

Minnesota Wetland Conservation Act

Notice of Application

Local Government Unit (LGU) City of Plymouth	Address 3400 Plymouth Blvd. Plymouth, MN 55447
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1. PROJECT INFORMATION

Applicant Name Rodney Berg	Project Name Berg Site	Date of Application 8/30/13	Application Number NA
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Type of Application (check all that apply):

<input checked="" type="checkbox"/> Wetland Boundary or Type	<input type="checkbox"/> No-Loss	<input type="checkbox"/> Exemption	<input type="checkbox"/> Sequencing
<input type="checkbox"/> Replacement Plan	<input type="checkbox"/> Banking Plan		

Summary and description of proposed project (attach additional sheets as necessary):

Bopray Environmental Services LLC (BES) completed a wetland delineation on an approximately 4.25 acre site located in the NW 1/4 of Section 17, T118N, R22W in the City of Plymouth, Minnesota. Two wetlands were delineated on-site. Wetland A is described as a Type 3, shallow march, PEMCd wetland dominated by cattail. Wetland B is described as a seasonally flooded basin, PUBF, and is also know as Plymouth Creek, a MN DNR Public Waterbody.

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 Derek Asche Water Resources Manager	Comments must be received by (minimum 15 business-day comment period): September 30, 2013
Address (if different than LGU) City of Plymouth 3400 Plymouth Blvd. Plymouth, MN 55426	Date, time, and location of decision: October 1, 2013 9AM Plymouth City Hall
Phone Number and E-mail Address 763-509-5526 dasche@plymouthmn.gov	Decision-maker for this application: <input checked="" type="checkbox"/> Staff <input type="checkbox"/> Governing Board or Council

Signature: Derek Asche Date: 9/5/13

3. LIST OF ADDRESSEES

- ☒ HCD TEP member: **Ms. Stacey Lijewski, HCD, 701 Fourth Avenue South, Suite 700, Minneapolis, MN, 55415-1600 (sent electronically)**
- ☒ BWSR TEP member: **Ms. Lynda Peterson, BWSR, 520 Lafayette Rd. N., St. Paul, MN, 55155 (sent electronically)**
- ☐ LGU TEP member (if different than LGU Contact):
- ☒ DNR TEP member: **Melissa Doperalski, MN DNR, 1200 Warner Road, St. Paul, MN, 55106 (sent electronically)**
- ☐ DNR Regional Office (if different than DNR TEP member)
Ms. Kate Drewry, DNR Division of Ecological and Water Resources, 1200 Warner Road, St. Paul, MN, 55106 (sent electronically)
- ☒ WD or WMO (if applicable): **BCWMC, c/o Laura Jester, Keystone Waters, LLC, 16415 Hillcrest Lane, Eden Prairie, MN, 55346 (sent electronically)**
- ☒ Applicant and Landowner (if different):
Rodney Berg, 4225 Dunkirk Lane North, Plymouth, MN, 55446
- ☒ Members of the public who requested notice:
Mr. Kelly Boprav, BES, N7831 920th St., River Falls, WI, 54022 (sent electronically)
- ☒ Corps of Engineers Project Manager: **Melissa Jenny, Army Corps of Engineers, 180 5th Street East, Suite 700, St. Paul, MN, 55101-1678 (sent electronically)**
- ☐ BWSR Wetland Bank Coordinator (wetland bank plan decisions 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:	NE Region:	Central Region:	Southern Region:
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 Delineation Report for 4225 Dunkirk Lane North dated July 24, 2013 by BES**

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☐
☐
☐

Minnesota Wetland Conservation Act
Application for Approval of Wetland Type and Boundary

1. Project/Site Information

Project/Site Name: **Berg Site, Dunkirk Ln.N**

Local Government Unit: **Plymouth, MN**

Location (address and/or T, R, Sec.): **Sec 17, T118N, R22W**

2. Applicant Information

Applicant Name: **Rodney Berg**
City, State, Zip: **Plymouth, MN 55446**

Address: **4225 Dunkirk Lane N.**

E-mail: **b_rberg@msn.com**

Phone: **763-354-7182**

3. Agent/Consultant Information

Company Name **Bopray Environmental Services**

Contact Person: **Kelly Bopray**

Address: **N7831 920th St.**

City, State, Zip: **River Falls, WI 54022**

E-mail: **kjbopray@yahoo.com**

Phone: **715-307-4577**

4. Description of Request

Check all that apply: ☒ Wetland Boundary (must attach wetland delineation report)
☐ Wetland Type (Eggers & Reed and/or Circular 39 type)

5. Signature

By signature below, the applicant requests a determination from the Local Government Unit under Minnesota Rules 8420.0225 on the submitted wetland boundary and type information in this application. The applicant also affirms that they are the owner of the subject property or have permission from the landowner to pursue this determination.


Applicant or Authorized Agent Signature

7/26/2013
Date

Important Notes:

- The applicant may be required to submit multiple copies of the report/information to the LGU. The LGU may require the applicant to submit copies directly to Technical Evaluation Panel Members. **Check with your LGU regarding their submittal requirements.**
- The LGU decision must be made in compliance with Minnesota Statutes, section 15.99.

For LGU use only

Date Received:

8/30/13 *complete*
Dunkirk

Wetland Delineation Report

4225 Dunkirk Lane North

Plymouth, Minnesota

Prepared for: Rodney Berg



General view of the creek in the south part of the site.

July 24, 2013

BES Project No. 2013.023



**Bopray
Environmental**

N7831 920th St. River Falls, WI 54022
715-307-4577 kjbopray@yahoo.com

Wetland Delineation Report

Rodney Berg, 4225 Dunkirk Lane North

Plymouth, Minnesota

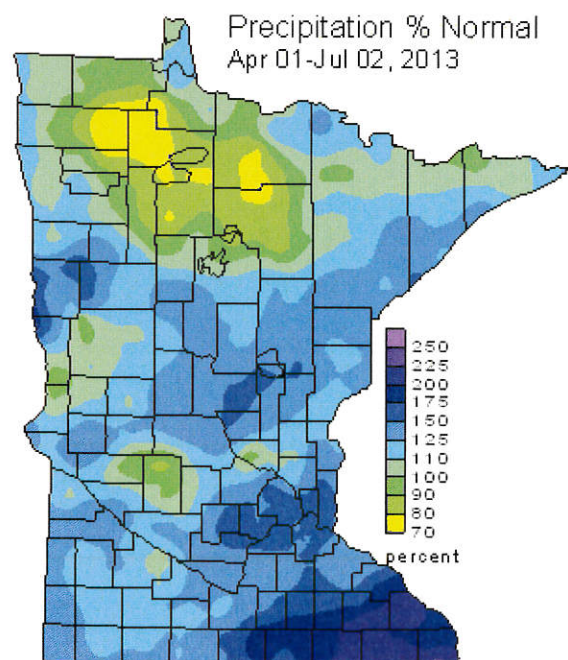
July 24, 2013

Background

Bopray Environmental Services LLC (BES) has completed a wetland delineation on an approximately 4.25 acre site located in the NW ¼, Sections 17, T118N, R22W, City of Plymouth, Hennepin County, Minnesota (**Figure 1**). The site consists of two residential lots. The topography of the site is nearly flat with a drainageway crossing the southwest corner of the site according to the U.S.G.S. quadrangle topographic map (**Figure 2**). The approximate site and wetland boundaries are shown on an aerial photo in **Figure 3**. The field wetland delineation was done on July 6, 2013. EDS surveyed the wetland boundaries and incorporated them into the site plans (**Appendix A**). The purpose of this delineation was to identify wetlands on the site for planning purposes for site development and for regulatory purposes.

Methodologies

The site was evaluated for wetlands based on the methods contained in the "Level 2 Routine Wetland Delineation" section of the U.S. Army Corps of Engineers "Wetland Delineation Manual" (Technical Report Y87-1, 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region. This is the methodology currently used to determine wetlands by both the U.S. Army Corps of Engineers for implementation of Section 404 of the Clean Water Act and by the Minnesota Wetland Conservation Act. According to the Climatology Working Groups' webpage, the area was at 150-175% of normal year to date precipitation at the time of the site visit.



Results

Wetland A

Wetland A encroaches on the northeast corner of the site and drains via culvert to the east. This wetland is a Palustrine, Emergent, Seasonally flooded, Drained, (PEMCd) shallow marsh. Wetland A is dominated by cattails (*Typha angustifolia* and *T. latifolia*). Soils in the wetland consisted of 20 inches of N 2/0 clay loam, over 10Y 5/1 clay loam (A12). Free water was observed at a depth of 16 inches (C2) and saturated soil was at 12 inches (A3) in the soil pit at the time of the site visit. The other wetland hydrology indicators observed in the wetland included true aquatic plants (B14) and a positive FAC-neutral test (D5). The adjacent upland vegetation is dominated by Kentucky bluegrass (*Poa pratensis*) and white clover (*Trifolium repens*) and is maintained as mowed lawn. The upland soils consisted of 20 inches of N 2/0 clay loam, over 10Y 5/1 clay loam (A12). There was free water at a depth of 24 inches (C2) and saturated soil was at a depth of 20 inches in the upland soil pit. The wetland boundary on this part of the site was generally staked along the vegetation transition where the mowed wetland species gave way to mowed upland species.

