offset mass of TP discharged at the WWTF. The Plan identifies trading practices that will reduce TP runoff by more than 442 lbs. and will utilize a 2.2:1 trade ratio for downstream trades. Downstream trade ratios were determined by Table 4.1 as provided by the Wisconsin DNR.

Table 4.1 – Downstream Traunig Factor	
Percent Difference Between Credit User's Load and	
Total Load at the Point of the Credit User's Point of	Downstream
Standards Application	<b>Trading Factor</b>
<25%	0.1
<50%	0.2
<75%	0.4
<u>&gt;</u> 75%	0.8

#### **Table 4.1 – Downstream Trading Factor**

Percent Difference =	(1-(Qe x Ce) / (Qe x Ce + Qs x Cs)) x 100 = 31%
	31% < 50%
	Downstream Trading Factor $= 0.2$

Qs = Receiving water flow (7Q2) = 0.14 cfs

Qe = Design flow = 0.055 MGD = 0.08 cfs

Cs = Background concentration of TP = 0.159 mg/L

Ce = Effluent concentration of TP = 0.63 mg/L

The WQT practices identified for this Water Quality Trading Plan has the ability to generate approximately 201 TP credits/year indefinitely as long as trading practices are maintained.

#### A. Methods Used to Generate Load Reductions

For streambank stabilization, the Village has the ability generate TP load reductions through streambank grading and/or riprapping of approximately 4,751 lineal feet of streambank.

Streambank Stabilization will be performed as per NR 328 *Shore Erosion Control Structures in Navigable Waterways,* NRCS 580 *Streambank and Shoreline Protection,* and NRCS 395 *Stream Habitat Improvement and Management.* Streambank shaping and riprapping will eliminate the discharge of sediment to the stream. The streambank stabilization project will occur within HUC-12 #070600030201 in order to generate TP credits. Standard Plans and Specifications for the Project Site will be provided by a Professional Engineer. The Village will also acquire all required permits and authorizations for the Project.

To register credits, the Village has entered into trade agreements with Property Owners pursuant to s. 283.84(1)(b), Wis. Stats.

#### **B.** History of Project Site

The Project Site is planned within the Middle Grant River Watershed along the Blake Fork. The land for Reach #1 is primarily used for pasture with minimal native trees and vegetative cover. No mapped wetlands will be impacted by the WQT Project as indicated in Attachment #6 – Wetland Map. The streambanks have experienced significant erosion as the Blake Fork Watershed has been developed and cleared for agricultural and residential use. The banks are bare with slumps, rills, and severe vegetative overhang throughout. Severe erosion indicators such as undercuts, slumps, tree roots, fallen trees and significant annual changes to the channel are readily visible throughout the site. The erosion indicators demonstrate the lateral recession rate is Severe based on the NRCS Recession Rate Table. An average recession rate of 0.5 feet/year was utilized for modeling purposes.

#### C. Model Used to Derive Load Reductions

NRCS Streambank Erosion modeling methods were used to calculate the total phosphorus credits that would be generated based on the installation of BMPs. These credits will be used to demonstrate compliance with the final total phosphorus limit as proposed in the WPDES Permit. Modeling results are provided in Table 4.2. If the Plan or model inputs change during construction, the Village will submit to the DNR the revised models and calculations to more accurately reflect and number of credits generated.

Reach	Current Phosphorus Loading (lbs./yr.)	ProposedProposedPhosphorusPhosphorusLoadingReductions(lbs./yr.)(lbs./yr.)		Trade Ratio	Proposed Phosphorus Credits
1 (Right)	280	0	280	2.2:1	127
1 (Left)	161	0	161	2.2:1	73
				Total	201

 Table 4.2 – Modeling Results

#### NOTE:

**Trade Ratio** = (Delivery + Downstream + Equivalency + Uncertainty – Habitat Adjustment):1 **Delivery** = 0 (Trading within same HUC-12 Watershed)

**Equivalency** = 0 (Not necessary of Total Phosphorus)

**Uncertainty**: Streambank Stabilization with Habitat Restoration = 2

Soil testing has been completed to determine TP concentrations within the soil. Soil sampling was performed every 100 feet and included the use of a soil sampler which pulled <sup>3</sup>/<sub>4</sub>" cores at 8" depth. Approximately six (6) cores were taken at each

**Downstream** = 0 (For trades upstream of Outfall 001)

**Downstream** = 0.2 (For trades downstream of Outfall 001)

sampling location to provide a representative sample. Soils maps and soil testing data is provided in Attachment #7. An onsite evaluation has been conducted to estimate stream bank recession rate. The data, narrative, and photos documenting the current state of eroding stream banks are provided in Attachment #8.

With the collected data, the NRCS Streambank Erosion Estimator was used to calculate TP loss from the eroding streambank. The modeling data for the NRCS Streambank Erosion Estimator is available in Attachment #9. The streambank grading and riprap design will eliminate streambank recession thus eliminating TP inputs within the Project area. For the Habitat Restoration portions of the WQT Plan, the Village will be working with Bradd Sims (DNR Fisheries Biologist) to incorporate habitat improvements into the Project Plans.

Blake Fork has experienced agricultural and urban development within the watershed and has issues caused by sedimentation which was included in Wisconsin DNR evaluation for *Platte River Region*. The watershed has also experienced reduction of large woody debris along the streambanks due to agricultural development which reduces available habitat and bank roughness. Streambank improvements will reduce sediment which was identified as the #1 reason for habitat degradation in the Blake Fork. The Project will also implement in-stream habitat structures such as single logs and bed logs. These structures are intended to increase available cover for juvenile and adult fish. These structures will also influence stream hydrology by creating pools and riffles which are stream formations essential to macroinvertebrates, fish, and other aquatic life. The quantity and location of habitat structures is provided in Table 4.3 below.

Table 4.3	<u> – Habitat Structur</u>	res
Reach	Single Bank Log	Bed Log
1	4	4

#### **D.** Operation and Maintenance

An Operation and Maintenance (O&M) Plan is provided in Attachment #10. The O&M plan describes how the Stream Stabilization Practices will be operated and maintained. The O&M Plan also addresses response procedures for Practice Registration, Noncompliance Notification, and Notification of Trade Agreement Termination.

As previously mentioned, Village is planning to perform streambank stabilization by implementing BMPs along the Blake Fork streambanks. The stabilization practices will be installed and maintained per the Plans and Specifications as provided in Attachment #11. BMPs are to follow NR 328 Shore Erosion Control Structures in Navigable Waterways, NRCS 580 Streambank and Shoreline Protection, and NRCS 395 Stream Habitat Improvement and Management. Restoration landscaping and seeding will be installed following construction and will be closely monitored for a minimum of two (2) growing seasons to ensure the new seeding grows and erosion is not prevalent. Weeds and invasive vegetation growth will be addressed if present. The

riprap will be inspected following heavy rain events at a minimum. Inspection will be used to determine appropriate actions in order to maintain the riprap for continuous and ongoing streambank stabilization and TP credit generation.

The BMPs will be inspected annually by a licensed Professional Engineer to ensure that the BMPs are functioning as intended in order to meet the requirements of this WQT Plan.

# V. <u>Trade Timeline –</u>

Schedule for Installation of the above mentioned trading practices for Total Phosphorus Credit Generation for TP compliance is provided in Table 5.1 below.

Item	Completion Timeline
Site Investigation	Summer 2020
Conceptual Design	Fall 2020
Final Design	Spring 2021
Construction Permits	Summer 2021
DNR Review of Final Design	Fall 2021
Construction of BMPs	Fall 2021 – Fall 2022
Phosphorus Credit Registration	Fall 2022
Use of Phosphorus Credits	
by Village of Patch Grove	April 1, 2023
(Ongoing for Permit Compliance)	

**Table 5.1 – Trade Timeline** 

Credits will be used by the Village beginning April 1, 2023. Credits will continue as long as the trading practices are maintained as outlined in this WQT Plan.

### VI. <u>Inspection Reporting</u> –

#### A. Tracking Procedures

The Village will track credits used monthly. The Village will report credit usage to the DNR on a monthly basis in the Discharge Monitoring Reports (DMRs). The annual report will summarize the 12 months of credit usage and credit generation. The Village will report to DNR any concern that they have that may result in a need to modify the trade agreement and/or this trade plan. For example, a need to generate additional credits based on discharge.

#### **B.** Inspection

Inspection of the BMPs shall occur during construction phase to ensure they are installed per the design and meet all applicable codes and permits. Once completed, inspections of the established BMPs shall occur each month at a minimum or following heavy rain events. A licensed professional engineer will perform an annual certification to ensure the practice is performing as designed and the Village remains in compliance.

The inspection reports will include:

- i. Name and contact information of the inspector
- ii. Inspection Date
- iii. Relevant standards set forth in the Design Plan or Operation and Maintenance Plan
- iv. Issues identified
- v. When and how any issues identified were addressed
- vi. When and how any issues identified will be addressed in the future

Inspection reports generated during each routine or after rain event inspection will be included with the Annual Water Quality Trading Report submitted by the Village to DNR. Annual inspections by a professional engineer will typically occur in April or May. This time of year is ideal for evaluating the condition of BMPs as it follows the freeze/thaw which poses the greatest potential for changes to the BMPs. Minimal vegetation cover will allow for adequate visual inspection.

#### C. Management Practice Registration Form

The Village will file a completed registration form 3400-207 for Water Quality Trading Management Practice Registration separately from this Plan.

#### D. Annual Water Quality Trading Report Submittal

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

- i. The number of pollutant reduction credits (lbs./month) used each month of the previous year to demonstrate compliance;
- ii. A summary of the annual inspection of the practice that generated any of the pollutant reduction credits used during the previous year, this inspection shall be completed by a licensed Professional Engineer;
- iii. All monthly inspection reports;

- iv. Identification of noncompliance or failure to implement any terms or conditions of this permit with respect to water quality trading that have not been reported in discharge monitoring reports;
- v. A list of all noncompliance and the correction measures and timing to address the issues throughout the year; and
- vi. An updated WQT plan if management practices have or will change.

#### E. Monthly Certification of Management Practices

Each month, the Village will certify that the BMPs are maintained and operating in a manner consistent with this Water Quality Trading Plan or provide a statement noting noncompliance with this Plan. The monthly Discharge Monitoring Report (DMR) will include the following statement as a certification of compliance when the Credit Generating Practice is operating in a manner consistent with the Plan:

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

#### F. Notification of Failure to Generate Credits

The Village will notify DNR by telephone call to DNR's regional wastewater compliance engineer within 24 hours or next business day of becoming aware that phosphorus credits used or intended for use by Village are not being generated as outlined in this Water Quality Trading Plan.

The Village will submit a written notification within five days after the Village recognizes that the phosphorus credits are not being generated as outlined in the Trading Plan. DNR may waive the requirement for submittal for a written notice within five days and instruct the Village to submit the written notice with the next regularly scheduled monitoring report required by Village's WPDES Permit.

The written notice will contain a description of how and why the TP credits are not being generated as outlined in the Water Quality Trading Plan, the steps taken or planned to prevent reoccurrence of the identified problems and the length of time anticipated it will take to address the issue.

The Village will work to rectify the problem as laid out in the Operation and Maintenance Plans.

G. Conditions under which Management Practices May Be Inspected

Any DNR authorized officer, employee, or representative has the right to access and inspect the credit generating practice so long as the Village's trade agreement with the property owner(s) and this Water Quality Trading Plan remain in effect.

# VII. Certification -

The undersigned hereby certifies that this Water Quality Trading Plan is accurate and correct to the best of his knowledge.

Village of Patch Grove Wastewater Treatment Facility

By: William I Morgan

William Morgan Village President Village of Patch Grove 112 North Street P.O. Box 168 Patch Grove, WI 53817 Telephone: (608) 994-2200 Email: patchgroveclerk@gmail.com

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

#### Notice of Intent to Conduct Water Quality Trading Form 3400-206 (1/14) Page 1 of 2

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 Infor	mation							
Permittee Name			Permit Number			Facility Site Numbe	r	
Village of Patc	h Grove		WI- 0022705					
Facility Address					City		State	ZIP Code
	; SW 1/4 of SE 1/4				Patch	Grove	WI	53817
	Name (if applicable)				City			ZIP Code
Jordan Fure (D	elta 3 Eng.)	875 So	uth Chestnut Street		Platter	ville	WI	53818
Project Name	G. T							
	Stream Improveme							
Receiving Water			er(s) being traded			UC 12(s)		
Tributary to B1			nosphorus			70600030201		
			lominated watershed? surfacewater/presto.htm			rce dominated source dominated		
<b>Credit Generate</b>	or Information							
	type (select all that	Perm	nitted Discharge (non-M	IS4/CAFO)	V Urb	an nonpoint source of	discharge	
apply):		Charles of the second se	nitted MS4		and the second se	icultural nonpoint sou		rae
	x	Perm	nitted CAFO			er - Specify:		190
Are any of the cr	edit generators in a d		HUC 12 than the applic	ant? Ova		10.	-	
					S, HUC	12.		
				No				
Are only of the en	a afilit an an an a fair a st		<b>1</b> 11 11 10	O Un				
Are any or the cr	edit generators down	stream o	of the applicant?	• Ye	S			
				O No				
				() Un	sure			
Will a broker/exc	hange be used to fac	ilitate tra	ade?	O Ye	s; Name	<b>):</b>		
				No				
				O Un				
Point to Point 1	rades (Traditional	Municip	al / Industrial Discha					
Discharge Type	Permit Number	Name	9	Contact Ad	dress	currently in	nt source cr n complian uirements?	redit generator ce with their ?
O Traditional O MS4 O CAFO						O Yes O No O Unsur	re	
O Traditional O MS4 O CAFO						O Yes O No O Unsur	re	
O Traditional O MS4 O CAFO						O Yes O No O Unsur	re	
O Traditional O MS4 O CAFO						O Yes O No O Unsur	re	
O Traditional O MS4 O CAFO						O Yes O No O Unsur	re	

