# Minnesota Wetland Conservation Act
# Notice of Decision

| Local Government Unit (LGU) | Address |
|---|---|
| **City of Plymouth** | **3400 Plymouth Blvd**<br>**Plymotuh, MN 554477** |

## 1. PROJECT INFORMATION

| Applicant Name | Project Name | Date of Application | Application Number |
|---|---|---|---|
| **City of Plymouth** | **CSAH 9 (Rockford Road)/I-494 Interchange Project** | **10/11/2018** | **N/A** |

☒ Attach site locator map.

Type of Decision:

☒ Wetland Boundary or Type Sequencing ☒ No-Loss ☐ Exemption ☐

☐ Replacement Plan ☐ Banking Plan

Technical Evaluation Panel Findings and Recommendation (if any):

☒ Approve ☐ Approve with conditions ☐ Deny

Summary (or attach): During the field review, the boundaries were reviewed and accepted by the TEP. The TEP requested the delineator to review historic aerials to assist in determining the incidental wetland status of the wet ditches and wetlands located in the project vicinity. After receiving a historic aerial review and additional information from the consultant, it was determined that Wetland 1 appears to be created at the time of the development and roadway construction. Wetland 5 appears to be a historic remnant wetland and all of the wet ditches appear to be constructed. The TEP concurred with these conclusions.

## 2. LOCAL GOVERNMENT UNIT DECISION

Date of Decision: **12-10-2018**

☒ Approved ☐ Approved with conditions (include below) ☐ Denied

LGU Findings and Conclusions (attach additional sheets as necessary):

WSB and Associates, Inc. investigated and delineated the CSAH 9 (Rockford Road) and I-494 Interchange Project on September 25, 2018. During the delineation, 5 wetlands, 8 wet ditches, and two stormwater ponds were identified.

A TEP review was completed on 11-9-2018 with the wetland boundaries and types approved as delineated. The incidental wetland request was also discussed by the TEP during the on-site review and through discussions after the TEP. The TEP members agreed that the following resources are considered incidental wetlands; therefore, are not regulated under the Wetland Conservation Act (WCA). The incidental wetlands, not regulated under WCA are: Wetland 1, Wet Ditch 1, Wet Ditch 2, Wet Ditch 3, Wet Ditch 4, Wet Ditch 5, Wet Ditch 6, Wet Ditch 7, Wet Ditch 8, Stormwater Pond 1, and Stormwater Pond 2.

For Replacement Plans using credits from the State Wetland Bank:

| Bank Account # | Bank Service Area | County | Credits Approved for Withdrawal (sq. ft. or nearest .01 acre) |
|---|---|---|---|
| **N/A** | | | |

**Replacement Plan Approval Conditions.** In addition to any conditions specified by the LGU, the approval of a Wetland Replacement Plan is conditional upon the following:

☐ **Financial Assurance:** For project-specific replacement that is not in-advance, a financial assurance specified by the LGU must be submitted to the LGU in accordance with MN Rule 8420.0522, Subp. 9 (List amount and type in LGU Findings).

☐ **Deed Recording:** For project-specific replacement, evidence must be provided to the LGU that the BWSR "Declaration of Restrictions and Covenants" and "Consent to Replacement Wetland" forms have been filed with the county recorder's office in which the replacement wetland is located.

☐ **Credit Withdrawal:** For replacement consisting of wetland bank credits, confirmation that BWSR has withdrawn the credits from the state wetland bank as specified in the approved replacement plan.

**Wetlands may not be impacted until all applicable conditions have been met!**

LGU Authorized Signature:

Signing and mailing of this completed form to the appropriate recipients in accordance with 8420.0255, Subp. 5 provides notice that a decision was made by the LGU under the Wetland Conservation Act as specified above. If additional details on the decision exist, they have been provided to the landowner and are available from the LGU upon request.

| Name | Title | |
|---|---|---|
| **Michael Thompson**<br>**City of Plymouth** | **Public Works Director** | |
| Signature | Date | Phone Number and E-mail |
| | **12/10/2018** | **763-509-5501**<br>**mthompson@plymouth.gov** |

THIS DECISION ONLY APPLIES TO THE MINNESOTA WETLAND CONSERVATION ACT. Additional approvals or permits from local, state, and federal agencies may be required. Check with all appropriate authorities before commencing work in or near wetlands.

Applicants proceed at their own risk if work authorized by this decision is started before the time period for appeal (30 days) has expired. If this decision is reversed or revised under appeal, the applicant may be responsible for restoring or replacing all wetland impacts.