Wetlands B

This wetland occupies the stream channel, banks and low floodplain of Plymouth Creek in the woods in the southwest part of the site. Wetland B is a Palustrine, Unconsolidated Bottom, Seasonally Flooded, (PUBC) seasonally flooded basin. The channel bottom was generally unvegetated. The wetland edge is dominated by box elder (*Acer negundo*), green ash (*Fraxinus pennsylvanica*), common buckthorn (*Rhamnus cathartica*) and reed canary grass (*Phalaris arundinacea*). Soils in the wetland consisted of five inches of 10YR 2/1 loam, over five inches of 10YR 2/1 loam with 5% 10Y 5/1 iron depletions, over four inches of 10Y3/1 clay loam over 2.5Y 5/2 clay with 5% 2.5Y 5/4 iron concentrations (A12). Surface water was observed in the stream channel (A1). Free water was observed at a depth of 12 inch (C2) and saturated soil was at 6 inches (A3) in the soil pit at the time of the site visit. Other wetland hydrology indicators observed in the wetland included drift deposits (B3), sparsely vegetated concave surface (B8), crayfish burrows (C8), geomorphic position (D2) and a positive FAC-neutral test (D5). The adjacent upland vegetation is dominated by box elder, green ash and common buckthorn. The upland soils consisted of 12 inches of N 2/0 clay loam, over ten inches of 10YR 2/1 clay loam, over 10Y 5/1 clay loam. There was no free water or saturated soil within a depth of 26 inches in the upland soil pit. The wetland boundary was generally staked along the topographic break.

The National Wetlands Inventory (NWI) (**Figure 4**) identifies two wetlands in the general vicinity of Wetlands A and B as delineated by BES. The NWI map classifies Wetland A as a Palustrine, Emergent, Seasonally Flooded, (PEMC) wetland. Based on BES's field work, Wetland A was classified consistent with the NWI map. The NWI map classified Wetland B as a Palustrine,

Broadleaf Forested, Seasonally Flooded, drained (PFO1Cd) wetland. Based on BES's field work the wetland was generally limited to the stream channel and there were few trees actually growing in the wetland. The DNR Protected Waters Inventory map (**Figure 5**) does identify the Plymouth Creek as a public waters wetlands/public ditch on the site. The Hennepin County Soils Survey (**Figure 6**) shows the site is predominantly mapped as the Shorewood silty clay loam (L26B) soil map unit. The northeast part of the site is mapped as Glencoe loam, depressional (L24A), and area around the channel in the southwest part of the site is mapped as Hamel-Glencoe depressional (L132A). The Glencoe (L24A) soil map unit is the only one that is listed as a hydric soil map unit. All of the other soils are listed as partially hydric soil map units.

Wetland Classification

BES' classification of the wetlands is based on observations of the site and is include in Table 1 below.

Table 1. Summary of Wetland Characteristics

Basin	Class	Circ. 39 Type	Isolated Y/N	Comments
Wetland A	Shallow marsh, PEMCd	3	N	Wetland A is a cattail marsh that encroaches on the northeast corner of the site. The basin outlets to the east and eventually to Plymouth Creek via stormwater ponds and wetlands in the adjacent development.
Wetland B	Seasonally Flooded Basin PUBF	N/A	N	Wetland B is the channel of Plymouth Creek and adjacent wetlands that crosses the southwest corner of the site.

Jurisdiction

Table 1 indicates whether the wetlands are isolated or not for purposes of U.S. Army Corps of Engineers (COE) jurisdiction under Section 404 of the Clean Water Act. This determination is made by BES in the field at the time of the delineation and is essentially our best professional opinion based on the portion of the particular wetland we observed. In some cases, only a small portion of the wetland edge that is present on the property being delineated is evaluated. If no inlets or outlets are observed in the evaluated area, and none are evident on topographic maps or aerial photos, we are inclined to determine the wetland is isolated. However, since the entire wetland is sometimes not assessed, it is possible that inlets and/or outlets do exist and that the wetland has a surface connection to a federal "navigable" water and, thus, falls within the jurisdiction of Section 404. Therefore, a determination by BES of whether a particular wetland is isolated or not should not be considered a final determination with regard to COE

jurisdiction until the COE concurs with the determination. Wetland A drains east and eventually to Plymouth Creek (Wetland B) which drains to Medicine Lake and Basset Creek which in turn drains to the Mississippi River, and therefore the COE would likely take jurisdiction over the wetlands on this site.

Plymouth Creek (Wetland B) is identified on the protected waters inventory so the Minnesota Department of Natural Resources (DNR) will have jurisdiction this wetland. The Ordinary High Water (OHW) and limit of the DNR's jurisdiction is the top of the creek banks. Wetland A and any wetlands outside the banks of Plymouth Creek are regulated under the Minnesota Wetland Conservation Act (WCA) which is administered by the City of Plymouth as the Local Government Unit (LGU).

A copy of this report should be submitted to the Corps of Engineers and the LGU responsible for administering the WCA. Supplying these agencies with reports will serve the dual purpose of determining which agencies have jurisdiction and beginning the process of obtaining concurrence with the delineated wetland boundaries. If the on-site wetlands may be affected during site construction, all necessary permits should be obtained prior to construction.

Additional information regarding the wetlands' vegetation, soils and hydrology is included in **Appendix B**. The site survey with the wetland boundaries is included in **Appendix A**. Ground level photos of the wetlands are included in **Figure 7**.

The information contained herein represents the findings of BES during wetland evaluation activities conducted July 6, 2013 at the referenced site.

Respectfully,

Bopray Environmental Services LLC



Kelly J. Bopray
Professional Soil Scientist
Certified Wetland Delineator



Date

Enclosures

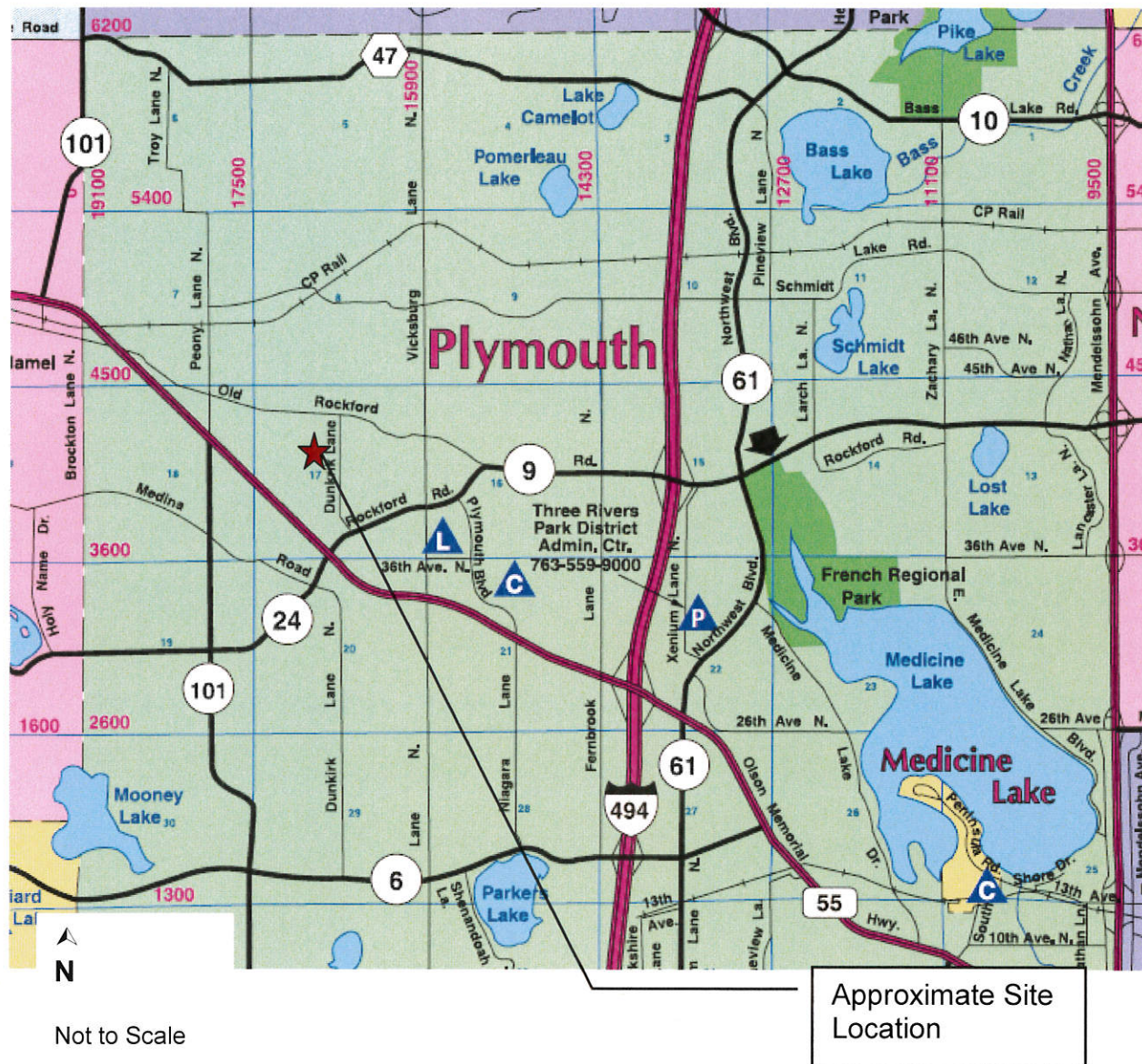
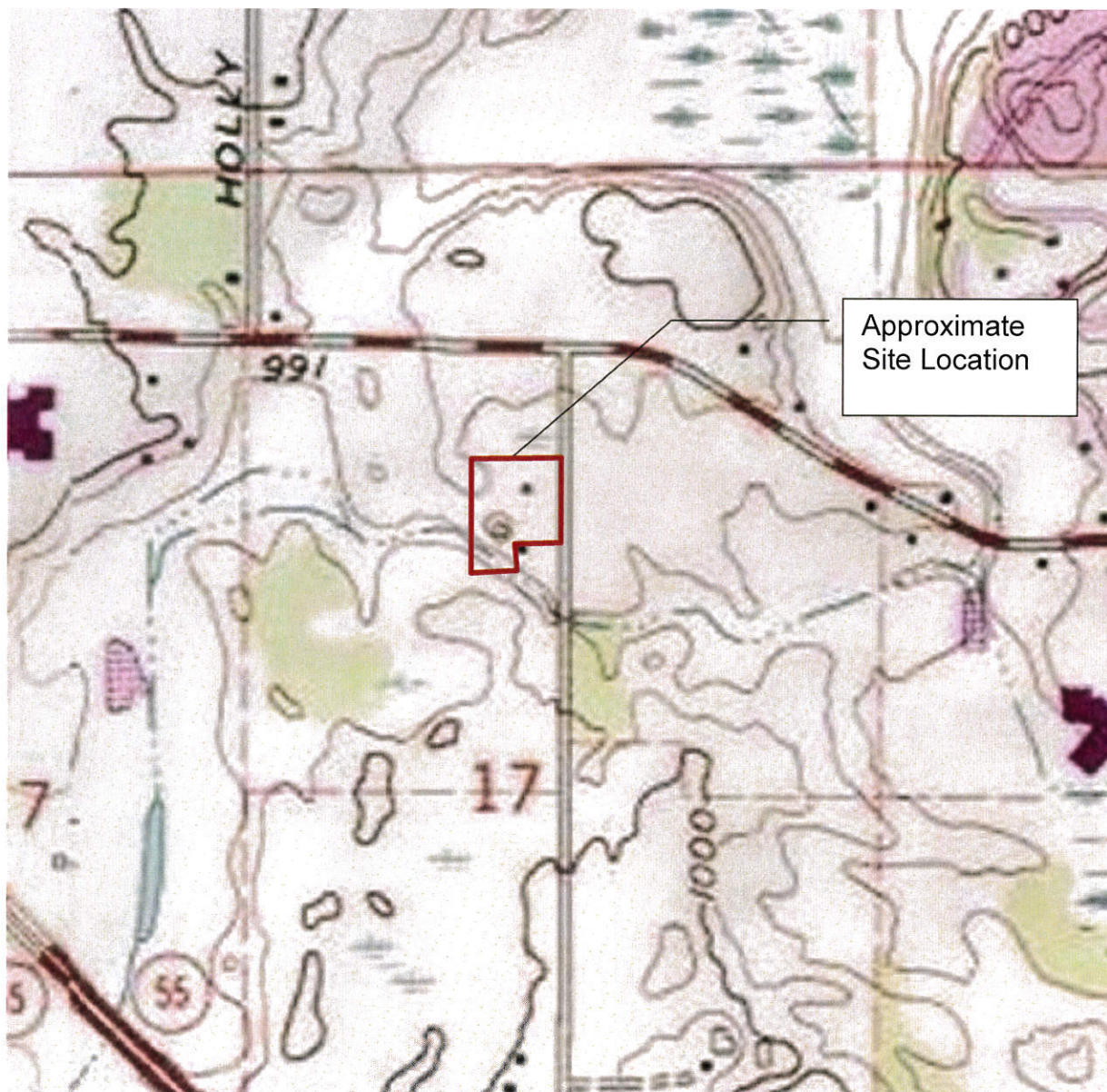


