



June 14, 2018

Representatives
Pioneer-Sarah Creek Watershed
Management Commission
Hennepin County, Minnesota

*The meeting packet for this meeting
may be found on the Commission's website:
[http://www.pioneersarahcreek.org/minutes--
meeting-packets.html](http://www.pioneersarahcreek.org/minutes--meeting-packets.html)*

Dear Representatives:

A regular meeting of the Pioneer-Sarah Creek Watershed Management Commission will be held Thursday, June 21, 2018, at 6:00 p.m., at the Discovery Center, 5050 Independence Street, Maple Plain, MN.

A light supper will be served. **RSVPs are requested** so that the appropriate amount of food is available. At the time of your response, please let us know if you will be eating supper with us.

The Commission will suspend its regular meeting at 6:00 p.m. for the purpose of conducting a public meeting on a proposed Minor Plan Amendment to adopt revisions to its Capital Improvement Program. The regular meeting will resume immediately after the public meeting concludes.

In order to ensure a quorum for this meeting, please telephone 763.553.1144 or email Tiffany at tiffany@jass.biz to indicate if you or your Alternate will be attending. It is your responsibility to ascertain that your community will be represented at this meeting.

Regards,

Judie A. Anderson
Administrator
JAA:tim

cc:	Alternates	City Clerks	MPCA
	Jim Kujawa, HCES	Met Council	BWSR
	Joel Jamnik, Attorney	official newspapers	DNR
	Brian Vlach, TRPD	Diane Spector, Wenck Associates	

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REGULAR and PUBLIC MEETING AGENDA
June 21, 2018 • 6:00 pm
Maple Plain City Hall @ The Discovery Center
5050 Independence Street, Maple Plain

The meeting packet can be found on the Commission's website: <http://pioneersarahcreek.org/pages/Meetings/>

1. Call to Order.
2. Approve Agenda.*
3. Consent Agenda.
 - a. May regular meeting minutes.*
 - b. Monthly Claims/Treasurers Report.*

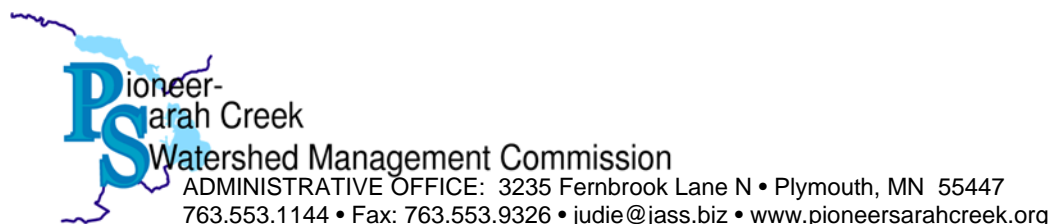
[Suspend regular meeting.]

4. Public Meeting for Minor Plan Amendment to Third Generation Plan.

a. Staff Report.*	e. Receive comments from public.
b. Commission discussion.	f. Close Public Meeting.
c. Open Public Meeting.	g. Commission discussion.
d. Receive comments from cities/reviewing agencies.	h. Consider Resolution 2018-01.*

[Resume regular meeting.]

5. Action Items.
 - a. Adopt 2019 Operating Budget.*
 - 1) Member Assessments.*
 - b. Approve 2018 CAMP Agreement.*
 - c. Approve Baker Campground Ravine Stabilization Cooperative JPA.*
 - d. Approve Non-waiver Liability Insurance.*
 - e. Funding for Lake Independence Carp Project.
6. Open Forum.
7. Old Business.
 - a. Clean Water Partnership Loans.*
8. New Business.
9. Staff Report.*
 - a. Baker Ravine Update.*
10. Education.
11. Communications.
 - a. 2017 Annual Activity Report.*
12. Commissioner Reports.
13. Other Business.
14. Adjournment. *(Next scheduled meeting July 19, 2018)*



REGULAR and TECHNICAL ADVISORY COMMITTEE MEETING MINUTES May 17, 2018

1. CALL TO ORDER. A Technical Advisory Committee (TAC) meeting of the Pioneer-Sarah Creek Watershed Management Commission was called to order at 5:00 p.m., Thursday, May 17, 2018, by James Kujawa at Independence City Hall, 1920 County Road 90, Maple Plain, MN 55359.

Present: Shane Nelson, Hakanson Anderson for Greenfield, Independence and Medina; James Kujawa and Kirsten Barta, Hennepin County Environment and Energy (HCEE); Brian Vlach, Three Rivers Park District (TRPD); and Judie Anderson and Amy Juntunen, JASS.

Not represented: Loretto, Maple Plain and Minnetrista.

Also present: Tom Cook, Greenfield; Joe Baker, Independence; John Fay, Maple Plain; Mike McLaughlin, Medina; and John Tschumperlin, Minnetrista.

2. CIP Review. The purpose of this meeting is to complete the review of the CIP as submitted in the Third Generation Watershed Management Plan and proposed amendments.

2018 IN-01 and 2018 IN-02, Lake Independence Carp Study Phases one and two, respectively, were submitted by TRPD. The cost of the project is \$20,000 per phase, with TRPD covering 75% of the cost and requesting a Commission match of 25%. The Commissioners questioned why a study had to be performed. The study is necessary to determine the biomass, which at 100kg/ha is considered ecologically damaging to a lake. The biomass is also needed to bring in a commercial fisherman and the monitoring will prove if fish are moving up/downstream and fish barriers are needed. Phase one of the study includes tagging fish and collection of data. Phase two continues collecting data to show a two-year seasonal movement to ensure there isn't a "fluke" year. The Lake Independence Citizen's Association may donate to the project. Motion by Kujawa, second by Baker to add these two projects in 2018 and 2019 to the CIP. *Motion carried unanimously.*

Project 2017 MI-1 was resubmitted as project 2018 MI-1 Whaletail South Alum Treatment. The original 2017 project was proposed by Rich Brasch at TRPD prior to his retirement. The TMDL for Whaletail is complete and determined 70% of the phosphorus loading is internal, with very little coming from the watershed. Sediment core analysis has also been completed and indicates that alum is a good solution for improving water quality. Vlach has used that data to determine an alum dosage and current alum costs. Alum treatment would occur at depths greater than 20 feet so wind/wave action would not create bottom disturbance. Motion by Kujawa, second by Barta to add this project to the CIP for 2020. *Motion carried unanimously.*

Project 2017 IN-2 was resubmitted as project 2018 IN-04 Hydrologic Restoration 95. This project was identified in the Lake Independence Subwatershed Assessment and will remove 9.64 lbs of phosphorus per year. The project may be eligible for EQUIP funding from Hennepin County. Motion by McLaughlin, second by Baker to add this project to the CIP for 2018. *Motion carried unanimously.*

Project 2018 IN-03 was submitted by TRPD. The original TMDL showed 30% of loading (630lbs.) was attributed to internal sources. Since then, sediment core analysis proves that the internal load was well underestimated (over 2,000 lbs.). This new information will require an amendment to the TMDL with MPCA to support the argument for alum treatment. External loading from the watershed will still need to be addressed prior to any alum treatment. This alum treatment is expected to last a minimum of 10 years and the project will be eligible for grant funding. This project is submitted for the year 2023 and submitted now due to the high cost for planning purposes. Motion by McLaughlin, second by Barta to add this project to the CIP for 2023. *Motion carried unanimously.*

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**Included in meeting packet.*



Ongoing opportunity-based watershed-wind projects WW-1 through WW-6. Projects WW-4, WW-5 and WW-6 were eliminated for redundancy. Projects WW-1, WW-2 and WW3 were allocated \$10,000 in Commission funding each for a total of \$30,000 available for these types of projects. Motion by Kujawa, second by Cook to add these three ongoing projects to the CIP at the funding noted above. *Motion carried unanimously.*

Under "No Year Assigned" projects, the following will be removed as they do not fall under Commission purview: LO-3, LO-4, LO-5, LO-6, MP-1, MP-2, MP-3, and MP-5.

All completed projects will be removed from the revised CIP.

Project GR-2, Whisper Creek WWTP will be left as-is with no Commission funding at this time.

The consensus of the TAC is to recommend the discussed changes for additions and removals at the April and May meetings be forwarded to the Commission for approval.

3. ADJOURN TAC. Motion by Kujawa, second by Baker to adjourn at 6:13 p.m.

1. CALL TO ORDER. A regular meeting of the Pioneer-Sarah Creek Watershed Management Commission was called to order at 6:22 p.m., Thursday, May 17, 2018, by Chair Joe Baker at Independence City Hall, 1920 County Rd 90, Maple Plain, MN 55359.

Present: Tom Cook, Greenfield; Joe Baker, Independence; Brenda Daniels, Loretto; John Fay, Maple Plain; Mike McLaughlin, Medina; John Tschumperlin, Minnetrista; Kirsten Barta and James Kujawa, Hennepin County Environment and Energy (HCEE); Brian Vlach, Three Rivers Park District (TRPD); and Judie Anderson and Amy Juntunen, JASS.

Also present: Scott Johnson, Medina.

2. AGENDA. Motion by Fay, second by Daniels to approve the revised agenda moving Kirsten Barta's staff report to directly after the consent agenda. *Motion carried unanimously.*

3. CONSENT AGENDA. Motion by Cook, second by Daniels to approve the Consent Agenda:

- a. **April Regular Meeting Minutes.*** Correct typo under item 6.b.
- b. **May Monthly Claims/Treasurer's Report.*** Claims total \$10,676.72.

Motion carried unanimously.

4. STAFF REPORT.*

a. Barta congratulated Vlach on the **delisting of Lake Rebecca** from the Impaired Waters List. The delisting should be official in June.

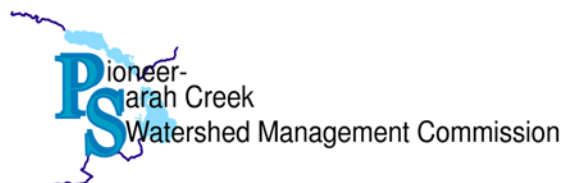
A letter was sent to 4,000 area residents requesting **feedback on water issues**. Responses are coming in via postcard. Most feedback relates to issues with drainage and horses. More letters will be mailed as time allows. Baker requested a copy of the letter/postcard.

The County is implementing a cleanout of **County Ditch 9** in Greenfield which has been neglected since 1951. Residents are agreeing to pay 25% of the cost, with in-kind, labor and maintenance, in addition to or in place of, funding. Barta is applying for a grant for this project in August 2018. The ditch runs from Schwappauff to Hafften, though a portion that was altered without County approval will not be included, nor will the portion from Hafften to the Crow River. Cook requested additional clarification. The survey will begin in two weeks. The County Transportation Dept. has identified a number of ditches that need work. Different techniques may be used, such as evaluating culvert sizes.

MPCA is looking for ten small watersheds for a **319 grant opportunity** to pilot a new, voluntary Focus Grant Workplan using the EPA's handbook. Barta would like to submit Dance Hall Creek. Selected watersheds will be prioritized to receive four four-year grant awards spanning a total of 16 years. The Commission

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*Included in meeting packet.



would be under no obligation and Barta would take the lead to shepherd the process to evaluate how the handbook and new nine-step plan works. The only current commitment would be for Barta to read the 400-page handbook and try the process. Barta will do this as a County employee because it will benefit the County.

Farmers along north/south county roads will be offered MnDot rates to leave five rows of corn along the roadsides all winter as **snow barrier**. Farmers will be allowed to hand-pick the corn. A lilac border will also be planted along the cemetery on County Road 50 since drifting snow usually occurs there.

There are only four **wetland buffer violations** in the Pioneer-Sarah Creek watershed. Barta staked the buffer areas on those properties.

The **final salt usage tally** for the 2017-2018 season showed a reduction of 25%, even with the hard winter. With a milder winter, reductions of 50% are believed achievable. There was no sand/salt mix used this year. Use of brine allows for a large reduction and keeps the salt on the road where it does the most good. The temperature sensors help to decide when to stop salting. Calibration is also a big help in determining proper application rates. Costs for the sensors were about \$600 per truck and brine tanks were \$2,000-\$3,000. The road sensors also allow for varied brine content. Baker requested a write-up for the cities, mentioning a positive piece on Channel 9.

Barta announced that she will no longer be the Rural Conservationist for the Pioneer-Sarah Creek Watershed as the County will be hiring a new technician in the coming months. Barta will continue to work for the County in another role.

b. Kujawa is working with Grygelko in Greenfield who is interested in **excavating an existing shallow wetland** to provide more of an open-water wetland system. The project will not affect the existing channel/ditch adjacent to the project. Staff will issue an excavation permit for the activity.

Minnetrista has submitted their **Local Water Plan** for review.

c. Vlach will provide an update on the **Baker Park Ravine project** later in the agenda.

d. There are no current **administrative updates**.

5. ACTION ITEMS.

a. **Approve Lake Sarah CLPW JPA.*** This Joint Powers Agreement defines the cost-share between TRPD and the Commission, as well as the partnership with the Lake Sarah Improvement Association (LSIA). It's possible that grant funding for this type of project may be available again in the future. Motion by Cook, second by McLaughlin to approve the Lake Sarah CLPW JPA. *Motion carried unanimously.*

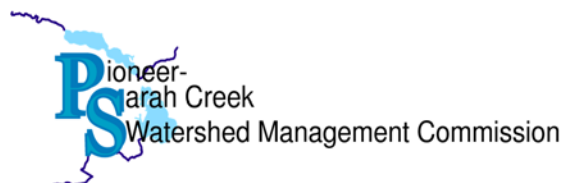
b. **Call for Public Meeting in June.** The proposed revisions to the CIP require a Minor Plan Amendment to the Commission's Third Generation Management Plan. A public meeting is a required part of that process and notice must be published in the Commission's legal newspaper, as well as sent to member cities and reviewing agencies to solicit comments either in writing or in person. The legal notice must be published in the newspaper 14 and 21 days prior to the meeting date. Motion by Daniels, second by Cook to call for a public meeting. *Motion carried unanimously.*

c. **Consider Funding for Lake Independence Carp Project.*** This project was discussed as part of the CIP review. This item will be discussed at the June meeting.

d. **Watershed-Based Funding Pilot Update.*** At the May 16, 2018 Official Convene Meeting regarding BWSR's pilot watershed-based funding program, the consensus of the eleven watersheds in Hennepin County was to disburse the funds to each watershed on a 50/50 basis by land area/market value for the FY2019-2020 biennium after dedicating 10% of the total \$1,018,000 to a county-wide chloride management program. The Pioneer-Sarah Creek WMO share of this funding is \$58,317 for the 2019-2020 biennium. These funds require a minimum 10% match of non-state funds. Projects using these funds can also apply for additional Clean Water Legacy grant funds. This 10% match also applies to the chloride management program. The eleven Hennepin County watersheds would need to split that 10% match, about \$950 per watershed for the biennium.

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*Included in meeting packet.



A project must be submitted by the Commission to use the \$58,317 in funds by July 2, 2018. This project should not be reliant upon receiving additional CWL grant funds because, if the grant is not received, the Commission will not be able to use those funds for another project. This project must also be on the Commission's approved CIP by July 2. Staff recommends submitting two projects, in case one project falls through, so there is a backup. Staff needs Commission direction on which projects should be submitted for this funding by the July 2, 2018 deadline.

Motion by McLaughlin, second by Daniels to submit projects 2017 ME-1 Ardmore Neighborhood Stormwater BMPs and 2018 IN-01/2018 IN-02 Lake Independence Carp Study Phase 1 and 2 for BWSR's watershed-based funding. *Motion carried unanimously.* Baker was recognized for his contribution in pulling together the Medina project with Kujawa and McLaughlin.

e. Approve Comments – Minnetrista Local Plan.* Kujawa reviewed the Minnetrista Local Water Plan (LWP). The final draft update was submitted to the County in April. Staff reviews LWPs for conformance with the Commission's Third Generation Management Plan, updated land use, and how the City will assist in achieving water quality actions and goals in approved TMDLs. Staff has four main recommendations: 1) the LWP as submitted does not meet Commission regulations for wetland buffers; 2) the LWP does not include the non-production animal operation and siting ordinances adopted by the Commission; 3) The City could make improvements regarding the WRAPS and TMDL studies to include problem-solving actions and; 4) the Whaletail alum treatment project should be included in the city's CIP. Staff requests approval to send these four items back to the City to be addressed in their LWP. Motion by Cook, second by McLaughlin directing Staff to detail these four items in a memo with recommendations for resolution to the City of Minnetrista. *Motion carried unanimously.*

f. Accept CIP Recommendation. Motion by Daniels, second by McLaughlin to add an action item to the agenda to accept the TAC recommendations regarding the CIP. *Motion carried unanimously.* Motion by McLaughlin, second by Daniels to accept the recommendations of the TAC for the CIP projects to be added, changed, and/or removed via a minor plan amendment as discussed at the TAC meetings in April and May. *Motion carried unanimously.*

6. OPEN FORUM.

7. OLD BUSINESS.

a. 2018 CIP Update.** The TAC met prior to the regular meeting to finish reviewing the CIP. See TAC meeting minutes above for actions and recommendations.

b. PRAP Update. Commissioners and Staff were requested to complete the survey sent via Email. Staff will upload the approved 2017 Annual Report to the website.

8. NEW BUSINESS.

a. Draft 2019 Operating Budget.* Baker and Cook met with administrative staff to create this proposed budget which keeps the total member contribution at the same level as 2018, though individual amounts may vary slightly with changes to market value. This item is currently for review only and will be voted on at the June meeting.

b. Baker Campground Ravine Stabilization Cooperative JPA.* This JPA between all partners details the duties, responsibilities and financial contributions of each partner. All partners in this project should review the JPA, which will be on the agenda for action at the June meeting. Any changes or revisions should be identified and submitted by June 14.

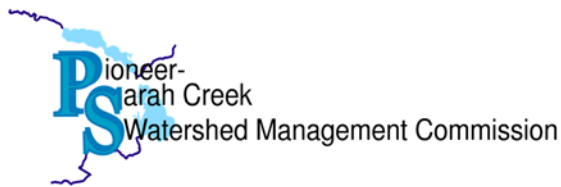
9. EDUCATION. Administrative staff were directed to schedule an orientation with Tschumperlin. Staff will update the Commissioner Handbook and schedule a time to meet with Tschumperlin.

10. COMMUNICATIONS.

a. Clean Water Partnership Loans.* More information will be provided at the June meeting.

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*Included in meeting packet.



b. 2017 Annual Activity Report.* Due to a server migration at the administrative office, paper copies will be available at the June meeting. A paper copy was sent to BWSR on time to meet the deadline requirements.

11. COMMISSIONER REPORTS.

a. McLaughlin. Lake Independence Citizens' Association (LICA) is hosting their annual ice cream social and meeting at Independence City Hall on Saturday, May 19 at 1:00 p.m. All are welcome.

b. Fay. The Orono Rotary is hosting a Party in the Park at the Maple Plain water tower on June 2 from 5:00-11:00 p.m. This event will benefit the veteran's memorial at Northside Park in Maple Plain. The party will include food, beverages and live music. Fay requested staff to forward the flyer regarding this event when it is available. All are welcome.

The Maple Plain street projects begin in earnest in June on Howard Avenue and Independence Street. The Planning Commission will also be reviewing a new project for a 135-bed assisted living/memory care facility.

c. Cook. The new dock at the Lake Sarah landing has been installed. The first water sample on Hafften was taken today. The water clarity was 2.5 meters, the clearest it's been for testing.

d. Baker. Dependent on DNR approval and cooperative weather, the Lake Sarah CLPW treatment is scheduled for next Monday or Tuesday. Baker complimented the Commission on the TAC process for reviewing and revising the CIP.

e. Tschumperlin. Minnetrista Days is on Saturday, May 19. Free hotdogs, chips and pop will be available from 11:00 a.m.-2:00 p.m. Minnetrista Days is held on the third Saturday in May each year.

12. OTHER BUSINESS.

The **next regular meeting** is scheduled for June 21, 2018.

13. ADJOURNMENT. There being no further business, motion by Cook, second by Daniels to adjourn. *Motion carried unanimously.* The meeting was adjourned at 8:14 p.m.

Respectfully submitted,

Amy A. Juntunen, Recording Secretary
AAJ:tim

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**Pioneer-Sarah Creek Watershed
Cash Disbursements Journal
For the Period From Jun 1, 2018 to Jun 30, 2018**

Filter Criteria includes: Report order is by Date. Report is printed in Detail Format.

Date	Check #	Account ID	Line Description	Debit Amount	Credit Amount
6/15/18	1499	51100	Administration	1,204.37	
6/15/18	1499	51100	Meeting-related Activities	1,359.95	
6/15/18	1499	51100	Bookkeeping/TR/Audit	223.99	
6/15/18	1499	58210	Third Gen Plan	702.67	
6/15/18	1499	51400	Website	48.30	
6/15/18	1499	51120	Project Reviews	9.86	
6/15/18	1499	51130	WCA/Wetland	100.61	
6/15/18	1499	51125	CIPs, BBR	877.94	
6/15/18	1499	51140	Grant Opportunities/Apps	28.20	
6/15/18	1499	51140	Professional TAC	348.75	
6/15/18	1499	51125	Baker Campground Ravine	165.23	
6/15/18	1499	51140	Technical Support	37.65	
6/15/18	1499	10100	Judie Anderson's Secretarial Service		5,107.52
6/15/18	1500	50100	Q1 Technical - Project Reviews	2,015.79	
6/15/18	1500	50100	Q1 Technical - WCA	652.04	
6/15/18	1500	10100	Hennepin County Treasurer		2,667.83
Total				7,775.35	7,775.35



HENNEPIN COUNTY
Public Works General
Solid Waste
612-348-9357
300 South 6th Street, MC 129
Minneapolis, MN 55487

Pioneer-Sarah Creek Watershed Management
3235 Fernbrook Lane
Plymouth, MN 55447

Page: 1
Customer Number: 0000010609
Invoice Number: 1000110840
Invoice Date: 05/16/2018

Total Amount Due: \$2,667.83
Due Date: 06/30/2018

Date	Description	Quantity	Unit Amount	Net Amount
01/01/2018 - 03/31/2018	Pioneer-Sarah Creel Watershed	1.00	\$2,015.79	\$2,015.79
Pioneer-Sarah Creek Watershed, 1st Qtr. 2018, for Technical Services per Agreement A188605				
01/01/2018 - 03/31/2018	Pioneer-Sarah Creel Watershed	1.00	\$ 652.04	\$ 652.04
Pioneer-Sarah Creek Watershed, 1st Qtr. 2018, for WCA and Volunteer engagement per Agreement A188605				
Balance Due:				\$2,667.83

There is a \$30.00 service charge on all returned checks. Civil penalties may be imposed for non-payment, per Minnesota State Statute 604.113.

Please return the bottom portion with your check made payable to: Hennepin County Treasurer.

HENNEPIN COUNTY
612-348-9357

Customer Number: 0000010609
Invoice Number: 1000110840

Payment Due Date: 06/30/2018

Amount Due: \$2,667.83

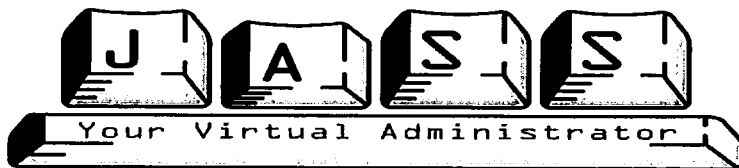
Amount Enclosed:

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Pioneer-Sarah Creek Watershed Management
3235 Fernbrook Lane
Plymouth, MN 55447

Remit To:
Hennepin County Accounts Receivable
300 South Sixth Street
Mail Code 129
Minneapolis, MN 55487

2HNPWS00000106091000110840000000002667835



Pioneer-Sarah Creek Watershed Management Commission
3235 Fernbrook Lane Plymouth, MN 55447

3235 Fernbrook Lane
Plymouth MN 55447

June 15, 2018

General Administration				Total Project Area	
Administrative	0.65	55.00	35.750		
Administrative	12.09	60.00	725.400		
Administrative - offsite		65.00	0.000		
PRAP	1.78	60.00	106.800		
Office Support	3.00	60.00	180.000		
Public storage	1.00	77.08	77.080		
Data Processing/File Mgmt	0.76	55.00	41.800		
Archiving	0.17	50.00	8.500		
Reimbursable Expense	29.04	1.00	29.040	1,204.370	Administration
Meeting packets, attendance, Minutes and Meeting follow-up					
Administrative	0.25	55.00	13.750		
Administrative	16.85	60.00	1,011.000		
Admin - Offsite	2.67	65.00	173.550		
Reimbursable Expense	161.65	1.00	161.650	1,359.950	Meeting related activities
Bookkeeping					
Bookkeeping	0.17	55.00	9.350		
Bookkeeping, budget, audit requests	2.41	60.00	144.600		
Treasurer's Reports	0.33	60.00	19.800		
Audit Prep	0.60	60.00	36.000		Bookkeeping/TRs
Reimbursable Expense	14.24	1.00	14.240	223.990	Audit Prep
3rd Generation Plan and Amendments					
Administrative	10.60	60.00	636.00		
Reimbursable Expense	66.67	1.00	66.67	702.67	Third Gen Plan
Website					
Pages, links, uploads	0.42	55.00	23.100		
Administrative	0.42	60.00	25.200	48.300	Website
Project Reviews					
Administrative		60.00	0.000		
Reimbursable Expense	9.86	1.00	9.860	9.860	Project Reviews
WCA/Wetland Projects					
Administrative	1.50	60.00	90.000		
Reimbursable Expense	10.61	1.00	10.610	100.610	WCA/Wetland
CIPs, BBR - General Administration					
Administrative	14.54	60.00	872.40		
Administrative Offsite		65.00	0.00		
Reimbursable Expense	5.54	1.00	5.540	877.940	CIPs, BBR
Grant Opportunities/Applications					
Administrative	0.47	60.00	28.200		Grant opportunities/
Reimbursable Expense		1.00	0.000	28.200	applications
Professional TAC					
Administrative	2.75	60.00	165.000		
Offsite	2.75	65.00	178.750		
Reimbursable Expense	5.00	1.00	5.000	348.750	
Baker Campground Ravine					
Administrative	2.65	60.00	159.000		
Reimbursable Expense	6.23	1.00	6.230	165.230	Baker Ravine
Technical Support - General					
Secretarial	0.33	55.00	18.150		
Reimbursable Expense	19.50	1.00	19.500	37.650	Technical Support
			5,107.520	5,107.520	



3235 Fernbrook Lane
 Plymouth, MN 55447
 (763) 553-1144
 Fax: (763) 553-9326
 judie@jass.biz

To: Pioneer-Sarah Creek Commissioners
From: Judie Anderson
Date: June 15, 2018
Subject: Public Meeting – Minor Plan Amendment

At their May 17, 2018 meeting, the Pioneer-Sarah Creek Watershed Management Commission approved a motion to move forward with a Minor Plan Amendment to its Third Generation Watershed Management Plan to revise the Capital Improvement Program as shown on the attached spreadsheet.

The Notice of this Public Meeting is attached. As required by MN Statutes, Section 103B, the proposed amendment was transmitted to the state reviewing agencies and Hennepin County for their review and comment. As of this date responses have been received from Met Council, who indicated they have no comments, and from Hennepin County, where Staff is recommending approval of the MPA to their Board. BWSR has informed Staff that a letter approving the Commission's moving forward with a Minor Plan Amendment will be emailed early in the week of June 18.

Hennepin County will be undertaking a parallel process of review and public hearing. Their BAR is also attached.

COMMISSION ACTION

The purpose of the public meeting is to present the proposed amendment and to take comment from the member cities and the public. The purpose of the public meeting is NOT to approve going forward with these project. The recommended order of business is as follows:

1. Suspend regular meeting
2. Staff report
3. Commission discussion
4. Open public meeting
5. Take comments from member cities
6. Take comments from public
7. Close public meeting
8. Commission discussion
9. Consider approving Resolution 2018-01
10. Resume regular meeting

STAFF RECOMMENDATION

The Technical Advisory Committee has reviewed the proposed revisions to the Capital Improvement Program and found them to be consistent with the Commission's requirements. At their May 17, 2018 meeting the Commission approved the revisions and directed Staff to move forward with a Minor Plan Amendment. Staff recommends that the Commission approve the amendment and adopt Resolution 2018-01. The Resolution will be effective upon approval of the amendment by the Hennepin County Board of Commissioners.

Table F.1. Capital Improvement Program

Note: See project descriptions following the tables. PSC = Pioneer-Sarah WMC

	Year	Completed	Project	Project Name	Total Cost	Commission Share	Actual Cost	Potential Funding Source(s)	Notes
1	CAPITAL PROJECTS								
2	2014-	√	ME-1	Lake Ardmore infiltration basin	30,000	3,000	3,316	PSC, Medina	
3	2015	√	IN-1	Lake Sarah curlyleaf pondweed treatment	40,000	4,000	3,116	PSC, Ind, Grfld, lake assn	
4			IN-2	Hydrologic restorations: HR 67, 68, 29, and 23	200,000	20,000		PSC, Independence	Projects infeasible or lacking owner participation. Will be addressed at property development
5			ME-2	Lake Independence curlyleaf pondweed treatment	122,000	12,200		PSC, Med, Ind, lake assn	Treatment not in TMDL and assessment revealed unnecessary. May resubmit project in future
6				Subtotal	\$392,000	\$39,200	\$6,432		
7									
8	2016	√	GR-3	Dance Hall Creek BMPs	200,000	10,000	302	PSC, Greenfield, grants	
9			GR-4	Feedlot improvements: Dance Hall Creek	35,000	1,750		PSC, Greenfield, grants	Grouped under new project WW-2 (Opportunity Based)
10			GR-9	Buffer strips: Dance Hall Creek	35,000	1,750		PSC, Greenfield, grants	Grouped under new project WW-1 (Opportunity Based)
11			GR-11	Control carp population: other lakes	10,000	500		PSC, Greenfield, DNR, grants	Moved to 2020. Front-end assessments required.
12		√	IN-3	Lake Sarah curlyleaf pondweed treatment	32,000	3,200	8,986	PSC, Ind, Grfld, lake assn	
13		√	IN-4	Gully restorations: GS50 (design)	120,000	12,000	5,205	PSC, Independence, grants	
14			ME-4	Lake Ardmore neighborhood projects	80,000	8,000		PSC, Medina, grants	Redundant with new, specific CIPs resulting from SWA. 2017 ME1 project in 2018
15				Subtotal	\$512,000	\$37,200	\$14,493		
16									
17	2017	√	IN-5	Lake Sarah curlyleaf pondweed treatment	26,000	2,600	8,767	PSC, Indep, Grfld, lake assn	
18			IN-7	Rain gardens in targeted areas	75,000	7,500		PSC, Indep, property owners	Grouped under new project WW-1
19			IN-9	Shoreline restoration - Sarah and Independence	125,000	12,500		PSC, Ind, Grfld, Medina, property owners, grants	Grouped under new project WW-1
20			GR-4	Feedlot improvements: Dance Hall Creek	35,000	1,750		PSC, Greenfield, grants	Grouped under new project WW-2
21			GR-9	Buffer strips: Dance Hall Creek	35,000	1,750		PSC, Greenfield, grants	Grouped under new project WW-1
22			2017 IN-3	Wetland Restoration 1 Kazin Property	92,205	23,051		PSC, Indep, County Grant, NRCS, EQUIP	Project infeasible at this time, Property owner unwilling
23				Subtotal	\$388,205	\$49,151	\$8,767		
24									
25	2018		GR-3	Hafften, Schendel, Schwauppaufl BMPs	100,000	10,000		PSC, Greenfield, grants	Grouped under new project WW-1
26			IN-6	Lake Sarah curlyleaf pondweed treatment	28,000	8,000		PSC, Ind, Grfld, lake assn	To be completed in 2018
27			2017 ME-1	Ardmore Neighborhood Stormwater BMPs (4 projects)	87,850	58,317		PSC , City, grants	
28			MP-6	South Ravine cleanup	260,000	26,000		PSC, Maple Plain, grants	City Requested Removal, other projects are priority
29			2017 ME_IN-1	Baker Park Reserve Campground Ravine Stabiliza	485,000	10,500		PSC, cities, BWSR CWF Grant, county grant	To be completed in 2018
30			2018 IN-01	Lake Independence Carp Study Phase 1	\$20,000	\$5,000		\$15,000 TRPD	

31			2018 IN-04	Hydrologic Restora 95 - Koch Property Structure	\$51,205	\$12,800			
32				Subtotal	\$1,032,055	\$130,617			
33	2019	✓	ME-5	Sediment sampling in Lake Independence	18,500	1,850	Completed	PSC, Medina, Ind, TRPD	Completed in 2016 by UW Stout for TRPD. Comm did not share in cost.
34			2018 IN-02	Lake Independence Carp Study Phase 2	\$20,000	\$5,000		\$15,000 TRPD	
35			2017 IN-4	Wetland Restoration 18	559,205	139,801	Medium	PSC, Independence, County Grant, NRCS, EQUIP	
36				Subtotal	\$597,705	\$146,651			
37	2020		IN-8	Sediment sampling in Lake Sarah	12,000	1,200		PSC, Independence, Greenfield	
38			GR-11	Control carp population: Lake Sarah / other lakes	10,000	500		PSC, Greenfield, DNR, grants	
39			2018 MI-01	Whaletail South Alum Treatment	\$300,646	\$75,162			
40			IN-9	Shoreline restoration - Sarah and Independence	125,000	12,500		PSC, Ind, Med, Grfld, property owners, grants	Grouped with WW-1
41			GR-4	Feedlot improvements	35,000	1,750		PSC, Greenfield, grants	Grouped with WW-2
42			IN-2	Hydrologic restorations GS50 (install)	200,000	20,000		PSC, Independence, grants	Included in 2017 ME_IN-1, year 2018
43			ME-6	Tomahawk Trail wetland project	230,000	23,000		PSC, Medina, grants	Moved to 2021
44			2017 IN-1	JB Gully Stabilization	75,000	18,750	High	PSC, Ind, County, MPCA, Lake Assn	
45			2017 IN-5	Wetland Restoration 91	529,205	79,380	Low	PSC, Independence, County Grant, NRCS, EQUIP	
46			2017 IN-6	Wetland Restoration 105	543,205	81,481	Medium	PSC, Independence, County Grant, NRCS, EQUIP	
47			2017 IN-7	Seasonal Pond 77	10,420	2,605	High	PSC, Independence, County Grant	
48				Subtotal	\$2,070,476	\$316,328			
49	2021		ME-2	Lake Independence curlyleaf pondweed treatment	122,000	12,200		PSC, Med, Ind, lake assn	
50			ME-6	Tomahawk Trail wetland project	230,000	23,000		PSC, Medina, grants	
51				Subtotal	\$352,000	\$35,200			
52	2023		2018 IN-03	Lake Independence Alum Treatment	\$1,390,468	\$250,000			
53				Subtotal	\$1,390,468	\$250,000			
54	Ongoing Opportunity Based Projects - Watershed Wide								
55			WW-1	Stormwater BMPs / retrofits		\$10,000			
56			WW-2	Feedlot / Manure Management BMPs		\$10,000			
57			WW-3	Agricultural Practice BMPs		\$10,000			
58				Subtotal	\$0	\$30,000			
59	SPECIAL STUDIES								
60	2015	✓	MP-4	Ravine study	3,000	300	In Process	PSC, Maple Plain	

61	2015	√	ME-3	Lake Independence Subwatershed Assessment	15,000	1,500		PSC, Independence	Lake Sarah and Lake Independence Stormater Retrofit Analysys completed in 2014. Funded by HCD, Metro Conservation Dist, City of Independence, Anoka Conservation Dist, and Clean Water Fund. No funds provided by Comm.
62	2020		GR-1	Subw Assess-Hafften, Schendel, Schwauppauﬀ	20,000	1,000		PSC, Greenfield	
63				Subtotal	\$38,000	\$2,800			
64	OTHER PROJECTS COMPLETED								
65	2014			Dance Hall Creek SWA (GR-3 2016)					
66	2014			Lake Indepence Outlet Construction		\$427	\$427		
67	2014			Lake Independence Bullrush Restoration		\$1,308	\$1,308		
68	2015			Lake Independence Weir Construction at Outlet					
69	2016			Lake Ardmore Subwatershed Assessment					
70	2017			Greenfield Central Park BMPs				Spent from Special Proj Fund, not CIP	
71				SUBTOTAL		\$1,735	\$1,735		\$0
72									
73	No Year Assigned								
74			GR-3,4,9	Ongoing Dance Hall Creek BMPs				PSC, City, Grants	See WW-1
75			CIP-7	Lindgren Lane Pond	100,000	10,000			
76			CIP-8	Koch's/Mill's Creek Inlet Ponds (now HR 97 and 29)	200,000	20,000			
77			CIP-11	Manure Management Cost Share Projects	250,000	25,000			See WW-2
78		√	LO-1	Chippewa Road Drainage	21,000	2,100	Complete	Project completed by city in 2016 - \$21,710, No request for funds from Commission	
79			LO-2	Creekview Road Drainage	21,000	2,100			
80			LO-3	Retention Pond mapping and cleanup	10,000	1,000			Not under Commission Purview
81			LO-4	Ditch Cleaning at Ballpark	10,000	1,000			Not under Commission Purview
82			LO-5	Sediment Pond Cleanout	25,000	2,500			Not under Commission Purview
83			LO-6	Sediment Pond Cleanout	80,000	8,000			Not under Commission Purview
84			MP-1	Drainageway Cleaning – E of Budd	55,000	5,500			Not under Commission Purview
85			MP-2	Rock checks, Main St Ravine	23,700	2,370			Not under Commission Purview
86			MP-3	Washout, Main St Ravine	8,000	800			Not under Commission Purview
87			MP-5	North Ravine Cleanup	286,000	28,600			City requested removal
88				Subtotal	\$1,089,700	\$108,970			
89									
90									
91			TOTAL COST		\$7,350,609	\$1,110,652	\$16,934		
92	Other Related Local Projects, No Commission Contribution								
93			GR-2	Whisper Creek WWTP	\$500,000	\$ -			

HENNEPIN COUNTY

MINNESOTA

Recommendation to approve the amendment to the Pioneer-Sarah Creek Watershed Management Commission's Watershed Management Plan

Purpose

The purpose of this report is to inform the county board of staff's review and recommendations to approve a proposed minor plan amendment to the Pioneer-Sarah Creek Watershed Management Commission's (Commission) Watershed Management Plan (Plan).

Staff review and recommendations

Hennepin County Environment and Energy staff reviewed the Commission's proposed minor plan amendment and found it to be consistent with the Surface Water Management section of the Hennepin County 2030 Comprehensive Plan Update and the Hennepin County Natural Resources Strategic Plan.

The Commission will hold a public hearing regarding the proposed minor plan amendment at its regular meeting on June 21, 2018. **No public comment was received on the proposed amendment as of June 11, 2018.**

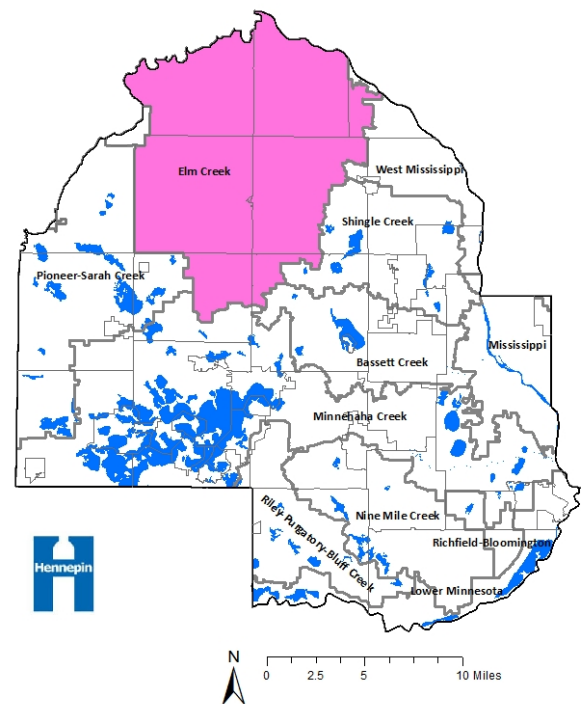
Staff recommends that the Board approve this minor plan amendment.

Background

The Pioneer-Sarah Creek watershed is located in the western part of the county and includes portions of the cities of Greenfield, Independence, Loretto, Maple Plain, Medina, and Minnetrista (Figure 1).

The Commission has proposed a minor plan amendment to revise the Plan's Capital Improvement Program (CIP). Pursuant to Minnesota Statutes Section 103B.231, subd. 7, the Commission

Figure 1. Pioneer-Sarah Creek Watershed



forwarded the proposed amendment to the county for review and action on water quality projects in the CIP where it may seek to certify funding to implement the water quality projects under Minnesota Statutes Section 103B.251.

The amendment adds sixteen new water quality projects to the Plan's CIP.

New project

1. Ardmore Neighborhood Stormwater BMPs (Medina) will install four best management practices on property controlled by the City of Medina in the Lake Ardmore Subwatershed. They were identified as high priority projects in the urban portion of the subwatershed in the Ardmore Area Subwatershed Assessment completed in 2017. The project will reduce phosphorus pollution to Lake Independence by about 8 pounds per year as well as reduce sediment transport to Lake Ardmore. The estimated cost of the project is \$87,850 with the Commission's share being \$58,317. This project is planned for 2018. The remainder of the project cost will be covered by grants and by the City of Medina.
2. Lake Independence Carp Study, Phase 1 (Independence and Medina) will assess the population of carp in Lake Independence and track movement patterns of carp within the Lake, install carp barriers to prevent spawning, and remove carp from the lake to below the ecological threshold necessary to reduce internal phosphorus loading of the Lake. The estimated cost of the project is \$20,000 with the Commission's share being \$5,000. This project is planned for 2018. The remainder of the project cost will be covered by Three Rivers Park District.
3. Hydrologic Restoration 95 – Koch Property (Independence) will install a berm and outlet control structure to a partially drained site. This will increase water levels to pre-settlement levels, increasing the watershed capacity for water storage and filtration before reaching downstream resources. The estimated cost of the project is \$27,500 with the Commission's share being \$6,875. This project is planned for 2018. The remainder of the project cost will be covered by County and NRCS grant funds and by the City of Independence.
4. Lake Independence Carp Study, Phase 2 (Independence and Medina) will assess the population of carp in Lake Independence and track movement patterns of carp within the Lake, install carp barriers to prevent spawning, and remove carp from the lake to below the ecological threshold necessary to reduce internal phosphorus loading of the Lake. The estimated cost of the project is \$20,000 with the Commission's share being \$5,000. This project is planned for 2019. The remainder of the project cost will be covered by Three Rivers Park District.
5. Wetland Restoration 18 (Independence) will install a channel weir control structure to increase water levels to pre-settlement levels. This will increase the watershed capacity for water storage and filtration before reaching downstream resources. The estimated cost of the project is \$559,205 with the Commission's share being \$139,801. This project is planned for 2019. The remainder of the project cost will be covered by County and NRCS grant funds and by the City of Independence.
6. Control Carp Population: Lake Sarah/Other Lakes (Greenfield and Independence, or other location) will assess the population of carp in Lake Independence and track movement patterns of carp within the Lake, install carp barriers to prevent spawning, and remove carp from the lake to below the ecological threshold necessary to reduce internal phosphorus loading of the Lake. The estimated cost of the project is \$10,000 with the Commission's share being \$500. This project is planned for 2020. The remainder of the project cost will be covered by DNR and County grants and by the City of Greenfield.
7. Whaletail South Alum Treatment (Minnetrista) will significantly reduce the release of phosphorus from accumulated sediment during anoxic conditions through the application of aluminum sulfate (alum). The control of internal load in South Whaletail Lake is necessary to achieve water quality standards. The estimated cost of the project is \$300,646 with the Commission's share being \$75,162. This project is planned for 2020. The remainder of the project cost will be covered by State and County grant funds.
8. JB Gully Stabilization (Independence) will stabilize 700 feet of actively eroding gully using bioengineering techniques, rock cross vanes, rip-rap, and re-grading, and revegetation. The gully is eroding directly into Lake Sarah, contributing to sediment and nutrient pollution. The estimated cost of the project is \$75,000 with the Commission's share being \$18,750. This project is planned for 2020. The remainder of the project cost will be covered by state and county grant funds and by the City of Independence and the Lake Association.