Notice of Intent to Conduct Water Quality Trading Form 3400-206 (1/14) Page 2 of 2

Point to Nonpoint Trades (Non-permit List the practices that will be used to gene		Jrdan, etc.)
Streambank Stabilization		
Method for quantifying credits generated:	mornioning	
	Modeling, Names: NRCS Stre	ambank Erosion Estimator
	Other:	
Projected date credits will be available:	10/15/2022	
The preparer certifies all of the follow		
	ubmitted for this application, and I be	elleve all applicable items in this checklist have been
addressed.	- heat of any large day and have a	A such a land the set of the former of the
I have completed this document to the	le best of my knowledge and have no	
Signature of Preparer	-	Date Signed
John Fr		12/8/2020
Authorized Representative Signature		
I certify under penalty of law that this doc	ument and all attachments were pre	pared under my direction or supervision. Based on my
and belief accurate and complete Lama	ble for gathering and entering the int	ormation, the information is, to the best of my knowledge tiles for submitting false information, including the
possibility of fine and imprisonment for kr	nowing violations.	tites for submitting taise information, including the
Signature of Authorized Representative		Date Signed
1.200 - I M-		6-10-2021
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State of Wisconsin Department of Natural Resources 101 South Webster Street Madison WI 53707-7921 dnr.wi.gov

Form 3400-208 (1/14)

Page 1 of 3

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.).

	ormation			Station Address in the second				C. 11 14	
Permittee Nam			Permit Number			Facility Site N	umber		
Village of Pa			WI-0022705						
Facility Addres	35				City			State	ZIP Code
			/4 of Sec 4, T5N, R	5W)	Patch	Grove		WI	53817
	ct Name (if applicab				City			State	ZIP Code
	(Delta 3 Eng.)	875 Sou	th Chestnut Street		Platter	ville		WI	53818
Project Name							-		
Patch Grove	Stream Improven	nents Projec	t - Blake Fork						
Receiving Wat	ter Name	Paramete	r(s) being traded		H	IUC 12(s)			******* ***** * *** (C)
Blake Fork		Total Ph	osphorus		0	70600030201			
	ator Information								2
	or type (select all th	nat Pern	nitted Discharge (non-l	MS4CAFO)	Urb	an nonpoint so	urce disch	narge	
apply):		Pern	nitted MS4			icultural nonpo	int source	dischar	ge
		Pern	nitted CAFO		Records.	er - Specify:			
Are any of the	credit generators in		IUC 12 than the applic	ant? $\cap v_{\alpha}$		12			
rice any er ine	erean generatore n					12.			
				No					
Are any of the	credit generators d	ownstream o	f the applicant?	• Ye	S				
				ONO					
Mill a brokorla	exchange be used to	facilitate tra	do?						
will a prokeire	sxchange be used to	J lacinate tra	ue :			e description and	contact info	ormation	in WQT plan)
				No	,				
Point to Poin	t Trades (Traditio	nal Municipa	al / Industrial, MS4, C	CAFO)				and the second second	4, R.
		it generators	identified in this sectio	n in complia	nce with	their WDPES	permit (	) Yes	
requirements?	?							) No	
Discharge	Donnelt Niumehon	INIama		0	F		~		
Type	Permit Number	Name		Contact I	ntormati	on		roomor	nt Number
							Trade Ag	greener	
				_			I rade Ag	greenier	
OTraditional							I rade Ag		
O MS4							I rade Ag	greenier	
							I rade Ag		
O MS4 O CAFO							I rade Ag		
O MS4 O CAFO O Traditional							I rade Ag		
O MS4 O CAFO O Traditional O MS4							I rade Ag		
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MS4     CAFO     Traditional     MS4     CAFO     CAFO     Traditional     MS4     CAFO     Traditional     MS4     CAFO							I rade Ag		
MS4     CAFO     Traditional     MS4     CAFO     CAFO     Traditional     MS4     CAFO     CAFO     CAFO     Traditional     OS4     CAFO     Traditional							I rade Ag		
MS4     CAFO     Traditional     MS4     CAFO     CAFO     Traditional     MS4     CAFO     CAFO     CAFO     Traditional     MS4     CAFO     Traditional     MS4     MS4							I rade Ag		
MS4     CAFO     Traditional     MS4     CAFO							I rade Ag		
MS4     CAFO     Traditional     MS4     CAFO     CAFO     Traditional     MS4     CAFO							I rade Ag		
MS4     CAFO     Traditional     MS4     CAFO									

# Water Quality Trading Checklist Form 3400-208 (1/14) Page 2 of 3

		Industrial, MS4, CAFO) co	nt.		
Does plan have a narrative that describes:         a. Summary of discharge and existing treatment including optimization         O Yes					Plan Section
b. Amount of credit being generated			() Yes	O No	
			() Yes	O No	
c. Timeline for credits and agreements			() Yes	O No	
d. Method for quantifying credits			() Yes	O No	
e. Tracking and verification procedures			O Yes	O No	
f. Location of credit generator in proximity to receiving water and credit user			O Yes	O No	
g. Other:			() Yes	O No	
Discharge Type	des (Non-Permitted Urb Practices Used to Generate Credits	Method of Quantification	Trade Agree Number	ement	Have the practice(s) been formally registered?
<ul> <li>Urban NPS</li> <li>Agricultural NPS</li> <li>Other</li> </ul>	Streambank Stabilization	NRCS Streambank Erosion Estimator			<ul> <li>○ Yes</li> <li>● No</li> <li>○ Only in part</li> </ul>
<ul> <li>Urban NPS</li> <li>Agricultural NPS</li> <li>Other</li> </ul>					<ul> <li>○ Yes</li> <li>○ No</li> <li>○ Only in part</li> </ul>
O Urban NPS Agricultural NPS O Other					<ul><li>○ Yes</li><li>○ No</li><li>○ Only in part</li></ul>
O Urban NPS Agricultural NPS O Other					<ul> <li>○ Yes</li> <li>○ No</li> <li>○ Only in part</li> </ul>
O Urban NPS O Agricultural NPS O Other					<ul> <li>○ Yes</li> <li>○ No</li> <li>○ Only in part</li> </ul>
O Urban NPS Agricultural NPS O Other					<ul> <li>O Yes</li> <li>O No</li> <li>O Only in part</li> </ul>
O Urban NPS Agricultural NPS O Other					<ul> <li>O Yes</li> <li>O No</li> <li>O Only in part</li> </ul>
O Urban NPS Agricultural NPS O Other					<ul> <li>O Yes</li> <li>O No</li> <li>O Only in part</li> </ul>
Does plan have a narra					Plan Section
a. Description of existing land uses			• Yes	O No	Section IV
b. Management practices used to generate credits		• Yes	O No	Section IV	
c. Amount of credit being generated			• Yes	O No	Section IV
d. Description of applicable trade ratio per agreement/management practice			• Yes	O No	Section IV
e. Location where credits will be generated			• Yes	O No	Section III
f. Timeline for credits and agreements			• Yes	O No	Section V
g. Method for quantifying credits			• Yes	O No	Section IV

5. - - ji

#### Water Quality Trading Checklist

Form 3400-208 (1/14)

Date Signed

6

8

2021

Page 3 of 3

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

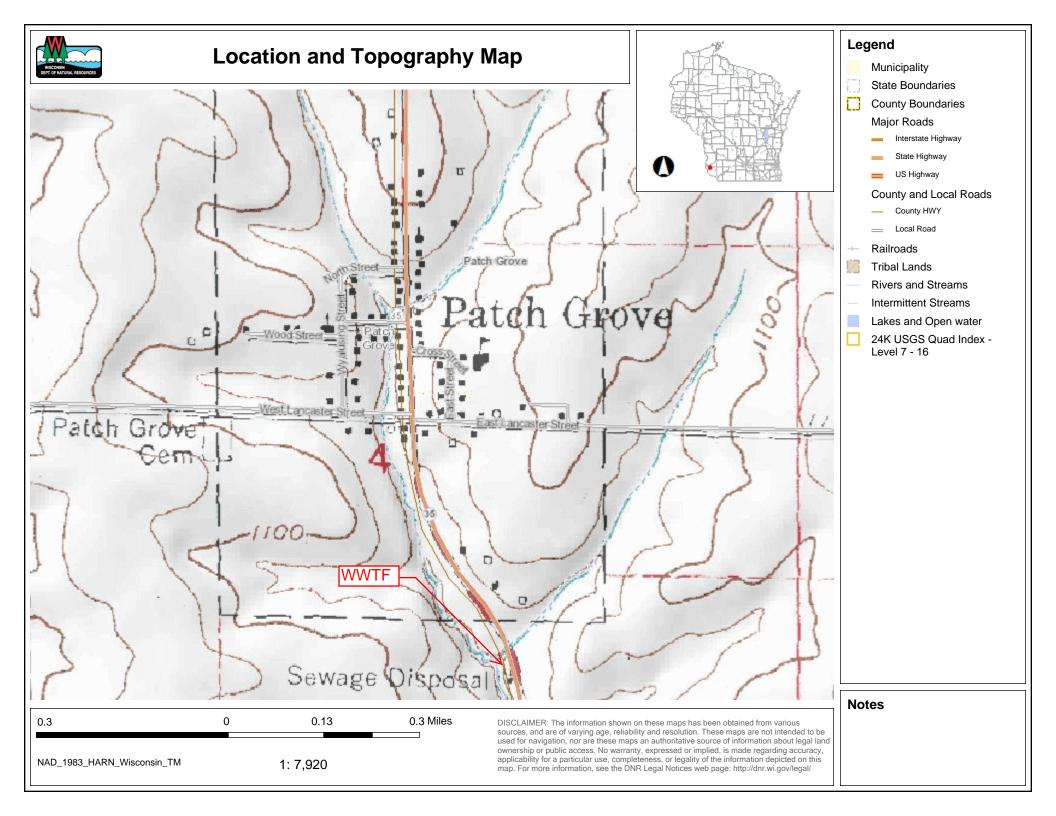
- I have completed this document to the best of my knowledge and have not excluded pertinent information.
- I certify that the information in this document is true to the best of my knowledge.