Figure 1. Location Map
 Rodney Berg, 4225 Dunkirk Lane N.
 Plymouth, Minnesota

Project No. 2013.023



▲
N

Not to Scale



Figure 2. U.S.G.S. Quadrangle Map

Rodney Berg, 4225 Dunkirk Lane N.
Plymouth, Minnesota

Project No. 2013.023

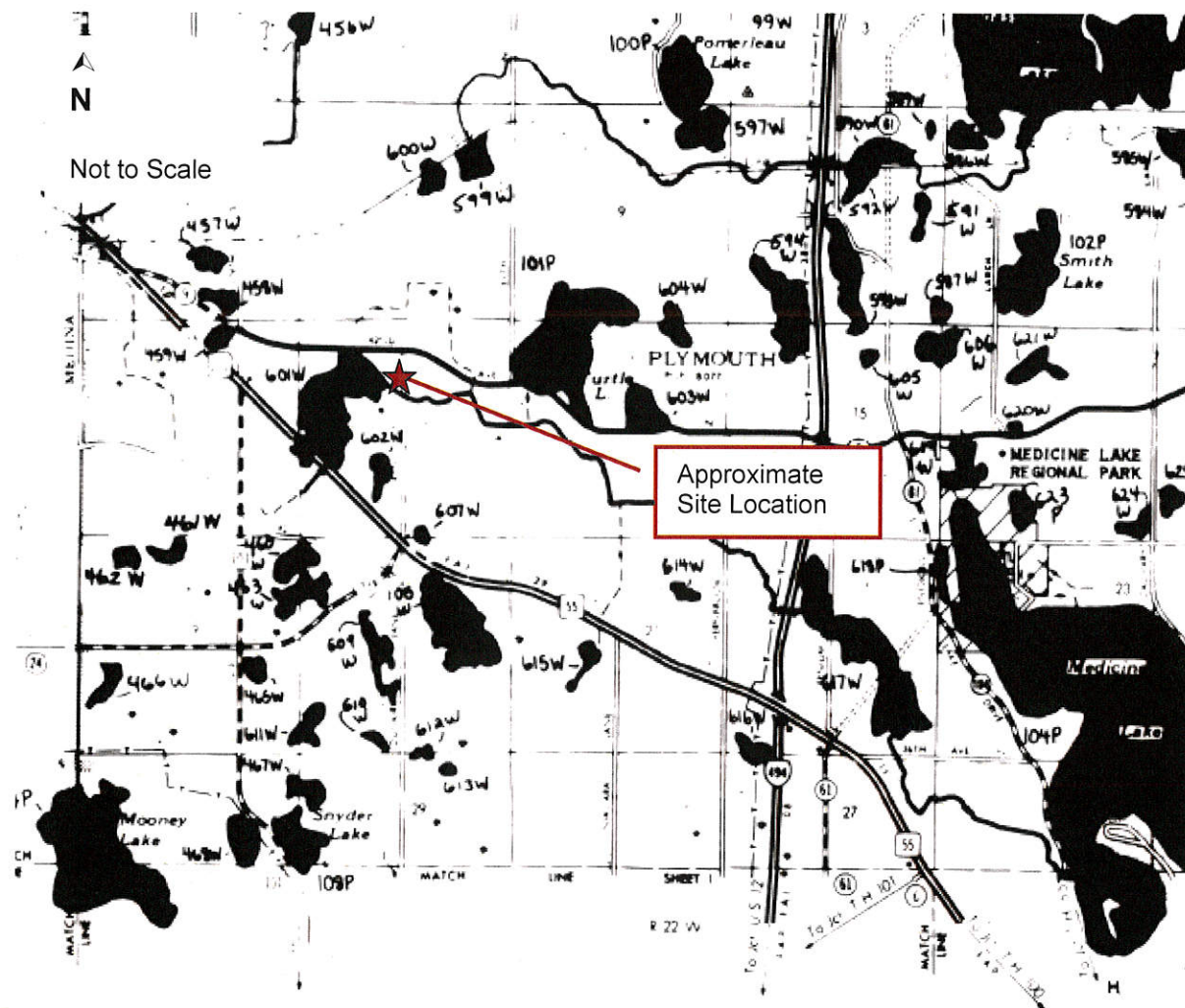


**Figure 3. Aerial Photo With
Approximate Wetland Boundaries**

Rodney Berg, 4225 Dunkirk Lane N.
Plymouth, Minnesota

Project No. 2013.023





N

Not to Scale



Figure 5. DNR Protected Waters Inventory Map

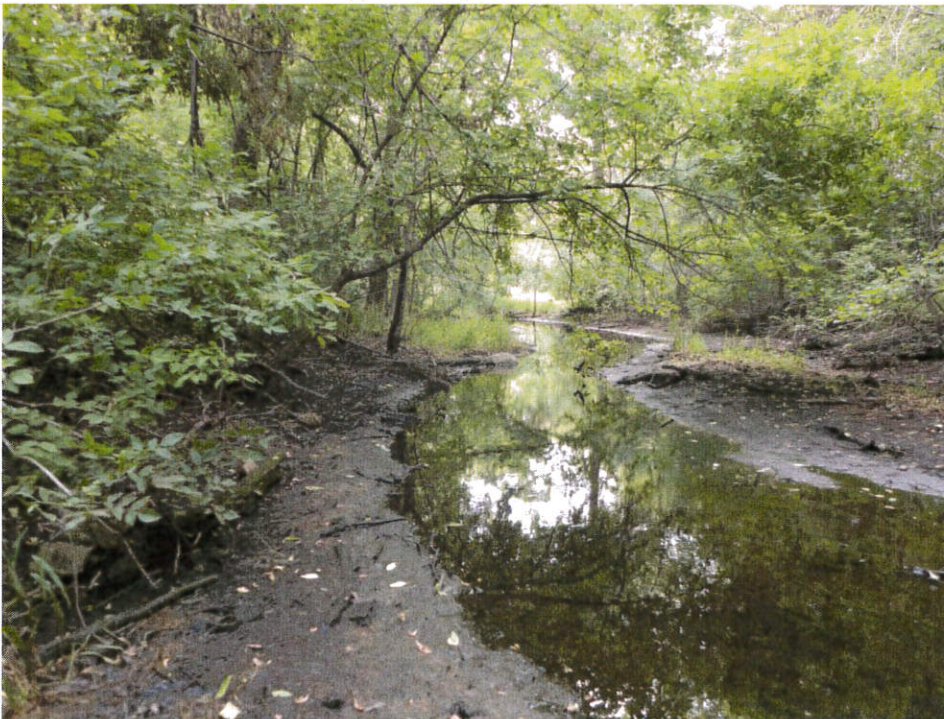
Rodney Berg, 4225 Dunkirk Lane N.
Plymouth, Minnesota

