

3. LIST OF ADDRESSEES

- SWCD TEP member: **Ms. Stacey Lijewski, HCD, 701 Fourth Avenue South, Suite 700, Minneapolis, MN, 55415-1600 (sent electronically)**
- BWSR TEP member: **Ben Carlson, BWSR, 520 Lafayette Road North, St. Paul, MN, 55401-1397 (sent electronically)**
- LGU TEP member (if different than LGU Contact):
- DNR TEP member: **Becky Horton, MN DNR, 1200 Warner Road, St. Paul, MN, 55106 (sent electronically)**
- DNR Regional Office (if different than DNR TEP member)
Jason Spiegel, Area Hydrologist, MN DNR, 1200 Warner Road, St. Paul, MN, 55106 (sent electronically)
- WD or WMO (if applicable):
BCWMC, c/o Laura Jester, Keystone Waters LLC, 16145 Hillcrest Lane, Eden Prairie, MN, 553467 (sent electronically)
- Applicant (notice only) and Landowner (if different):
See attached list
- Members of the public who requested notice (notice only):
Adam Pawelk, HTPO (sent electronically)
- Corps of Engineers Project Manager (notice only): **Army Corps of Engineers, 180 5th Street East, Suite 700, St. Paul, MN, 55101-1678 (sent electronically)**
- 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:	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 Reports for Ivanhoe, French Ridge, and St. Mary's areas dated July 19, 2018 by Kjolhaug Environmental Services, Inc.**
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1 VANITOE / PHEASANT HILLS

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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.

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: The City of Plymouth
Mailing Address: 3400 Plymouth Boulevard, Plymouth MN 55447
Phone: 763-509-5000
E-mail Address: -

Authorized Contact (do not complete if same as above):
Mailing Address:
Phone:
E-mail Address:

Agent Name: Adam Cameron
Mailing Address: 2500 Shadywood Road #130, Orono MN 55331
Phone: 952-401-8757 Ext. #106
E-mail Address: Adam@kjolhaugenv.com

PART TWO: Site Location Information

County: Hennepin **City/Township:** City of Plymouth
Parcel ID and/or Address: Numerous, See Figure 1
Legal Description (Section, Township, Range): S: 15/35/36 T: 118N/118N/118N R: 22W/22W/22W
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): French Ridge 9.1 ac, Ivanhoe 5.5ac, St. Mary's 5.6ac

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.

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: Deak Arabe Date: 7/19/18

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.

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>

Ivanhoe Site

Plymouth, Minnesota

Wetland Delineation Report

Prepared for
The City of Plymouth

by
Kjolhaug Environmental Services Company, Inc.
(KES Project No. 2018-049)

July 19, 2018

WETLAND DELINEATION SUMMARY

- The Ivanhoe Site was inspected on June 1, 2018 for the presence and extent of wetland.
- The NWI map showed one PFO1A wetland within the site boundaries.
- The Soil Survey map showed Hamel (Partially Hydric) as the hydric soil type mapped on the site.
- The DNR Public Waters map showed no DNR Public Waters, Wetlands or Waterways within 1000 feet of the site boundaries.
- The NHD map showed one Canal/Ditch draining to the east.
- Two wetlands were delineated within the site boundaries, as described below in **Table 1**:

Table 1. Wetland delineated on the Ivanhoe Site

Wetland ID	Wetland Type			Dominant Vegetation
	Circular 39	Cowardin	Eggers and Reed	
1	Type 7	PFO1B	Wooded Swamp	Green ash trees, jewelweed, green bulrush, reed canary grass
2	Type 3/5	PEM1C/PUBG	Open Water, Shallow Marsh	Open water, cattail

Ivanhoe Site

Plymouth, Minnesota

Wetland Delineation Report

I. INTRODUCTION

The 5.5-acre Ivanhoe Site was inspected on June 1, 2018 for the presence and extent of wetland. The property was located in Section 36, Township 118N, Range 22W, Plymouth, Hennepin County, Minnesota. The site was located west of US 169 and south of HWY 55 **Figure 1**). The site limits correspond to numerous privately owned parcels.

The site consisted residential lots with areas of woodland and an excavated drainageway lined with rocks for erosion control. Surrounding land use consisted of single-family residential and commercial. The topography was highest on the northwest portion of the project limits at 898 ft MSL, sloping to 888 ft MSL on the eastern portion of the project limits.

Two (2) wetlands were identified and delineated within the site boundaries (**Figure 2**).

II. METHODS

Wetlands were identified using Routine Determination methodology described in the Corps of Engineers Wetland Delineation Manual (Waterways Experiment Station, 1987) and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0) as required under Section 404 of the Clean Water Act and the Minnesota Wetland Conservation Act.

Wetland boundaries were identified as the upper-most extent of wetland that met criteria for hydric soils, hydrophytic vegetation, and wetland hydrology. Wetland-upland boundaries were marked with pin flags and will be surveyed by land surveyors from Hansen Thorp Pellinen Olson, Inc. Portions of the wetlands were not accessible and were therefore estimated based on LiDAR contours.

Soils, vegetation, and hydrology were documented at a representative location along the wetland-upland boundary. Plant species dominance was estimated based on the percent aerial or basal coverage visually estimated within a 30-foot radius for trees and vines, a 15-foot radius for the shrub layer, and a 5-foot radius for the herbaceous layer within the community type sampled.

Soils were characterized to a minimum depth of 18-24 inches (unless otherwise noted) utilizing Munsell Soil Color Charts and standard soil texturing methodology. Hydric soil indicators used in reporting are from Field Indicators of Hydric Soils in the United States (USDA Natural

Resources Conservation Service in cooperation with the National Technical Committee for Hydric Soils, Version 7, 2010).

Mapped soils are separated into five classes based on the percent composition of hydric components and the Hydric Rating by Map Unit color classes utilized on Web Soil Survey. The five classes include Hydric (100 percent hydric components), Predominantly Hydric (66 to 99 percent hydric components), Partially Hydric (33 to 65 percent hydric components), Predominantly Non-Hydric (1 to 32 percent hydric components), and Non-Hydric (less than one percent hydric components).

Plants were identified using standard regional plant keys. Taxonomy and indicator status of plant species was taken from the 2016 National Wetland Plant List (U.S. Army Corps of Engineers 2016. National Wetland Plant List, version 3.2, https://wetland_plants.usace.army.mil Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory, Hanover, NH).

III. RESULTS

Review of NWI, Soils, and DNR Information

The *National Wetlands Inventory (NWI)* (Minnesota Geospatial Commons 2009-2014, <https://gisdata.mn.gov/dataset/water-nat-wetlands-inv-2009-2014>) showed one PFO1A wetland within the site boundaries (**Figure 3**).

The Soil Survey of Hennepin County, Minnesota

(<http://soils.usda.gov/survey/geography/ssurgo/>) showed Hamel (Partially Hydric) as the hydric soil type mapped on the site. A table of soil series data and hydric ratings is shown below in **Table 2** and illustrated on the soil survey map (**Figure 4**).

Table 2. Soil series information

Map unit symbol	Map unit name	Hydric Rating	Acres in AOI	Percent of AOI
U1A	Urban land-Udorthents, wet substratum, complex	Non-Hydric	4.01	73.0
L36A	Hamel, overwash-Hamel complex, 0 to 3 percent slopes	Partially Hydric	0.87	15.8
L22C2	Lester loam, 6 to 10 percent slopes, moderately eroded	Predominantly Non-Hydric	0.62	11.2
U3B	Udorthents (cut and fill land), 0 to 6 percent slopes	Non-Hydric	0.02	0.3

The Minnesota *DNR Public Waters Map, Hennepin County* (<https://gisdata.mn.gov/dataset/water-mn-public-waters>) showed no DNR Public Waters, Wetlands or Waterways within 1000 feet of the site boundaries (**Figure 5**).

The **National Hydrography Dataset** (U.S. Geological Survey, <http://nhd.usgs.gov/>) showed one Canal/Ditch draining from west to east across the site (**Figure 6**).

Wetland Determinations and Delineations

Potential wetlands were evaluated in greater detail during field observations on June 1, 2018. A copy of the wetland boundary survey has been included as **Appendix A**. Two wetlands were identified and delineated on the property (**Figure 2**). Corresponding data forms are included in **Appendix B**. The following description of the wetland and the adjacent upland reflects conditions observed at the time of the field visit. The site visit was conducted during the growing season, with actively growing vegetation present onsite. Precipitation conditions were drier than typical based on the gridded database method (3-month antecedent conditions), and drier than the normal range based on available 30-day rolling precipitation data (**Appendix C**). This site experienced 1.74" of rainfall in the week preceding the field visit. The Joint Application Form has been included as **Appendix D**.

Wetland 1 was a Type 7 (PFO1B) wooded swamp wetland dominated by a canopy of green ash trees with an understory of jewelweed, green bushrush and reed canary grass. Wetland 1 was saturated at the surface.

Adjacent upland consisted of mowed lawn dominated by Kentucky bluegrass and lawn weeds including dandelion, red clover and common plantain. Primary and secondary hydrology indicators were not observed on the upland.

The delineated boundary followed a change in vegetation from wetland to upland plant communities, as well as a distinct change in topography. Wetland 1 was not shown as a wetland on the NWI map, and was located within an area mapped as Hamel (Partially Hydric) and Udorthents (Non-Hydric) on the soil survey. An excavated channel lined with erosion control rocks drained Wetland 1 eastward into Wetland 2.

Wetland 2 was a Type 3/5 (PEM1C/PUBG) open water and shallow marsh wetland. The open water portion of the wetland lacked vegetation, while the shallow marsh portion was dominated by cattail. Wetland 2 was inundated with approximately 6 inches of water in the shallow marsh portion of the wetland, with water assumed to be 3 feet or deeper in the open water portion.

Adjacent upland consisted of a narrow strip of woodland along steeply sloped drainage channel banks dominated by boxelder trees, with an understory of buckthorn and Virginia creeper. Primary and secondary hydrology indicators were not observed on the upland.

The delineated boundary followed a change in vegetation from wetland to upland plant communities, as well as a distinct change in topography. Wetland 2 was shown as a PFO1A wetland on the NWI map, and was located within an area mapped Udorthents (Non-Hydric) and

IV. CERTIFICATION OF DELINEATION

The procedures utilized in the described delineation are based on the COE 1987 Wetland Delineation Manual as required by Section 404 of the Clean Water Act and the Minnesota Wetland Conservation Act. Both the delineation and report were conducted in compliance with regulatory standards in place at the time the work was completed.

All site boundaries indicated on figures within this report are approximate and do not constitute an official survey product.

Delineation Completed by: Adam Cameron, Wetland Ecologist
Minnesota Certified Wetland Delineator No. 1321
Kyle Uhler, Wetland Project Assistant

Report Prepared by: Adam Cameron, Wetland Ecologist
Minnesota Certified Wetland Delineator No. 1321



Report reviewed by: _____ Date: July 19, 2018

Mark Kjolhaug, Professional Wetland Scientist No. 000845

Ivanhoe Site

Wetland Delineation Report

Figures:

- Figure 1 – Site Location Map
- Figure 2 – Existing Conditions Map
- Figure 3 – NWI Map
- Figure 4 – Soil Survey Map
- Figure 5 – DNR Protected Waters Map
- Figure 6 – National Hydrography Dataset Map

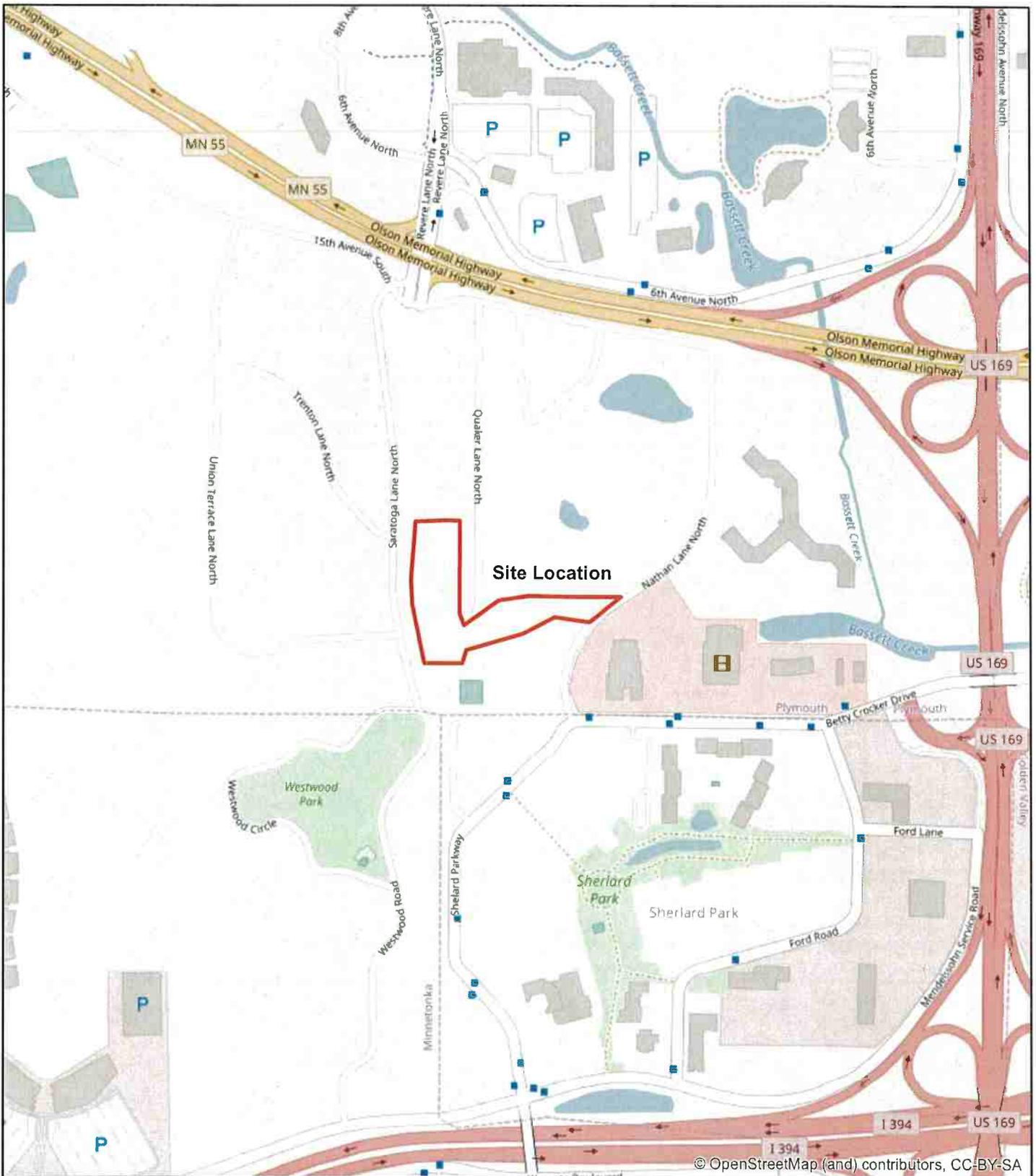


Figure 1 - Site Location Map



KJOLHAUG ENVIRONMENTAL SERVICES COMPANY
Source: ESRI Streets Basemap

N



0 650
Feet



Ivanhoe Site (KES 2018-049)
Plymouth, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

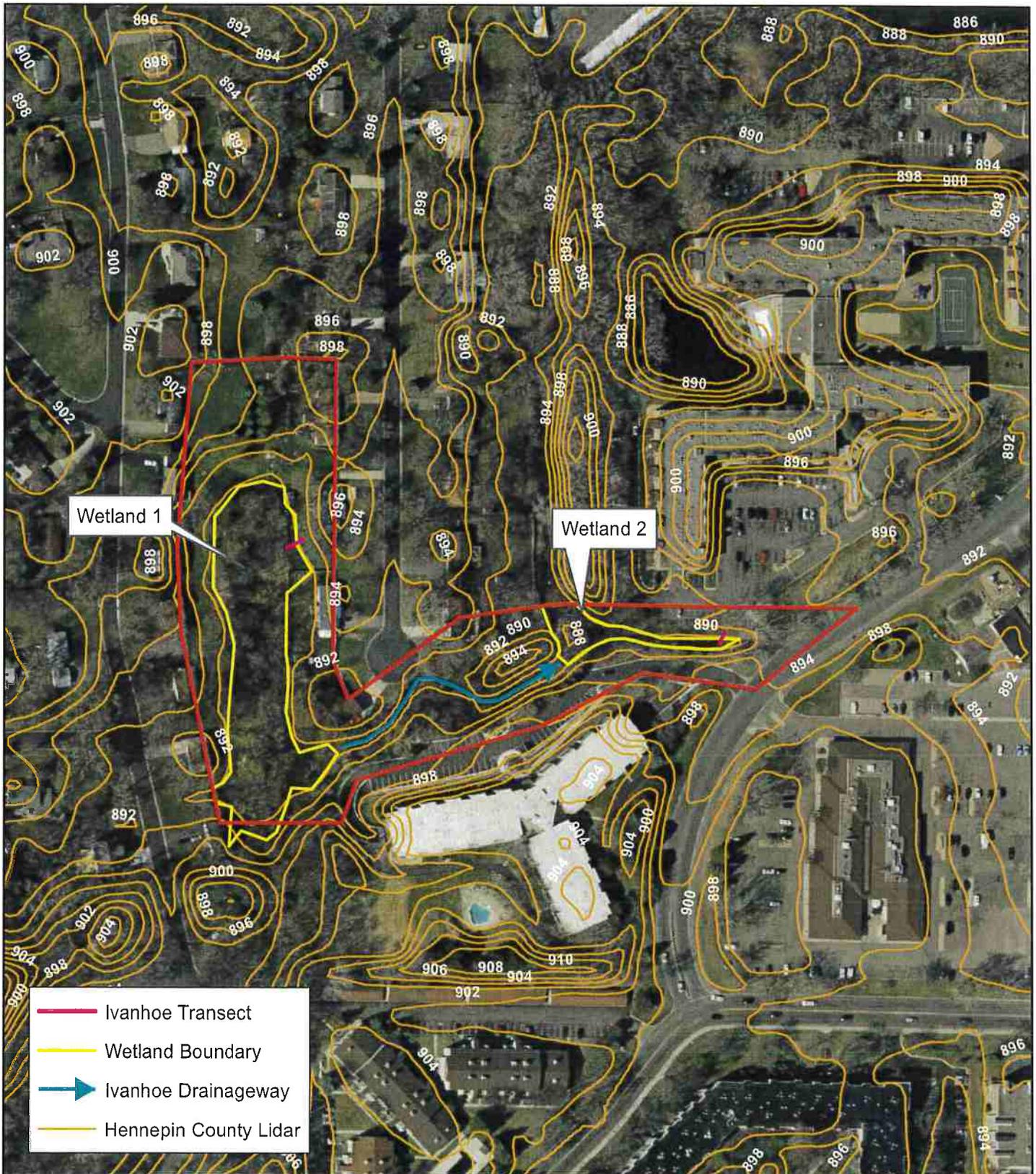


Figure 2 - Existing Conditions



KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons

N



0 200



Feet

Ivanhoe Site (KES 2018-049)
Plymouth, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.



Figure 3 - National Wetlands Inventory



N
↑

0 200
└──────────┘ Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons, USFWS

Ivanhoe Site (KES 2018-049)
Plymouth, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.



Figure 4 - Soil Survey



KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons, USDA, NRCS

N



0 200 Feet



Ivanhoe Site (KES 2018-049)
Plymouth, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.