9. Wetland Restoration 91 (Independence) will install a channel weir control structure to increase water levels to pre-settlement levels. This will increase the watershed capacity for water storage and filtration before reaching downstream resources. The estimated cost of the project is \$529,205 with the Commission's share being \$79,380. This project is planned for 2020. The remainder of the project cost will be covered by County and NRCS grant funds and by the City of Independence.
10. Wetland Restoration 105 (Independence) will install a box weir control structure to increase water levels to pre-settlement levels. This will increase the watershed capacity for water storage and filtration before reaching downstream resources. The estimated cost of the project is \$543,205 with the Commission's share being \$81,481. This project is planned for 2020. The remainder of the project cost will be covered by County and NRCS grants and by the City of Independence.
11. Seasonal Pond 77 (Independence) will install a control structure to allow the landowner full control of water levels, allowing the pond to retain water after harvest in the fall until spring planting. The estimated cost of the project is \$10,420 with the Commission's share being \$2,605. This project is planned for 2020. The remainder of the project cost will be covered by County grant funds and by the City of Independence.
12. Lake Independence Curlyleaf Pondweed Treatment (Independence and Medina) will assess levels of curlyleaf pondweed to determine if treatment is necessary to reduce internal nutrient loading. The estimated cost of the project is \$122,000 with the Commission's share being \$12,200. This project is planned for 2021. The remainder of the project cost will be covered by the City of Medina and the Lake Independence Citizens Association.
13. Tomahawk Trail Wetland Project (Medina) will install an iron-enhanced filter system and treat a wetland with alum prior to the inlet to Half Moon Lake. This project may also include wetland restoration. The estimated cost of the project is \$230,000 with the Commission's share being \$23,000. This project is planned for 2021. The remainder of the project cost will be covered by grants and by the City of Medina.
14. Opportunity-based watershed-wide Project - Stormwater BMPs/Retrofits (Entire Watershed) would fund projects on public and private land as opportunities arise to reduce nutrient loading to all area lakes. Several projects are being removed from the CIP and grouped into this opportunity-based Project. The Commission anticipates making \$10,000 available for this project beginning in 2021 from the CIP fund. A match of 75% will be expected from project applicants and benefitting member cities.
15. Opportunity-based watershed-wide Project – Feedlot/Manure Management BMPs (Entire Watershed) would fund projects on public and private land as opportunities arise to reduce nutrient runoff from feedlots and other livestock operations through manure management practices. Several projects are being removed from the CIP and grouped into this opportunity-based Project. The Commission anticipates making \$10,000 available for this project beginning in 2021 from the CIP fund. A match of 75% will be expected from project applicants and benefitting member cities.
16. Opportunity-based watershed-wide Project - Agricultural BMPs (Entire Watershed) would fund projects on public and private land as opportunities arise to reduce nutrient runoff from agricultural land through implementation of best practices. Several projects are being removed from the CIP and grouped into this opportunity-based Project. The Commission anticipates making \$10,000 available for this project beginning in 2021 from the CIP fund. A match of 75% will be expected from project applicants and benefitting member cities.

The amendment will remove nine projects because they have already been completed:

1. Lake Ardmore Infiltration Basin Project, Medina (completed in 2014)
2. Lake Sarah Curlyleaf Pondweed Treatment Project (completed in 2014 and 2015)
3. Dance Hall Creek BMPs Project (1 project completed in 2016)
4. Lake Sarah Curlyleaf Pondweed Treatment Project (completed in 2016)
5. Gully Restoration: GS50 Project (design completed in 2017)
6. Lake Sarah Curlyleaf Pondweed Treatment Project (completed in 2017)
7. Sediment Sampling in Lake Independence Project (completed by Three Rivers Park District in 2016)
8. Ravine Study – Baker Park Campground Study (completed in 2016)
9. Lake Independence Subwatershed Assessment Study (completed in 2014)

The amendment will remove eleven projects for other reasons, as noted:

1. Hydrologic Restorations HR 67, 68, 29, 33 Project will be removed because the project were determined to be infeasible or because landowners were not interested in participating.
2. Lake Independence Curlyweed Pond Treatment (2015) Project was deemed to be unnecessary at this time after assessment.
3. Feedlot Improvement: Dance Hall Creek Project will be removed, but projects will be considered as opportunities arise under new project 15, above.
4. Buffer Strips: Dance Hall Creek Project will be removed, but projects will be considered as opportunities arise under new project 14 or 16, above.
5. Lake Ardmore Neighborhood Project will be removed because it has been re-submitted as new project 1, above.
6. Raingardens in Targeted Areas Project will be removed, but project will be considered as opportunities arise under new project 14, above.
7. Wetland Restoration 1 (Kazin Property) Project will be removed because the impacted landowners are not interested in participating.
8. Hafften, Schendel, Schwaupauuff BMP Project will be removed, but projects will be considered as opportunities arise under new projects 14 and 16, above.
9. South Ravine Cleanup Project will be removed at the request of the City of Maple Plain.
10. Shoreline Restoration – Lake Sarah and Independence Project will be removed but projects will be considered as opportunities arise under new project 14, above.
11. Hydrologic Restoration GS50 (install) will be removed because this project has been resubmitted as new project 2017 ME_IN-1 through a 2017 minor plan amendment.

The amendment moves two project to future years:

1. Tomahawk Trail Wetland Project will be moved from 2020 to 2021.
2. Control Carp Population: Other Lakes Project will be moved from 2016 to 2020 to allow time for initial assessment required leading up to a carp removal project.

Contact

Karen Galles, Supervising Environmentalist – Land and Water Unit

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June 2018

PIONEER-SARAH CREEK WATERSHED MANAGEMENT COMMISSION**RESOLUTION NO. 2018-01****ADOPTING A MINOR PLAN AMENDMENT TO THE THIRD GENERATION PLAN
REVISING THE CAPITAL IMPROVEMENT PROGRAM**

WHEREAS, on May 21, 2015, the Pioneer-Sarah Creek Watershed Management Commission (the "Commission") adopted the Pioneer-Sarah Creek Third Generation Watershed Management Plan (the "Plan"); and

WHEREAS, the Plan includes a Capital Improvement Program ("CIP"); and

WHEREAS, the Commission has proposed a Minor Plan Amendment that would add sixteen new water quality projects to the CIP; and

WHEREAS, the proposed Minor Plan Amendment would also remove nine projects that have already been completed; and

WHEREAS, the proposed Minor Plan Amendment would also remove eleven projects for various other reasons; and

WHEREAS, the proposed Minor Plan Amendment would also move two projects to future years; and

WHEREAS, the Minnesota Board of Water and Soil Resources on _____, 2018 did approve proceeding as a Minor Plan Amendment; and

WHEREAS, the proposed Minor Plan Amendment has been reviewed in accordance with the requirements of Minnesota Statutes, Section 103B.231; and

WHEREAS, the Commission has determined that it would be reasonable and appropriate and in the public interest to adopt the Minor Plan Amendment.

NOW, THEREFORE, BE IT RESOLVED, by the Board of Commissioners of the Pioneer-Sarah Creek Watershed Management Commission that:

1. The Minor Plan Amendment is approved and adopted, subject to Hennepin County review.
2. Commission staff is directed to notify appropriate parties of the Amendment to the Plan.

Adopted by the Board of Commissioners of the Pioneer-Sarah Creek Watershed

Management Commission this twenty-first day of June, 2018.

Chair

ATTEST:

Recording Secretary

**STATE OF MINNESOTA
COUNTY OF HENNEPIN**

I, Amy A. Juntunen, do hereby certify that I am the custodian of the minutes of all proceedings had and held by the Board of the Pioneer-Sarah Creek Watershed Management Commission, that I have compared the above resolution with the original passed and adopted by the Board of said Commission at a regular meeting thereof held on the twenty-first day of June, 2018, at 6:00 p.m., that the above constitutes a true and correct copy thereof, that the same has not been amended or rescinded and is in full force and effect.

IN WITNESS WHEREOF, I have hereunto placed my hand and signature this twenty-first day of June, 2018.

Amy A. Juntunen
Recording Secretary

(NO SEAL)

Pioneer-Sarah Creek Watershed
Income Statement
Compared with Budget
For the Twelve Months Ending December 31, 2017

	Year to Date Actual 2017	Year to Date Budget 2017	Year to Date Variance 2017	2018 Budget	Draft 2019 Budget
Revenues					
Member Dues	\$ 105,700.00	\$ 105,700.00	0.00	\$ 100,000.00	\$ 100,000.00
Project Review Fees	3,150.00	5,000.00	(1,850.00)	5,000.00	4,000.00
CIP Income	28,000.00	28,000.00	0.00	28,000.00	28,000.00
WRAPP Income	10,593.01	0.00	10,593.01		
WCA Escrow Earned	8,566.44	0.00	8,566.44		
WCA Adm Fees	850.00	500.00	350.00	500.00	500.00
Interest and Dividend Income	2,034.11	41.00	1,993.11	270.00	1,570.00
Total Revenues	158,893.56	139,241.00	19,652.56	133,770.00	134,070.00
Expenses					
Engineering/Consulting	15,636.85	23,000.00	7,363.15	23,600.00	24,190.00
Administrative Expense	32,082.35	36,000.00	3,917.65	36,000.00	36,000.00
Adm-Project Reviews	552.18	1,000.00	447.82	1,000.00	750.00
Adm-CIP Mgmt	1,575.70	0.00	(1,575.70)	0.00	3,000.00
WCA - Admin/Legal Expenses	160.06	500.00	339.94	500.00	300.00
Adm - Tech Support	454.64	750.00	295.36	750.00	550.00
Legal Expense	106.46	500.00	393.54	500.00	500.00
Audit Expense	4,000.00	4,080.00	80.00	4,150.00	4,500.00
Insurance	2,982.00	3,370.00	388.00	3,500.00	3,500.00
Website	1,103.40	2,240.00	1,136.60	2,240.00	1,800.00
Adm - General Programs	0.00	500.00	500.00	500.00	500.00
TAC Meetings	696.29	4,000.00	3,303.71	4,000.00	3,000.00
Lakes Monitoring - TRPD	3,700.00	3,703.00	3.00	5,180.00	8,100.00
Lakes Monitoring - CAMP	550.00	576.00	26.00	550.00	760.00
Stream Monitoring	6,120.00	10,802.00	4,682.00	7,600.00	7,120.00
Education	920.75	6,120.00	5,199.25	6,120.00	4,500.00
Education-Events	0.00	500.00	500.00	500.00	500.00
Invertebrate Monitoring	0.00	1,500.00	1,500.00	1,000.00	500.00
Grant Writing	0.00	1,100.00	1,100.00	1,000.00	1,000.00
Plan Amendment	190.67	1,000.00	809.33	900.00	1,000.00
Third Gen - Admin	593.33	0.00	(593.33)		
Special Projects	0.00	5,000.00	5,000.00	6,000.00	4,000.00
WRAPP	2,630.95	0.00	(2,630.95)		
Capital Improvement Project	8,767.17	33,000.00	24,232.83	28,180.00	28,000.00
Greenfield Central Park	3,500.00	0.00	(3,500.00)		
Total Expenses	86,322.80	139,241.00	(52,918.20)	133,770.00	134,070.00
Net Income	\$ 72,570.76	\$ 0.00	72,570.76	\$ 0.00	\$ 0.00

Pioneer-Sarah Creek Watershed Management Commission

Proposed 2019 Member Assessments

	2016 Market Value PSC Basin	Increase in MV over Prev Year	2017 Op Budget		Increase over Prev Year	
2017 Approved			%age	Amount	%age	Amount
Greenfield	394,071,759	5.00%	29.12%	38,929.51	3.85%	1,442.20
Independence	510,583,968	1.09%	37.73%	50,439.50	-0.01%	(5.77)
Loretto	54,109,610	5.41%	4.00%	5,345.37	4.26%	218.42
Maple Plain	105,529,093	7.65%	7.80%	10,424.99	6.47%	633.95
Medina	152,170,132	2.63%	11.24%	15,032.56	1.51%	223.89
Minnetrista	136,940,498	1.84%	10.12%	13,528.06	0.72%	97.32
TOTALS	1,353,405,060	3.12%	100.00%	133,700.00	1.99%	2,610.00
	2017 Market Value PSC Basin	Increase in MV over Prev Year	2018 Op Budget		Increase over Prev Year	
2018			%age	Amount	%age	Amount
Greenfield	418,807,770	6.28%	29.25%	37,440.16	-3.83%	(1,489.34)
Independence	537,355,542	5.24%	37.53%	48,037.98	-4.76%	(2,401.52)
Loretto	55,695,940	2.93%	3.89%	4,979.05	-6.85%	(366.32)
Maple Plain	109,218,243	3.50%	7.63%	9,763.78	-6.34%	(661.21)
Medina	158,506,367	4.16%	11.07%	14,170.00	-5.74%	(862.57)
Minnetrista	152,231,289	11.17%	10.63%	13,609.02	0.60%	80.96
TOTALS	1,431,815,151	5.79%	100.00%	128,000.00	-4.26%	(5,700.00)
	2018 Market Value PSC Basin	Increase in MV over Prev Year	2019 Op Budget		Increase over Prev Year	
Proposed 2019			%age	Amount	%age	Amount
Greenfield	368,183,516	-12.09%	25.49%	32,625.08	-12.86%	(4,815.08)
Independence	558,624,135	3.96%	38.67%	49,500.20	3.04%	1,462.22
Loretto	61,598,085	10.60%	4.26%	5,458.26	9.62%	479.21
Maple Plain	118,116,948	8.15%	8.18%	10,466.45	7.20%	702.67
Medina	167,463,487	5.65%	11.59%	14,839.09	4.72%	669.10
Minnetrista	170,530,950	12.02%	11.81%	15,110.91	11.04%	1,501.88
TOTALS	1,444,517,121	0.89%	100.00%	128,000.00	0.00%	0.00

Contract No. 18R020

**INTERGOVERNMENTAL AGREEMENT BETWEEN THE
METROPOLITAN COUNCIL AND THE
PIONEER - SARAH WATERSHED MANAGEMENT COMMISSION**

THIS AGREEMENT is made and entered into by and between the Metropolitan Council (the "Council") and the Pioneer - Sarah Watershed Management Commission (the "Watershed"), each acting by and through its duly authorized officers.

THE ABOVE-NAMED PARTIES hereby agree as follows:

I. GENERAL SCOPE OF AGREEMENT

The Council and the Watershed agree to undertake a volunteer lake monitoring study in order to provide an economical method of broadening the water quality database on lakes in the Twin Cities Metropolitan Area.

II. SPECIFIC SCOPE OF SERVICES

2.01 Lake Monitoring Program. The Watershed and the Council agree to jointly undertake a volunteer lake monitoring program as specified below:

a. General Purposes of Program. The volunteer lake monitoring program involves the use of citizen-scientist volunteers to monitor lakes in the Twin Cities Metropolitan Area. The volunteers will collect surface water samples which will be analyzed for total phosphorus (TP), total Kjeldahl nitrogen (TKN), and chlorophyll-a (CLA). In addition, the volunteers will measure surface water temperature, water transparency, and fill out a monitoring form that describes the lake and weather conditions at the time of the monitoring event. Lakes will be visited from April through October of 2018 (the "Monitoring Period") for the number of times and at the approximate intervals specified in paragraph (b) below. Each lake will be sampled at the location as indicated on the site location map provided by the Council. The Council will arrange for chemical analysis of the samples either through its own laboratory or an outside laboratory.

b. Specific Lakes Involved. The following lakes and specific lake site(s) listed below will be involved in the Council's Citizen-Assisted Lake Monitoring Program (CAMP) in 2018.

Lake name	DNR ID#	Number of monitoring events	Approximate monitoring interval	Quantity of new kits
Hafften	27-0199	8 to 14	Biweekly	0

2.02 Watershed Responsibilities. The Watershed agrees that it will have sole responsibility for:

- a. Recruiting volunteers (who have access to a boat) to monitor the lakes the Watershed wishes to involve in the program as listed in section 2.01(b) above.
- b. Providing the Council and/or volunteers with needed lake information such as lake bathymetric maps and access locations.
- c. Paying for the laboratory analysis cost of the samples collected by volunteers which cost is included in the amounts specified in Article III below.
- d. Ensuring that the volunteers participate in the training program and follow CAMP methods and procedures.
- e. Ensuring that the volunteers fill out a monitoring form during each monitoring event.
- f. Picking up the samples and the lake monitoring forms from their volunteers and delivering those items to the Watershed's central storage location. The Watershed will be responsible for providing the central storage location. The central storage location can be a Council facility, but the Watershed will be required to deliver the samples and monitoring forms to this facility. The samples are required always to be frozen.
- g. Storing its volunteers' samples until picked up by Council staff. The samples are required always to be frozen.
- h. Maintaining, storing, and restocking its monitoring kits.
- i. Delivering and picking up its monitoring kits to and from their volunteers.

2.03 Council Responsibilities. The Council agrees that it will:

- a. Organize the survey.
- b. Provide training for the volunteers.
- c. Pick up the samples and lake monitoring forms from the Watershed's central storage location and deliver them to the laboratory at approximately 2-month intervals starting in June.
- d. Review the results of the monitoring data.
- e. Prepare a final report containing the physical, chemical, and biological data obtained during the Monitoring Period and a brief analysis of the data.

- f. Provide quality control by collecting lake samples from random lakes involved in the volunteer program. The resulting parameter values will then be compared to the volunteers' results to determine if any problems exist involving the volunteer's monitoring activities and what should be done to correct the problem.
- g. Provide and deliver to the Watershed the expendable monitoring items (e.g. sample containers, labels, filters, aluminum sheets, zip-style plastic bags, and lake monitoring forms). The expendable monitoring items will be delivered in the weeks preceding the start of the monitoring season. The cost of the expendable monitoring items is included in the annual participation fee.

III. COMPENSATION; METHOD OF PAYMENT

3.01 Payment to Council. For all labor performed and reimbursable expenses incurred by the Council under this agreement during the Monitoring Period, the Watershed agrees to pay the Council the following amounts per lake site listed in section 2.01(b). The participation fee will be billed for the contracted amount regardless whether the volunteer collects samples from or monitors a lake site fewer times than the contracted quantity.

Number of Monitoring events	Participation Fee (excludes monitoring equipment)
8 to 14	\$550
1 to 7	\$280

For lake sites requiring monitoring equipment, the cost for a kit of monitoring equipment is \$150 per kit.

3.02 Payment Schedule. Payment of the total amount owing to the Council by the Watershed shall be made by October 30, 2018. An invoice specifying the amount owed by the Watershed will be sent under separate cover.

3.03 Additional Analyses. The total amount specified in paragraph 3.01 does not include the cost of any additional analyses requested by the Watershed, such as analysis of bottom samples. The Council will carry out any such additional analyses at the request of the Watershed and subject to the availability of Council resources for carrying out such analyses. The Council will bill the Watershed after the end of the Monitoring Period for any such additional analyses at the Council's actual cost, and the Watershed will promptly reimburse the Council for any such costs billed. The costs for additional analyses are provided in Exhibit A.

3.04 Replacement of Durable Equipment. The total amount specified in paragraph 3.01 does not include the cost of replacing durable monitoring equipment, such as thermometers, Secchi disks, filter holders, hand pumps, graduated cylinders, sampling jugs, forceps, and tote boxes. The Council will provide and deliver durable monitoring equipment that needs replacement upon request from the Watershed. The Council will bill the Watershed for any such replaced durable

monitoring equipment at the Council's actual cost, and the Watershed will promptly reimburse the Council for any such costs billed.

IV. GENERAL CONDITIONS

4.01 Period of Performance. The services of the Council will commence on April 1, 2018, and will terminate on March 30, 2019, or following work completion and payment, whichever occurs first.

4.02 Amendments. The terms of this agreement may be changed only by mutual agreement of the parties. Such changes will be effective only on the execution of written amendment(s) signed by duly authorized officers of the parties to this agreement.

4.03 Watershed Personnel. Judie Anderson, or such other person as may be designated in writing by the Watershed, will serve as the Watershed's representative and will assume primary responsibility for coordinating all services with the Council.

Judie Anderson
Pioneer - Sarah Watershed Management Commission
3235 Fernbrook Lane
Plymouth, MN 55447
763-553-1144

4.04 Council's Contract Manager. The Council's Contract Manager for purposes of administration of this agreement is Brian Johnson, or such other person as may be designated in writing by the Council's Regional Administrator. The Council's Contract Manager will be responsible for coordinating services under this agreement. However, nothing in this agreement will be deemed to authorize the Contract Manager to execute amendments to this agreement on behalf of the Council.

Brian Johnson
Metropolitan Council
2400 Childs Road
St. Paul, MN 55106
651-602-8743

4.05 Equal Employment Opportunity; Affirmative Action. The Council and the Watershed agree to comply with all applicable laws relating to nondiscrimination and affirmative action. In particular, the Council and the Watershed agree not to discriminate against any employee, applicant for employment, or participant in this study because of race, color, creed, religion, national origin, sex, marital status, status with regard to public assistance, membership or activity in a local commission, disability, sexual orientation, or age; and further agree to take action to assure that applicants and employees are treated equally with respect to all aspects of employment, including rates of pay, selection for training, and other forms of compensation.

4.06 Liability. Each party to this agreement shall be liable for the acts and omissions of itself and its officers, employees, and agents, to the extent authorized by law. Neither party shall be

liable for the acts or omissions of the other party or the other party's officers, employees or agents. Nothing in this agreement shall be deemed to be a waiver by either party of any applicable immunities or limits of liability including, without limitation, Minnesota Statutes, sections 3.736 (State Tort Claims) and chapter 466 (Municipal Tort Claims).

4.07 Copyright. No reports or documents produced in whole or in part under this agreement will be the subject of an application for copyright by or on behalf of the Council or Watershed.

4.08 Termination of Agreement. The Council and the Watershed will both have the right to terminate this agreement at any time and for any reason by submitting written notice of the intention to do so to the other party at least thirty (30) days prior to the specified effective date of such termination. In the event of such termination, the Council shall retain a pro-rata portion of the amounts provided for in Article III, based on the number of monitoring events occurring for each lake before termination versus the total monitoring events specified for each lake. The balance of the amounts will be refunded by the Council to the Watershed.

4.09 Force Majeure. The Council and the Watershed agree that the Watershed shall not be liable for any delay or inability to perform this agreement, directly or indirectly caused by, or resulting from, strikes, labor troubles, accidents, fire, flood, breakdowns, war, riot, civil commotion, lack of material, delays of transportation, acts of God or other cause beyond reasonable control of Council and the Watershed.

4.10 Audits. Pursuant to Minn. Stat. Section 16C.05, Subd. 5, the books, records, documents, and accounting procedures and practices of Provider relative to this agreement shall be subject to examination by the Watershed and the State Auditor. Complete and accurate records of the work performed pursuant to this agreement shall be kept by provider for a minimum of six (6) years following termination of this agreement for such auditing purposes. The retention period shall be automatically extended during the course of any administrative or judicial action involving the Watershed regarding matters to which the records are relevant. The retention period shall be automatically extended until the administrative or judicial action is finally completed or until the authorized agent of the Watershed notifies Provider in writing that the records need no longer be kept.

4.11 Relationship of Parties and their Employees. Nothing contained in this agreement is intended, or should be construed, to create the relationship of co-partners or a joint venture between the Council and the Watershed. No tenure or any employment rights including worker's compensation, unemployment insurance, medical care, sick leave, vacation leave, severance pay, retirement, or other benefits available to the employees of one of the parties, including indemnification for third party personal injury/property damage claims, shall accrue to employees of the other party solely by the fact that an employee performs services under this agreement.

4.12 Severability. If any part of this agreement is rendered void, invalid or unenforceable such rendering shall not affect the remainder of this agreement unless it shall substantially impair the value of the entire agreement with respect to either party. The parties agree to substitute for the invalid provision a valid provision that most closely approximates the intent of the invalid provision.

IN WITNESS WHEREOF, the parties have caused this agreement to be executed by their duly authorized representatives on the dates set forth below. This agreement is effective upon final execution by, and delivery to, both parties.

**PIONEER - SARAH WATERSHED
MANAGEMENT COMMISSION**

Date _____

By _____

Name _____

Its _____

METROPOLITAN COUNCIL

Date _____

By _____

Name _____
Water Resources Assistant Manager

EXHIBIT A

Metropolitan Council Environmental Services Laboratory Prices for Additional Analyses		
Parameter	Laboratory Code	Price (per sample)
Nutrients (TP & TKN)	NUT-AHLV	\$15.25
Chlorophyll	CLA-TR-CS	\$15.50
Phosphorus	P-AHLV	\$15.25
Chloride	CL-AV	\$15.75
Ortho-phosphorus	ORTHO-AV	\$15.50
Hardness	HARD-AV	\$7.25
Alkalinity	ALK-AV	\$13.50
Sulfate	SO4-ICV	\$13.50
Metals (Cd, Cr, Cu, Pb, Ni, Zn)	MET-MSV	\$36.00
Individual metal/mineral (e.g. Fe)	XX-MSV	\$6.00 (per element)
A parameter not on this list		Contact the Council's Contract Manager for specific pricing.

**COOPERATIVE WATER RESOURCES MANAGEMENT
PROJECT JOINT POWERS AGREEMENT
BETWEEN**

**Three Rivers Park District, City of Independence, City of Medina,
Pioneer and Sarah Creek Watershed Management Commission, and
Lake Independence Citizens Association**

1. PARTIES

The City of Independence (hereinafter referred to as "Independence"), the City of Medina (hereinafter referred to as "Medina"), the Pioneer and Sarah Creek Watershed Management Commission (hereinafter referred to as "the Commission"), and the Three Rivers Park District (hereinafter referred to as "the Park District"), all being governmental units of the State of Minnesota, and acting through their respective governing bodies, hereby enter into this Joint Powers Agreement ("Agreement"). Independence, Medina, the Commission, and the Park District from time to time may be referred to hereinafter as "the Parties."

2. PURPOSE

Independence, Medina, the Park District, and the Commission recognize that intergovernmental cooperation in achieving the phosphorus watershed load reductions called for in the Lake Independence TMDL to improve water quality in Lake Independence is in the mutual interest of the Parties, the citizens of Hennepin County, and the metropolitan area. The Parties enter into this Agreement to facilitate the improvement of Lake Independence water quality through the implementation of the Baker Campground Ravine Stabilization project.

3. AUTHORITY

The parties enter into this agreement pursuant to Minn. Stat. § 471.59, regarding joint exercise of powers which allows two or more governmental units, by agreement entered into through action of their governing bodies, to jointly or cooperatively exercise any power common to the contracting parties or any similar powers, including those which are the same except for the territorial limits within which they may be exercised.

4. DUTIES OF THE PARK DISTRICT

The Park District will be responsible for:

- a. Preparation of the Clean Water Fund project work plan and grant agreement and delivering the grant agreement to the Commission for signature.

- b. Securing regulatory permits from the U.S. Army Corp of Engineers and the Minnesota Department of Natural Resources to allow the project to proceed.
- c. Leading a project coordinating committee to facilitate communication about the project and manage project execution.
- d. Securing the services of a qualified contractor to execute the Baker Campground Ravine Stabilization Project. The Park District will go through a formal bidding process as per Minnesota Statutes Section 471.345 to select and hire the contractor.
- e. Securing a fully executed contract between the selected contractor, the Park District, and the Commission to carry out the project.
- f. Provide coordination with, and supervision of, the contractor to assure the project is constructed/implemented according to the approved design/specification plans.
- g. Coordinate the invoicing process for the work, including review of the invoices from the contractor and forwarding of the contractor invoices to the Commission for payment consistent with the project contracts.
- h. Preparation of project reports as required by the granting agency.
- i. Providing a cash contribution of 23% of the non-grant cost of the project up to \$10,500 as the Park District's share of the capital cost of the project.

5. DUTIES OF THE COMMISSION,

The Commission will be responsible for:

- a. Acting as the signatory for the Clean Water Fund grant contract with the Board of Soil and Water Resources (BWSR) as well as being party to a fully executed contract between the selected contractor, the Park District and the Commission to carry out the project.
- b. Acting as the Fiscal Agent for the Clean Water Fund grant. This includes receipt and management of CWF grant funds issued by BWSR for the project as per the terms of the grant contract, prompt payment of invoices received by the contractor, invoicing the Parties to pay their share of the project cash cost (as specified in Sections 4i.) and 6c.), and such other duties as are required for the successful fiscal management of the Project.

- c. Providing a cash contribution of 23% of the non-grant cost of the project up to a maximum of \$10,500 as the Commission's share of the capital cost of the project.
- d. Designation of one individual to represent the Commission on the coordinating committee for the Project.
- e. Assuring timely and responsive participation from that individual.

6. DUTIES OF THE CITY OF INDEPENDENCE AND MEDINA

- a. Designation of one individual from each city to represent Independence and Medina on the coordinating committee for the Project.
- b. Assuring timely and responsive participation from that individual.
- c. Each City will provide a cash contribution of 23% of the non-grant cost of the project up to \$10,500 as its share of the capital cost of the project. It is anticipated that the Cities will work with the Lake Independence Citizen's Association (LICA) to reach agreement on a contribution from that organization to defray a portion of this local cost share.

7. AMENDMENT

Any amendment to this agreement must be in writing and approved by the Parties. The Parties shall have full power to amend this agreement to add or delete items from the scope of this agreement upon such terms as are agreed to between the Parties.

8. TERMINATION

This agreement will terminate upon completion of the Baker Campground Ravine Stabilization project or on December 31, 2020, whichever comes first. Notwithstanding, this Agreement shall terminate in the event the State of Minnesota terminates the Grant Agreement with the Commission. In the event of termination, all parties will pay pro rata for that portion of the Project completed in accordance with Sections 4 and 5.

IN WITNESS WHEREOF, the parties have caused this joint powers agreement executed and effective as of the date of signature of the last party to the agreement.

City of Independence

Dated: _____,

(Name), (position)

City of Medina

Dated: _____,

(Name), (position)

Pioneer and Sarah Creek Watershed Management
Commission

Dated: _____,

Joe Baker, Chair

Judie A. Anderson, Exec. Secretary

THREE RIVERS PARK DISTRICT

Dated: _____,

John Gunyou, Chair

Boe Carlson, Superintendent
and Secretary to the Board



CONNECTING & INNOVATING
SINCE 1913

LIABILITY COVERAGE – WAIVER FORM

LMCIT members purchasing coverage must complete and return this form to LMCIT before the effective date of the coverage. Please return the completed form to your underwriter or email to pstech@lmc.org

This decision must be made by the member's governing body every year. You may also wish to discuss these issues with your attorney.

League of Minnesota Cities Insurance Trust (LMCIT) members that obtain liability coverage from LMCIT must decide whether to waive the statutory tort liability limits to the extent of the coverage purchased. The decision has the following effects:

- *If the member does not waive the statutory tort limits*, an individual claimant would be able to recover no more than \$500,000 on any claim to which the statutory tort limits apply. The total all claimants would be able to recover for a single occurrence to which the statutory tort limits apply would be limited to \$1,500,000. These statutory tort limits apply regardless of whether the city purchases the optional excess liability coverage.
- *If the member waives the statutory tort limits and does not purchase excess liability coverage*, a single claimant could potentially recover up to \$2,000,000 for a single occurrence. (Under this option, the tort cap liability limits are waived to the extent of the member's liability coverage limits, and the LMCIT per occurrence limit is \$2 million.) The total all claimants would be able to recover for a single occurrence to which the statutory tort limits apply would also be limited to \$2,000,000, regardless of the number of claimants.
- *If the member waives the statutory tort limits and purchases excess liability coverage*, a single claimant could potentially recover an amount up to the limit of the coverage purchased. The total all claimants would be able to recover for a single occurrence to which the statutory tort limits apply would also be limited to the amount of coverage purchased, regardless of the number of claimants.

Claims to which the statutory municipal tort limits do not apply are not affected by this decision.

Pioneer - Saich Creek Watershed
LMCIT Member Name Management Commission

Check one:

☒ The member **DOES NOT WAIVE** the monetary limits on municipal tort liability established by Minnesota Statutes, Section 466.04.

☐ The member **WAIVES** the monetary limits on municipal tort liability established by Minnesota Statutes, Section 466.04 to the extent of the limits of the liability coverage obtained from LMCIT.

Date of city council/governing body meeting June 21, 2018

Signature _____ Position _____



Clean Water Partnership loans

The Clean Water Partnership (CWP) program offers zero-interest loans to local units of government for implementing nonpoint-source best management practices and other activities that target the restoration and protection of a water resource such as a lake, stream, or groundwater aquifer.

-  [Clean Water Partnership Loans](#)

Apply now for a CWP loan. The MPCA is accepting applications for water resource projects to be funded through the CWP Loan Program.

- Funds available: Over \$15 million for fiscal years 2018 and 2019
- The maximum loan award for a project: \$2 million
- Interest rate: Zero percent
- Applications will be accepted on a rolling basis; funding will be approved based on available loan funds.

Request for proposals

Application forms and full details of this loan opportunity are found in the request for proposals: who may apply, funding priorities, activities eligible for funding, and other information that will help you plan your project and submit a complete application.

-  [Clean Water Partnership Loan Program - Request for proposals \(wq-cwp7-35b\)](#)
-  [Minnesota Rules - Clean Water Partnership Financial Assistance \(7076\)](#)

The Minnesota Pollution Control Agency (MPCA) reserves the right to amend this Request for Proposals (RFP) at any time. Issuance of this RFP does not obligate the MPCA to make any loan awards.

Clean Water Partnership Loans

The Clean Water Partnership (CWP) Program is currently offering zero percent interest loans to eligible applicants. These loans are available for implementing nonpoint source best management practices (BMPs) and other activities that target the restoration and protection of a water resource (i.e., lake, stream, or groundwater aquifer). The loans are available to local units of government sponsoring CWP projects. A local government can use the funds itself (first-tier BMP) to implement BMPs, or it can re-loan the funds to private parties (second-tier BMPs) for further activities to implement the practices.

Who is eligible for a loan?

Local units of government that meet the following requirements:

- The ability to pledge its full faith and credit to ensure repayment of a project loan
- The authority to generate cash revenues for the repayment of a loan
- The authority to enter into a loan agreement with the agency

Local governmental units that meet these requirements include counties, cities, townships, tribes, watershed districts, and watershed management organizations. Joint powers organizations composed of previously mentioned entities are also eligible but must submit a resolution from at least one local governmental unit that meets the criteria stating that they will participate in the project as a loan sponsor.

What types of projects are eligible for loan funding?

Eligible CWP project activities include:

- Green infrastructure projects such as; rain water harvesting and reuse, rain gardens, green roofs, tree boxes, porous pavement, street parking lot redesign or similar green infrastructure approaches
- The purchase of vegetation or seed of ecotypes native to Minnesota
- Subsurface sewage treatment system upgrades or replacements
- Outreach, technical assistance, implementation of source control and runoff control BMPs, and education activities related to stormwater control
- Water quality monitoring, water resource and project area data and information collection, data and information analysis and assessment
- Selection, design, layout, and installation of BMPs consistent with Federal Section 319 or 320 of the federal Clean Water Act, as amended
- Development, review, and inspection of procedures for the installation, operation, and maintenance of BMPs
- BMP implementation for animal feedlot operations if the installation is not related to a criminal enforcement action or a civil enforcement action involving financial penalties
- Outreach, technical assistance, and education activities concerning animal waste management, and the costs of BMPs for National Pollutant Discharge Elimination System feedlot facilities if the implementation activities are part of an eligible watershed or groundwater project
- Fiscal and management activities and report preparation
- Creation and dissemination of public education materials and activities
- Development and implementation of ordinances

- Acquisition of easements and property
- Use of ferric chloride, aluminum sulfate, or other chemicals to precipitate phosphorus
- Dredging of harbors, lakes, ditches, constructed wetlands, and existing sedimentation basins

How do I apply for CWP loan funding?

For more information on how to apply for CWP loan funding, visit the MPCA's contract, grant and loan opportunities webpage at <https://www.pca.state.mn.us/water/clean-water-partnership-loans>

What are the interest rates?

The current interest rate for loans to local governments is 0%. Interest rates available to private parties from local governments for second-tier loans must be at or below 1.5%.

As of September 2017, 310 projects have constructed \$50.5M of BMPs:

\$41.4M	Individual septic treatment systems
\$4.0M	Feedlots
\$1.8M	Permanent structures
\$1.6M	In-lake chemical treatments
\$.8M	Equipment
\$.5M	Land use practices/erosion control activities
\$.4M	Administration/education and training

Clean Water Partnership Loan program

Request for Proposals

This document describes the **Clean Water Partnership (CWP) Loan Program**, including information on eligible applicants and program funding priorities. Additionally, there are examples of activities eligible for funding, and other information for project planning and instructions to submit a complete application. **Applications may be submitted on a continuous basis. Loan awards will be approved based upon available loan funding.**

The Minnesota Pollution Control Agency (MPCA) reserves the right to amend this Request for Proposals (RFP) at any time. Issuance of this RFP does not obligate the MPCA to make any loan awards.

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	Sample Loan Agreement	http://www.pca.state.mn.us/index.php/view-document.html?gid=23372
	Loan Application Form	http://www.pca.state.mn.us/index.php/view-document.html?gid=13753
	Project Sponsor Resolution Form	http://www.pca.state.mn.us/index.php/view-document.html?gid=13827

I. Program overview

The MPCA is accepting applications for water resource projects to be funded through the CWP Loan Program. Applications will be accepted from local governmental units (LGUs) interested in leading a project for protection or improvement of groundwater or surface water bodies from nonpoint sources. Applicants awarded loan funds may begin project work after the loan agreement is executed and the project workplan is approved. No reimbursable costs may be incurred prior to execution of the loan agreement.

Statutory authority

Project funding comes from the Clean Water State Revolving Fund (CWSRF). In 1987, the CWP was established to protect and improve surface water and groundwater in Minnesota through financial and technical assistance to LGUs. The CWP Loan Program is established under the CWP Law, Minn. Stat. §§ 103F.701 to 103F.755 and Minn. R. ch. 7076.

II. Funding

Over \$15 million of loan funds will be available for fiscal year 2018 and 2019 awards. The maximum loan award for a project is \$2 million. The current interest rate for loans to LGUs is 0%. Interest rates available to private parties from LGUs for second-tier loans must be at or below 1.5%. There are no match requirements for this loan program. The MPCA will disburse loan funds to the Loan Sponsor on an incurred cost reimbursement basis.

III. Applicant eligibility

Only LGUs that meet the following criteria are eligible to apply for loans.

- LGU has the ability to pledge its full faith and credit to ensure repayment of a project implementation loan
- LGU has the authority to generate cash revenues for the repayment of a loan
- LGU has the authority to enter into a loan agreement with the MPCA

LGUs that meet these requirements include counties, cities, townships, tribes, watershed districts, and watershed management organizations. Joint powers organizations composed of previously mentioned entities are also eligible, but must submit a resolution from at least one LGU that meets the eligible criteria stating that they will participate in the project as a loan sponsor. Local soil and water conservation districts and other LGUs that are not eligible to serve as a loan sponsor may partner as a project sponsor with another government entity, such as a county or watershed district, which will serve as the loan sponsor.

IV. Eligible and ineligible project activities

Eligible project activities

Eligible project activities include, but are not limited to

- Green infrastructure projects such as; rain water harvesting and reuse, rain gardens, green roofs, tree boxes, porous pavement, street parking lot redesign or similar green infrastructure approaches
- Selection, design, layout, and installation of best management practices (BMPs) consistent with Federal Section 319 or 320 of the federal Clean Water Act, as amended
- Subsurface sewage treatment system upgrades
- Dredging of harbors, lakes, ditches, constructed wetlands, and existing sedimentation basins
- Outreach, technical assistance, implementation of source control and runoff control BMPs, and education activities related to stormwater control
- Development, review, and inspection of procedures for the installation, operation, and maintenance of BMPs
- BMP implementation for animal feedlot operations, if the installation is not related to a criminal enforcement action or a civil enforcement action involving financial penalties

- Outreach, technical assistance, and education activities concerning animal waste management, and the costs of BMPs for National Pollutant Discharge Elimination System (NPDES) feedlot facilities if the implementation activities are part of an eligible watershed or groundwater project
- Water quality monitoring, water resource and project area data and information collection, data and information analysis and assessment
- Fiscal and management activities and report preparation
- Creation and dissemination of public education materials and activities
- Development and implementation of ordinances
- Acquisition of easements and property
- The purchase of vegetation or seed of ecotypes native to Minnesota
- Use of ferric chloride, aluminum sulfate, or other chemicals to precipitate phosphorus

Ineligible project activities

Ineligible project activities include:

- Operation and maintenance of BMPs
- Activities funded by state or federal grants or loans for publicly owned treatment works, including that portion of a green infrastructure project that conveys water through a pipe without treatment
- Regulated practices to control spills of pesticides, fertilizer, petroleum, and related materials from bulk storage facilities
- Regulated practices to manage toxic or hazardous materials
- Activities regulated by the state NPDES wastewater permit program
- Activities regulated by a condition of a state solid waste or hazardous waste permit, or solid waste rules, or hazardous waste rules
- Land use and land management activities directly related to commercial operations and industrial processes including plant yards, access roads, drainage ponds, refuse piles, storage piles, and material product loading areas, excluding farming operations occurring on the farm itself
- Mining activities
- Building and utility construction
- Highway and road construction
- Activities intended primarily for flood control
- Purchase or use of suspected endocrine disruptor pesticides
- Activities utilizing existing water bodies as water quality treatment devices, except for mitigated wetlands
- Activities that violate local, state, and federal statutes, rules and regulations, state, and federal statutes, rules and regulations

V. Eligible costs

Eligible project costs, including staffing costs, must be reasonable, necessary, allocable to the project, and consistent with the objectives outlined in this application.

VI. Application review and award process

Applications received will be reviewed by a committee composed of MPCA staff, using a three-phase process.

Step 1 – Eligibility review

The MPCA will determine if eligibility requirements are met. Any application found to be ineligible will be eliminated from further evaluation.

Pass/fail criteria:

- Applicant is eligible
- Project is eligible

Step 2 – Application scoring

Only those applications meeting the eligibility criteria under Step 1 will be considered for scoring in Step 2. No activity or comments from applicants regarding this RFP shall be discussed with any of the evaluation committee members during the evaluation of the applications. An applicant who contacts an evaluation committee member may have its application disqualified.

The State may request clarification from an applicant. The clarification must be made in writing, as the State will only use what is in writing for evaluation purposes. The response to the request for clarification may be considered along with the original application for application scoring.

Reviewers will evaluate applications using the Application Evaluation Score Sheet (Attachment A). Applications must receive at least 21 of the possible 40 points to be considered for a loan award.

Step 3 – Select finalist(s)

Only those applications that are found to be eligible under Steps 1 and 2 will be considered in Step 3. Loan awards shall be made to applicants that best meet the eligibility criteria identified in sections III and IV of this RFP and as loan funds allow.

Notification

From the date of accepting an application as complete and eligible for MPCA team review, the applicant will be notified within 60 days as to whether their application has been approved or denied.

Note, the MPCA may accept, modify, or reject the recommendation of staff. In addition to the ability to partially award projects, the MPCA reserves the right to refrain from awarding any loans.

An evaluation on the cost and pricing of an application may be performed, including an audit of the reasonableness of any application. If an applicant is managing, or has managed, nonpoint source grant or loan projects since 2010, project management in accordance with the terms and conditions specified in the MPCA grant or loan agreements will be considered.

VII. Project sponsor and loan sponsor responsibilities

Loan agreement

Awarded applicants must execute a loan agreement within 180 days of award notification. No loan funds will be disbursed until

- a. Loan sponsor has submitted a signed loan agreement from project sponsor and loan sponsor
- b. Loan sponsor has secured and submitted a general obligation promissory note; including copy of the note; certified copies of all resolutions; and an opinion from recognized bond counsel
- c. CWP project workplan and budget has been submitted and approved
- d. Completed Categorical Exclusion from Environmental Review checklist and evidence of public posting has been submitted (for Subsurface Sewage Treatment System replacement projects only)

Note: No exceptions to the language in the sample loan agreement will be accepted.