Project No. 2013.023



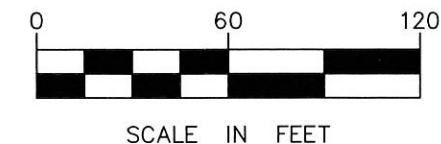
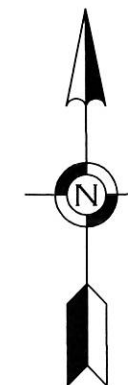
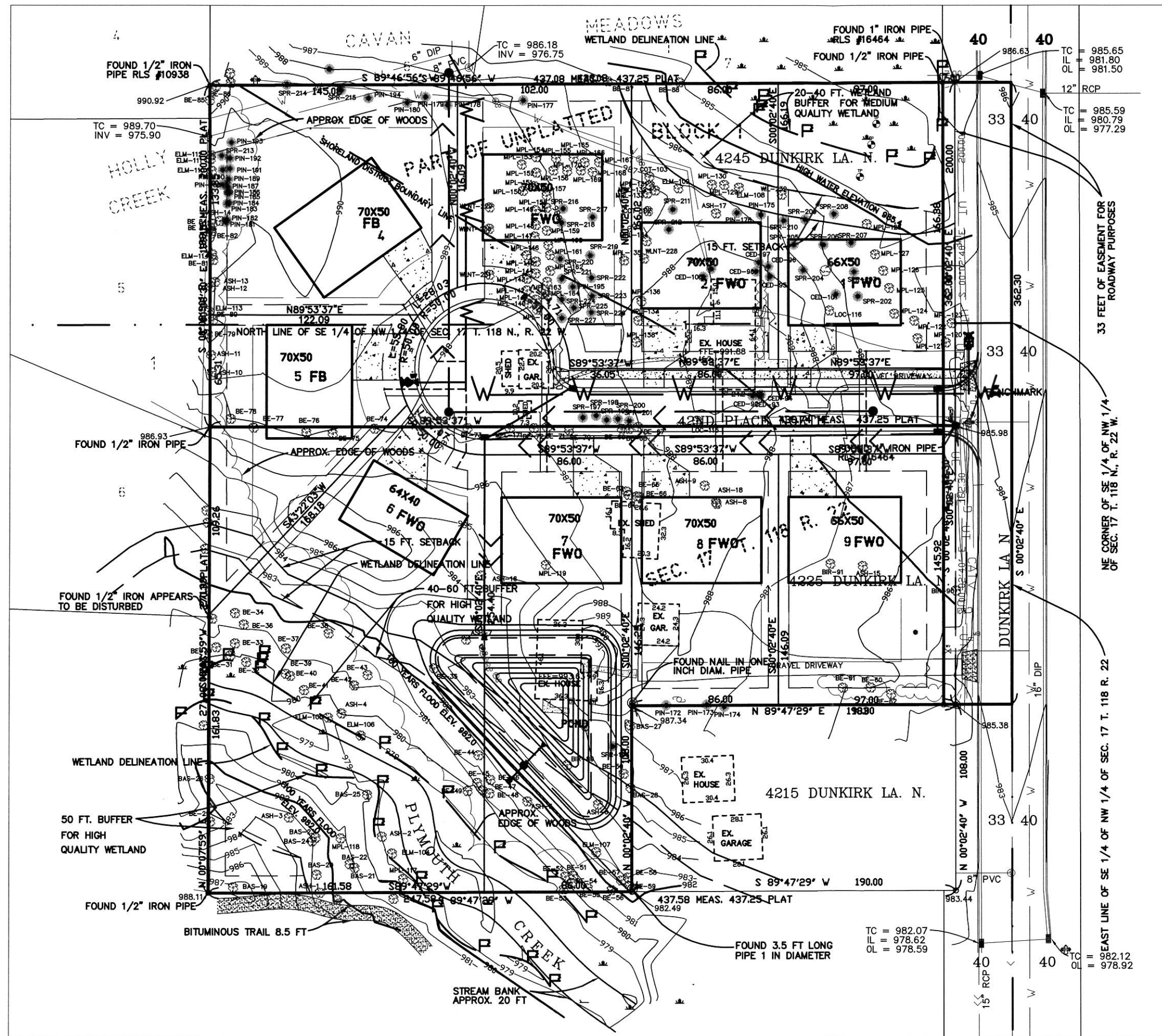


Wetland A looking west. This wetland is dominated by cattail and extends a few feet into the mowed lawn area.



Wetland B looking west. This wetland consists of the creek channel and adjacent creek banks.

Appendix A



Appendix B

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site 4225 Dunkirk Lne N. City/County: Plymouth/Hennepin Sampling Date: July 6, 2013
 Applicant/Owner: Rodney Berg State: MN Sampling Point: SA-W
 Investigator(s): Kelly Bopray, PSS, CWD Section, Township, Range: Sec. 17, T118N, R22W
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave
 Slope (%): 0-1% Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name L24A, Glencoe loam, depressional VWI Classification: PEMC

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? No

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>Wetland A, PEMCd</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.)

Precipitation is 150 to 175% of average YTD totals. Soils are mollisols.

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft</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>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		
Sapling/Shrub stratum (Plot size: <u>15 ft</u>)					
1	<i>Fraxinus pennsylvanica</i>	<u>2</u>		FACW	
2					
3					
4					
5					
		<u>2</u>	= Total Cover		
Herb stratum (Plot size: <u>5 ft</u>)					
1	<i>Typha angustifolia</i>	<u>40</u>	<u>Y</u>	OBL	Hydrophytic Vegetation Indicators: 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
2	<i>Typha latifolia</i>	<u>30</u>	<u>Y</u>	OBL	
3	<i>Solidago gigantea</i>	<u>10</u>	<u>N</u>	FACW	
4	<i>Solidago canadensis</i>	<u>5</u>	<u>N</u>	FACU	
5	<i>Carex lacustris</i>	<u>2</u>	<u>N</u>	OBL	
6	<i>Poa pratensis</i>	<u>2</u>	<u>N</u>	FAC	
7	<i>Cirsium arvense</i>	<u>1</u>	<u>N</u>	FACU	
8					
9					
10					
		<u>90</u>	= Total Cover		
Woody vine stratum (Plot size: <u>30 ft</u>)					
1					Hydrophytic vegetation present? <u>Y</u>
2					
		<u>0</u>	= Total Cover		

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

SOIL

Sampling Point: SA-W

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	N 2/0						clay loam	
20-24+	10Y 5/1						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 checked="" 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) |

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"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <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? Y

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 checked="" 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 checked="" 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 checked="" 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 checked="" 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 checked="" type="checkbox"/>	No <input type="checkbox"/>	Depth (inches): <u>16</u>
Saturation present? (includes capillary fringe)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Depth (inches): <u>12</u>

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 4225 Dunkirk Lne N. City/County: Plymouth/Hennepin Sampling Date: July 6, 2013
 Applicant/Owner: Rodney Berg State: MN Sampling Point: SA-U
 Investigator(s): Kelly Bopray, PSS, CWD Section, Township, Range: Sec. 17, T118N, R22W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave
 Slope (%): 2-6% Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name L24A Glencoe loam, depressional VWI Classification: not id'ed

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

Are vegetation X, 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>N</u>	Is the sampled area within a wetland? <u>N</u> f yes, optional wetland site ID: <u>upland adj. to Wetland A</u>
Hydric soil present?	<u>Y</u>	
Indicators of wetland hydrology present?	<u>N</u>	

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

Precipitation is at 150-175% of average YTD. Soils are mollisols. Vegetation is maintained as a mowed lawn.