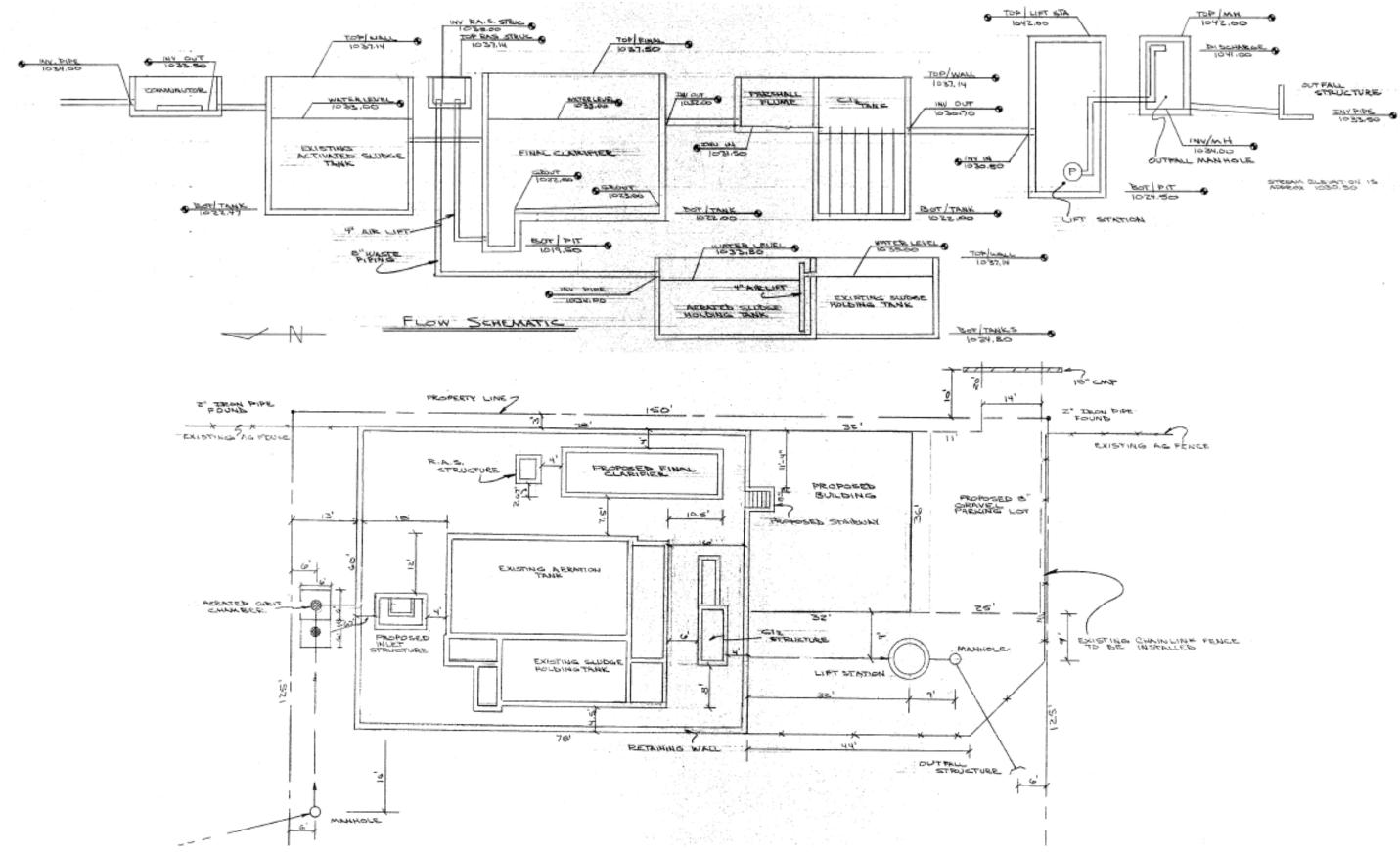
Signature of Preparer En orda

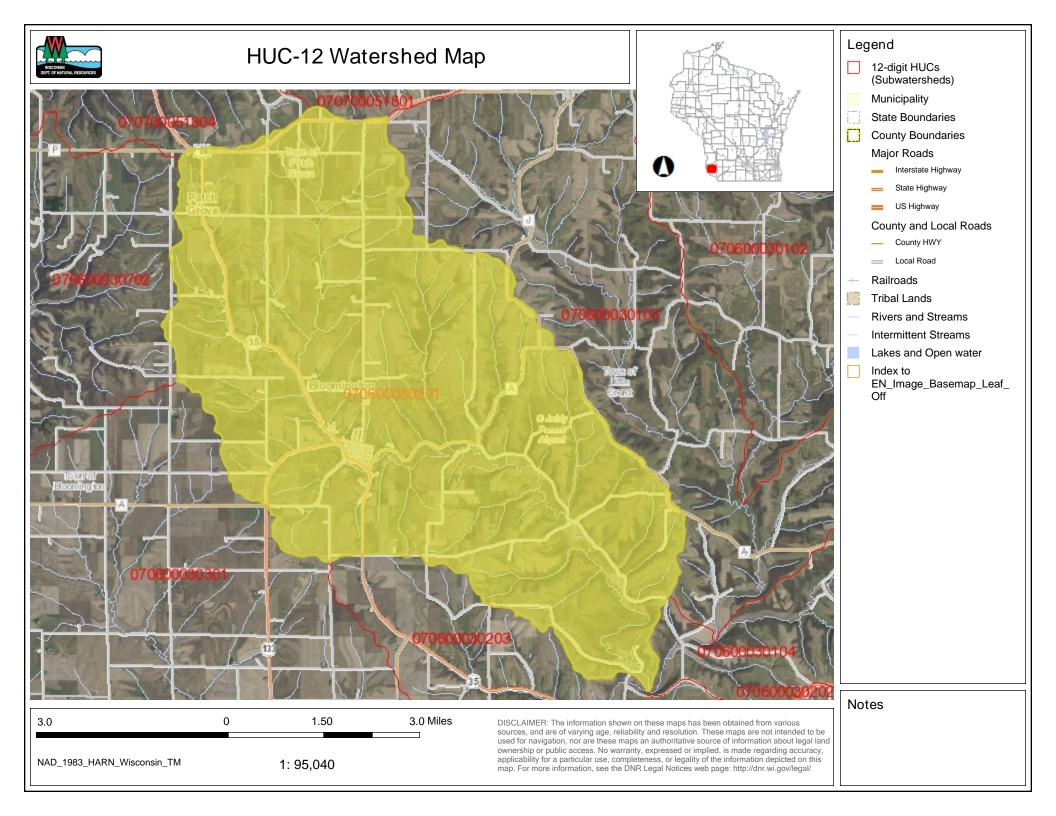
Authorized Representative Signature

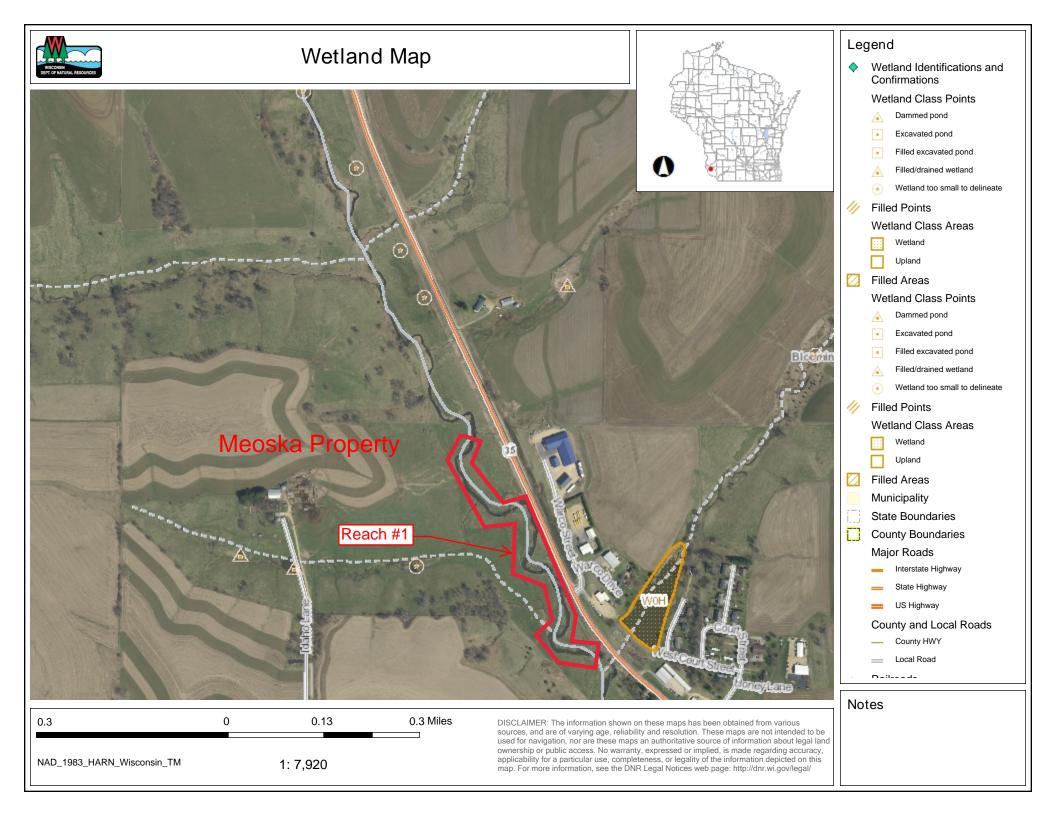
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision. Based on my inquiry of those persons directly responsible for gathering and entering the information, the information is, to the best of my knowledge and belief, accurate and complete. 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
William I Moyan	6-10-2021











USDA

MAP	EGEND	MAP INFORMATION	
Area of Interest (AOI)         △       Area of Interest (AOI)         Soils       Soil Map Unit Polygons         △       Soil Map Unit Polygons         △       Soil Map Unit Polygons         △       Soil Map Unit Ines         ○       Soil Map Unit Polygons         Soil Map Unit Polygons       Soil Map Unit Polygons         ○       Soil Map Unit Polygons         ○       Blowout         Image: Special polygons       Soil Map Unit Polygons         Image: Special polygons       Soil Polygons         Image: Special polygons       Gravel Pit         Image: Special polygons       Image: Special polygons         Image: Special polygons       Image: Specia	■Spoil AreaImage: Image: Ima	<ul> <li>The soil surveys that comprise your AOI were mapped at 1:20,000.</li> <li>Please rely on the bar scale on each map sheet for map measurements.</li> <li>Source of Map: Natural Resources Conservation Service Web Soil Survey URL: Coordinate System: Web Mercator (EPSG:3857)</li> <li>Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.</li> <li>This product is generated from the USDA-NRCS certified data are of the version date(s) listed below.</li> <li>Soil Survey Area: Grant County, Wisconsin Survey Area Data: Version 15, Jun 8, 2020</li> <li>Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.</li> <li>Date(s) aerial images were photographed: May 2, 2011—Aug 21, 2011</li> <li>The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background</li> </ul>	
<ul> <li>Miscellaneous Water</li> <li>Perennial Water</li> <li>Rock Outcrop</li> <li>Saline Spot</li> <li>Sandy Spot</li> <li>Severely Eroded Spot</li> <li>Sinkhole</li> <li>Slide or Slip</li> <li>Sodic Spot</li> </ul>		complied and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.	



# Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
175C2	Palsgrove silt loam, 6 to 12 percent slopes, moderately eroded	3.4	0.6%
175D2	Palsgrove silt loam, 12 to 20 percent slopes, moderately eroded	37.2	6.5%
194D2	Newglarus silt loam, moderately deep, 12 to 20 percent slopes, moderately eroded	36.8	6.4%
194E2	Newglarus silt loam, moderately deep, 20 to 30 percent slopes, moderately eroded	45.8	7.9%
601C	Beavercreek cobbly fine sandy loam, 3 to 12 percent slopes, occasionally flooded	3.6	0.6%
1180E	Newglarus-Dunbarton, very stony, silt loams, 20 to 30 percent slopes, very rocky	4.5	0.8%
Ar	Arenzville silt loam, 0 to 3 percent slopes, occasionally flooded	70.1	12.2%
ChA	Chaseburg silt loam, moderately well drained, 0 to 2 percent slopes	3.1	0.5%
ChB	Chaseburg silt loam, moderately well drained, 2 to 6 percent slopes	0.7	0.1%
DdD2	Dodgeville soils, 10 to 15 percent slopes, moderately eroded	0.6	0.1%
DuD2	Newglarus complex, 12 to 20 percent slopes, moderately eroded	24.7	4.3%
DvC2	Dubuque soils, deep, 6 to 10 percent slopes, moderately eroded	5.8	1.0%
DvD2	Dubuque soils, deep, 10 to 15 percent slopes, moderately eroded	27.1	4.7%
DvE2	Dubuque soils, deep, 15 to 20 percent slopes, moderately eroded	3.2	0.5%
FaB2	Fayette silt loam, 2 to 6 percent slopes, moderately eroded	44.2	7.7%

USDA

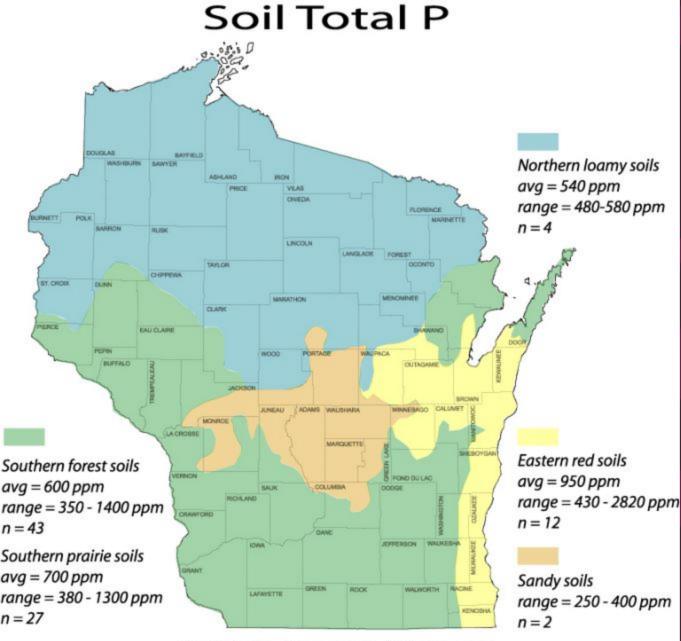
	1		
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
FaC2	Fayette silt loam, 6 to 12 percent slopes, moderately eroded	256.8	44.6%
FaD2	Fayette silt loam, 12 to 20 percent slopes, moderately eroded	2.4	0.4%
JuA	Judson silt loam, 0 to 3 percent slopes	0.9	0.2%
W	Water	5.3	0.9%
Totals for Area of Interest		576.1	100.0%



# Total Phosphorus Analysis

Field ID	Sample ID	P (ppm)
Reach #1 (Meoska Property)	48W	578.9
Reach #1 (Meoska Property)	50W	441.8
Reach #1 (Meoska Property)	52W	373.5
Reach #1 (Meoska Property)	54W	647.6
Reach #1 (Meoska Property)	56W	566.9
Reach #1 (Meoska Property)	58W	424.8
Reach #1 (Meoska Property)	60W	341.5
Reach #1 (Meoska Property)	62W	619
Reach #1 (Meoska Property)	64W	422.2
Reach #1 (Meoska Property)	66W	704.8
Reach #1 (Meoska Property)	68W	548.6
Reach #1 (Meoska Property)	70W	704.9
Reach #1 (Meoska Property)	72W	933.4
Reach #1 (Meoska Property)	74W	366.6
Reach #1 (Meoska Property)	78W	671.5
Reach #1 (Meoska Property)	80W	780.2
Reach #1 (Meoska Property)	82W	700.5
Reach #1 (Meoska Property)	84W	450.4
Reach #1 (Meoska Property)	86W	746.6
Reach #1 (Meoska Property)	88W	580.4
Reach #1 (Meoska Property)	90W	684.8
Reach #1 (Meoska Property)	92W	462.7
Reach #1 (Meoska Property)	94W	752.5
Reach #1 (Meoska Property)	96W	767.1
Reach #1 (Meoska Property)	98W	597.9
Reach #1 (Meoska Property)	100W End	1010
Reach #1 (Meoska Property)	47E	401.3
Reach #1 (Meoska Property)	49E	357.7
Reach #1 (Meoska Property)	51E	620.6
Reach #1 (Meoska Property)	53E	424.3
Reach #1 (Meoska Property)	55E	588.3
Reach #1 (Meoska Property)	57E	527.1
Reach #1 (Meoska Property)	59E	641.5
Reach #1 (Meoska Property)	61E	337.9
Reach #1 (Meoska Property)	63E	447.5
Reach #1 (Meoska Property)	65E	724.2
Reach #1 (Meoska Property)	67E	453.2
Reach #1 (Meoska Property)	69E	839.1
Reach #1 (Meoska Property)	71E	360.7
Reach #1 (Meoska Property)	73E	548.7
Reach #1 (Meoska Property)	75E	708.7
Reach #1 (Meoska Property)	76E	767.5

Reach #1 (Meoska Property)	77E	517.6
Reach #1 (Meoska Property)	79E	504.1
Reach #1 (Meoska Property)	81E	497.1
Reach #1 (Meoska Property)	83E	673.4
Reach #1 (Meoska Property)	85E	643
Reach #1 (Meoska Property)	87E	398.1
Reach #1 (Meoska Property)	89E	439.3
Reach #1 (Meoska Property)	91E	552.4
Reach #1 (Meoska Property)	93E	484.5
Reach #1 (Meoska Property)	95E	788.2
Reach #1 (Meoska Property)	97E	509.7
Reach #1 (Meoska Property)	99E	494.6



Organic soils: range = 1330 - 1350 ppm, n = 2

# I. <u>Introduction</u>

The lateral recession rate of the eroding bank is a critical component for the NRCS Streambank Erosion Estimator. The following documentation provides the justification for the lateral recession rates used in the NRCS Streambank Erosin Estimator. Lateral recession rate was estimated based on the photos provided, description, and on site evaluation. The following includes representative photos of Project Reaches to be stabilized through installation of Best Management Practices (BMPs).