This decision is valid for three years from the date of decision unless a longer period is advised by the TEP and specified in this notice of decision.

## 3. APPEAL OF THIS DECISION

Pursuant to MN Rule 8420.0905, any appeal of this decision can only be commenced by mailing a petition for appeal, including applicable fee, within thirty (30) calendar days of the date of the mailing of this Notice to the following as indicated:

Check one:

| | |
|---|---|
| ☒ Appeal of an LGU staff decision. Send petition and $0 fee (if applicable) to:<br><br>**Michael Thompson, Public Works Director**<br>**City of Plymouth**<br>**3400 Plymouth Blvd.**<br>**Plymouth, MN** | ☐ Appeal of LGU governing body decision. Send petition and $500 filing fee to:<br>Executive Director<br>Minnesota Board of Water and Soil Resources<br>520 Lafayette Road North<br>St. Paul, MN 55155 |

## 4. 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 (sent electronically)**
☒ LGU TEP member (if different than LGU Contact): **Ben Scharenbroich, City of Plymouth, 3400 Plymouth Blvd, Plymouth, MN 55447 (sent electronically)**
☒ DNR TEP member: **Becky Horton, MnDNR, 1200 Warner Road, St. Paul, MN 55106 (sent electronically)**
☒ DNR Regional Office (if different than DNR TEP member)
☒ WD or WMO (if applicable): **BCWMC, c/o Laura Jester, Keystone Waters, LLC, 16145 Hillcrest Lane, Eden Prairie, MN 55346 (sent electronically)**
☒ Applicant and Landowner (if different)
☒ Members of the public who requested notice:
**Jason Spiegel, Area Hydrologist, MN DNR, 1200 Warner Road, St. Paul, MN 55106 (sent electronically)**
**Hennepin County Public Works - Transportation c/o Joshua Potter, 1600 Prairie Drive, Medina MN 55340 (sent electronically)**
**Minnesota Department of Transportation, c/o Jerome Adams, 1500 West County Road B2, Roseville, MN 55113 (sent electronically)**
**WSB & Associates c/o Roxy Franta, 701 Xenia Avenue S, Suite 300, Minneapolis, MN 55416 (sent electronically)**
**Army Corps of Engineers, 180 5th Street East, Suite 700m St. Paul, MN 55101-1678 (sent electronically)**
☒ Corps of Engineers Project Manager
☐ BWSR Wetland Bank Coordinator (wetland bank plan decisions only)

## 5. MAILING INFORMATION

➢For a list of BWSR TEP representatives: www.bwsr.state.mn.us/aboutbwsr/workareas/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.<br>Div. Ecol. Resources<br>2115 Birchmont Beach Rd. NE<br>Bemidji, MN 56601 | Reg. Env. Assess. Ecol.<br>Div. Ecol. Resources<br>1201 E. Hwy. 2<br>Grand Rapids, MN 55744 | Reg. Env. Assess. Ecol.<br>Div. Ecol. Resources<br>1200 Warner Road<br>St. Paul, MN 55106 | Reg. Env. Assess. Ecol.<br>Div. Ecol. Resources<br>261 Hwy. 15 South<br>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

## 6. ATTACHMENTS

In addition to the site locator map, list any other attachments:

- ☒ **I-494 and Rockford Road Delineation Report**
- ☐
- ☐
- ☐
- ☐

City of Plymouth Minnesota

# LEVEL 2 WETLAND DELINEATION REPORT

## CSAH 9 (ROCKFORD ROAD) / I-494 INTERCHANGE PROJECT

OCTOBER 1, 2018
UPDATED NOVEMBER 14, 2018

Prepared for:
City of Plymouth
3400 Plymouth Boulevard
Plymouth, MN 55447

WSB PROJECT NO. 011485-000

WSB

# LEVEL 2 WETLAND DELINEATION REPORT

CSAH 9 (ROCKFORD ROAD) / I-494 INTERCHANGE PROJECT

For:

City of Plymouth

October 1, 2018
Updated November 14, 2018

Prepared By:

# CERTIFICATION

The report was prepared by:

Roxy Franta, WDC No.1317

Date: October 1, 2018 Title: Environmental Scientist

I hereby certify that this report was reviewed by me and that I am a Certified Wetland Delineator in the State of Minnesota.