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft</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>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)
1					
2					
3					
4					
5					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>70</u> x 4 = <u>280</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>120</u> (A) <u>430</u> (B) Prevalence Index = B/A = <u>3.58</u>
		<u>0</u>	= Total Cover		
Sapling/Shrub stratum	(Plot size: <u>15 ft</u>)				
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		
Herb stratum	(Plot size: <u>5 ft</u>)				Hydrophytic Vegetation Indicators: ___ Rapid test for hydrophytic vegetation ___ Dominance test is >50% ___ 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>Poa pratensis</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
2	<u>Trifolium repens</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
3	<u>Taraxacum officinale</u>	<u>20</u>	<u>N</u>	<u>FACU</u>	
4	<u>Plantago major</u>	<u>20</u>	<u>N</u>	<u>FAC</u>	
5	<u>Glechoma hederacea</u>	<u>20</u>	<u>N</u>	<u>FACU</u>	
6					
7					
8					
9					
10					
		<u>120</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30 ft</u>)				Hydrophytic vegetation present? <u>N</u>
1					
2					
		<u>0</u>	= Total Cover		

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

SOIL

Sampling Point: SA-U

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	N 2/0						clay loam	
20-24+	10Y 5/1						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 checked="" 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) |

Indicators for Problematic Hydric Soils:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ 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)

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

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 <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches):	_____
Water table present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Depth (inches):	24
Saturation present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Depth (inches):	20

(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 4225 Dunkirk Lne N. City/County: Plymouth/Hennepin Sampling Date: July 6, 2013
 Applicant/Owner: Rodney Berg State: MN Sampling Point: SB-W
 Investigator(s): Kelly Bopray, PSS, CWD Section, Township, Range: Sec. 17, T118N, R22W
 Landform (hillslope, terrace, etc.): stream channel Local relief (concave, convex, none): concave
 Slope (%): 1-4% Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name L132A Hamel-Glencoe depressional complex VWI Classification: PFO1C, PEMC

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" present? Yes
 Are vegetation _____, soil X, or hydrology _____ naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic vegetation present?	<u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: <u>Wetland B, PUBC</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.)

Precipitation is 150-175% of average YTD. Soils are mollisols.

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft</u>)	Absolute % Cover	Dominant Species	Indicator Status
1	<u>Acer negundo</u>	<u>35</u>	<u>Y</u>	<u>FAC</u>
2	<u>Fraxinus pennsylvanica</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>
3				
4				
5				
		<u>55</u>	<u>= Total Cover</u>	

Sapling/Shrub stratum	(Plot size: <u>15 ft</u>)	Absolute % Cover	Dominant Species	Indicator Status
1	<u>Rhamnus cathartica</u>	<u>80</u>	<u>Y</u>	<u>FAC</u>
2	<u>Ribes cynosbati</u>	<u>5</u>	<u>N</u>	<u>FAC</u>
3				
4				
5				
		<u>85</u>	<u>= Total Cover</u>	

Herb stratum	(Plot size: <u>5 ft</u>)	Absolute % Cover	Dominant Species	Indicator Status
1	<u>Phalaris arundinacea</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>
2				
3				
4				
5				
6				
7				
8				
9				
10				
		<u>40</u>	<u>= Total Cover</u>	

Woody vine stratum	(Plot size: <u>30 ft</u>)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
		<u>0</u>	<u>= Total Cover</u>	

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)
 Total Number of Dominant Species Across all Strata: 4 (B)
 Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	<u>0</u>	x 1 =	<u>0</u>
FACW species	<u>60</u>	x 2 =	<u>120</u>
FAC species	<u>120</u>	x 3 =	<u>360</u>
FACU species	<u>0</u>	x 4 =	<u>0</u>
UPL species	<u>0</u>	x 5 =	<u>0</u>
Column totals	<u>180</u>	(A)	<u>480</u> (B)

Prevalence Index = B/A = 2.67

Hydrophytic Vegetation Indicators:

Rapid test for hydrophytic vegetation
X Dominance test is >50%
X 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

Hydrophytic vegetation present?

Y

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

SOIL

Sampling Point: SB-W

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**		
0-5	10YR 2/1						loam	
5-10	10YR 2/1		10Y 5/1	5	D	M	loam	
10-14	10Y 3/1						clay loam	
14-18+	2.5Y 5/2		2.5Y 5/4	5	C	M	clay	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
☐ 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)

- ☐ 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 X No _____ Depth (inches): 0-6
 Water table present? Yes X No _____ Depth (inches): 12
 Saturation present? Yes X No _____ Depth (inches): 6
 (includes capillary fringe)

Indicators of wetland hydrology present? Y

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

Remarks:

surface water was present in the channel.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site 4225 Dunkirk Lne N. City/County: Plymouth/Hennepin Sampling Date: July 6, 2013
 Applicant/Owner: Rodney Berg State: MN Sampling Point: SB-U
 Investigator(s): Kelly Bopray, PSS, CWD Section, Township, Range: Sec. 17, T118N, R22W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): convex
 Slope (%): 2-6% Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name L26B Shorwood silty clay loam VWI Classification: not Id'ed

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>N</u> If yes, optional wetland site ID: <u>upland adj. to Wetland B</u>
Hydric soil present?	<u>Y</u>	
Indicators of wetland hydrology present?	<u>N</u>	

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

Precipitation is 150-175% of average YTD. Soils are mollisols.

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1	<u>Acer negundo</u>	30	Y	FAC	
2	<u>Fraxinus pennsylvanica</u>	30	Y	FACW	
3					
4					
5					
		60	= Total Cover		Prevalence Index Worksheet Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>30</u> x 2 = <u>60</u> FAC species <u>120</u> x 3 = <u>360</u> FACU species <u>10</u> x 4 = <u>40</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>160</u> (A) <u>460</u> (B) Prevalence Index = B/A = <u>2.88</u>
Sapling/Shrub stratum (Plot size: <u>15 ft</u>)					
1	<u>Rhamnus cathartica</u>	90	Y	FAC	
2	<u>Acer saccharum</u>	10	N	FACU	
3					
4					
5					
		100	= Total Cover		
Herb stratum (Plot size: <u>5 ft</u>)					Hydrophytic Vegetation Indicators: _____ 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					
2					
3					
4					
5					
6					
7					
8					
9					
10					
		0	= Total Cover		
Woody vine stratum (Plot size: <u>30 ft</u>)					Hydrophytic vegetation present? <u>Y</u>
1					
2					
		0	= Total Cover		

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

SOIL

Sampling Point: SB-U

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	N 2/0						clay loam	
12-22	10YR 2/1						clay loam	
22-26+	10Y 5/1						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 checked="" 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) |

Indicators for Problematic Hydric Soils:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ 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)

- ☐ 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 <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:

Minnesota Wetland Conservation Act

Notice of Application

Local Government Unit (LGU) City of Plymouth	Address 3400 Plymouth Blvd. Plymouth, MN 55447
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1. PROJECT INFORMATION

Applicant Name Rafik Moore	Project Name 11 Saratoga Lane	Date of Application 8/19/13	Application Number NA
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Type of Application (check all that apply):

<input checked="" type="checkbox"/> Wetland Boundary or Type	<input type="checkbox"/> No-Loss	<input type="checkbox"/> Exemption	<input type="checkbox"/> Sequencing
<input type="checkbox"/> Replacement Plan	<input type="checkbox"/> Banking Plan		

Summary and description of proposed project (attach additional sheets as necessary):

On July 18th, 2013 Arrowhead Environmental Consulting (AEC) completed a wetland delineation at 11 Saratoga Lane in Plymouth, MN. One wetland was delineated on-site.

Wetland 1 is a Seasonnally Flooded, Type 1L, PFO1A basin dominated by green ash, boxelder, errant, and common buckthorn.

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 Derek Asche Water Resources Manager	Comments must be received by (minimum 15 business-day comment period): September 23, 2013
Address (if different than LGU) Plymouth City Hall 3400 Plymouth Blvd. Plymouth, MN 55447	Date, time, and location of decision: September 24, 2013 9AM Plymouth City Hall
Phone Number and E-mail Address 763-509-5526 dasche@plymouthmn.gov	Decision-maker for this application: <input checked="" type="checkbox"/> Staff <input type="checkbox"/> Governing Board or Council

Signature: *Derek Asche* Date: 8/29/13

3. LIST OF ADDRESSEES

- ☒ HCD TEP member: **Ms. Stacey Lijewski, HCD, 701 Fourth Avenue South, Suite 700, Minneapolis, MN, 55415-1600 (sent electronically)**
- ☒ BWSR TEP member: **Ms. Lynda Peterson, BWSR, 520 Lafayette Rd. N., St. Paul, MN, 55155 (sent electronically)**
- ☐ LGU TEP member (if different than LGU Contact):
- ☒ DNR TEP member: **Melissa Doperalski, MN DNR, 1200 Warner Road, St. Paul, MN, 55106 (sent electronically)**
- ☐ DNR Regional Office (if different than DNR TEP member)
Ms. Kate Drewry, DNR Division of Ecological and Water Resources, 1200 Warner Road, St. Paul, MN, 55106 (sent electronically)
- ☒ WD or WMO (if applicable): **BCWMC, c/o Laura Jester, Keystone Waters, LLC, 16415 Hillcrest Lane, Eden Prairie, MN, 55346 (sent electronically)**
- ☒ Applicant and Landowner (if different):
Mr. Rafik, Moore, 11 Saratoga Lane, Plymouth, MN, 55441
Investors Capital, LLC., 3328 Lake Street E., Minneapolis, MN, 55406
- ☒ Members of the public who requested notice:
Mr. Ben Carlson, Arrowhead Environmental Consulting, 2909 Meadow Lane, Mound, MN, 55364 (sent electronically)
- ☒ Corps of Engineers Project Manager: **Melissa Jenny, Army Corps of Engineers, 180 5th Street East, Suite 700, St. Paul, MN, 55101-1678 (sent electronically)**
- ☐ BWSR Wetland Bank Coordinator (wetland bank plan decisions 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 Delineation Report dated July 30, 2013 by AEC**

☐
☐
☐
☐
☐

11 Saratoga Lane – Plymouth, MN

Wetland Delineation Report For:

Rafik Moore
11 Saratoga Lane
Plymouth, MN 55441



arrowhead
environmental
consulting

Wetland Consulting Services
Performed by:
Ben Carlson, WDC (#1125)

AEC Project # 2013-038

July 30, 2013

Arrowhead Environmental Consulting
1545 Minnie Avenue
Orono, MN 55364

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Field Data Collection Forms (Data Sheets)
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Project Overview

On July 18th, 2013 Arrowhead Environmental Consulting (AEC) performed a wetland delineation at the 11 Saratoga Lane property located in Plymouth, MN.