## II. <u>Reach 1</u>



Image 1 – Bare bank, severe undercut with slump and vegetative overhang.



Image 2 – Bare bank and severe undercut with slump.



Image 3 – Bare bank, severe undercut and vegetative overhang.



Image 4 – Bare bank, severe undercut with slump and vegetative overhang.



Image 5 – Bare bank, severe undercut with slump and vegetative overhang.



Image 6 – Bare bank, severe undercut with slump and vegetative overhang.



Image 7 – Bare bank, severe undercut with rills, slump, and vegetative overhang.



Image 8 – Bare bank, severe undercut with slump and vegetative overhang.



Image 9 – Bare bank, severe undercut with slump, exposed culvert, and vegetative overhang.



Image 10 – Bare bank, severe undercut with slump and vegetative overhang.



Image 11 – Bare bank, severe undercut with rills, slump, and vegetative overhang.



Image 12 – Bare bank, severe undercut with slump and vegetative overhang.



Image 13 – Bare bank, severe undercut with slump and vegetative overhang.

## NRCS Excel Workbook Estimating 'Other' Erosion Types June 2006

Annual soil loss predictions for conservation planning purposes are made with current soil loss prediction technology (RUSLE2). RUSLE2 estimates sheet, rill and interrill erosion. Erosion that is seasonal in nature and caused by concentrated flow, however, is not predicted by RUSLE2.

This workbook provides conservation planners with simple tools and processes to help estimate the amount of erosion occurring in ephemeral gullies, classic gullies and on streambank erosion sites.

## **Definitions:**

<u>Rill Erosion</u>: consists of the removal of soil by concentrated water running through little streamlets, or headcuts. Detachment in a rill occurs if the sediment in the flow is below the amount the load can transport and if the flow exceeds the soil's resistance to detachment. As detachment continues or flow increases, rills will become wider and deeper. Rills may be of any size but are usually less than four inches deep. Rills are:

- <> generally parallel on the slope, but may converge,
- <> generally of uniform spacing and dimension,
- senerally appear at different locations on the landscape from year to year,
- <> generally shorter than ephemeral cropland gullies,
- <> usually end at a concentrated flow channel, or an area where the slope flattens and deposition occurs,
- <> are on the same portion of the slope that is used to determine the length of slope (L) for RUSLE2,
- many small, but conspicuous channels running in the direction of slope gradient

Rill erosion is considered in the RUSLE2 calculations.

<u>Ephemeral Gully Erosion</u>: Small erosion channels formed on crop fields as a result of concentrated flow of runoff water. These channels are routinely eliminated by tillage of the field but return following subsequent runoff events. Ephemeral Gullies are small enough to be eliminated (temporarily) with the use of typical farm tillage equipment and they:

- <> recur in the same area of concentrated flow each time they form,
- frequently form in well-defined depressions in natural drainage ways,
- <> are generally wider, deeper, and longer than the rills in the field,

Ephemeral Gullies are not calculated by the RUSLE2 program.

<u>Gully Erosion</u>: Permanent gullies are formed when channel development has progressed to the point where the gully is too wide and too deep to be tilled across. These channels carry large amounts of water after rains and deposit eroded material at the foot of the gully. They disfigure landscape and make the land unfit for growing crops. Gullies:

- may grow or enlarge from year to year by head cutting and lateral enlarging,
- <> often occur in depressions or natural drainage ways,
- <> may begin as ephemeral gullies that were left in the field untreated,
- <> may, over time, become partially stabilized by grass, weeds or woody vegetation,

Gully erosion is not calculated by the RUSLE2 program.

<u>Streambank Erosion</u>: The wearing away of streambanks by flowing water. The removal of soil from streambanks is typically caused by the direct action of stream flow and/or wind/wave action, typically occurring during periods of high flow. Streambank erosion:

<> is a natural process that generally increases when unprotected streambanks (e.g. no woody vegetation) are subject to the actions of flowing water and ice damage.

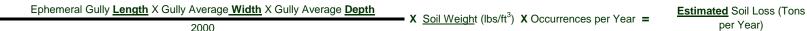
<> is a common occurrence on many Vermont river channels that are experiencing geomorphic adjustments

The soil loss from ephemeral gullies, gullies and streambank erosion areas can be estimated by calculating the volume of soil removed by erosion processes. The volume of soil loss can be multiplied by the typical unit weight of the soil (based on soil texture) which is eroded. Approximate soil unit weights are expressed below<sup>1</sup>:

	Estimated Dry
Soil Texture	Density lb/ft <sup>3</sup>
Gravel	110
Sand	105
Loamy Sand	100
Sandy Loam	100
Fine Sandy Loam	100
Sandy Clay Loam	90
Silt Loam	85
Silty Clay Loam	85
Silty Clay	85
Clay Loam	85
Organic	22

## Procedure for estimating Ephemeral Soil Erosion:

The following formula will be used to calculate annual estimated ephemeral gully erosion:

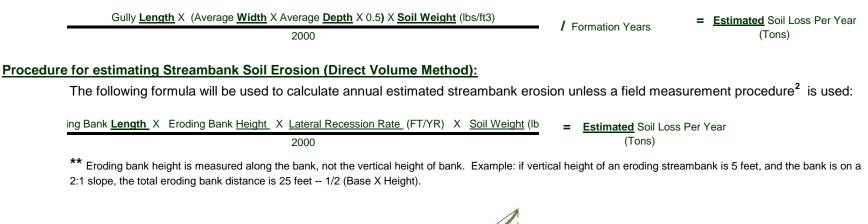


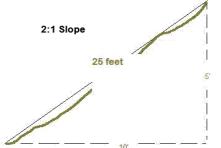
\* Ephemeral gully erosion may reform multiple times per year, and under certain conditions it may not form in a given year. The voided volume which would be calculated after a runoff event is not necessarily representative of an annual rate, but is representative of only the specific event. This erosion can be calculated for individual storms and can be summed for a yearly estimate.

<sup>1</sup> Data from published soil surveys, laboratory data, and soil interpretation record are to be used where available. Parent materials, soil consistency, soil structure, pore space, soil texture, and coarse fragments all influence unit weight.

## Procedure for estimating Gully Soil Erosion:

The following formula will be used to calculate annual estimated classic gully erosion:





\*\*\*The average annual recession rate is the thickness of soil eroded from a bank surface (perpendicular to the face) in an average year.

Stream bank erosion sometimes presents itself as a major occurance in a given year, whereas the same bank may not erode significantly for a period of years if no major runoff events occur. Recession rates need to be calculated as an average of years when erosion does and does not occur. Recession rate is not calculated as the erosion occurring after a single event.

Use available resources to assist in the estimation of recession rate: use past and present aerial photography, old survey records, and any other information that helps to determine the bank condition at known times in the past. When such information is lacking or insufficient, field observations and professional judgement are needed to estimate recession rates.

It is often not possible to directly measure recession rates in the field. Therefore, the following table has been included which relates recession rates to narrative descriptions of banks eroding at different rates (Table from NRCS Wisconsin guidance).

Lateral Recession Rate (ft/yr)	Category	Description
0.01-0.05	Slight	Some bare bank but active erosion not readily apparent. Some rills but no vegetative overhang. No exposed tree roots.
0.06-0.2	Moderate	Bank is predominantly bare with some rills and vegetative overhang. Some exposed tree roots but no slumps or slips.
0.3-0.5	Severe	Bank is bare with rills and severe vegetative overhang. Many exposed tree roots and some fallen trees and slumps or slips. Some changes in cultural features such as fence corners missing and realignment of roads or trails. Channel cross section becomes U-shaped as opposed to V-shaped.
0.5+	Very Severe	Bank is bare with gullies and severe vegetative overhang. Many fallen trees, drains and culverts eroding out and changes in cultural features as above. Massive slips or washouts common. Channel cross section is U-shaped and stream course may be meandering.

<sup>2</sup> The best way to quantify streambank erosion is to measure it directly in the field. The basic procedure in measuring streambank erosion is to survey, flag, or in some way fix a "before" image of the channel you are evaluating in order to establish the baseline condition. Changes due to erosion can then be monitored over time by going back to the study area and re-measuring from the fixed reference points.

Channel cross-sections can be surveyed and plotted on a periodic basis to monitor change. Stakes or pins can be driven into channel banks flush with the surface. The amount of stake or pin exposed due to erosion is the amount of change at the streambank erosion site between your times of observation.

The time required to monitor a site often precludes this method of data collection. The Direct Volume Method can be used to estimate streambank erosion at your site.

Acknowledgements: This Excel workbook was created as a planning tool for use by conservation planners. The basic format and content of the tool is a compilation of various similar tools, processes and procedures employed by NRCS in several states including: Indiana, Iowa, Kansas, Maryland, Michigan, Missouri, Nebraska, Oklahoma, South Dakota and Wisconsin. Some of the terminology in the 'Definitions' section of this Readme document closely mirrors these sources.

NR	CS Streambank and Irrigation Ditch Erosion Est	imator (Direct Volume Method)	
Farmer / Cooperator Name:	Village of Patch Grove	Evaluated By:	J. Fure
Tract Number:	Varies	Evaluation Date:	May 3, 2021

Field Number	Eroding Strmbnk Reach #; or Ditch Side/Bottom	Eroding Bank or Ditch Length (Feet)	Eroding Bank Height; or Ditch Bottom Width* (Feet)	Area of Eroding Strmbank or Ditch (FT <sup>2</sup> )	Lateral or Ditch Bottom Recession Rate (Estimated) (FT / Year)	Estimated Volume (FT <sup>3</sup> ) Eroded Annually	Soil Texture	Approximate Pounds of Soil per FT <sup>3</sup>	Estimated Soil Loss (Tons/Year)	Soil Total Phosphorus (ppm)	Estimated Phosphorus Loss (Pounds/Year)
Meoska	1 (Right)	2,470	5.0	12,424	0.50	6,212.1	Silt Loam	85	264.0	531	280
Meoska	1 (Left)	2,281	3.2	7,345	0.50	3,672.4	Silt Loam	85	156.1	517	161
-						9884.5			420.1		442

## Water Quality Trading Operation and Maintenance Plan

## Introduction:

The Water Quality Trading (WQT) Operation and Maintenance (O&M) Plan is meant to be a working document and should be updated as new trading practices are implemented. Currently, the Operation and Maintenance Plan revolves around the Best Management Practice (BMP) construction along the Blake Fork. The attached *BMP Inspection Form* should be completed during annual inspections of BMPs and following major storm events. Inspection forms shall be retained for at least five (5) years to ensure compliance with the WQT Plan.

## **Publicly Owned BMP:**

Village representative to complete inspection form annually and following major storm events. The form will then be provided to the Director of Public Works following inspection. The Village will address maintenance issues identified during inspection within 30 days. Substantial maintenance issues may require an extended timeframe for generation of plans, specifications, and a public bid process to perform the work. Inspections and O&M activities shall be reported in the annual WQT Report sent to the DNR. **Currently, no BMP projects are planned to occur on Publicly owned property.** 

## **Privately Owned BMP:**

Village representative to complete inspection form annually and following major storm events. The form will then be provided to the Director of Public Works following inspection. The Village will address maintenance issues identified during inspection within 30 days. Substantial maintenance issues may require an extended timeframe for generation of plans, specifications, and a public bid process to perform the work. Maintenance expenses will be incurred by either by the Village or Private Property Owner depending on agreement with the Village. The Private Property Owner will be allowed to perform maintenance activities at the expense of the Private Property Owner. Inspections and O&M activities shall be reported in the annual WQT Report sent to the DNR.

## **Quality Assurance:**

Riprap gradation and composition shall be provided for each source of material. Streambank shaping and riprap shall be installed per the Grant County Land Conservation Department and NRCS Standards. Contractors to supply rock that is approved by the NRCS and meets criteria in Wisconsin Construction Spec.9.

## Installation:

- Staking provided by the Land Conservation Department.
- Do not place riprap over frozen or spongy subgrade surfaces.
- Place riprap as indicated on Construction Plans. Do not dump rip-rap over the bank.
- Blend riprap with existing bank.
- Spread spoil out in a layer of less than 6" and seed down. Do not spread soil in wetlands.
- All disturbed areas and spoil must be seeded and mulched.
- Install habitat structures per Plans and Specifications.