Reporting requirements

All project sponsors must submit semi-annual reports for the duration of the loan agreement period. Reports are due on August 1 for the period covering January 1 through June 30 each year, and on February 1 for the period covering July 1 through December 31 each year. The final report is due 30 days after the end date of the loan agreement. No payments will be made if required reports are outstanding or not approved.

Appropriate BMP data must be entered into e-LINK by February 1 and monitoring data as applicable must be entered in EQUIS by November 1 annually.

VIII. Application instructions

Responses to application questions must be typed, following format and page limits specified in the loan application form.

Application checklist

A complete application will consist of the following two documents:

- Application Form in an editable Microsoft Word format (PDF format is not acceptable)
- Signed Project Sponsor Resolution Form (PDF is acceptable)

IX. Submission instructions

The completed Application Form and Project Sponsor Resolution Form must be sent electronically to CWP.Loan.PCA@state.mn.us.

The State is not responsible for any errors or delays caused by technology-related issues, even if they are caused by the State.

X. General terms

State of Minnesota prevailing wage requirements

The Contractor must pay prevailing wages to its employees when conducting construction activities on a project under this program.

Under Minn. Stat. §§ 177.43, subd. 3, and 177.44, subd. 5, the wages of laborers, workers, and the mechanics on projects financed in whole or part by CWSRF should be comparable to wages paid for similar work in the community as a whole. Project includes erection, construction, remodeling, or repairing of a public building or other public work financed in whole or part by State funds.

Any work on real property which uses the skill sets of any trades covered by Labor Code and Class under prevailing wages is construction and requires prevailing wages. See <http://www.doli.state.mn.us/LS/PrevWage.asp> for a list of affected trades.

Minn. Stat. § 177.43, subd. 7 states this does not apply to a contract or work under a contract under which:

- A. The estimated total cost of completing the project is less than \$2,500 and only one trade or occupation is required to complete the work
- B. The estimated total cost of completing the project is less than \$25,000 and more than one trade or occupation is required to complete it

Choose from commercial, highway/heavy, or residential wage rates

The current prevailing wage rates requirements may be found at <http://www.doli.state.mn.us/LS/PrevWage.asp>

Prevailing wage payroll information:

Under Minn. Stat. § 177.30, subd. 4, and § 177.43, subd. 3, the Contractor and Subcontractor must furnish to the Contracting Authority and the Project Owner:

- All payrolls, of all workers on the project, a certified payroll report via email as attachments, a State of Minnesota Prevailing Wage Payroll Report as a Microsoft Excel file and Statement of Compliance Form as a PDF file to the appropriate email addresses: prevailingwage.pca@state.mn.us and ownerprevailingwage.pca@state.mn.us.
- The Subject line on the Contractor or Subcontractor's email must give their firm's name and the Contract or Purchase Order Number.
- These completed forms must be furnished not more than 14 days after the end of each pay period.

The state of Minnesota Prevailing Wage Payroll Report and Statement of Compliance Form are available on the Materials Management Division website at <http://www.mmd.admin.state.mn.us/mn02000.htm>. Submit the completed and signed state of Minnesota Prevailing Wage Payroll Report as a Microsoft Excel file and the Statement of Compliance Form as a PDF file, no other payroll forms will be accepted to meet this requirement.

The prevailing wage payroll information forms that are submitted shall be maintained by the contracting agency for a minimum of three years after final payment has been made on the project. All of the data provided on the Prevailing Wage Payroll Information Form will be public data, which is available to anyone upon request.

Refer vendor questions regarding the Prevailing Wage Laws to the Department of Labor and Industry at 651-284-5091 or visit the website for Labor Standards Section, Prevailing Wage <http://www.doli.state.mn.us/LS/PrevWage.asp>.

All construction work needs an IC-134 form submitted by the Contractor before payment can be made. The Contractor can find a copy of the IC-134 online at the Minnesota Department of Revenue website at <http://www.taxes.state.mn.us/forms/ic134.pdf>.

Public data

Responses to this RFP are private or nonpublic until opened. Once the responses are opened, the name and address of the applicant and the amount requested is public. All other data in a response is private or nonpublic data until completion of the evaluation process. After the MPCA has completed the evaluation process, all remaining data in the response is public with the exception of trade secret data as defined and classified in Minn. Stat. § 13.37. A statement by the applicant that the response is copyrighted or otherwise protected does not prevent public access to the response. (Minn. Stat. § 13.599, subd. 3)

Definitions

- Best Management Practices (BMPs): Behavioral actions taken or structural practices installed to benefit water quality.
- Construction project: For the purposes of projects receiving state funding, "construction" is defined as any work on real property that uses the skill sets of any trades covered by Labor Code and Class under prevailing wages, see prevailing wages for list of affected trades.
- Treatment works: Any municipally owned device or system used in the storage, treatment, recycling and reclamation of municipal waste or industrial waste.
- Nonpoint source: Unregulated sources of pollution.

Application evaluation score sheet

A 40-point scale will be used to evaluate eligible applications. Scores will be used in developing final funding recommendations. Applicants are encouraged to score their own application using the evaluation score sheet before submitting their application. This step is not required, but may help applicants ensure their application addresses the criteria by which evaluators will score applications.

Category and point assignment	Application score	
The extent to which the project application clearly identifies water quality concerns The type, location, and problem are specifically defined in the application. Groundwater or water body use is identified. How the groundwater or water body concerns are addressed in local and/or basin water plans are explained. The application identifies specific water quality concern that will be addressed by the project.	(Maximum score: 10 Points)	
The extent to which the proposed project activities will lead to protection, enhancement, or restoration of the water of concern. The proposed project is likely to result in excellent water quality protection, enhancement or restoration. Specific environmental, administrative, and social behavior outcomes are identified and meaningful to water condition improvement. Water quality data is cited and water quality standards are referenced.	(Maximum score: 10 Points)	
The extent to which the proposed project activities are technically feasible relative to the cost of the project. Project activities are complete; the application describes activities thoroughly. The entire suite of activities is clearly understood so the sponsors could start the project almost immediately. Budget is clear and reasonable. Scope of the project appears manageable; schedule is reasonable; project sponsors are active in water planning or regulatory activities for nonpoint sources; and the water of concern and its watershed have physical, hydrological, or other characteristics that can be worked with or worked around to obtain water quality protection.	(Maximum score: 10 Points)	
The extent to which the proposed project demonstrates a high potential for project success based on participation, coordination, and cooperation between local governmental units, public agencies, and other local stakeholders within the project area. The application demonstrates community and political support for the project; roles and responsibilities are defined; stakeholders are clearly identified; schedule is reasonable, links to other priorities and resources are shown and results will be communicated, and project lead is clearly identified.	(Maximum score: 5 Points)	
The extent to which the success of the proposed project can be quantified through measureable objectives. Provides baseline data; predicts water quality improvements and references water quality standards. Provides interim management measures and understands the project's contribution to water quality in the basin.	(Maximum score: 5 Points)	
Total score	40 Points maximum	

PSC 2018-07W



MEMORANDUM

TO: Pioneer-Sarah Creek Watershed Management Commission
FROM: James Kujawa and Kirsten Barta, Hennepin County Dept. of Environment and Energy
DATE: June 15, 2018
SUBJECT: Staff Report

2016-05 Proto Labs Parking Lot Expansion, Maple Plain. The Commission approved this project contingent upon three conditions. One condition remains open - receipt of an Operation and Maintenance agreement on the biofiltration basin per Staff findings dated September 6, 2016. The agreement has been signed but remains to be recorded on the property title.

2017-03 Equestrian Facility (Bel Farms) Independence. This is a 16.5 acre rural residential parcel located approximately 500 feet north of the intersection of CR6 and Nelson Road. The owner is proposing to construct a new garage/apartment, horse stall barn, indoor arena, outdoor arena, six grass and four sand paddocks for horses. Because this project disturbs greater than 1.0 acre and creates 3.1 acres of additional impervious area, it triggers the Commission's review for Rules D and E. Staff provided grading and erosion control approval contingent upon 1) The applicant assuming the risk and responsibility for any changes to the site plans necessary for final Commission approval and 2) The City of Independence approving a grading permit. Staff recommends the Commission approve the Stormwater Management Plan contingent upon receipt of an approved long term pond/basin operation and maintenance plan between the landowner and City of Independence. Said plan must be recorded on the land title. This project was approved at the Commission's September meeting. No new information has been received since that time.

2017-04 Windsong Farm Golf Club Practice Facility, Independence. This site is north of CR 6 and the entrance to the current Windsong Golf Course. The total area owned by Windsong Farm Golf Club north of CR 6 is 126 acres. This project will impact the three easterly parcels (36 acres) of their property. The applicant proposes to construct a new practice facility on a portion of these three parcels. Actual grading/disturbance will be 13.4 acres. New impervious areas will be 0.7 acres. The east shore of Fox Lake (DNR 925W) is the west border of the parcels being impacted. The Commission Rules that apply to this work include Rules D, E, F, and I. Staff recommended approval contingent upon: 1) Specific turf establishment timing requirements being outlined in the SWPPP or Site Plan, 2) Floodplain and Wetland/buffer easements being established over said features on the three parcels where this project is located, and 3) The locations and signage standards for the wetland buffer monumentation being provided to the Commission for review and approval. The Commission approved this project per Staff's recommendations. Item 1 has been addressed adequately, but Staff are still awaiting word on items 2 and 3.

2017-05 Ostberg Equestrian Facility, Independence.* This is a 40 acre agriculture parcel located just southwest of the intersections of CSAH 6 and Game Farm Road. The owner is proposing to construct a new home, two garages, a horse stall barn, indoor arena, outdoor ring, eight horse paddocks and an access drive off of CSAH 6. The project will disturb 7 acres during construction and create 1.69 acres of new impervious areas. Because this project disturbs more than 1.0 acre and creates 1.7 acres of additional impervious area, this triggers the Commission's review for Rules D and E. There are also two wetlands that have been delineated on this site, so the Commission wetland buffer requirements (Rule I) are triggered. The project received grading and erosion control approval by Staff in October 2017 pending final Commission approvals. The project was approved by the Commission at their November 2017 meeting contingent upon receipt of an approved long term pond/basin operation and maintenance plan between the landowner and the City of Independence. Said plan must be recorded on the land title. No new information has been received on the O&M plan documents.

2018-01 Salem Lane Reconstruction Project, Greenfield. Salem Lane work must also be reviewed for floodplain fill/mitigation and erosion controls. A stormwater quality review is not necessary because the site disturbance is less than 1.0 acre and less than 0.5 acres of new impervious area. At the January 2018 meeting, this item was approved per Staff's recommendations. The only remaining item is Staff approval of the erosion and sediment control plans. These have not been submitted as of this report.

RULE D - STORMWATER MANAGEMENT

RULE E - EROSION AND SEDIMENT CONTROL

RULE F - FLOODPLAIN ALTERATION

Language in red indicates current updates

* indicates enclosure

RULE G - WETLAND ALTERATION

RULE H - BRIDGE AND CULVERT CROSSINGS

RULE I - BUFFERS

2018-02W Warren DaLuge Wetland Violation, 4890 Woodland Trail, Greenfield. Staff met with DaLuge and came to an agreement for him to voluntarily remove any fill placed in the wetland on his farmstead by December 1, 2017. As of February 8 the work had not started. Staff requested a restoration order be issued for compliance by June 15. The order was sent by certified mail. Staff will follow up **after June 15.**

2018-04W Grygelko Wetland Enhancement, Greenfield.* Grygelko is proposing to excavate an existing shallow wetland basin (type 2 shallow marsh) 2 to 3 feet to provide more of an open water wetland system (type 3-4 wetland basin). The project is adjacent to the existing channel that runs between Schwappauff and Schauer Lakes, but stays 50 feet from it so will not affect the conveyance or cross section of the ditch. This work is allowed under the rules of the 1991 Wetland Conservation Act. The disturbed areas not inundated by water will be restored with a MnDOT native wet-prairie seed mix (34-262). Staff will issue an excavation permit for the activities. **See attachments in this month's meeting packet. This item can be removed from the report.**

2018-05W Bluewater Builders Wetland Delineation, Greenfield.* This is a 34.2-acre agricultural lot located east of Pioneer Trail approximately ½ mile north of CR 50. Anderson Engineering identified four wetlands in the parcel on May 1, 2018. The delineator identified wetland/upland boundaries using the routine on-site determination method developed by the Army Corps of Engineers Wetland Delineation Manual and its supplemental guidance. Staff has issued a WCA Notice of Application for public comment. The 15-day comment period expires June 21, 2018. A site visit is scheduled to review the boundaries. If they appear accurate, a public Notice of Decision will be issued. If there are discrepancies with the wetland boundary, we will work with the applicant and their consultant to resolve.

2018-06W Johnson Wetland Delineation, Greenfield.* This is a 1.41-acre residential lot near the east terminus of North Shore Drive on Lake Sarah. (NW1/4 of the SW1/4, Section 35, T119N, R24W). Aquatic EcoSolutions, Inc. identified wetlands on February 28th and May 9, 2018 on this parcel. One wetland/upland boundary was identified using the Corps of Engineering Wetland Delineation Manual and its supplemental guidance. Staff has issued a WCA Notice of Application for public comment. The 15-day comment period expires June 21, 2018. A site visit is scheduled to review the boundaries. If they appear accurate, a public Notice of Decision will be issued. If there are discrepancies with the wetland boundary, we will work with the applicant and their consultant to resolve.

2018-07W 810 Copeland Road, Independence.* The City of Independence issued a notice last fall for this landowner to remove manure fill from Fox Lake. It has not been accomplished to date. The DNR and MPCA were contacted by PSC staff about this violation on May 30, 2018. The MN DNR issued a Resource Protection Order to the landowner on May 31, 2018. The DNR Hydrologist, Jason Spiegel and MPCA Feedlot Inspections Officer (Walter Jordan) were also contacted by PSC staff and visited the site. They are coordinating their efforts to have this material removed (see email from DNR CO Weyandt.) The DNR will survey the site to determine the extent of DNR and WCA wetland violations and issue a restoration order giving them 45 days to remove the material. (See materials in packet*)

PRAP

Technical Staff met with BWSR wetland staff and provided examples of previous PSCWMC projects that had exemptions, no-loss, boundary/type, violations, banking and replacement plan determinations.

Administrative staff was advised by BWSR that the Pioneer-Sarah WMC PRAP must be moved to the July meeting. BSWR didn't have enough time to generate their report with a staff review in time after the Plan accomplishments for them to be ready for the June meeting. They will meet with Admin staff in person / by phone call to discuss the draft report in late June.

LOCAL WATER PLANS

Per the amended MN Rule 8410.0105, subp. 9, and 8410.0160, subp. 6, Local Water Plans must be prepared by metropolitan cities and towns and must become part of their local comprehensive plans. They must be revised essentially once every ten years in alignment with the local comprehensive plan schedule. A municipality has two years prior to its local comprehensive plan being due to adopt its local water plan. The next local comprehensive

RULE D – STORMWATER MANAGEMENT

RULE E – EROSION AND SEDIMENT CONTROL

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RULE H – BRIDGE AND CULVERT CROSSINGS

RULE I – BUFFERS

plans are due December 31, 2018; thus all cities and towns in the seven-country metropolitan area must complete and adopt their local plans between January 1, 2017 and December 31, 2018.

Local plans from the cities of Loretto and Medina were approved in 2017.

Minnetrista's Local Plan is currently under review. Comments were provided to the City for their review and comment.

KIRSTEN BARTA (MAY 21, 2018)

1. Buffers are completed, staff went out and staked all remaining areas for the landowners. The state was notified of this and requested to follow up and make sure the planting occurs.
2. 319 Grant – a letter will be circulated volunteering PSC (specifically the Dance Hall Creek SWA) for a pilot program using an EPA developed process. At this point it is only a letter of interest, not a commitment.
3. All N-S county roads in the WMO will have living snow fences this winter for plowing protection. All farmers who will be growing corn have been asked to leave 5 rows standing and will be paid the MN DOT determined rate if they decide to opt in.
4. County Ditch #9 in Greenfield will be surveyed in the next 2 weeks by Hennepin property services survey team. This is for a CWF grant proposal that will be submitted in August. Residents have been notified. This is for information purposes only, neither the City nor the WMO are required to be involved – Hennepin County is working directly with residents on this pilot project.

Z:\Pioneer-SarahCreek\TechMemos\Tech Memos 2018\June Tech Memo.docx

RULE D - STORMWATER MANAGEMENT

RULE E - EROSION AND SEDIMENT CONTROL

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RULE I - BUFFERS

Minnesota Wetland Conservation Act

Notice of Application

Local Government Unit (LGU) Pioneer-Sarah Creek Watershed Management Organization	Address c/o JASS 3235 Fernbrook Lane, Plymouth, MN 55447
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1. PROJECT INFORMATION

Applicant Name Mark Lee-Bluewater Builders	Project Name PID 2411924130004 Greenfield	Date of Application May 22, 2018	Application Number 2018-05W
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Type of Application (check all that apply):

<input checked="" type="checkbox"/> Wetland Boundary or Type Sequencing	<input type="checkbox"/> No-Loss Replacement Plan	<input type="checkbox"/> Exemption	<input type="checkbox"/> Banking Plan
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Summary and description of proposed project (attach additional sheets as necessary):

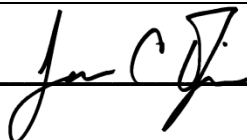
This is a 34.2-acre agricultural lot located east of Pioneer Trail approximately ½ mile north of CR 50 in Greenfield. Anderson Engineering identified four wetlands in this parcel on May 1, 2018. Wetland/upland boundaries were identified using the routine on-site determination method by the Army Corps of Engineers Wetland Delineation Manual and its supplemental guidance. This application is for review and a decision on the wetland boundaries and types on this parcel.

2. APPLICATION REVIEW AND DECISION

Signing and mailing of this completed form to the appropriate recipients in accordance with 8420.0255, Subp. 3 provides notice that an application was made to the LGU under the Wetland Conservation Act as specified above. A copy of the application is attached. Comments can be submitted to:

Name and Title of LGU Contact Person James C. Kujawa Technical Advisor to the Commission	Comments must be received by (minimum 15 business-day comment period): June 20, 2018
Address (if different than LGU)	Date, time, and location of decision: June 21, 8:00 a.m.. Administrative Office PSCWMC.
Phone Number and E-mail Address 612-348-7338 james.kujawa@co.hennepin.mn.us	Decision-maker for this application: <input checked="" type="checkbox"/> Staff <input type="checkbox"/> Governing Board or Council

Signature: _____



Date: May 29, 2018

3. LIST OF ADDRESSEES

- ☒ SWCD TEP member: (email only) **Stacey. Lijewski@co.hennepin.mn.us**
☒ BWSR TEP member: (email only) ben.carlson@state.mn.us
☐ LGU TEP member (if different than LGU Contact):
☐ DNR TEP member:
☒ DNR Regional Office (if different than DNR TEP member) Becky.Horton@state.mn.us
☐ WD or WMO (if applicable):
☒ Applicant (notice only) and Landowner; Mark Lee leebluewater@yahoo.com Ben Hodapp
bhodapp@ae-mn.com
☒ Members of the public who requested notice (notice only): **City of Greenfield, Margaret Webb,**
mwebb@ci.greenfield.mn.us
☒ Corps of Engineers Project Manager (notice only) **ACOE (email only)**
Melissa.M.Jenny@usace.army.mil
☐ BWSR Wetland Bank Coordinator (wetland bank plan applications only)

4. MAILING INFORMATION

- For a list of BWSR TEP representatives: www.bwsr.state.mn.us/contact/WCA_areas.pdf
 ➤ For a list of DNR TEP representatives: www.bwsr.state.mn.us/wetlands/wca/DNR_TEP_contacts.pdf
 ➤ Department of Natural Resources Regional Offices:

<u>NW Region:</u>	<u>NE Region:</u>	<u>Central Region:</u>	<u>Southern Region:</u>
Reg. Env. Assess. Ecol. Div. Ecol. Resources 2115 Birchmont Beach Rd. NE Bemidji, MN 56601	Reg. Env. Assess. Ecol. Div. Ecol. Resources 1201 E. Hwy. 2 Grand Rapids, MN 55744	Reg. Env. Assess. Ecol. Div. Ecol. Resources 1200 Warner Road St. Paul, MN 55106	Reg. Env. Assess. Ecol. Div. Ecol. Resources 261 Hwy. 15 South New Ulm, MN 56073

For a map of DNR Administrative Regions, see: http://files.dnr.state.mn.us/aboutdnr/dnr_regions.pdf

- For a list of Corps of Project Managers: www.mvp.usace.army.mil/regulatory/default.asp?pageid=687
 or send to:

- US Army Corps of Engineers
 St. Paul District, ATTN: OP-R
 180 Fifth St. East, Suite 700
 St. Paul, MN 55101-1678

- For Wetland Bank Plan applications, also send a copy of the application to:
 Minnesota Board of Water and Soil Resources
 Wetland Bank Coordinator
 520 Lafayette Road North
 St. Paul, MN 55155

5. ATTACHMENTS

In addition to the application, list any other attachments:

- ☒ **Wetland Investigation Report by Anderson Engineering, dated May 8, 2018**
☒ **MN Joint Application**
☐
☐

Project Name and/or Number: 14923 – Bluewater Builders, Inc, Greenfield

PART ONE: Applicant Information

If applicant is an entity (company, government entity, partnership, etc.), an authorized contact person must be identified. If the applicant is using an agent (consultant, lawyer, or other third party) and has authorized them to act on their behalf, the agent's contact information must also be provided.

Applicant/Landowner Name: Bluewater Builders, Inc. – Mark Lee

Mailing Address: 7685 84th Avenue North, Greenfield, MN 55373

Phone: 612-599-9294

E-mail Address: leebbluewater@yahoo.com

Authorized Contact (do not complete if same as above):

Mailing Address:

Phone:

E-mail Address:

Agent Name: Anderson Engineering of MN, LLC – Ben Hodapp

Mailing Address: 13605 1st Ave North, Suite 100, Plymouth, MN 55441

Phone: 763-412-4000

E-mail Address: bhodapp@ae-mn.com

PART TWO: Site Location Information

County: Hennepin

City/Township: Greenfield

Parcel ID and/or Address: 2411924130004

Legal Description (Section, Township, Range): S. 24, Twp. 119N, R. 24W

Lat/Long (decimal degrees): 45.102786°/-93.653014°

Attach a map showing the location of the site in relation to local streets, roads, highways.

Approximate size of site (acres) or if a linear project, length (feet): 34.22 acres

If you know that your proposal will require an individual Permit from the U.S. Army Corps of Engineers, you must provide the names and addresses of all property owners adjacent to the project site. This information may be provided by attaching a list to your application or by using block 25 of the Application for Department of the Army permit which can be obtained at:

http://www.mvp.usace.army.mil/Portals/57/docs/regulatory/RegulatoryDocs/engform_4345_2012oct.pdf

PART THREE: General Project/Site Information

If this application is related to a delineation approval, exemption determination, jurisdictional determination, or other correspondence submitted **prior to** this application then describe that here and provide the Corps of Engineers project number.

Describe the project that is being proposed, the project purpose and need, and schedule for implementation and completion. The project description must fully describe the nature and scope of the proposed activity including a description of all project elements that effect aquatic resources (wetland, lake, tributary, etc.) and must also include plans and cross section or profile drawings showing the location, character, and dimensions of all proposed activities and aquatic resource impacts.

See Wetland Delineation Report

Project Name and/or Number: 14923 – Bluewater Builders, Inc, Greenfield

PART FOUR: Aquatic Resource Impact¹ Summary

If your proposed project involves a direct or indirect impact to an aquatic resource (wetland, lake, tributary, etc.) identify each impact in the table below. Include all anticipated impacts, including those expected to be temporary. Attach an overhead view map, aerial photo, and/or drawing showing all of the aquatic resources in the project area and the location(s) of the proposed impacts. Label each aquatic resource on the map with a reference number or letter and identify the impacts in the following table.

Aquatic Resource ID (as noted on overhead view)	Aquatic Resource Type (wetland, lake, tributary etc.)	Type of Impact (fill, excavate, drain, or remove vegetation)	Duration of Impact Permanent (P) or Temporary (T) ¹	Size of Impact ²	Overall Size of Aquatic Resource ³	Existing Plant Community Type(s) in Impact Area ⁴	County, Major Watershed #, and Bank Service Area # of Impact Area ⁵

¹If impacts are temporary; enter the duration of the impacts in days next to the "T". For example, a project with a temporary access fill that would be removed after 220 days would be entered "T (220)".

²Impacts less than 0.01 acre should be reported in square feet. Impacts 0.01 acre or greater should be reported as acres and rounded to the nearest 0.01 acre. Tributary impacts must be reported in linear feet of impact and an area of impact by indicating first the linear feet of impact along the flowline of the stream followed by the area impact in parentheses). For example, a project that impacts 50 feet of a stream that is 6 feet wide would be reported as 50 ft (300 square feet).

³This is generally only applicable if you are applying for a de minimis exemption under MN Rules 8420.0420 Subp. 8, otherwise enter "N/A".

⁴Use *Wetland Plants and Plant Community Types of Minnesota and Wisconsin* 3rd Ed. as modified in MN Rules 8420.0405 Subp. 2.

⁵Refer to Major Watershed and Bank Service Area maps in MN Rules 8420.0522 Subp. 7.

If any of the above identified impacts have already occurred, identify which impacts they are and the circumstances associated with each:

PART FIVE: Applicant Signature

☐ Check here if you are requesting a pre-application consultation with the Corps and LGU based on the information you have provided. Regulatory entities will not initiate a formal application review if this box is checked.

By signature below, I attest that the information in this application is complete and accurate. I further attest that I possess the authority to undertake the work described herein.

Signature: _____



Date: 05/07/2018

I hereby authorize _____ to act on my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this application.

¹ The term "impact" as used in this joint application form is a generic term used for disclosure purposes to identify activities that may require approval from one or more regulatory agencies. For purposes of this form it is not meant to indicate whether or not those activities may require mitigation/replacement.

Project Name and/or Number: 14923 – Bluewater Builders, Inc, Greenfield

Attachment A

Request for Delineation Review, Wetland Type Determination, or Jurisdictional Determination

By submission of the enclosed wetland delineation report, I am requesting that the U.S. Army Corps of Engineers, St. Paul District (Corps) and/or the Wetland Conservation Act Local Government Unit (LGU) provide me with the following (check all that apply):

☒ **Wetland Type Confirmation**

☒ **Delineation Concurrence.** Concurrence with a delineation is a written notification from the Corps and a decision from the LGU concurring, not concurring, or commenting on the boundaries of the aquatic resources delineated on the property. Delineation concurrences are generally valid for five years unless site conditions change. Under this request alone, the Corps will not address the jurisdictional status of the aquatic resources on the property, only the boundaries of the resources within the review area (including wetlands, tributaries, lakes, etc.).

☐ **Preliminary Jurisdictional Determination.** A preliminary jurisdictional determination (PJD) is a non-binding written indication from the Corps that waters, including wetlands, identified on a parcel may be waters of the United States. For purposes of computation of impacts and compensatory mitigation requirements, a permit decision made on the basis of a PJD will treat all waters and wetlands in the review area as if they are jurisdictional waters of the U.S. PJDs are advisory in nature and may not be appealed.

☐ **Approved Jurisdictional Determination.** An approved jurisdictional determination (AJD) is an official Corps determination that jurisdictional waters of the United States are either present or absent on the property. AJDs can generally be relied upon by the affected party for five years. An AJD may be appealed through the Corps administrative appeal process.

In order for the Corps and LGU to process your request, the wetland delineation must be prepared in accordance with the 1987 Corps of Engineers Wetland Delineation Manual, any approved Regional Supplements to the 1987 Manual, and the *Guidelines for Submitting Wetland Delineations in Minnesota* (2013).

<http://www.mvp.usace.army.mil/Missions/Regulatory/DelineationJDGuidance.aspx>



Wetland Investigation Report

Bluewater Builders, Inc.

**PID: 2411924130004
Greenfield, MN**

AE Comm. #14923

May 8, 2018



Anderson Engineering of Minnesota, LLC

**13605 1st Avenue North
Plymouth, MN 55441**

**763-412-4000 Main
763-412-4090 Fax**

A Service-Disabled Veteran-Owned Small Business

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Appendix F	Minnesota Routine Assessment Methodology (MnRAM)
Appendix G	Credentials

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Website: www.ae-mn.com

Executive Summary

Anderson Engineering of Minnesota, LLC was retained by Bluewater Builders, Inc. to provide professional wetland services to identify areas meeting wetland criteria utilizing the 1987 United States Army Corps of Engineers (USACE) Wetland Delineation Manual (*Technical Report Y-87-1; January 1987*) and all supplemental guidance documents within the investigation extent identified in *Appendix A. Figure 5*. The investigation extent is approximately 34.22 acres of agricultural land, PID: 2411924130004, Greenfield, Hennepin County, Minnesota. Geographically, the parcel is located in Section 27, Township 121 North, Range 24 West.

Four areas meeting wetland criteria were field delineated within the identified investigation extent (*Appendix A. Figure 5*).

Wetland	Approx. Total Size (ac) within area of investigation	Cowardin Classification	Circular 39 Classification	Eggers & Reed Classification
1	1.35	PEM1C/B	Type 2/3	Wet Meadow/Shallow Marsh
2	0.52	PEM1B	Type 2	Wet Meadow
3	7.99	PUB/EM/F/C/B	Type 2/3/4	Fresh Wet Meadow/Shallow Marsh/Deep Marsh
4	0.63	PEM1A	Type 1	Seasonally Flooded Basin

Background

As requested by Bluewater Builders, Inc., Anderson Engineering of MN, LLC completed a wetland investigation within the project area identified in Figure 5, located off of Pioneer Trail, PID: 2411929130004, Hennepin County, Minnesota.

Geographically, the site is located in Section 24, Township 119 North, Range 24 West. The wetland delineation was completed in accordance with the 1987 United States Army Corps of Engineers Wetland Delineation Manual and the published regional supplement to the Army Corps Wetland Delineation Manual, Midwest Region.

The purpose of this study was to investigate the identified investigation extent, identify areas meeting the technical criteria for wetlands, delineate the jurisdictional extent of the wetland basins, and classify the wetland habitat.

Fieldwork for this site investigation was completed by Environmental Scientist Tina Justen and Environmental Associate Alex Yellick on May 1, 2018. The weather was overcast with a temperature of 72 degrees Fahrenheit.

Methodology

United States Geologic Service 7.5" Topographic Quadrangle maps, United States Fish and Wildlife Service National Wetland Inventory maps, United States Department of Agriculture Natural Resources Conservation Service Soil Survey and available aerial photographs were consulted to initially locate potential wetland habitats.

Routine On-site Determination Method was used during this investigation. In this method, the following procedures were used:

- 1) The vegetative community was sampled in all present strata to determine whether it met hydrophytic vegetation criteria based on the indicators identified in the Midwest Regional Supplement.
- 2) Soil pits were dug using a Dutch auger to depths of 16"-36". Soil profile was noted, in addition to any hydric soil characteristics.
- 3) Signs of wetland hydrology were noted and compared to field criteria such as depth to shallow water table and depth of soil saturation found in the soil pits.

Data from sample points were recorded on Army Corps of Engineers Midwest Region Wetland Determination Data Forms (*Appendix B*). At least one sample point transect crosses the delineated wetland edge. This transect consist of an upland sample point and a wetland sample point. Other sample points may be located in areas which have one or more of the wetland vegetation, soils, or hydrologic characteristics present; where questionable conditions exist; or to verify the absence of wetland criteria. Photographs are also taken at each sample point, and of the wetland and upland buffer (*Appendix C*).

Sample points were marked in the field with orange or pink flags. The identified wetland boundary was marked with sequentially numbered pink flags. All sample points and the delineated wetland boundary were located utilizing a Trimble Geo XH sub-meter GPS unit.

Resource Review

The following resources were reviewed to supplement the wetland field delineation:

National Wetlands Inventory:

The National Wetlands Inventory (*Appendix A. Figure 2*) identifies the following wetlands within the project area:

- Three Type 1, PEM1A, Seasonally Flooded Basins
- One Type 1/3/4, PUBF/EMC/A wetland complex

USDA - Natural Resources Conservation Service Soil Survey:

Soil Survey data for Hennepin County, MN was obtained and reviewed prior to the delineation. Table 1 provides a list of the mapped soils within the investigation area. Figure 3 in Appendix A contains a map of the soil units with percent hydric components.

Table 1 - Summary of Mapped Soil Units within the Project Area

Map Unit Symbol	Map Unit Name	Hydric Soil	Hydric Soil Rating (%)	Drainage Classification	% of Project Area
L22C2	Lester loam, 6 to 10 percent slopes, moderately eroded	No	2%	Well drained	28.5%
L22D2	Lester loam, 10 to 16 percent slopes, moderately eroded	No	0%	Well drained	1.2%
L23A	Cordova loam, 0 to 2 percent slopes	Yes	95%	Poorly drained	36.8%
L24A	Glencoe clay loam, 0 to 1 percent slopes	Yes	100%	Very poorly drained	3.6%
L36A	Hamel, overwash-Hamel complex, 0 to 3 percent slopes	Yes	45%	Somewhat poorly drained	7.1%
L37B	Angus loam, 2 to 6 percent slopes	No	5%	Well drained	16.8%
L49A	Klossner soils, depressional, 0 to 1 percent slopes	Yes	100%	Very poorly drained	6.0%

Hydric soils are defined in the *Field Indicators of Hydric Soils in the United States: Guide for Identifying and Delineating Hydric Soils, version 7.0, 2010* (NRCS, 2010), *The 1987 Manual*, and *The Regional Supplement* (USACE, August 2010).

Minnesota Department of Natural Resources Public Water Inventory:

The MN DNR PWI for Hennepin County, MN (*Appendix A. Figure 4*) does not identify any public waters within the project area.

Antecedent Precipitation Data:

A review of the antecedent precipitation data, as well as analysis of the 30 day rolling precipitation data collected from the University of Minnesota Climatology Working Group (*Appendix D*) indicate that precipitation totals for the previous weeks were above and within the normal range. Hydrologic conditions were suitable for completing an accurate wetland determination and boundary delineation.

Historic Aerial Photographs:

Because the project area contains agricultural land, Anderson Engineering of MN, LLC reviewed historic crop slides from the U of M Aerial Index to identify potential farmed wetland areas. A copy of the farmed wetland summary review is included in *Appendix E*.

Field Review

Four areas meeting wetland criteria were identified within the investigation extent. The areas are described below:

Wetland 1: Wetland 1 is a Type 2/3, PEM1C/B, fresh wet meadow/shallow marsh. Wetland 1 extends off-site to the north and the on-site portion is approximately 1.35 acres in size. The wetland is vegetated with reed canary grass (*Phalaris arundinacea*) and gray dogwood (*Cornus racemosa*). The underlying soils are mapped as Hamel complex (L36A). The investigated soil profile met the redox dark surface (F6) hydric soil indicator. Hydrology indicators observed include geomorphic position (D2) and FAC-neutral test (D5).

The upland buffer to the south of the the wetland was previously planted with row cropped corn. The remaining upland buffer is primarily vegetated with smooth brome (*Bromus inermis*) and Kentucky bluegrass (*Poa pratensis*). Shallow to moderate slopes form the transition into the wetland.

Wetland 2: Wetland 2 is a Type 2, PEM1B, fresh wet meadow. Wetland 2 extends off-site to the south and west; the on-site portion is approximately 0.52 acres in size. The wetland is primarily vegetated with reed canary grass (*Phalaris arundinacea*) and smartweed (*Persicaria amphibia*). The underlying soils are mapped as Hamel complex (L36A). The investigated soil profile met the redox dark surface (F6) hydric soil indicator. Hydrology indicators observed include geomorphic position (D2) and FAC-neutral test (D5).

The upland buffer surrounding the wetland was primarily vegetated with smooth brome (*Bromus inermis*). Shallow slopes form the transition into the wetland.

Wetland 3: Wetland 3 is a Type 2/3/4, PUBF/EM1C/B, wet meadow/shallow marsh/ deep marsh wetland. Wetland 3 extends off-site to the east and the on-site portion is approximately 7.99 acres in size. The wetland is vegetated with narrow-leaf cattail (*Typha angustifolia*) and reed canarygrass (*Phalaris arundinacea*). The underlying soils are mapped as Glencoe clay loam (L24A). The investigated soil profiles are assumed to be hydric based on best professional judgement. Hydrology indicators observed include high water table (A2), geomorphic position (D2), and FAC-neutral test (D5).

The upland buffer surrounding the wetland is sparsely vegetated with reed canary grass (*Phalaris arundinacea*) and white clover (*Trifolium repens*), and was previously planted with row cropped corn. Shallow to moderate slopes form the transition into the wetland.

Wetland 4: Wetland 4 is a Type 1, PEM1A, seasonally flooded basin. Wetland 4 extends off site to the north and the on-site portion is approximately 0.63 acres in size. The onsite portion of the wetland is lacking vegetation and was previously row cropped with corn. The underlying soils are mapped as Cordova loam (L23A). The investigated soil profile is assumed to be hydric based on best professional judgement. Hydrology indicators observed include high water table (A2), saturation visible on aerial imagery (C9), and geomorphic position (D2).

The upland buffer surrounding the wetland lacks vegetation and was previously planted with row cropped corn. Shallow slopes form the transition into the wetland.

Conclusion

Four areas meeting wetland criteria were identified and delineated in accordance with the 1987 United States Army Corps of Engineers Wetland Delineation Manual within the proposed project area located off of Pioneer Trail, PID: 2411929130004, Greenfield, Hennepin County, MN.

Wetlands in the project area may be regulated by several agencies at the local, State, and/or federal level. Activities which may potentially impact those wetlands identified within this report should be discussed in advance with the appropriate regulating agency in regards to potential permit requirements. The Local Government Unit (LGU) responsible for implementing the Minnesota Wetland Conservation Act at this project location is the City of Greenfield.

The City of Greenfield may require vegetated buffers around all preserved wetland areas. Wetland buffers must meet the standards specified for any project that is regulated under WCA.

Based on the MnRAM assessment, Wetland 1 is classified as a Manage 1 wetland. Wetlands 2,3 & 4 are classified as Manage 2 wetlands. (See Appendix F).

This wetland investigation meets the standards and criteria described in the 1987 United States Army Corps of Engineers Wetland Delineation Manual all applicable subsequent guidance for an on-site determination and the results reflect the conditions present at the time of the delineation.

I certify that I performed the field analysis and wrote the report for this wetland determination.



05/08/2018

Tina Justen
Environmental Associate
Anderson Engineering of Minnesota, LLC

Date

I certify that I performed the field analysis and/or reviewed work completed by above staff.