Alison Harwood, WDC No.1238

Date: October 4, 2018 Title: Senior Environmental Scientist

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# SECTION I

## I. Introduction

### A. Project Location

The project is located at the CSAH 9 (Rockford Road) and I-494 interchange in the City of Plymouth, Hennepin County, Minnesota. The project area consists of approximately 0.30 mile of Rockford Road including Bridge No. 27W45 over I-494 and approximately 500 feet to the east and to the west of the bridge. The project also includes approximately 500 feet of the northbound entrance ramp to I-494, 600 feet of the southbound entrance ramp to I-494, 250 feet of the northbound exit ramp onto Rockford Road, and 160 feet of the southbound exit ramp onto Rockford Road. The project is located in Section 15 of Township 118 and Range 22, Major Watershed No. 20, BSA No. 7 (**Figure 1, Appendix A**).

### B. Project Purpose

The City of Plymouth is proposing to replace the Rockford Road bridge crossing I-494, reconstruct the bridge approaches and portions of the I-494 ramps, construct a multiuse trail along the north side of Rockford Road (including bridge), reconstruct a multiuse trail along the south side of Rockford Road, reconstruct a retaining wall north of Rockford Road, and make drainage improvements. This report is intended to address all jurisdictional WCA, Public Water, or Section 404 wetlands and/or waters for final design and permitting of this project. This project was authorized by the City of Plymouth.

### C. Project Scope

The scope of this project was to delineate all wetlands within the outlined project area.

### D. Summary of Findings

A Level 2 wetland delineation was performed on the site. A total of four wetlands, eight wet ditches, and two stormwater ponds were identified and delineated in the preparation of this report, as summarized in **Table 1**. For a visual representation of the wetland locations and sizes, please see **Figure 6**, **Appendix B**. All potential wetland areas (mapped hydric soils, NWI signatures, and low depressional areas) were reviewed on-site and either delineated or determined to be upland.

**Table 1.** Summary of Delineated Wetlands, CSAH 9/I-494 Interchange, Hennepin County, Minnesota

| Wetland ID | Delineation Method | No. Flags/ Transects | Eggers and Reed | Circular 39) (Cowardin) | NWI* | DNR PWI** | County Soil Survey (Hydric/ Non-Hydric)*** |
|---|---|---|---|---|---|---|---|
| Wetland 1 | Level 2 | 1-10/1 | Seasonally Flooded/ Shallow Marsh/ Open Water | Type 1/3/5 (PEMA/ PEM1C/ PUBGx) | PEM1C/ PABGx | No | **L23A**/L37B |
| Wetland 2 | Level 2 | 1-5/1 | Fresh (Wet) Meadow | Type 2 (PEMB) | PEM1A | No | L37B |

# SECTION I

| Wetland ID | Delineation Method | No. Flags/ Transects | Eggers and Reed | Circular 39) (Cowardin) | NWI* | DNR PWI** | County Soil Survey (Hydric/ Non-Hydric)*** |
|---|---|---|---|---|---|---|---|
| Wetland 3 | Level 3 | 0/1 | Seasonally Flooded Basin/ Shallow Marsh | Type 1/3 (PEMA/ PEMC) | PEM1C/ PABGx | No | U3B |
| Wetland 4 | Level 2 | 1-7/0 | Shallow Marsh | Type 3 (PEMC) | N/A | No | U1A |
| Wetland 5 | Level 2 | 0/1 | Seasonally Flooded | Type 1 (PEMA) | N/A | No | U3B/L22C2 |
| Wet Ditch 1 | Level 2 | 0/0 | Seasonally Flooded Basin | Type 1 (PEMA) | N/A | No | L37B |
| Wet Ditch 2 | Level 2 | 0/0 | Seasonally Flooded Basin | Type 1 (PEMA) | N/A | No | L37B/U3B/ **L36A** |
| Wet Ditch 3 | Level 2 | 0/0 | Seasonally Flooded Basin | Type 1 (PEMA) | N/A | No | L22C2/U3B |
| Wet Ditch 4 | Level 2 | 0/0 | Seasonally Flooded Basin | Type 1 (PEMA) | N/A | No | L37A/L25A/ L22C2 |
| Wet Ditch 5 | Level 2 | 0/0 | Seasonally Flooded Basin | Type 1 (PEMA) | N/A | No | U3B |
| Wet Ditch 6 | Level 2 | 0/0 | Seasonally Flooded Basin | Type 1 (PEMA) | N/A | No | U3B/L22C2 |
| Wet Ditch 7 | Level 2 | 0/0 | Seasonally Flooded Basin | Type 1 (PEMA) | N/A | No | U1A/L22C2 |
| Wet Ditch 8 | Level 2 | 0/0 | Seasonally Flooded Basin | Type 1 (PEMA) | N/A | No | L22C2 |
| Stormwater Pond 1 | Level 2 | 0/0 | Shallow Marsh/Open Water | Type 3/5 (PEMC/ PUBGx) | N/A | No | U3B/**L36A** |
| Stormwater Pond 2 | Level 2 | 0/0 | Shallow Marsh | Type 3 (PEMC) | N/A | No | U3B/L22C2 |