Figure 5 - DNR Public Waters Inventory



N



0 400 Feet



Ivanhoe Site (KES 2018-049)
Plymouth, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

Source: MNGEO Spatial Commons, MN DNR

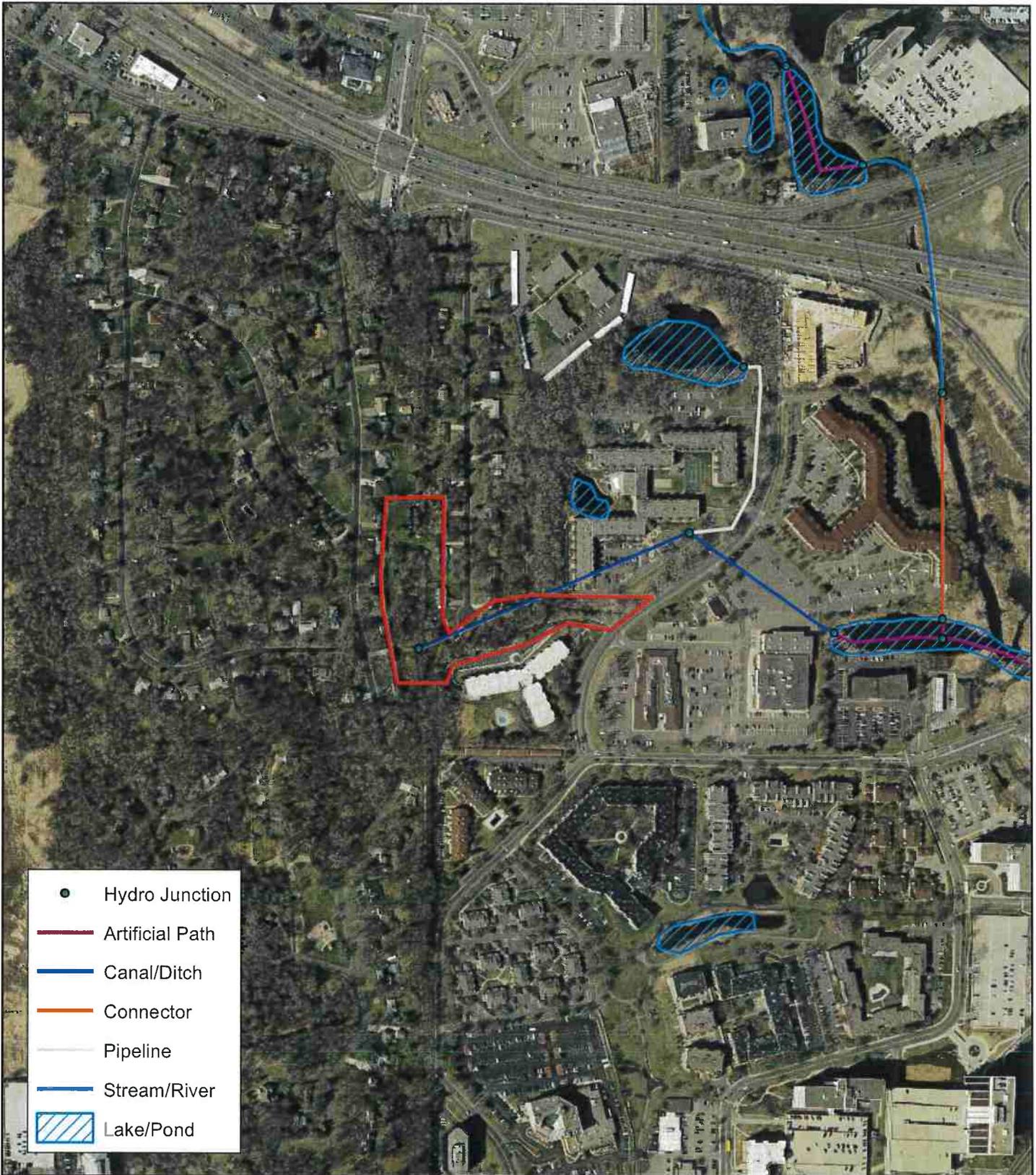


Figure 6 - National Hydrography Dataset



N



0 500
Feet



Ivanhoe Site (KES 2018-049)
Plymouth, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons, USGS

Ivanhoe Site

Wetland Delineation Report

Appendix A:

Wetland Delineation Survey

Ivanhoe Site

Wetland Delineation Report

Appendix B:

Wetland Delineation Data Forms

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site Ivanhoe Site City/County: Plymouth/Hennepin Sampling Date: 6/1/2018
 Applicant/Owner: Applicant: The City of Plymouth State: MN Sampling Point: SP1-1U
 Investigator(s): A.Cameron, K.Uhler Section, Township, Range: S:36 T:118N R:22W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Linear
 Slope (%): 3 - 5 Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name Udorthents (Non-Hydric) 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 _____, soil _____, or hydrology _____ significantly disturbed? Are "normal circumstances" present? Yes
 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>N</u> If yes, optional wetland site ID: _____
Hydric soil present?	<u>Y</u>	
Indicators of wetland hydrology present?	<u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)
30-day precipitation rolling total drier than normal range. Precipitation from Gridded Database Method drier than typical.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft Radius</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Tilia americana</u>	20	Y	FACU	
2 <u>Fraxinus pennsylvanica</u>	20	Y	FACW	Total Number of Dominant Species Across all Strata: <u>3</u> (B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>66.67%</u> (A/B)
4 _____				
5 _____				
	40	= Total Cover		
Sapling/Shrub stratum (Plot size: <u>15 ft Radius</u>)	Absolute % Cover	Dominant Species	Indicator Status	Prevalence Index Worksheet
1 _____				
2 _____				OBL species <u>0</u> x 1 = <u>0</u>
3 _____				FACW species <u>20</u> x 2 = <u>40</u>
4 _____				FAC species <u>80</u> x 3 = <u>240</u>
5 _____				FACU species <u>20</u> x 4 = <u>80</u>
	0	= Total Cover		UPL species <u>0</u> x 5 = <u>0</u>
				Column totals <u>120</u> (A) <u>360</u> (B)
				Prevalence Index = B/A = <u>3.00</u>
Herb stratum (Plot size: <u>5 ft Radius</u>)	Absolute % Cover	Dominant Species	Indicator Status	Hydrophytic Vegetation Indicators:
1 <u>Poa pratensis</u>	80	Y	FAC	
2 _____				<input checked="" type="checkbox"/> Dominance test is >50%
3 _____				<input checked="" type="checkbox"/> Prevalence index is ≤3.0*
4 _____				Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
5 _____				Problematic hydrophytic vegetation* (explain)
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
	80	= Total Cover		*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
Woody vine stratum (Plot size: <u>30 ft Radius</u>)	Absolute % Cover	Dominant Species	Indicator Status	Hydrophytic vegetation present? <u>Y</u>
1 _____				
2 _____				
	0	= Total Cover		

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

SOIL

Sampling Point: SP1-1U

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**		
0-3	10YR 2/1	100					Loam	
3-10	10YR 2/1	55	10GY 6/1	15	D	M	Clay Loam	
			2.5Y 5/6	30	C	M	Clay Loam	
10-21	10YR 2/1	75	10YR 4/6	20	C	M	Clay Loam	
			10GY 6/1	5	D	M	Clay Loam	
21-36	N 2.5/	100					Peat	

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

<p>Hydric Soil Indicators:</p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input checked="" type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p>Indicators for Problematic Hydric Soils:</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p> <p> *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
--	--	--

<p>Restrictive Layer (if observed):</p> <p>Type: _____</p> <p>Depth (inches): _____</p> <p>Remarks:</p>	<p>Hydric soil present? <u>Y</u></p>
--	--------------------------------------

HYDROLOGY

Wetland Hydrology Indicators:		
<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p>

<p>Field Observations:</p> <p>Surface water present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____</p> <p>Water table present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>21</u></p> <p>Saturation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>25</u></p> <p>(includes capillary fringe)</p>	<p>Indicators of wetland hydrology present? <u>N</u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site Ivanhoe Site City/County: Plymouth/Hennepin Sampling Date: 6/1/2018
 Applicant/Owner: Applicant: The City of Plymouth State: MN Sampling Point: SP1-1W
 Investigator(s): A.Cameron, K.Uhler Section, Township, Range: S:36 T:118N R:22W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 0 - 2 Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name Udorthents (Non-Hydric) 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 _____, soil X, or hydrology _____ significantly disturbed? Are "normal circumstances" present? Yes
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? 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>Wetland 1</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.)
 30-day precipitation rolling total drier than normal range. Precipitation from Gridded Database Method drier than typical. Soils disturbed due to fill material.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft Radius</u>)	Absolute % Cover	Dominant Species	Indicator Staus	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>7</u> (A) Total Number of Dominant Species Across all Strata: <u>7</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1 <u>Acer negundo</u>	40	Y	FAC	
2 _____				
3 _____				
4 _____				
5 _____				
40 = Total Cover				
Sapling/Shrub stratur (Plot size: <u>15 ft Radius</u>)	Absolute % Cover	Dominant Species	Indicator Staus	Prevalence Index Worksheet Total % Cover of: OBL species <u>40</u> x 1 = <u>40</u> FACW species <u>65</u> x 2 = <u>130</u> FAC species <u>90</u> x 3 = <u>270</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>195</u> (A) <u>440</u> (B) Prevalence Index = B/A = <u>2.26</u>
1 <u>Salix fragilis</u>	20	Y	FAC	
2 <u>Rhamnus cathartica</u>	10	Y	FAC	
3 _____				
4 _____				
5 _____				
30 = Total Cover				
Herb stratum (Plot size: <u>5 ft Radius</u>)	Absolute % Cover	Dominant Species	Indicator Staus	
1 <u>Scirpus atrovirens</u>	30	Y	OBL	
2 <u>Phalaris arundinacea</u>	30	Y	FACW	
3 <u>Poa pratensis</u>	20	Y	FAC	
4 <u>Carex vulpinoidea</u>	20	Y	FACW	
5 <u>Impatiens capensis</u>	15	N	FACW	
6 <u>Eupatorium perfoliatum</u>	10	N	OBL	
7 _____				
8 _____				
9 _____				
10 _____				
125 = Total Cover				
Woody vine stratum (Plot size: <u>30 ft Radius</u>)	Absolute % Cover	Dominant Species	Indicator Staus	
1 _____				
2 _____				
0 = Total Cover				

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

SOIL

Sampling Point: SP1-1W

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**		
0-3	10YR 4/4	100					Sand and Gravel	Fill
3-24	N 2.5/	100					Peat	

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

<p>Hydric Soil Indicators:</p> <p><input checked="" type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p>Indicators for Problematic Hydric Soils:</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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*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:
 Fill material over historic hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:		
<p>Primary Indicators (minimum of one is required; check all that apply)</p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input checked="" type="checkbox"/> High Water Table (A2)</p> <p><input checked="" type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p>Secondary Indicators (minimum of two required)</p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input checked="" type="checkbox"/> Geomorphic Position (D2)</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</p>

Field Observations:

Surface water present? Yes No Depth (inches): _____

Water table present? Yes No Depth (inches): 2

Saturation present? Yes 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 Ivanhoe Site City/County: Plymouth/Hennepin Sampling Date: 6/1/2018
 Applicant/Owner: Applicant: The City of Plymouth State: MN Sampling Point: SP2-1U
 Investigator(s): A.Cameron, K.Uhler Section, Township, Range: S:36 T:118N R:22W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Linear
 Slope (%): 6 - 10 Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Lester loam (Predominantly Non-Hydric) 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 _____, soil X, or hydrology _____ significantly disturbed? Are "normal circumstances" present? Yes
 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: _____
Hydric soil present?	<u>N</u>	
Indicators of wetland hydrology present?	<u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)
 30-day precipitation rolling total drier than normal range. Precipitation from Gridded Database Method drier than typical. Soils disturbed by fill material.

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>30 ft Radius</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet	
1 _____				Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A)	
2 _____				Total Number of Dominant Species Across all Strata: <u>3</u> (B)	
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>33.33%</u> (A/B)	
4 _____					
5 _____					
	<u>0</u>	= Total Cover			
<u>Sapling/Shrub stratum</u> (Plot size: <u>15 ft Radius</u>)	Absolute % Cover	Dominant Species	Indicator Status	Prevalence Index Worksheet	
1 <u>Rhamnus cathartica</u>	40	Y	FAC	Total % Cover of:	
2 <u>Sambucus racemosa</u>	40	Y	FACU	OBL species <u>0</u> x 1 = <u>0</u>	
3 _____				FACW species <u>0</u> x 2 = <u>0</u>	
4 _____				FAC species <u>40</u> x 3 = <u>120</u>	
5 _____				FACU species <u>70</u> x 4 = <u>280</u>	
	<u>80</u>	= Total Cover		UPL species <u>0</u> x 5 = <u>0</u>	
				Column totals <u>110</u> (A) <u>400</u> (B)	
				Prevalence Index = B/A = <u>3.64</u>	
<u>Herb stratum</u> (Plot size: <u>5 ft Radius</u>)	Absolute % Cover	Dominant Species	Indicator Status	Hydrophytic Vegetation Indicators:	
1 <u>Parthenocissus quinquefolia</u>	30	Y	FACU	<input type="checkbox"/> Rapid test for hydrophytic vegetation	
2 _____				<input type="checkbox"/> Dominance test is >50%	
3 _____				<input type="checkbox"/> Prevalence index is ≤3.0*	
4 _____				<input type="checkbox"/> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)	
5 _____				<input type="checkbox"/> Problematic hydrophytic vegetation* (explain)	
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
	<u>30</u>	= Total Cover			
<u>Woody vine stratum</u> (Plot size: <u>30 ft Radius</u>)	Absolute % Cover	Dominant Species	Indicator Status	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: SP2-1U

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**		
0-3	10YR 2/1	100					Sandy Loam	Restrictive layer present

*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"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <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"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)
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Restrictive Layer (if observed): Type: <u>Gravel, unable to auger further</u> Depth (inches): <u>3</u>	Hydric soil present? <u>N</u>
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Remarks:
Soils disturbed due to fill material along steep sideslopes adjacent to the drainage channel.

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"/> X Depth (inches): _____ Water table present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> X Depth (inches): _____ Saturation present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> X Depth (inches): _____ (includes capillary fringe)	Indicators of wetland hydrology present? <u>N</u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site Ivanhoe Site City/County: Plymouth/Hennepin Sampling Date: 6/1/2018
 Applicant/Owner: Applicant: The City of Plymouth State: MN Sampling Point: SP2-1W
 Investigator(s): A.Cameron, K.Uhler Section, Township, Range: S:36 T:118N R:22W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 0 - 2 Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Lester Loam (Predominantly Non-Hydric) vWI Classification: PFO1A

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)
 Are vegetation _____, soil X, or hydrology _____ significantly disturbed? Are "normal circumstances" present? Yes
 Are vegetation _____, soil _____, 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 2</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.)
 30-day precipitation rolling total drier than normal range. Precipitation from Gridded Database Method drier than typical. Soils disturbed by fill material.

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft Radius</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>5</u> (B)
3	_____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		
Sapling/Shrub stratum	(Plot size: <u>15 ft Radius</u>)				Prevalence Index Worksheet
1	<u>Rhamnus cathartica</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
2	<u>Cornus sericea</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	OBL species <u>10</u> x 1 = <u>10</u>
3	_____	_____	_____	_____	FACW species <u>45</u> x 2 = <u>90</u>
4	_____	_____	_____	_____	FAC species <u>40</u> x 3 = <u>120</u>
5	_____	_____	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>
		<u>30</u>	= Total Cover		UPL species <u>0</u> x 5 = <u>0</u>
		<u>95</u> (A)			Column totals <u>220</u> (B)
		<u>2.32</u>			Prevalence Index = B/A = <u>2.32</u>
Herb stratum	(Plot size: <u>5 ft Radius</u>)				Hydrophytic Vegetation Indicators:
1	<u>Impatiens capensis</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
2	<u>Solanum dulcamara</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	<input checked="" type="checkbox"/> Dominance test is >50%
3	<u>Acer rubrum</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	<input checked="" type="checkbox"/> Prevalence index is ≤3.0*
4	<u>Eupatorium perfoliatum</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
5	<u>Persicaria pensylvanica</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	Problematic hydrophytic vegetation* (explain)
6	<u>Typha angustifolia</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>65</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30 ft Radius</u>)				Hydrophytic vegetation present? <u>Y</u>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		

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

SOIL

Sampling Point: SP2-1W

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**		
0-3	N 2.5/	100					Mucky Loam	Restrictive layer present

*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 checked="" type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <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"/> 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: <u>Gravel, unable to auger further</u> Depth (inches): <u>3</u>	Hydric soil present? <u>Y</u>
---	--------------------------------------

Remarks:
Mucky loam over fill material.