05/08/2018

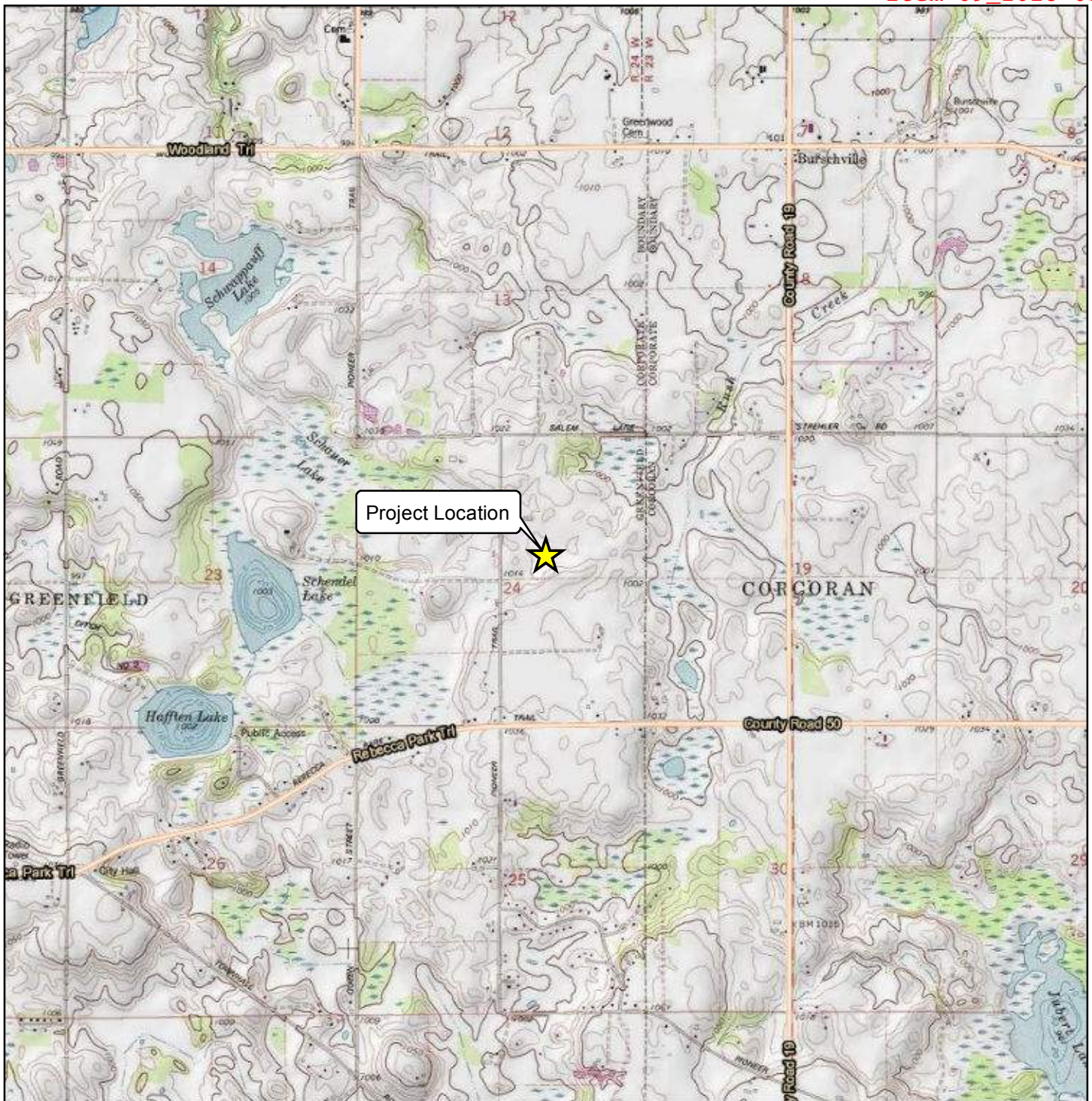
Benjamin J Hodapp, PWS
Environmental Services Manager
MN Certified Wetland Delineator #1016
Anderson Engineering of Minnesota, LLC

Date



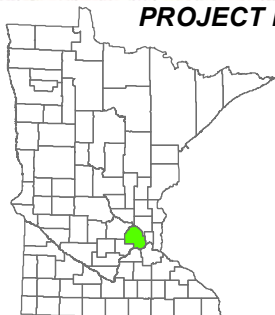
APPENDIX A

Figures

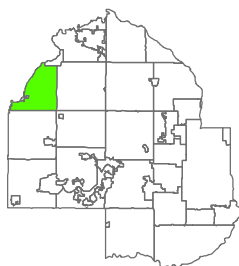


PROJECT LOCATION

SOURCE: MN DNR, USDA, ESRI, TIGER, Bing, Hennepin Co., Anderson Engineering

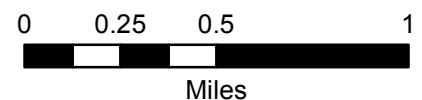


Hennepin County
State of Minnesota



City of Greenfield
Hennepin County, MN

1 in = 0.5 miles



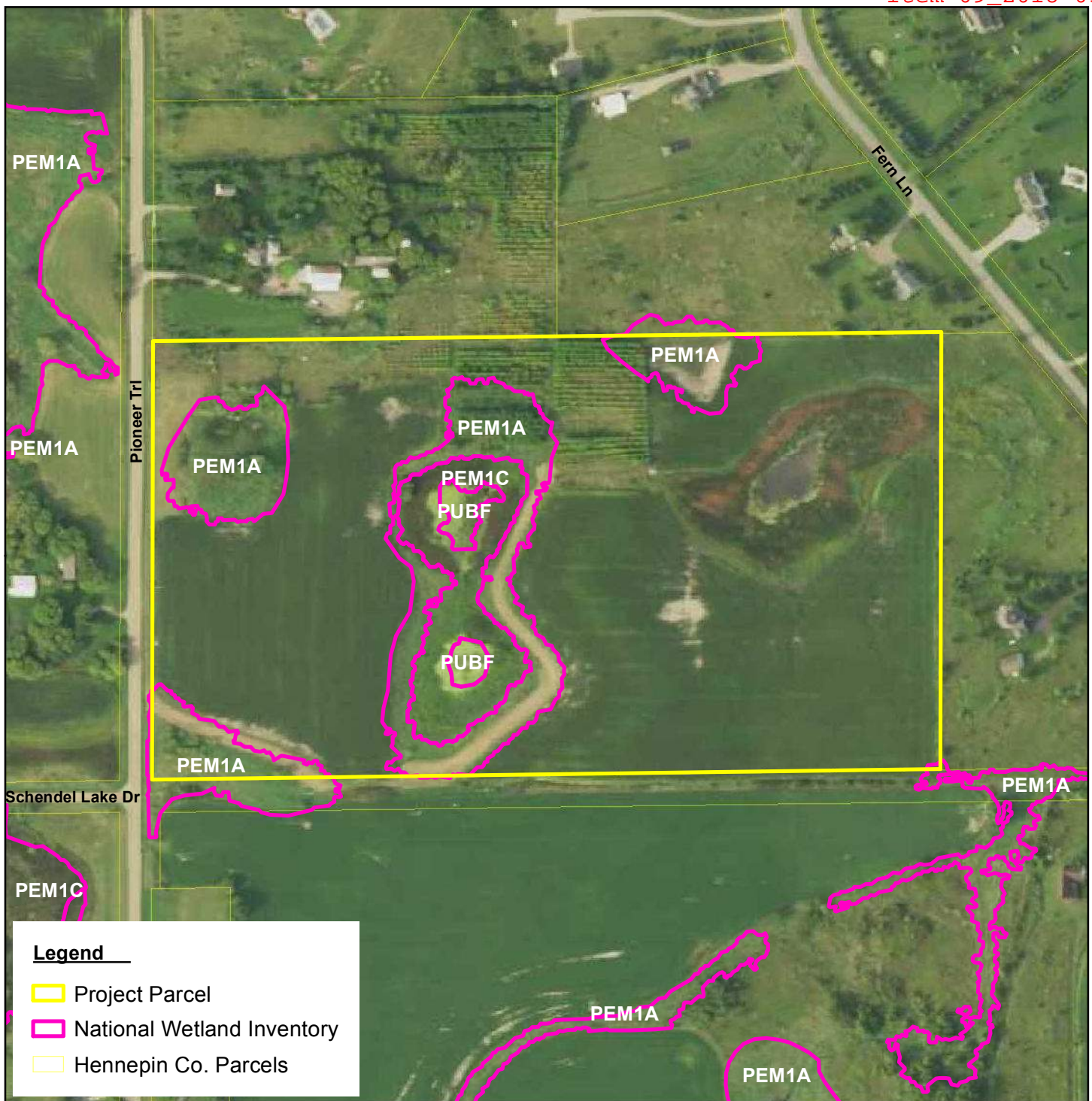
Pioneer Trail
Greenfield, Hennepin County, MN
PID: 053-2411924130004



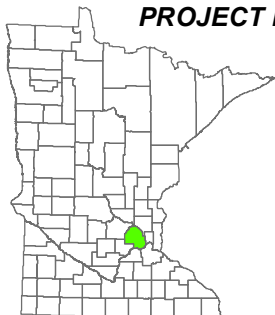
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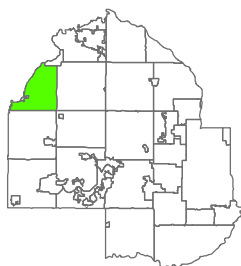
LOCATION - FIGURE 1 BLUEWATER BUILDERS

**PROJECT LOCATION**

SOURCE: MN DNR, USDA, ESRI, TIGER, Bing, Hennepin Co., Anderson Engineering



Hennepin County
State of Minnesota



City of Greenfield
Hennepin County, MN

1 in = 300 feet



0 150 300 600
Feet

Pioneer Trail
Greenfield, Hennepin County, MN
PID: 053-2411924130004

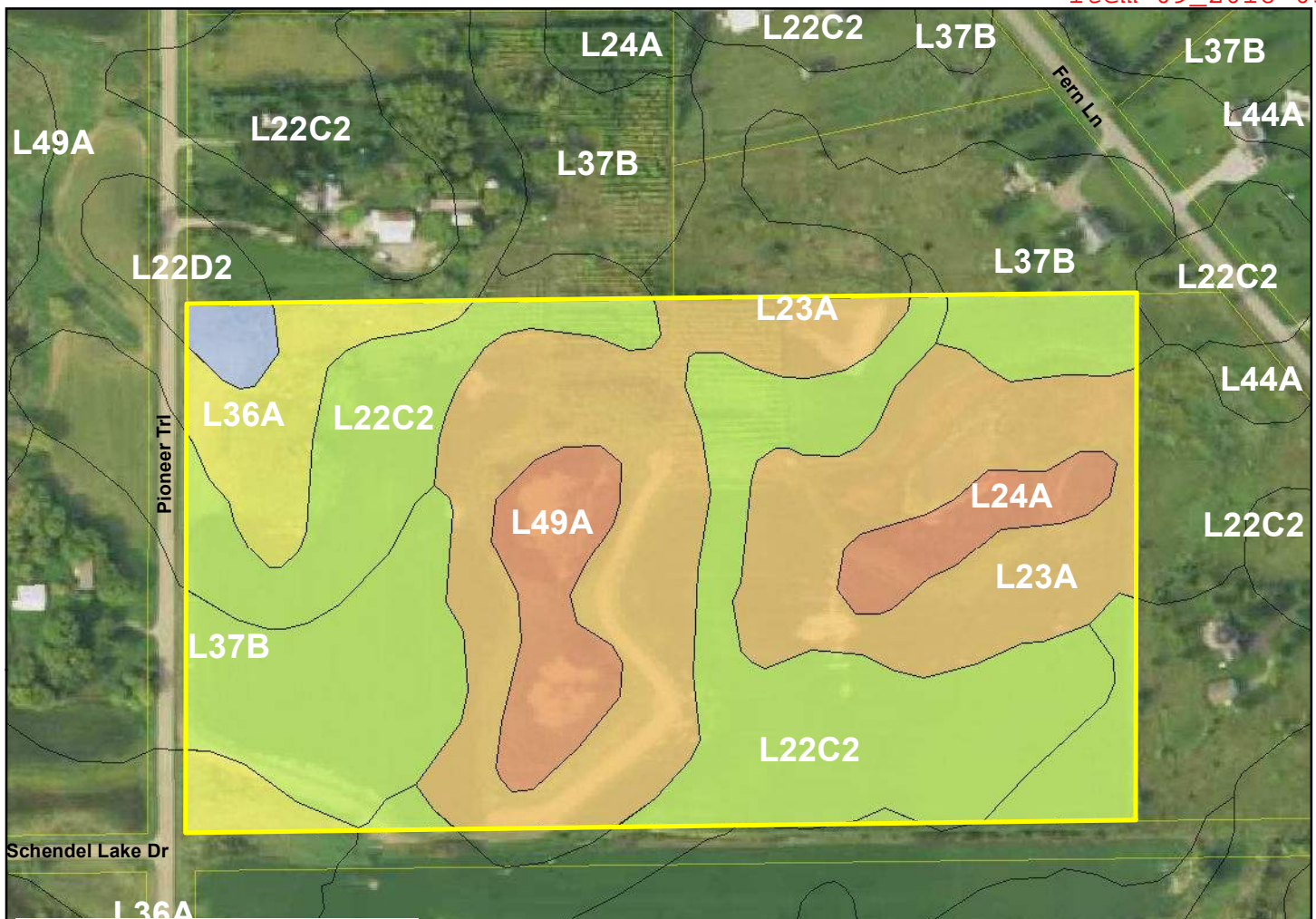


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NWI - FIGURE 2 BLUEWATER BUILDERS

AE Comm.# 14923 Date: 4/17/2018 By: JLA



Legend

Project Parcel

Hennepin Co. Parcels

Hydric Rating by Map Unit

0% Hydric Components

1-32% Hydric Components

33-65% Hydric Components

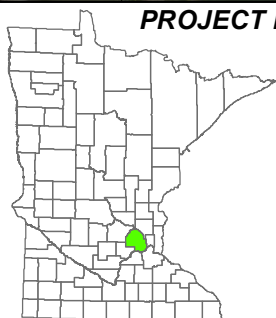
66-99% Hydric Components

100% Hydric Components

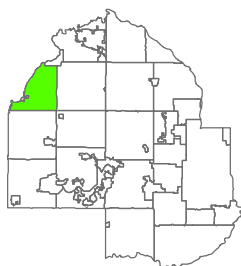
Map Unit Symbol	Map Unit Name	Hydric Rating	Hydric Percentage	Drainage Class	Site Coverage Percentage
L22C2	Lester loam, 6 to 10 percent slopes, moderately eroded	No	2%	Well drained	28.5%
L22D2	Lester loam, 10 to 16 percent slopes, moderately eroded	No	0%	Well drained	1.2%
L23A	Cordova loam, 0 to 2 percent slopes	Yes	95%	Poorly drained	36.8%
L24A	Glencoe clay loam, 0 to 1 percent slopes	Yes	100%	Very poorly drained	3.6%
L36A	Hamel, overwash-Hamel complex, 0 to 3 percent slopes	Yes	45%	Somewhat poorly drained	7.1%
L37B	Angus loam, 2 to 6 percent slopes	No	5%	Well drained	16.8%
L49A	Klossner soils, depressional, 0 to 1 percent slopes	Yes	100%	Very poorly drained	6.0%

PROJECT LOCATION

SOURCE: MN DNR, USDA, ESRI, TIGER, Bing, Hennepin Co., Anderson Engineering



Hennepin County
State of Minnesota



City of Greenfield
Hennepin County, MN

1 in = 300 feet



0 150 300 600
Feet

Pioneer Trail
Greenfield, Hennepin County, MN
PID: 053-2411924130004

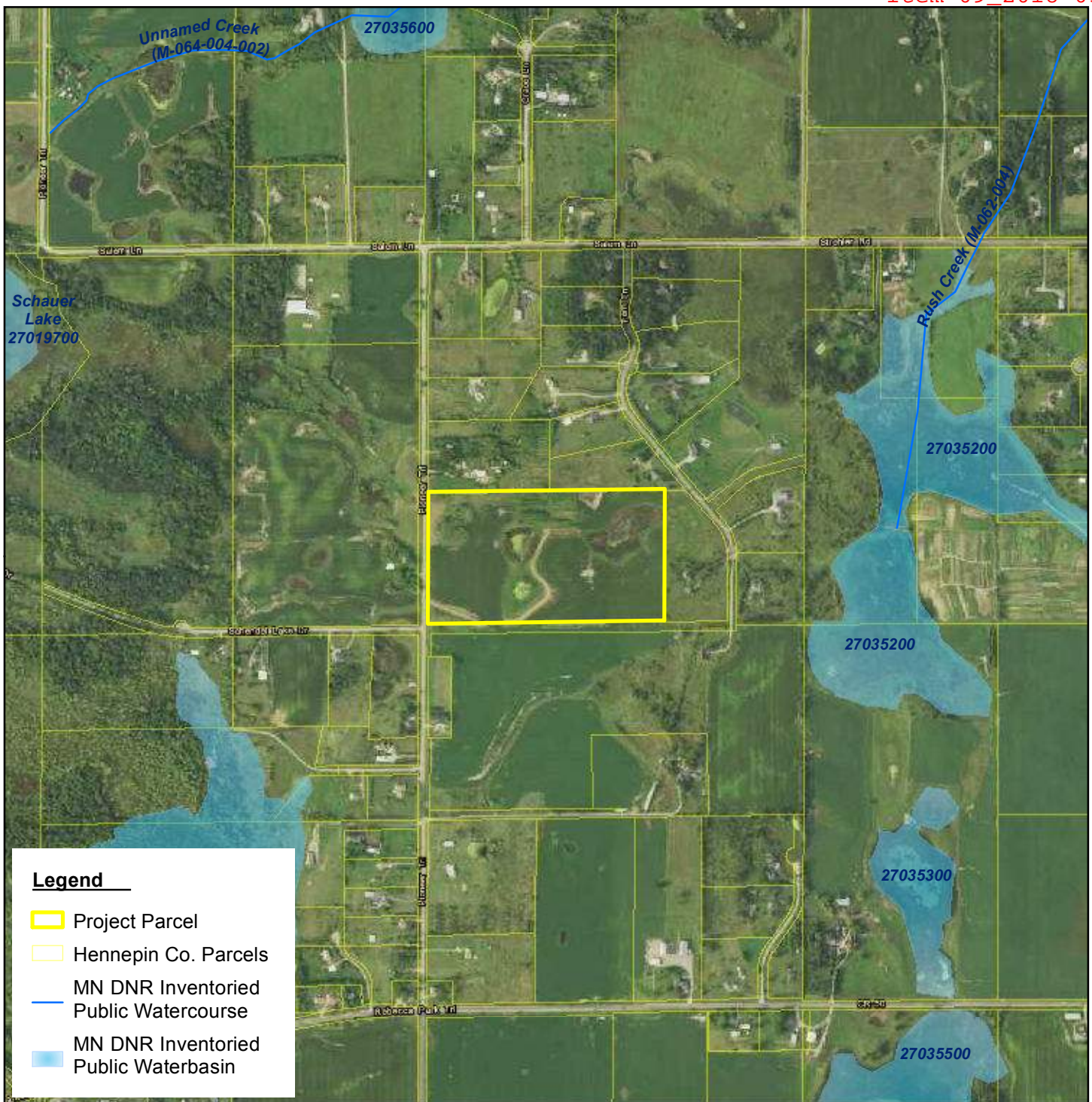


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SOILS - FIGURE 3 BLUEWATER BUILDERS

AE Comm.# 14923 Date: 4/17/2018 By: JLA



Legend

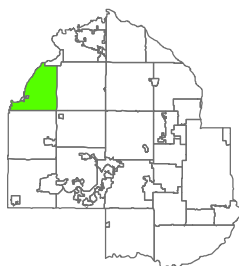
- Project Parcel
- Hennepin Co. Parcels
- MN DNR Inventoried Public Watercourse
- MN DNR Inventoried Public Waterbasin

PROJECT LOCATION

SOURCE: MN DNR, USDA, ESRI, TIGER, Bing, Hennepin Co., Anderson Engineering



Hennepin County
State of Minnesota



City of Greenfield
Hennepin County, MN

1 in = 1,000 feet



0 500 1,000 2,000



Feet

Pioneer Trail
Greenfield, Hennepin County, MN
PID: 053-2411924130004

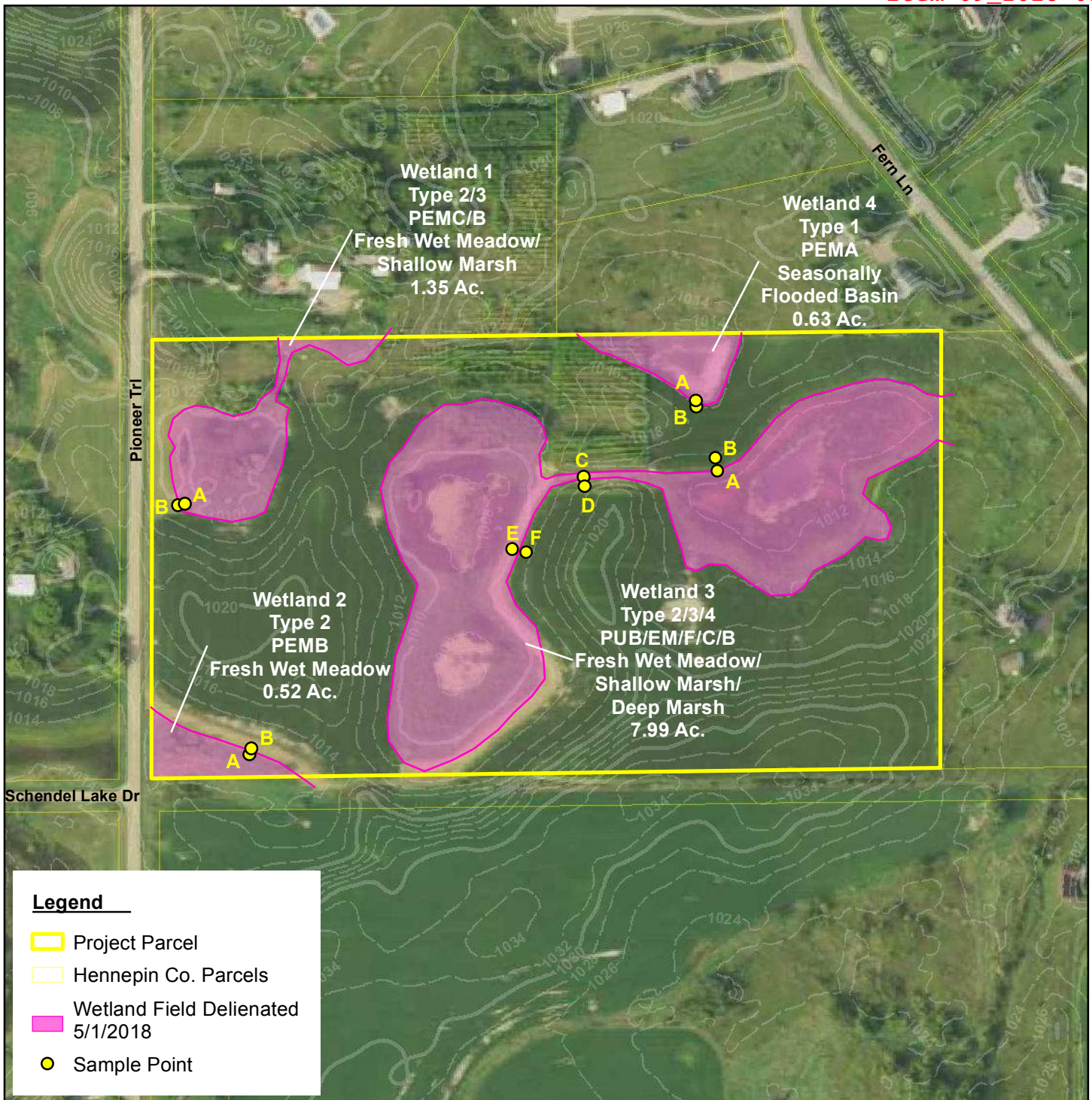


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PWI - FIGURE 4 BLUEWATER BUILDERS

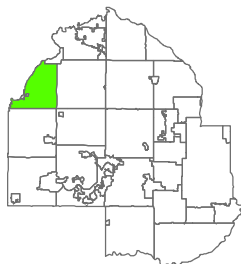
AE Comm.# 14923 Date: 4/17/2018 By: JLA

**PROJECT LOCATION**

SOURCE: MN DNR, USDA, ESRI, TIGER, Bing, Hennepin Co., Anderson Engineering



Hennepin County
State of Minnesota



City of Greenfield
Hennepin County, MN

1 in = 300 feet



0 150 300 600
Feet

Pioneer Trail
Greenfield, Hennepin County, MN
PID: 053-2411924130004



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DELINEATION - FIGURE 5 BLUEWATER BUILDERS

AE Comm.# 14923 Date: 4/17/2018 By: JLA

APPENDIX B

Routine On-site Determination Method Datasheets

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Greenfield Site City/County: Greenfield, Hennepin Sampling Date: 05/01/2018
 Applicant/Owner: Bluewater Builders State: Minnesota Sampling Point: W1-A
 Investigator(s): Alex Yellick, Tina Justen Section, Township, Range: 24, 119W, 24W
 Landform (hillslope, terrace, etc.): toe slope Local relief (concave, convex, none): concave
 Slope (%): 0 Lat: 45.103561° Long: -93.655489° Datum:
 Soil Map Unit Name Hamel, overwash-Hamel complex, 0 to 3 percent slopes NWI Classification: PEM1A

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances"

Are vegetation , soil , or hydrology naturally problematic? present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: <u></u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)

Frozen ground was encountered. Previous month was abnormally wet.

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>15 feet</u>)	Absolute % Cover	t Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		Prevalence Index Worksheet Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>98</u> x 2 = <u>196</u> FAC species <u>20</u> x 3 = <u>60</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>118</u> (A) <u>256</u> (B) Prevalence Index = B/A = <u>2.17</u>
Sapling/Shrub stratum	(Plot size: <u>15 feet</u>)				
1	<u>Cornus racemosa</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
2					
3					
4					
5					
		<u>0</u>	= Total Cover		
Herb stratum	(Plot size: <u>5 feet</u>)				Hydrophytic Vegetation Indicators: <u></u> Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Phalaris arundinacea</u>	<u>98</u>	<u>Y</u>	<u>FACW</u>	
2					
3					
4					
5					
6					
7					
8					
9					
10					
		<u>0</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30 feet</u>)				Hydrophytic vegetation present? <u>Y</u>
1					
2					
		<u>0</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

SOILSampling Point: W1-A**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-42	10YR 2/1	98	10YR 3/4	2	C	M	L	Distinct redox concentrations

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histisol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5)
☐ 2 cm Muck (A10)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☒ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric soil present? Y**Remarks:**

Ice encountered.

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Water-Stained Leaves (B9)

- ☐ Aquatic Fauna (B13)
☐ True Aquatic Plants (B14)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres on Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Thin Muck Surface (C7)
☐ Gauge or Well Data (D9)
☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☒ FAC-Neutral Test (D5)

Field Observations:

Surface water present? Yes No X Depth (inches): _____
 Water table present? Yes X No Depth (inches): 20
 Saturation present? Yes X No Depth (inches): 0
 (includes capillary fringe)

Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Greenfield Site City/County: Greenfield, Hennepin Sampling Date: 05/01/2018
 Applicant/Owner: Bluewater Builders State: Minnesota Sampling Point: W1-B
 Investigator(s): Alex Yellick, Tina Justen Section, Township, Range: 24, 119W, 24W
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None
 Slope (%): 0 Lat: 45.103359° Long: -93.655831° Datum:
 Soil Map Unit Name Hamel, overwash-Hamel complex, 0 to 3 percent slopes NWI Classification:

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances"

Are vegetation , soil , or hydrology naturally problematic? present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u> If yes, optional wetland site ID: <u></u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)

Frozen ground was encountered. Previous month was abnormally wet.

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>15 feet</u>)	Absolute % Cover	t Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			Prevalence Index Worksheet Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>10</u> x 3 = <u>30</u> FACU species <u>90</u> x 4 = <u>360</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>100</u> (A) <u>390</u> (B) Prevalence Index = B/A = <u>3.90</u>
Sapling/Shrub stratum	(Plot size: <u>15 feet</u>)				
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5 feet</u>)				Hydrophytic Vegetation Indicators: <u></u> Rapid test for hydrophytic vegetation <u></u> Dominance test is >50% <u></u> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Bromus inermis</u>	<u>90</u>	<u>Y</u>	<u>FACU</u>	
2	<u>Poa pratensis</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
3					
4					
5					
6					
7					
8					
9					
10					
		<u>100</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30 feet</u>)				Hydrophytic vegetation present? <u>N</u>
1					
2					
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

SOILSampling Point: W1-B**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-20	10YR 3/2	100					L	
20-36	10YR 3/1	100					FSL	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histisol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 2 cm Muck (A10) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils:

- | |
|--|
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____
Hydric soil present? N**Remarks:**

Frozen ground was encountered.

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- | |
|--|
| <input type="checkbox"/> Surface Water (A1) |
| <input type="checkbox"/> High Water Table (A2) |
| <input type="checkbox"/> Saturation (A3) |
| <input type="checkbox"/> Water Marks (B1) |
| <input type="checkbox"/> Sediment Deposits (B2) |
| <input type="checkbox"/> Drift Deposits (B3) |
| <input type="checkbox"/> Algal Mat or Crust (B4) |
| <input type="checkbox"/> Iron Deposits (B5) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Water-Stained Leaves (B9) |

- | |
|---|
| <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches):	_____
Water table present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches):	_____
Saturation present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Depth (inches):	30

 (includes capillary fringe)
Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Greenfield Site City/County: Greenfield, Hennepin Sampling Date: 05/01/2018
 Applicant/Owner: Bluewater Builders State: Minnesota Sampling Point: W2-A
 Investigator(s): Alex Yellick, Tina Justen Section, Township, Range: 24, 119W, 24W
 Landform (hillslope, terrace, etc.): toeslope Local relief (concave, convex, none): concave
 Slope (%): 0-2 Lat: 45.101998° Long: -93.655727° Datum:
 Soil Map Unit Name Hamel, overwash-Hamel complet, 0 to 3 percent slopes NWI Classification: PEM1A

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances"
 Are vegetation , soil , or hydrology naturally problematic? present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: <u></u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)

Previous month was abnormally wet.

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>15 feet</u>)	Absolute % Cover	t Species	Indicator Staus	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			Prevalence Index Worksheet Total % Cover of: OBL species <u>5</u> x 1 = <u>5</u> FACW species <u>95</u> x 2 = <u>190</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>100</u> (A) <u>195</u> (B) Prevalence Index = B/A = <u>1.95</u>
Sapling/Shrub stratum	(Plot size: <u>15 feet</u>)				
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5 feet</u>)				Hydrophytic Vegetation Indicators: <u></u> Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Phalaris arundinacea</u>	<u>95</u>	<u>Y</u>	<u>FACW</u>	
2	<u>Persicaria amphibia</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
3					
4					
5					
6					
7					
8					
9					
10					
		<u>100</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30 feet</u>)				Hydrophytic vegetation present? <u>Y</u>
1					
2					
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

SOILSampling Point: W2-A**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8	10YR 2/1	100					Loam	
8-36	10 YR 2/1	97	10YR 4/6	3	C	M	Loam	Prominent redox concentrations

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histisol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5)
☐ 2 cm Muck (A10)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☒ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric soil present? Y

Remarks:

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Water-Stained Leaves (B9)

Secondary Indicators (minimum of two required)

- ☐ Aquatic Fauna (B13)
☐ True Aquatic Plants (B14)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres on Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Thin Muck Surface (C7)
☐ Gauge or Well Data (D9)
☐ Other (Explain in Remarks)
- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☒ FAC-Neutral Test (D5)

Field Observations:

Surface water present? Yes ☐ No ☐ Depth (inches): _____
 Water table present? Yes ☐ No ☐ Depth (inches): _____
 Saturation present? Yes ☒ No ☐ Depth (inches): 24
 (includes capillary fringe)

Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Greenfield Site City/County: Greenfield, Hennepin Sampling Date: 05/01/2018
 Applicant/Owner: Bluewater Builders State: Minnesota Sampling Point: W2-B
 Investigator(s): Alex Yellick, Tina Justen Section, Township, Range: 24, 119W, 24W
 Landform (hillslope, terrace, etc.): footslope Local relief (concave, convex, none): none
 Slope (%): 0-2 Lat: 45.101907° Long: -93.655687° Datum:
 Soil Map Unit Name Hamel, overwash-Hamel complex, 0 to 3 percent slopes NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? (If no, explain in remarks)

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances"
 Are vegetation , soil , or hydrology naturally problematic? present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u> If yes, optional wetland site ID: <u></u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)

Previous month was abnormally wet.

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>15 feet</u>)	Absolute % Cover	t Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		Prevalence Index Worksheet Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>20</u> x 2 = <u>40</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>80</u> x 4 = <u>320</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>100</u> (A) <u>360</u> (B) Prevalence Index = B/A = <u>3.60</u>
Sapling/Shrub stratum	(Plot size: <u>15 feet</u>)				
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		
Herb stratum	(Plot size: <u>5 feet</u>)				Hydrophytic Vegetation Indicators: <u></u> Rapid test for hydrophytic vegetation <u></u> Dominance test is >50% <u></u> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Bromus inermis</u>	<u>80</u>	<u>Y</u>	<u>FACU</u>	
2	<u>Phalaris arundinacea</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
3					
4					
5					
6					
7					
8					
9					
10					
		<u>100</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30 feet</u>)				Hydrophytic vegetation present? <u>N</u>
1					
2					
		<u>0</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

SOILSampling Point: W2-B**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-18	10YR 2/2	100					Loam	
18-30	10YR 2/1	98	2.5Y 5/4	2	C	M	Silt Clay Loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histisol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 2 cm Muck (A10) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils:

- | |
|--|
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____
Hydric soil present? N

Remarks:

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- | |
|--|
| <input type="checkbox"/> Surface Water (A1) |
| <input type="checkbox"/> High Water Table (A2) |
| <input type="checkbox"/> Saturation (A3) |
| <input type="checkbox"/> Water Marks (B1) |
| <input type="checkbox"/> Sediment Deposits (B2) |
| <input type="checkbox"/> Drift Deposits (B3) |
| <input type="checkbox"/> Algal Mat or Crust (B4) |
| <input type="checkbox"/> Iron Deposits (B5) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Water-Stained Leaves (B9) |

- | |
|---|
| <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____
Water table present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____
Saturation present? (includes capillary fringe)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Greenfield Site City/County: Greenfield, Hennepin Sampling Date: 05/01/2018
 Applicant/Owner: Bluewater Builders State: Minnesota Sampling Point: W3-A
 Investigator(s): Alex Yellick, Tina Justen Section, Township, Range: 24, 119W, 24W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): None
 Slope (%): 0 Lat: 45.103732° Long: -93.651136° Datum:
 Soil Map Unit Name Cordova loam, 0 to 2 percent slopes NWI Classification: PEM1A

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)

Are vegetation X, soil X, or hydrology significantly disturbed? Are "normal circumstances" present? Yes
 Are vegetation , soil , or hydrology naturally problematic?

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	<u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: <u></u>
Hydric soil present?	<u>Y</u>	
Indicators of wetland hydrology present?	<u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)

Previous month was abnormally wet. Approximately one-half of the sample plot consisted of previously cultivated/plowed and cropped land.

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>15 feet</u>)	Absolute % Cover	t Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			Prevalence Index Worksheet Total % Cover of: OBL species <u>50</u> x 1 = <u>50</u> FACW species <u>5</u> x 2 = <u>10</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>55</u> (A) <u>60</u> (B) Prevalence Index = B/A = <u>1.09</u>
Sapling/Shrub stratum	(Plot size: <u>15 feet</u>)				
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5 feet</u>)				Hydrophytic Vegetation Indicators: <u></u> Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Typha angustifolia</u>	<u>50</u>	<u>Y</u>	<u>OBL</u>	
2	<u>Bidens frondosa</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
3					
4					
5					
6					
7					
8					
9					
10					
		<u>55</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30 feet</u>)				Hydrophytic vegetation present? <u>Y</u>
1					
2					
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

Approximately one-half of the sample plot consisted of corn stubble.

SOILSampling Point: W3-A**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8	10YR 3/1	100					Silt Loam	
8-16	10YR 4/1	95	7.5YR 4/1	5	C	M	Clay loam	
16-30	10Y 5/1	95	7.5YR 4/6	5	C	M	Clay Loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histisol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5)
☐ 2 cm Muck (A10)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☒ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric soil present? Y**Remarks:**

Soil assumed to be hydric based on best professional judgement; hydrophytic vegetation and wetland hydrology are present.

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
☒ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Water-Stained Leaves (B9)

- ☐ Aquatic Fauna (B13)
☐ True Aquatic Plants (B14)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres on Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Thin Muck Surface (C7)
☐ Gauge or Well Data (D9)
☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☒ FAC-Neutral Test (D5)

Field Observations:

Surface water present? Yes No X Depth (inches):
 Water table present? Yes X No Depth (inches): 8
 Saturation present? Yes No X Depth (inches):
 (includes capillary fringe)

Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Previous month was abnormally wet.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Greenfield Site City/County: Greenfield, Hennepin Sampling Date: 05/01/2018
 Applicant/Owner: Bluewater Builders State: Minnesota Sampling Point: W3-B
 Investigator(s): Alex Yellick, Tina Justen Section, Township, Range: 24, 119W, 24W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): None
 Slope (%): 0 Lat: 45.103732° Long: -93.651136° Datum:
 Soil Map Unit Name Cordova loam, 0 to 2 percent slopes NWI Classification:

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)

Are vegetation X, soil X, or hydrology significantly disturbed? Are "normal circumstances" present? Yes
 Are vegetation , soil , or hydrology naturally problematic?

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u> If yes, optional wetland site ID: <u></u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)

Previous month was abnormally wet. Sampled point was previously cropped in corn and cultivated/plowed.

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>15 feet</u>)	Absolute % Cover	t Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across all Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			Prevalence Index Worksheet Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u></u>
Sapling/Shrub stratum	(Plot size: <u>15 feet</u>)				
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5 feet</u>)				Hydrophytic Vegetation Indicators: <u></u> Rapid test for hydrophytic vegetation <u></u> Dominance test is >50% <u></u> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
		<u>0</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30 feet</u>)				Hydrophytic vegetation present? <u>N</u>
1					
2					
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

Corn stubble was observed on the soil surface.

SOILSampling Point: W3-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-12	10YR 3/1	100					Silt Loam	
12-16	10YR 3/1	98	10YR 4/6	2	C	M	Silt Loam	Prominent redox concentrations
16-32+	10YR 5/2	95	7.5YR 4/6	5	C	M	Clay Loam	Prominent redox concentrations

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histisol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 2 cm Muck (A10) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils:

- | |
|--|
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____
Hydric soil present? N**Remarks:**

Sampled point was previously cultivated/plowed.

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- | |
|--|
| <input type="checkbox"/> Surface Water (A1) |
| <input type="checkbox"/> High Water Table (A2) |
| <input type="checkbox"/> Saturation (A3) |
| <input type="checkbox"/> Water Marks (B1) |
| <input type="checkbox"/> Sediment Deposits (B2) |
| <input type="checkbox"/> Drift Deposits (B3) |
| <input type="checkbox"/> Algal Mat or Crust (B4) |
| <input type="checkbox"/> Iron Deposits (B5) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Water-Stained Leaves (B9) |

- | |
|---|
| <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches):	_____
Water table present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches):	_____
Saturation present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches):	_____

 (includes capillary fringe)
Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Previous month was abnormally wet.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Greenfield Site City/County: Greenfield, Hennepin Sampling Date: 05/01/2018
 Applicant/Owner: Bluewater Builders State: Minnesota Sampling Point: W3-C
 Investigator(s): Alex Yellick, Tina Justen Section, Township, Range: 24, 119W, 24W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): None
 Slope (%): 0 Lat: 45.103453° Long: -93.652353° Datum:
 Soil Map Unit Name Cordova loam, 0 to 2 percent slopes NWI Classification:

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)

Are vegetation X, soil X, or hydrology significantly disturbed? Are "normal circumstances" present? Yes
 Are vegetation , soil , or hydrology naturally problematic?

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: <u></u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)

Previous month was abnormally wet.

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>15 feet</u>)	Absolute % Cover	t Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			Prevalence Index Worksheet Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>40</u> x 2 = <u>80</u> FAC species <u>40</u> x 3 = <u>120</u> FACU species <u>5</u> x 4 = <u>20</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>85</u> (A) <u>220</u> (B) Prevalence Index = B/A = <u>2.59</u>
Sapling/Shrub stratum	(Plot size: <u>15 feet</u>)				
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5 feet</u>)				Hydrophytic Vegetation Indicators: <u></u> Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Phalaris arundinacea</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	
2	<u>Poa pratensis</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	
3	<u>Solidago canadensis</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
4					
5					
6					
7					
8					
9					
10					
		<u>85</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30 feet</u>)				Hydrophytic vegetation present? <u>Y</u>
1					
2					
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

SOILSampling Point: W3-C**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-12	10YR 3/1	100					Silt Loam	
12-16	10YR 3/1	98	10YR 4/6	2	C	M	Silt Loam	
16-32+	10YR 5/2	95	7.5YR 4/6	5	C	M	Clay Loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histisol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5)
☐ 2 cm Muck (A10)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☒ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric soil present? Y**Remarks:**

Soil assumed to be hydric based on best professional judgement; hydrophytic vegetation and wetland hydrology are present.

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
☒ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Water-Stained Leaves (B9)

Secondary Indicators (minimum of two required)

- ☐ Aquatic Fauna (B13)
☐ True Aquatic Plants (B14)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres on Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Thin Muck Surface (C7)
☐ Gauge or Well Data (D9)
☐ Other (Explain in Remarks)
- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☒ FAC-Neutral Test (D5)

Field Observations:

Surface water present? Yes No X Depth (inches):
 Water table present? Yes X No Depth (inches): 6
 Saturation present? Yes No X Depth (inches):
 (includes capillary fringe)

Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Previous month was abnormally wet.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Greenfield Site City/County: Greenfield, Hennepin Sampling Date: 05/01/2018
 Applicant/Owner: Bluewater Builders State: Minnesota Sampling Point: W3-D
 Investigator(s): Alex Yellick, Tina Justen Section, Township, Range: 24, 119W, 24W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None
 Slope (%): 2 Lat: 45.103245° Long: -93.653078° Datum:
 Soil Map Unit Name Cordova loam, 0 to 2 percent slopes NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)

Are vegetation X, soil X, or hydrology significantly disturbed? Are "normal circumstances" present? Yes
 Are vegetation , soil , or hydrology naturally problematic?

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u> If yes, optional wetland site ID: <u></u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.) Previous month was abnormally wet.	

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>15 feet</u>)	Absolute % Cover	t Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		Prevalence Index Worksheet Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>50</u> x 3 = <u>150</u> FACU species <u>50</u> x 4 = <u>200</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>100</u> (A) <u>350</u> (B) Prevalence Index = B/A = <u>3.50</u>
Sapling/Shrub stratum	(Plot size: <u>15 feet</u>)				
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		
Herb stratum	(Plot size: <u>5 feet</u>)				Hydrophytic Vegetation Indicators: <u></u> Rapid test for hydrophytic vegetation <u></u> Dominance test is >50% <u></u> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Bromus inermis</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>	
2	<u>Poa pratensis</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	
3					
4					
5					
6					
7					
8					
9					
10					
		<u>100</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30 feet</u>)				Hydrophytic vegetation present? <u>N</u>
1					
2					
		<u>0</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

SOILSampling Point: W3-D**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-10	10YR 3/2	100					Silt Loam	
10-36	10YR 3/2	95	10YR 4/6	5	C	M	Silt Loam	Prominent redox concentrations

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histisol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 2 cm Muck (A10) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils:

- | |
|--|
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____
Hydric soil present? N

Remarks:

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- | |
|--|
| <input type="checkbox"/> Surface Water (A1) |
| <input type="checkbox"/> High Water Table (A2) |
| <input type="checkbox"/> Saturation (A3) |
| <input type="checkbox"/> Water Marks (B1) |
| <input type="checkbox"/> Sediment Deposits (B2) |
| <input type="checkbox"/> Drift Deposits (B3) |
| <input type="checkbox"/> Algal Mat or Crust (B4) |
| <input type="checkbox"/> Iron Deposits (B5) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Water-Stained Leaves (B9) |

- | |
|---|
| <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____
Water table present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____
Saturation present? (includes capillary fringe)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Greenfield Site City/County: Greenfield, Hennepin Sampling Date: 05/01/2018
 Applicant/Owner: Bluewater Builders State: Minnesota Sampling Point: W3-E
 Investigator(s): Alex Yellick, Tina Justen Section, Township, Range: 24, 119W, 24W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None
 Slope (%): 0 Lat: 45.103309° Long: -93.653153° Datum:
 Soil Map Unit Name Klossner soils, depressional, 0 to 1 percent slopes NWI Classification: PEM1C

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances"

Are vegetation , soil X, or hydrology naturally problematic? present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: <u></u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)

Previous month was abnormally wet and not typical of the time of year. Frozen soil was observed.

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>15 feet</u>)	Absolute % Cover	t Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		Prevalence Index Worksheet Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>85</u> x 2 = <u>170</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>15</u> x 4 = <u>60</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>100</u> (A) <u>230</u> (B) Prevalence Index = B/A = <u>2.30</u>
Sapling/Shrub stratum	(Plot size: <u>15 feet</u>)				
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		
Herb stratum	(Plot size: <u>5 feet</u>)				Hydrophytic Vegetation Indicators: <u></u> Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Phalaris arundinacea</u>	<u>85</u>	<u>Y</u>	<u>FACW</u>	
2	<u>Trifolium repens</u>	<u>15</u>	<u>N</u>	<u>FACU</u>	
3					
4					
5					
6					
7					
8					
9					
10					
		<u>100</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30 feet</u>)				Hydrophytic vegetation present? <u>Y</u>
1					
2					
		<u>0</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

SOILSampling Point: W3-E**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8	10YR 3/2	98	10YR 4/6	2	C	PL	Silt Loam	Prominent redox concentrations
8-16	10YR 3/2	95	10YR 3/6	5	C	M	Silt Loam	Prominent redox concentrations
16-30	10YR 2/1	98	10YR 3/6	2	C	M	Silt Loam	frozen soil
30+							Sand	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histisol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5)
☐ 2 cm Muck (A10)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☒ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric soil present? Y

Remarks:

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Water-Stained Leaves (B9)

Secondary Indicators (minimum of two required)

- ☐ Aquatic Fauna (B13)
☐ True Aquatic Plants (B14)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres on Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Thin Muck Surface (C7)
☐ Gauge or Well Data (D9)
☐ Other (Explain in Remarks)
- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☒ FAC-Neutral Test (D5)

Field Observations:

Surface water present? Yes ☐ No ☒ Depth (inches): _____
 Water table present? Yes ☒ No ☐ Depth (inches): 30
 Saturation present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Watertable observed at sand layer.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Greenfield Site City/County: Greenfield, Hennepin Sampling Date: 05/01/2018
 Applicant/Owner: Bluewater Builders State: Minnesota Sampling Point: W3-F
 Investigator(s): Alex Yellick, Tina Justen Section, Township, Range: 24, 119W, 24W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None
 Slope (%): 2 Lat: 45.103245° Long: -93.653078° Datum:
 Soil Map Unit Name Cordova loam, 0 to 2 percent slopes NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)

Are vegetation X, soil X, or hydrology significantly disturbed? Are "normal circumstances" present? Yes
 Are vegetation , soil , or hydrology naturally problematic?

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u> If yes, optional wetland site ID: <u></u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)

Previous month was abnormally wet. Sampled point was previously cropped in corn and cultivated/plowed.

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>15 feet</u>)	Absolute % Cover	t Species	Indicator Staus	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across all Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			Prevalence Index Worksheet Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u></u>
Sapling/Shrub stratum	(Plot size: <u>15 feet</u>)				
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5 feet</u>)				Hydrophytic Vegetation Indicators: <u></u> Rapid test for hydrophytic vegetation <u></u> Dominance test is >50% <u></u> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
		<u>0</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30 feet</u>)				Hydrophytic vegetation present? <u>N</u>
1					
2					
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

Sample point was devoid of living vegetation. Prior year corn stubble was observed on soil surface.

SOILSampling Point: W3-F**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-12	10YR 3/2	100					Silt Loam	
12-30	10YR 3/2	95	10YR 4/6	5	C	M	Silt Loam	Prominent redox concentrations

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histisol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 2 cm Muck (A10) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils:

- | |
|--|
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____
Hydric soil present? N

Remarks:

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- | |
|--|
| <input type="checkbox"/> Surface Water (A1) |
| <input type="checkbox"/> High Water Table (A2) |
| <input type="checkbox"/> Saturation (A3) |
| <input type="checkbox"/> Water Marks (B1) |
| <input type="checkbox"/> Sediment Deposits (B2) |
| <input type="checkbox"/> Drift Deposits (B3) |
| <input type="checkbox"/> Algal Mat or Crust (B4) |
| <input type="checkbox"/> Iron Deposits (B5) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Water-Stained Leaves (B9) |

- | |
|---|
| <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____
Water table present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____
Saturation present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____

 (includes capillary fringe)
Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Greenfield Site City/County: Greenfield, Hennepin Sampling Date: 05/01/2018
 Applicant/Owner: Bluewater Builders State: Minnesota Sampling Point: W4-A
 Investigator(s): Alex Yellick, Tina Justen Section, Township, Range: 24, 119W, 24W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): None
 Slope (%): 0 Lat: 45.104160° Long: -93.651657° Datum:
 Soil Map Unit Name Cordova loam, 0 to 2 percent slopes NWI Classification: PEM1A

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)

Are vegetation X, soil X, or hydrology significantly disturbed? Are "normal circumstances" present? Yes
 Are vegetation , soil , or hydrology naturally problematic?