** "Yes" indicates wetland is mapped in the NWI and "No" indicates the wetland is not mapped in the NWI.*

*** "NA" indicates the wetland is not mapped in the PWI. Numbers listed are the DNR ID, indicating the wetland is mapped in the PWI.*

****Bolded numbers indicate hydric soils.*

# SECTION II

## II. Delineation Procedure

### A. Off-Site Determination: Base Map Review

Topography: The landform is generally lower at the interchange where the configuration of I-494 has created low points for drainage. Rockford Road slopes from west to east. Water generally flows to the southeast towards Medicine Lake (DNR PWI No. 51465). The wetlands were located at low points adjacent to I-494, the I-494 ramps, and Rockford Road (**Figure 2, Appendix A**).

The *DNR Public Waters and Wetlands Map, Hennepin County, MN* (Minnesota Department of Natural Resources 1983) shows no public waters within the project area **(Figure 3, Appendix A)**.

The *National Wetlands Inventory Map* (Minnesota Department of Natural Resources) identified several wetlands as part of the National Wetlands Inventory (NWI) **(Figure 4, Appendix A)**. The NWI identifies the following wetland types: PEM1C, PABGx, and PEM1A.

The *Soil Survey of Hennepin County, Minnesota* (https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm) identified the following soils (**Table 2**) within the project area (**Figure 5, Appendix A**):

**Table 2.** Soil Survey

| Map Symbol | Soil Unit Name | Percent Hydric | Hydric Rating |
|---|---|---|---|
| L23A | Cordova loam | 95 | Predominantly hydric |
| L37B | Angus loam | 5 | Predominantly non-hydric |
| L36A | Hamel, overwash-Hamel complex | 45 | Partially Hydric |
| L22C2 | Lester loam | 2 | Predominantly non-hydric |
| U3B | Udorthents (cut and fill land) | 0 | Non-hydric |
| L22D2 | Lester loam | 0 | Non-hydric |
| U1A | Urban land-Udorthents wet substratum | 0 | Non-hydric |
| L44A | Nessel loam | 10 | Predominantly non-hydric |
| L25A | Le Sueur loam | 15 | Predominantly non-hydric |

Antecedent Climate Conditions: Historic climate data and WETS data were obtained from the Minnesota Climatology Working Group preceding the September 25, 2018 site visit, which fell within the normal precipitation range. Records of the precipitation can be found in **Appendix D**.

### B. On-Site Determination

A Level 2 field investigation was conducted by Roxy Franta (WDC No. 1317) of WSB & Associates, Inc. on September 25, 2018 within the project area. No deviation or omissions were undertaken as part of this investigation.

# SECTION II

The project area was delineated using the routine methodology described in the *Corps of Engineers Wetlands Delineation Manual* (US Army Corps of Engineers 1987), with additional guidance provided by the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0).* Wetlands were classified according to the methodologies set forth in *Wetlands of the United States (Circular 39),* USFWS Shaw and Fredine 1971; *Classification of Wetlands and Deepwater Habitats of the United States*, Cowardin 1979; and *Wetland Plants and Plant Communities of Minnesota and Wisconsin, 2nd ed.*, Eggers and Reed 1997. The wetland types in this report are classified by the Circular 39, Cowardin, and Eggers and Reed Classifications.

Soil types were researched prior to the on-site investigation with the assistance of the *Soil Survey of Hennepin County* from the National Resources Conservation Service. All soil test pits were excavated to a minimum depth of 24 inches unless otherwise noted. Soil colors were described on-site per the *Munsell Soil Color Charts* (2009 Revised Edition) from the test pits in and adjacent to the wetlands. Hydric soils were identified using the current technical criteria for hydric soils developed by the NRCS in 2017 (Version 8.1). The presence of water was observed after time was allowed for movement of water through the substrate. This time varied depending upon soil characteristics.