## **Practice Registration:**

The purpose of the "Water Quality Trading Management Practice Registration" form is to report to WDNR that a management practice identified in the trading plan has been properly installed and is established and effective. This information will be used to track implementation progress, verify compliance and perform audits, as necessary. A registration form should be submitted for every management practice that has been identified in the trading plan. If practices are established prior to trading plan submittal, registration forms may be submitted with the trading plan. Otherwise, registration forms should be submitted during the permit term as practices become effective or with the annual report. A blank *Water Quality Trading Management Practice Registration Form 3400-207* is attached and should be submitted following implementation of the trading practice.

## **Tracking Procedures:**

The Village will track credits used monthly. The Village will report credit usage to the DNR on a monthly basis in the Discharge Monitoring Reports (DMRs). The annual report will summarize the 12 months of credit usage and credit generation. The Village will report to DNR any concern that they have that may result in a need to modify the trade agreement and/or this trade plan. For example, a need to generate additional credits based on discharge.

## **Inspections/Maintenance Considerations:**

- A BMP Inspection Form is attached.
  - Site: As noted on Construction Plans
  - Condition of BMP: Excellent; Good; Fair; or Poor
  - Maintenance Estimate: Provide an estimate for how long the maintenance will take to complete or a dollar value for completion. This will help determine if the Village will perform the work or if the Village will hire another entity to perform the work.
  - Date Completed: Following completion of the required maintenance, input the date of completion.
  - Comments: Provide the required maintenance activity along with any other useful information. If the cell provided is not large enough for Comments, write "See Back of Sheet" and provide comments on the reverse side of the Form.
- Following installation, inspect the disturbed areas closely over the next few months to ensure that seeding grows.
- BMPs may settle or shift especially after flooding events or freeze/thaw.
- May need to control weed and brush growth.
- Inspect stabilized areas as needed.
- At a minimum, inspect after major storm events.
- If a BMP has been damaged, repair it promptly to prevent a progressive failure.
- If repairs are needed repeatedly at a location, evaluate the site to determine if the original design conditions have changed.

## Routine Maintenance Items that can be performed by Village:

- Evaluate BMP condition
  - Reconstruct/replace BMPs that have settled, shifted, or washed out.
- Manage Vegetation
  - o Remove invasive/noxious plants.

- Manage Garbage
  - Remove garbage and other debris that could otherwise impair the streambank stability.

## **Monthly Certification:**

Each month, the Village will certify that the BMPs are maintained and operating in a manner consistent with this Water Quality Trading Plan or provide a statement noting noncompliance with this Plan. The monthly Discharge Monitoring Report (DMR) will include the following statement as a certification of compliance when the Credit Generating Practice is operating in a manner consistent with the Plan:

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

## **Annual Inspection:**

An annual inspection of the BMPs will be performed by a licensed Professional Engineer to ensure that the BMPs are functioning as intended in order to meet the requirements of the WQT Plan.

## Noncompliance:

The Village will notify DNR by telephone call to DNR's regional wastewater compliance engineer within 24 hours or next business day of becoming aware that phosphorus credits used or intended for use by Village are not being generated as outlined in this Water Quality Trading Plan.

The Village will submit a written notification within five days after the Village recognizes that the phosphorus credits are not being generated as outlined in the Trading Plan. DNR may waive the requirement for submittal for a written notice within five days and instruct the Village to submit the written notice with the next regularly scheduled monitoring report required by Village's WPDES Permit.

The written notification should include:

- Description of noncompliance and cause.
- Period of noncompliance including dates and times.
- Schedule for attaining compliance including time and steps toward compliance.
- Plan to prevent reoccurrence of the noncompliance.

## Notification of Trade Agreement Termination:

If a trade agreement or the trading plan needs to be terminated during the permit term, the permittee should submit a Notice of Termination to the wastewater engineer/specialist to inform WDNR of the termination. WDNR staff should use this information 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. When credits are reduced or eliminated for any reason, the permittee is still required to meet their WQBELs without any grace period. To prevent noncompliance with WQBELs, changes to trading plans must be addressed before credits are lost. Modifying the permit/trading plan will require at least 180 days. A blank *Notification of Water Trade Agreement Termination Form 3400-209* is attached and should be submitted to WDNR prior to practice termination, no later than the submittal date of the annual report.

# **BMP** Inspection Form

Date\_\_\_\_\_

Inspector\_\_\_\_\_

Reason for Inspection \_\_\_\_\_

Reach	Condition of BMP	Required Maintenance	Maintenance Estimate (Time or Cost)	Date Completed	Comments
1 (Right)					
1 (Left)					

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

**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.).

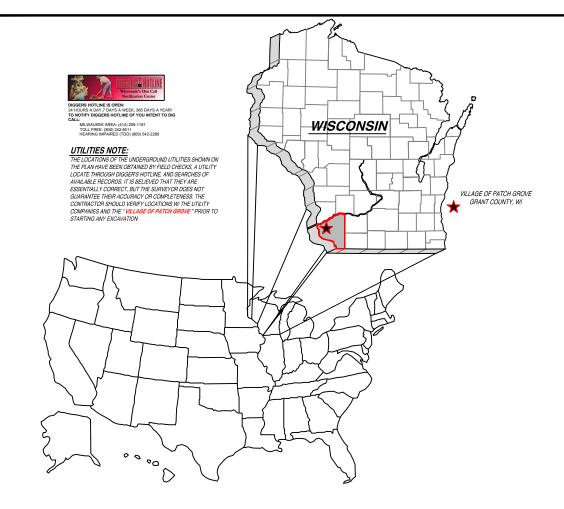
Applicant Informatic	on									
Permittee Name			Permit Number WI-				Facility Site	Number		
Facility Address						City			State	ZIP Code
Project Contact Name	(if applicable	) Addı	ess			City			State	ZIP Code
Project Name						1			<b>I</b>	
Broker/Exchange In	formation (if	applic	able)							
Was a broker/exchange	e be used to	facilitat	e trade? O Yes							
			⊖ No							
Broker/Exchange Org	anization Nam	ie		Contact						
Address				Phone I	Number		Email			
Trade Registration I			separate form for ea	ch trad	e agreen	nent)				
Туре	Trade Agree Number	ment	Practices Used to Ge Credits	nerate	Anticipat Reductic		Trade Ratio	o Me	ethod of G	antification
Urban NPS										
Agricultural NPS										
⊖ Other										
County		Closest	Receiving Water Nan	ne	Land Pa	rcel ID(s	s)	Parame	ter(s) bei	ng traded
The preparer certifie	es all of the f	ollowiı	ng:							
i			best of my knowledge	and ha	ve not ex	cluded p	pertinent infor	mation.		
-	formation in th	nis doc	ument is true to the be	est of my	knowled	-				
Signature of Preparer						Da	te Signed			
Authorized Represe	ntative Signa	ature								
I certify under penalty			ment and all attachme	nts were	prepare	d under	my direction	or superv	/ision. Ba	sed on my
inquiry of those person										
and belief, accurate a				nificant p	enalties	for subm	nitting false in	formatior	n, includir	ig the
possibility of fine and i	-		wing violations.							
Signature of Authorize	ed Representa	tive				Da	te Signed			
			Leave Blank – Fo	r Depar	tment Us	e Only				
Date Received							Trade Docket	Number		
Entered in Tracking Syst	em 🗌 Yes	Da	te Entered				Name of Depa	artment Re	eviewer	

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

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	ite Number	
		WI-					
Facility Address	I			City		State	ZIP Code
Project Contact Name (if applicable)	Address			City		State	ZIP Code
, , , , , , , , , , , , , , , , , , , ,				´			
Project Name							
Credit Generator Information							
Credit generator type (select all that	Permi	tted Discharge (nor	n-MS4/CAFO)	Urba	an nonpoint source disch	arge	
apply):		tted MS4	,		cultural nonpoint source	-	rae
						alsena	ige
	Permitted CAFO				er - Specify:		
Trade Agreement number(s) to be te	rminated i	ncluding affected la	nd parcel ID(s):				
Amount of trading credit being termin	ated		Effective date	of termir	nation		
Reason for termination							
Is this agreement being updated or re	eplaced?		() Yes				
is the agreement being aparted of h	opiacea.		0	>			
			() No				
			🔵 Une	sure			
Will this termination result in non-con	npliance w	ith the effective limi	t 🔿 Yes	s; Name	:		
or other permit requirements?			◯ No				
			0	sure			
The property contifies all of the fe	llouing			sule			
The preparer certifies all of the fo		ad for this application	on and I haliov		liceble items in this chee	kligt ha	
<ul> <li>I am familiar with the specification addressed.</li> </ul>	ns submitt	ed for this application	on, and I believe	e all app	licable items in this chec	Klist na	ive been
<ul> <li>I have completed this document</li> </ul>	to the best	of my knowledge	and have not ex	aludad r	ortinent information		
		of my knowledge a	and have not ex				
Signature of Preparer				Da	te Signed		
Authorized Representative Signat	ture						
I certify under penalty of law that this		and all attachment	s were prepare	d under	my direction or supervisi	ion. Ba	sed on my
inquiry of those persons directly resp							
and belief, accurate and complete. I a	am aware	that there are signif					
possibility of fine and imprisonment for	or knowing	violations.					
Signature of Authorized Representation	ive			Da	te Signed		
				1			



# PROPOSED STREAM IMPROVEMENTS -BLAKE FORK

# **OWNER: VILLAGE OF PATCH GROVE**

## SHEET INDEX:

SHEET TITL

GOOO

G001

C101

C201

C202

<u>E:</u>	SHEET DESCRIPTION:
	TITLE SHEET & PROJECT LOCATION MAP
	LEGEND & GENERAL NOTES
	PLAN VIEW - BLAKE FORK
	SITE DETAILS
	STREAM DETAILS



PROJECT LOCATION MAP SCALE: N.T.S.



<u>OWNER:</u> VILLAGE OF PATCH GROVE MR. WILLIAM MORGAN VILLAGE PRESIDENT 112 NORTH STREET PATCH GROVE, WI 53817 (608) 924-2200 STREET AND PUBLIC UTILITIES: VILLAGE OF PATCH GROVE MR. ROWNE MUMM DIRECTOR OF PUBLIC WORKS 112 NORTH STREET PATCH GROVE, WI 53817 (600) 330-1649

TELEPHONE & CABLE TELEVISION: TDS TELECOM MR. KEN KLASS 140 N MONROE ST. LANCASTER, WI 53813 (608) 732-5493 (OFFICE) (608) 732-5493 (OFL)

#### DATE OF ISSUE:

MAY 3, 2021 MAY 3, 2021 MAY 3, 2021 MAY 3, 2021 MAY 3, 2021

### DATE OF REVISION:

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## PROJECT INFORMATION:

#### NATURAL GAS UTILITIES:

WE ENERGIES MR. ADAM MARING 245 W. ELM STREET LANCASTER, WI 53813 (608) 426-1715 (CELL) (608) 328-5679

WE ENERGIES PAVING COORDINATOR 500 S. 116TH STREET WEST ALLIS, WI 53214 (800) 242-9137 ELECTRICAL UTILITIES:

ALLIANT ENERGY MR. ALLAN MUMM 2200 E. CAMPION BLVD. PRAIRIE DU CHIEN, WI 53821 (608) 326-9481 (OFFICE) (608) 732-7925 (CELL) STREAM IMPROVEMENTS BLAKE FORK GROVE OF PATCH LAGE PROPOSED ИL IO. DATE 4S-BUIL PRELIMINARY PROJECT NUMBER D20-005 SHEET SCALE NOT TO SCALE DRAWN BY C.COYIER DATE ISSUED MAY 3, 2021 TLE SHEET & PROJE SHEET DESC. LOCATION MAP SHEET TITLE: G000 SHEET NUMBER # 01 of 05

ENGINEER:

DELTA 3 ENGINEERII

FOR QUESTIONS REGARDING THIS PROJECT, PLEASE CONTACT:

MR. BART NIES, P.E. DELTA 3 ENGINEERING, INC. TELEPHONE: (608) 348-5355

CONSENT STATEMENT

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27 St. Sewer	EX. 27" STORM SEWER	Ő
30" St. Sewer	EX. 30" STORM SEWER	(10)
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LEGEND

PROP. REVERSE-PITCH CURB & GUTTER PROP. HOT MIX ASPHALT PAVEMENT (DRIVEWAY) PROP. 4" CONCRETE SIDEWALK PROP. 6" CONCRETE PAVEMENT PROP. 8" CONCRETE PAVEMENT PROP. GRAVEL / GRASSED GRAVEL SHOULDER / DRIVEWAY EROSION MATTING (MILD SLOPES) EROSION MATTING (STEEP SLOPES) PROP. REGRADING AND LANDSCAPING PROP. RIP-RAP PROP. STORM STRUCTURES - PROFILE PROP. STORM PIPE(RCP) - PROFILE PROP. STORM PIPE(CMP OR HDPE) - PROFILE PROP. SANITARY STRUCTURE - PROFILE PROP. WATER MAIN PIPE - PROFILE EEEEE PROP. CLAY LINER - PROFILE PROP. SANITARY SEWER FORCE MAIN - PROFILE PROP. SPOT REPAIR - PROFILE / PLAN VIEW PROP. CASING PIPE - PROFILE PROP. CLEARING AND GRUBBING PROP. BUILDING REMOVAL PROP. SIDEWALK REMOVAL PROP. PRESSURE-REDUCING VALVE STATION PROP. FIRE HYDRANT PROP. WATER SERVICE PROP. WATER SERVICE WITH VALVE BOX SLEEVE PROP. WATER VALVE PROP. WATER BEND - HORIZONTAL PROP. WATER BEND - VERTICAL PROP. WATER BEND <5° PROP. WATER TEE PROP. WATER CROSS PROP. WATER REDUCER PROP. MJ PLUG PROP. 4' DIA. STORM MANHOLE PROP. 5' DIA. STORM MANHOLE PROP. 30" DIA. INLET PROP. 4' DIA. INLET PROP. 6' DIA. INLET PROP. 4' DIA. CATCH BASIN- W/ 2'X3' CASTING PROP. 5' DIA. CATCH BASIN- W/ 2'X3' CASTING PROP. 6' DIA. CATCH BASIN- W/ 2'X3' CASTING PROP. 4'X6' CATCH BASIN W/2'X3' CASTING PROP. CURB OPENING CASTING PROP. 2'X3' CATCH BASIN PROP. ADJUSTED CATCH BASIN TOP PROP. WISDOT TYPE 8 INLET PROP. WISDOT TYPE 9 INLET PROP. CMP ENDWALL PROP. RCP ENDWALL