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	<u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: <u></u>
Hydric soil present?	<u>Y</u>	
Indicators of wetland hydrology present?	<u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)

The sampled point would support hydrophytes if soil was undisturbed. Therefore this point is considered a wetland, based on best professional judgement. Previous month was abnormally wet. Sampled point was previously cropped in corn and cultivated/plowed

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>15 feet</u>)	Absolute % Cover	Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across all Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		Prevalence Index Worksheet Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u></u>
Sapling/Shrub stratum	(Plot size: <u>15 feet</u>)				
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		
Herb stratum	(Plot size: <u>5 feet</u>)				Hydrophytic Vegetation Indicators: <u></u> Rapid test for hydrophytic vegetation <u></u> Dominance test is >50% <u></u> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u></u> Problematic hydrophytic vegetation* <u>X</u> (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
		<u>0</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30 feet</u>)				Hydrophytic vegetation present? <u>Y</u>
1					
2					
		<u>0</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

Corn stubble was observed on the soil surface. Based on other documented field observations, the area around the sampled point would likely support hydrophytic vegetation assuming the soil was left undisturbed for an extended period of time.

SOILSampling Point: W4-A**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-10	10YR 3/1	100					Silt Loam	
10-18	10YR 2/1	95	10YR 4/6	5	C	M	Silt Loam	
18-30	10 YR 2/1	99	10YR 3/6	1	C	M	Silt Loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histisol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5)
☐ 2 cm Muck (A10)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☒ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric soil present? Y**Remarks:**

Soils assumed to be hydric based on best professional judgement. Area meets indicators of wetland hydrology.
 Vegetation assumed to be hydrophytic if present.
 Sampled point was previously cultivated/plowed.

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
☒ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Water-Stained Leaves (B9)

- ☐ Aquatic Fauna (B13)
☐ True Aquatic Plants (B14)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres on Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Thin Muck Surface (C7)
☐ Gauge or Well Data (D9)
☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☒ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present? Yes No X Depth (inches):
 Water table present? Yes X No Depth (inches): 8
 Saturation present? Yes No X Depth (inches):
 (includes capillary fringe)

Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Greenfield Site City/County: Greenfield, Hennepin Sampling Date: 05/01/2018
 Applicant/Owner: Bluewater Builders State: Minnesota Sampling Point: W4-B
 Investigator(s): Alex Yellick, Tina Justen Section, Township, Range: 24, 119W, 24W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): None
 Slope (%): 2 Lat: 45.104074° Long: -93.651742° Datum:
 Soil Map Unit Name Cordova loam, 0 to 2 percent slopes NWI Classification:

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)

Are vegetation X, soil X, or hydrology significantly disturbed? Are "normal circumstances" present? Yes
 Are vegetation , soil , or hydrology naturally problematic?

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u> If yes, optional wetland site ID: <u></u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)

Previous month was abnormally wet. Sampled point was previously cropped in corn and cultivated/plowed.

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>15 feet</u>)	Absolute % Cover	t Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across all Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		Prevalence Index Worksheet Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u></u>
Sapling/Shrub stratum	(Plot size: <u>15 feet</u>)				
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		
Herb stratum	(Plot size: <u>5 feet</u>)				Hydrophytic Vegetation Indicators: <u></u> Rapid test for hydrophytic vegetation <u></u> Dominance test is >50% <u></u> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
		<u>0</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30 feet</u>)				Hydrophytic vegetation present? <u>N</u>
1					
2					
		<u>0</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

Corn stubble was observed on the soil surface.

SOILSampling Point: W4-B**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8	10YR 3/1	100					Silt Loam	
8-12	10YR 3/1	99	10YR 4/6	1	C	M	Silt Loam	
12-32	10 YR 2/1	100					Silt Loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histisol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5)
☐ 2 cm Muck (A10)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric soil present? N**Remarks:**

Sampled point was previously cultivated/plowed.

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Water-Stained Leaves (B9)

Secondary Indicators (minimum of two required)

- ☐ Aquatic Fauna (B13)
☐ True Aquatic Plants (B14)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres on Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Thin Muck Surface (C7)
☐ Gauge or Well Data (D9)
☐ Other (Explain in Remarks)
- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present? Yes No X Depth (inches):
 Water table present? Yes X No Depth (inches): 28
 Saturation present? Yes No X Depth (inches):
 (includes capillary fringe)

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Previous month was abnormally wet.

APPENDIX C

Site Photographs



Wetland 1, Viewing West



Wetland 1, Sampling Transect, Viewing North



Wetland 2, Viewing Southwest



Wetland 2, Sampling Transect, Viewing South



Wetland 3, Viewing Southwest



Wetland 3, Viewing East



Wetland 3, Connection Between Basins, Viewing East



Wetland 3, Sampling Transect C-D, Viewing East



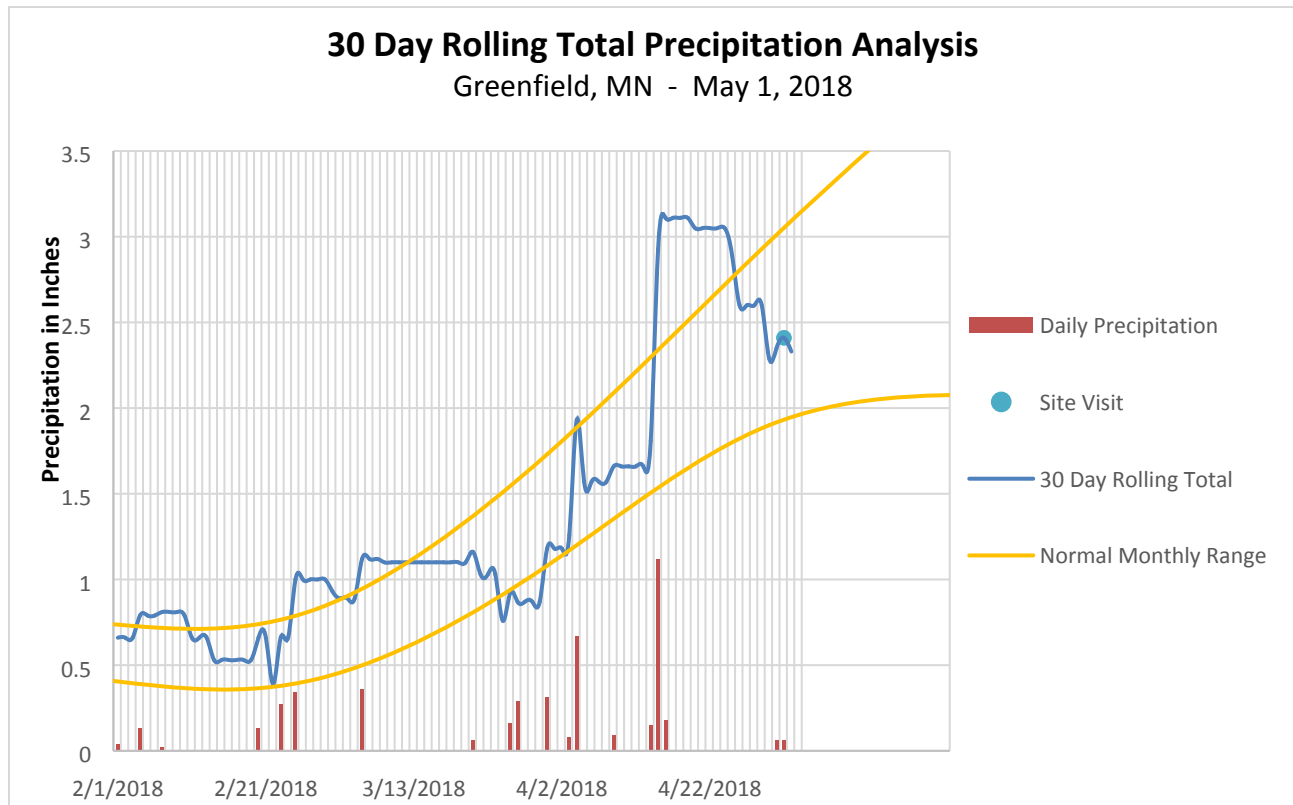
Wetland 4, Viewing North



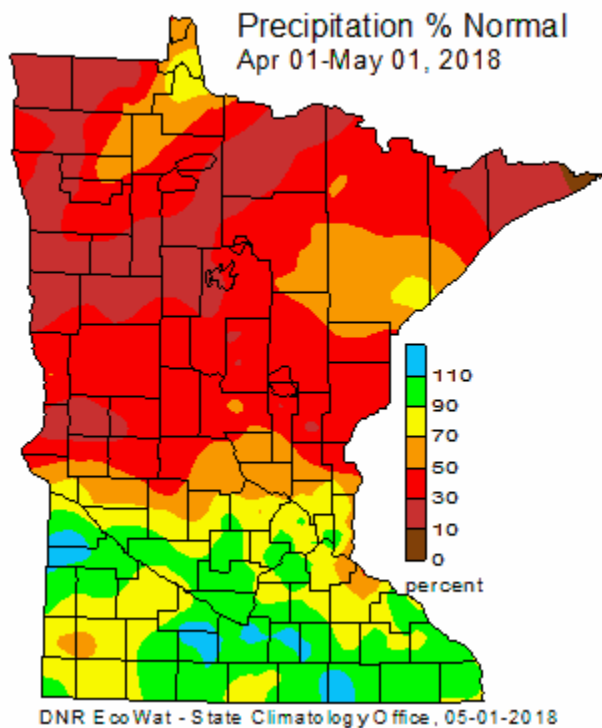
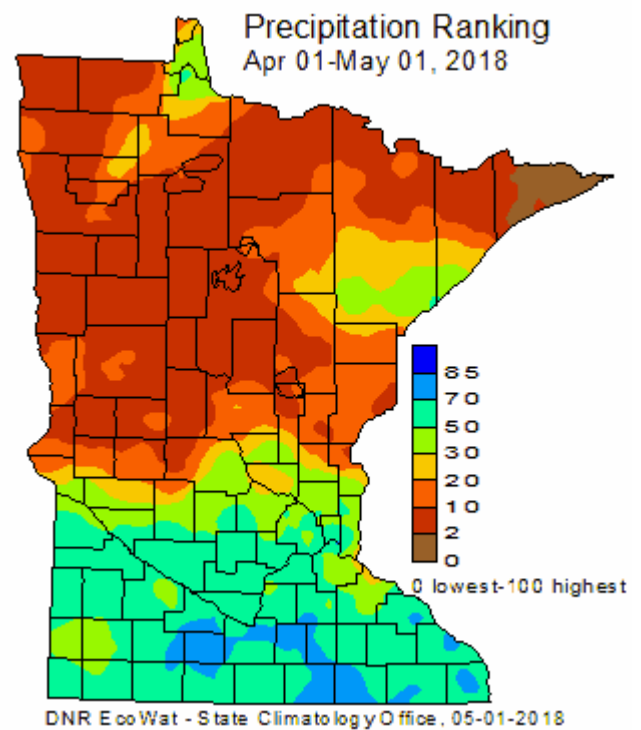
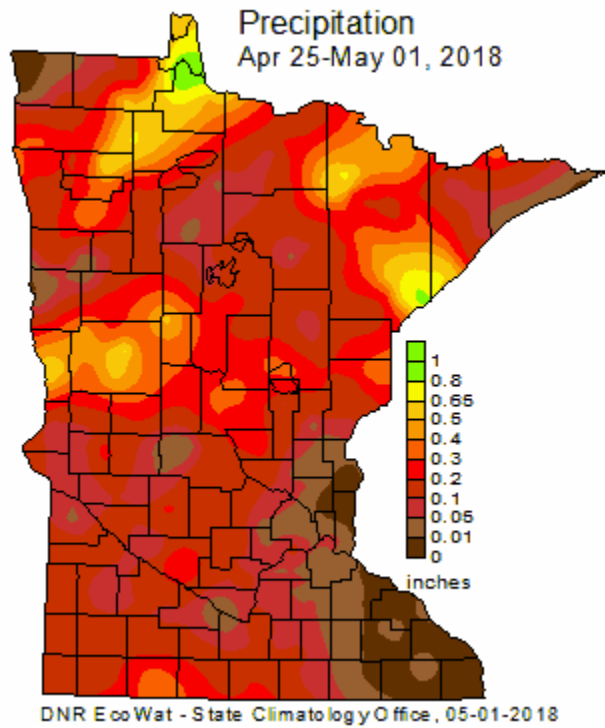
Wetland 4, Sampling Transect, Viewing Northeast

APPENDIX D

Antecedent Precipitation Record



Source: <http://climate.umn.edu/>



Source: <https://www.dnr.state.mn.us/climate/weekmap/weekmap180501.html>

APPENDIX E

Historic Aerial Review

Wetland Hydrology from Aerial Imagery - Recording Form

Project: Bluewater Builders-Greenfield, MN

Date: 4/17/2018

County: Hennepin

Comm #: 14923

Legal: S 24, T 119N, R24W

45.103, 93.653

Image Date	Image Source	Climate Condition (wet, dry, normal)	Image Interpretation							
			Area A	Area B	Area C	Area D	Area E	Area F	Area G	Area H
1981	FSA	Dry	NV	NV	DO/CS	NV	NV			
1983	FSA	Normal	NV	CS	SS	NV	NV			
1984	FSA	Wet	CS	CS	CS/DO/NC	NV	NV			
1985	FSA	Wet	CS	CS	CS/DO/NC	NV	NV			
1986	FSA	Normal	CS	NV	CS/DO/NC	NV	NV			
1987	FSA	Dry	CS	NV	CS/NC	NV	NV			
1988	FSA	Dry	CS	NV	CS/NC	NV	NV			
1989	FSA	Dry	CS	NV	CS/NC	NV	NV			
1990	FSA	Normal	CS	NV	CS/DO/NC	NV	NV			
1991	FSA	Wet	CS	CS	CS/NC	CS	CS			
1992	FSA	Dry	CS	NV	DO/NC	CS	CS			
1993	FSA	Wet	CS	CS	CS/DO/NC	CS	CS			
1994	FSA	Normal	NC	CS	CS/DO/NC	NV	NV			
1995	FSA	Wet	CS	NV	DO/NC	NV	CS			
1996	FSA	Dry	CS	CS	NC	CS/DO	CS			
1997	FSA	Dry	CS	CS	DO/NC	CS	CS			
1998	FSA	Normal	NC	NV	DO/NC	CS	CS			
2000	FSA	Normal	CS	CS	DO/NC	CS	CS			
2003	FSA	Dry	NC	CS	WS	NV	CS			
2008	FSA	Dry	CS	CS	NC	DO	DO			
2009	FSA	Dry	CS	CS	WS	CS	CS			
2010	FSA	Normal	CS	CS	WS	CS	CS			
2013	FSA	Wet	AP	AP	WS	CS	AP/DO			
2015	FSA	Normal	AP	AP	AP/WS	NC	DO			
2016	FSA	Wet	AP	AP	AP	NC	CS			
2017	FSA	Wet	CS/AP	AP	AP/WS	CS	DO			
Number of Normal (pre-excavation)			8	8	8	8	8	8	8	8
Number with wet signatures			5	5	8	3	4			
Percent with wet Signatures			63%	63%	100%	38%	50%	0%	0%	0%

Acronyms:

WS-wetland signature

SS-soil wetness signature

CS-crop stress

NC-not cropped

AP-altered pattern

NV-normal vegetative cover

DO - drowned out

SW-standing water

NSS-no soil wetness signature

Wetland Hydrology from Aerial Imagery - Recording Form

Project: Bluewater Builders-Greenfield, MN

Date: 4/17/2018

County: Hennepin

Comm #: 14923

Legal: S 24, T 119N, R24W

45.103, 93.653

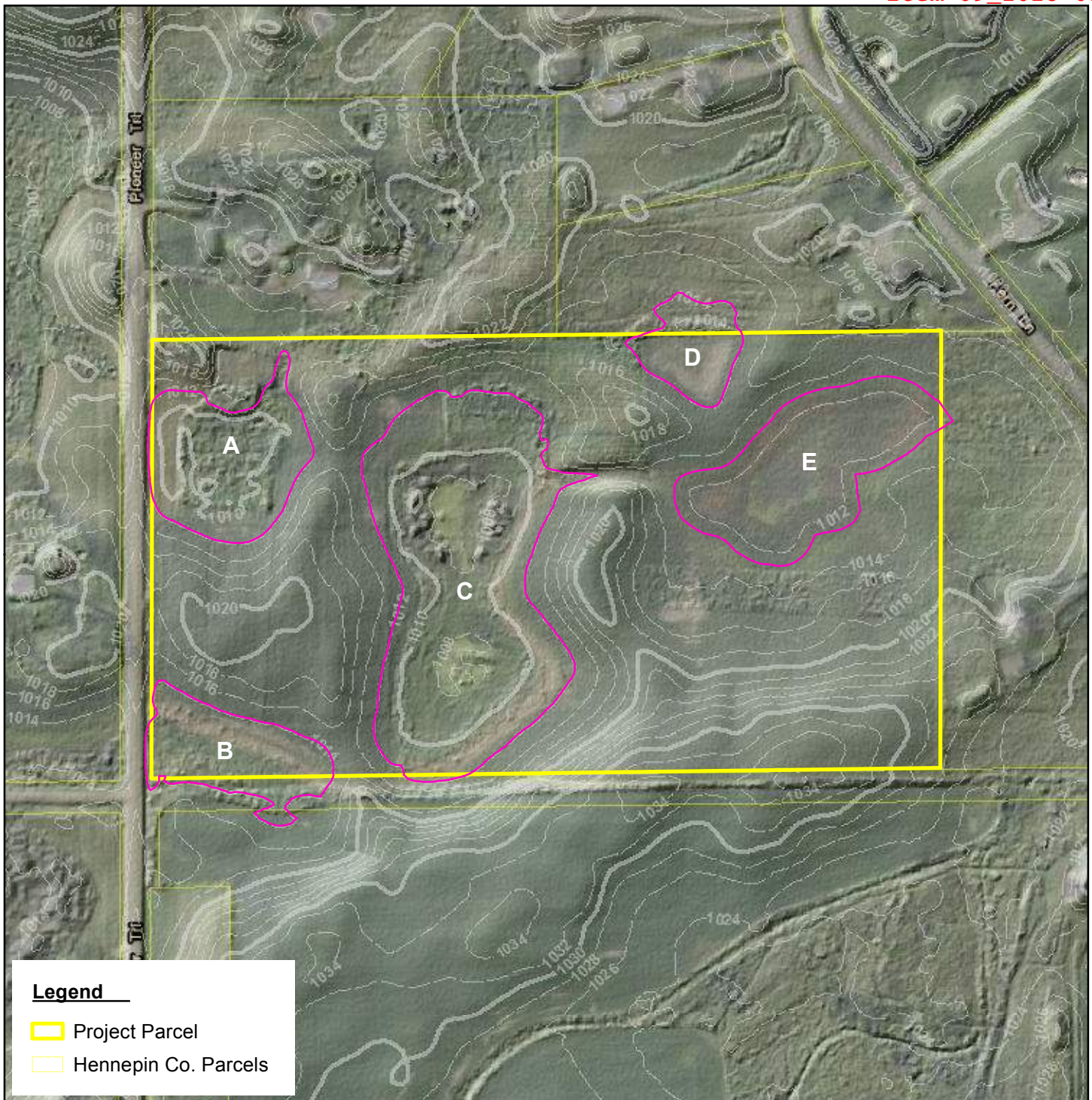
Decision Matrix.

Hydric Soils Present	NWI Mapped	Percent with wet signatures from Exhibit 1	Field Verification Required	Wetland ?
YES	Yes	>50%	No	Yes
YES	Yes	30-50%	No	Yes
YES	Yes	<30%	Yes	Yes if other hydrology indicators
YES	No	>50%	No	Yes
YES	No	30-50%	Yes	Yes if other hydrology indicators
YES	No	<30%	No	No
No	Yes	>50%	No	Yes
No	Yes	30-50%	No	Yes
No	Yes	<30%	No	No
No	No	>50%	Yes	Yes if other hydrology indicators
No	No	30-50%	Yes	Yes if other hydrology indicators
No	No	<30%	No	No

TABLE 1.

Area	Hydric Soils Present	NWI Mapped	Percent with wet signatures from Exhibit 1	Other Hydrology Indicators Present ¹	Wetland?
A	Y	Y	63.00%		Y
B	Y	Y	63.00%		Y
C	Y	Y	100.00%		Y
D	Y	Y	38.00%		Y
E	Y	N	50.00%		Y
F					
G					
H					

¹ Answer N/A if field verification is not required and was not conducted

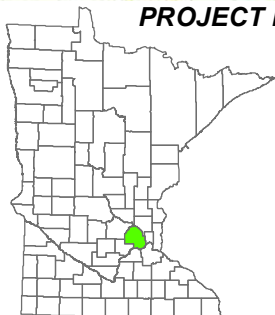


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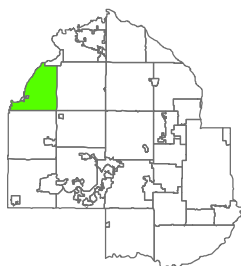
- Project Parcel
- Hennepin Co. Parcels

PROJECT LOCATION

SOURCE: MN DNR, USDA, ESRI, TIGER, Bing, Hennepin Co., Anderson Engineering



Hennepin County
State of Minnesota



City of Greenfield
Hennepin County, MN

1 in = 300 feet



0 150 300 600
Feet

Pioneer Trail
Greenfield, Hennepin County, MN
PID: 053-2411924130004

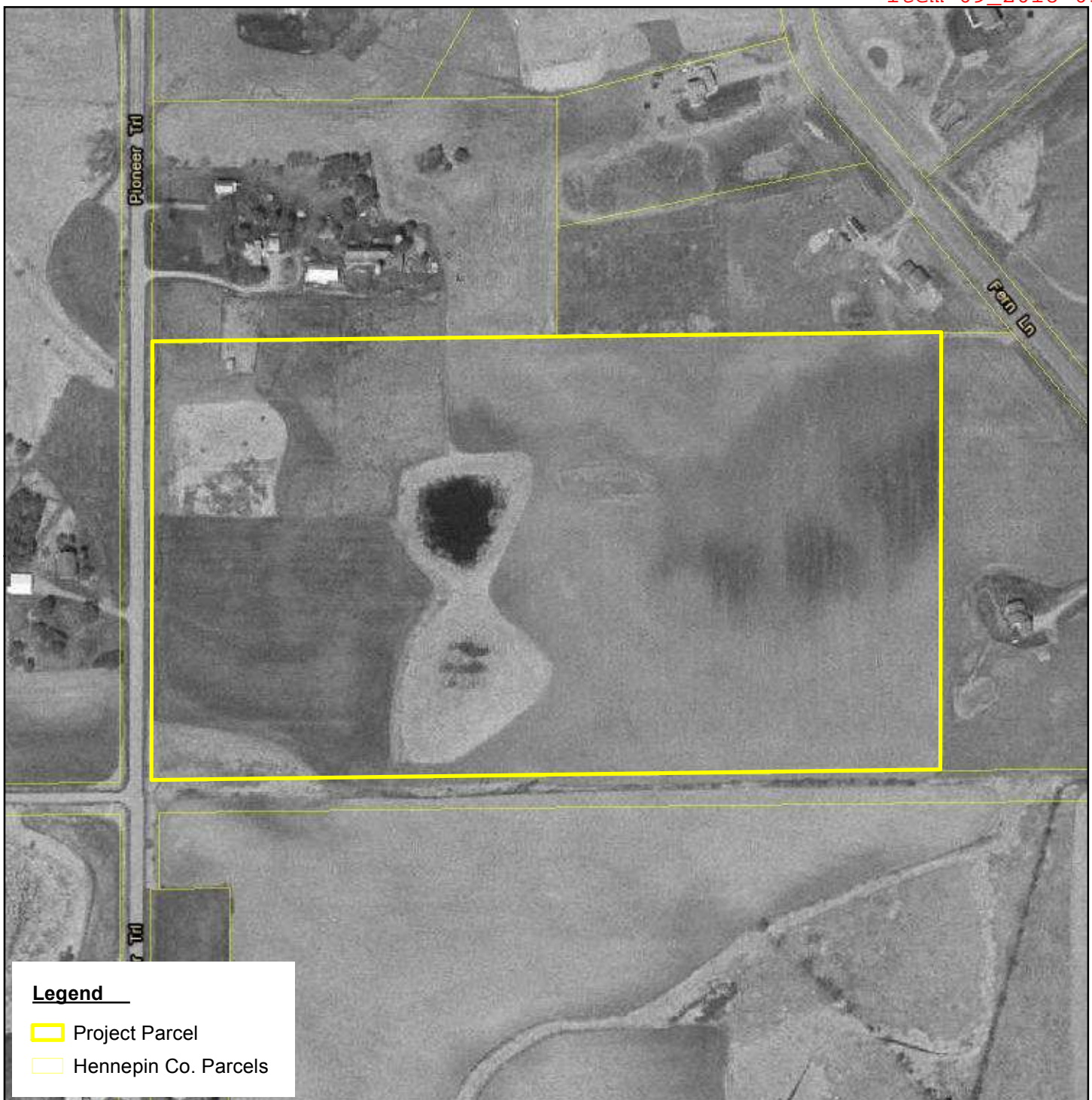


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INVESTIGATION AREAS
BLUEWATER BUILDERS

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Legend

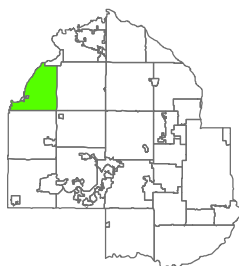
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SOURCE: MN DNR, USDA, ESRI, TIGER, Bing, Hennepin Co., Anderson Engineering



Hennepin County
State of Minnesota



City of Greenfield
Hennepin County, MN

1 in = 300 feet



0 150 300 600
Feet

Pioneer Trail
Greenfield, Hennepin County, MN
PID: 053-2411924130004



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2000 MnGEO AERIAL
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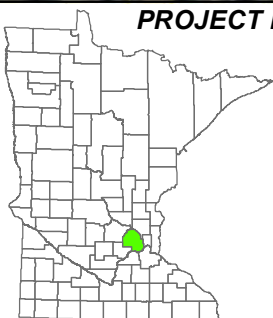


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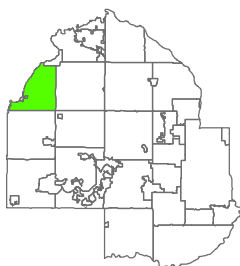
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PROJECT LOCATION

SOURCE: MN DNR, USDA, ESRI, TIGER, Bing, Hennepin Co., Anderson Engineering



Hennepin County
State of Minnesota



City of Greenfield
Hennepin County, MN

1 in = 300 feet



0 150 300 600
Feet

Pioneer Trail
Greenfield, Hennepin County, MN
PID: 053-2411924130004

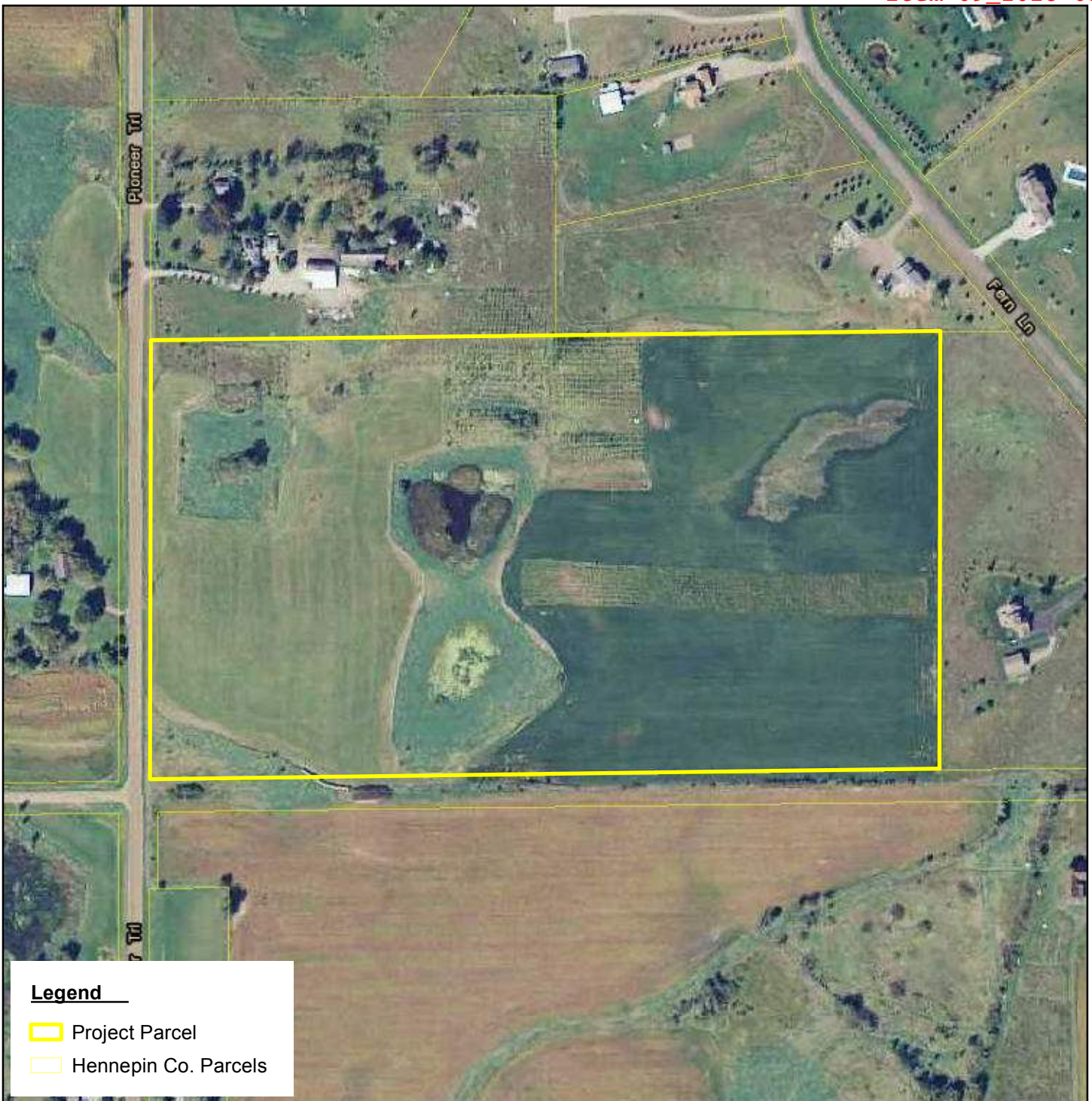


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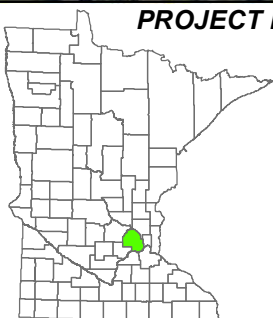


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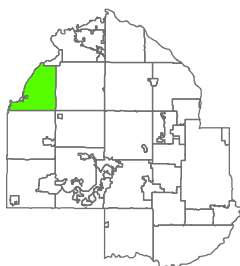
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PROJECT LOCATION

SOURCE: MN DNR, USDA, ESRI, TIGER, Bing, Hennepin Co., Anderson Engineering

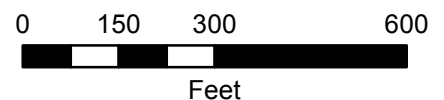


Hennepin County
State of Minnesota



City of Greenfield
Hennepin County, MN

1 in = 300 feet



Pioneer Trail
Greenfield, Hennepin County, MN
PID: 053-2411924130004

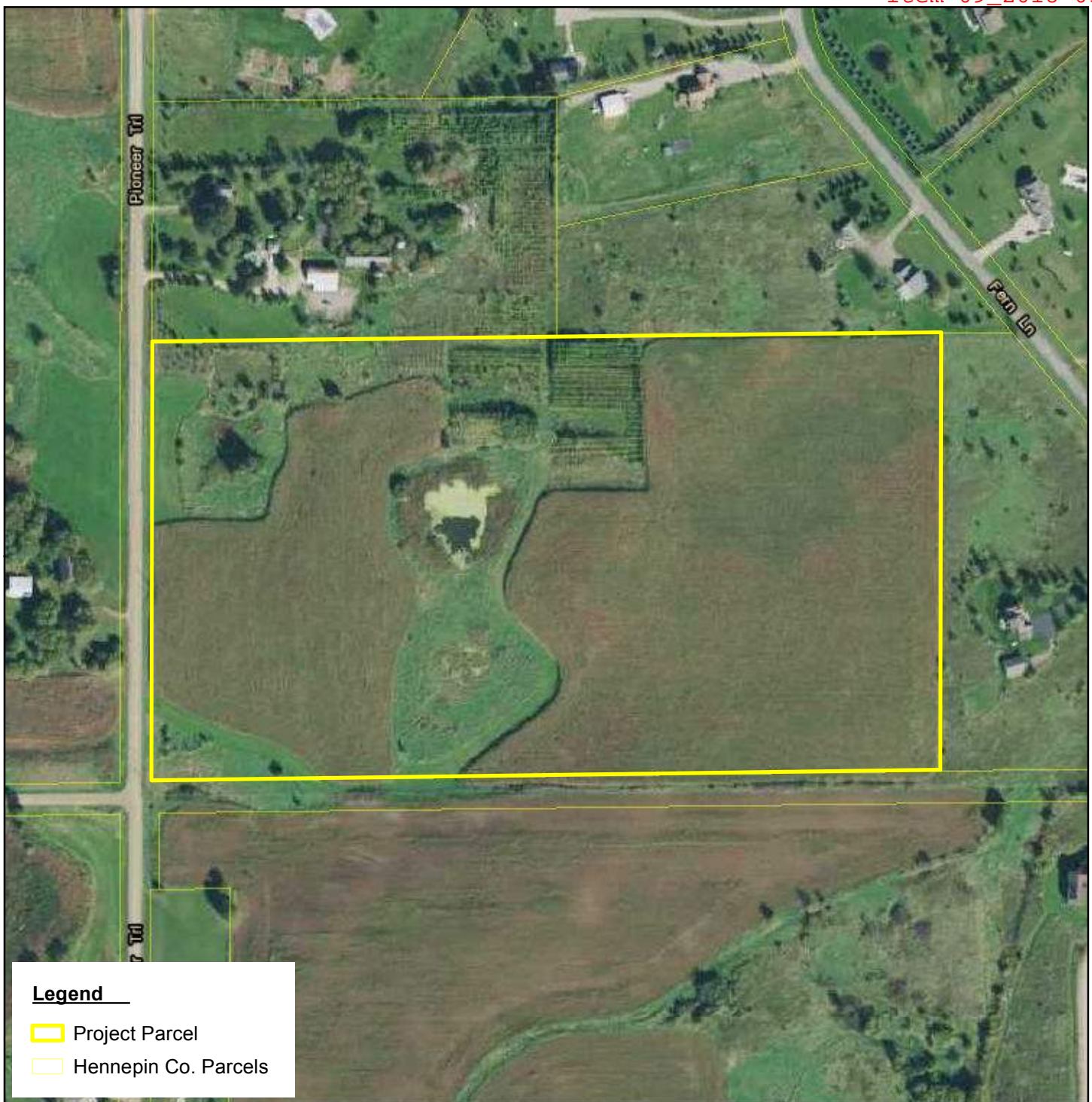


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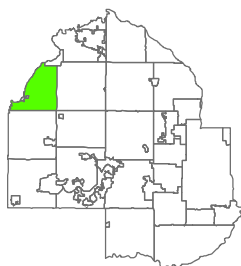
- Project Parcel
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PROJECT LOCATION

SOURCE: MN DNR, USDA, ESRI, TIGER, Bing, Hennepin Co., Anderson Engineering



Hennepin County
State of Minnesota



City of Greenfield
Hennepin County, MN

1 in = 300 feet



0 150 300 600
Feet

Pioneer Trail
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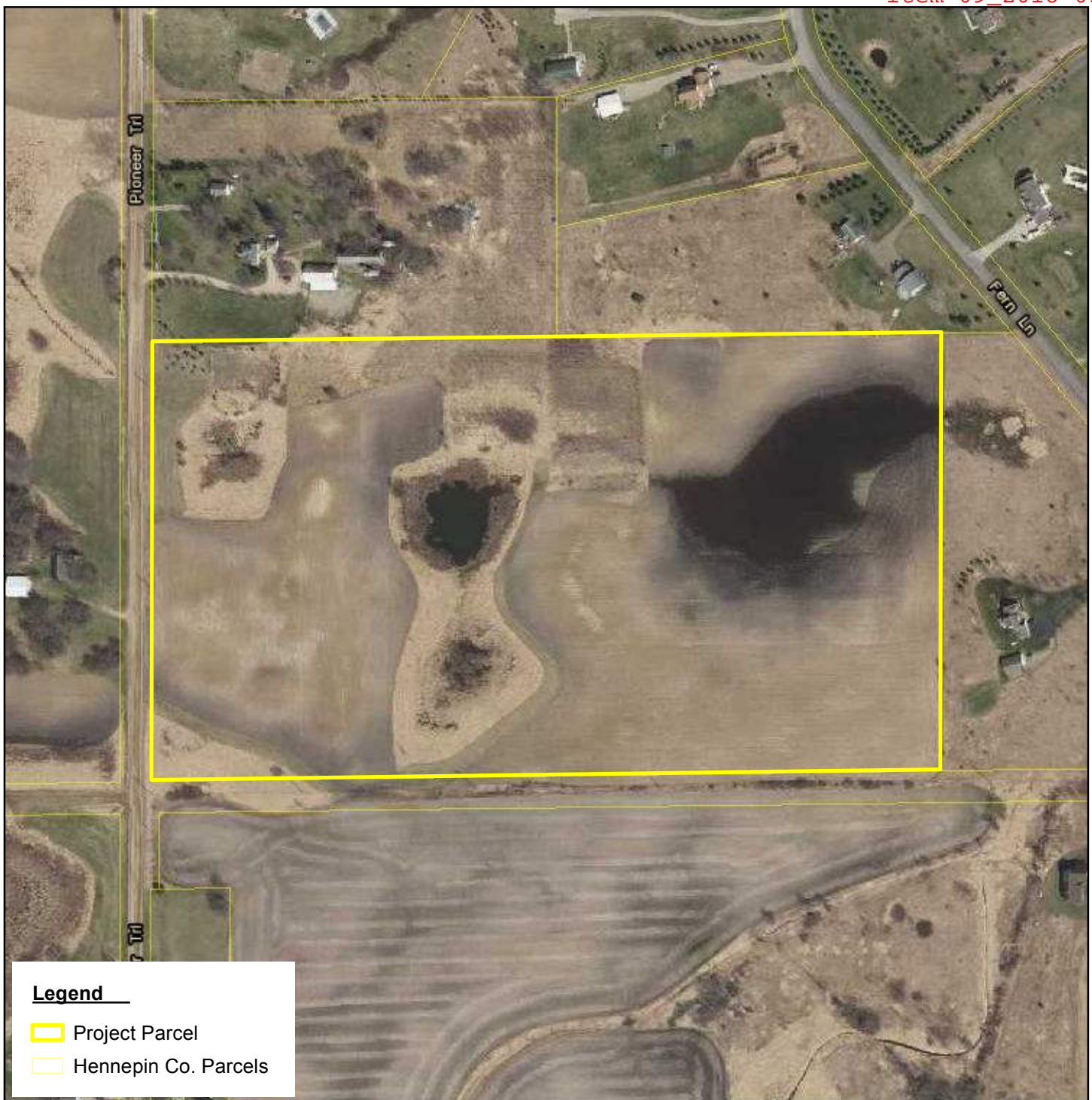


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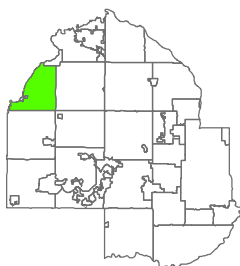
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PROJECT LOCATION

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Hennepin County
State of Minnesota



City of Greenfield
Hennepin County, MN

1 in = 300 feet



0 150 300 600
Feet

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2016 MnGEO AERIAL
BLUEWATER BUILDERS

AE Comm.# 14923 Date: 4/17/2018 By: JLA

APPENDIX F

Minnesota Routine Assessment Methodology (MnRAM)

Management Classification Report for Bluwater Bldrs-Greenfield 1**Bluewater Builders-Greenfield**

ID: 48

HENNEPIN County

North Fork Crow Watershed, #18

Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 1**

Functional rank of this wetland based on MnRAM data	Functional Category	Self-defined classification value settings for this management level
Low	Vegetative Diversity/Integrity	High
Moderate	Habitat Structure (wildlife)	High
Not Applicable	Amphibian Habitat	Moderate
Not Applicable	Fish Habitat	High
Not Applicable	Shoreline Protection	Moderate
Low	Aesthetic/Cultural/Rec/Ed and Habitat	High / Moderate
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	High / Moderate
Moderate	Wetland Water Quality and Vegetative Diversity	High / Moderate
High	Characteristic Hydrology and Vegetative Diversity	High / Moderate
High	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	High
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 1** was **Maintenance of Hydrologic Regime & Vegetative Diversity**

Details of the formula for this action are shown below:

Maintenance of Hydrologic Regime **(Q13+Q14+Q15+Q20R)/4**

Question	Value	Description
13	1	Outlet: hydrologic regime
14	0.5	Upland land use
15	1	Soil condition (wetland)
20	0.5	Stormwater runoff

Vegetative Diversity **NA**

Question	Value	Description
NA	NA	NA

This report was printed on: Tuesday, May 08, 2018

* The classification value settings for these functions are not adjustable

MnRAM: Site Response Record

For Wetland: Bluwater Bldrs-Greenfield

Location: 27-119-24-24-001

Bluewater Builders-Greenfield**Plant Community: Fresh (Wet) Meadow**Cowardin Classification: Circular 39:
PEM1B Type 2**Plant Community: Shallow Marsh**Cowardin Classification: Circular 39:
PEM1C Type 34 Listed, rare, special species? 5 Rare community or habitat? 6 Pre-European-settlement condition? **Hydrogeomorphology / topography:**

7 Depressional/Isolated

8-1 Maximum water depth 12 inches

8-2 % inundated 10%

9 Immediate drainage--local WS 3 acres

10 Estimated size/existing site: (see #66)

11-Upland Soil Lester loam, 6 to 12 percent slopes, moderately eroded

11-Wetland Soil Hamel, overwash-Hamel complex, 1 to 4 percent slopes

12 Outlet for flood control 13 Outlet for hydro regime 14 Dominant upland land use 15 Wetland soil condition 16 Vegetation (% cover) 17 Emerg. veg flood resistance 18 Sediment delivery 19 Upland soils (soil group) 20 Stormwater runoff 21 Subwatershed wetland density 22 Channels/sheet flow 23 Adjacent buffer width **Adjacent area management**24-A Full 24-B Manicured 24-C Bare **Adjacent area diversity/structure**25-A Native 25-B Mixed 25-C Sparse **Adjacent area slope**26-A Gentle 26-B Moderate 26-C Steep 27 Downstream sens./WQ protect. 28 Nutrient loading 29 Shoreline wetland? **Shoreline Wetland**30 Rooted veg., % cover 31 Wetland in-water width 32 Emerg. veg. erosion resistance 33 Erosion potential of site 34 Upslope veg./bank protection 35 Rare wildlife? 36 Scarce/Rare/S1/S2 community 37 Vegetative cover 38 Veg. community interspersed 39 Wetland detritus 40 Interspersed on landscape 41 Wildlife barriers **Amphibian-breeding potential**42 Hydroperiod adequacy 43 Fish presence 44 Overwintering habitat 45 Wildlife species (list) 46 Fish habitat quality 47 Fish species (list) 48 Unique/rare opportunity 49 Wetland visibility 50 Proximity to population 51 Public ownership 52 Public access 53 Human influence on wetland 54 Human influence on watershed 55 Spatial buffer 56 Recreational activity potential 57 Commercial crop--hydro impact **Groundwater-specific questions**

58 Wetland soils Recharge

59 Subwatershed land use Discharge

60 Wetland size/soil group Recharge

61 Wetland hydroperiod Recharge

62 Inlet/Outlet configuration Recharge

63 Upland topo relief Discharge

Additional information64 Restoration potential 65 LO affected by restoration 66 Existing size Restorable size Potential new wetland 67 Average width of pot. buffer 68 Ease of potential restoration 69 Hydrologic alterations 70 Potential wetland type 71 Stormwater sensitivity 72 Additional treatment needs

Watershed North Fork Crow

WS# 18 Service Area: 7

For functional ratings, please run the Summary tab report.