The quadrant sampling method was employed for all sample points unless otherwise noted. Vegetation was measured as actual areal cover and may exceed 100 percent of total area due to overlap. Grasses and herbaceous vegetative cover were measured within a circular plot of a 5-foot-radius, all woody shrubs and saplings were measured within a circular plot with a 15-foot-radius, and trees and woody vines were measured in a 30-foot-radius circular plot. Regional plant identification resources were utilized in the identification of plant species, with indicator status taken from the *2016 National Wetland Plant List* (US Army Corps of Engineers 2016). Plant species dominance was estimated based on the absolute percent coverage for herbaceous, shrub-sapling, and tree strata if present. In addition to the use of indicators of hydrology, hydric soils, and the presence of hydrophytic vegetation, other evidence such as topographic breaks and watershed characteristics were used to determine the wetland boundary.

Midwest Regional Supplement Routine Wetland Delineation data forms were used to record vegetation, hydrology, and soil characteristics at sample points in and adjacent to the wetlands (**Appendix B**). Sampling transects were taken along the wetland-upland boundary of the wetland. Transects and delineated wetland boundaries were field surveyed using a sub-meter accuracy hand held GPS unit. Approximate sampling points and delineated wetland edges are shown on **Figure 6, Appendix B.** Pictures of each wetland can be found in **Appendix C**.

# SECTION III

## III. Results and Wetland Information

The wetland delineation data forms (**Appendix B**) and photos (**Appendix C**) are attached. A summary of the delineation is below.

### A. Wetland 1

**Circular 39:** Type 1/3/5
**Cowardin:** PEMA/PEM1C/PUBGx
**Eggers and Reed Field Classification:** Seasonally Flooded/Shallow Marsh/Open Water
**Soil mapping unit:** Cordova loam, 0 to 2 percent slopes (L23A)/Angus loam, 2 to 6 percent slopes (L37B)
**No. Transects:** 1 **No. Additional Sample Points:** 0
**Wetland Flags:** 10
**Wetland Size (within Project Area):** 0.30 acre

Wetland 1 is positioned north of Rockford Road to the west of the I-494 interchange. The wetland is adjacent to a paved parking lot to the north which contributes water to the wetland. A retaining wall is adjacent to the south. The wetland is characterized as a shallow marsh on the west end and an open water wetland on the east end. There is a seasonally flooded swale that connects between these two plant community types. The wetland has an overflow at the east edge where water flows overland downhill to Wetland 2. The wetland boundary is outlined in **Figure 6, Appendix B**.

Dominant vegetation in the wetland consisted of narrow-leaved cattail (*Typha angustifolia*) and reed canary grass (*Phalaris arundinacea)* in the herb stratum. Hydric soil indicators consisted of Redox Dark Surface (F6). Hydrology indicators included Dry-Season Water Table (C2) and FAC-Neutral Test (D5).

Dominant vegetation in the upland consisted of green ash (*Fraxinus pennsylvanica*) in the tree stratum and Kentucky bluegrass (*Poa pratensis*) in the herb stratum. Hydric soil indicators consisted of Redox Dark Surface (F6). No hydrology indicators were identified at this sample point.

The wetland boundary was placed along a slight topographic break where there was transition from the presence of wetland hydrology to the lack of wetland hydrology.

### B. Wetland 2

**Circular 39:** Type 2
**Cowardin:** PEMB
**Eggers and Reed Field Classification:** Fresh (Wet) Meadow
**Soil mapping unit:** Angus Loam, 2 to 6 percent slopes (L37B)
**No. Transects:** 1 **No. Additional Sample Points:** 0
**Wetland Flags:** 5
**Wetland Size (within Project Area):** 0.22 acre

Wetland 2 is positioned to the north of Rockford Road and to the west of the southbound exit ramp to Rockford Road, adjacent to the roadway. The wetland is located at the toe of a large hill to the south and a steep roadway slope to the east. Water overflows from Wetland 1 into Wetland 2. A wet ditch (Wet Ditch 1) also flows along the ramp from the south into Wetland 2. The wetland is characterized as fresh (wet) meadow. The wetland boundary is outlined in **Figure 6, Appendix B**.

Dominant vegetation in the wetland consisted of reed canary grass (*Phalaris arundinacea*) in the herb stratum. Hydric soil indicators consisted of Redox Dark Surface (F6). Hydrology indicators included Dry-Season Water Table (C2) and FAC-Neutral Test (D5).

Dominant vegetation in the upland consisted of Kentucky bluegrass (*Poa pratensis*) in the herb stratum. No hydric soil indicators or hydrology indicators were identified at this sample point.