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input checked="" 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 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 checked="" 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): <u>0</u> Water table present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Saturation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Indicators of wetland hydrology present? <u>Y</u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Ivanhoe Site

Wetland Delineation Report

Appendix C:

Precipitation Information

Minnesota State Climatology Office

State Climatology Office - DNR Division of Ecological and Water Resources [University of Minnesota](#)

[home](#) | [current conditions](#) | [journal](#) | [past data](#) | [summaries](#) | [agriculture](#) | [other sites](#) | [about us](#) 

Precipitation Worksheet Using Gridded Database

Precipitation data for target wetland location:

county: **Hennepin** township number: **118N**
 township name: **Plymouth** range number: **22W**
 nearest community: **Medicine Lake** section number: **36**

Aerial photograph or site visit date:

Friday, June 1, 2018

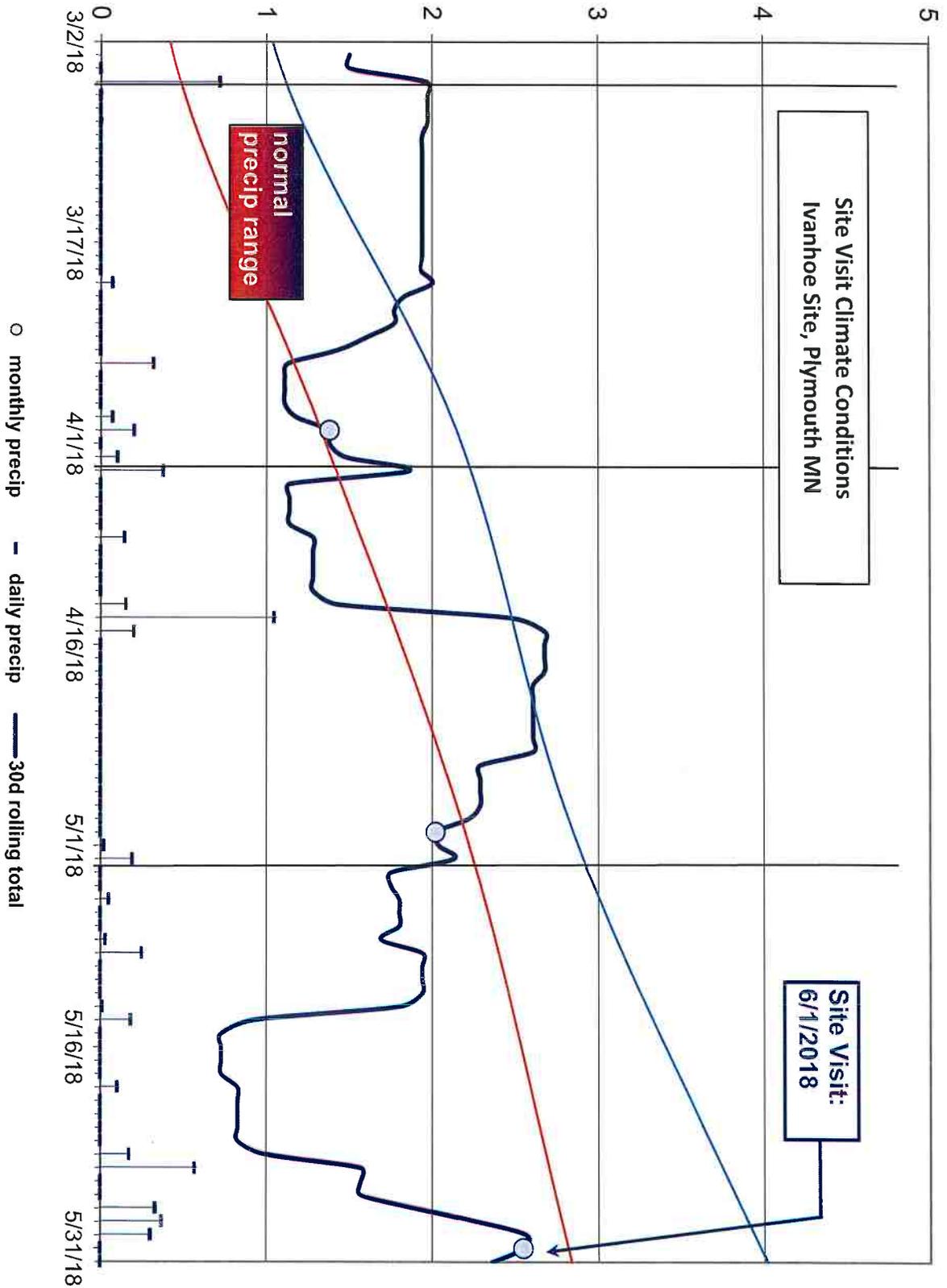
Score using 1981-2010 normal period

values are in inches A 'R' following a monthly total indicates a provisional value derived from radar-based estimates.	first prior month: May 2018	second prior month: April 2018	third prior month: March 2018
estimated precipitation total for this location:	2.47R	2.30R	1.29R
there is a 30% chance this location will have less than:	2.82	2.20	1.33
there is a 30% chance this location will have more than:	3.98	2.85	2.15
type of month: dry normal wet	dry	normal	dry
monthly score	3 * 1 = 3	2 * 2 = 4	1 * 1 = 1
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	8 (Dry)		

Other Resources:

- [retrieve daily precipitation data](#)
- [view radar-based precipitation estimates](#)
- [view weekly precipitation maps](#)
- [Evaluating Antecedent Precipitation Conditions \(BWSR\)](#)

Daily and monthly total precipitation (inches)



Ivanhoe Site, Plymouth MN: Precipitation Summary
Source: Minnesota Climatology Working Group

Monthly Totals: 2018

Target: T118 R22 S35

mon year	cc	tttN	rrw	ss	nnnn	ooooooo	pre (inches)
Jan 2018	27	117N	21W	7	BYRG		.95
Feb 2018	27	118N	21W	20	NWS	NEW HOPE	1.50
Mar 2018	27	117N	21W	7	BYRG		1.38
Apr 2018	27	117N	21W	7	BYRG		2.02
May 2018	27	118N	21W	20	NWS	NEW HOPE	2.57

March / April / May / June Daily Records

Mar 1, 2018	0
Mar 2, 2018	0
Mar 3, 2018	0
Mar 4, 2018	T
Mar 5, 2018	.72
Mar 6, 2018	T
Mar 7, 2018	0
Mar 8, 2018	0
Mar 9, 2018	0
Mar 10, 2018	0
Mar 11, 2018	T
Mar 12, 2018	0
Mar 13, 2018	0
Mar 14, 2018	0
Mar 15, 2018	0
Mar 16, 2018	0
Mar 17, 2018	0
Mar 18, 2018	T
Mar 19, 2018	0
Mar 20, 2018	.07
Mar 21, 2018	T
Mar 22, 2018	0
Mar 23, 2018	0
Mar 24, 2018	0
Mar 25, 2018	0
Mar 26, 2018	.32
Mar 27, 2018	0
Mar 28, 2018	0
Mar 29, 2018	0
Mar 30, 2018	.07
Mar 31, 2018	.20

Apr 1, 2018	0
Apr 2, 2018	.10
Apr 3, 2018	.38
Apr 4, 2018	0
Apr 5, 2018	T
Apr 6, 2018	0
Apr 7, 2018	0
Apr 8, 2018	.14
Apr 9, 2018	T
Apr 10, 2018	T
Apr 11, 2018	0
Apr 12, 2018	0
Apr 13, 2018	.15
Apr 14, 2018	1.05
Apr 15, 2018	.20
Apr 16, 2018	T
Apr 17, 2018	0
Apr 18, 2018	T
Apr 19, 2018	0
Apr 20, 2018	0
Apr 21, 2018	0
Apr 22, 2018	0
Apr 23, 2018	0
Apr 24, 2018	0
Apr 25, 2018	0
Apr 26, 2018	0
Apr 27, 2018	T
Apr 28, 2018	0
Apr 29, 2018	0
Apr 30, 2018	T

May 1, 2018	.02
May 2, 2018	.19
May 3, 2018	0
May 4, 2018	0
May 5, 2018	.05
May 6, 2018	0
May 7, 2018	0
May 8, 2018	.03
May 9, 2018	.25
May 10, 2018	0
May 11, 2018	T
May 12, 2018	T
May 13, 2018	.01
May 14, 2018	.18
May 15, 2018	0
May 16, 2018	0
May 17, 2018	0
May 18, 2018	0
May 19, 2018	.10
May 20, 2018	0
May 21, 2018	0
May 22, 2018	0
May 23, 2018	0
May 24, 2018	.17
May 25, 2018	.57
May 26, 2018	0
May 27, 2018	0
May 28, 2018	.33
May 29, 2018	.37
May 30, 2018	.30
May 31, 2018	0
Jun 1, 2018	0

1981-2010 Summary Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	WARM	ANN	WAT
30%	0.51	0.39	1.33	2.20	2.82	3.39	2.69	3.26	2.19	1.22	1.11	0.76	18.19	29.68	27.72
70%	1.24	1.00	2.15	2.85	3.98	5.13	4.20	5.00	3.97	3.60	2.04	1.43	21.85	34.37	35.35
mean	0.88	0.82	1.94	2.71	3.59	4.51	4.25	4.14	3.40	2.51	1.83	1.24	19.90	31.83	31.64

Ivanhoe Site

Wetland Delineation Report

Appendix D:

Joint Application Form for Activities Affecting Water Resources in Minnesota

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.

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: The City of Plymouth
Mailing Address: 3400 Plymouth Boulevard, Plymouth MN 55447
Phone: 763-509-5000
E-mail Address: -

Authorized Contact (do not complete if same as above):
Mailing Address:
Phone:
E-mail Address:

Agent Name: Adam Cameron
Mailing Address: 2500 Shadywood Road #130, Orono MN 55331
Phone: 952-401-8757 Ext. #106
E-mail Address: Adam@kjolhaugenv.com

PART TWO: Site Location Information

County: Hennepin **City/Township:** City of Plymouth
Parcel ID and/or Address: Numerous, See Figure 1
Legal Description (Section, Township, Range): S: 15/35/36 T: 118N/118N/118N R: 22W/22W/22W
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): French Ridge 9.1 ac, Ivanhoe 5.5ac, St. Mary's 5.6ac

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.

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: Derek A. Beck Date: 7/19/18

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.

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>

French Ridge Site

Plymouth, Minnesota

Wetland Delineation Report

Prepared for
The City of Plymouth

by
Kjolhaug Environmental Services Company, Inc.
(KES Project No. 2018-049)

July 19, 2018

WETLAND DELINEATION SUMMARY

- The French Ridge Site was inspected on June 1, 2018 for the presence and extent of wetland.
- The NWI map showed one PEM1A/PEM1C, and one PABG wetland within the site boundaries.
- The Soil Survey map showed Glencoe (Hydric), Klossner, Okoboji and Glencoe (Hydric) and Muskego and Houghton (Hydric) as the hydric soil types mapped within the site boundaries.
- The DNR Public Waters map showed one DNR Public Wetland (Unnamed 27-619 W) approximately 1000' east of the site boundaries.
- The NHD map showed one Stream/River feature connecting Wetland 1 with the aforementioned DNR Public Wetland adjacent to Medicine Lake.
- Two wetlands were delineated within the site boundaries, as described below in **Table 1**:

Table 1. Wetland delineated on the French Ridge Site

Wetland ID	Wetland Type			Dominant Vegetation
	Circular 39	Cowardin	Eggers and Reed	
1	Type 2	PEM1B	Fresh Wet Meadow	Reed canary grass, cattail, jewelweed
2	Type 5	PUBG	Open Water	Open water, fringe of green ash trees

French Ridge Site

Plymouth, Minnesota

Wetland Delineation Report

I. INTRODUCTION

The 9.1-acre French Ridge Site was inspected on June 1, 2018 for the presence and extent of wetland. The property was located in Section 15, Township 118N, Range 22W, Plymouth, Hennepin County, Minnesota. The site was located east of Interstate 494 and south of Rockford Road (**Figure 1**). The site limits correspond to French Ridge Park as well as numerous privately owned parcels.

The site consisted of a woodland with a storm water pond and an area of wet meadow. Surrounding land use consisted of single-family residential, with commercial buildings north of the site. The topography was highest on the central portion of the project limits at 946 ft MSL, sloping to 902 ft MSL on the eastern portion of the project limits.

Two (2) wetlands were identified and delineated within the site boundaries (**Figure 2**).

II. METHODS

Wetlands were identified using Routine Determination methodology described in the Corps of Engineers Wetland Delineation Manual (Waterways Experiment Station, 1987) and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0) as required under Section 404 of the Clean Water Act and the Minnesota Wetland Conservation Act.

Wetland boundaries were identified as the upper-most extent of wetland that met criteria for hydric soils, hydrophytic vegetation, and wetland hydrology. Wetland-upland boundaries were marked with pin flags and will be surveyed by land surveyors from Hansen Thorp Pellinen Olson, Inc. A survey document has been included as **Appendix A**.

Soils, vegetation, and hydrology were documented at a representative location along the wetland-upland boundary. Plant species dominance was estimated based on the percent aerial or basal coverage visually estimated within a 30-foot radius for trees and vines, a 15-foot radius for the shrub layer, and a 5-foot radius for the herbaceous layer within the community type sampled.

Soils were characterized to a minimum depth of 18-24 inches (unless otherwise noted) utilizing Munsell Soil Color Charts and standard soil texturing methodology. Hydric soil indicators used in reporting are from Field Indicators of Hydric Soils in the United States (USDA Natural

Resources Conservation Service in cooperation with the National Technical Committee for Hydric Soils, Version 7, 2010).

Mapped soils are separated into five classes based on the percent composition of hydric components and the Hydric Rating by Map Unit color classes utilized on Web Soil Survey. The five classes include Hydric (100 percent hydric components), Predominantly Hydric (66 to 99 percent hydric components), Partially Hydric (33 to 65 percent hydric components), Predominantly Non-Hydric (1 to 32 percent hydric components), and Non-Hydric (less than one percent hydric components).

Plants were identified using standard regional plant keys. Taxonomy and indicator status of plant species was taken from the 2016 National Wetland Plant List (U.S. Army Corps of Engineers 2016. National Wetland Plant List, version 3.2, https://wetland_plants.usace.army.mil Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory, Hanover, NH).

III. RESULTS

Review of NWI, Soils, and DNR Information

The *National Wetlands Inventory (NWI)* (Minnesota Geospatial Commons 2009-2014, <https://gisdata.mn.gov/dataset/water-nat-wetlands-inv-2009-2014>) showed one PEM1A/PEM1C, and one PABG wetland within the site boundaries (**Figure 3**).

The Soil Survey of Hennepin County, Minnesota

(<http://soils.usda.gov/survey/geography/ssurgo/>) showed Glencoe (Hydric), Klossner, Okoboji and Glencoe (Hydric) and Muskego and Houghton (Hydric) as the hydric soil types mapped on the site. A table of soil series data and hydric ratings is provided below in Table 2 and shown on **Figure 4**.

Table 2. Soil series information

Map unit symbol	Map unit name	Hydric Rating	Acres in AOI	Percent of AOI
L22E	Lester loam, 10 to 22 percent slopes	Non-Hydric	4.02	44.2
L22F	Lester loam, morainic, 25 to 35 percent slopes	Predominantly Non-Hydric	2.14	23.6
L50A	Muskego and Houghton soils	Hydric	1.06	11.6
L15A	Klossner, Okoboji and Glencoe soils	Hydric	0.98	10.8
L24A	Glencoe clay loam	Hydric	0.69	7.5
L22D2	Lester loam, 10 to 16 percent slopes	Non-Hydric	0.22	2.4
L22C2	Lester loam, 6 to 10 percent slopes	Predominantly Non-Hydric	0.02	0.2

The Minnesota *DNR Public Waters Map, Hennepin County*

(<https://gisdata.mn.gov/dataset/water-mn-public-waters>) showed one DNR Public Wetland (Unnamed 27-619 W) approximately 1000' east of the site boundaries (**Figure 5**).

The **National Hydrography Dataset** (U.S. Geological Survey, <http://nhd.usgs.gov/>) showed one Stream/River feature connecting Wetland 1 with the aforementioned DNR Public Wetland adjacent to Medicine Lake (**Figure 6**).

Wetland Determinations and Delineations

Potential wetlands were evaluated in greater detail during field observations on June 1, 2018. Two wetlands were identified and delineated on the property (**Figure 2**). Corresponding data forms are included in **Appendix B**. The following description of the wetland and the adjacent upland reflects conditions observed at the time of the field visit. The site visit was conducted during the growing season, with actively growing vegetation present onsite. Precipitation conditions were drier than typical based on the gridded database method (3-month antecedent conditions), and drier than the normal range based on available 30-day rolling precipitation data (**Appendix C**). The Joint Application Form has been included as **Appendix D**.

Wetland 1 was a Type 2/3 (PEM1B/1C) wet meadow and shallow marsh wetland dominated by reed canary grass, jewelweed and scattered cattail. Wetland 1 was inundated with 6" of water at the time of the field visit, with saturation at the surface along the wetland fringe.

Adjacent upland consisted of woodland dominated by a canopy of green ash, basswood and cottonwood trees with an understory of buckthorn, honeysuckle and bedstraw. Primary and secondary hydrology indicators were not observed on the upland.

The delineated boundary followed a change in vegetation from wetland to upland plant communities, as well as a distinct change in topography. Wetland 1 was shown as a PEM1C/PEM1A wetland on the NWI map, and was located within an area mapped as Muskego and Houghton (Hydric) and Lester Loam (Non-Hydric) on the soil survey. A storm water outlet discharged from Wetland 2 into Wetland 1. An outlet drained from Wetland 1 to the east under 39th Avenue N.

Wetland 2 was a Type 5 (PUBG) open water wetland dominated by duckweed, with green ash trees present along the wetland fringe. Wetland 2 was inundated with approximately 3-6' of water at the time of the field visit, and was saturated at the surface along the wetland fringe.

Adjacent upland consisted of woodland dominated by a canopy of green ash, basswood and cottonwood trees with an understory of buckthorn, raspberry, stinging nettle, honeysuckle and bedstraw. Primary and secondary hydrology indicators were not observed on the upland.

The delineated boundary followed a change in vegetation from wetland to upland plant communities, as well as a distinct change in topography. Wetland 2 was shown as a PABG wetland on the NWI map, and was located within an area mapped as Glencoe Clay Loam (Hydric), Klossner, Okoboji and Glencoe (Hydric) and Lester Loam (Non-Hydric) on the soil

survey. Numerous storm water outlets were observed draining into Wetland 2, which drained eastward into Wetland 1. This wetland was being used as a storm pond, and may have been incidentally created.

Other Areas

No other areas with hydrophytic vegetation or wetland hydrology were observed on the site. No other areas were shown as hydric soil on the soil survey or as wetland on the NWI map.

IV. CERTIFICATION OF DELINEATION

The procedures utilized in the described delineation are based on the COE 1987 Wetland Delineation Manual as required by Section 404 of the Clean Water Act and the Minnesota Wetland Conservation Act. Both the delineation and report were conducted in compliance with regulatory standards in place at the time the work was completed.

All site boundaries indicated on figures within this report are approximate and do not constitute an official survey product.

Delineation Completed by: Adam Cameron, Wetland Ecologist
Minnesota Certified Wetland Delineator No. 1321
Kyle Uhler, Wetland Project Assistant

Report Prepared by: Adam Cameron, Wetland Ecologist
Minnesota Certified Wetland Delineator No. 1321



Report reviewed by: _____ Date: July 19, 2018

Mark Kjolhaug, Professional Wetland Scientist No. 000845

French Ridge Site

Wetland Delineation Report

Figures:

- Figure 1 – Site Location Map
- Figure 2 – Existing Conditions Map
- Figure 3 – NWI Map
- Figure 4 – Soil Survey Map
- Figure 5 – DNR Protected Waters Map
- Figure 6 – National Hydrography Dataset Map

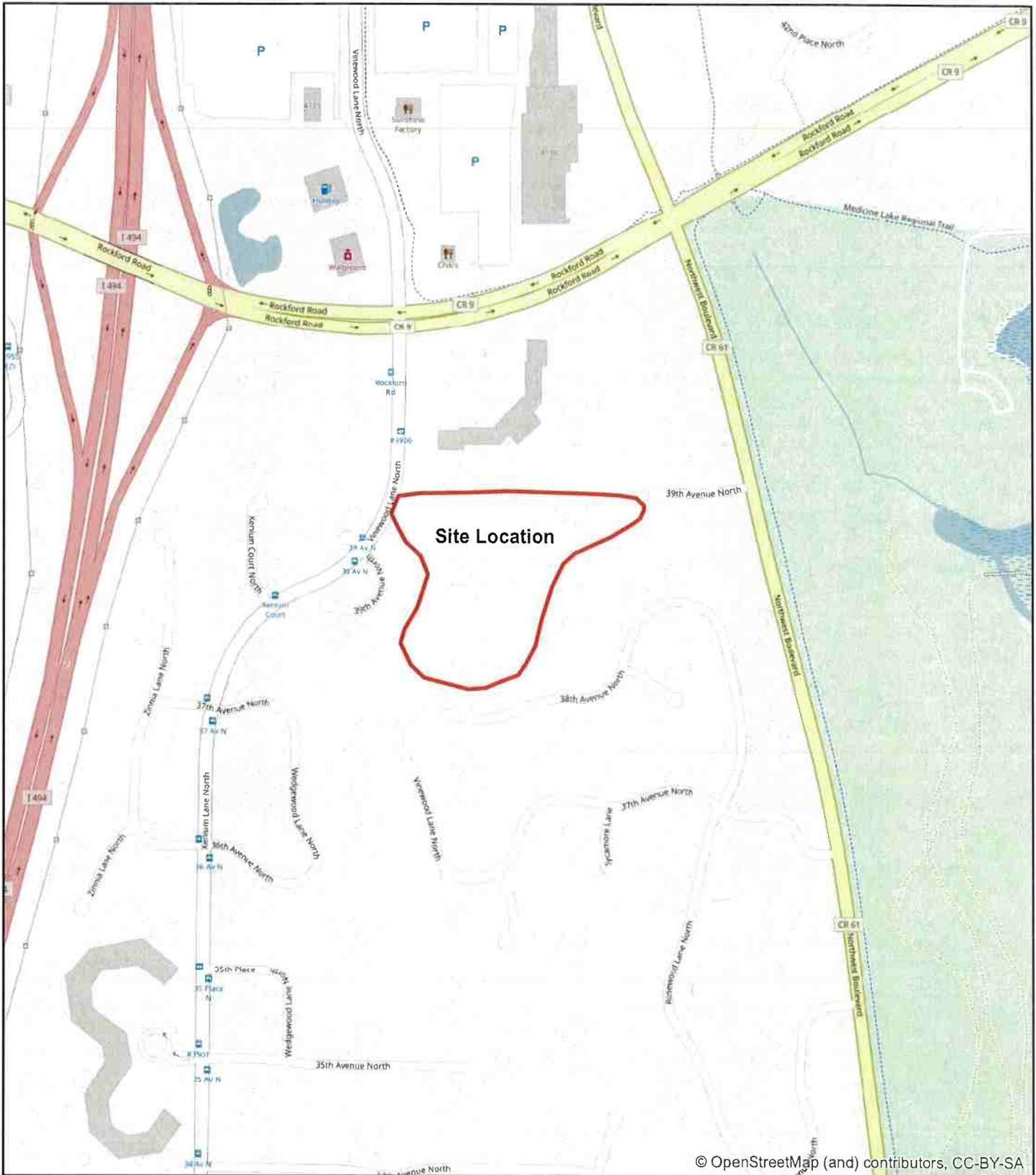


Figure 1 - Site Location Map



N



0 500

Feet

KJØLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: ESRI Streets Basemap

French Ridge (KES 2018-049)
Plymouth, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.