- One wetland basin was delineated within the parcel bounds; Wetland 1 is a Seasonally Flooded Basin located in the northern half of the property
- Wetland 1 is not indicated on the NWI map.
- Wetland 1 is not indicated on the Minnesota Department of Natural Resources Public Water Inventory Map (PWI).
- Wetland 1 is mapped in the Hamel hydric soil series.
- Wetland 1 is dominated by green ash, box elder, currant and common buckthorn.
- The wetland boundary was generally placed along the vegetative transition from hydrophytic to non-hydrophytic vegetation (which correlated to a rise in topography) and where hydrology indicators were present.

Introduction

On July 18th, 2013 Arrowhead Environmental Consulting (AEC) performed a wetland delineation at the 11 Saratoga Lane property located in Plymouth, MN. The legal description of the project location is: A part of the SW ¼ of Section 36, T118N, R22W, Hennepin County, Plymouth, Minnesota. The parcel is a total of 0.41 acres (according to the Hennepin County Website).

Methods

AEC utilized the 1987 *US Army Corps of Engineers Wetlands Delineation Manual* and *Midwest Regional Supplement* to perform the wetland delineation. A United States Geological Survey (USGS) Map (Hopkins Quad) (Figure 1), the Minnesota Department of Natural Resources (MN DNR) Public Water Inventory (PWI) Map (Figure 2), the Hennepin County Soil Survey Map (Figure 3), and the National Wetland Inventory (NWI) Map (Figure 4) were reviewed prior to the site visit and used in the delineation process. The delineated wetland boundary (approximate) is indicated on Figure 5 and is overlaid on a 2012 aerial image. AEC used the routine delineation method.

Wetland classification followed methods described by the USACOE - St. Paul District; Eggers and Reed "Wetland Plants and Plant Communities of MN and WI". The Circular 39 and Cowardin et al. classifications are given as well. The indicator status of plants was determined using the State of Minnesota – 2012 National Wetlands Plant List Final Ratings provided by the U.S. Army Corps of Engineers, Cold Regions Research and Engineering Laboratory.

Pink pinflags were used to delineate the wetlands and were numbered sequentially; flagging was hung from adjacent vegetation to aid in location of the pinflags. Sample points were taken to document the vegetation, soils, and hydrology indicators within representative upland and wetland locations.

Results

Office Results

Wetland 1 is not indicated on the NWI map. Wetland 1 is mapped in the Hamel soil series; the Hamel soil series is classified as hydric soil (SCS Hydric Soils of the United States). Wetland 1 is not indicated on the Minnesota Department of Natural Resources Public Water Inventory Map (PWI).

Field Results

Wetland 1

AEC classified Wetland 1 as a Seasonally Flooded Basin (Type 1L, PFO1A) wetland. Wetland 1 is dominated by green ash (*Fraxinus pennsylvanica*), boxelder (*Acer negundo*), currant (*Ribes*) species and common buckthorn (*Rhamnus cathartica*). The adjacent upland area is dominated by green ash, broad-leaf enchanter's nightshade (*Circaea canadensis*), and Virginia creeper (*Parthenocissus quinquefolia*).

The boundary for Wetland 1 exhibited rather broad slopes (a mild transition in topography); in general there was a defined transition between the currant and green ash (wetland) and the nightshade and Virginia creeper (upland). The wetland soil boring met the A12 (Thick dark surface) hydric soil indicator with Water Marks, Drift Deposits, Sparsely Vegetated Concave Surface, Geomorphic Position, and FAC – Neutral Test hydrology indicators present. The upland soil boring did not meet a hydric soil indicator and was lacking hydrology indicators. In general, the wetland boundary was placed where the nightshade and Virginia creeper were no longer dominant.

Discussion

One wetland basin was delineated within the parcel bounds. Areas delineated as wetland met the three criteria required for a wetland delineation; dominance of hydrophytic vegetation, presence of hydric soil, and (at a minimum) one primary hydrology indicator or two secondary hydrology indicators under normal conditions.

In order to be official the wetland delineation must be reviewed and approved by the Local Government Unit (LGU) and potentially other agencies (Local, State, Federal). Any work within or adjacent to a wetland will require Wetland Conservation Act (WCA) permits (and potentially other permits). Please consult with AEC if you plan on filling, draining, excavating wetlands within your project location.

If you have any questions regarding this report or any questions about our services please feel free to contact Ben Carlson at any time (612-237-5996).

Thank you,



Ben Carlson, WDC
Ecologist/Owner
Arrowhead Environmental Consulting

Data Sources:

USGS Quadrangle Map – Hopkins 7.5-Minute Quadrangle, Minnesota, U.S.A.

Minnesota Department of Natural Resources Protected Waters Inventory Map, Hennepin County 1983 (Revised 1996 data from the Mn DNR Data Deli, online).

Soil Survey of Hennepin County. U.S.D.A. Data obtained from the NRCS/SSURGO website.

United States Fish and Wildlife Service National Wetland Inventory Map – Hopkins Quadrangle. 1991. (Taken from May 1980 aerial photographs).

Aerial Photos were obtained the Land Management Information Center website (2012).

Literature Referenced/Technical Documents:

Environmental Laboratory. 1987. *1987 U.S. Army Corps of Engineers Wetlands Delineation Manual*. Technical Report Y-87-1, US Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.

U.S. Army Engineer Research and Development Center. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region*. US Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.

Eggers, Steve D. and Donald M. Reed. 1997. *Wetland Plants and Plant Communities of Minnesota and Wisconsin*. US Army Corps of Engineers, St. Paul District. 263pp, unclassified.

Shaw, S.P., and C.G. Fredine. 1956. *Wetlands of the United States*. U.S. Fish and Wildlife Service, Circular 39. 67pp.

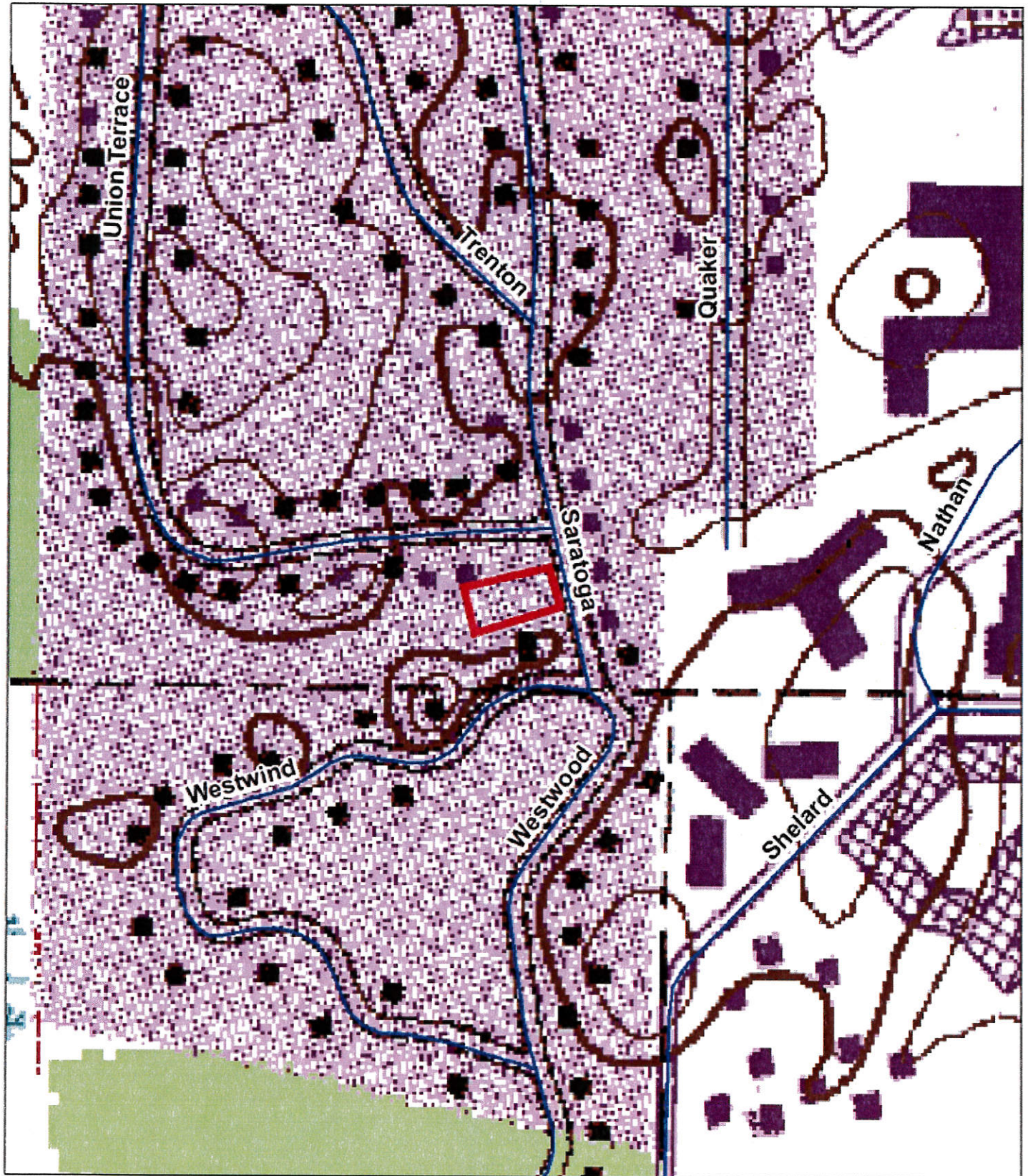
Cowardin, L.M., V. Carter, F.C. Golet, and R.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. U.S. Fish and Wildlife Service, FWS/OBS-79/31. 103pp.