The wetland boundary was placed along a slight topographic break slightly above the toe of the adjacent slopes.

**C. Wetland 3**
**Circular 39:** Type 1/3
**Cowardin:** PEMA/PEMC
**Eggers and Reed Field Classification:** Seasonally Flooded Basin/Shallow Marsh
**Soil mapping unit:** Udorthents (cut and fill land) (U3B)
**No. Transects:** 1 **No. Additional Sample Points:** 0
**Wetland Flags:** 0
**Wetland Size (within Project Area):** 1.8 acres

Wetland 3 is positioned north of Rockford Road and east of the I-494 northbound entrance ramp. A constructed slope to a parking lot is located at the east side of the basin. The wetland has a seasonally flooded, forested perimeter to the north, east, and south. The west side of the wetland is adjacent to the entrance ramp slope. The wetland transitions from the seasonally flooded perimeter to a shallow marsh towards the center. The wetland boundary is outlined in **Figure 6, Appendix B**.

Dominant vegetation in the wetland consisted of common buckthorn (*Rhamnus cathartica*) and eastern cottonwood (*Populus deltoides*) in the tree stratum, common buckthorn (*Rhamnus cathartica*) in the herb stratum, and bittersweet nightshade (*Solanum dulcamara*) in the woody vine stratum. Hydric soil indicators consisted of Depleted Below Dark Surface (A11). Hydrology indicators included Water-Stained Leaves (B9).

Dominant vegetation in the upland consisted of box elder (*Acer negundo*) in the tree stratum, box elder (*Acer negundo*) and common buckthorn (*Rhamnus cathartica*) in the sapling/shrub stratum, and Virginia creeper (*Parthenocissus quinquefolia*) in the woody vine stratum. No hydric soil indicators or hydrology indicators were identified at this sample point.

The wetland boundary was placed along a slight topographic break slightly above the toe of the adjacent slopes.

**D. Wetland 4**
**Circular 39:** Type 3
**Cowardin:** PEMC
**Eggers and Reed Field Classification:** Shallow Marsh
**Soil mapping unit:** Urban land-Udorthents, wet substratum, complex (U1A)
**No. Transects:** 0 **No. Additional Sample Points:** uphill of connected Wet Ditch 6
**Wetland Flags:** 7
**Wetland Size (within Project Area):** 0.54 acre

Wetland 4 is positioned east of the northbound exit ramp to Rockford Road. The wetland is located downhill of Wetland 5, Wet Ditch 6 and Wet Ditch 7. Wetland 4 outlets to the northeast. The wetland is characterized as a shallow marsh. The wetland boundary is outlined in **Figure 6, Appendix B**. No sample points were taken at Wetland 4, but wetland and upland sample points were taken at the top of Wetland 5, which contained similar plant community characteristics to Wetland 4.

Dominant vegetation at the wetland sample point consisted of reed canary grass (*Phalaris arundinacea*) in the herb stratum. Hydric soil indicators consisted of Redox Dark Surface (F6). Hydrology indicators included Geomorphic Position (D2) and FAC-Neutral Test (D5).

Dominant vegetation in the upland consisted of reed canary grass (*Phalaris arundinacea*) in the herb stratum. No hydric soil indicators or hydrology indicators were identified at this sample point.

The wetland boundary of Wetland 4 was placed along a topographic break slightly above the toe of the adjacent slopes.

**E. Wetland 5**
**Circular 39:** Type 1
**Cowardin:** PEMA
**Eggers and Reed Field Classification:** Seasonally Flooded
**Soil mapping unit:** Udorthents (cut and fill land) (U3B), Lester Loam (L22C2)
**No. Transects:** 0 **No. Additional Sample Points:** uphill of Wet Ditch 6
**Wetland Flags:** 0
**Wetland Size (within Project Area):** 0.29 acres

Wetland 5 is positioned east of the northbound exit ramp to Rockford Road. The wetland is located uphill of Wet Ditch 6 and Wetland 4. The wetland is characterized as a seasonally flooded basin. The wetland boundary is outlined in **Figure 6, Appendix B**. One sample point was taken at Wetland 5.

Dominant vegetation at the wetland sample point consisted of reed canary grass (*Phalaris arundinacea*) in the herb stratum. Hydric soil indicators consisted of Redox Dark Surface (F6). Hydrology indicators included Geomorphic Position (D2) and FAC-Neutral Test (D5).