Figure 2 - Existing Conditions



N



0 200



Feet

French Ridge Site (KES 2018-049)
Plymouth, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons



Figure 3 - National Wetlands Inventory

	<p>N</p>	<p>0 200</p> <p>Feet</p>	<p>French Ridge Site (KES 2018-049) Plymouth, Minnesota</p>
<p>KJOLHAUG ENVIRONMENTAL SERVICES COMPANY Source: MNGEO Spatial Commons, USFWS</p>			<p>Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.</p>

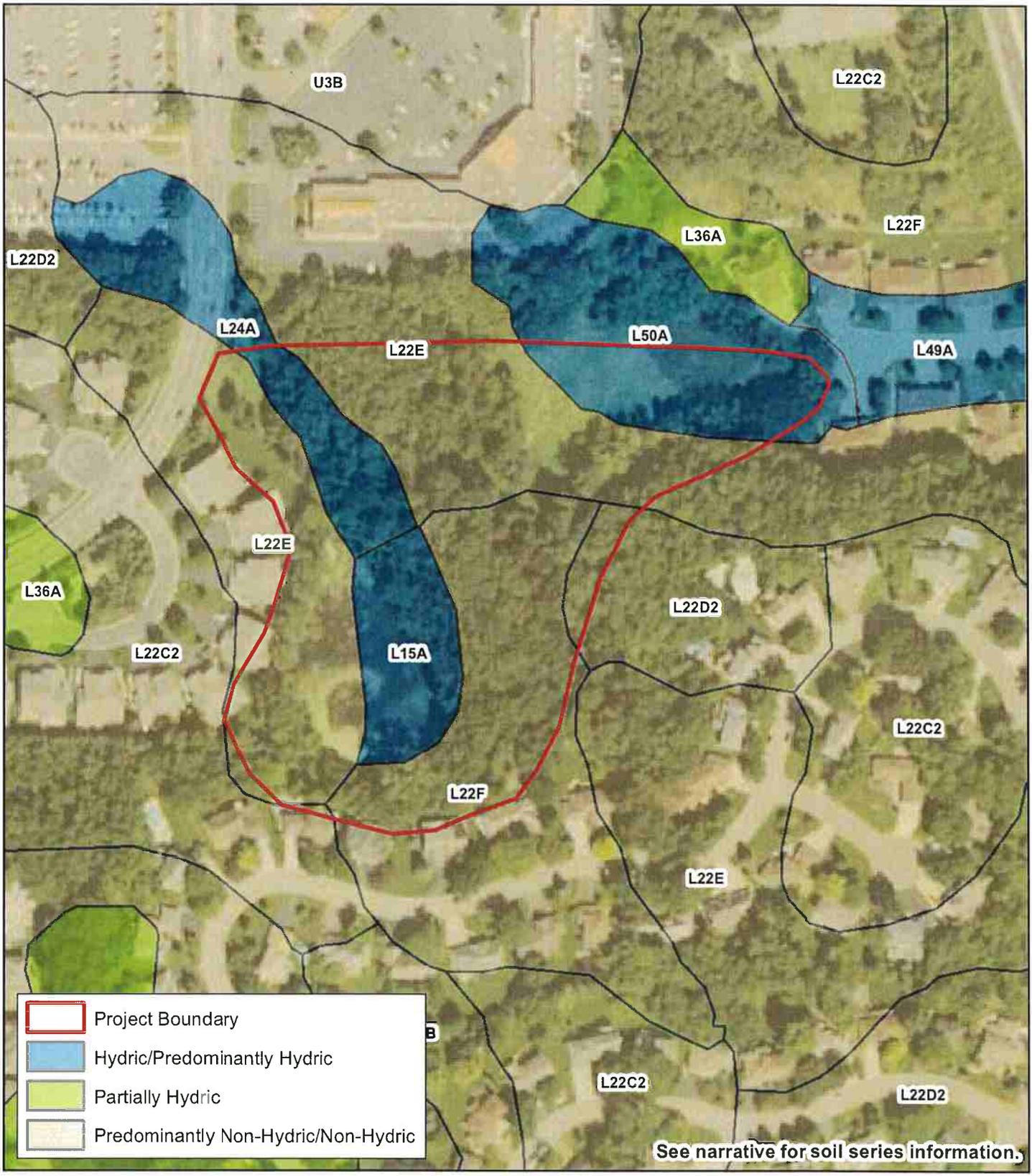


Figure 4 - Soil Survey



N



0 200



Feet

French Ridge Site (KES 2018-049)
Plymouth, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY
 Source: MNGEO Spatial Commons, USDA, NRCS

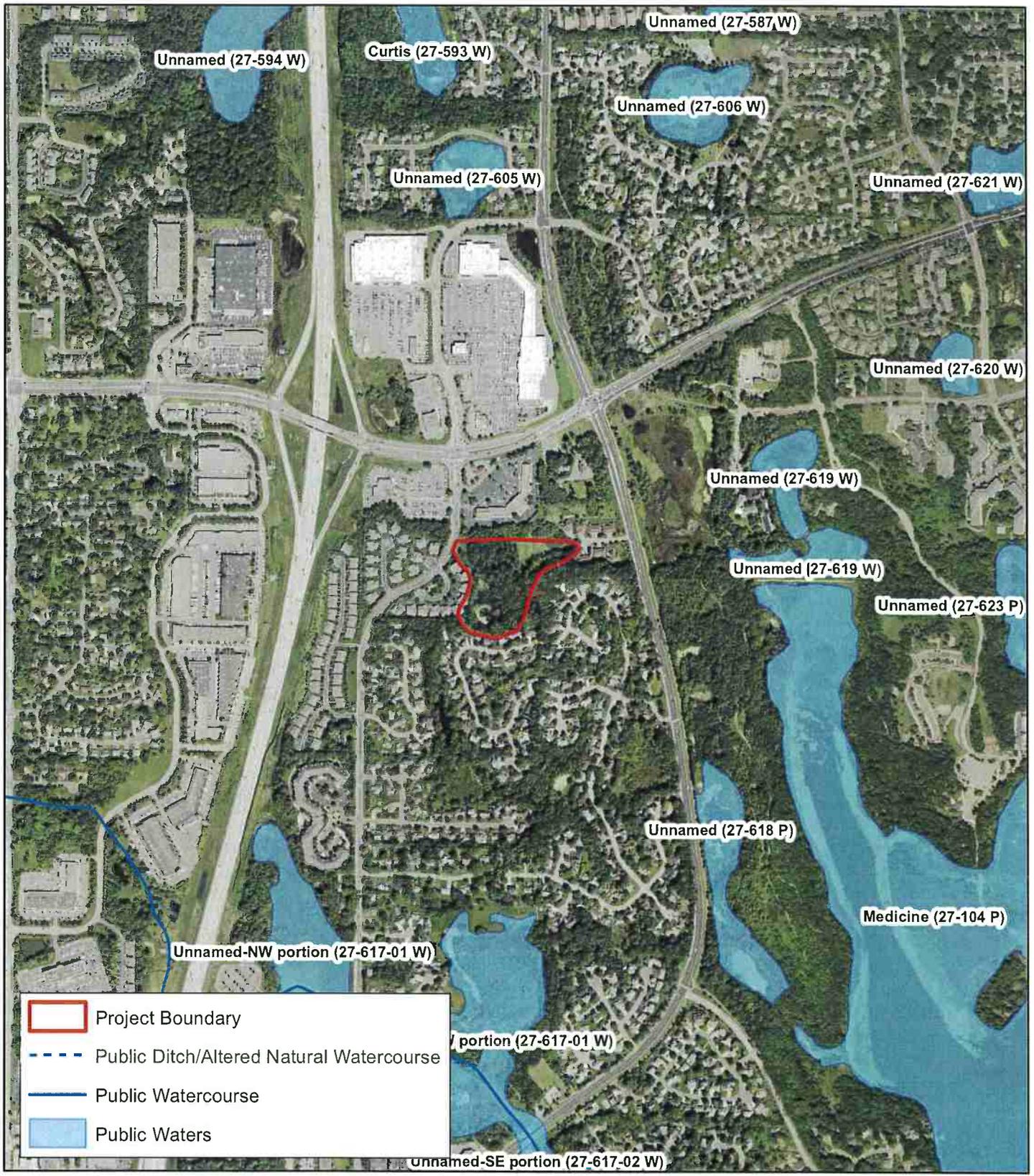


Figure 5 - DNR Public Waters Inventory



KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons, MN DNR

N



0 1,000



Feet

French Ridge Site (KES 2018-049)
Plymouth, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

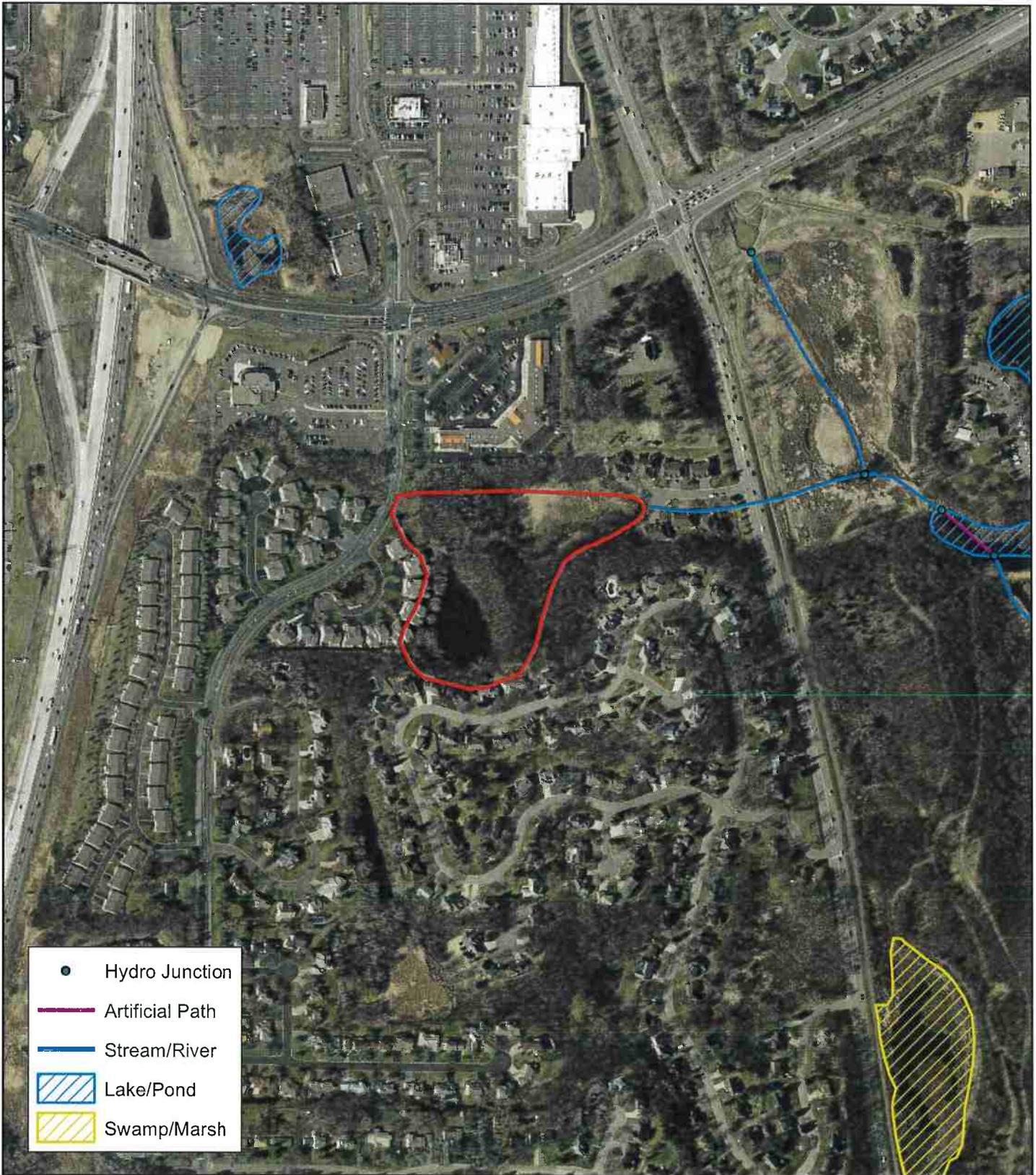


Figure 6 - National Hydrography Dataset



KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons, USGS

N



0 500



Feet

French Ridge Site (KES 2018-049)
Plymouth, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

French Ridge Site

Wetland Delineation Report

Appendix A:

Wetland Delineation Survey

French Ridge Site

Wetland Delineation Report

Appendix B:

Wetland Delineation Data Forms

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site French Ridge Site City/County: Plymouth/Hennepin Sampling Date: 6/1/2018
 Applicant/Owner: Applicant: The City of Plymouth State: MN Sampling Point: SP1-1U
 Investigator(s): A.Cameron, K.Uhler Section, Township, Range: S:15 T:118N R:22W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Linear
 Slope (%): 3 - 5 Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Lester Loam (Non-Hydric) 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 _____, soil _____, or hydrology _____ significantly disturbed? Are "normal circumstances" present? Yes
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? Yes
 (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

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

Remarks: (Explain alternative procedures here or in a separate report.)
 30-day precipitation rolling total drier than normal range. Precipitation from Gridded Database Method drier than typical.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft Radius</u>)	Absolute % Cover	Dominant Species	Indicator Staus
1 <u>Acer negundo</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>
2 <u>Fraxinus pennsylvanica</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>
3 _____			
4 _____			
5 _____			
<u>60</u> = Total Cover			
Sapling/Shrub stratur (Plot size: <u>15 ft Radius</u>)	Absolute % Cover	Dominant Species	Indicator Staus
1 <u>Rhamnus cathartica</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>
2 <u>Frangula alnus</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>
3 _____			
4 _____			
5 _____			
<u>40</u> = Total Cover			
Herb stratum (Plot size: <u>5 ft Radius</u>)	Absolute % Cover	Dominant Species	Indicator Staus
1 <u>Alliaria petiolata</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>
2 <u>Urtica dioica</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>
3 <u>Galium aparine</u>	<u>10</u>	<u>N</u>	<u>FACU</u>
4 <u>Impatiens capensis</u>	<u>10</u>	<u>N</u>	<u>FACW</u>
5 <u>Rheum rhabarbarum</u>	<u>10</u>	<u>N</u>	<u>UPL</u>
6 <u>Parthenocissus quinquefolia</u>	<u>10</u>	<u>N</u>	<u>FACU</u>
7 _____			
8 _____			
9 _____			
10 _____			
<u>80</u> = Total Cover			
Woody vine stratum (Plot size: <u>30 ft Radius</u>)	Absolute % Cover	Dominant Species	Indicator Staus
1 _____			
2 _____			
<u>0</u> = Total Cover			

Dominance Test Worksheet	
Number of Dominant Species that are OBL, FACW, or FAC:	<u>6</u> (A)
Total Number of Dominant Species Across all Strata:	<u>6</u> (B)
Percent of Dominant Species that are OBL, FACW, or FAC:	<u>100.00%</u> (A/B)

Prevalence Index Worksheet	
Total % Cover of:	
OBL species	<u>0</u> x 1 = <u>0</u>
FACW species	<u>80</u> x 2 = <u>160</u>
FAC species	<u>70</u> x 3 = <u>210</u>
FACU species	<u>20</u> x 4 = <u>80</u>
UPL species	<u>10</u> x 5 = <u>50</u>
Column totals	<u>180</u> (A) <u>500</u> (B)
Prevalence Index = B/A =	<u>2.78</u>

Hydrophytic Vegetation Indicators:	
_____	Rapid test for hydrophytic vegetation
<input checked="" type="checkbox"/>	Dominance test is >50%
<input checked="" type="checkbox"/>	Prevalence index is ≤3.0*
_____	Morphogical 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?	<u>Y</u>
--	----------

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

SOIL

Sampling Point: SP1-1U

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 2/1	100					Loam	
10-12	10YR 2/1	75	10YR 4/2	20	D	M	Loam	
			10YR 4/6	5	C	M	Loam	
12-18	10YR 2/1	60	10YR 5/2	40	D	M	Clay Loam	
			10YR 4/6	5	C	M	Clay Loam	
18-30	10YR 2/1	75	10YR 6/2	20	D	M	Clay Loam	
			10YR 4/6	5	C	M	Clay Loam	
30-48	10YR 3/3	100					Sandy 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"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input checked="" type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <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"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)
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*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric soil present? <u>Y</u>
Remarks: _____	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <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)	<u>Secondary Indicators (minimum of two required)</u> <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 checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface water present? Yes _____ No <u>X</u> Depth (inches): _____ Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Indicators of wetland hydrology present? <u>N</u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 Dry to 48".

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site French Ridge Site City/County: Plymouth/Hennepin Sampling Date: 6/1/2018
 Applicant/Owner: Applicant: The City of Plymouth State: MN Sampling Point: SP1-1W
 Investigator(s): A.Cameron, K.Uhler Section, Township, Range: S:15 T:118N R:22W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 0 - 2 Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Lester Loam (Non-Hydric) vWI 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" present? Yes
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? present? Yes
 (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>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
If yes, optional wetland site ID: <u>Wetland 1</u>	

Remarks: (Explain alternative procedures here or in a separate report.)
30-day precipitation rolling total drier than normal range. Precipitation from Gridded Database Method drier than typical.