This report printed on: 5/8/2018

Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
Bluwater Bldrs-Greenfield 1	Depressional/Isolated (no discernable inlets or outlets)	0.75	0.68	0.63	0.39	0.00
		High	High	Moderate	Moderate	Not Applicable

Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
Bluwater Bldrs-Greenfie	0.43	0.00	0.00	0.21	0.00	Combination Discharge, Recharge	0.00	0.50	0.39
	Moderate	Not Applicable	Not Applicable	Low	Not Applicable		Not Applicable	Moderate	Moderate

Wetland Community Summary

		Vegetative Diversity/Integrity							
		Community						Average Wetland Rating	Weighted Average Wetland Rating
Wetland Name	Location	Cowardin Classification	Circular Plant 39	Community	Wetland Proportion	Individual Community Rating	Highest Wetland Rating		
Bluwater Bldrs-Greenfield 1	27-119-24-24-001	PEM1B	Type 2	Fresh (Wet) Meadow	90	0.1	0.50	0.30	0.14
							Moderate	Low	Low
		PEM1C	Type 3	Shallow Marsh	10	0.5	0.50	0.30	0.14
							Moderate	Low	Low
					100		0.50	0.30	0.14

☒ Denotes incomplete calculation data.

MnRAM Site Assessment Report

Tuesday, May 08, 2018

Wetland: Bluwater Bldrs-Greenfield 1

Project: Bluewater Builders-Greenfield

Wetland ID: 48, Township 119, Section 24, Range 24

HENNEPIN County, North Fork Crow Watershed, Corps Bank Service Area #7

Site conditions were Normal. This wetland is estimated to cover 1.5 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Greenfield

General Features

Hydrogeomorphology

The maximum water depth at this site is 12 inches, with 10 percent inundated. With an immediate drainage area of 3 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Isolated wetland, this site has no discernable inlets or outlets. As such, it is valued for its ability to store water, especially if located lower in the watershed. If it does not already have invasive species in the plant community, its lack of connection to upstream sites with such species may protect it.

This wetland has been drained or altered 0% from its original size of 1.5 acres.

Soils

The soils in the immediate wetland area are primarily Hamel, overwash-Hamel complex, 1 to 4 percent slopes. The adjacent upland, to about 500 feet, is Lester loam, 6 to 12 percent slopes, moderately eroded.

Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 95 percent and the naturalized buffer width averages 20 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer provides very little, if any, protection of water quality or habitat for wildlife.

Special Features

There were no special features observed at the site at the time of this assessment

Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Fresh Wet Meadow Type 2, PEM1B. This community had a vegetative index of low and comprised 90

percent of the entire area.

Shallow Marsh Type 3, PEM1C. This community had a vegetative index of moderate and comprised 10 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 0.5. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Moderate	Moderate-functioning vegetative communities indicate a presence of native wetland species with substantial non-native or invasive species.
Additional stormwater treatment needs	Moderate	Sediment removal would improve the ability of this site to maintain water quality.
Maintenance of Hydrologic Regime	High	Due either to careful human management or lack of alteration of the outlet or watershed conditions, the wetland maintains a hydrologic regime similar to the original wetland type. This stability supports characteristic vegetative communities and is closely associated with flood attenuation, water quality, and groundwater interaction.
Flood/Stormwater/Attenuation	High	The wetland provides ample flood storage and/or flood wave attenuation. Outlet configuration is restricted (or unaltered) and undisturbed wetland soils, and dense emergent vegetation without channels allow the wetland to retard flood water. A high proportion of impervious surfaces in the subwatershed, large runoff volumes, clayey upland soils, and few wetlands present within the subwatershed may position any wetland to be a good attenuator of excess water.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.
Maintenance of Wetland Water Quality	Moderate	Wetland water quality is average. Sediment removal from incoming water would benefit the site. Also consider reducing the amount of stormwater directed at the site. Sustaining a diverse wetland may require additional control over upland land use and the buffer.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.

Maintenance of Characteristic Wildlife Habitat Structure	Moderate	The site provides good habitat and is relatively accessible to wildlife, although it may be somewhat isolated on the landscape and lack the rich vegetative community and complex structure that would support a wider range of wildlife.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Not Applicable	Wetland never or rarely contains standing water and is not inundated long enough most years to allow amphibians to successfully breed.
Aesthetics/Recreation /Education/Cultural	Low	Inaccessible, distant from population centers, little-used sites that are not culturally significant rank poorly even if their other functions rank high. Usually, however, even the most distant sites have a potential for recreational use and will drop to the lowest ranking only if they are negatively affected by human alteration.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PEM1	Type 2	Fresh Wet Meadow		
			Reed canary grass	>75-100%
PEM1	Type 3	Shallow Marsh		
			Common reed grass	>25-50%
			Broad-leaved cattail	>10-25%

Management Classification Report for Bluwater Bldrs-Greenfield 2**Bluewater Builders-Greenfield**

ID: 49

HENNEPIN County

North Fork Crow Watershed, #18

Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 2**

Functional rank of this wetland based on MnRAM data	Functional Category	Self-defined classification value settings for this management level
Low	Vegetative Diversity/Integrity	Moderate
Moderate	Habitat Structure (wildlife)	Moderate
Not Applicable	Amphibian Habitat	Low
Not Applicable	Fish Habitat	Moderate
Not Applicable	Shoreline Protection	Low
Low	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate / Low
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Moderate	Wetland Water Quality and Vegetative Diversity	- / -
High	Characteristic Hydrology and Vegetative Diversity	- / -
High	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 2** was **Maintenance of Characteristic Wildlife Habitat Structure**

Details of the formula for this action are shown below:

Maintenance of Characteristic Wildlife Habitat Str $(Q3e*2+Q39+Q40+Q41+(Q23+Q24+Q25)/3+Q13+Q20)/8$

Question	Value	Description
13	1	Outlet: hydrologic regime
20	0.5	Stormwater runoff
23	0.5	Buffer width
24	0.36	Adjacent area Management
25	0.5	Adjacent area diversity
39	0.5	Detritus
3e	0.09	<No Description Found>
40	1	Wetland interspersions/landscape

* The classification value settings for these functions are not adjustable

Management Classification Report for Bluwater Bldrs-Greenfield 2

ID: 49

Bluewater Builders-Greenfield

HENNEPIN County
North Fork Crow Watershed, #18
Corps Bank Service Area 7

41 0.5 Wildlife barriers

This report was printed on: Tuesday, May 08, 2018

MnRAM: Site Response Record

For Wetland: Bluwater Bldrs-Greenfield :

Location: 27-119-24-24-001

Bluewater Builders-Greenfield**Plant Community: Fresh (Wet) Meadow**Cowardin Classification: Circular 39:
PEM1B Type 2

4	Listed, rare, special species?	No
5	Rare community or habitat?	No
6	Pre-European-settlement condition?	No

Hydrogeomorphology / topography:

7 Depressional/Isolated

8-1 Maximum water depth 0 inches

8-2 % inundated 0%

9 Immediate drainage--local WS 1 acres

10 Estimated size/existing site: (see #66)

11-Upland Soil Angus loam, 2 to 5 percent slopes

11-Wetland Soil Hamel, overwash-Hamel complex, 1 to 4 percent slopes

12	Outlet for flood control	A
13	Outlet for hydro regime	A
14	Dominant upland land use	B
15	Wetland soil condition	A
16	Vegetation (% cover)	100%
17	Emerg. veg flood resistance	NA
18	Sediment delivery	B
19	Upland soils (soil group)	B
20	Stormwater runoff	B
21	Subwatershed wetland density	B
22	Channels/sheet flow	A

23 Adjacent buffer width 20 feet

Adjacent area management

24-A	Full	20%
24-B	Manicured	20%
24-C	Bare	60%

Adjacent area diversity/structure

25-A	Native	0%
25-B	Mixed	100%
25-C	Sparse	0%

Adjacent area slope

26-A	Gentle	100%
26-B	Moderate	0%
26-C	Steep	0%

27	Downstream sens./WQ protect.	A
28	Nutrient loading	B

29 Shoreline wetland? No

Shoreline Wetland

30	Rooted veg., % cover	0%
31	Wetland in-water width	0 feet
32	Emerg. veg. erosion resistance	
33	Erosion potential of site	
34	Upslope veg./bank protection	
35	Rare wildlife?	No
36	Scare/Rare/S1/S2 community	No
37	Vegetative cover	NA
38	Veg. community interspersed	NA
39	Wetland detritus	B
40	Interspersed on landscape	A
41	Wildlife barriers	B

Amphibian-breeding potential

42	Hydroperiod adequacy	Inadequate
43	Fish presence	A
44	Overwintering habitat	C
45	Wildlife species (list)	
46	Fish habitat quality	NA
47	Fish species (list)	
48	Unique/rare opportunity	No
49	Wetland visibility	C
50	Proximity to population	No
51	Public ownership	C
52	Public access	C
53	Human influence on wetland	A
54	Human influence on viewshed	C
55	Spatial buffer	C
56	Recreational activity potential	C
57	Commercial crop--hydro impact	NA

Groundwater-specific questions

58	Wetland soils	Recharge
59	Subwatershed land use	Discharge
60	Wetland size/soil group	Recharge
61	Wetland hydroperiod	Recharge
62	Inlet/Outlet configuration	Recharge
63	Upland topo relief	Discharge

Additional information

64	Restoration potential	No
65	LO affected by restoration	
66	Existing size	0.6
	Restorable size	0
	Potential new wetland	0
67	Average width of pot. buffer	0 feet
68	Ease of potential restoration	
69	Hydrologic alterations	0
70	Potential wetland type	0
71	Stormwater sensitivity	B
72	Additional treatment needs	B

Watershed North Fork Crow

WS# 18 Service Area: 7

For functional ratings, please run the Summary tab report.

This report printed on: 5/8/2018

Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
Bluwater Bldrs-Greenfield 2	Depressional/Isolated (no discernable inlets or outlets)	0.75	0.68	0.64	0.38	0.00
		High	High	Moderate	Moderate	Not Applicable

Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
Bluwater Bldrs-Greenfie	0.50	0.00	0.00	0.21	0.00	Combination Discharge, Recharge	0.00	0.10	0.38
	Moderate	Not Applicable	Not Applicable	Low	Not Applicable		Not Applicable	Moderate	Moderate

Wetland Community Summary

		Vegetative Diversity/Integrity							
		Community							
Wetland Name	Location	Cowardin Classification	Circular Plant 39	Plant Community	Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
Bluwater Bldrs-Greenfield 2	27-119-24-24-001	PEM1B	Type 2	Fresh (Wet) Meadow	90	0.1	0.10	0.10	0.09
							Low	Low	Low
					90		0.10	0.10	0.09

☒ Denotes incomplete calculation data.

MnRAM Site Assessment Report

Tuesday, May 08, 2018

Wetland: Bluwater Bldrs-Greenfield 2

Project: Bluewater Builders-Greenfield

Wetland ID: 49, Township 119, Section 24, Range 24, , ,

HENNEPIN County, North Fork Crow Watershed, Corps Bank Service Area #7

Site conditions were Normal. This wetland is estimated to cover 0.6 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Greenfield

General Features

Hydrogeomorphology

The maximum water depth at this site is 0 inches, with 0 percent inundated. Although there was no standing water at the time of the site visit, the existence of water in the soil below indicates wetland hydrology is present. With an immediate drainage area of 1 acres. [Ratio could not be calculated; Percent Inundated is zero.]

As a Depressional/Isolated wetland, this site has no discernable inlets or outlets. As such, it is valued for its ability to store water, especially if located lower in the watershed. If it does not already have invasive species in the plant community, its lack of connection to upstream sites with such species may protect it.

This wetland has been drained or altered 0% from its original size of 0.6 acres.

Soils

The soils in the immediate wetland area are primarily Hamel, overwash-Hamel complex, 1 to 4 percent slopes. The adjacent upland, to about 500 feet, is Angus loam, 2 to 5 percent slopes.

Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 100 percent and the naturalized buffer width averages 20 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer provides very little, if any, protection of water quality or habitat for wildlife.

Special Features

There were no special features observed at the site at the time of this assessment

Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Fresh Wet Meadow Type 2, PEM1B. This community had a vegetative index of low and comprised 90 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 0.5. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Moderate	Sediment removal would improve the ability of this site to maintain water quality.
Maintenance of Hydrologic Regime	High	Due either to careful human management or lack of alteration of the outlet or watershed conditions, the wetland maintains a hydrologic regime similar to the original wetland type. This stability supports characteristic vegetative communities and is closely associated with flood attenuation, water quality, and groundwater interaction.
Flood/Stormwater/Attenuation	High	The wetland provides ample flood storage and/or flood wave attenuation. Outlet configuration is restricted (or unaltered) and undisturbed wetland soils, and dense emergent vegetation without channels allow the wetland to retard flood water. A high proportion of impervious surfaces in the subwatershed, large runoff volumes, clayey upland soils, and few wetlands present within the subwatershed may position any wetland to be a good attenuator of excess water.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.
Maintenance of Wetland Water Quality	Moderate	Wetland water quality is average. Sediment removal from incoming water would benefit the site. Also consider reducing the amount of stormwater directed at the site. Sustaining a diverse wetland may require additional control over upland land use and the buffer.

Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.
Maintenance of Characteristic Wildlife Habitat Structure	Moderate	The site provides good habitat and is relatively accessible to wildlife, although it may be somewhat isolated on the landscape and lack the rich vegetative community and complex structure that would support a wider range of wildlife.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Not Applicable	Wetland never or rarely contains standing water and is not inundated long enough most years to allow amphibians to successfully breed.
Aesthetics/Recreation /Education/Cultural	Low	Inaccessible, distant from population centers, little-used sites that are not culturally significant rank poorly even if their other functions rank high. Usually, however, even the most distant sites have a potential for recreational use and will drop to the lowest ranking only if they are negatively affected by human alteration.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PEM1	Type 2	Fresh Wet Meadow	Water smartweed	>3-<10%
			Reed canary grass	>75-100%

Management Classification Report for Bluwater Bldrs-Greenfield 3**Bluewater Builders-Greenfield**

ID: 50

HENNEPIN County

North Fork Crow Watershed, #18

Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 2**

Functional rank of this wetland based on MnRAM data	Functional Category	Self-defined classification value settings for this management level
Low	Vegetative Diversity/Integrity	Moderate
Moderate	Habitat Structure (wildlife)	Moderate
Low	Amphibian Habitat	Low
Not Applicable	Fish Habitat	Moderate
Not Applicable	Shoreline Protection	Low
Low	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate / Low
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Moderate	Wetland Water Quality and Vegetative Diversity	- / -
High	Characteristic Hydrology and Vegetative Diversity	- / -
High	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 2** was **Maintenance of Characteristic Wildlife Habitat Structure**

Details of the formula for this action are shown below:

Maintenance of Characteristic Wildlife Habitat Str $(Q3e*2+Q39+Q37+Q40+Q41+(Q23+Q24+Q25)/3+Q13+Q20)/9$

Question	Value	Description
13	1	Outlet: hydrologic regime
20	0.5	Stormwater runoff
23	0.5	Buffer width
24	0.1	Adjacent area Management
25	0.5	Adjacent area diversity
37	0.5	Vegetation cover interspersation
39	1	Detritus
3e	0.1	<No Description Found>

* The classification value settings for these functions are not adjustable

Management Classification Report for Bluwater Bldrs-Greenfield 3

ID: 50

Bluewater Builders-Greenfield

HENNEPIN County
North Fork Crow Watershed, #18
Corps Bank Service Area 7

40 1 Wetland interspersions/landscape

41 0.5 Wildlife barriers

This report was printed on: Tuesday, May 08, 2018

MnRAM: Site Response Record

For Wetland: Bluwater Bldrs-Greenfield

Location: 27-119-24-24-001

Bluwater Builders-Greenfield**Plant Community: Fresh (Wet) Meadow**Cowardin Classification: Circular 39:
PEM1B Type 2**Plant Community: Shallow Marsh**Cowardin Classification: Circular 39:
PEM1C Type 3**Plant Community: Shallow, Open Water C**Cowardin Classification: Circular 39:
PUBF Type 4

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

Hydrogeomorphology / topography:

7 Depressional/Isolated

- 8-1 Maximum water depth 24 inches
- 8-2 % inundated 50%
- 9 Immediate drainage--local WS 15 acres
- 10 Estimated size/existing site: (see #66)

11-Upland Soil Lester loam, 6 to 12 percent slopes, moderately eroded

11-Wetland Soil Cordova loam, 0 to 2 percent slopes

- 12 Outlet for flood control
- 13 Outlet for hydro regime
- 14 Dominant upland land use
- 15 Wetland soil condition
- 16 Vegetation (% cover)
- 17 Emerg. veg flood resistance
- 18 Sediment delivery
- 19 Upland soils (soil group)
- 20 Stormwater runoff
- 21 Subwatershed wetland density
- 22 Channels/sheet flow
- 23 Adjacent buffer width

Adjacent area management

- 24-A Full
- 24-B Manicured
- 24-C Bare

Adjacent area diversity/structure

- 25-A Native
- 25-B Mixed
- 25-C Sparse

Adjacent area slope

- 26-A Gentle
- 26-B Moderate
- 26-C Steep

- 27 Downstream sens./WQ protect.
- 28 Nutrient loading

- 29 Shoreline wetland?

Shoreline Wetland

- 30 Rooted veg., % cover
- 31 Wetland in-water width
- 32 Emerg. veg. erosion resistance
- 33 Erosion potential of site
- 34 Upslope veg./bank protection
- 35 Rare wildlife?
- 36 Scarce/Rare/S1/S2 community
- 37 Vegetative cover
- 38 Veg. community interspersed
- 39 Wetland detritus
- 40 Interspersed on landscape
- 41 Wildlife barriers

Amphibian-breeding potential

- 42 Hydroperiod adequacy
- 43 Fish presence
- 44 Overwintering habitat
- 45 Wildlife species (list)
- 46 Fish habitat quality
- 47 Fish species (list)
- 48 Unique/rare opportunity
- 49 Wetland visibility
- 50 Proximity to population
- 51 Public ownership
- 52 Public access
- 53 Human influence on wetland
- 54 Human influence on watershed

- 55 Spatial buffer
- 56 Recreational activity potential
- 57 Commercial crop--hydro impact

Groundwater-specific questions

- 58 Wetland soils Recharge
- 59 Subwatershed land use Discharge
- 60 Wetland size/soil group Recharge
- 61 Wetland hydroperiod Recharge
- 62 Inlet/Outlet configuration Recharge
- 63 Upland topo relief Discharge

Additional information

- 64 Restoration potential
- 65 LO affected by restoration
- 66 Existing size
- Restorable size
- Potential new wetland
- 67 Average width of pot. buffer
- 68 Ease of potential restoration
- 69 Hydrologic alterations
- 70 Potential wetland type
- 71 Stormwater sensitivity
- 72 Additional treatment needs

Watershed North Fork Crow

WS# 18 Service Area: 7

For functional ratings, please run the Summary tab report.

This report printed on: 5/8/2018

Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
Bluwater Bldrs-Greenfield 3	Depressional/Isolated (no discernable inlets or outlets)	0.75	0.68	0.63	0.37	0.00
		High	High	Moderate	Moderate	Not Applicable

Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
Bluwater Bldrs-Greenfie	0.55	0.00	0.30	0.21	0.00	Combination Discharge, Recharge	0.00	0.10	0.37
	Moderate	Not Applicable	Low	Low	Not Applicable		Not Applicable	Moderate	Moderate

Wetland Community Summary

Wetland Community Summary		Vegetative Diversity/Integrity							
Wetland Name	Location	Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
		Cowardin Classification	Circular Plant 39	Plant Community					
Bluwater Bldrs-Greenfield 3	27-119-24-24-001	PUBF	Type 4	Shallow, Open Water Communities	20	0.1	0.10	0.10	0.10
		PEM1B	Type 2	Fresh (Wet) Meadow	25	0.1	0.10	0.10	0.10
		PEM1C	Type 3	Shallow Marsh	55	0.1	0.10	0.10	0.10
					100		0.10	0.10	0.10

☒ Denotes incomplete calculation data.

MnRAM Site Assessment Report

Tuesday, May 08, 2018

Wetland: Bluwater Bldrs-Greenfield 3

Project: Bluewater Builders-Greenfield

Wetland ID: 50, Township 119, Section 24, Range 24, , ,

HENNEPIN County, North Fork Crow Watershed, Corps Bank Service Area #7

Site conditions were Normal. This wetland is estimated to cover 8.5 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Greenfield

General Features

Hydrogeomorphology

The maximum water depth at this site is 24 inches, with 50 percent inundated. With an immediate drainage area of 15 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Isolated wetland, this site has no discernable inlets or outlets. As such, it is valued for its ability to store water, especially if located lower in the watershed. If it does not already have invasive species in the plant community, its lack of connection to upstream sites with such species may protect it.

This wetland has been drained or altered 0% from its original size of 8.5 acres.

Soils

The soils in the immediate wetland area are primarily Cordova loam, 0 to 2 percent slopes. The adjacent upland, to about 500 feet, is Lester loam, 6 to 12 percent slopes, moderately eroded.

Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 50 percent and the naturalized buffer width averages 20 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer provides very little, if any, protection of water quality or habitat for wildlife.

Special Features

There were no special features observed at the site at the time of this assessment

Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Fresh Wet Meadow Type 2, PEM1B. This community had a vegetative index of low and comprised 25

percent of the entire area.

Shallow Marsh Type 3, PEM1C. This community had a vegetative index of low and comprised 55 percent of the entire area.

Shallow, Ow Communities Type 4, PUBF. This community had a vegetative index of low and comprised 20 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 0.5. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Moderate	Sediment removal would improve the ability of this site to maintain water quality.
Maintenance of Hydrologic Regime	High	Due either to careful human management or lack of alteration of the outlet or watershed conditions, the wetland maintains a hydrologic regime similar to the original wetland type. This stability supports characteristic vegetative communities and is closely associated with flood attenuation, water quality, and groundwater interaction.
Flood/Stormwater/Attenuation	High	The wetland provides ample flood storage and/or flood wave attenuation. Outlet configuration is restricted (or unaltered) and undisturbed wetland soils, and dense emergent vegetation without channels allow the wetland to retard flood water. A high proportion of impervious surfaces in the subwatershed, large runoff volumes, clayey upland soils, and few wetlands present within the subwatershed may position any wetland to be a good attenuator of excess water.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.

Maintenance of Wetland Water Quality	Moderate	Wetland water quality is average. Sediment removal from incoming water would benefit the site. Also consider reducing the amount of stormwater directed at the site. Sustaining a diverse wetland may require additional control over upland land use and the buffer.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.
Maintenance of Characteristic Wildlife Habitat Structure	Moderate	The site provides good habitat and is relatively accessible to wildlife, although it may be somewhat isolated on the landscape and lack the rich vegetative community and complex structure that would support a wider range of wildlife.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Low	Predatory fish are always present and winter habitat unsuitable as site often freezes to the bottom. High inputs of untreated stormwater or unfiltered runoff contribute to poor water quality and reproductive conditions.
Aesthetics/Recreation /Education/Cultural	Low	Inaccessible, distant from population centers, little-used sites that are not culturally significant rank poorly even if their other functions rank high. Usually, however, even the most distant sites have a potential for recreational use and will drop to the lowest ranking only if they are negatively affected by human alteration.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PEM1	Type 2	Fresh Wet Meadow		
			Reed canary grass	>75-100%
PEM1	Type 3	Shallow Marsh		
			Hybrid cattail	>50-75%
PUBF	Type 4	Shallow, Ow Communities		

Management Classification Report for Bluwater Bldrs-Greenfield 4**Bluewater Builders-Greenfield**

ID: 51

HENNEPIN County

North Fork Crow Watershed, #18

Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 2**

Functional rank of this wetland based on MnRAM data	Functional Category	Self-defined classification value settings for this management level
Low	Vegetative Diversity/Integrity	Moderate
Moderate	Habitat Structure (wildlife)	Moderate
Not Applicable	Amphibian Habitat	Low
Not Applicable	Fish Habitat	Moderate
Not Applicable	Shoreline Protection	Low
Low	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate / Low
Exceptional	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Moderate	Wetland Water Quality and Vegetative Diversity	- / -
High	Characteristic Hydrology and Vegetative Diversity	- / -
High	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 2** was **Maintenance of Characteristic Wildlife Habitat Structure**

Details of the formula for this action are shown below:

Maintenance of Characteristic Wildlife Habitat Str $(Q3e*2+Q39+Q40+Q41+(Q23+Q24+Q25)/3+Q13+Q20)/8$

Question	Value	Description
13	1	Outlet: hydrologic regime
20	0.5	Stormwater runoff
23	0.5	Buffer width
24	0.46	Adjacent area Management
25	0.26	Adjacent area diversity
39	0.5	Detritus
3e	0.1	<No Description Found>
40	1	Wetland interspersions/landscape

* The classification value settings for these functions are not adjustable

Management Classification Report for Bluwater Bldrs-Greenfield 4

ID: 51

Bluewater Builders-Greenfield

HENNEPIN County
North Fork Crow Watershed, #18
Corps Bank Service Area 7

41 0.5 Wildlife barriers

This report was printed on: Tuesday, May 08, 2018

MnRAM: Site Response Record

For Wetland: Bluwater Bldrs-Greenfield 4

Location: 27-119-24-24-001

Bluewater Builders-Greenfield**Plant Community: Seasonally Flooded Ba**Cowardin Classification: Circular 39:
PEM1A Type 1

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

Hydrogeomorphology / topography:

7 Depressional/Isolated

8-1 Maximum water depth 0 inches

8-2 % inundated 0%

9 Immediate drainage--local WS 2 acres

10 Estimated size/existing site: (see #66)

11-Upland Soil Lester loam, 6 to 12 percent slopes, moderately eroded

11-Wetland Soil Cordova loam, 0 to 2 percent slopes

- 12 Outlet for flood control
- 13 Outlet for hydro regime
- 14 Dominant upland land use
- 15 Wetland soil condition
- 16 Vegetation (% cover)
- 17 Emerg. veg flood resistance
- 18 Sediment delivery
- 19 Upland soils (soil group)
- 20 Stormwater runoff
- 21 Subwatershed wetland density
- 22 Channels/sheet flow

23 Adjacent buffer width **Adjacent area management**

- 24-A Full
- 24-B Manicured
- 24-C Bare

Adjacent area diversity/structure

- 25-A Native
- 25-B Mixed
- 25-C Sparse

Adjacent area slope

- 26-A Gentle
- 26-B Moderate
- 26-C Steep

- 27 Downstream sens./WQ protect.
- 28 Nutrient loading

29 Shoreline wetland? **Shoreline Wetland**

- 30 Rooted veg., % cover
- 31 Wetland in-water width
- 32 Emerg. veg. erosion resistance
- 33 Erosion potential of site
- 34 Upslope veg./bank protection
- 35 Rare wildlife?
- 36 Scarce/Rare/S1/S2 community
- 37 Vegetative cover
- 38 Veg. community interspersed
- 39 Wetland detritus
- 40 Interspersion on landscape
- 41 Wildlife barriers

Amphibian-breeding potential

- 42 Hydroperiod adequacy
- 43 Fish presence
- 44 Overwintering habitat
- 45 Wildlife species (list)
- 46 Fish habitat quality
- 47 Fish species (list)
- 48 Unique/rare opportunity
- 49 Wetland visibility
- 50 Proximity to population
- 51 Public ownership
- 52 Public access
- 53 Human influence on wetland
- 54 Human influence on viewshed
- 55 Spatial buffer
- 56 Recreational activity potential
- 57 Commercial crop--hydro impact

Groundwater-specific questions

- 58 Wetland soils Recharge
- 59 Subwatershed land use Discharge
- 60 Wetland size/soil group Recharge
- 61 Wetland hydroperiod Recharge
- 62 Inlet/Outlet configuration Recharge
- 63 Upland topo relief Discharge

Additional information

- 64 Restoration potential No
- 65 LO affected by restoration
- 66 Existing size
- Restorable size
- Potential new wetland
- 67 Average width of pot. buffer 0 feet
- 68 Ease of potential restoration
- 69 Hydrologic alterations 0
- 70 Potential wetland type 0
- 71 Stormwater sensitivity B
- 72 Additional treatment needs B

Watershed North Fork Crow

WS# 18 Service Area: 7

For functional ratings, please run the Summary tab report.

This report printed on: 5/8/2018

Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
Bluwater Bldrs-Greenfield 4	Depressional/Isolated (no discernable inlets or outlets)	0.75	0.68	0.65	0.39	0.00
		High	High	Moderate	Moderate	Not Applicable

Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
Bluwater Bldrs-Greenfie	0.50	0.00	0.00	0.21	0.00	Combination Discharge, Recharge	0.00	0.10	0.39
	Moderate	Not Applicable	Not Applicable	Low	Not Applicable		Not Applicable	Exceptional	Moderate

Wetland Community Summary

		Vegetative Diversity/Integrity							
		Community							
Wetland Name	Location	Cowardin Classification	Circular Plant 39	Plant Community	Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
Bluwater Bldrs-Greenfield 4	27-119-24-24-001	PEM1A	Type 1	Seasonally Flooded Basin	100	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

☒ Denotes incomplete calculation data.

MnRAM Site Assessment Report

Tuesday, May 08, 2018

Wetland: Bluwater Bldrs-Greenfield 4

Project: Bluewater Builders-Greenfield

Wetland ID: 51, Township 119, Section 24, Range 24, , ,

HENNEPIN County, North Fork Crow Watershed, Corps Bank Service Area #7

Site conditions were Normal. This wetland is estimated to cover 1 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Greenfield

General Features

Hydrogeomorphology

The maximum water depth at this site is 0 inches, with 0 percent inundated. Although there was no standing water at the time of the site visit, the existence of water in the soil below indicates wetland hydrology is present. With an immediate drainage area of 2 acres. [Ratio could not be calculated; Percent Inundated is zero.]

As a Depressional/Isolated wetland, this site has no discernable inlets or outlets. As such, it is valued for its ability to store water, especially if located lower in the watershed. If it does not already have invasive species in the plant community, its lack of connection to upstream sites with such species may protect it.

This wetland has been drained or altered 0% from its original size of 1 acres.

Soils

The soils in the immediate wetland area are primarily Cordova loam, 0 to 2 percent slopes. The adjacent upland, to about 500 feet, is Lester loam, 6 to 12 percent slopes, moderately eroded.

Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 50 percent and the naturalized buffer width averages 20 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer provides very little, if any, protection of water quality or habitat for wildlife.

Special Features

There were no special features observed at the site at the time of this assessment

Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Seasonally FI Basin Type 1, PEM1A. This community had a vegetative index of low and comprised 100 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 0.5. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Moderate	Sediment removal would improve the ability of this site to maintain water quality.
Maintenance of Hydrologic Regime	High	Due either to careful human management or lack of alteration of the outlet or watershed conditions, the wetland maintains a hydrologic regime similar to the original wetland type. This stability supports characteristic vegetative communities and is closely associated with flood attenuation, water quality, and groundwater interaction.
Flood/Stormwater/Attenuation	High	The wetland provides ample flood storage and/or flood wave attenuation. Outlet configuration is restricted (or unaltered) and undisturbed wetland soils, and dense emergent vegetation without channels allow the wetland to retard flood water. A high proportion of impervious surfaces in the subwatershed, large runoff volumes, clayey upland soils, and few wetlands present within the subwatershed may position any wetland to be a good attenuator of excess water.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.
Maintenance of Wetland Water Quality	Moderate	Wetland water quality is average. Sediment removal from incoming water would benefit the site. Also consider reducing the amount of stormwater directed at the site. Sustaining a diverse wetland may require additional control over upland land use and the buffer.

Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.
Maintenance of Characteristic Wildlife Habitat Structure	Moderate	The site provides good habitat and is relatively accessible to wildlife, although it may be somewhat isolated on the landscape and lack the rich vegetative community and complex structure that would support a wider range of wildlife.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Not Applicable	Wetland never or rarely contains standing water and is not inundated long enough most years to allow amphibians to successfully breed.
Aesthetics/Recreation /Education/Cultural	Low	Inaccessible, distant from population centers, little-used sites that are not culturally significant rank poorly even if their other functions rank high. Usually, however, even the most distant sites have a potential for recreational use and will drop to the lowest ranking only if they are negatively affected by human alteration.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Exceptional	This site is exceptionally sensitive to stormwater; sedge meadows, open and coniferous bogs, calcareous fens, low prairies, wet to wet-mesic prairies, coniferous swamps, lowland hardwood swamps, or seasonally flooded basins.

Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PEM1	Type 1	Seasonally FI Basin	Reed canary grass	>25-50%

APPENDIX G

Credentials



BENJAMIN J. HODAPP, PWS

Environmental Services Manager

Education:

MS Water Resources Management
University of Wisconsin-Madison

BS Biology; Ecology
Minnesota State University- Mankato

Specialized Training:

Environmental Awareness Bootcamp
EPA Alliance

Wetland Delineation & Management Training
Richard Chinn Environmental Training, Inc.

Watershed Academy Web Certificate
United States Environmental Protection Agency

Professional Associations:

Society of Wetland Scientists
MN Wetland Professionals Association
MN WPA President 2010
Wisconsin Wetlands Association
Minnesota Native Plant Society
Ecological Society of America

Total Experience:

17 years

Years with Current Firm:

2004 to Present

Publications & Presentations:

The Future of Rowan Creek Watershed: Connecting Land Use and Management with Water Quality. 2003. Water resources Management Workshop 2002 Gaylord Nelson Institute for Environmental Studies, University of Wisconsin, Madison.

The Tumultuous World of Drainage Districts: An Analysis of Existing Management Arrangements, with Recommendations. Working Paper Series 2002-1. Water Resources Institutions and Policies, Department of Urban and Regional Planning, University of Wisconsin, Madison.

South Shore Lake Bemidji Remediation & Restoration, Society of American Military Engineers meeting June 22, 2016, St Paul, MN.

Summary of Experience:

Benjamin Hodapp, a Project Manager and Water Resource Scientist, brings a broad background of knowledge and experience in the environmental field to the Anderson Engineering team. Benjamin has a unique combination of environmental training and field skills in addition to working experience at various levels of government (USADA NRCS, USDA FSA, University of MN Extension, Watonwan County Soil and Water Conservation District and Watonwan County Environmental Services).

Benjamin's project experience includes environmental review document preparation, Environmental Compliance Audits and program development, natural resource inventory, watershed assessments, biologic assessments, BMP implementation, Threatened and Endangered Species analysis, wetland determinations, delineations, mitigation design and monitoring, regulatory permit applications, wetland functions and values assessments, flood plain analysis, ordinary high water determinations and aerial photo interpretation.

Representative Projects:

- **South Shore Lake Bemidji Remediation & Restoration – City of Bemidji - Bemidji, MN:**

Lead Natural Resource Scientist involved in the concept planning, design, construction and monitoring of the City's south shoreline of Lake Bemidji. Project tasks included field investigation, existing vegetative condition mapping and report, wetland avoidance measures, native planting plans, stakeholder meetings, permit applications, post-construction monitoring and concept development of public outreach educational kiosks.

- **Olympic Hills Golf Course Renovation & Stormwater BMPs – Olympic Hills Golf Club- Eden Prairie, MN:**

Wetland permitting lead for temporary and permanent impacts associated with sediment cleanout, vegetative management, shoreline stabilization, cart path rehabilitation/realignment and pedestrian bridge construction. Project tasks included field investigation, resource mapping, coordinating regulatory meetings, preparing permit applications, developing mitigation and monitoring plans and coordinating purchase of wetland bank credits.

- **Harriet Island to South St. Paul Regional Trail – City of St Paul, City of South St. Paul and Dakota County – St Paul, MN:**

Project manager for wetland delineation, mapping and assessment efforts in support of multi-disciplinary consultant team responsible for preliminary engineering and final design of trail improvements, realignment and new alignments. Project tasks included project management oversight and coordination, supervising field staff in completion of both off-site and on-site wetland determinations, boundary delineations, GPS mapping and functional assessments. Oversaw preparation of and responsible for quality assurance and quality control of all deliverable products including wetland summary reports and GIS shapefiles.

- **Southwest Light Rail Transit- Metropolitan Council – Minneapolis, MN:**

Project manager for wetland delineation and water resource permitting in support of multi-disciplinary consultant team for preparation of Final Environmental Impact Statement for proposed 16 mile light rail alignment. Project tasks included completion of wetland delineations, regulatory agency coordination, negotiations and preparation of all federal, state and local permit applications and mitigation plans.



KRISTINA A. JUSTEN

Environmental Associate

Education:

BS Biology (2010)
University of Wisconsin - River Falls

Specialized Training:

Certified in Stream Electrofishing
WI DNR, April 2010

Professional Associations:

MN Wetland Professionals Association

Total Experience:

6 years

Years with Current Firm:

2010 to Present

Summary of Experience:

Kristina Justen, an Environmental Associate, brings a range of knowledge and experience in the environmental field to the Anderson Engineering team. Prior to her employment with Anderson Engineering of MN, LLC, Kristina worked as a technician for the Minnesota Pollution Control Agency. The skills Kristina has developed through her educational background and experience as a technician make her proficient in assessing and addressing a range of environmental issues, and clearly communicating solutions to clients and various regulatory agencies.

Kristina's project experience includes natural resource inventory, watershed assessments, biologic assessments, Threatened and Endangered Species analysis, NEPA project management and environmental review document preparation, wetland determinations, delineations, mitigation design and monitoring, regulatory permit applications, wetland functions and values assessments, flood plain analysis, ordinary high water determinations, Environmental Compliance Audit activities, wetland macroinvertebrate sampling, Floristic Quality Assessments, Total Maximum Daily Load (TMDL) investigation, and aerial photo interpretation. Kristina has experience with Global Positioning Systems (GPS), remote sensing, and Geographic Information Systems (GIS).

Representative Projects:

- **Southwest Light Rail Transit- Metropolitan Council – Minneapolis, MN:** Services for wetland delineation and permitting efforts in support of multi-disciplinary consultant team for preparation of Final Environmental Impact Statement for proposed 16 mile light rail alignment. Project tasks included completion of a wetland field investigations, boundary delineations, functional assessments, GPS mapping and preparation of federal, state and local wetland permits.
- **Wetland Delineation/Assessment – Fort Mc Coy Alderwood Dam Removal – Fort McCoy, WI:** Services included a wetland determination and delineation of wetland associated with a proposed dam removal project at the Fort McCoy U.S. Army installation. Project tasks included completion of a wetland delineation following the 1987 USACE Wetland Manual and the Midwest Regional Supplement and preparation of the wetland delineation report to document findings and help assess potential wetland impacts for Section 401/404 permitting.
- **NEPA Documentation/Wetland Permitting – Omaha National Cemetery – Omaha, NE:** Services included preparation of an Environmental Assessment (EA) and Finding of No Significant Impact (FONSI), and supplemental permit coordination with the Omaha District U.S. Army Corps of Engineers (USACE) for proposed wetland impacts. Wetland permitting activities included completion of a wetland boundary delineation in compliance with the 1987 USACE Wetland Manual and Midwest Regional Supplement, and preparation of a USACE permit application package that included a design for an on-site compensatory wetland mitigation area.
- **Wetland Delineation, Permitting, and Compliance Activities – Various Locations:** Services include completing the following general tasks in compliance with federal, state, and local regulations: performing routine wetland determination and delineations to identify regulated aquatic resources; preparing wetland permit applications that outline impact sequencing and replacement/mitigation requirements; providing technical assistance to clients to develop and implement corrective actions to address compliance violations.



ALEX H. YELICK

Environmental Associate

Education:

MS Environmental & Conservation Sciences
North Dakota State University

BS Biological Sciences
North Dakota State University

Specialized Training:

Construction Stormwater Site Management –
MnDOT

HAZWOPER 40 Hour Training

Total Experience:

4 years

Years with Current Firm:

2018 to Present

Summary of Experience:

Alex Yellick, an Environmental Associate, brings a broad range of knowledge and experience in the environmental field to the Anderson Engineering team. Prior to his employment with Anderson Engineering of MN, LLC, Alex worked as a certified wetland delineator and has a background in biologic assessments, regulatory review/permitting and Phase I Environmental Site Assessments. The skills Alex developed through his educational background and experience make him proficient in assessing and addressing a range of environmental issues, and clearly communicating solutions to clients and various regulatory agencies.

Alex's project experience includes biological assessments of urban and rural wetlands, environmental compliance oversight, Stormwater BMP design and compliance, and Phase I site assessments. Alex has experience with Global Positioning Systems (GPS), Geographic Information Systems (GIS), and AutoCAD.

Representative Projects:

- **Wetland Delineation/Assessment – Various Locations:**

Services included wetland delineation and assessment of permitting requirements in support of linear construction projects and real-estate transactions. Project tasks included completion of wetland field delineations following the 1987 United States Army Corps of Engineers Wetland Manual and Midwest Regional Supplement, boundary delineations, GPS mapping, and preparation of reports to document findings and assess wetland impacts.

- **Permitting and Compliance Activities – Minnesota, Arkansas, Mississippi, Oklahoma, and Texas:**

Services included environmental permitting and operational compliance assistance associated with linear project construction and maintenance activities. Project tasks included assessment of proposed project environmental impacts to Federal and State regulated waters, floodplains, threatened and endangered species, historic properties, air quality, and local jurisdictional requirements, and preparation of permit applications and associated materials.

- **Stormwater Permitting and Compliance Activities – Greater Minneapolis-St. Paul Metropolitan Area:**

Provided National Pollution Discharge Elimination System permitting and compliance support to linear construction project activities. Project tasks consisted of evaluating project workspaces for appropriate stormwater best management practices, preparation of stormwater plans/permits, permit compliance inspections and post-construction restoration inspections, and preparation of reports to document inspection findings.

- **Phase I Environmental Site Assessment – Various Locations:**

Prepared Phase I Environmental Site Assessments of residential, commercial, industrial, and vacant properties in accordance with ASTM E1527-13. Project tasks generally included environmental desktop review, regulatory file review, site inspections, interviews, and preparation of reports to document findings.