Dominant vegetation in the upland consisted of reed canary grass (*Phalaris arundinacea*) in the herb stratum. No hydric soil indicators or hydrology indicators were identified at this sample point.

The wetland boundary of Wetland 5 was placed along a topographic break slightly above the toe of the adjacent slopes where vegetation transitioned from upland to wetland species.

**F. Additional Sampled Areas**

No additional areas were sampled.

**G. Additional Water Resources**

In addition to the wetlands identified within this report, the project area also contained a total of eight wet ditches and two stormwater ponds. The following are descriptions of the additional water resources:

Wet Ditch 1: Wet Ditch 1 is located north of Rockford Road and west of the southbound exit ramp onto Rockford Road. The ditch flows from the corner of these two roadways to the north into Wetland 2. The areas adjacent to the east, west, and south are upland.

Wet Ditch 2: Wet Ditch 2 is located to the west of I-494 and to the east of the I-494 southbound exit ramp to Rockford Road. The ditch is located adjacent to a hill to the west and roadway to the east, both of which are upland areas.

Wet Ditch 3: Wet Ditch 3 is located to the west of I-494 and to the east of the I-494 southbound entrance ramp onto I-494. The ditch is located adjacent to a hill to the west and a roadway to the east, both of which are upland areas.

Wet Ditch 4: Wet Ditch 4 is located to the west of the I-494 southbound entrance ramp onto I-494. The ditch is adjacent to a roadway to the east and a hill to the west, both of which are upland areas.

Wet Ditch 5: Wet Ditch 5 is located to the east of the northbound entrance ramp onto I-494. The wet ditch generally flows from north to south through an upland area into Wetland 3.

Wet Ditch 6: Wet Ditch 6 is located to the east of the northbound exit ramp onto Rockford Road. The ditch generally begins at the bottom of Wetland 5 and flows south through an upland area into Wetland 4.

Wet Ditch 7: Wet Ditch 7 is located to the east of I-494 and south of Wetland 4. The wet ditch generally flows from the south to the north through upland into Wetland 4.

Wet Ditch 8: Wet Ditch 8 is located to the west of the I-494 southbound exit ramp onto Rockford Road. The wet ditch is located between a steep hill and I-494.

Stormwater Pond 1: Pond 1 is located within the interchange to the east of I-494 and to the west of the northbound ramp onto I-494. The area is a shallow marsh near the edges and shallow open water at the center. The stormwater pond was developed within MnDOT right-of-way for drainage. Based on historic aerial photography, the stormwater pond was created in 2015. The pond was excavated from within an upland area. The general stormwater pond area is outlined in white on the photos below.

2014 

2015 

Stormwater Pond 2: Pond 2 is located within the interchange to the east of I-494 and to the west of the northbound exit ramp onto Rockford Road. The pond is used as an infiltration area by MnDOT and was developed between 2016 and 2017, as shown on aerial photographs. The pond was excavated from within an upland area. The general pond area is outlined in white on the photos below.

2016 

2017 

## IV. Summary and Closing Statements

Five wetlands, eight wet ditches, and two stormwater ponds were delineated within the project area using the Level 2 method.

The wetland delineation report was completed by Roxy Franta of WSB & Associates, Inc. This delineation report is being submitted as a request for approval of Wetland Type and Boundary of the wetland described herein as well as a No Loss determination for wetland areas which appear to have been incidentally created within upland. The application for Boundary and Type/No Loss Approval is included along with this report.

## V. References

The following sources of information were reviewed to assist in performing the wetland delineation.

Literature Sources

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United States Army Corps of Engineers- St. Paul District and Minnesota Board of Water & Soil Resources. March 4, 2015. Guidance for Submittal of Delineation Reports to the St. Paul District Army Corps of Engineers and Wetland Conservation Act Local Governmental Units in Minnesota, Version 2.0.