Sabine, B. J. 1999. *National List of Plant Species that Occur in Wetlands: Region 3 – North Central (Indiana, Illinois, Iowa, Michigan, Minnesota, Missouri, Wisconsin)*. Resource Management Group, Inc. 77pp.

USDA Soil Conservation Service, Washington, D.C., Misc. 2012. *Field indicators of Hydric Soils in the United States*. A guide for Identifying and Delineating Hydric Soils, Version 7.0

National Technical Committee for Hydric Soils. 1991. *Hydric Soils of the United States*. USDA Soil Conservation Service, Washington, D.C., Misc. Publication Number 1491. 1991.

Figures



Map of Project Location

Overlaid on USGS Topo Map

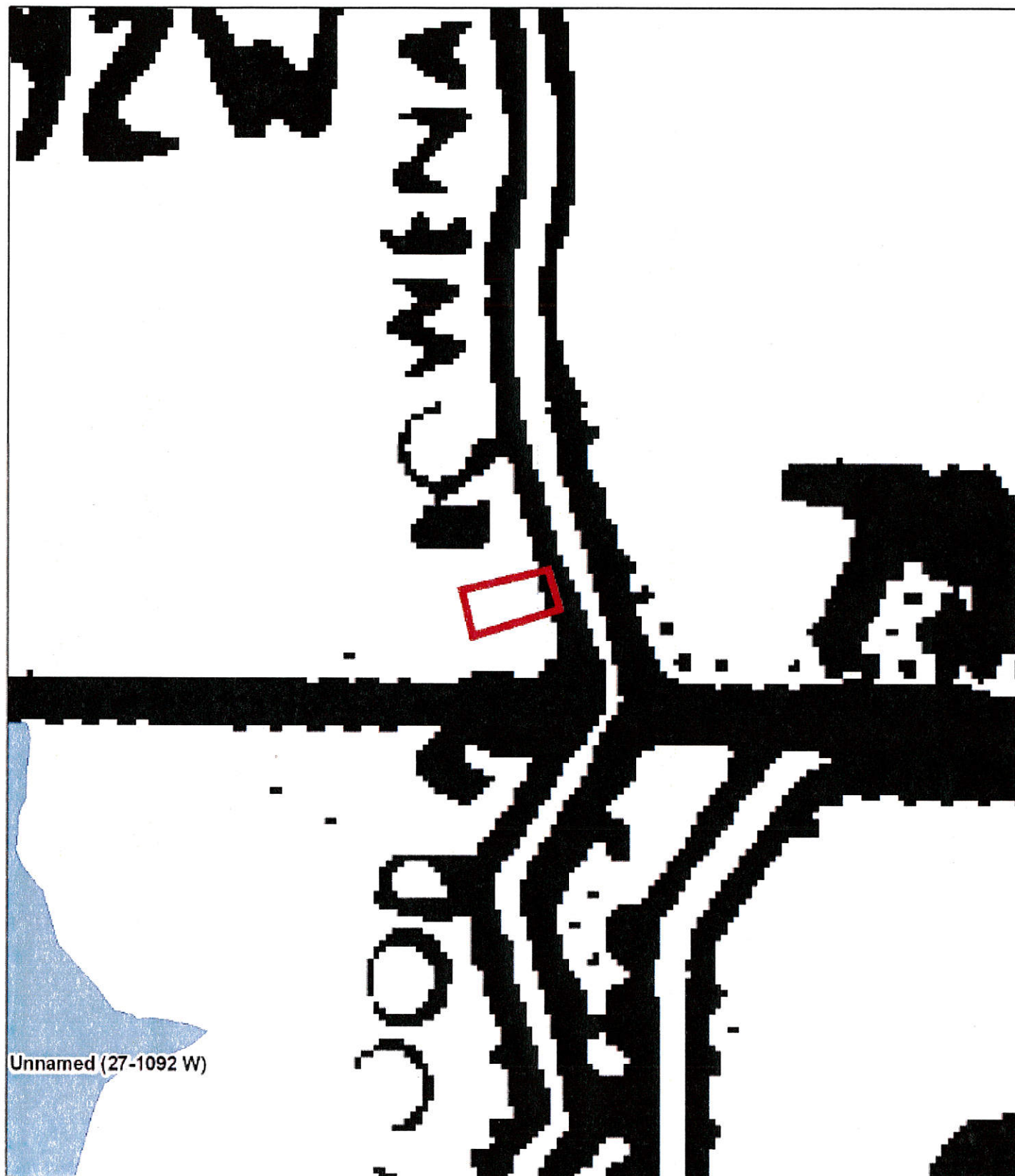
Approximate Parcel Boundary

0 250 500 1,000 Feet



Figure 1


Rafik Moore
11 Saratoga Lane
Plymouth, MN 55441




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Map of Project Location

Overlaid on MN DNR PWI Map

 Approximate Parcel Boundary

0 250 500 1,000 Feet





Figure 2

Rafik Moore
11 Saratoga Lane
Plymouth, MN 55441



Hennepin County Soil Survey

Overlaid on 2012 Aerial Image

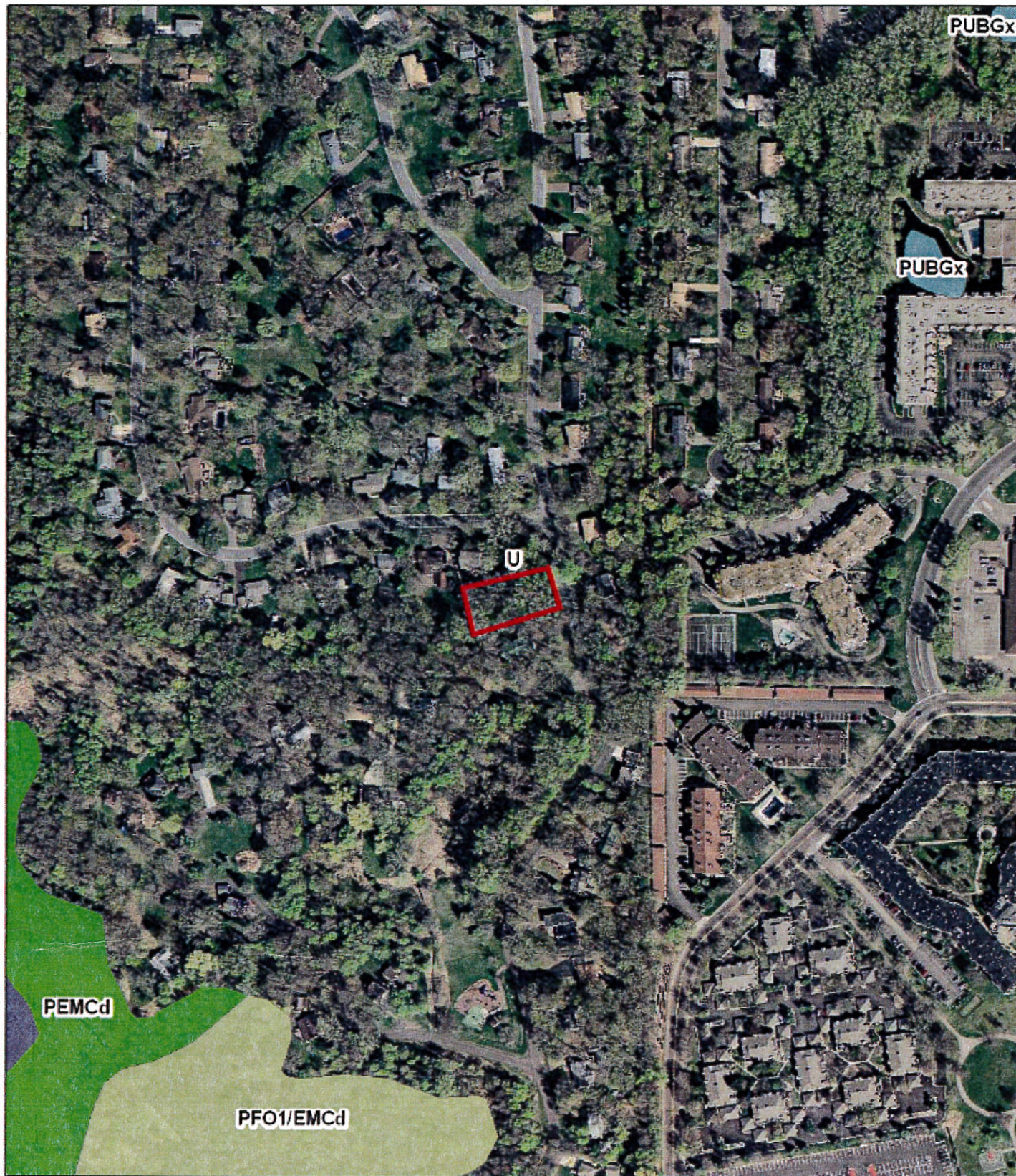
 Approximate Parcel Boundary
  Non-Hydric
  Hydric