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft Radius</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>100.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		
Sapling/Shrub stratum	(Plot size: <u>15 ft Radius</u>)				Prevalence Index Worksheet Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>90</u> x 2 = <u>180</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>90</u> (A) <u>180</u> (B) Prevalence Index = B/A = <u>2.00</u>
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		
Herb stratum	(Plot size: <u>5 ft Radius</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	<u>Phalaris arundinacea</u>	<u>90</u>	<u>Y</u>	<u>FACW</u>	
2					
3					
4					
5					
6					
7					
8					
9					
10					
		<u>90</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30 ft Radius</u>)				Hydrophytic vegetation present? <u>Y</u>
1					
2					
		<u>0</u>	= Total Cover		

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

SOIL

Sampling Point: SP1-1W

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**		
0-4	10YR 2/1	100					Mucky clay loam	
4-8	10YR 4/1	85	10YR 4/6	15	C	M	Mucky clay loam	
8-10	10YR 6/1	80	10YR 4/6	20	C	M	Mucky clay loam	
10-16	10YR 2/1	90	10YR 4/6	10	C	M	Mucky 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"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <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"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)
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*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric soil present? <u>Y</u>
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)			Secondary Indicators (minimum of two required)		
<input type="checkbox"/> Surface Water (A1) <input checked="" 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 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)	<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 checked="" 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>6</u> Saturation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Indicators of wetland hydrology present? <u>Y</u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site French Ridge Site City/County: Plymouth/Hennepin Sampling Date: 6/1/2018
 Applicant/Owner: Applicant: The City of Plymouth State: MN Sampling Point: SP2-1U
 Investigator(s): A.Cameron, K.Uhler Section, Township, Range: S:15 T:118N R:22W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Linear
 Slope (%): 3 - 5 Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name Glencoe Clay Loam (Hydric) vWI 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? 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: _____
Hydric soil present?	<u>Y</u>	
Indicators of wetland hydrology present?	<u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)
 30-day precipitation rolling total drier than normal range. Precipitation from Gridded Database Method drier than typical.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft Radius</u>)	Absolute % Cover	Dominant Species	Indicator Staus	Dominance Test Worksheet	
1 <u>Tilia americana</u>	30	Y	FACU		Number of Dominant Species that are OBL, FACW, or FAC: <u>3</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>75.00%</u> (A/B)
2 <u>Ulmus americana</u>	10	Y	FACW		
3 _____					
4 _____					
5 _____					
40 = Total Cover				Prevalence Index Worksheet	
Sapling/Shrub stratur (Plot size: <u>15 ft Radius</u>)					
1 <u>Rhamnus cathartica</u>	60	Y	FAC		Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>15</u> x 2 = <u>30</u> FAC species <u>80</u> x 3 = <u>240</u> FACU species <u>40</u> x 4 = <u>160</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>135</u> (A) <u>430</u> (B) Prevalence Index = B/A = <u>3.19</u>
2 _____					
3 _____					
4 _____					
5 _____					
60 = Total Cover				Hydrophytic Vegetation Indicators:	
Herb stratum (Plot size: <u>5 ft Radius</u>)					
1 <u>Rhamnus cathartica</u>	20	Y	FAC		<input type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input type="checkbox"/> 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 <u>Parthenocissus quinquefolia</u>	5	N	FACU		
3 <u>Arisaema triphyllum</u>	5	N	FACW		
4 <u>Maianthemum racemosum</u>	5	N	FACU		
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
35 = Total Cover				Hydrophytic vegetation present? <u>Y</u>	
Woody vine stratum (Plot size: <u>30 ft Radius</u>)					
1 _____					
2 _____					
0 = Total Cover					

Remarks: (Include photo numbers here or on a separate sheet)
 Prevalence index greater than 3.0

SOIL

Sampling Point: SP2-1U

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**		
0-6	10YR 2/1	100					Sandy Loam	Restrictive Layer Present

*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"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <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"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input checked="" type="checkbox"/> Other (explain in remarks)
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*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed): Type: <u>Gravel, unable to auger further</u> Depth (inches): <u>6</u>	Hydric soil present? <u>Y</u>
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Remarks:
Assumed depleted layer at some depth.

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
<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)	<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 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 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? <u>Y</u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site French Ridge Site City/County: Plymouth/Hennepin Sampling Date: 6/1/2018
 Applicant/Owner: Applicant: The City of Plymouth State: MN Sampling Point: SP2-1W
 Investigator(s): A.Cameron, K.Uhler Section, Township, Range: S:15 T:118N R:22W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 0 - 2 Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Glencoe Clay Loam (Hydric) 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 _____, soil _____, or hydrology _____ significantly disturbed? Are "normal circumstances" present? Yes
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? present? Yes
 (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 2</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.)
30-day precipitation rolling total drier than normal range. Precipitation from Gridded Database Method drier than typical.

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft Radius</u>)	Absolute % Cover	Dominant Species	Indicator		
1	<u>Fraxinus pennsylvanica</u>	30	Y	FACW	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across all Strata: <u>5</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>80.00%</u> (A/B)	
2	<u>Populus grandidentata</u>	10	Y	FACU		
3	<u>Populus deltoides</u>	10	Y	FAC		
4	_____					
5	_____					
		50	= Total Cover		Prevalence Index Worksheet Total % Cover of: OBL species <u>10</u> x 1 = <u>10</u> FACW species <u>30</u> x 2 = <u>60</u> FAC species <u>70</u> x 3 = <u>210</u> FACU species <u>10</u> x 4 = <u>40</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>120</u> (A) <u>320</u> (B) Prevalence Index = B/A = <u>2.67</u>	
Sapling/Shrub stratum	(Plot size: <u>15 ft Radius</u>)					
1	<u>Rhamnus cathartica</u>	60	Y	FAC		
2	_____					
3	_____					
4	_____					
5	_____					
		60	= Total Cover			
Herb stratum	(Plot size: <u>5 ft Radius</u>)					
1	<u>Lemna major</u>	10	Y	OBL	Hydrophytic Vegetation Indicators: _____ Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> 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	_____					
3	_____					
4	_____					
5	_____					
6	_____					
7	_____					
8	_____					
9	_____					
10	_____					
		10	= Total Cover			
Woody vine stratum	(Plot size: <u>30 ft Radius</u>)					
1	_____				Hydrophytic vegetation present? <u>Y</u>	
2	_____					
		0	= Total Cover			

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

SOIL

Sampling Point: SP2-1W

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 2/1	100					Mucky Loam	
10-48	10YR 2/1	85	10YR 4/6	10	C	M	Sandy Loam	
			10YR 4/2	5	D	M	Sandy Loam	

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

<p>Hydric Soil Indicators:</p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input checked="" type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p>Indicators for Problematic Hydric Soils:</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p>Restrictive Layer (if observed):</p> <p>Type: _____</p> <p>Depth (inches): _____</p> <p>Remarks: _____</p>	<p>Hydric soil present? <u>Y</u></p>
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HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input checked="" type="checkbox"/> High Water Table (A2)</p> <p><input checked="" type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input checked="" type="checkbox"/> Geomorphic Position (D2)</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</p>
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<p>Field Observations:</p> <p>Surface water present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____</p> <p>Water table present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>3</u></p> <p>Saturation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u></p> <p>(includes capillary fringe)</p>	<p>Indicators of wetland hydrology present? <u>Y</u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: _____

French Ridge Site

Wetland Delineation Report

Appendix C:

Precipitation Information

French Ridge Site, Plymouth MN: Precipitation Summary
Source: Minnesota Climatology Working Group

Monthly Totals: 2018

Target: T118 R22 S15

mon	year	cc	tttN	rrW	ss	nnnn	oooooooo	pre (inches)
Jan	2018	27	118N	21W	20	NWS	NEW HOPE	1.30
Feb	2018	27	118N	21W	20	NWS	NEW HOPE	1.50
Mar	2018	27	118N	21W	20	NWS	NEW HOPE	1.46
Apr	2018	27	118N	21W	20	NWS	NEW HOPE	2.73
May	2018	27	119N	22W	33	BYRG		2.15

March / April / May Daily Records

Mar 1, 2018	0
Mar 2, 2018	0
Mar 3, 2018	0
Mar 4, 2018	.06
Mar 5, 2018	.46
Mar 6, 2018	.10
Mar 7, 2018	0
Mar 8, 2018	0
Mar 9, 2018	0
Mar 10, 2018	T
Mar 11, 2018	T
Mar 12, 2018	0
Mar 13, 2018	0
Mar 14, 2018	0
Mar 15, 2018	0
Mar 16, 2018	0
Mar 17, 2018	0
Mar 18, 2018	0
Mar 19, 2018	0
Mar 20, 2018	.11
Mar 21, 2018	0
Mar 22, 2018	0
Mar 23, 2018	0
Mar 24, 2018	0
Mar 25, 2018	0
Mar 26, 2018	.36
Mar 27, 2018	T
Mar 28, 2018	m
Mar 29, 2018	m
Mar 30, 2018	T
Mar 31, 2018	.37

Apr 1, 2018	0
Apr 2, 2018	.22
Apr 3, 2018	.47
Apr 4, 2018	T
Apr 5, 2018	T
Apr 6, 2018	0
Apr 7, 2018	0
Apr 8, 2018	.14
Apr 9, 2018	.02
Apr 10, 2018	T
Apr 11, 2018	T
Apr 12, 2018	.02
Apr 13, 2018	.29
Apr 14, 2018	1.16
Apr 15, 2018	.40
Apr 16, 2018	0
Apr 17, 2018	0
Apr 18, 2018	0
Apr 19, 2018	0
Apr 20, 2018	0
Apr 21, 2018	0
Apr 22, 2018	0
Apr 23, 2018	0
Apr 24, 2018	0
Apr 25, 2018	0
Apr 26, 2018	0
Apr 27, 2018	m
Apr 28, 2018	0
Apr 29, 2018	0
Apr 30, 2018	.01

May 1, 2018	0
May 2, 2018	.10
May 3, 2018	0
May 4, 2018	0
May 5, 2018	0
May 6, 2018	.05
May 7, 2018	0
May 8, 2018	0
May 9, 2018	.19
May 10, 2018	.02
May 11, 2018	-
May 12, 2018	-
May 13, 2018	.01
May 14, 2018	0
May 15, 2018	.14
May 16, 2018	0
May 17, 2018	0
May 18, 2018	0
May 19, 2018	.09
May 20, 2018	0
May 21, 2018	0
May 22, 2018	0
May 23, 2018	0
May 24, 2018	0
May 25, 2018	-
May 26, 2018	-
May 27, 2018	-
May 28, 2018	-
May 29, 2018	-
May 30, 2018	1.47
May 31, 2018	.08

1981-2010 Summary Statistics															
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	WARM	ANN	WAT
30%	0.53	0.41	1.29	2.02	2.78	3.42	2.55	3.26	2.20	1.29	1.06	0.67	17.41	28.55	27.63
70%	1.07	0.93	1.98	2.96	4.27	5.64	4.52	5.12	3.74	3.40	2.07	1.42	21.70	34.10	34.58
mean	0.82	0.78	1.82	2.73	3.62	4.51	4.16	4.17	3.39	2.48	1.72	1.17	19.85	31.39	31.19

Minnesota State Climatology Office

State Climatology Office - DNR Division of Ecological and Water Resources University of Minnesota

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Precipitation Worksheet Using Gridded Database

Precipitation data for target wetland location:

county: **Hennepin** township number: **118N**
 township name: **Plymouth** range number: **22W**
 nearest community: **Plymouth** section number: **15**

Aerial photograph or site visit date:

Friday, June 1, 2018

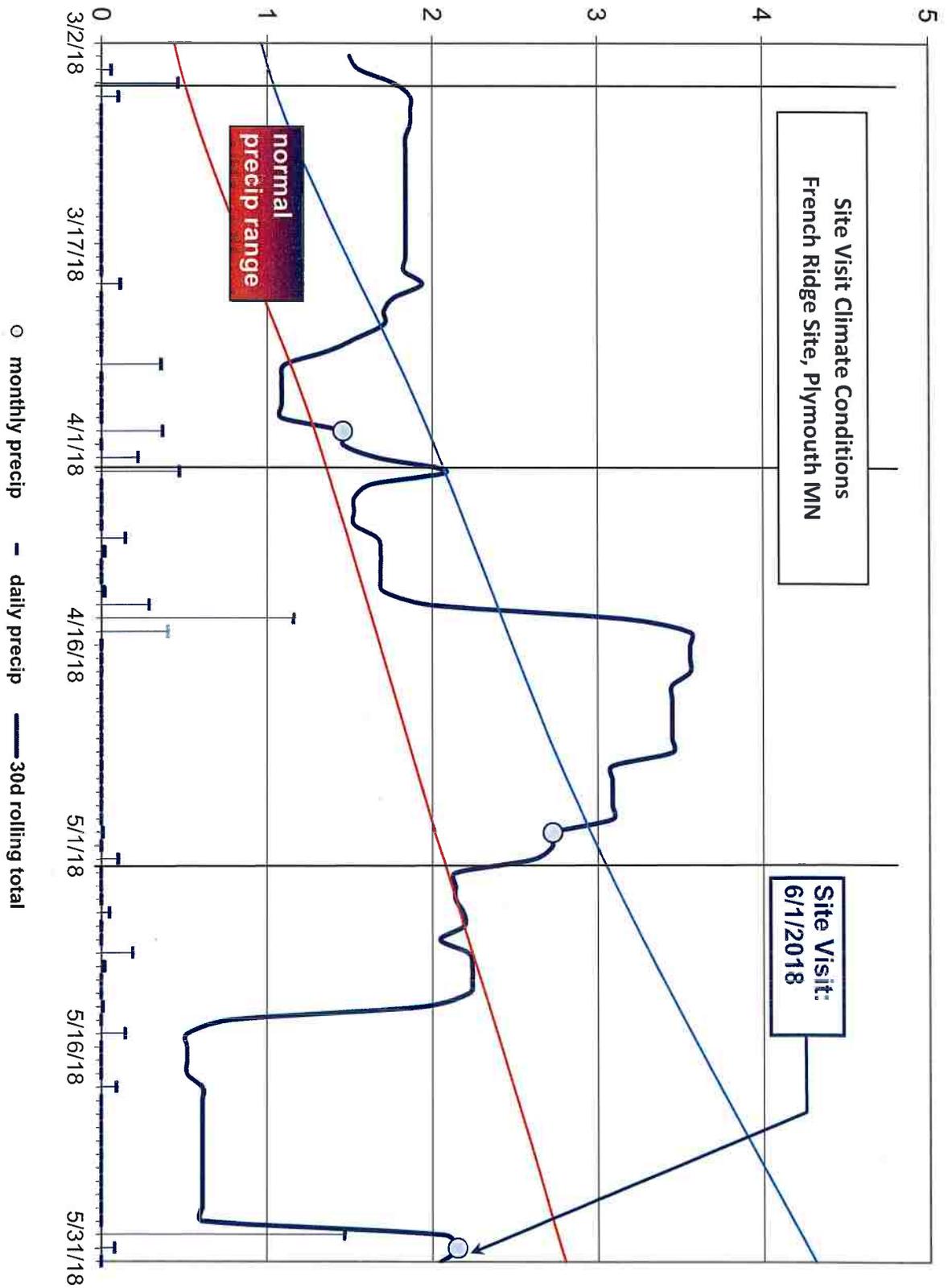
Score using 1981-2010 normal period

values are in inches A 'R' following a monthly total indicates a provisional value derived from radar-based estimates.	first prior month: May 2018	second prior month: April 2018	third prior month: March 2018
estimated precipitation total for this location:	2.47R	2.62R	1.27R
there is a 30% chance this location will have less than:	2.78	2.02	1.29
there is a 30% chance this location will have more than:	4.27	2.96	1.98
type of month: dry normal wet	dry	normal	dry
monthly score	3 * 1 = 3	2 * 2 = 4	1 * 1 = 1
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	8 (Dry)		

Other Resources:

- [retrieve daily precipitation data](#)
- [view radar-based precipitation estimates](#)
- [view weekly precipitation maps](#)
- [Evaluating Antecedent Precipitation Conditions \(BWSR\)](#)

Daily and monthly total precipitation (inches)



French Ridge Site

Wetland Delineation Report

Appendix D:

Joint Application Form for Activities Affecting Water Resources in Minnesota

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.

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: The City of Plymouth
Mailing Address: 3400 Plymouth Boulevard, Plymouth MN 55447
Phone: 763-509-5000
E-mail Address: -

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

Mailing Address:
Phone:
E-mail Address:

Agent Name: Adam Cameron
Mailing Address: 2500 Shadywood Road #130, Orono MN 55331
Phone: 952-401-8757 Ext. #106
E-mail Address: Adam@kjolhaugenv.com

PART TWO: Site Location Information

County: Hennepin **City/Township:** City of Plymouth

Parcel ID and/or Address: Numerous, See Figure 1

Legal Description (Section, Township, Range): S: 15/35/36 T: 118N/118N/118N R: 22W/22W/22W

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): French Ridge 9.1 ac, Ivanhoe 5.5ac, St. Mary's 5.6ac

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.

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: Debra Anke Date: 7/19/18

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.

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>

St. Mary's Park Site

Plymouth, Minnesota

Wetland Delineation Report

Prepared for
The City of Plymouth

by
Kjolhaug Environmental Services Company, Inc.
(KES Project No. 2018-049)

July 19, 2018

WETLAND DELINEATION SUMMARY

- The St. Mary's Park Site was inspected on June 1, 2018 for the presence and extent of wetland.
- The NWI map showed one PUBG, one PEM1F and one PEM1C/PFO1A/PABG wetland within the site boundaries.
- The Soil Survey map showed Klossner (Hydric) as the hydric soil type mapped on the site.
- The DNR Public Waters map showed one DNR Public Wetland (Unnamed 27-701 W) approximately 90 feet east of the site boundaries.
- The NHD map showed one Lake/Pond corresponding to Wetland 1, and one Canal/Ditch located east of the site that receives drainage from Wetland 3.
- Three wetlands were delineated within the site boundaries, as described below in **Table 1**:

Table 1. Wetland delineated on the St. Mary's Park Site

Wetland ID	Wetland Type			Dominant Vegetation
	Circular 39	Cowardin	Eggers and Reed	
1/1A	Type 3/5	PEM1C/PABG	Open Water, Shallow Marsh	Open water, cattail, reed canary grass
2	Type 3/5	PEM1C/PUBG	Open Water, Shallow Marsh	Open water, cattail, reed canary grass
3	Type 1	PEM1A	Seasonally flooded basin	Reed canary grass

St. Mary's Park Site

Plymouth, Minnesota

Wetland Delineation Report

I. INTRODUCTION

The 5.6-acre St. Mary's Park Site was inspected on June 1, 2018 for the presence and extent of wetland. The property was located in Section 35, Township 118N, Range 22W, Plymouth, Hennepin County, Minnesota. The site was located south of HWY 55 adjacent to Forestview Lane North **Figure 1**). The site limits correspond to numerous privately owned parcels.

The site consisted residential lots with areas mowed lawn, woodland and paved trails. Surrounding land use consisted of single-family residential and commercial. The topography was highest on the northwest portion of the project limits at 916 ft MSL, sloping to 904 ft MSL on the eastern portion of the project limits.

Three (3) wetlands were identified and delineated within the site boundaries (**Figure 2**).

II. METHODS

Wetlands were identified using Routine Determination methodology described in the Corps of Engineers Wetland Delineation Manual (Waterways Experiment Station, 1987) and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0) as required under Section 404 of the Clean Water Act and the Minnesota Wetland Conservation Act.

Wetland boundaries were identified as the upper-most extent of wetland that met criteria for hydric soils, hydrophytic vegetation, and wetland hydrology. Wetland-upland boundaries were marked with pin flags and will be surveyed by land surveyors from Hansen Thorp Pellinen Olson, Inc.