## KEY NOTES 100 .

- 100 PROPOSED SILT FENCE FOR EROSION CONTROL.
- 101 PROPOSED SEDIMENT LOG FOR EROSION CONTROL.
- 102 PROPOSED TRACKING PAD FOR EROSION CONTROL.
- 103 RE-GRADE YARD/DITCH LINE (MIN. SLOPE 1.0%).
- 104 PROPOSED EROSION MAT CLASS I. TYPE 'B'.
- 105 INSTALL TYPE 'D' INLET PROTECTION. 106 PROPOSED MAIL BOX RELOCATION.
- 107 ITEM TO REMAIN.
- 108 CONTRACTOR TO REMOVE ITEM.
- 200 PROPOSED SANITARY SEWER [SIZE]
- 201 NEW SANITARY SEWER LATERAL (SIZE)
- 202 REPLACE EXISTING SANITARY SEWER LATERAL
- 203 RECONNECT EXISTING SANITARY SEWER LATERAL. 204 CONNECTION TO EXISTING SANITARY SEWER
- PIPE/STRUCTURE.
- 205 REMOVE EXISTING SANITARY SEWER PIPE /STRUCTURE.
- 206 REHABILITATE SANITARY MANHOLE; SEE TABLE 'B'.
- 207 SANITARY SEWER SPOT REPAIR.
- 208 ABANDON AND CAP EXISTING SANITARY SEWER. 209 ABANDON EXISTING SANITARY SEWER LATERAL.
- 210 CONTRACTOR TO FIELD VERIFY SANITARY SEWER LATERAL
- LOCATION/ACTIVITY AND REPLACE ACCORDING TO ENGINEER. 300 PROPOSED WATER MAIN [SIZE].
- 301 NEW WATER SERVICE [SIZE].
- 302 REPLACE EXISTING WATER SERVICE WITH 1" WATER SERVICE
- 303 RECONNECT EXISTING WATER SERVICE.
- 304 DIRECTIONAL DRILL PROPOSED WATER SERVICE.
- 305 CONNECTION TO EXISTING WATER MAIN.
- 306 EXISTING HYDRANT TO BE REMOVED AND SALVAGED TO OWNER.
- 307 REMOVE EXISTING WATER MAIN VALVE BOX/STRUCTURE. 308 ADJUST EXISTING WATER MAIN VALVE BOX.
- 309 ABANDON, DRAIN, & CAP EXISTING WATER MAIN.
- 310 ABANDON EXISTING WATER SERVICE.
- 311 CONTRACTOR TO FIELD VERIFY WATER SERVICE LOCATION/ACTIVITY AND REPLACE ACCORDING TO ENGINEER.
- 400 PROPOSED STORM SEWER [SIZE].
- 401 CONNECT EXISTING ROOF DRAIN TO CURB OPENING
- 402 CONNECTION TO EXISTING STORM SEWER PIPE/STRUCTURE. 403 REMOVE EXISTING STORM SEWER PIPE/STRUCTURE.
- 404 ABANDON & CAP EXISTING STORM SEWER.
- 405 ADJUST EXISTING STORM STRUCTURE
- 500 TREE & STUMP TO BE REMOVED (LESS THEN 12")
- 501 TREE & STUMP TO BE REMOVED (12" & GREATER)
- 502 SHRUB TO BE REMOVED.
- 503 CLEAR AND GRUB BRUSH LINE AS NECESSARY TO COMPLETE CONSTRUCTION. ALL CLEARING TO BE VERIFIED BY PROJECT ENGINEER.
- 504 REMOVE AND REINSTALL/REPLACE EXISTING LANDSCAPING, FENCE, RETAINING WALL, ETC. (IF NECESSARY).
- 505 REMOVE EXISTING LANDSCAPING, FENCE, RETAINING WALL,
- 506 POLE/PEDESTAL TO BE SECURED BY UTILITY COMPANY DURING CONSTRUCTION
- 507 POLE TO BE RELOCATED BY UTILITY COMPANY.
- 508 GUY WIRE TO BE RELOCATED BY UTILITY COMPANY.
- 509 PEDESTAL TO BE RELOCATED BY UTILITY COMPANY.
- 510 UTILITY CONFLICT TO BE RELOCATED/ADJUSTED BY UTILITY
- COMPANY
- 511 POTENTIAL UTILITY CONFLICT VERIFY WITH UTILITY COMPANY
- 512 CAUTION! UTILITY CROSSING.
- 600 REMOVE EXISTING CURB & GUTTER.
- 601 PROPOSED 24" CONCRETE CURB & GUTTER.
- 602 PROPOSED 30" CONCRETE CURB & GUTTER.
- 603 PROPOSED 36" CONCRETE CURB & GUTTER.
- 604 MATCH TO EXISTING CURB & GUTTER.
- 605 PROVIDE TYPE 'X' CURB.
- 606 PROVIDE REVERSE-PITCH CURB & GUTTER.
- 607 PROVIDE CURB TAPER.
- 608 REMOVE ASPHALT/CONCRETE/WALL/STEPS.
- 609 PROPOSED 4" CONCRETE SIDEWALK.
- 610 PROPOSED 6" CONCRETE SIDEWALK/DRIVEWAY.
- 611 PROPOSED 6" CONCRETE PAVEMENT.
- 612 PROPOSED 8" CONCRETE PAVEMENT.
- 613 PROPOSED CONCRETE STEPS. STEP RISE HEIGHT AND STEP TREAD DEPTH SHALL MEET APPLICABLE BUILDING CODES. CONTRACTOR SHALL CONFIRM REQUIRED NUMBER OF STEPS WITH PROJECT ENGINEER PRIOR TO INSTALL.
- 614 PROPOSED 2' GRAVEL SHOULDER.
- 615 REGRADE EXISTING GRAVEL.
- 616 PROPOSED GRAVEL DRIVEWAY
- 617 REMOVE & REPLACE GRAVEL DRIVEWAY
- 618 REMOVE GRAVEL DRIVEWAY & REPLACE WITH BITUMINOUS DRIVEWAY/APRON.

TRAFFIC CONTROL NOTE: ALL CONTRACTORS MUST CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND THE REQUIREMENTS OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION. ONE LANE OF TRAFFIC MUST REMAIN OPEN DURING AND AFTER ALL CONSTRUCTION ACTIVITIES FOR EMERGENCY VEHICLE ACCESS.

#### STREET SIGN NOTE

CONTRACTOR WILL BE RESPONSIBLE FOR REMOVING, STORING, AND RESETTING ALL PERMANENT SIGNS. CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL EXISTING SIGNS UNTIL REMOVED. CONTRACTOR IS RESPONSIBLE FOR ANY AND ALL TEMPORARY SIGNS THAT MAY BE REQUIRED.

#### TRAFFIC SIGN NOTE.

CONTRACTOR TO PROVIDE TEMPORARY TRAFFIC SIGNS FOR ANY TRAFFIC SIGNS DISTURBED DURING CONSTRUCTION. ALL DISTURBED TRAFFIC SIGNS MUST BE REPLACED AND INSTALLED AS PER LOCAL REGULATIONS AT THE COMPLETION OF THE PROJECT.

#### EROSION CONTROL NOTE:

CONTRACTOR TO INSTALL BACKFILL MATERIAL INTO THE EXCAVATED TRENCH AS SOON AS POSSIBLE TO IMPLEMENT EROSION CONTROL.

### PROPERTY LINE AND RIGHT-OF-WAY NOTE

ALL RIGHT-OF-WAYS AND PROPERTY LINES SHOWN ARE APPROXIMATE AND FOR ILLUSTRATIVE PURPOSES ONLY. A PROPERTY SURVEY PERFORMED BY A PROFESSIONAL LAND SURVEYOR SHOULD BE COMPLETED TO DETERMINE THE ACTUAL PROPERTY LINE AND RIGHT-OF-WAY LOCATIONS.

#### MAILBOX RELOCATION NOTE:

CONTRACTOR TO BELOCATE EXISTING MAIL BOXES DURING CONSTRUCTION (COORDINATE AND VERIFY WITH LOCAL POSTAL SERVICE ON LOCATION). RESET BEHIND CURB AND GUTTER OR SHOULDER ACCORDING TO THE REQUIREMENTS OF THE LOCAL POSTMASTER UPON COMPLETION OF STREET CONSTRUCTION.

#### TREE TRIMMING NOTE:

CONTRACTOR TO PROPERLY TRIM ALL TREE BRANCHES, ROOTS, AND BUSHES DISTURBED DUE TO CONSTRUCTION.

TREE REMOVAL NOTE: CONTRACTOR TO CONTACT ENGINEER OR VILLAGE OF PATCH GROVE FOR VERIFICATION PRIOR TO ANY TREE REMOVAL

#### SAW CUT NOTE:

CONTRACTOR TO PROVIDE FULL DEPTH SAW CUTS AND REPLACE PAVEMENT.

#### UTILITIES' NOTE:

THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLAN HAVE BEEN OBTAINED BY FIELD CHECKS, A UTILITY LOCATE, AND SEARCHES OF AVAILABLE RECORDS. IT IS BELIEVED THAT THEY ARE ESSENTIALLY CORRECT, BUT THE SURVEYOR DOES NOT GUARANTEE THEIR ACCURACY OR COMPLETENESS. THE CONTRACTOR SHOULD VERIFY LOCATIONS W/ THE UTILITY COMPANIES AND VILLAGE OF PATCH GROVE PRIOR TO STARTING ANY EXCAVATION.

## 619 REMOVE & REPLACE HMA PAVEMENT.

- 620 REMOVE & REPLACE HMA PAVEMENT DRIVEWAY. 621 PROPOSED HMA PAVEMENT.
- 622 MATCH TO EXISTING EDGE PAVEMENT.

628 SAW CUT PCC PAVEMENT.

629 SAW CUT HMA PAVEMENT.

- 623 PROPOSED RESIDENTIAL HMA PAVEMENT DRIVEWAY.
- 624 PROPOSED COMMERCIAL HMA PAVEMENT DRIVEWAY.
- 625 REMOVE & REPLACE 4" CONCRETE SIDEWALK.
- 626 REMOVE & REPLACE 6" CONCRETE SIDEWALK/DRIVEWAY

630 PROPOSED BITUMINOUS WEDGE CURB

## NOTES:

627 PROPOSED HANDICAP RAMP WITH - D. WARN. FIELD [S.F].

## SANITARY SEWER LATERAL NOTE

THE LOCATION OF EXISTING SANITARY SEWER LATERALS ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY THE LOCATION AND STATUS OF EACH SANITARY SEWER LATERAL ENCOUNTERED. ONLY ACTIVE SANITARY SEWER LATERALS SHALL BE CONNECTED TO THE NEW SANITARY SEWER MAIN.

CASTING NOTE: ALL EXISTING MANHOLE CASTINGS AND STORM

SEWER CASTINGS TO BE REMOVED AND/OR REPLACED SHALL BE SALVAGED TO THE VILLAGE OF PATCH GROVE .

TRACER WIRE NOTE: TRACER WIRE (12 GAUGE) TO BE INSTALLED WITH ALL POLYVINYL CHLORIDÉ (PVC).

## SITE RESTORATION NOTE

CONTRACTOR WILL BE RESPONSIBLE FOR REPLACEMENT OF ALL DISTURBED PROJECT AREA COMPONENTS INCLUDING, BUT NOT LIMITED TO, EXISTING CONCRETE, BITUMINOUS PAVEMENT, GRAVEL, CULVERTS, WATER AND SANITARY SEWER SYSTEM COMPONENTS, STORM SEWER SYSTEM COMPONENTS. TREES. LAWN ORNAMENTS. FENCING, YARD LANDSCAPING, RETAINING WALLS, MAILBOXES, AND LANDSCAPE AREAS.

### PROPERTY DAMAGES:

THE CONTRACTOR IS RESPONSIBLE FOR THE PRESERVATION OF ADJACENT PROPERTY AND FOR ANY DAMAGE TO THE SITE OR TO ADJACENT PROPERTY INCIDENTAL TO THE CONSTRUCTION ACTIVITIES. AFTER THE COMPLETION OF CONSTRUCTION, ANY AREAS ADJACENT TO THE CONSTRUCTION SITE DAMAGED BY THE CONTRACTOR DURING EXECUTION OF THE CONTRACT SHALL BE RESTORED TO MATCH THE PRECONSTRUCTION CONDITIONS.