Pioneer-Sarah Creek Watershed Management Commission Pond Excavation Permit for Grygelko Wetland Enhancement

Applicant: Tom Grygelko

Phone: 763-286-6023

Address: 8940 Greenfield Road, Greenfield, MN 55357

Project Location: Parcel ID 1411924430001

Project Number: 2018-04W

Date of Issue: May 23, 2018

By: James Kujawa, Technical Advisor to the Commission

Findings:

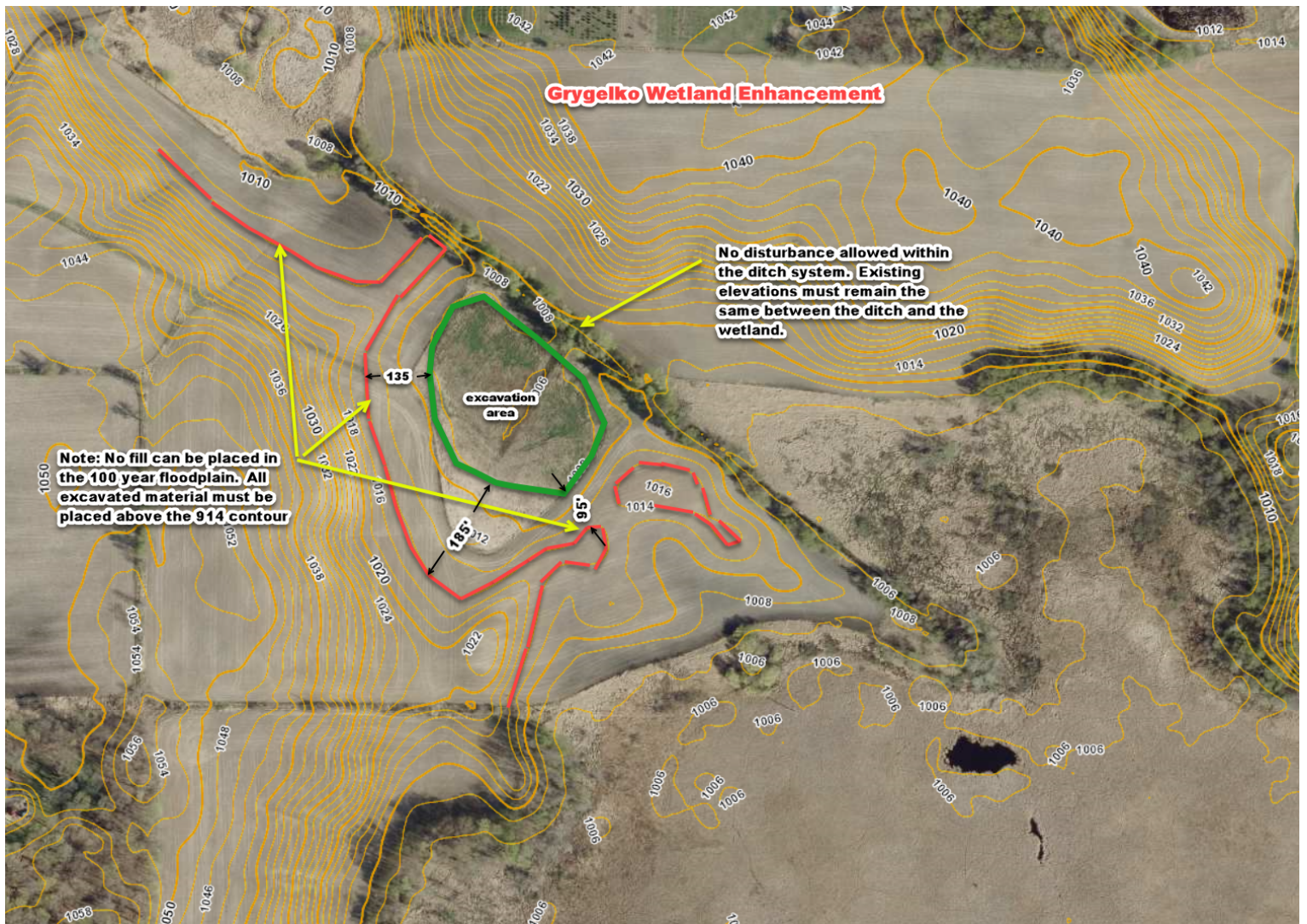
- 1) Project application was received May 2, 2018. The initial 60-day decision period, per MN Statute 15.99 expires July 1, 2018.
- 2) The project and wetland area was determined by Anderson Engineering and the applicant. Anderson Engineering using a level 1 routine off-site delineation to determination potential wetland areas and approximate wetland boundaries. An on-site wetland delineation was not done.
 - a. The area to be excavated was determined to be 2.6 acres.
 - b. The wetland type was determined to be type 1 / 2 historically farmed wetland with a drainage channel in the middle of it. The wetland is dominated by reed canary grass at the present time.
- 3) The proposed impacts are not regulated under the WCA scope of regulate activities based on the following;
 - a. WCA Chapter 8420.0105 Subpart 1. *This chapter regulates the draining or filling of wetlands wholly or partially, and excavation in the permanently and semi permanently flooded areas of type 3, 4, or 5 wetlands and in all wetland types if excavation results in the filling, draining, or conversion to non-wetland.*
 - i. This is a type 1/2 wetland basin that is not permanently or semi permanently flooded.
 - ii. Site plans show excavation approximately 12" to 36" with a final maximum water depth of approximately 36"

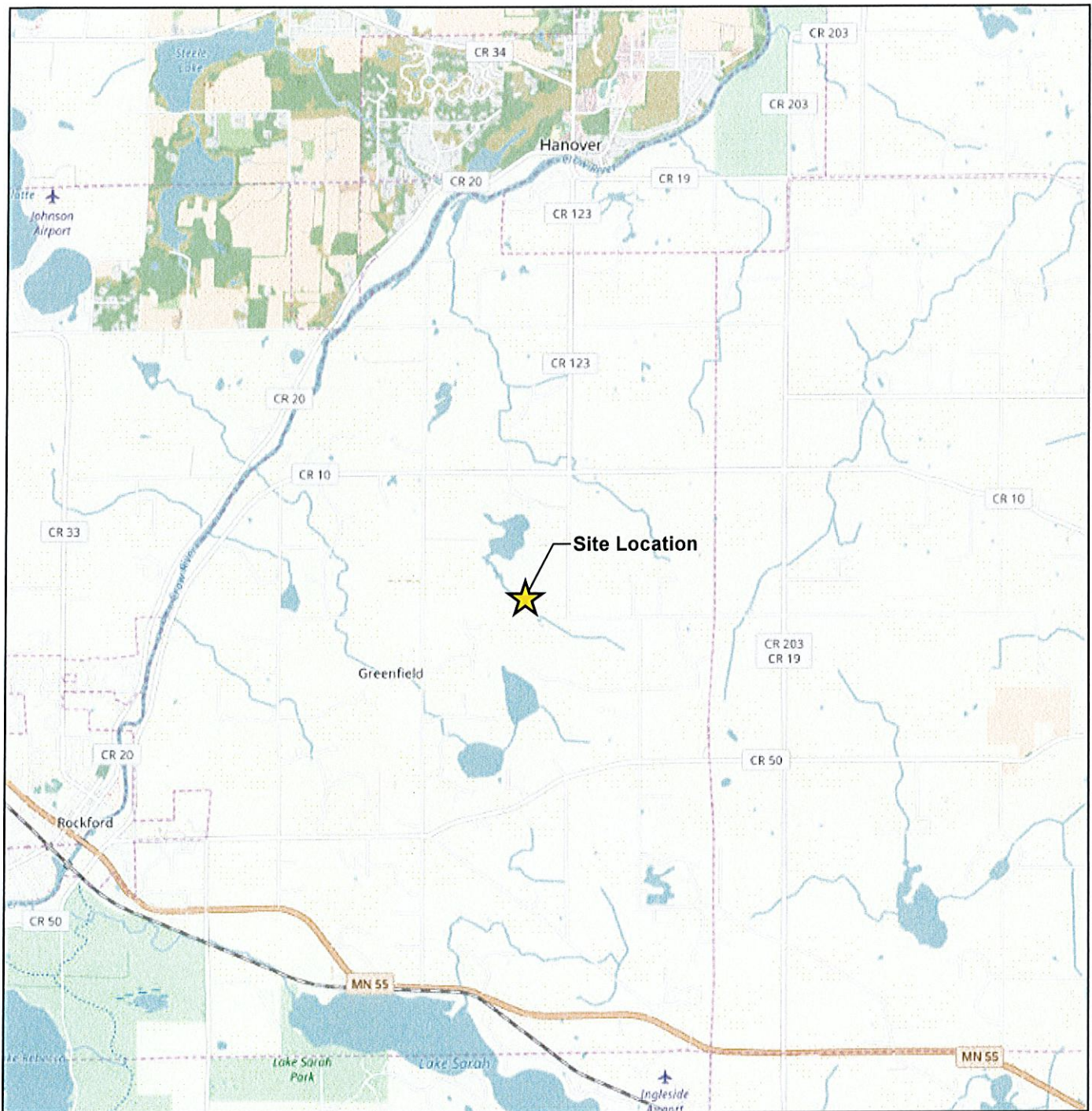
Conditions:

- 1) This permit is for the pond dimensions, locations and material disposal shown on the attached grading plan and aerial overlay photo.
- 2) **NOTE: There is a 100-year floodplain associated with this site. No Base Flood Elevation has been established. No fill or excavated material can be placed below the 914 elevation on site. See the attached Aerial Overview Map for locations of floodplain around wetland.**
- 3) **If required, a grading permit must be obtained from the City of Greenfield.**
- 4) **PSCWMC must be notified when the project excavation is completed. An inspection of the site by PSCWMC is required.**
- 5) **This pond excavation permit is valid for one year from the date of issuance.**
- 6) **The Pioneer-Sarah Creek Watershed Commission grants this permit in the interest of wildlife and conservation of our natural resources. Safety provisions on this project are the responsibility of the permittee. The Commission recommends the constructed side slopes on the pond are not steeper than 5:1 (5 foot horizontal to 1 foot vertical) in the interest of water safety and wildlife.**
- 7) Restoration on all disturbed areas must be accomplished within 72 hours after grading is completed. Seed and mulch requirements must meet current Minnesota Department of Transportation or Minnesota Board of Water and Soil Resources standard specifications. Control of weeds is the responsibility of the Permittee.
- 8) Construction of the pond and disposal of material must not block or interfere with any existing drainage conveyance systems.
- 9) Unless otherwise noted, if this permit is for excavation within an existing wetland area, the following conditions must be adhered to:
 - a. All material excavated must be placed outside of any wetland and floodplain areas
 - b. The excavation must not exceed 2 meters (6 feet 6 inches).
 - c. No excavation can take place within the permanently and semi-permanently flooded area of a type 3, 4 or 5 wetland.

**Pioneer-Sarah Creek Watershed Management Commission
Pond Excavation Permit for Grygelko Wetland Enhancement**

- 9) This permit does not obviate any requirement for Federal assent from the U.S. Corps of Engineers, 1135 U.S. Post Office and Custom House, St. Paul, MN 55101 or the Minnesota Department of Natural Resources, 1200 Warner Road, St. Paul, MN 55106.
- 10) This permit is permissive only and shall not release the permittee from any liability or obligation imposed by Federal Law, Minnesota Statutes or local Ordinances relating to their work.
- 11) No changes shall be made, without written permission previously obtained from The Pioneer-Sarah Creek Watershed Commission.
- 12) This permit may be terminated by the Pioneer-Sarah Creek Watershed Commission at any time deemed necessary for the interest of public health and welfare, or for violation of any of the provisions of this permit or approved grading and erosion control plans.
- 13) Soil erosion must be controlled at all times. Failure to control erosion may result in an order to stop work until the appropriate measures are established. All erosion control must be in place and working order before site-grading activities begin.

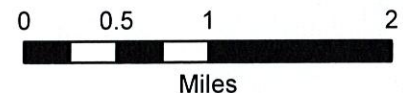


**PROJECT LOCATION**

SOURCE: MN DNR, USDA, ESRI, TIGER, Bing, Hennepin Co., Anderson Engineering

Hennepin County
State of MinnesotaCity of Greenfield
Hennepin County, MN

1 in = 1 miles



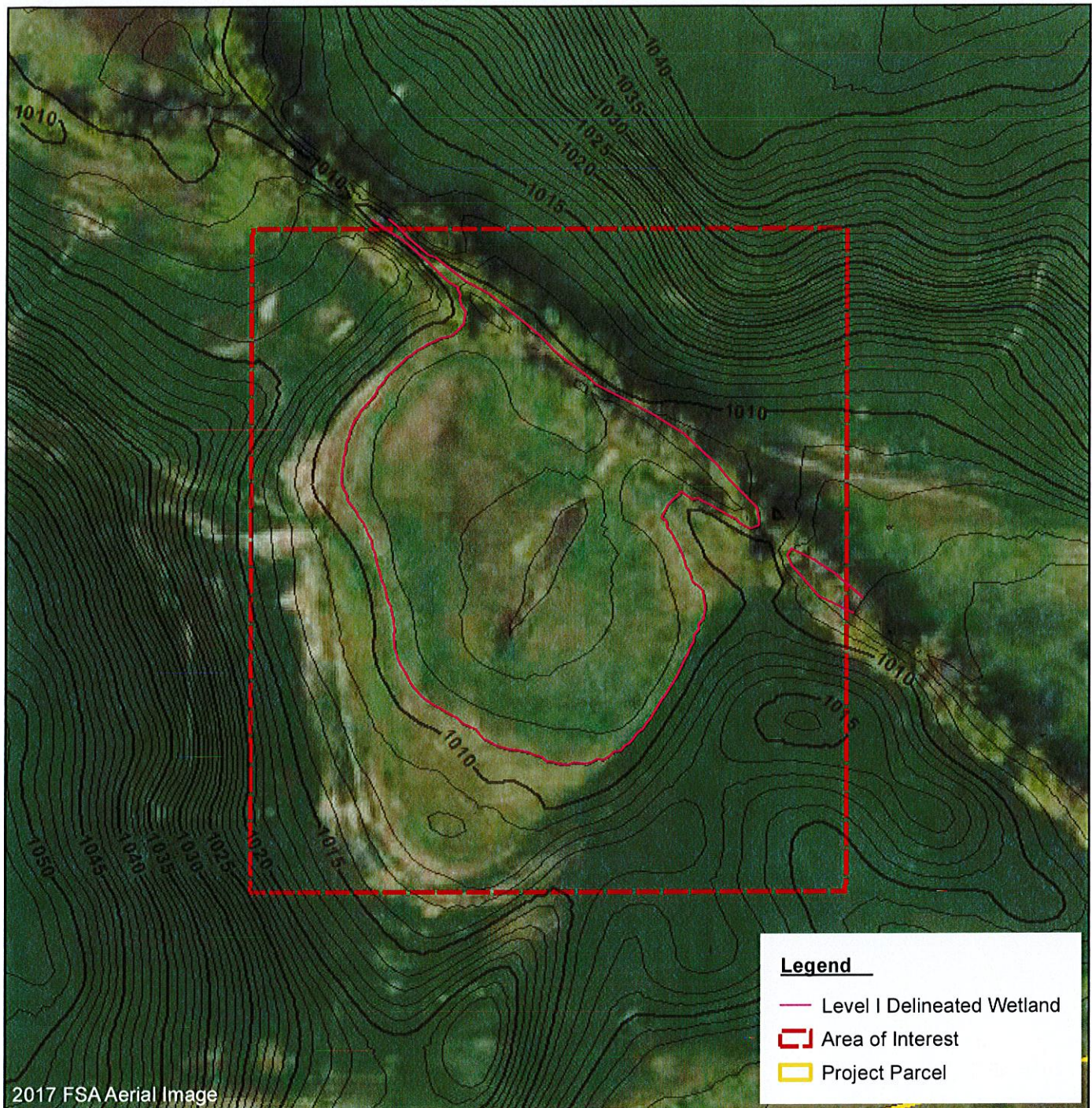
Pioneer Trail
Greenfield, Hennepin County, MN
PID: 053-1411924430001



Anderson Engineering of Minnesota, LLC
 13605 1st Avenue North
 Suite 100
 Plymouth, MN 55441
 763-412-4000 (o) 763-412-4090 (f)
www.ae-mn.com

LOCATION - FIGURE 1 GRYGELKO WETLAND ENHANCEMENT

AE Comm.# 15018 Date: 4/9/2018 By: JLA



Hennepin County
State of Minnesota

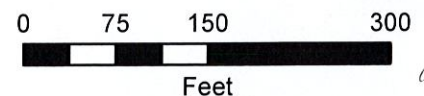


City of Greenfield
Hennepin County, MN

PROJECT LOCATION

SOURCE: MN DNR, USDA, ESRI, TIGER, Bing, Hennepin Co., Anderson Engineering

1 in = 150 feet



Pioneer Trail
Greenfield, Hennepin County, MN
PID: 053-1411924430001



Anderson Engineering of Minnesota, LLC
13605 1st Avenue North
Suite 100
Plymouth, MN 55441
763-412-4000 (o) 763-412-4090 (f)
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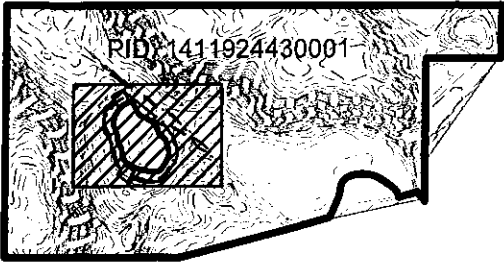
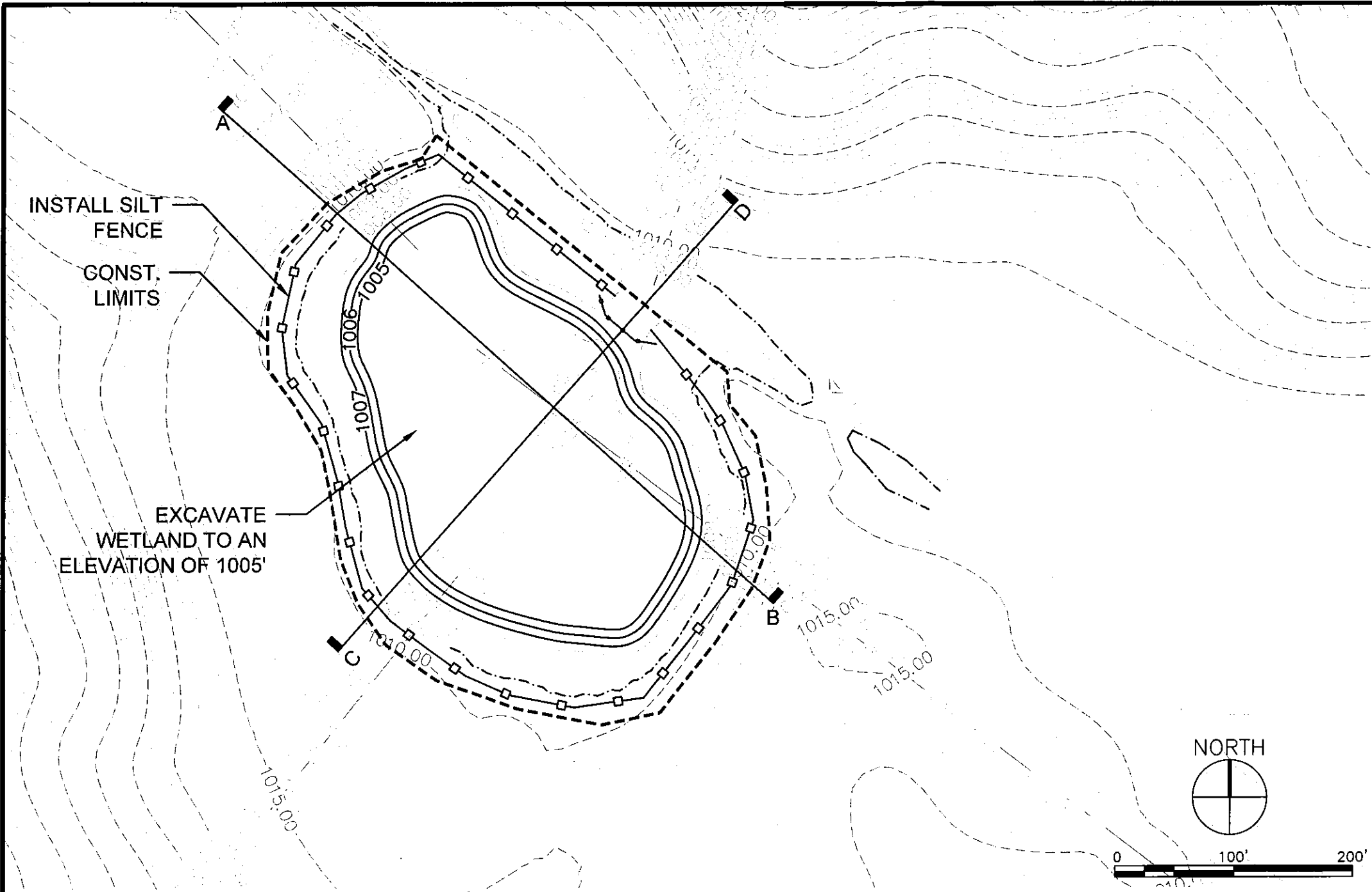
LEVEL I DELINEATION - FIGURE 3 GRYGELKO WETLAND ENHANCEMENT

AE Comm.# 15018 Date: 4/9/2018 By: JLA

APPENDIX B

Grading Plans

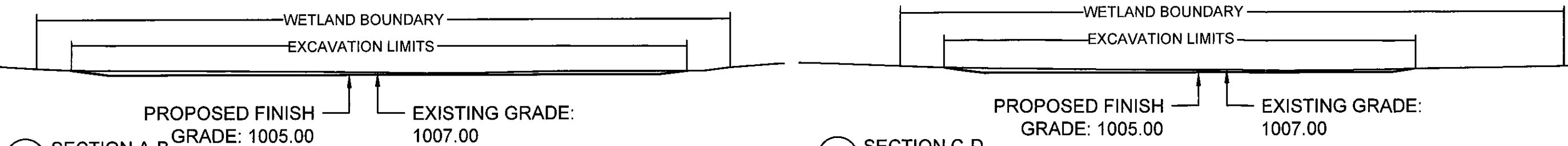
Apr 13, 2018 - 1:22pm jdelner
Xref Filename: \\15018_LQARConts_11t\\



KEY MAP

- NOTES:
1. DISTURBED AREAS SHALL BE RESTORED WITH A MINIMUM 6" DEPTH OF TOPSOIL. TOPSOIL SHALL BE FREE OF ALL NOXIOUS WEEDS, ROOTS OR WOODY STEMS AND HAVE A MAXIMUM CLAY CONTENT OF 5%.
 2. AFTER INSTALLATION OF TOPSOIL, DISTURBED AREAS SHALL BE SEEDED WITH MnDOT SEED MIX 34-262, APPLIED AT A RATE OF 5LBS / 1000 SQ. FT. A COVER CROP OF WINTER WHEAT SHOULD BE INSTALLED AT A RATE OF 1.0 LBS / 1000 SQ. FT.
 3. SEEDED AREAS SHALL BE MULCHED WITH A CLEAN GRAIN STRAW, DISC ANCHORED TO ACHIEVE 90% COVERAGE OF THE EXPOSED SOIL SURFACE.

1 GRADING



2 SECTION A-B

3 SECTION C-D

NO.	DATE	DESCRIPTION OF REVISIONS
5	###	###
4	###	###
3	###	###
2	###	###
1	###	###

DESIGNED: JWD
DRAWN: JWD
CHECKED BY: BH



Anderson Engineering of Minnesota, LLC
13605 1st Avenue North
Suite 100
Plymouth, MN 55441
763-412-4000 (o) 763-412-4090 (f)
www.ae-mn.com

GRYGELKO WETLAND ENHANCEMENT
PID: 053-1411924430001
GREENFIELD, MN

GRADING PLAN

COMM. NO. 15018
PLOTTED: 4/13/2018
DRAWING NO. 1.0

APPENDIX C

Seed Mix

34-262

Wet Prairie

Common Name	Scientific Name	Rate (lb/ac)	Rate (kg/ha)	% of Mix (by weight)	Seeds/ sq ft
Virginia wild rye	<i>Elymus virginicus</i>	1.75	1.96	12.07%	2.70
fringed brome	<i>Bromus ciliatus</i>	1.50	1.68	10.38%	6.08
big bluestem	<i>Andropogon gerardii</i>	1.00	1.12	6.89%	3.67
switchgrass	<i>Panicum virgatum</i>	0.75	0.84	5.16%	3.85
Indian grass	<i>Sorghastrum nutans</i>	0.50	0.56	3.44%	2.20
prairie cordgrass	<i>Spartina pectinata</i>	0.50	0.56	3.41%	1.20
fowl bluegrass	<i>Poa palustris</i>	0.20	0.22	1.39%	9.60
tall manna grass	<i>Glyceria grandis</i>	0.15	0.17	1.02%	3.80
fowl manna grass	<i>Glyceria striata</i>	0.11	0.12	0.73%	3.50
bluejoint	<i>Calamagrostis canadensis</i>	0.04	0.04	0.27%	4.00
	Grasses Subtotal	6.50	7.29	44.76%	40.60
fox sedge	<i>Carex vulpinoidea</i>	0.10	0.11	0.66%	3.50
dark green bulrush	<i>Scirpus atrovirens</i>	0.10	0.11	0.72%	17.74
Broad-leaved Woolly Sedge	<i>Carex pellita</i>	0.05	0.06	0.32%	0.47
woolgrass	<i>Scirpus cyperinus</i>	0.03	0.03	0.18%	16.00
tussock sedge	<i>Carex stricta</i>	0.02	0.02	0.17%	0.48
	Sedges & Rushes Subtotal	0.30	0.34	2.05%	38.19
Canada tick trefoil	<i>Desmodium canadense</i>	0.50	0.56	3.41%	1.00
golden alexanders	<i>Zizia aurea</i>	0.25	0.28	1.76%	1.03
blue vervain	<i>Verbena hastata</i>	0.15	0.17	1.06%	5.25
marsh milkweed	<i>Asclepias incarnata</i>	0.08	0.09	0.55%	0.14
Virginia mountain mint	<i>Pycnanthemum virginianum</i>	0.08	0.09	0.55%	6.50
red-stemmed aster	<i>Symphyotrichum puniceum</i>	0.08	0.09	0.56%	2.40
flat-topped aster	<i>Doellingeria umbellata</i>	0.05	0.06	0.34%	1.20
autumn sneezeweed	<i>Helenium autumnale</i>	0.05	0.06	0.35%	2.39
sawtooth sunflower	<i>Helianthus grosseserratus</i>	0.05	0.06	0.38%	0.30
spotted Joe pye weed	<i>Eutrochium maculatum</i>	0.04	0.04	0.30%	1.50
Canada anemone	<i>Anemone canadensis</i>	0.03	0.03	0.21%	0.09
common boneset	<i>Eupatorium perfoliatum</i>	0.03	0.03	0.23%	2.00
bunched ironweed	<i>Vernonia fasciculata</i>	0.03	0.03	0.23%	0.30
grass-leaved goldenrod	<i>Euthamia graminifolia</i>	0.02	0.02	0.11%	2.00
great blazing star	<i>Liatris pycnostachya</i>	0.02	0.02	0.17%	0.10
Culver's root	<i>Veronicastrum virginicum</i>	0.02	0.02	0.14%	6.00
great lobelia	<i>Lobelia siphilitica</i>	0.01	0.01	0.05%	1.40
blue monkey flower	<i>Mimulus ringens</i>	0.01	0.01	0.05%	6.40
	Forbs Subtotal	1.50	1.68	10.45%	40.00
Oats	<i>Avena sativa</i>	6.20	6.95	42.74%	2.76
	Cover Crop Subtotal	6.20	6.95	42.74%	2.76
	Total	14.50	16.25	100.00%	121.55
Purpose:	Wet prairie reconstruction for wetland mitigation or ecological restoration.				
Planting Area:	Tallgrass Aspen Parklands, Prairie Parkland, and Eastern Broadleaf Forest Provinces. Mn/DOT Districts 2(west), 3B, 4, Metro, 6, 7 & 8.				

Back to Table 3

Minnesota Wetland Conservation Act

Notice of Application

Local Government Unit (LGU) Pioneer-Sarah Creek Watershed Management Organization	Address c/o JASS 3235 Fernbrook Lane, Plymouth, MN 55447
---	--

1. PROJECT INFORMATION

Applicant Name James R. Johnson 658 South 77th St. Mesa AZ 85208	Project Name PID 3511924320002 North Shore Drive Lot, Greenfield	Date of Application May 24, 2018	Application Number 2018-06W
---	--	--	---------------------------------------

Type of Application (check all that apply):

<input checked="" type="checkbox"/> Wetland Boundary or Type Sequencing	<input type="checkbox"/> No-Loss	<input type="checkbox"/> Exemption	<input type="checkbox"/>
<input type="checkbox"/> Replacement Plan	<input type="checkbox"/> Banking Plan		

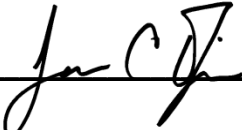
Summary and description of proposed project (attach additional sheets as necessary):

This is a 1.41-acre residential lot near the east terminus of North Shore Drive on Lake Sarah in Greenfield. (NW1/4 of the SW1/4, Section 35, T119N, R24W). Aquatic EcoSolutions, Inc. identified wetlands on February 28th and May 9, 2018 on this parcel. One wetland/upland boundary was identified using the Corps of Engineering Wetland Delineation Manual and its supplemental guidance.

2. APPLICATION REVIEW AND DECISION

Signing and mailing of this completed form to the appropriate recipients in accordance with 8420.0255, Subp. 3 provides notice that an application was made to the LGU under the Wetland Conservation Act as specified above. A copy of the application is attached. Comments can be submitted to:

Name and Title of LGU Contact Person James C. Kujawa Technical Advisor to the Commission	Comments must be received by (minimum 15 business-day comment period): June 20, 2018
Address (if different than LGU)	Date, time, and location of decision: June 21, 8:00 a.m.. Administrative Office PSCWMC.
Phone Number and E-mail Address 612-348-7338 james.kujawa@co.hennepin.mn.us	Decision-maker for this application: <input checked="" type="checkbox"/> Staff <input type="checkbox"/> Governing Board or Council

Signature:  Date: **May 29, 2018**

3. LIST OF ADDRESSEES

- ☒ SWCD TEP member: (email only) **Stacey. Lijewski@co.hennepin.mn.us**
☒ BWSR TEP member: (email only) **ben.carlson@state.mn.us**
☐ LGU TEP member (if different than LGU Contact):
☐ DNR TEP member:
☒ DNR Regional Office (if different than DNR TEP member) **Becky.Horton@state.mn.us**
☐ WD or WMO (if applicable):
☒ Applicant (notice only) and Landowner; James R. Johnson **JamesR6293@gmail.com** Ken Phad, **kphad@aol.com**
☒ Members of the public who requested notice (notice only): **City of Greenfield, Margaret Webb, mwebb@ci.greenfield.mn.us**
☒ Corps of Engineers Project Manager (notice only **ACOE (email only)** **Melissa.M.Jenny@usace.army.mil**
☐ BWSR Wetland Bank Coordinator (wetland bank plan applications only)

4. MAILING INFORMATION

- For a list of BWSR TEP representatives: **www.bwsr.state.mn.us/contact/WCA_areas.pdf**
 ➤ For a list of DNR TEP representatives: **www.bwsr.state.mn.us/wetlands/wca/DNR_TEP_contacts.pdf**
 ➤ Department of Natural Resources Regional Offices:

NW Region: Reg. Env. Assess. Ecol. Div. Ecol. Resources 2115 Birchmont Beach Rd. NE Bemidji, MN 56601	NE Region: Reg. Env. Assess. Ecol. Div. Ecol. Resources 1201 E. Hwy. 2 Grand Rapids, MN 55744	Central Region: Reg. Env. Assess. Ecol. Div. Ecol. Resources 1200 Warner Road St. Paul, MN 55106	Southern Region: Reg. Env. Assess. Ecol. Div. Ecol. Resources 261 Hwy. 15 South New Ulm, MN 56073
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For a map of DNR Administrative Regions, see: **http://files.dnr.state.mn.us/aboutdnr/dnr_regions.pdf**

- For a list of Corps of Project Managers: **www.mvp.usace.army.mil/regulatory/default.asp?pageid=687**
 or send to:
 ➤

US Army Corps of Engineers
 St. Paul District, ATTN: OP-R
 180 Fifth St. East, Suite 700
 St. Paul, MN 55101-1678

- For Wetland Bank Plan applications, also send a copy of the application to:
 Minnesota Board of Water and Soil Resources
 Wetland Bank Coordinator
 520 Lafayette Road North
 St. Paul, MN 55155

5. ATTACHMENTS

In addition to the application, list any other attachments:

- ☒ **Wetland Delineation Report by Aquatic EcoSolutions Inc. dated May 10, 2018**
☒ **MN Joint Application**
☐
☐

Joint Application Form for Activities Affecting Water Resources in Minnesota

This joint application form is the accepted means for initiating review of proposals that may affect a water resource (wetland, tributary, lake, etc.) in the State of Minnesota under state and federal regulatory programs. Applicants for Minnesota Department of Natural Resources (DNR) Public Waters permits **MUST** use the MPARS online permitting system for submitting applications to the DNR. Applicants can use the information entered into MPARS to substitute for completing parts of this joint application form (see the paragraph on MPARS at the end of the joint application form instructions for additional information). This form is only applicable to the water resource aspects of proposed projects under state and federal regulatory programs; other local applications and approvals may be required. Depending on the nature of the project and the location and type of water resources impacted, multiple authorizations may be required as different regulatory programs have different types of jurisdiction over different types of resources.

Regulatory Review Structure

Federal

The St. Paul District of the U.S. Army Corps of Engineers (Corps) is the federal agency that regulates discharges of dredged or fill material into waters of the United States (wetlands, tributaries, lakes, etc.) under Section 404 of the Clean Water Act (CWA) and regulates work in navigable waters under Section 10 of the Rivers and Harbors Act. Applications are assigned to Corps project managers who are responsible for implementing the Corps regulatory program within a particular geographic area.

State

There are three state regulatory programs that regulate activities affecting water resources. The Wetland Conservation Act (WCA) regulates most activities affecting wetlands. It is administered by local government units (LGUs) which can be counties, townships, cities, watershed districts, watershed management organizations or state agencies (on state-owned land). The Minnesota DNR Division of Ecological and Water Resources issues permits for work in specially-designated public waters via the Public Waters Work Permit Program (DNR Public Waters Permits). The Minnesota Pollution Control Agency (MPCA) under Section 401 of the Clean Water Act certifies that discharges of dredged or fill material authorized by a federal permit or license comply with state water quality standards. One or more of these regulatory programs may be applicable to any one project.

Required Information

Prior to submitting an application, applicants are **strongly encouraged** to seek input from the Corps Project Manager and LGU staff to identify regulatory issues and required application materials for their proposed project. Project proponents can request a pre-application consultation with the Corps and LGU to discuss their proposed project by providing the information required in Sections 1 through 5 of this joint application form to facilitate a meaningful discussion about their project. Many LGUs provide a venue (such as regularly scheduled technical evaluation panel meetings) for potential applicants to discuss their projects with multiple agencies prior to submitting an application. Contact information is provided below.

The following bullets outline the information generally required for several common types of determinations/authorizations.

- For delineation approvals and/or jurisdictional determinations, submit Parts 1, 2 and 5, and Attachment A.
- For activities involving CWA/WCA exemptions, WCA no-loss determinations, and activities not requiring mitigation, submit Parts 1 through 5, and Attachment B.
- For activities requiring compensatory mitigation/replacement plan, submit Parts 1 thru 5, and Attachments C and D.
- For local road authority activities that qualify for the state's local road wetland replacement program, submit Parts 1 through 5, and Attachments C, D (if applicable), and E to both the Corps and the LGU.

Submission Instructions

Send the completed joint application form and all required attachments to:

U.S Army Corps of Engineers. Applications may be sent directly to the appropriate Corps Office. For a current listing of areas of responsibilities and contact information, visit the St. Paul District's website at:

<http://www.mvp.usace.army.mil/Missions/Regulatory.aspx> and select "Minnesota" from the contact Information box.

Alternatively, applications may be sent directly to the St. Paul District Headquarters and the Corps will forward them to the appropriate field office.

Section 401 Water Quality Certification: Applicants do not need to submit the joint application form to the MPCA unless specifically requested. The MPCA will request a copy of the completed joint application form directly from an applicant when they determine an individual 401 water quality certification is required for a proposed project.

Wetland Conservation Act Local Government Unit: Send to the appropriate Local Government Unit. If necessary, contact your county Soil and Water Conservation District (SWCD) office or visit the Board of Water and Soil Resources (BWSR) web site (www.bwsr.state.mn.us) to determine the appropriate LGU.

DNR Public Waters Permitting: In 2014 the DNR will begin using the Minnesota DNR Permitting and Reporting System (MPARS) for submission of Public Waters permit applications (<https://webapps11.dnr.state.mn.us/mpars/public/authentication/login>).

Applicants for Public Waters permits **MUST** use the MPARS online permitting system for submitting applications to the DNR. To avoid duplication and to streamline the application process among the various resource agencies, applicants can use the information entered into MPARS to substitute for completing parts of this joint application form. The MPARS print/save function will provide the applicant with a copy of the Public Waters permit application which, at a minimum, will satisfy Parts one and two of this joint application. For certain types of activities, the MPARS application may also provide all of the necessary information required under Parts three and four of the joint application. However, it is the responsibility of the Applicant to make sure that the joint application contains all of the required information, including identification of all aquatic resources impacted by the project (see Part four of the joint application). After confirming that the MPARS application contains all of the required information in Parts one and two the Applicant may attach a copy to the joint application and fill in any missing information in the remainder of the joint application.

Project Name and/or Number: Section 35 Greenfield Site

PART ONE: Applicant Information

If applicant is an entity (company, government entity, partnership, etc.), an authorized contact person must be identified. If the applicant is using an agent (consultant, lawyer, or other third party) and has authorized them to act on their behalf, the agent's contact information must also be provided.

Applicant/Landowner Name: James Johnson
Mailing Address: 658 S 77th St., Mesa, AZ 85208
Phone: 480-404-6949
E-mail Address: jamesr6293@gmail.com

Authorized Contact (do not complete if same as above):

Mailing Address:
Phone:
E-mail Address:

Agent Name: Robert Merila, Aquatic EcoSolutions, Inc.
Mailing Address: PO Box 497, Nevis, MN 56467
Phone: 877, 346-3474
E-mail Address: robertmerila@arvig.net

PART TWO: Site Location Information

County: Hennepin **City/Township:** Greenfield
Parcel ID and/or Address: 3511924320002
Legal Description (Section, Township, Range): Sec 35, T 119 N, R 24 W
Lat/Long (decimal degrees):
Attach a map showing the location of the site in relation to local streets, roads, highways.
Approximate size of site (acres) or if a linear project, length (feet): Approximately 1.4 acres

If you know that your proposal will require an individual Permit from the U.S. Army Corps of Engineers, you must provide the names and addresses of all property owners adjacent to the project site. This information may be provided by attaching a list to your application or by using block 25 of the Application for Department of the Army permit which can be obtained at:

http://www.mvp.usace.army.mil/Portals/57/docs/regulatory/RegulatoryDocs/engform_4345_2012oct.pdf

PART THREE: General Project/Site Information

If this application is related to a delineation approval, exemption determination, jurisdictional determination, or other correspondence submitted **prior to** this application then describe that here and provide the Corps of Engineers project number.

Describe the project that is being proposed, the project purpose and need, and schedule for implementation and completion. The project description must fully describe the nature and scope of the proposed activity including a description of all project elements that effect aquatic resources (wetland, lake, tributary, etc.) and must also include plans and cross section or profile drawings showing the location, character, and dimensions of all proposed activities and aquatic resource impacts.

Review of wetland delineation.

Project Name and/or Number: Section 35 Greenfield Site

PART FOUR: Aquatic Resource Impact¹ Summary

If your proposed project involves a direct or indirect impact to an aquatic resource (wetland, lake, tributary, etc.) identify each impact in the table below. Include all anticipated impacts, including those expected to be temporary. Attach an overhead view map, aerial photo, and/or drawing showing all of the aquatic resources in the project area and the location(s) of the proposed impacts. Label each aquatic resource on the map with a reference number or letter and identify the impacts in the following table.

Aquatic Resource ID (as noted on overhead view)	Aquatic Resource Type (wetland, lake, tributary etc.)	Type of Impact (fill, excavate, drain, or remove vegetation)	Duration of Impact Permanent (P) or Temporary (T) ¹	Size of Impact ²	Overall Size of Aquatic Resource ³	Existing Plant Community Type(s) in Impact Area ⁴	County, Major Watershed #, and Bank Service Area # of Impact Area ⁵

¹If impacts are temporary; enter the duration of the impacts in days next to the "T". For example, a project with a temporary access fill that would be removed after 220 days would be entered "T (220)".

²Impacts less than 0.01 acre should be reported in square feet. Impacts 0.01 acre or greater should be reported as acres and rounded to the nearest 0.01 acre. Tributary impacts must be reported in linear feet of impact and an area of impact by indicating first the linear feet of impact along the flowline of the stream followed by the area impact in parentheses). For example, a project that impacts 50 feet of a stream that is 6 feet wide would be reported as 50 ft (300 square feet).

³This is generally only applicable if you are applying for a de minimis exemption under MN Rules 8420.0420 Subp. 8, otherwise enter "N/A".

⁴Use *Wetland Plants and Plant Community Types of Minnesota and Wisconsin* 3rd Ed. as modified in MN Rules 8420.0405 Subp. 2.

⁵Refer to Major Watershed and Bank Service Area maps in MN Rules 8420.0522 Subp. 7.

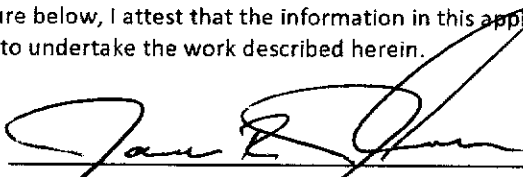
If any of the above identified impacts have already occurred, identify which impacts they are and the circumstances associated with each:

PART FIVE: Applicant Signature

☐ Check here if you are requesting a pre-application consultation with the Corps and LGU based on the information you have provided. Regulatory entities will not initiate a formal application review if this box is checked.

By signature below, I attest that the information in this application is complete and accurate. I further attest that I possess the authority to undertake the work described herein.

Signature:



Date: 5/17/2018

I hereby authorize Robert Merita to act on my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this application.

¹ The term "impact" as used in this joint application form is a generic term used for disclosure purposes to identify activities that may require approval from one or more regulatory agencies. For purposes of this form it is not meant to indicate whether or not those activities may require mitigation/replacement.

Project Name and/or Number: Section 35 Greenfield Site

Attachment A

Request for Delineation Review, Wetland Type Determination, or Jurisdictional Determination

By submission of the enclosed wetland delineation report, I am requesting that the U.S. Army Corps of Engineers, St. Paul District (Corps) and/or the Wetland Conservation Act Local Government Unit (LGU) provide me with the following (check all that apply):

☒ **Wetland Type Confirmation**

☒ **Delineation Concurrence.** Concurrence with a delineation is a written notification from the Corps and a decision from the LGU concurring, not concurring, or commenting on the boundaries of the aquatic resources delineated on the property. Delineation concurrences are generally valid for five years unless site conditions change. Under this request alone, the Corps will not address the jurisdictional status of the aquatic resources on the property, only the boundaries of the resources within the review area (including wetlands, tributaries, lakes, etc.).

☒ **Preliminary Jurisdictional Determination.** A preliminary jurisdictional determination (PJD) is a non-binding written indication from the Corps that waters, including wetlands, identified on a parcel may be waters of the United States. For purposes of computation of impacts and compensatory mitigation requirements, a permit decision made on the basis of a PJD will treat all waters and wetlands in the review area as if they are jurisdictional waters of the U.S. PJDs are advisory in nature and may not be appealed.

☐ **Approved Jurisdictional Determination.** An approved jurisdictional determination (AJD) is an official Corps determination that jurisdictional waters of the United States are either present or absent on the property. AJDs can generally be relied upon by the affected party for five years. An AJD may be appealed through the Corps administrative appeal process.

In order for the Corps and LGU to process your request, the wetland delineation must be prepared in accordance with the 1987 Corps of Engineers Wetland Delineation Manual, any approved Regional Supplements to the 1987 Manual, and the *Guidelines for Submitting Wetland Delineations in Minnesota* (2013).

<http://www.mvp.usace.army.mil/Missions/Regulatory/DelineationJDGuidance.aspx>

Project Name and/or Number: Section 35 Greenfield Site

Attachment B

Supporting Information for Applications Involving Exemptions, No Loss Determinations, and Activities Not Requiring Mitigation

Complete this part **if** you maintain that the identified aquatic resource impacts in Part Four do not require wetland replacement/compensatory mitigation OR **if** you are seeking verification that the proposed water resource impacts are either exempt from replacement or are not under CWA/WCA jurisdiction.