Soils, vegetation, and hydrology were documented at a representative location along the wetland-upland boundary. Plant species dominance was estimated based on the percent aerial or basal coverage visually estimated within a 30-foot radius for trees and vines, a 15-foot radius for the shrub layer, and a 5-foot radius for the herbaceous layer within the community type sampled.

Soils were characterized to a minimum depth of 18-24 inches (unless otherwise noted) utilizing Munsell Soil Color Charts and standard soil texturing methodology. Hydric soil indicators used in reporting are from Field Indicators of Hydric Soils in the United States (USDA Natural Resources Conservation Service in cooperation with the National Technical Committee for Hydric Soils, Version 7, 2010).

Mapped soils are separated into five classes based on the percent composition of hydric components and the Hydric Rating by Map Unit color classes utilized on Web Soil Survey. The five classes include Hydric (100 percent hydric components), Predominantly Hydric (66 to 99 percent hydric components), Partially Hydric (33 to 65 percent hydric components), Predominantly Non-Hydric (1 to 32 percent hydric components), and Non-Hydric (less than one percent hydric components).

Plants were identified using standard regional plant keys. Taxonomy and indicator status of plant species was taken from the 2016 National Wetland Plant List (U.S. Army Corps of Engineers 2016. National Wetland Plant List, version 3.2, https://wetland_plants.usace.army.mil Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory, Hanover, NH).

III. RESULTS

Review of NWI, Soils, and DNR Information

The *National Wetlands Inventory (NWI)* (Minnesota Geospatial Commons 2009-2014, <https://gisdata.mn.gov/dataset/water-nat-wetlands-inv-2009-2014>) showed one PUBG, one PEM1F and one PEM1C/PFO1A/PABG wetland within the site boundaries (**Figure 3**).

The Soil Survey of Hennepin County, Minnesota

(<http://soils.usda.gov/survey/geography/ssurgo/>) showed Klossner (Hydric) as the hydric soil type mapped on the site. A table of soil series data and hydric ratings is shown below in **Table 2** and illustrated on the soil survey map (**Figure 4**).

Table 2. Soil series information

Map unit symbol	Map unit name	Hydric Rating	Acres in AOI	Percent of AOI
U2A	Udorthents, wet substratum, 0 to 2 percent slopes	Non-Hydric	3.10	55.3
L49A	Klossner soils	Hydric	1.62	29.0
U1A	Urban land-Udorthents, wet substratum, complex, 0 to 2 percent slopes	Non-Hydric	0.46	8.2
L22E	Lester loam, 10 to 22 percent slopes	Non-Hydric	0.20	3.6
U6B	Urban land-Udorthents (cut and fill land) complex, 0 to 6 percent slopes	Non-Hydric	0.10	1.8
L22C2	Lester loam, 6 to 10 percent slopes	Predominantly Non-Hydric	0.08	1.5

The Minnesota *DNR Public Waters Map, Hennepin County* (<https://gisdata.mn.gov/dataset/water-mn-public-waters>) showed one DNR Public Wetland (Unnamed 27-701 W) approximately 90 feet east of the site boundaries (**Figure 5**).

The **National Hydrography Dataset** (U.S. Geological Survey, <http://nhd.usgs.gov/>) showed one Lake/Pond corresponding to Wetland 1, and one Canal/Ditch located east of the site that receives drainage from Wetland 3 (**Figure 6**).

Wetland Determinations and Delineations

Potential wetlands were evaluated in greater detail during field observations on June 1, 2018. A copy of the wetland boundary survey has been included as **Appendix A**. Three wetlands were identified and delineated on the property (**Figure 2**). Corresponding data forms are included in **Appendix B**. The following description of the wetland and the adjacent upland reflects conditions observed at the time of the field visit. The site visit was conducted during the growing season, with actively growing vegetation present onsite. Precipitation conditions were drier than typical based on the gridded database method (3-month antecedent conditions), and drier than the normal range based on available 30-day rolling precipitation data (**Appendix C**). The site experience 1.75 inches of rainfall in the 7 days preceding the site visit. The Joint Application Form has been included as **Appendix D**.

Wetland 1/1A was a Type 3/5 (PEM1C/PUBG) open water and shallow marsh wetland. The open water portion of the wetland lacked vegetation, while the shallow marsh portion was dominated by cattail with a fringe of reed canary grass and a lesser amount of giant goldenrod. Wetland 1/1A was inundated with approximately 6 inches of water in the shallow marsh portion of the wetland, with water estimated 3 feet or deeper in the open water portion.

Adjacent upland consisted of mowed lawn and woodland dominated by a canopy of green ash, cottonwood and boxelder trees, with an understory of common buckthorn and Virginia creeper. Primary and secondary hydrology indicators were not observed on the upland.

The delineated boundary followed a change in vegetation from wetland to upland plant communities, as well as a distinct change in topography. Wetland 1/1A was shown as a PFO1A/PABG/PEM1C wetland on the NWI map, and was located within an area mapped as Udorthents (Non-Hydric) and Klossner (Hydric) on the soil survey. Wetland 1/1A was connected to Wetland 2 through a culvert draining to the north.

Wetland 2 was a Type 3/5 (PEM1C/PUBG) open water and shallow marsh wetland. The open water portion of the wetland lacked vegetation, while the shallow marsh portion was dominated by cattail. Wetland 2 was inundated with approximately 6 inches of water in the shallow marsh portion of the wetland. The open water portion of Wetland 2 was channelized, and contained approximately 2-4 feet of water.

Adjacent upland consisted of mowed lawn and woodland dominated by a canopy of green ash, cottonwood and boxelder trees, with an understory of common buckthorn and Virginia creeper. Primary and secondary hydrology indicators were not observed on the upland.

The delineated boundary followed a change in vegetation from wetland to upland plant communities, as well as a distinct change in topography. Wetland 2 was shown as a PEM1F wetland on the NWI map, and was located within an area mapped as Klosser (Hydric) on the soil survey. Wetland 2 drained eastward into Wetland 3 through a culvert under Forestview Lane North.

Wetland 3 was a Type 1 (PEM1A) seasonally flooded wetland consisting of grassed waterways dominated by reed canary grass. Wetland 3 was saturated at the surface on the western portion of the wetland, and inundated with approximately 6 inches of water on the eastern portion.

Adjacent upland consisted of mowed road right of way, as well as a narrow strip of woodland dominated by green ash and cottonwood trees with a dense shrub layer of common buckthorn. Primary and secondary hydrology indicators were not observed on the upland.

The delineated boundary followed a change in vegetation from wetland to upland plant communities, as well as a distinct change in topography. Wetland 3 was shown as a PUBG wetland on the NWI map, and was located within an area mapped as Udorthents (Non-Hydric) on the soil survey. Wetland 3 drained offsite to the northeast towards Medicine Lake.

Other Areas

No other areas with hydrophytic vegetation or wetland hydrology were observed on the site. No other areas were shown as hydric soil on the soil survey or as wetland on the NWI map.

IV. CERTIFICATION OF DELINEATION

The procedures utilized in the described delineation are based on the COE 1987 Wetland Delineation Manual as required by Section 404 of the Clean Water Act and the Minnesota Wetland Conservation Act. Both the delineation and report were conducted in compliance with regulatory standards in place at the time the work was completed.

All site boundaries indicated on figures within this report are approximate and do not constitute an official survey product.

Delineation Completed by: Adam Cameron, Wetland Ecologist
Minnesota Certified Wetland Delineator No. 1321
Kyle Uhler, Wetland Project Assistant

Report Prepared by: Adam Cameron, Wetland Ecologist
Minnesota Certified Wetland Delineator No. 1321



Report reviewed by: _____ Date: July 19, 2018

Mark Kjolhaug, Professional Wetland Scientist No. 000845

St. Mary's Park Site

Wetland Delineation Report

Figures:

- Figure 1 – Site Location Map
- Figure 2 – Existing Conditions Map
- Figure 3 – NWI Map
- Figure 4 – Soil Survey Map
- Figure 5 – DNR Protected Waters Map
- Figure 6 – National Hydrography Dataset Map

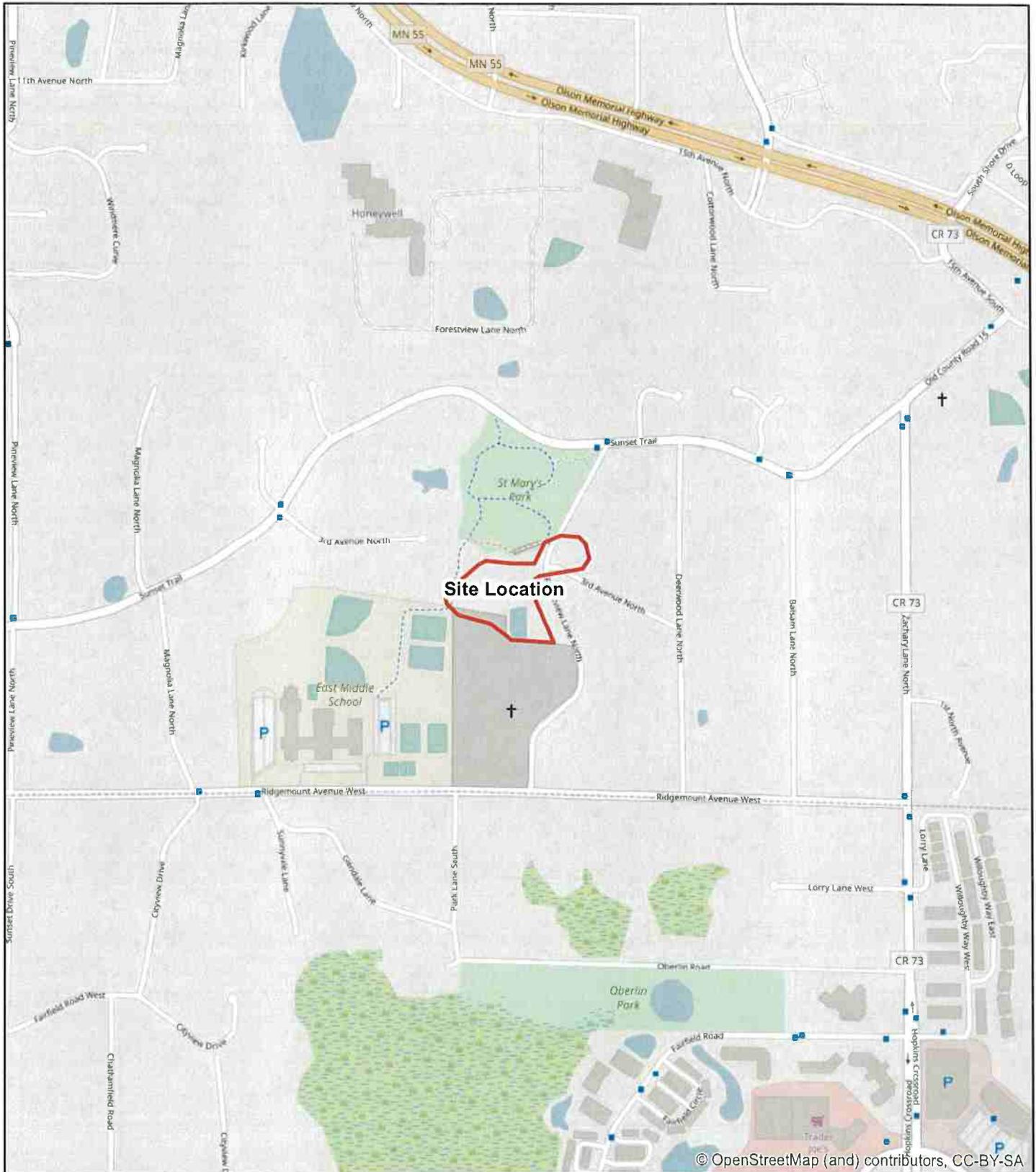


Figure 1 - Site Location Map



N



0 800 Feet



KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: ESRI Streets Basemap

St. Mary's Park Site (KES 2018-049)
Plymouth, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

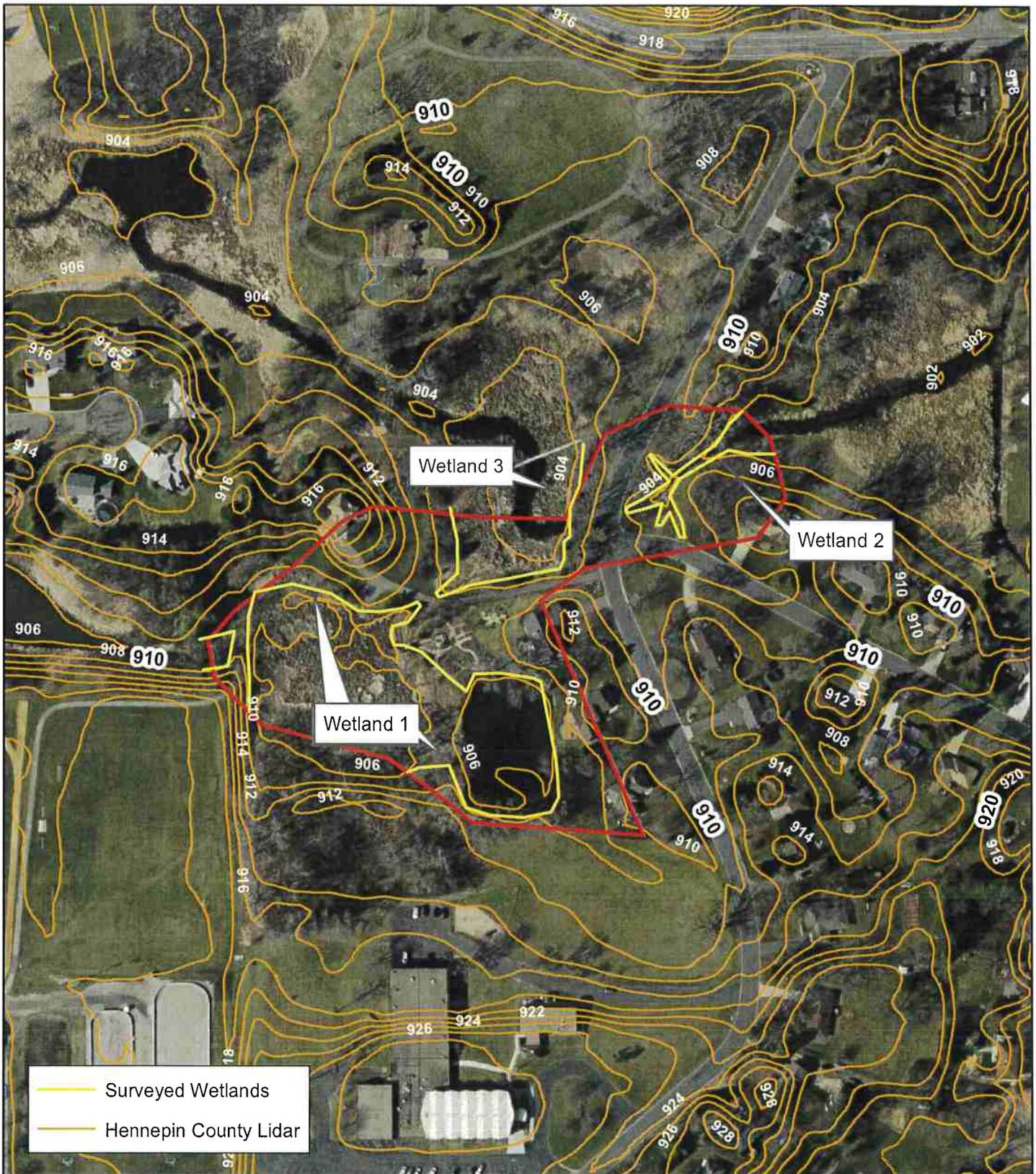


Figure 2 - Existing Conditions



KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons

N



0 200



Feet

St. Mary's Park Site (KES 2018-049)
Plymouth, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.



Figure 3 - National Wetlands Inventory



KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons, USFWS

N



0 200



Feet

St. Mary's Park Site (KES 2018-049)
Plymouth, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

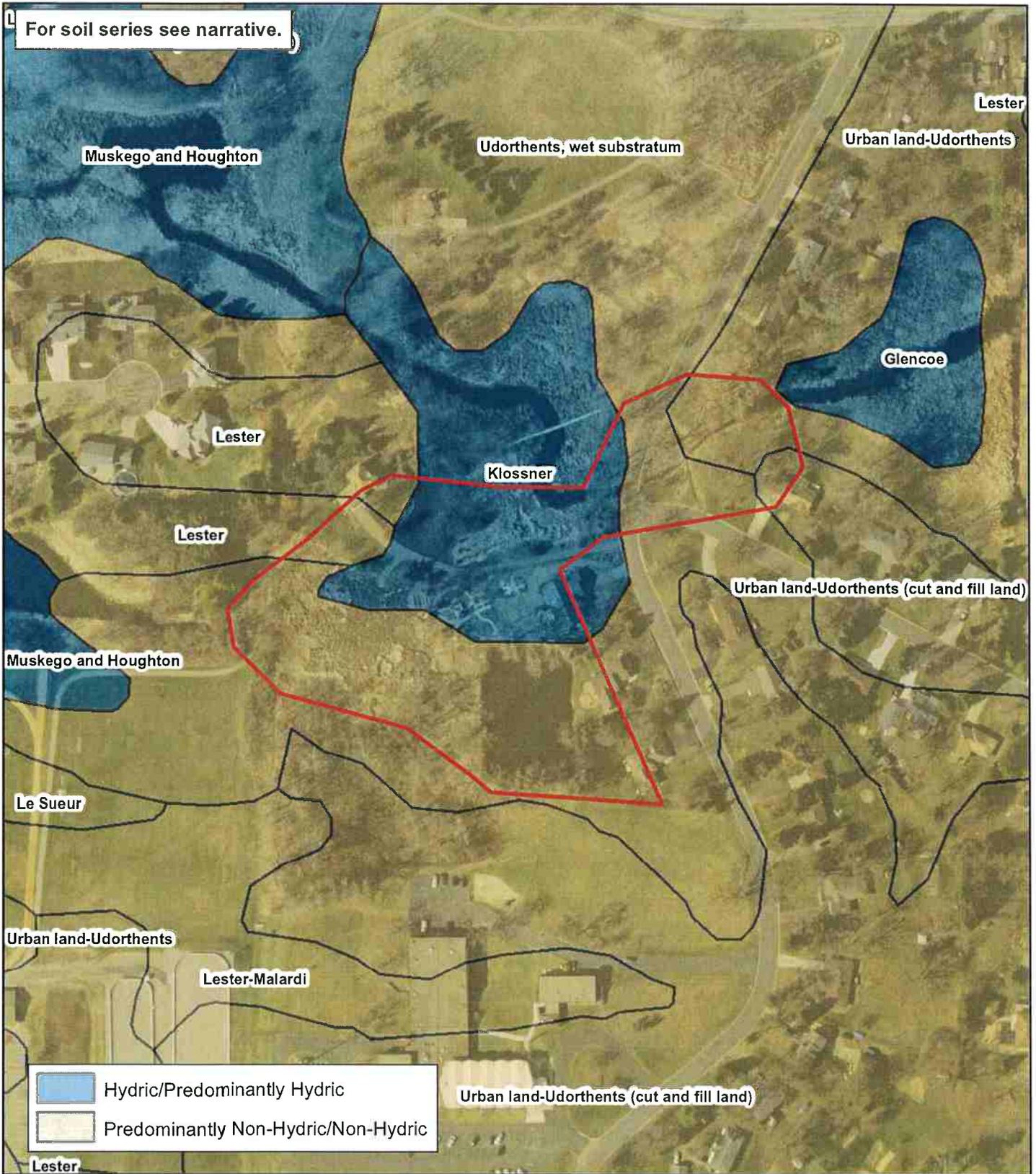


Figure 4 - Soil Survey



N



0 200



Feet

St. Mary's Park Site (KES 2018-049)
Plymouth, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons, USDA, NRCS