> DISCIPLINE DESIGNATION REMOVAL GENERAL CIVIL LANDSCAPE AQUATIC AG ARCHITECTURAL STRUCTURAL ELECTRICA INSTRUMENTATION/CONTROLS PROCESS PLUMBING HVAC /MECHANICAL

## DISCIPLINE DESIGNATORS

DESIGNATION NOTES & SCHEDULES PLANS ELEVATIONS & DETAILS CROSS-SECTIONS DIAGRAMS DRAWING SHEET DESIGNATION

DRAWING NUMBER DRAWING SHEET DESIGNATION DISCIPLINE DESIGNATION (MAY HAVE MULTIPLE)

C102

SHEET NUMBER IDENTIFICATION

GRAN PLATTEV (600) SIG	T MUTINE-LAND EPELAPHE LE MISCORIN SAM SASS REGARDING PLEASE MR. BAA DELTA 3 ENU TELEPHONE CONSENT RIGHTS RESERVE RODUCTION WITH RUTHOS, SPECS. R TRA SECTION ENT N SHEET ARE CRE TA 3 ENGINEERIN SASTE VER.	HOUT CONSENT. ALL EPORTS, DATA, AND CONTAINED ON THIS CATED BY AND FOR IG AND THEIR EEPRODUCTION, OR IY CONTENT HEREIN, HER PRINTED, HER PRINTED, HERWISE, REQUIRES EEN PERMISSION OF
	PROPOSED STREAM IMPROVEMENTS - BLAKE-FORK	VILLAGE OF PATCH GROVE PROJECT LOCATION: GRANT COUNTY, WISCONSIN OWNER: VILLAGE OF PATCH GROVE; 112 NORTH ST, PATCH GROVE, WI 53817
!	PROJECT NUMBER	DESCRIPTION

ENGINEER:

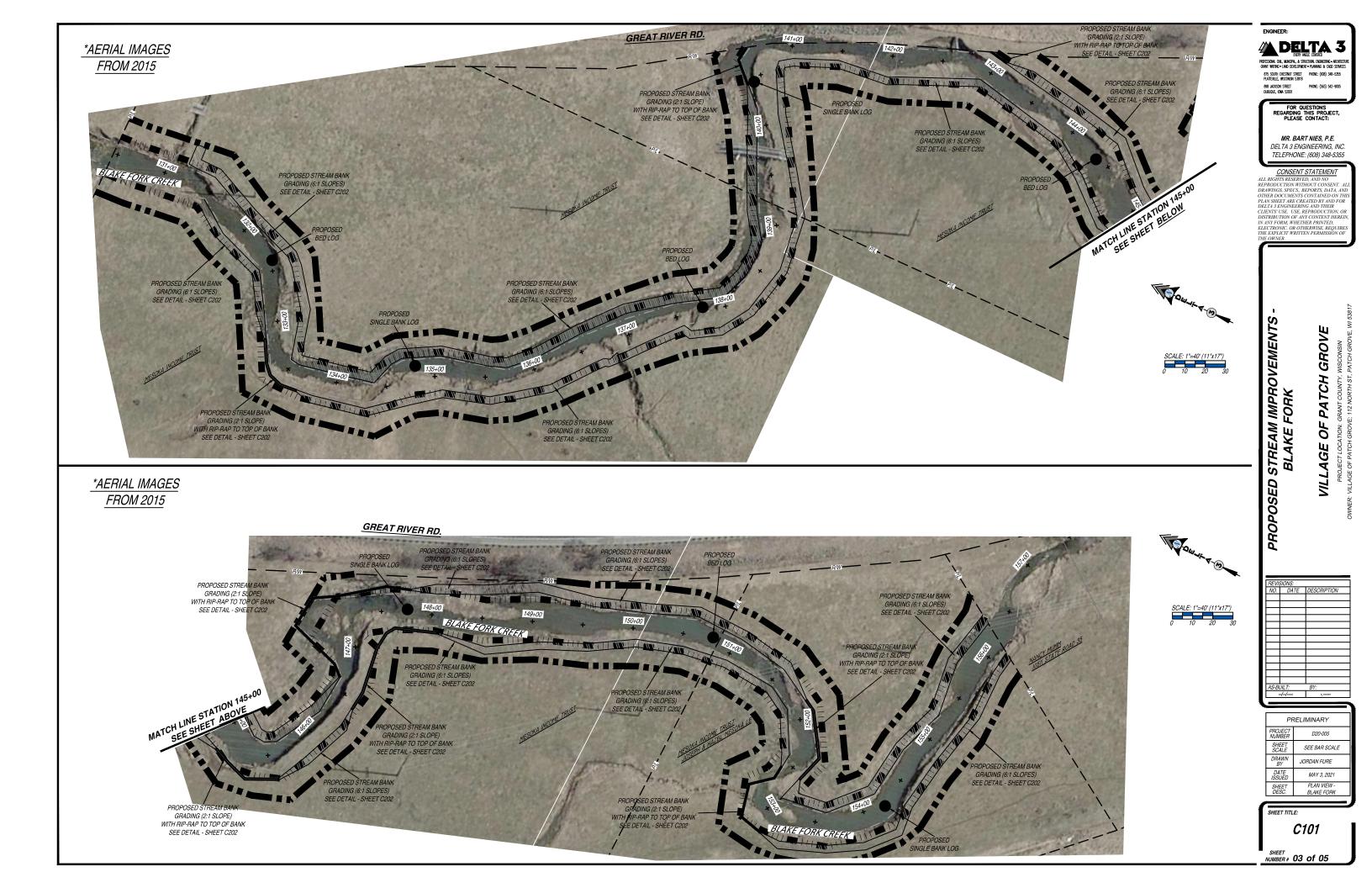
DELTA 3

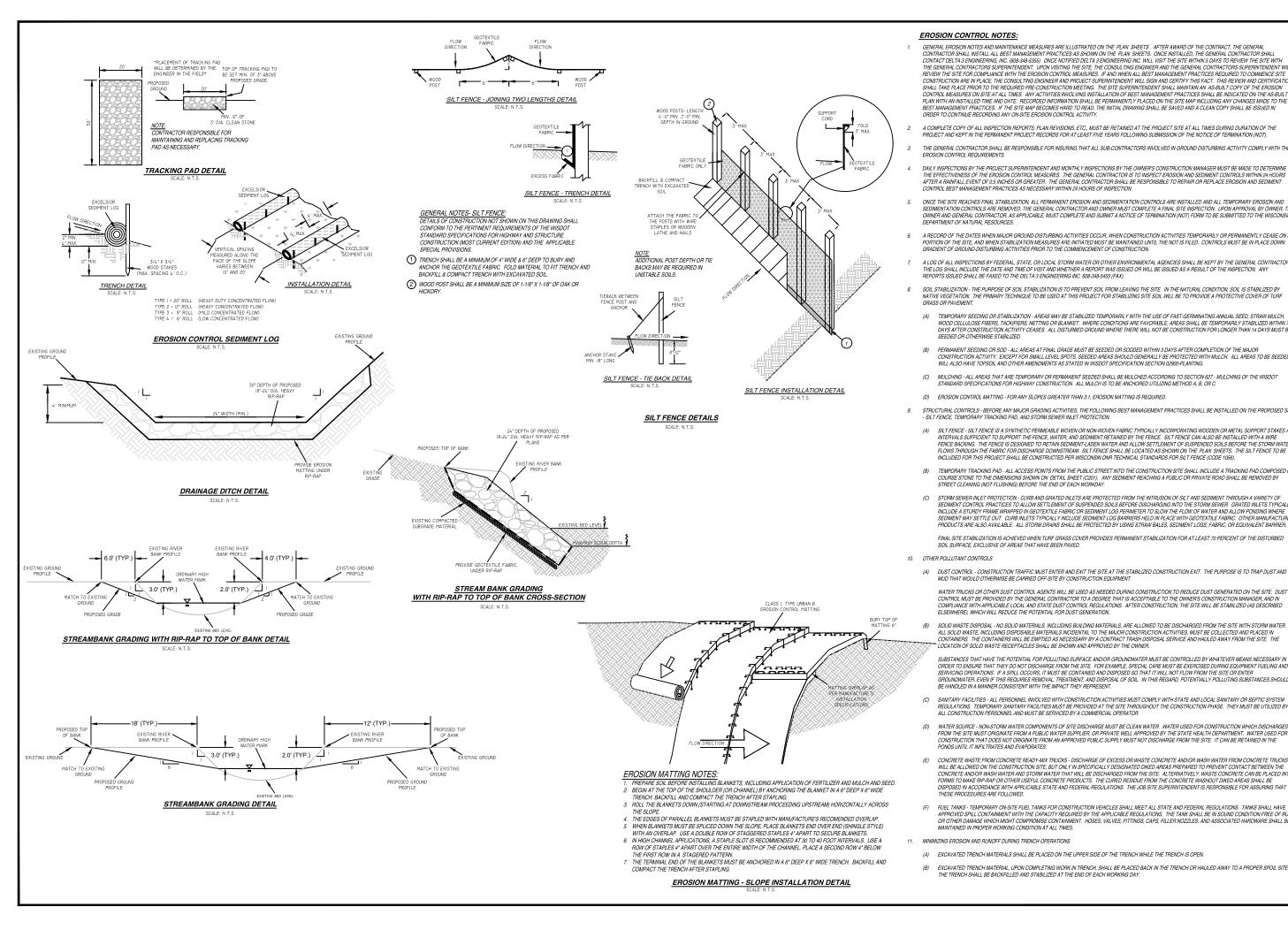
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SHEET TITLE:

G001

WUMBER # 02 of 05





GENERAL EROSION NOTES AND MAINTENANCE MEASURES ARE ILLUSTRATED ON THE PLAN SHEETS. AFTER AWARD OF THE CONTRACT, THE GENERAL CONTRACTOR SHALL INSTALL ALL BEST MANAGEMENT PRACTICES AS SHOWN ON THE PLAN SHEETS. ONCE INSTALLED, THE GENERAL CONTRACTOR SHALL CONTACT DELTA 3 ENGINEERING. INC. (608-348-5355). ONCE NOTIFIED DELTA 3 ENGINEERING INC. WILL VISIT THE SITE WITHIN 5 DAYS TO REVIEW THE SITE WITH CONTACTO DELLA S'ENDIMEENING, INC. (2005-306-3026). THE GENERAL CONTRACTORS SUPERINTENDEST. UPON VISITING THE SITE, FUE CONSULTING ENDIMEEN AND THE GENERAL CONTRACTORS SUPERINTENDENT WILL REVIEW THE SITE FOR COMPLIANCE WITH THE EROSION CONTROL MEASURES. IF AND MHEN ALL BEST MANAGEMENT PRACTICES RECUMED TO COMMENCE SITE CONSTRUCTION ARE IN PLACE. THE CONSULTING SUBJECT AND PROJECTS EXPERIMENDENT MILL SIGN MAD CENTRICATION SUPERINTENDENT WILL SIGN AND ARE IN PLACE. THE CONSULTING SUBJECT AND PROJECTS EXPERIMENDENT MILL SIGN AND CENTRICATION SUPERINCE CONSTRUCTION SHALL TAKE PLACE PRIOR TO THE REQUIRED PRE-CONSTRUCTION MEETING. THE SITE SUPERINTENDENT SHALL MAINTAIN AN AS-BUILT COPY OF THE EROSION CONTROL MEASURES ON SITE AT ALL TIMES. ANY ACTIVITIES INVOLVING INSTALLATION OF BEST MANAGEMENT PRACTICES SHALL BE INDICATED ON THE AS-BUILT PLAN WITH AN INSTALLED TIME AND DATE. RECORDED INFORMATION SHALL BE PERMANENTLY PLACED ON THE SITE MAP INCLUDING ANY CHANGES MADE TO THE BEST MANAGEMENT PRACTICES. IF THE SITE MAP BECOMES HARD TO READ, THE INITIAL DRAWING SHALL BE SAVED AND A CLEAN COPY SHALL BE ISSUED IN

A COMPLETE COPY OF ALL INSPECTION REPORTS, PLAN REVISIONS, ETC., MUST BE RETAINED AT THE PROJECT SITE AT ALL TIMES DURING DURATION OF THE PROJECT AND KEPT IN THE PERMANENT PROJECT RECORDS FOR AT LEAST FIVE YEARS FOLLOWING SUBMISSION OF THE NOTICE OF TERMINATION (NOT

THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR INSURING THAT ALL SUB-CONTRACTORS INVOLVED IN GROUND DISTURBING ACTIVITY COMPLY WITH THE

DAILY INSPECTIONS BY THE PROJECT SUPERINTENDENT AND MONTHLY INSPECTIONS BY THE OWNER'S CONSTRUCTION MANAGER MUST BE MADE TO DETERMINI THE EFFECTIVENESS OF THE EROSION CONTROL MEASURES. THE GENERAL CONTRACTOR IS TO INSPECT EROSION AND SEDIMENT CONTROLS WITHIN 24 HOURS AFTER A RAINFALL EVENT OF 0.5 INCHES OR GREATER. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR OR REPLACE EROSION AND SEDIMENT

ONCE THE SITE REACHES FINAL STABILIZATION, ALL PERMANENT EROSION AND SEDIMENTATION CONTROLS ARE INSTALLED AND ALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS ARE REMOVED, THE GENERAL CONTRACTOR AND OWNER MUST COMPLETE A FINAL SITE INSPECTION. UPON APPROVAL BY OWNER, THE OWNER AND GENERAL CONTRACTOR, AS APPLICABLE, MUST COMPLETE AND SUBMIT A NOTICE OF TERMINATION (NOT) FORM TO BE SUBMITTED TO THE WISCONSIN

A RECORD OF THE DATES WHEN MAJOR GROUND-DISTURBING ACTIVITIES OCCUR, WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE, AND WHEN STABILIZATION MEASURES ARE INITIATED MUST BE MAINTAINED UNTIL THE NOT IS FILED. CONTROLS MUST BE IN PLACE DOWN GRADIENT OF GROUND-DISTURBING ACTIVITIES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