0 62.5 125 250 Feet



Figure 3

Rafik Moore
 11 Saratoga Lane
 Plymouth, MN 55441



National Wetland Inventory Map

Overlaid on 2012 Aerial Image



Approximate Parcel Boundary



Figure 4

Rafik Moore
 11 Saratoga Lane
 Plymouth, MN 55441




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Wetland Delineation Map

Overlaid on 2012 Aerial Image

0 50 100 200 Feet



Figure 5

Rafik Moore
11 Saratoga Lane
Plymouth, MN 55441

Supporting Data

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site:	11 Saratoga	City/County:	Plymouth/Hennepin	Sampling Date:	7/18/2013
Applicant/Owner:	Rafik Moore	State:	MN	Sampling Point:	1-1 Wet
Investigator(s):	BPC (WDC #1125)	Section, Township, Range:	Sec. 38, T118N, R22W		
Landform (hillslope, terrace, etc.):	Basin	Local relief (concave, convex, none):	Concave		
Slope (%):	1	Lat:		Long:	
Soil Map Unit Name:	Hamel (Hydric)	MM Classification:	None		
Are climatic/hydrologic conditions of the site typical for this time of the year? <input type="checkbox"/> N (If no, explain in remarks)					
Are vegetation	soil	or hydrology	significantly disturbed?		
Are vegetation	soil	or hydrology	naturally problematic?		
			Are "normal circumstances" present? <input type="checkbox"/> Yes		

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? ☐ Y

Hydric soil present? ☐ Y

Indicators of wetland hydrology present? ☐ Y

Is the sampled area within a wetland? ☐ Y

yes, optional wetland site ID:

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

Above average precipitation for 2013 growing season.

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: 30')	Absolute % Cover	t Species	Indicator Status	Dominance Test Worksheet	
1	<i>Acer negundo</i>	20	Y	FAC	Species that are OBL, FACW, or FAC:	6 (A)
2	<i>Fraxinus pennsylvanica</i>	10	Y	FACW	Total Number of Dominant Species Across all Strata:	6 (B)
3	<i>Ulmus americana</i>	10	Y	FACW	Species that are OBL, FACW, or FAC:	100.00% (A/B)
4						
5						
		40	= Total Cover			
Sapling/Shrub stratum	(Plot size: 15')	Absolute % Cover	t Species	Indicator Status	Prevalence Index Worksheet	
1	<i>Rhamnus cathartica</i>	5	Y	FAC	Total % Cover of:	
2					OBL species	0 x 1 = 0
3					FACW species	40 x 2 = 80
4					FAC species	35 x 3 = 105
5					FACU species	0 x 4 = 0
		5	= Total Cover		UPL species	0 x 5 = 0
					Column totals	75 (A) 185 (B)
Herb stratum	(Plot size: 5')	Absolute % Cover	t Species	Indicator Status	Prevalence Index = B/A = 2.47	
1	<i>Ribes americanum</i>	20	Y	FACW		
2	<i>Viola sororia</i>	10	Y	FAC		
3						
4						
5						
6						
7						
8						
9						
10						
		30	= Total Cover			
Woody vine stratum	(Plot size: 30')	Absolute % Cover	t Species	Indicator Status	Hydrophytic Vegetation Indicators:	
1					Rapid test for hydrophytic vegetation	
2					X Dominance test is >50%	
					X Prevalence index is ≥3.0*	
					Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)	
					Problematic hydrophytic vegetation* (explain)	
		0	= Total Cover		Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
					Hydrophytic vegetation present? <input type="checkbox"/> Y	

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

SOIL							Sampling Point:	1-1 Wet
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 2/1	100					Loam	
18-24	10YR 5/2	95	7.5YR 4/6	5	C	M	Sandy clay loam	
*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix								
Hydric Soil Indicators:					Indicators for Problematic Hydric Soils:			
	Histisol (A1)		Sandy Gleyed Matrix (S4)		Coast Prairie Redox (A16) (LRR K, L, R)			
	Histic Epipedon (A2)		Sandy Redox (S5)		Dark Surface (S7) (LRR K, L)			
	Black Histic (A3)		Stripped Matrix (S6)		5 cm Mucky Peat or Peat (S3) (LRR K, L, R)			
	Hydrogen Sulfide (A4)		Loamy Mucky Mineral (F1)		Iron-Manganese Masses (F12) (LRR K, L, R)			
	Stratified Layers (A5)		Loamy Gleyed Matrix (F2)		Very Shallow Dark Surface (TF12)			
	2 cm Muck (A10)		Depleted Matrix (F3)		Other (explain in remarks)			
	Depleted Below Dark Surface (A11)		Redox Dark Surface (F6)					
X	Thick Dark Surface (A12)		Depleted Dark Surface (F7)		*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic			
	Sandy Mucky Mineral (S1)		Redox Depressions (F8)					
Restrictive Layer (if observed): Type: _____ Hydric soil present? Y Depth (Inches): _____ Remarks: _____								
HYDROLOGY								
Wetland Hydrology Indicators:								
Primary Indicators (minimum of one is required; check all that apply)					Secondary Indicators (minimum of two required)			
	Surface Water (A1)		Aquatic Fauna (B13)		Surface Soil Cracks (B6)			
	High Water Table (A2)		True Aquatic Plants (B14)		Drainage Patterns (B10)			
	Saturation (A3)		Hydrogen Sulfide Odor (C1)		Dry-Season Water Table (C2)			
X	Water Marks (B1)		Oxidized Rhizospheres on Living		Crayfish Burrows (C8)			
	Sediment Deposits (B2)		Roots (C3)		Saturation Visible on Aerial Imagery (C9)			
X	Drift Deposits (B3)		Presence of Reduced Iron (C4)		Stunted or Stressed Plants (D1)			
	Algal Mat or Crust (B4)		Recent Iron Reduction in Tilled Soils		X	Geomorphic Position (D2)		
	Iron Deposits (B5)		(C6)		X	FAC-Neutral Test (D5)		
	Inundation Visible on Aerial Imagery (B7)		Thin Muck Surface (C7)					
X	Sparsely Vegetated Concave Surface (B8)		Gauge or Well Data (D9)					
	Water-Stained Leaves (B9)		Other (Explain in Remarks)					
Field Observations:								
Surface water present?	Yes	No	X	Depth (Inches):		Indicators of wetland hydrology present? Y		
Water table present?	Yes	X	No	Depth (Inches):	22			
Saturation present?	Yes	X	No	Depth (Inches):	16			
(Includes capillary fringe)								
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:								
Remarks:								

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site:	11 Saratoga	City/County:	Plymouth/Hennepin	Sampling Date:	7/18/2013
Applicant/Owner:	Rafik Moore	State:	MN	Sampling Point:	1-1 Up
Investigator(s):	BPC (WDC #1125)	Section, Township, Range:	Sec. 36, T118N, R22W		
Landform (hillslope, terrace, etc.):	Slope	Local relief (concave, convex, none):	Concave		
Slope (%):	1	Lat:		Long:	
Soil Map Unit Name:	Hamel (Hydric)	MM Classification:	None		

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

SUMMARY OF FINDINGS					
(If needed, explain any answers in remarks.)					
Hydrophytic vegetation present?		N			
Hydric soil present?		N	Is the sampled area within a wetland? N		
Indicators of wetland hydrology present?		N	yes, optional wetland site ID:		

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

Above average precipitation for 2013 growing season.

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: 30')	Absolute % Cover	t Species	Indicator Status	Dominance Test Worksheet	
1	<i>Fraxinus pennsylvanica</i>	20	Y	FACW	Species that are OBL, FACW, or FAC:	2 (A)
2	<i>Ulmus americana</i>	10	Y	FACW	Total Number of Dominant Species Across all Strata:	4 (B)
3					Species that are OBL, FACW, or FAC:	50.00% (A/B)
4						
5						
		30	= Total Cover			

Sapling/Shrub stratum	(Plot size: 15')	Absolute % Cover	t Species	Indicator Status	Prevalence Index Worksheet	
1					Total % Cover of:	
2					OBL species 0 x 1 =	0
3					FACW species 30 x 2 =	60
4					FAC species 10 x 3 =	30
5					FACU species 65 x 4 =	260
		0	= Total Cover		UPL species 0 x 5 =	0
					Column totals 105 (A)	350 (B)

Herb stratum	(Plot size: 5')	Absolute % Cover	t Species	Indicator Status	Prevalence Index Worksheet	
1	<i>Parthenocissus quinquefolia</i>	30	Y	FACU	Prevalence Index = B/A =	3.33
2	<i>Circaea canadensis</i>	30	Y	FACU		
3	<i>Alliaria petiolata</i>	10	N	FAC		
4	<i>Arctium minus</i>	5	N	FACU		
5						
6						
7						
8						
9						
10						
		75	= Total Cover			

Woody vine stratum	(Plot size: 30')	Absolute % Cover	t Species	Indicator Status	Hydrophytic Vegetation Indicators:	
1					Rapid test for hydrophytic vegetation	
2					Dominance test is >50%	
		0	= Total Cover		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	
					Hydrophytic vegetation present?	N

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

[illegible]



Photo 1: View of Wetland 1 edge at transect 1-1 location facing north.



Photo 2: View of Wetland 1 from the center of the basin facing west.