Figure 5 - DNR Public Waters Inventory



N



0 300 Feet



St. Mary's Park Site (KES 2018-049)
Plymouth, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons, MN DNR

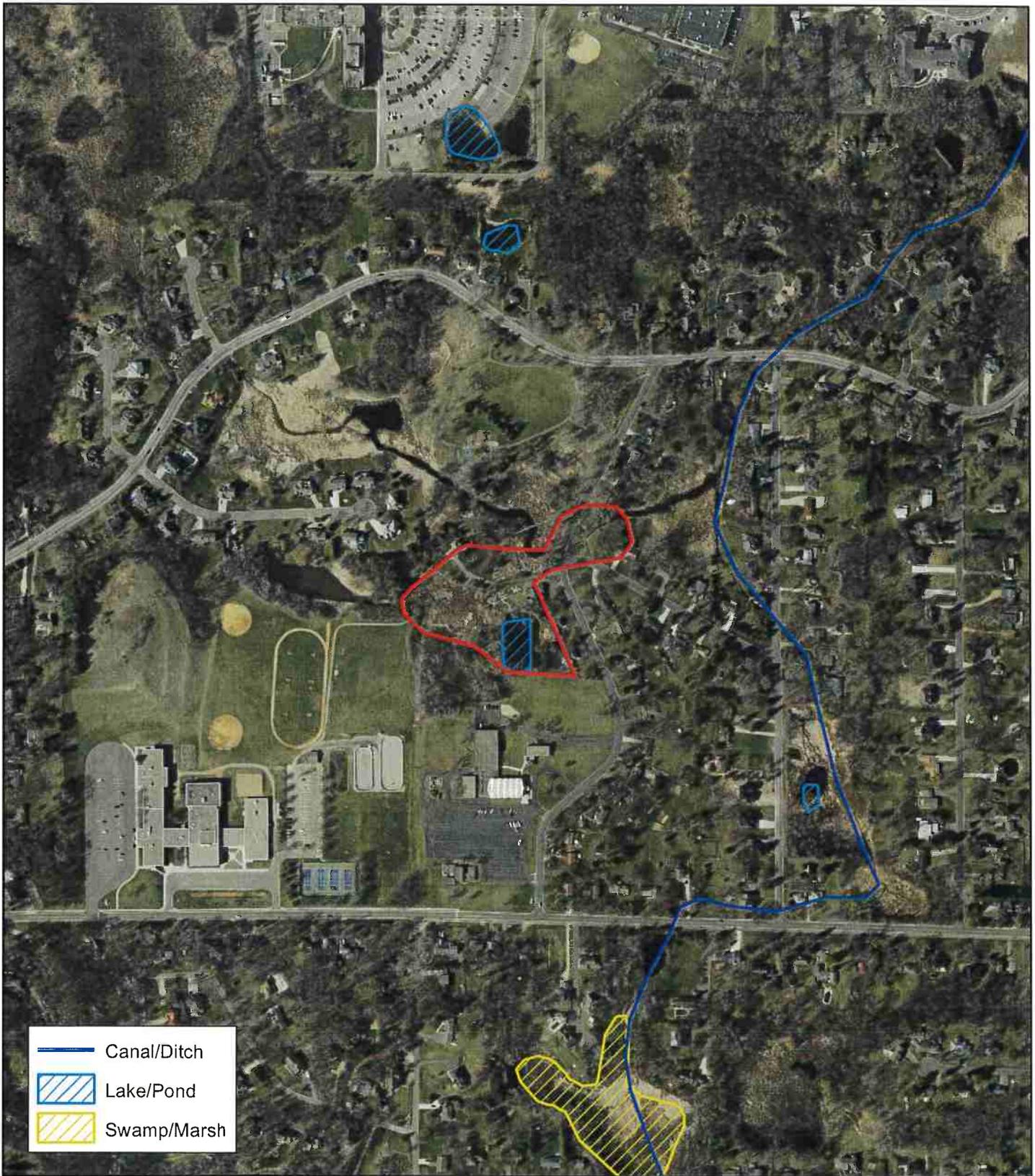


Figure 6 - National Hydrography Dataset



N
▲

0 500
└──────────┘
Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons, USGS

St. Mary's Park Site (KES 2018-049)
Plymouth, Minnesota

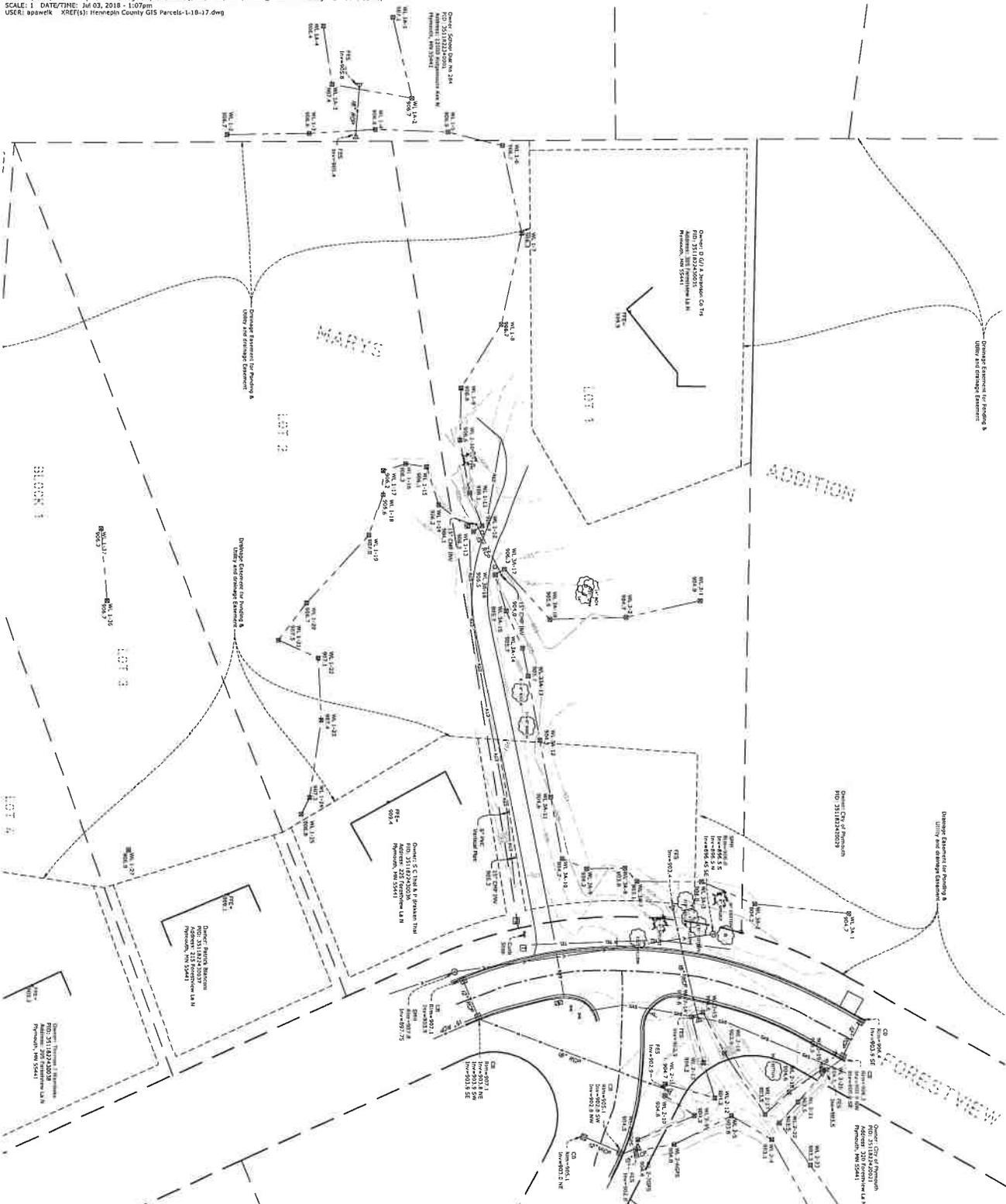
Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

St. Mary's Park Site

Wetland Delineation Report

Appendix A:

Wetland Delineation Survey



Existing Conditions Survey

Neighborhood Drainage Improvements
 St. Mary's Park
 Plymouth, MN

HT
 Engineering, Surveying
 Landscape Architecture

HANSEN | HOOP | PELLIEN | OLSON, Inc.

LINETYPE & SYMBOL LEGEND

14	THREE STRIKE	14	REINFORCED CONCRETE
15	CAST IN PLACE CONCRETE	15	WOODEN FENCELINE
16	WOODEN FENCELINE	16	WOODEN FENCELINE
17	WOODEN FENCELINE	17	WOODEN FENCELINE
18	WOODEN FENCELINE	18	WOODEN FENCELINE
19	WOODEN FENCELINE	19	WOODEN FENCELINE
20	WOODEN FENCELINE	20	WOODEN FENCELINE
21	WOODEN FENCELINE	21	WOODEN FENCELINE
22	WOODEN FENCELINE	22	WOODEN FENCELINE
23	WOODEN FENCELINE	23	WOODEN FENCELINE
24	WOODEN FENCELINE	24	WOODEN FENCELINE
25	WOODEN FENCELINE	25	WOODEN FENCELINE
26	WOODEN FENCELINE	26	WOODEN FENCELINE
27	WOODEN FENCELINE	27	WOODEN FENCELINE
28	WOODEN FENCELINE	28	WOODEN FENCELINE
29	WOODEN FENCELINE	29	WOODEN FENCELINE
30	WOODEN FENCELINE	30	WOODEN FENCELINE
31	WOODEN FENCELINE	31	WOODEN FENCELINE
32	WOODEN FENCELINE	32	WOODEN FENCELINE
33	WOODEN FENCELINE	33	WOODEN FENCELINE
34	WOODEN FENCELINE	34	WOODEN FENCELINE
35	WOODEN FENCELINE	35	WOODEN FENCELINE
36	WOODEN FENCELINE	36	WOODEN FENCELINE
37	WOODEN FENCELINE	37	WOODEN FENCELINE
38	WOODEN FENCELINE	38	WOODEN FENCELINE
39	WOODEN FENCELINE	39	WOODEN FENCELINE
40	WOODEN FENCELINE	40	WOODEN FENCELINE
41	WOODEN FENCELINE	41	WOODEN FENCELINE
42	WOODEN FENCELINE	42	WOODEN FENCELINE
43	WOODEN FENCELINE	43	WOODEN FENCELINE
44	WOODEN FENCELINE	44	WOODEN FENCELINE
45	WOODEN FENCELINE	45	WOODEN FENCELINE
46	WOODEN FENCELINE	46	WOODEN FENCELINE
47	WOODEN FENCELINE	47	WOODEN FENCELINE
48	WOODEN FENCELINE	48	WOODEN FENCELINE
49	WOODEN FENCELINE	49	WOODEN FENCELINE
50	WOODEN FENCELINE	50	WOODEN FENCELINE
51	WOODEN FENCELINE	51	WOODEN FENCELINE
52	WOODEN FENCELINE	52	WOODEN FENCELINE
53	WOODEN FENCELINE	53	WOODEN FENCELINE
54	WOODEN FENCELINE	54	WOODEN FENCELINE
55	WOODEN FENCELINE	55	WOODEN FENCELINE
56	WOODEN FENCELINE	56	WOODEN FENCELINE
57	WOODEN FENCELINE	57	WOODEN FENCELINE
58	WOODEN FENCELINE	58	WOODEN FENCELINE
59	WOODEN FENCELINE	59	WOODEN FENCELINE
60	WOODEN FENCELINE	60	WOODEN FENCELINE
61	WOODEN FENCELINE	61	WOODEN FENCELINE
62	WOODEN FENCELINE	62	WOODEN FENCELINE
63	WOODEN FENCELINE	63	WOODEN FENCELINE
64	WOODEN FENCELINE	64	WOODEN FENCELINE
65	WOODEN FENCELINE	65	WOODEN FENCELINE
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67	WOODEN FENCELINE	67	WOODEN FENCELINE
68	WOODEN FENCELINE	68	WOODEN FENCELINE
69	WOODEN FENCELINE	69	WOODEN FENCELINE
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73	WOODEN FENCELINE	73	WOODEN FENCELINE
74	WOODEN FENCELINE	74	WOODEN FENCELINE
75	WOODEN FENCELINE	75	WOODEN FENCELINE
76	WOODEN FENCELINE	76	WOODEN FENCELINE
77	WOODEN FENCELINE	77	WOODEN FENCELINE
78	WOODEN FENCELINE	78	WOODEN FENCELINE
79	WOODEN FENCELINE	79	WOODEN FENCELINE
80	WOODEN FENCELINE	80	WOODEN FENCELINE
81	WOODEN FENCELINE	81	WOODEN FENCELINE
82	WOODEN FENCELINE	82	WOODEN FENCELINE
83	WOODEN FENCELINE	83	WOODEN FENCELINE
84	WOODEN FENCELINE	84	WOODEN FENCELINE
85	WOODEN FENCELINE	85	WOODEN FENCELINE
86	WOODEN FENCELINE	86	WOODEN FENCELINE
87	WOODEN FENCELINE	87	WOODEN FENCELINE
88	WOODEN FENCELINE	88	WOODEN FENCELINE
89	WOODEN FENCELINE	89	WOODEN FENCELINE
90	WOODEN FENCELINE	90	WOODEN FENCELINE
91	WOODEN FENCELINE	91	WOODEN FENCELINE
92	WOODEN FENCELINE	92	WOODEN FENCELINE
93	WOODEN FENCELINE	93	WOODEN FENCELINE
94	WOODEN FENCELINE	94	WOODEN FENCELINE
95	WOODEN FENCELINE	95	WOODEN FENCELINE
96	WOODEN FENCELINE	96	WOODEN FENCELINE
97	WOODEN FENCELINE	97	WOODEN FENCELINE
98	WOODEN FENCELINE	98	WOODEN FENCELINE
99	WOODEN FENCELINE	99	WOODEN FENCELINE
100	WOODEN FENCELINE	100	WOODEN FENCELINE

St. Mary's Park Site

Wetland Delineation Report

Appendix B:

Wetland Delineation Data Forms

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site St. Marys Park Site City/County: Plymouth/Hennepin Sampling Date: 6/1/2018
 Applicant/Owner: Applicant: The City of Plymouth State: MN Sampling Point: SP1-1U
 Investigator(s): A.Cameron, K.Uhler Section, Township, Range: S:35 T:118N R:22W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Linear
 Slope (%): 3 - 5 Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name Lester Loam (Non-Hydric) vWI 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? 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: _____
Hydric soil present?	<u>Y</u>	
Indicators of wetland hydrology present?	<u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)
30-day precipitation rolling total drier than normal range. Precipitation from Gridded Database Method drier than typical.

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft Radius</u>)	Absolute % Cover	Dominant 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>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)
1	<u>Picea glauca</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>30</u>	= Total Cover		
Sapling/Shrub stratum	(Plot size: <u>15 ft Radius</u>)				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>100</u> x 3 = <u>300</u> FACU species <u>30</u> x 4 = <u>120</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>130</u> (A) <u>420</u> (B) Prevalence Index = B/A = <u>3.23</u>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		
Herb stratum	(Plot size: <u>5 ft Radius</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)
1	<u>Poa pratensis</u>	<u>100</u>	<u>Y</u>	<u>FAC</u>	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>100</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30 ft Radius</u>)				_____ *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic 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: SP1-1U

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 2/1	75	10YR 4/6	5	C	M	Sandy Clay Loam	
	10YR 4/3	20					Sandy Clay Loam	
10-36	10YR 2/1	40	10YR 4/6	20	C	M	Sandy Clay Loam	
	10YR 4/3	40					Sandy 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"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <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"/> 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): _____ Remarks: _____	Hydric soil present? <u>Y</u>
---	--------------------------------------

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>
<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)	<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 <u> </u> No <u>X</u> Depth (inches): _____ Water table present? Yes <u>X</u> No _____ Depth (inches): <u>28</u> Saturation present? Yes <u>X</u> No _____ Depth (inches): <u>30</u> (includes capillary fringe)	Indicators of wetland hydrology present? <u>Y</u>
--	--

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

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site St. Marys Park Site City/County: Plymouth/Hennepin Sampling Date: 6/1/2018
 Applicant/Owner: Applicant: The City of Plymouth State: MN Sampling Point: SP1-1W
 Investigator(s): A.Cameron, K.Uhler Section, Township, Range: S:35 T:118N R:22W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 0 - 2 Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Klossner (Hydric) vWI 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" present? Yes
 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>Wetland 1</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.)
30-day precipitation rolling total drier than normal range. Precipitation from Gridded Database Method drier than typical.

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft Radius</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>3</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 Radius</u>)				
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		
Herb stratum	(Plot size: <u>5 ft Radius</u>)				
1	<u>Phalaris arundinacea</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
2	<u>Poa pratensis</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
3	<u>Typha angustifolia</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
4	<u>Impatiens capensis</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
5	<u>Alliaria petiolata</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>95</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30 ft Radius</u>)				
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		

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

SOIL

Sampling Point: SP1-1W

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	N 2.5/	100					Sandy Clay Loam	
8-16	N 2.5/	95	10YR 4/6	5	C	M	Sandy Clay Loam	
16-24	N 2.5/	75	10YR 4/6	10	C	M	Sandy Clay Loam	
			10YR 5/1	15	D	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: <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <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"/> 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): _____ Remarks: _____	Hydric soil present? <u>Y</u>
---	-------------------------------

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)			Secondary Indicators (minimum of two required)		
<input type="checkbox"/> Surface Water (A1) <input checked="" 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 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)	<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 checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)			

Field Observations: Surface water present? Yes _____ No <u>X</u> Depth (inches): _____ Water table present? Yes <u>X</u> No _____ Depth (inches): <u>2</u> Saturation present? Yes <u>X</u> No _____ Depth (inches): <u>0</u> (includes capillary fringe)	Indicators of wetland hydrology present? <u>Y</u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site St. Marys Park Site City/County: Plymouth/Hennepin Sampling Date: 6/1/2018
 Applicant/Owner: Applicant: The City of Plymouth State: MN Sampling Point: SP2-1U
 Investigator(s): A.Cameron, K.Uhler Section, Township, Range: S:35 T:118N R:22W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Linear
 Slope (%): 4 - 6 Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Klossner (Hydric) 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 _____, soil _____, or hydrology _____ significantly disturbed? Are "normal circumstances" present? Yes
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? Yes
 (If needed, explain any answers in remarks.)