Identify the specific exemption or no-loss provision for which you believe your project or site qualifies:

Provide a detailed explanation of how your project or site qualifies for the above. Be specific and provide and refer to attachments and exhibits that support your contention. Applicants should refer to rules (e.g. WCA rules), guidance documents (e.g. BWSR guidance, Corps guidance letters/public notices), and permit conditions (e.g. Corps General Permit conditions) to determine the necessary information to support the application. Applicants are strongly encouraged to contact the WCA LGU and Corps Project Manager prior to submitting an application if they are unsure of what type of information to provide:

Project Name and/or Number: Section 35 Greenfield Site

Attachment C

Avoidance and Minimization

Project Purpose, Need, and Requirements. Clearly state the purpose of your project and need for your project. Also include a description of any specific requirements of the project as they relate to project location, project footprint, water management, and any other applicable requirements. Attach an overhead plan sheet showing all relevant features of the project (buildings, roads, etc.), aquatic resource features (impact areas noted) and construction details (grading plans, storm water management plans, etc.), referencing these as necessary:

Avoidance. Both the CWA and the WCA require that impacts to aquatic resources be avoided if practicable alternatives exist. Clearly describe all on-site measures considered to avoid impacts to aquatic resources and discuss at least two project alternatives that avoid all impacts to aquatic resources on the site. These alternatives may include alternative site plans, alternate sites, and/or not doing the project. Alternatives should be feasible and prudent (see MN Rules 8420.0520 Subp. 2 C). Applicants are encouraged to attach drawings and plans to support their analysis:

Minimization. Both the CWA and the WCA require that all unavoidable impacts to aquatic resources be minimized to the greatest extent practicable. Discuss all features of the proposed project that have been modified to minimize the impacts to water resources (see MN Rules 8420.0520 Subp. 4):

Off-Site Alternatives. An off-site alternatives analysis is not required for all permit applications. If you know that your proposal will require an individual permit (standard permit or letter of permission) from the U.S. Army Corps of Engineers, you may be required to provide an off-site alternatives analysis. The alternatives analysis is not required for a complete application but must be provided during the review process in order for the Corps to complete the evaluation of your application and reach a final decision. Applicants with questions about when an off-site alternatives analysis is required should contact their Corps Project Manager.

Project Name and/or Number: Section 35 Greenfield Site

Attachment D

Replacement/Compensatory Mitigation

Complete this part **if** your application involves wetland replacement/compensatory mitigation not associated with the local road wetland replacement program. Applicants should consult Corps mitigation guidelines and WCA rules for requirements.

Replacement/Compensatory Mitigation via Wetland Banking. Complete this section if you are proposing to use credits from an existing wetland bank (with an account number in the State wetland banking system) for all or part of your replacement/compensatory mitigation requirements.

Wetland Bank Account #	County	Major Watershed #	Bank Service Area #	Credit Type (if applicable)	Number of Credits

Applicants should attach documentation indicating that they have contacted the wetland bank account owner and reached at least a tentative agreement to utilize the identified credits for the project. This documentation could be a signed purchase agreement, signed application for withdrawal of credits or some other correspondence indicating an agreement between the applicant and the bank owner. *However, applicants are advised not to enter into a binding agreement to purchase credits until the mitigation plan is approved by the Corps and LGU.*

Project-Specific Replacement/Permittee Responsible Mitigation. Complete this section if you are proposing to pursue actions (restoration, creation, preservation, etc.) to generate wetland replacement/compensatory mitigation credits for this proposed project.

WCA Action Eligible for Credit ¹	Corps Mitigation Compensation Technique ²	Acres	Credit % Requested	Credits Anticipated ³	County	Major Watershed #	Bank Service Area #

¹Refer to the name and subpart number in MN Rule 8420.0526.

²Refer to the technique listed in *St. Paul District Policy for Wetland Compensatory Mitigation in Minnesota*.

³If WCA and Corps crediting differs, then enter both numbers and distinguish which is Corps and which is WCA.

Explain how each proposed action or technique will be completed (e.g. wetland hydrology will be restored by breaking the tile.....) and how the proposal meets the crediting criteria associated with it. Applicants should refer to the Corps mitigation policy language, WCA rule language, and all associated Corps and WCA guidance related to the action or technique:

Attach a site location map, soils map, recent aerial photograph, and any other maps to show the location and other relevant features of each wetland replacement/mitigation site. Discuss in detail existing vegetation, existing landscape features, land use (on and surrounding the site), existing soils, drainage systems (if present), and water sources and movement. Include a topographic map showing key features related to hydrology and water flow (inlets, outlets, ditches, pumps, etc.):

Project Name and/or Number: Section 35 Greenfield Site

Attach a map of the existing aquatic resources, associated delineation report, and any documentation of regulatory review or approval. Discuss as necessary:

For actions involving construction activities, attach construction plans and specifications with all relevant details. Discuss and provide documentation of a hydrologic and hydraulic analysis of the site to define existing conditions, predict project outcomes, identify specific project performance standards and avoid adverse offsite impacts. Plans and specifications should be prepared by a licensed engineer following standard engineering practices. Discuss anticipated construction sequence and timing:

For projects involving vegetation restoration, provide a vegetation establishment plan that includes information on site preparation, seed mixes and plant materials, seeding/planting plan (attach seeding/planting zone map), planting/seeding methods, vegetation maintenance, and an anticipated schedule of activities:

For projects involving construction or vegetation restoration, identify and discuss goals and specific outcomes that can be determined for credit allocation. Provide a proposed credit allocation table tied to outcomes:

Provide a five-year monitoring plan to address project outcomes and credit allocation:

Discuss and provide evidence of ownership or rights to conduct wetland replacement/mitigation on each site:

Quantify all proposed wetland credits and compare to wetland impacts to identify a proposed wetland replacement ratio. Discuss how this replacement ratio is consistent with Corps and WCA requirements:

By signature below, the applicant attests to the following (only required if application involves project-specific/permittee responsible replacement):

- All proposed replacement wetlands were not:
 - Previously restored or created under a prior approved replacement plan or permit
 - Drained or filled under an exemption during the previous 10 years
 - Restored with financial assistance from public conservation programs
 - Restored using private funds, other than landowner funds, unless the funds are paid back with interest to the individual or organization that funded the restoration and the individual or organization notifies the local government unit in writing that the restored wetland may be considered for replacement.
- The wetland will be replaced before or concurrent with the actual draining or filling of a wetland.
- An irrevocable bank letter of credit, performance bond, or other acceptable security will be provided to guarantee successful completion of the wetland replacement.
- Within 30 days of either receiving approval of this application or beginning work on the project, I will record the Declaration of Restrictions and Covenants on the deed for the property on which the replacement wetland(s) will be located and submit proof of such recording to the LGU and the Corps.

Applicant or Representative:

Title:

Signature: _____

Date:

Project Name and/or Number: Section 35 Greenfield Site

Attachment E

Local Road Replacement Program Qualification

Complete this part **if** you are a local road authority (county highway department, city transportation department, etc.) seeking verification that your project (or a portion of your project) qualifies for the MN Local Government Road Wetland Replacement Program (LGRWRP). If portions of your project are not eligible for the LGRWRP, then Attachment D should be completed and attached to your application.

Discuss how your project is a repair, rehabilitation, reconstruction, or replacement of a currently serviceable road to meet state/federal design or safety standards/requirements. Applicants should identify the specific road deficiencies and how the project will rectify them. Attach supporting documents and information as applicable:

Provide a map, plan, and/or aerial photograph accurately depicting wetland boundaries within the project area. Attach associated delineation/determination report or otherwise explain the method(s) used to identify and delineate wetlands. Also attach and discuss any type of review or approval of wetland boundaries or other aspects of the project by a member or members of the local Technical Evaluation Panel (TEP) or Corps of Engineers:

In the table below, identify only the wetland impacts from Part 4 that the road authority has determined should qualify for the LGRWRP.

Wetland Impact ID (as noted on overhead view)	Type of Impact (fill, excavate, drain)	Size of Impact (square feet or acres to 0.01)	Existing Plant Community Type(s) in Impact Area ¹	County, Major Watershed #, and Bank Service Area # of Impact ²

¹Use *Wetland Plants and Plant Community Types of Minnesota and Wisconsin* 3rd Ed. as modified in MN Rules 8420.0405 Subp. 2.

²Refer to Major Watershed and Bank Service Area maps in MN Rules 8420.0522 Subp. 7.

Discuss the feasibility of providing onsite compensatory mitigation/replacement for important site-specific wetland functions:

Please note that under the MN Wetland Conservation Act, projects with less than 10,000 square feet of wetland impact are allowed to commence prior to submission of this notification so long as the notification is submitted within 30 days of the impact. The Clean Water Act has no such provision and requires that permits be obtained prior to any regulated discharges into water of the United States. To avoid potential unauthorized activities, road authorities must, at a minimum, provide a complete application to the Corps and receive a permit prior to commencing work.

By signature below, the road authority attests that they have followed the process in MN Rules 8420.0544 and have determined that the wetland impacts identified in Attachment D are eligible for the MN Local Government Road Wetland Replacement Program.

Road Authority Representative:

Title:

Signature: _____

Date:

Technical Evaluation Panel Concurrence:

Project Name and/or Number: Section 35 Greenfield Site

TEP member:

Representing:

Concur with road authority's determination of qualification for the local road wetland replacement program? ☐ Yes ☐ No

Signature: _____

Date:

TEP member:

Representing:

Concur with road authority's determination of qualification for the local road wetland replacement program? ☐ Yes ☐ No

Signature: _____

Date:

TEP member:

Representing:

Concur with road authority's determination of qualification for the local road wetland replacement program? ☐ Yes ☐ No

Signature: _____

Date:

TEP member:

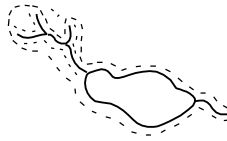
Representing:

Concur with road authority's determination of qualification for the local road wetland replacement program? ☐ Yes ☐ No

Signature: _____

Date:

Upon approval and signature by the TEP, application must be sent to: **Wetland Bank Administration**
Minnesota Board of Water & Soil Resources
520 Lafayette Road North
Saint Paul, MN 55155



Aquatic EcoSolutions, Inc.

Ecological Solutions to Environmental Challenges

Lakes • Streams • Riparian • Wetlands • Watersheds

P.O. Box 497

Nevis, MN 56467

Telephone: (877) 346-3474

robertmerila@arvig.net

Section 35 Greenfield Site

Greenfield, Hennepin County, Minnesota

for

Mr. James Johnson

Wetland Delineation Report

May 10, 2018

Number: 18003JJ

Section 35 Greenfield Site

Greenfield, Hennepin County, Minnesota
for

Mr. James Johnson

prepared by
Aquatic EcoSolutions, Inc.
Number: 18003JJ

The **Section 35 Greenfield Site** is in the NW¼ of SW¼ of Section 35, Township T. 119 N., Range R. 24 W., Hennepin County, Minnesota (PID 3511924320002).

The property is located adjacent to and south of the east end of North Shore Dr. just west of the Cul Du Sac), south from Highway 55 on Greenfield Road, two miles east of Rockford on Highway 55.

The property has some trees along with the delineated wetland.

The adjacent land use includes lakeshore and rural homes/farmsteads along with the mixture of agricultural land, woodland, and scattered wetlands.

The purpose of this project was to look at the area examined to identify wetland conditions and delineate them. The Results section describes the wetland conditions observed on the site.

The wetland delineation was performed on February 28 and May 9, 2018 by Robert J.F. Merila, *Wetland Delineator Certified* #1087.

Methodology

In Minnesota, wetlands are under two jurisdictions: State and Federal. The State jurisdiction guidelines were set by the Minnesota Wetland Conservation Act of 1991 (WCA). This State jurisdiction is administered by the Local Governmental Unit (LGU) with technical guidance provided by the Board of Water and Soil Resources (BWSR).

The Federal jurisdiction is administered by the U.S. Army Corps of Engineers (COE or Corps).

Starting in 1996, both jurisdictions agreed to use the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987) along with supplemental guidance by the Corps. This manual is commonly referred to as the **1987 Manual**.

The wetland delineation method used on this site was the Plant Community Assessment Procedure of the Routine Onsite Determination Method. The Routine Onsite Determination Forms (located in

Section 35 Greenfield Site Number 18003JJ

the back of the report) detail the three technical criteria (hydrophytic vegetation, hydric soils, and wetland hydrology) as described in the 1987 Manual.

The wetland edge(s) were delineated where one, two, or all three of these technical criteria drop out.

One sample point transect perpendicularly crosses the delineated edge. This transect consists of one sample point above the edge and one sample point below the edge.

A **Routine Onsite Determination Form** (data form) was completed for each of the sample point locations. The data forms describe the plant community, soils information, and hydrologic indicators at each sample point. Sample points are labeled as follows:

SP1-LOW

1=basin or edge number

LOW=the sample point below the edge ("UP" is above the edge)

Plant species on the data forms were listed by scientific names, stratum, percent cover for that stratum, and the species hydrophytic indicator status.

The delineated wetland edges were flagged with sequential numbers on orange or pink "Wetland Boundary" flagging, or with pink pin flags.

The sample points were marked with blue and white striped flagging that was tied on vegetation or pin flags.

Results

There was one wetland edge that was delineated on the property.

According to the Department of Natural Resources (DNR) **Protected Water Inventory (PWI) of Hennepin County (sheet 3 of 4)**, Lake Sarah was mapped as Protected Water 191P.

The **National Wetlands Inventory (NWI)** identifies a PSS1A polygon that generally coincides with Basin 1 and a PEMA/PEM1F polygon between the lake and this polygon. There was no wetland identified in the northern (higher ground) portion of the parcel.

Information from the **Soil Survey of Hennepin County (online version)** identifies the soils mapped on the parcel. This information is used on the Data Sheets. Soils mapped within the area examined include:

L16A Muskego, Blue Earth, and Houghton soils, ponded, 0 to 1 percent slopes

L64A Tadkee-Tadkee, depressional, complex, 0 to 2 percent slopes

W Water

Section 35 Greenfield Site Number 18003JJ

Even though the soils appear to be hydric, there is a significant rise in topographical away from the lake and the NWI shows non-wetland area in the northwestern portion of the property even at the time it was prepared (generally the early 1980s). There has been a roadway built and utilities installed into this area.

Hydrology

According to the hydrology data, the late summer into fall was normal hydrology.

Edge Description

Basin 1 was a Deep Marsh (Type 4, PEM1F) wetland fringe between Lake Sarah and the high ground on the property. Along the lake is cattail, with reed canary grass between the cattail and the upland on the site. Some reed canary grass was observed up-slope in the higher topography, indicating that organic soil was likely spread out when the roadway was built and the utilities were installed. The edge delineated was similar to the NWI polygon.

At the beginning of the growing season, just after the frost was out of the ground and the vegetation was growing, the hydrology at the delineated edge was observed to be 14 inches down.

The adjacent upland included smooth brome, ground ivy, common dandelion, Kentucky bluegrass, common burdock, bull thistle, Pennsylvania sedge, spotted geranium, Canada thistle, tall goldenrod, and Canada goldenrod ground cover; Tartarian honeysuckle and common buckthorn shrubs; and cottonwood, green ash, and box elder trees.

Red elder was observed along the edge.

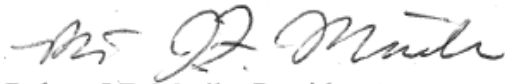
**Section 35 Greenfield Site
Number 18003JJ**

Conclusion

This wetland examination, delineation, and report of the **Section 35 Greenfield Site** was performed in accordance with the generally accepted methodology of the 1987 Manual at the time of the services rendered. No warranty, express or implied, is made.

If unavoidable impacts are planned for this project, permits or exemptions from **State** (WCA, DNR, Watershed District), **Federal** (Corps), and/or other applicable entities need to be granted before the impacts occur.

The wetland delineation was performed and report prepared by Robert J.F. Merila, *Wetland Delineator Certified #1087*.



Robert J.F. Merila, President
Wetland Delineator, Certified #1087

May 10, 2018

Date

Precipitation Worksheet Using Gridded Database

Precipitation data for target wetland location:

county: **Hennepin** township number: **119N**
 township name: **Greenfield** range number: **24W**
 nearest community: **Lake Sarah** section number: **35**

Aerial photograph or site visit date:

Wednesday, February 28, 2018

Score using 1981-2010 normal period

values are in inches A 'R' following a monthly total indicates a provisional value derived from radar-based estimates.	first prior month: January 2018	second prior month: December 2017	third prior month: November 2017
estimated precipitation total for this location:	missing	missing	missing
there is a 30% chance this location will have less than:	0.41	0.50	0.96
there is a 30% chance this location will have more than:	0.89	1.41	1.78
type of month: dry normal wet	missing	missing	missing
monthly score	missing	missing	missing
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)			
missing			

Precipitation Worksheet Using Gridded Database

Precipitation data for target wetland location:

county: **Hennepin** township number: **119N**
 township name: **Greenfield** range number: **24W**
 nearest community: **Lake Sarah** section number: **35**

Aerial photograph or site visit date:

Wednesday, November 15, 2017

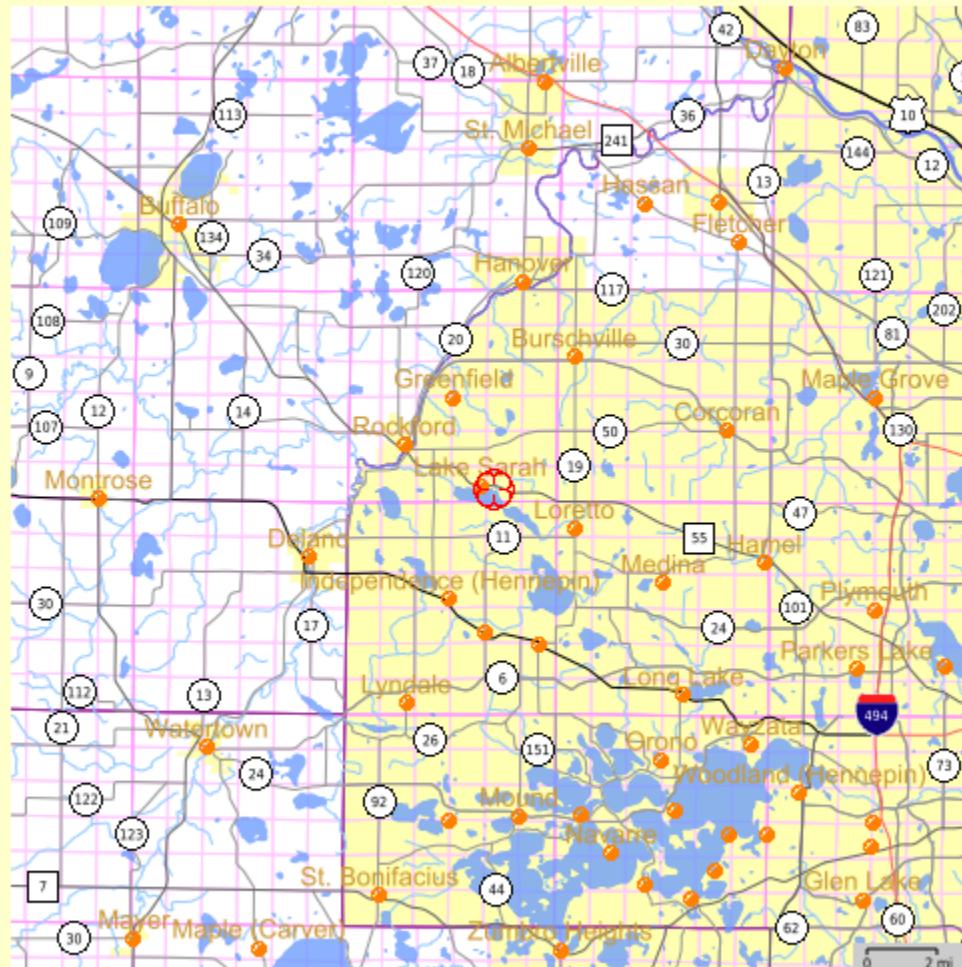
Score using 1981-2010 normal period

values are in inches A 'R' following a monthly total indicates a provisional value derived from radar-based estimates.	first prior month: October 2017	second prior month: September 2017	third prior month: August 2017
estimated precipitation total for this location:	5.27R	1.88R	6.98
there is a 30% chance this location will have less than:	1.30	1.88	2.85
there is a 30% chance this location will have more than:	3.20	4.56	4.81
type of month: dry normal wet	wet	dry	wet
monthly score	3 * 3 = 9	2 * 1 = 2	1 * 3 = 3
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)			
14 (Normal)			

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	WARM	ANN	WAT
30%	0.50	0.52	1.08	1.58	2.54	3.13	2.46	2.69	1.92	1.24	0.72	0.54	16.14	25.76	26.34
70%	0.99	1.13	1.88	2.93	4.57	5.47	4.39	4.46	3.92	2.75	1.77	1.22	21.17	32.14	31.91
mean	0.88	0.91	1.59	2.45	3.65	4.47	3.73	3.70	3.11	2.19	1.49	1.01	18.66	29.14	29.19
1981-2010 Summary Statistics															
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	WARM	ANN	WAT
30%	0.41	0.40	1.11	1.75	2.18	3.13	2.47	2.85	1.88	1.30	0.96	0.50	15.99	25.47	25.65
70%	0.89	0.90	1.76	2.99	4.16	4.72	4.18	4.81	4.56	3.20	1.78	1.41	20.76	32.08	32.11
mean	0.69	0.67	1.57	2.63	3.21	4.42	3.74	3.98	3.39	2.37	1.53	1.05	18.74	29.25	29.10
Year-to-Year Data															
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	WARM	ANN	WAT
2017	0.62	0.71	0.54	3.08	5.40	3.62	2.39	6.98	1.88R	5.27R			20.27		31.23
2016	0.29	0.81	1.11	3.31	3.14	3.48	6.07	8.17	6.82	2.81	1.69	1.51	27.68	39.21	41.41
2015	0.29	0.33	0.73	1.83	4.72	2.84	7.09	3.58	3.61	3.24	3.34	1.63	21.84	33.23	27.71
2014	1.09	1.62	0.78	6.64	5.13	11.40	2.75	2.46	2.65	0.80	1.01	0.88	24.39	37.21	40.17
2013	0.47	1.06	1.79	3.25	4.89	7.91	3.51	1.46	1.26	3.76	0.64	1.25	19.03	31.25	28.89
2012	0.38	1.69	1.42	2.46	11.12	4.23	4.51	1.74	0.53	1.43	0.71	1.15	22.13	31.37	29.49
2011	0.91	1.13	1.34	2.95	7.13	4.14	5.32	3.37	1.11	0.80	0.16	0.45	21.07	28.81	33.33
2010	0.56	0.92	0.90	1.72	2.89	7.36	3.56	5.56	5.30	1.67	1.43	2.83	24.67	34.70	38.07
2009	0.36	0.96	2.19	1.31	0.83	3.85	1.22	6.74	0.65	6.13	0.73	2.44	13.29	27.41	22.07
2008	0.19	0.50	1.54	3.28	2.54	4.15	2.10	2.55	3.00	1.47	1.14	1.35	14.34	23.81	26.56
2007	0.92	1.14	3.17	2.91	1.86	1.91	1.19	7.25	5.00	5.11	0.06	1.54	17.21	32.06	28.95
2006	0.21	0.52	1.41	3.58	0.80	2.44	1.21	4.09	5.17	0.76	0.97	1.87	13.71	23.03	25.55
2005	1.37	0.77	1.00	2.33	3.23	5.65	2.83	2.21	6.63	3.40	1.52	1.20	20.55	32.14	30.33
2004	0.42	1.15	1.62	2.20	5.71	6.67	3.06	1.51	6.99	3.33	0.62	0.36	23.94	33.64	31.91
2003	0.21	0.75	1.49	2.91	4.68	6.06	2.06	0.61	2.75	1.01	0.93	0.64	16.16	24.10	25.69
2002	0.40	0.85	1.73	3.14	3.55	11.47	7.39	7.27	4.83	3.86	0.14	0.17	34.51	44.80	44.32
2001	0.91	1.12	0.64	7.08	2.90	3.82	2.21	2.34	2.79	0.65	2.55	0.49	14.06	27.50	28.21
2000	0.64	1.00	0.83	1.26	2.54	2.74	3.59	2.22	1.72	1.07	2.48	0.85	12.81	20.94	17.74
1999	0.90	0.15	1.33	2.91	5.85	4.53	4.17	4.78	1.93	0.38	0.61	0.21	21.26	27.75	31.31
1998	0.83	0.70	2.62	1.47	3.77	4.40	2.99	3.40	1.39	2.67	1.62	0.47	15.95	26.33	23.67
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	WARM	ANN	WAT
1997	1.16	0.31	1.41	0.73	1.61	2.14	8.98	4.88	2.55	1.42	0.54	0.14	20.16	25.87	32.59

Select a wetland location

Click on map OR modify coordinate text and click on "update map" button.



Select by coordinates

Xutm Yutm
446165 4991139

latitude longitude
45.07166 93.68391

township range section
119 24 35

ZIP code
55373

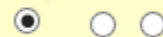
update map

county-township-place
Hennepin-Greenfield-Lake :



on map click

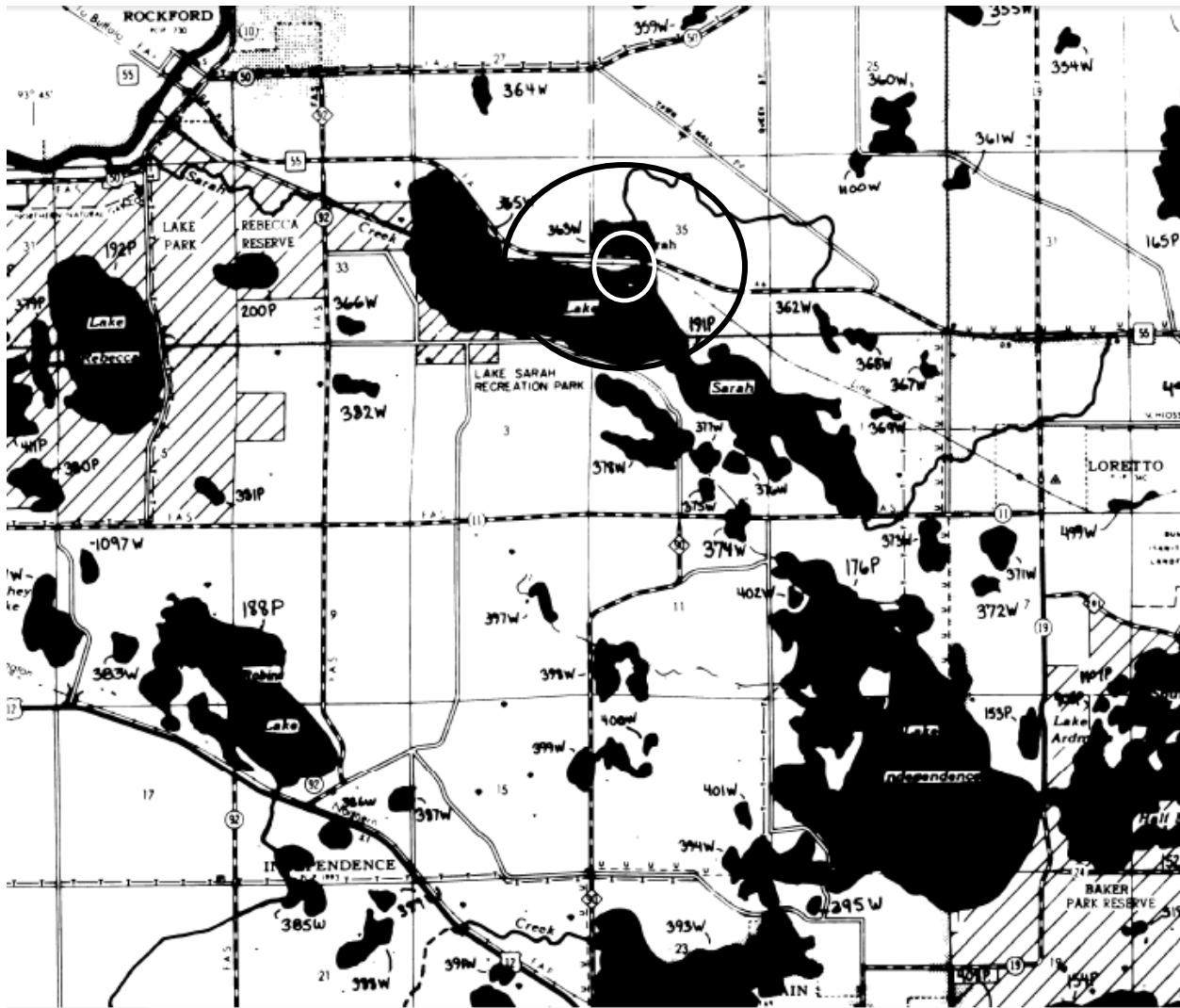
pan zoom
only in out



pop-up map key

CREATE PRECIPITATION DATA TABLE

cancel location changes

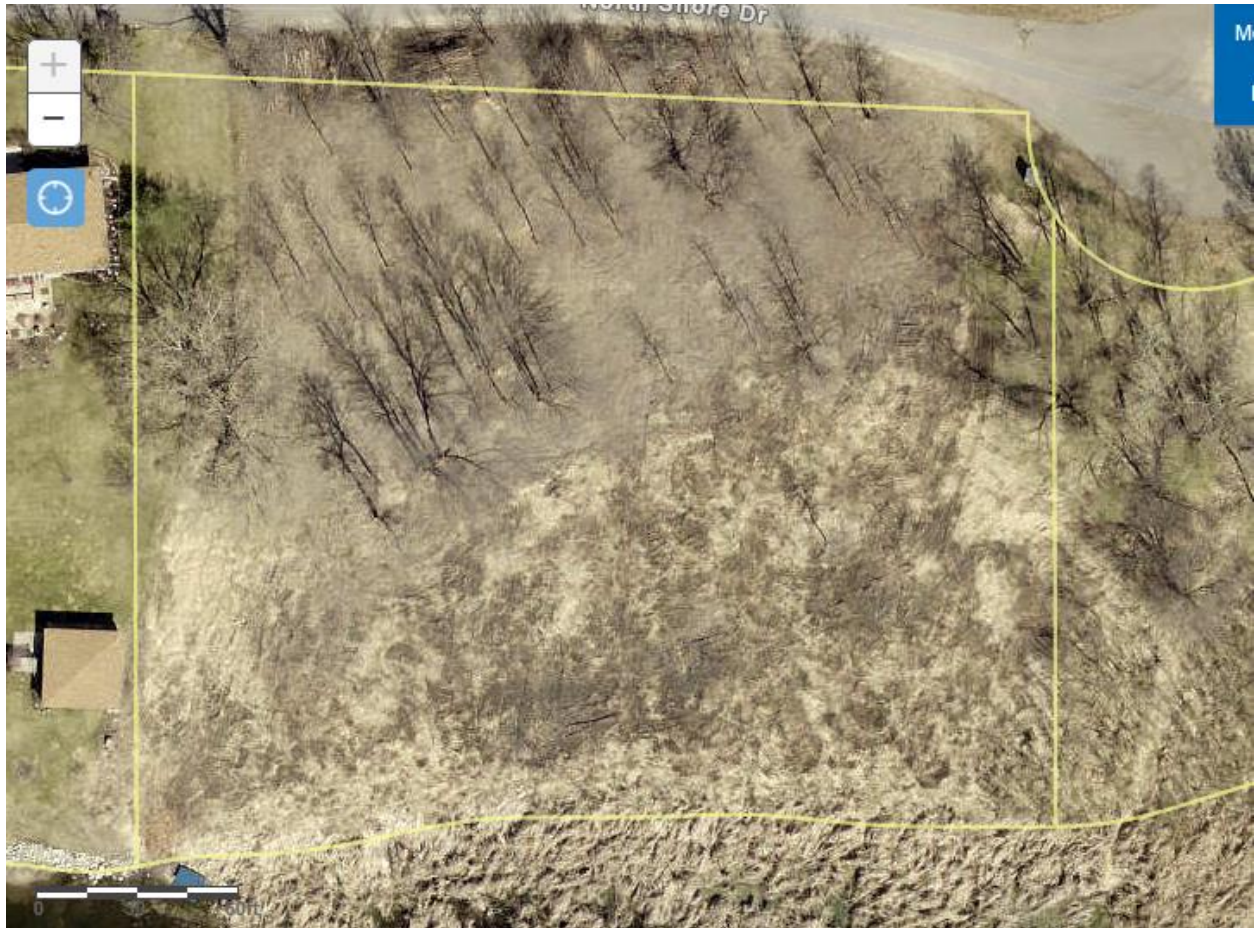


Protected Waters Inventory of Hennepin County
Minnesota Department of Natural Resources
 (1"= 1 Mile Scale)

↑N

Section 35 Greenfield Site

Aquatic EcoSolutions, Inc.

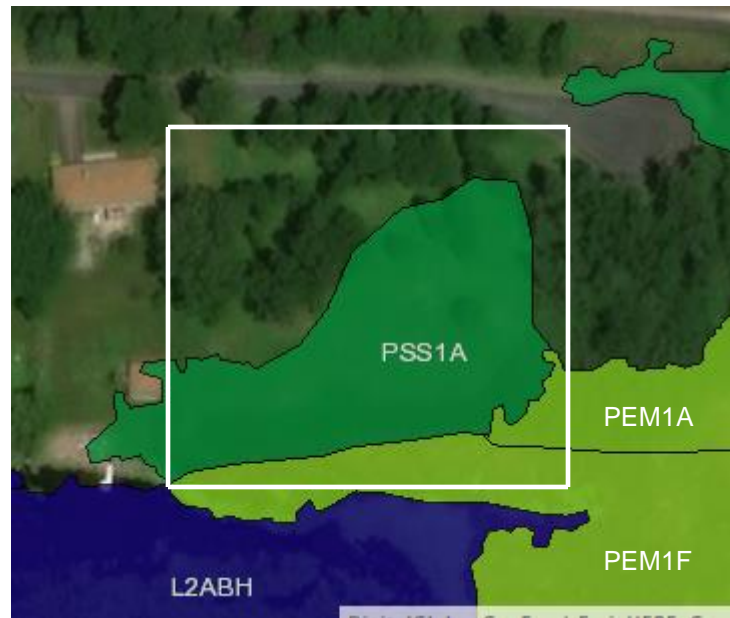


**Approximate Area Examined
Hennepin County Interactive Map**



Section 35 Greenfield Site

Aquatic EcoSolutions, Inc.



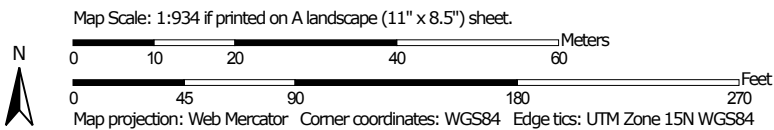
National Wetlands Inventory (NWI)
US Geological Survey/US Fish & Wildlife Service

↑N

Section 35 Greenfield Site

Aquatic EcoSolutions, Inc.


Soil Map—Hennepin County, Minnesota



Soil Map—Hennepin County, Minnesota

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

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.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Hennepin County, Minnesota
Survey Area Data: Version 13, Oct 4, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 12, 2010—Aug 2, 2016

The orthophoto or other base map on which the soil lines were compiled 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
L16A	Muskego, Blue Earth, and Houghton soils, ponded, 0 to 1 percent slopes	2.7	69.8%
L22D2	Lester loam, 10 to 16 percent slopes, moderately eroded	0.2	4.7%
L64A	Tadkee-Tadkee, depressional, complex, 0 to 2 percent slopes	0.3	8.7%
W	Water	0.6	16.9%
Totals for Area of Interest		3.8	100.0%



**Approximate Edge Location
LiDAR Topography**



Section 35 Greenfield Site

Aquatic EcoSolutions, Inc.



**Approximate Edge Location
5/2017 Aerial Photo**

↑N

Section 35 Greenfield Site

Aquatic EcoSolutions, Inc.



**Approximate Edge Location
6/16 Aerial Photograph**



Section 35 Greenfield Site

Aquatic EcoSolutions, Inc.



**Approximate Edge Location
3/16 Aerial Photograph**



Section 35 Greenfield Site

Aquatic EcoSolutions, Inc.



**Approximate Edge Location
8/15 Aerial Photograph**

↑N

Section 35 Greenfield Site

Aquatic EcoSolutions, Inc.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Section 35 Greenfield Site City/County: Greenfield / Hennepin County Sampling Date: 5 / 9 / 2018
 Applicant/Owner: James Johnson State: MN Sampling Point: 1 UP
 Investigator(s): Robert Merila, Aquatic EcoSolutions, Inc. Section, Township, Range: Sec 35, T 119 N, R 24 W
 Landform (hillslope, terrace, etc.): slight slope Local relief (concave, convex, none): none
 Slope (%): 2 Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: L16A Muskego, Blue Earth, and Houghton soils, 0 to 1 percent slopes NWI classification: none
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No <u>x</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>x</u>
Hydric Soil Present?	Yes _____ No <u>x</u>	
Wetland Hydrology Present?	Yes _____ No <u>x</u>	
Remarks: (Explain alternative procedures here or in a separate report)		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
1. <u>Fraxinus pennsylvanica</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>25</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>Rhamnus cathartica</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: ___ Rapid Test for Hydrophytic Vegetation ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>5</u> = Total Cover				
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Glechoma hederacea</u>	<u>35</u>	<u>Y</u>	<u>FACU</u>	Hydrophytic Vegetation Present? Yes _____ No <u>x</u>
2. <u>Geranium maculatum</u>	<u>5</u>	<u>N</u>	<u>UPL</u>	
3. <u>Poa pratensis</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
4. <u>Taraxicum officinale</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
5. <u>Phalaris arundinacea</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
6. <u>Arctium minus</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>85</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
Remarks: (include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: 1 UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR3/2	100					fine sandy loam	
5-14	10YR4/3	100					loam	
14-18	10YR3/2	100					loamy fine sand	
18-20	10YR4/3	100					loamy sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators:**

- ☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5)
☐ 2 cm Muck (A10)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ 5 cm Mucky Peat or Peat (S3)

- ☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- ☐ Coast Prairie Redox (A16)
☐ Dark Surface (S7)
☐ Iron-Manganese Masses (F12)
☐ Very Shallow Dark Surface (TF 12)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No x _____

Remarks:

HYDROLOGY**Wetland Hydrology Indicators:**Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)

- ☐ Water Stained Leaves (B9)
☐ Aquatic Fauna (B13)
☐ True Aquatic Plants (B14)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres on Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Thin Muck Surface (C7)
☐ Gauge or Well Data (D9)
☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No x _____ Depth (inches): _____
 Water Table Present? Yes _____ No x _____ Depth (inches): _____
 Saturation Present? Yes _____ No x _____ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No x _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Section 35 Greenfield Site City/County: Greenfield / Hennepin County Sampling Date: 5 / 9 / 2018
 Applicant/Owner: James Johnson State: MN Sampling Point: 1 LOW
 Investigator(s): Robert Merila, Aquatic EcoSolutions, Inc. Section, Township, Range: Sec 35, T 119 N, R 24 W
 Landform (hillslope, terrace, etc.): within area identified as wetland Local relief (concave, convex, none): none
 Slope (%): 1 Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: L16A Muskego, Blue Earth, and Houghton soils, 0 to 1 percent slopes NWI classification: PSS1A
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>x</u> No _____	Is the Sampled Area within a Wetland? Yes <u>x</u> No _____
Hydric Soil Present? Yes <u>x</u> No _____	
Wetland Hydrology Present? Yes <u>x</u> No _____	
Remarks: (Explain alternative procedures here or in a separate report)	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species <u>95</u> x 2 = <u>190</u> FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: <u>95</u> (A) <u>190</u> (B) Prevalence Index = B/A = <u>2.0</u>
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Hydrophytic Vegetation Indicators: ___ Rapid Test for Hydrophytic Vegetation <u>x</u> Dominance Test is >50% <u>x</u> Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Phalaris arundinacea</u>	<u>95</u>	<u>Y</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>95</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <u>x</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
Remarks: (include photo numbers here or on a separate sheet.)				

SOILSampling Point: 1 LOW

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR2/1	100					loam	
3-14	10YR3/1	100					silt loam	
14-20	10YR4/1	95	7.5YR4/4	5	C	M	loamy sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators:**

- ☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5)
☐ 2 cm Muck (A10)
☐ Depleted Below Dark Surface (A11)
☒ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ 5 cm Mucky Peat or Peat (S3)

- ☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- ☐ Coast Prairie Redox (A16)
☐ Dark Surface (S7)
☐ Iron-Manganese Masses (F12)
☐ Very Shallow Dark Surface (TF 12)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes x No _____

Remarks:

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
☒ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)

- ☐ Water Stained Leaves (B9)
☐ Aquatic Fauna (B13)
☐ True Aquatic Plants (B14)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres on Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Thin Muck Surface (C7)
☐ Gauge or Well Data (D9)
☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☒ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No x Depth (inches): 0
 Water Table Present? Yes x No _____ Depth (inches): 12
 Saturation Present? Yes x No _____ Depth (inches): 12
 (includes capillary fringe)

Wetland Hydrology Present? Yes x No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



PSC 2018-07W

From: Weyandt, Leah (DNR)
To: [James C Kujawa](#)
Cc: [Bruce Satek](#); [Kirsten A Barta](#); [Spiegel, Jason \(DNR\)](#)
Subject: RE: RPNs for 810 Copeland Road
Date: Wednesday, June 06, 2018 1:11:50 PM
Attachments: [image003.png](#)
[image004.png](#)
[image005.png](#)
[image006.png](#)
[image007.png](#)

Hey Jim (and everyone)

I just wanted to send out an email about what we concluded on today's site visit.

Last fall is when Bruce received the initial complaint. He asked the Barn Manager, Liz Lund, to voluntarily have the fill removed. Bruce gave her until January 1st, 2018. Come January, no work was done and Ms. Lund asked for an extension until May 2018. Bruce agreed and did not make it back out to the site until May 14th I believe? It was then that Bruce discovered that no work had been done to remove any of the fill and there possibly was more put in the PW/Wetland since they last talked.

Today, June 6th, 2018, Jason, Bruce, Kirsten and I met on-site at 10:00am. We noticed no more fill was put in but no fill was taken out and there had been what looked to be oat seeds thrown down on top of the fill. The grass had been beginning to grow through the fill and we even saw cattails reestablishing on the west side of the fence. (see attached pictures)

A decision was made that Jason would be getting a survey of the property done after asking permission from the golf course to access their property for the benchmark. Once we have the lines/boundaries established, Jason will write an RO for the fill to be removed out of the public water. There may be WCA issues as well, but we're going to handle the PW issue only for now. I am going to talk to Officer Arnaud Kpachavi, the local CO, and see what he thinks about an initial citation for the fill or maybe wait and see if the RO gets completed. Jason suggested 45 days for the work to be done and we all agreed.

Anything I missed?

Thanks everyone for meeting out there!

Leah Weyandt

Conservation Officer, WREO | Division of Enforcement

Minnesota Department of Natural Resources

1200 Warner Road

St. Paul, MN 55106

Phone: 612.759.9230

Email: leah.weyandt@state.mn.us

mndnr.gov

From: Lucius N. Jonett <ljonett@wenck.com>

Sent: Tuesday, June 05, 2018 4:56 PM

To: Vlach, Brian <Brian.Vlach@threeriversparks.org>; Judie Anderson <Judie@jass.biz>

Cc: Ed A. Matthiesen <ematthiesen@wenck.com>; Seth J. Bossert <sbossert@wenck.com>; Meaghan E. Watson <mwatson@wenck.com>

Subject: Baker Ravine Stabilization Project Update 06-05-2018

Brian and Judie,

This is the start of my weekly project updates for the Baker Ravine Stabilization project. If there isn't a lot of activity in a given week, I may skip, but I will usually use it as a touch point of what is happening and if we need information or feedback.

Accomplished Since Contract Execution (05-25-2018)

- Scheduled the field survey work:
 - Tree ID and tagging, and wetland delineation is scheduled for next Monday and Tuesday, June 11 and June 12.
 - Topography, tree and wetland boundary survey is scheduled to start next Wednesday, June 13 and will take 2-3 days.

Will Accomplish This Week

- We will start working on the base plan set when the survey work is complete and we are able to build the existing topo surface, overlay an aerial image.
- Once we have a base plan set, we will start working on the preliminary design. Ed and I will go in the field to complete the preliminary design, we will draft it into the 90% plans and then distribute the plans and schedule a design review and walkthrough with Three Rivers Park District staff to review the design and provide comment.

Schedule

- 06-15-18 Topo survey complete.
- 06-15-18 Tree survey and wetland delineation complete.
- 06-22-18 Base Plan Set Created
- 06-28-18 Preliminary Design Field work completed.
- 07-20-18 90% Plans Distributed and schedule a design review meeting

Project Input Needed

- None.

Other Issues/Concerns

- What does the field crew need to do to check in or notify the Park staff that they will be onsite?

If you have any questions on this progress report, please call me.

Thank you,

Lucius Jonett, PLA (MN, ND, IA)

Landscape Architect, Water Resources / Associate



Responsive partner.
Exceptional outcomes.

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1800 Pioneer Creek Center | Maple Plain, MN 55359