A LOG OF ALL INSPECTIONS BY FEDERAL, STATE, OR LOCAL STORM WATER OR OTHER ENVIRONMENTAL AGENCIES SHALL BE KEPT BY THE GENERAL CONTRACTOR. THE LOG SHALL INCLUDE THE DATE AND TIME OF VISIT AND WHETHER A REPORT WAS ISSUED OR WILL BE ISSUED AS A RESULT OF THE INSPECTION. ANY

SOIL STABILIZATION - THE PURPOSE OF SOIL STABILIZATION IS TO PREVENT SOIL FROM LEAVING THE SITE. IN THE NATURAL CONDITION, SOIL IS STABILIZED BY NATIVE VEGETATION. THE PRIMARY TECHNIQUE TO BE USED AT THIS PROJECT FOR STABILIZING SITE SOIL WILL BE TO PROVIDE A PROTECTIVE COVER OF TURK

(A) TEMPORARY SEEDING OR STABILIZATION - AREAS MAY BE STABILIZED TEMPORARILY WITH THE USE OF FAST-GERMINATING ANNUAL SEED, STRAW MULCH, WOOD CELLULOSE FIBERS, TACKIFIERS, NETTING OR BLANKET. WHERE CONDITIONS ARE FAVORABLE, AREAS SHALL BE TEMPORARILY STABILIZED WITHIN 7 DAYS AFTER CONSTRUCTION ACTIVITY CEASES. ALL DISTURBED GROUND WHERE THERE WILL NOT BE CONSTRUCTION FOR LONGER THAN 14 DAYS MUST BE

(B) PERMANENT SEEDING OR SOD - ALL AREAS AT FINAL GRADE MUST BE SEEDED OR SODDED WITHIN 3 DAYS AFTER COMPLETION OF THE MAJOR CONSTRUCTION ACTIVITY. EXCEPT FOR SMALL LEVEL SPOTS, SEEDED AREAS SHOULD GENERALLY BE PROTECTED WITH MULCH. ALL AREAS TO BE SEEDED WILL ALSO HAVE TOPSOIL AND OTHER AMENDMENTS AS STATED IN WISDOT SPECIFICATION SECTION 02900-PLANTING.

(C) MULCHING - ALL AREAS THAT ARE TEMPORARY OR PERMANENT SEEDED SHALL BE MULCHED ACCORDING TO SECTION 627 - MULCHING OF THE WISDOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION. ALL MULCH IS TO BE ANCHORED UTILIZING METHOD A. B. OR C.

STRUCTURAL CONTROLS - BEFORE ANY MAJOR GRADING ACTIVITIES, THE FOLLOWING BEST MANAGEMENT PRACTICES SHALL BE INSTALLED ON THE PROPOSED SITE - SILT FENCE, TEMPORARY TRACKING PAD, AND STORM SEWER INLET PROTECTION.

(A) SILT FENCE - SILT FENCE IS A SYNTHETIC PERMEABLE WOVEN OR NON-WOVEN FABRIC TYPICALLY INCORPORATING WOODEN OR METAL SUPPORT STAKES AT SILTERULE SILTERULE IN A SITTIE TO FEMILIARE WORK ON WORK OF NOVEM FAILURE TO FUNCTION TO ALL OF AN INFORMATION ALL OF AN INFORM

(B) TEMPORARY TRACKING PAD - ALL ACCESS POINTS FROM THE PUBLIC STREET INTO THE CONSTRUCTION SITE SHALL INCLUDE A TRACKING PAD COMPOSED OF COURSE STONE TO THE DIMENSIONS SHOWN ON DETAIL SHEET (201). ANY SEDIMENT REACHING A PUBLIC OR PRIVATE ROAD SHALL BE REMOVED BY STREET CLEANING (NOT FLUSHING) BEFORE THE END OF EACH WORKDAY.

(C) STORM SEWER INLET PROTECTION - CURB AND GRATED INLETS ARE PROTECTED FROM THE INTRUSION OF SILT AND SEDIMENT THROUGH A VARIETY OF SEDIMENT CONTROL PRACTICES TO ALLOW SETTLEMENT OF SUSPENDED SOILS BEFORE DISCHARGING INTO THE STORM SEWER. GRATED INLETS TYPICALLY INCLUDE A STURDY FRAME WRAPPED IN GEOTEXTILE FABRIC OR SEDIMENT LOG PERIMETER TO SLOW THE FLOW OF WATER AND ALLOW PONDING WHERE SEDIMENT MAY SETTLE OUT. CURB INLETS TYPICALLY INCLUDE SEDIMENT LOG BARBIERS HELD IN PLACE WITH GEOTEXTILE FABBIC. OTHER MANUFACTURED PRODUCTS ARE ALSO AVAILABLE. ALL STORM DRAINS SHALL BE PROTECTED BY USING STRAW BALES, SEDIMENT LOGS, FABRIC, OR EQUIVALENT BARRIER.

FINAL SITE STABILIZATION IS ACHIEVED WHEN TURF GRASS COVER PROVIDES PERMANENT STABILIZATION FOR AT LEAST 70 PERCENT OF THE DISTURBED

(A) DUST CONTROL - CONSTRUCTION TRAFFIC MUST ENTER AND EXIT THE SITE AT THE STABILIZED CONSTRUCTION EXIT. THE PURPOSE IS TO TRAP DUST AND MUD THAT WOULD OTHERWISE BE CARRIED OFF-SITE BY CONSTRUCTION EQUIPMENT.

WATER TRUCKS OR OTHER DUST CONTROL AGENTS WILL BE USED AS NEEDED DURING CONSTRUCTION TO REDUCE DUST GENERATED ON THE SITE. DUST CONTROL MUST BE PROVIDED BY THE GENERAL CONTRACTOR TO A DEGREE THAT IS ACCEPTABLE TO THE OWNER'S CONSTRUCTION MANAGER, AND IN COMPLIANCE WITH APPLICABLE LOCAL AND STATE DUST CONTROL REGULATIONS. AFTER CONSTRUCTION, THE SITE WILL BE STABILIZED (AS DESCRIBED

SOLID WASTE DISPOSAL - NO SOLID MATERIALS, INCLUDING BUILDING MATERIALS, ARE ALLOWED TO BE DISCHARGED FROM THE SITE WITH STORM WATER. ALL SOLID WASTE, INCLUDING DISPOSABLE MATERIALS INCIDENTAL TO THE MAJOR CONSTRUCTION ACTIVITIES, MUST BE COLLECTED AND PLACED IN CONTAINERS. THE CONTAINERS WILL BE EMPTIED AS NECESSARY BY A CONTRACT TRASH DISPOSAL SERVICE AND HAULED AWAY FROM THE SITE. THE

SUBSTANCES THAT HAVE THE POTENTIAL FOR POLLUTING SURFACE AND/OR GROUNDWATER MUST BE CONTROLLED BY WHATEVER MEANS NECESSARY IN ORDER TO ENSURE THAT THEY DO NOT DISCHARGE FROM THE SITE. FOR EXAMPLE, SPECIAL CARE MUST BE EXERCISED DURING EQUIPMENT FUELING AND SERVICING OPERATIONS. IF A SPILL OCCURS, IT MUST BE CONTAINED AND DISPOSED SO THAT IT WILL NOT FLOW FROM THE SITE OR ENTER GROUNDWATER, EVEN IF THIS REQUIRES REMOVAL, TREATMENT, AND DISPOSAL OF SOIL. IN THIS REGARD, POTENTIALLY POLLUTING SUBSTANCES SHOULD

SANITARY FACILITIES - ALL PERSONNEL INVOLVED WITH CONSTRUCTION ACTIVITIES MUST COMPLY WITH STATE AND LOCAL SANITARY OR SEPTIC SYSTEM REGULATIONS. TEMPORARY SANITARY FACILITIES MUST BE PROVIDED AT THE SITE THROUGHOUT THE CONSTRUCTION PHASE. THEY MUST BE UTILIZED BY ALL CONSTRUCTION PERSONNEL AND MUST BE SERVICED BY A COMMERCIAL OPERATOR.

(D) WATER SOURCE · NON-STORM WATER COMPONENTS OF SITE DISCHARGE MUST BE CLEAN WATER. WATER USED FOR CONSTRUCTION WHICH DISCHARGES MALE DOUDLE - MODULE ON MUNICIPAL DUM ONLE DU SALE DOUDLE MUSIC DE CLEM MALER. MALER VALES DUD LOC DUM ONLE MUSIC FROM THE SITE MUSI ORIGINATE FROM A PUBLIC MALER SUPPLIER. OR PRIMER MULL APPROVED Y HIE STATE HEALTH DEPARTMENT. MATER USED FOR CONSTRUCTION THAT DOES NOT ORIGINATE FROM AN APPROVED PUBLIC SUPPLY MUST NOT DISCHARGE FROM THE SITE. IT CAN BE RETAINED IN THE PONSO UNIT. IN INFLITATES AND EVAPORTES.

CONDETE E PROFETENDI CONTRETENDUMINATIONS "DISCIMPTO PERSONATED DIRECTORY AND E CONTRETE AND/ON WASH MATER INFORMATION THE PERSONATED DIRECTORY AND A CONSTRUCTION STEE, BUT ONLY IN SPECIFICALLY DESIGNATED DIRECTORY AND A PROFENE TO ON TOTACT BETWEEN THE CONCRETE AND/OR WASH WATER AND STORM WATER THAT WILL BE DISCHARGED FROM THE STEE. ALTERNATIVELY, WASTE CONCRETE CAN BE PLACED INTO FORMS TO MARKE RIP.RAP OR OTHER USERUL ASTREMANTED RESIDUE FROM THE STEE. ALTERNATIVELY, WASTE CONCRETE CAN BE PLACED INTO FORMS TO MARKE RIP.RAP OR OTHER USERUL ASTREMANTED RESIDUE FROM THE CONCRETE CAN BE PLACED INTO FORMS TO MARKE RIP.RAP OR OTHER USERUL ASTREMANTED RESIDUE FOR THE STEE ALTERNATIVELY. MASTE CONCRETE CAN BE PLACED INTO FORMS TO MARKE RIP.RAP OR OTHER USERUL ASTREMANTED RESIDUE FOR THE STEE AND FEDERAL BE DISPOSED IN ACCORDANCE WITH APPLICABLE STATE AND FEDERAL REGULATIONS. THE JOB SITE SUPERINTENDENT IS RESPONSIBLE FOR ASSURING THAT

(F) FUEL TANKS - TEMPORARY ON-SITE FUEL TANKS FOR CONSTRUCTION VEHICLES SHALL MEET ALL STATE AND FEDERAL REGULATIONS. TANKS SHALL HAVE PUEL INVIS - TEMPORATI ON-STEP DELTAINS OF OUTSTICTO TO PENLESS STATE MEET ALL OTTAL AND FEDERAL REGULATIONS, TAILE AND STALL TANG APPROVED SPILL CONTAINMENT WITH THE CAPACITY REQUIRED BY THE APPLICABLE REGULATIONS. THE TAIK SHALL BE IN SOUND CONDITION FREE OF PUST. OR OTHER DAMAGE WHICH MIGHT COMPROMISE CONTAINMENT. HOSES, VALVES, FITTINGS, CAPS, FILLER NOZZLES, AND ASSOCIATED HARDWARE SHALL BE MAINTAINED IN PROPER WORKING CONDITION AT ALL TIMES.

(A) EXCAVATED TRENCH MATERIALS SHALL BE PLACED ON THE UPPER SIDE OF THE TRENCH WHILE THE TRENCH IS OPEN

EXCAVATED TRENCH MATERIAL, UPON COMPLETING WORK IN TRENCH, SHALL BE PLACED BACK IN THE TRENCH OR HAULED AWAY TO A PROPER SPOIL SITE. THE TRENCH SHALL BE BACKFILLED AND STABILIZED AT THE END OF EACH WORKING DAY.

ENGINEER: A DELTA 3 PROFESSIONAL CML, MUNICIPAL, & STRUCTURAL ENGINEERING & ARCHITE GRANT WRITING & LAND DEVELOPMENT + PLANNING & CADD SERVIC 875 SOUTH CHESTNUT STREET PHONE: (608) 348-5355 PLATTEVILLE, WISCONSIN 53818 PHONE: (563) 542-9005 898 Jackson Street Dubuque, Iowa 52001 FOR QUESTIONS REGARDING THIS PROJECT, PLEASE CONTACT:

> MR. BART NIES. P.E. DELTA 3 ENGINEERING INC TELEPHONE: (608) 348-5355

CONSENT STATEMENT

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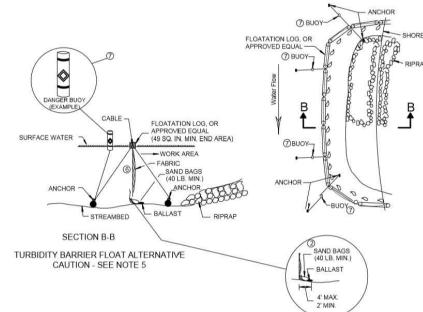
PATCH (

REVISIONS:		
NO.	DATE	DESCRIPTION
AS-BUILT:		BY:
-	-//	-,

PRELIMINARY		
PROJECT NUMBER	D20-005	
SHEET SCALE	NOT TO SCALE	
DRAWN BY	C.COYIER	
DATE ISSUED	MAY 3, 2021	
SHEET DESC.	SITE DETAILS	

SHEET TITLE:

C201 SHEET WUMBER # 04 of 05



- SANDBAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER OR PROJECT MANAGER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE 2