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: _____
Hydric soil present?	<u>Y</u>	
Indicators of wetland hydrology present?	<u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)
30-day precipitation rolling total drier than normal range. Precipitation from Gridded Database Method drier than typical.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft Radius</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Acer negundo</u>	50	Y	FAC	
2 _____				
3 _____				
4 _____				
5 _____				
50 = 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>125</u> x 3 = <u>375</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>145</u> (A) <u>415</u> (B) Prevalence Index = B/A = <u>2.86</u>
Sapling/Shrub stratum (Plot size: <u>15 ft Radius</u>)	Absolute % Cover	Dominant Species	Indicator Status	
1 <u>Rhamnus cathartica</u>	50	Y	FAC	
2 _____				
3 _____				
4 _____				
5 _____				
50 = Total Cover				
Herb stratum (Plot size: <u>5 ft Radius</u>)	Absolute % Cover	Dominant Species	Indicator Status	
1 <u>Impatiens capensis</u>	20	Y	FACW	
2 <u>Poa pratensis</u>	20	Y	FAC	
3 <u>Alliaria petiolata</u>	5	N	FAC	
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
45 = Total Cover				
Woody vine stratum (Plot size: <u>30 ft Radius</u>)	Absolute % Cover	Dominant Species	Indicator Status	
1 _____				
2 _____				
0 = Total Cover				
Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> 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? <u>Y</u>				

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

SOIL

Sampling Point: SP2-1U

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	N 2.5/	100					Mucky Loam	
10-24	10YR 2/1	75	10YR 4/2				Sandy Clay Loam	
24-30	10YR 6/2	75	10YR 4/6	20	C	M	Sandy Clay Loam	
	10YR 2/1	5					Sandy 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"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input checked="" type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input checked="" type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <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"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)
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*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric soil present? <u>Y</u>
Remarks: _____	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
<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)	<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 checked="" type="checkbox"/> FAC-Neutral Test (D5)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): _____ Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>16</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>15</u> (includes capillary fringe)	Indicators of wetland hydrology present? <u>N</u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: _____

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site St. Marys Park Site City/County: Plymouth/Hennepin Sampling Date: 6/1/2018
 Applicant/Owner: Applicant: The City of Plymouth State: MN Sampling Point: SP2-1W
 Investigator(s): A.Cameron, K.Uhler Section, Township, Range: S:35 T:118N R:22W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 0 - 2 Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Klossner (Hydric) NWI Classification: PEM1F

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? 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>Wetland 2</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.)
30-day precipitation rolling total drier than normal range. Precipitation from Gridded Database Method drier than typical.

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft Radius</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>100.00%</u> (A/B)
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		
Sapling/Shrub stratum	(Plot size: <u>15 ft Radius</u>)				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>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		
Herb stratum	(Plot size: <u>5 ft Radius</u>)				Hydrophytic Vegetation Indicators: _____ Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> 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>Impatiens capensis</u>	<u>95</u>	<u>Y</u>	<u>FACW</u>	
2	<u>Typha angustifolia</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 ft Radius</u>)				Hydrophytic vegetation present? <u>Y</u>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		

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

SOIL

Sampling Point: SP2-1W

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	N 2.5/	100					Mucky Loam	
5-11	N 2.5/	90	10YR 4/6	5	C	M	Clay Loam	
	10YR 3/1	5					Clay Loam	
11-36	10YR 6/1	60	10YR 4/6	10	C	M	Sandy Clay Loam	
	10YR 2/1	30					Sandy 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"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input checked="" type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input checked="" type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <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"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)
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*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric soil present? <u>Y</u>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)			Secondary Indicators (minimum of two required)		
<input type="checkbox"/> Surface Water (A1) <input checked="" 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 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)	<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 checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)			

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): _____ Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>6</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0</u> (includes capillary fringe)	Indicators of wetland hydrology present? <u>Y</u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site St. Marys Park Site City/County: Plymouth/Hennepin Sampling Date: 6/1/2018
 Applicant/Owner: Applicant: The City of Plymouth State: MN Sampling Point: SP 3-1U
 Investigator(s): A.Cameron, K.Uhler Section, Township, Range: S:35 T:118N R:22W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Linear
 Slope (%): 3 - 5 Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Udorthents (Non-Hydric) IWI 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 X, or hydrology _____ significantly disturbed? Are "normal circumstances" present? Yes
 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>N</u> If yes, optional wetland site ID: _____
Hydric soil present?	<u>Y</u>	
Indicators of wetland hydrology present?	<u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)
30-day precipitation rolling total drier than normal range. Precipitation from Gridded Database Method drier than typical. Soils disturbed due to fill material over historic hydric soil.

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft Radius</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>2</u> (B)
3	_____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		
Sapling/Shrub stratum	(Plot size: <u>15 ft Radius</u>)				Prevalence Index Worksheet
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	OBL species <u>0</u> x 1 = <u>0</u>
3	_____	_____	_____	_____	FACW species <u>30</u> x 2 = <u>60</u>
4	_____	_____	_____	_____	FAC species <u>60</u> x 3 = <u>180</u>
5	_____	_____	_____	_____	FACU species <u>45</u> x 4 = <u>180</u>
		<u>0</u>	= Total Cover		UPL species <u>0</u> x 5 = <u>0</u>
		<u>135</u>	= Total Cover		Column totals <u>135</u> (A) <u>420</u> (B)
		<u>0</u>	= Total Cover		Prevalence Index = B/A = <u>3.11</u>
Herb stratum	(Plot size: <u>5 ft Radius</u>)				Hydrophytic Vegetation Indicators:
1	<u>Poa pratensis</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	
2	<u>Phalaris arundinacea</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	<u>X</u> Dominance test is >50%
3	<u>Bromus inermis</u>	<u>20</u>	<u>N</u>	<u>FACU</u>	Prevalence index is ≤3.0*
4	<u>Glechoma hederacea</u>	<u>15</u>	<u>N</u>	<u>FACU</u>	Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
5	<u>Cirsium arvense</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	Problematic hydrophytic vegetation* (explain)
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>135</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30 ft Radius</u>)				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		Hydrophytic vegetation present? <u>Y</u>

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

SOIL

Sampling Point: SP 3-1U

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**		
0-6	10YR 2/1	100					Sandy Loam	Fill soil

*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"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <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"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input checked="" type="checkbox"/> Other (explain in remarks)
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*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed): Type: <u>Gravel, unable to auger further</u> Depth (inches): <u>6</u>	Hydric soil present? <u>Y</u>
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Remarks:
 Fill soil over historic hydric soil, assumed hydric.

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)			Secondary Indicators (minimum of two required)		
<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)	<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 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 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? <u>N</u>
--	---

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

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site St. Marys Park Site City/County: Plymouth/Hennepin Sampling Date: 6/1/2018
 Applicant/Owner: Applicant: The City of Plymouth State: MN Sampling Point: SP3-1W
 Investigator(s): A.Cameron, K.Uhler Section, Township, Range: S:35 T:118N R:22W
 Landform (hillslope, terrace, etc.): _____ Depression _____ Local relief (concave, convex, none): Concave
 Slope (%): 0 - 2 Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Udorthents (Non-Hydric) 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 _____, soil _____, or hydrology _____ significantly disturbed? Are "normal circumstances" present? Yes
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? 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>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
If yes, optional wetland site ID: <u>Wetland 3</u>	

Remarks: (Explain alternative procedures here or in a separate report.)
30-day precipitation rolling total drier than normal range. Precipitation from Gridded Database Method drier than typical.

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft Radius</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet	
1	_____	_____	_____	_____		Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A)
2	_____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>2</u> (B)	
3	_____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)	
4	_____	_____	_____	_____		
5	_____	_____	_____	_____		
		<u>0</u>	= Total Cover			
Sapling/Shrub stratum	(Plot size: <u>15 ft Radius</u>)				Prevalence Index Worksheet	
1	_____	_____	_____	_____		Total % Cover of:
2	_____	_____	_____	_____	OBL species <u>30</u> x 1 = <u>30</u>	
3	_____	_____	_____	_____	FACW species <u>50</u> x 2 = <u>100</u>	
4	_____	_____	_____	_____	FAC species <u>0</u> x 3 = <u>0</u>	
5	_____	_____	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>	
		<u>0</u>	= Total Cover		UPL species <u>0</u> x 5 = <u>0</u>	
		<u>80</u>	= Total Cover		Column totals <u>80</u> (A) <u>130</u> (B)	
		<u>80</u>	= Total Cover		Prevalence Index = B/A = <u>1.63</u>	
Herb stratum	(Plot size: <u>5 ft Radius</u>)				Hydrophytic Vegetation Indicators:	
1	<u>Phalaris arundinacea</u>	<u>50</u>	<u>Y</u>	<u>FACW</u>		_____ Rapid test for hydrophytic vegetation
2	<u>Persicaria sagittata</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>		<u>X</u> Dominance test is >50%
3	_____	_____	_____	_____		<u>X</u> Prevalence index is ≤3.0*
4	_____	_____	_____	_____		Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
5	_____	_____	_____	_____		Problematic hydrophytic vegetation* (explain)
6	_____	_____	_____	_____		
7	_____	_____	_____	_____		
8	_____	_____	_____	_____		
9	_____	_____	_____	_____		
10	_____	_____	_____	_____		
		<u>80</u>	= Total Cover		*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
Woody vine stratum	(Plot size: <u>30 ft Radius</u>)				Hydrophytic vegetation present? <u>Y</u>	
1	_____	_____	_____	_____		
2	_____	_____	_____	_____		
		<u>0</u>	= Total Cover			

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

SOIL

Sampling Point: SP3-1W

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 2/1	100					Sandy Mucky Loam	Fill soil
10-12	10YR 2/1	100					Sandy Clay Loam	Fill soil

*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"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input checked="" type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <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"/> 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: <u>Gravel, unable to auger further</u> Depth (inches): <u>12</u>	Hydric soil present? <u>Y</u>
--	--------------------------------------

Remarks:
 Fill over historic hydric soil.

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
<input type="checkbox"/> Surface Water (A1) <input checked="" 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 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)	<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 checked="" 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): <u> </u> Water table present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>6</u> Saturation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>4</u> (includes capillary fringe)	Indicators of wetland hydrology present? <u>Y</u>
---	--

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

Remarks:

St. Mary's Park Site

Wetland Delineation Report

Appendix C:

Precipitation Information

St. Mary's Site, Plymouth MN: Precipitation Summary
Source: Minnesota Climatology Working Group

Monthly Totals: 2018

Target: T118 R22 S35

mon year	cc	tttN	rrW	ss	nnnn	oooooooo	pre (inches)
Jan 2018	27	117N	21W	7	BYRG		.95
Feb 2018	27	118N	21W	20	NWS	NEW HOPE	1.50
Mar 2018	27	117N	21W	7	BYRG		1.38
Apr 2018	27	117N	21W	7	BYRG		2.02
May 2018	27	118N	21W	20	NWS	NEW HOPE	2.57

March / April / May / June Daily Records

Mar 1, 2018	0
Mar 2, 2018	0
Mar 3, 2018	0
Mar 4, 2018	T
Mar 5, 2018	.72
Mar 6, 2018	T
Mar 7, 2018	0
Mar 8, 2018	0
Mar 9, 2018	0
Mar 10, 2018	0
Mar 11, 2018	T
Mar 12, 2018	0
Mar 13, 2018	0
Mar 14, 2018	0
Mar 15, 2018	0
Mar 16, 2018	0
Mar 17, 2018	0
Mar 18, 2018	T
Mar 19, 2018	0
Mar 20, 2018	.07
Mar 21, 2018	T
Mar 22, 2018	0
Mar 23, 2018	0
Mar 24, 2018	0
Mar 25, 2018	0
Mar 26, 2018	.32
Mar 27, 2018	0
Mar 28, 2018	0
Mar 29, 2018	0
Mar 30, 2018	.07
Mar 31, 2018	.20

Apr 1, 2018	0
Apr 2, 2018	.10
Apr 3, 2018	.38
Apr 4, 2018	0
Apr 5, 2018	T
Apr 6, 2018	0
Apr 7, 2018	0
Apr 8, 2018	.14
Apr 9, 2018	T
Apr 10, 2018	T
Apr 11, 2018	0
Apr 12, 2018	0
Apr 13, 2018	.15
Apr 14, 2018	1.05
Apr 15, 2018	.20
Apr 16, 2018	T
Apr 17, 2018	0
Apr 18, 2018	T
Apr 19, 2018	0
Apr 20, 2018	0
Apr 21, 2018	0
Apr 22, 2018	0
Apr 23, 2018	0
Apr 24, 2018	0
Apr 25, 2018	0
Apr 26, 2018	0
Apr 27, 2018	T
Apr 28, 2018	0
Apr 29, 2018	0
Apr 30, 2018	T

May 1, 2018	.02
May 2, 2018	.19
May 3, 2018	0
May 4, 2018	0
May 5, 2018	.05
May 6, 2018	0
May 7, 2018	0
May 8, 2018	.03
May 9, 2018	.25
May 10, 2018	0
May 11, 2018	T
May 12, 2018	T
May 13, 2018	.01
May 14, 2018	.18
May 15, 2018	0
May 16, 2018	0
May 17, 2018	0
May 18, 2018	0
May 19, 2018	.10
May 20, 2018	0
May 21, 2018	0
May 22, 2018	0
May 23, 2018	0
May 24, 2018	.17
May 25, 2018	.57
May 26, 2018	0
May 27, 2018	0
May 28, 2018	.33
May 29, 2018	.37
May 30, 2018	.30
May 31, 2018	0
Jun 1, 2018	0

1981-2010 Summary Statistics															
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	WARM	ANN	WAT
30%	0.50	0.39	1.33	2.17	2.82	3.28	2.57	3.21	2.27	1.23	1.10	0.75	18.04	29.11	27.38
70%	1.21	0.98	2.12	2.80	3.95	5.11	4.14	4.99	3.94	3.53	2.01	1.43	21.67	34.51	35.14
mean	0.88	0.83	1.91	2.68	3.58	4.48	4.23	4.15	3.40	2.49	1.81	1.23	19.84	31.66	31.46

Minnesota State Climatology Office

State Climatology Office - DNR Division of Ecological and Water Resources [University of Minnesota](#)

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Precipitation Worksheet Using Gridded Database

Precipitation data for target wetland location:

county: **Hennepin** township number: **118N**
 township name: **Plymouth** range number: **22W**
 nearest community: **Medicine Lake** section number: **35**

Aerial photograph or site visit date:

Friday, June 1, 2018

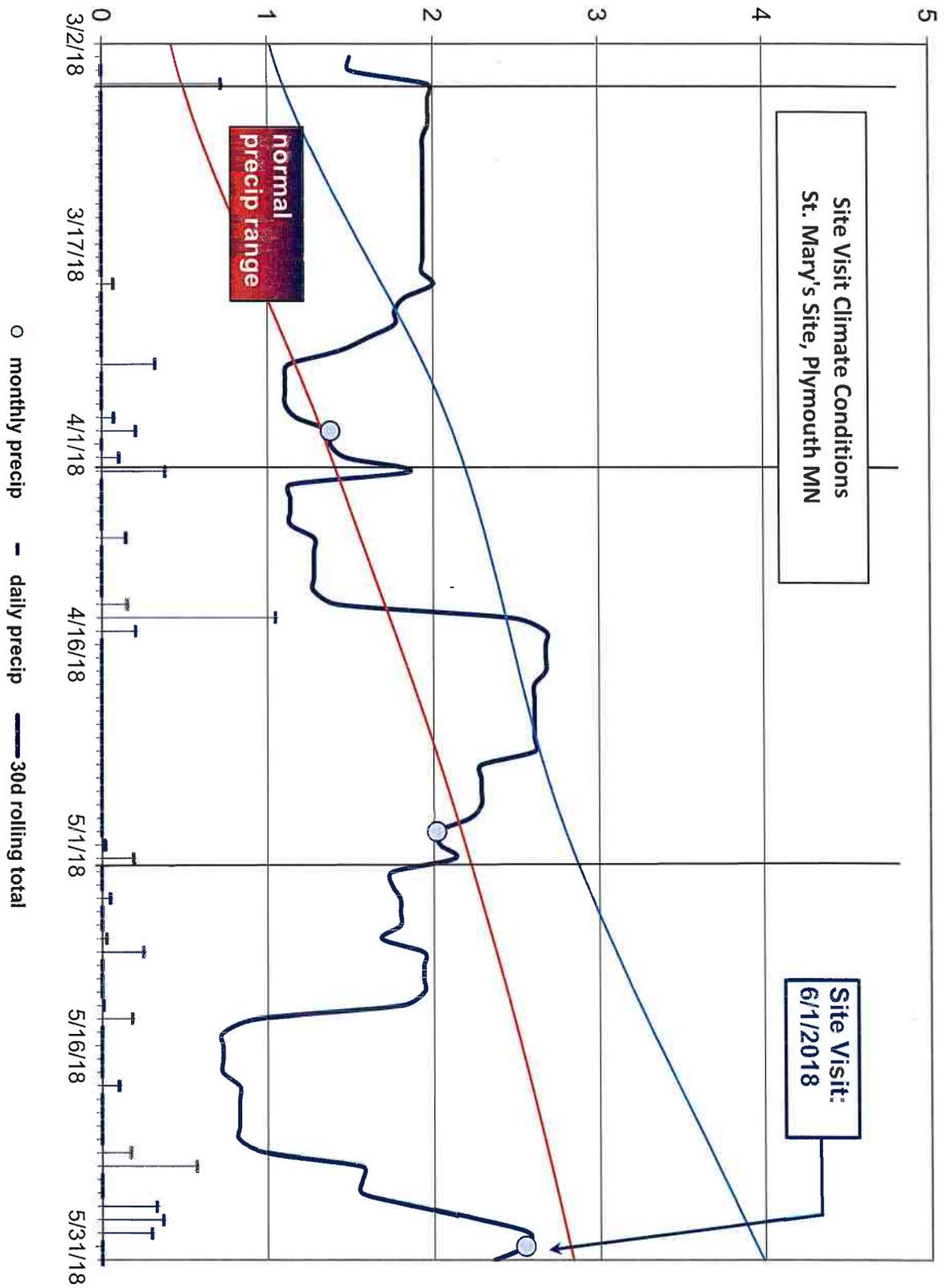
Score using 1981-2010 normal period

values are in inches A 'R' following a monthly total indicates a provisional value derived from radar-based estimates.	first prior month: May 2018	second prior month: April 2018	third prior month: March 2018
estimated precipitation total for this location:	2.50R	2.35R	1.27R
there is a 30% chance this location will have less than:	2.82	2.17	1.33
there is a 30% chance this location will have more than:	3.95	2.80	2.12
type of month: dry normal wet	dry	normal	dry
monthly score	3 * 1 = 3	2 * 2 = 4	1 * 1 = 1
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	8 (Dry)		

Other Resources:

- [retrieve daily precipitation data](#)
- [view radar-based precipitation estimates](#)
- [view weekly precipitation maps](#)
- [Evaluating Antecedent Precipitation Conditions \(BWSR\)](#)

Daily and monthly total precipitation (inches)



St. Mary's Park Site

Wetland Delineation Report

Appendix D:

Joint Application Form for Activities Affecting Water Resources in Minnesota

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.

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: The City of Plymouth
Mailing Address: 3400 Plymouth Boulevard, Plymouth MN 55447
Phone: 763-509-5000
E-mail Address: -

Authorized Contact (do not complete if same as above):
Mailing Address:
Phone:
E-mail Address:

Agent Name: Adam Cameron
Mailing Address: 2500 Shadywood Road #130, Orono MN 55331
Phone: 952-401-8757 Ext. #106
E-mail Address: Adam@kjolhaugenv.com

PART TWO: Site Location Information

County: Hennepin **City/Township:** City of Plymouth
Parcel ID and/or Address: Numerous, See Figure 1
Legal Description (Section, Township, Range): S: 15/35/36 T: 118N/118N/118N R: 22W/22W/22W
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): French Ridge 9.1 ac, Ivanhoe 5.5ac, St. Mary's 5.6ac

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.

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: Derek A. White Date: 7/19/18

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.

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>