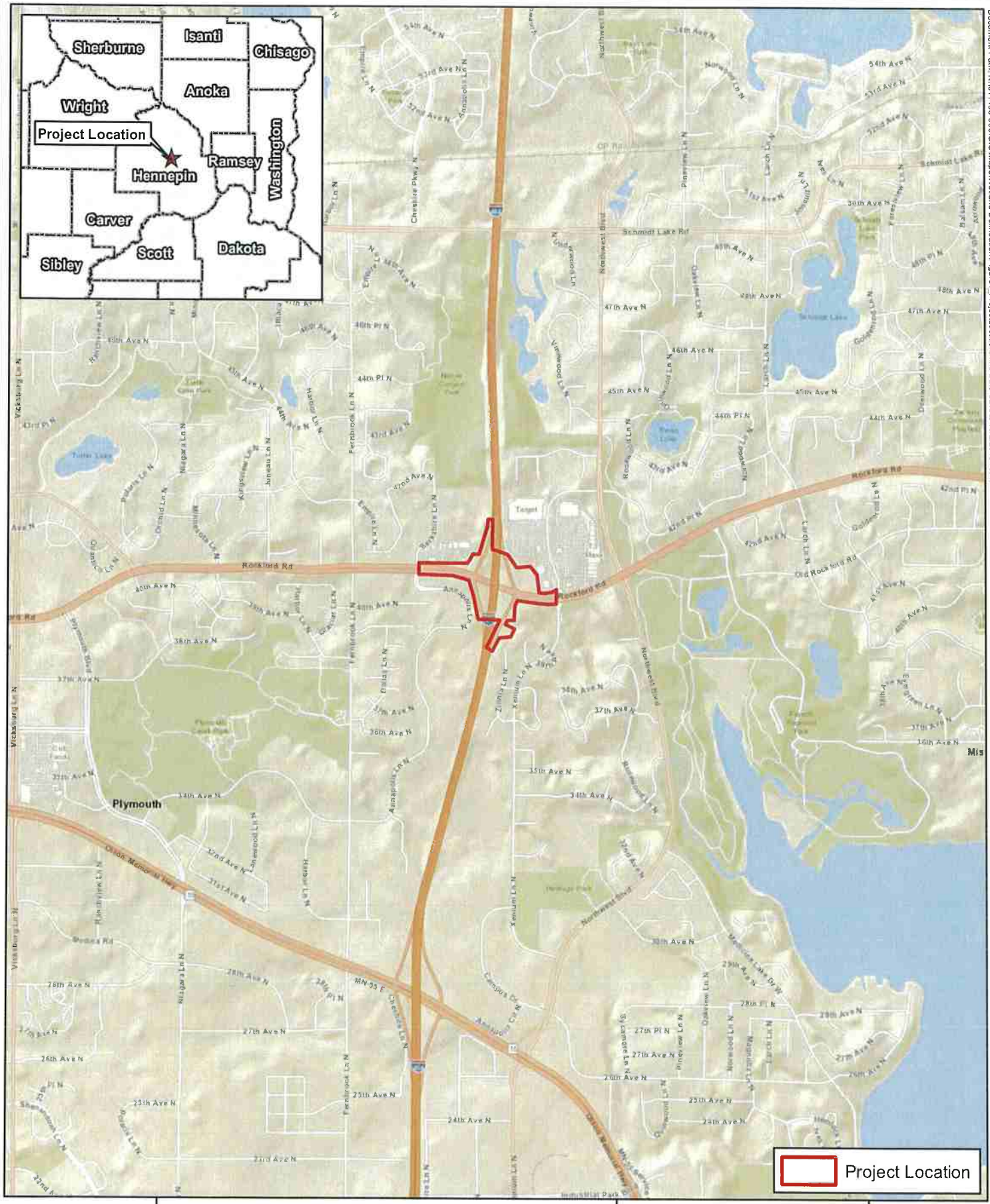
United States Army Corps of Engineers. 1987 2014. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1. Version 2.0 Waterways Experiment Station.

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Webs Soil Survey, Minnesota. Available online at http://websoilsurvey.nrcs.usda.gov/. Accessed 9/26/2018.

# APPENDIX

## APPENDIX A

Figure 1: Project Location
Figure 2: Topography
Figure 3: DNR Public Waters Inventory
Figure 4: National Wetlands Inventory
Figure 5: Hennepin County Soil Survey




# Figure 1 - Project Location

CSAH 9 (Rockford Road)/I-494 Interchange Project
City of Plymouth

City of Plymouth Minnesota

N

0 2,000 Feet

1 inch = 2,000 feet

WSB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# Figure 2 - Topography

CSAH 9 (Rockford Road)/I-494 Interchange Project
City of Plymouth

City of Plymouth Minnesota

N

0 300 Feet

1 inch = 300 feet

WSB


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# Figure 3 - DNR Public Waters Inventory

CSAH 9 (Rockford Road)/I-494 Interchange Project
City of Plymouth

City of Plymouth Minnesota

N

0 300 Feet

1 inch = 300 feet

WSB


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# Figure 4 - National Wetlands Inventory

CSAH 9 (Rockford Road)/I-494 Interchange Project
City of Plymouth

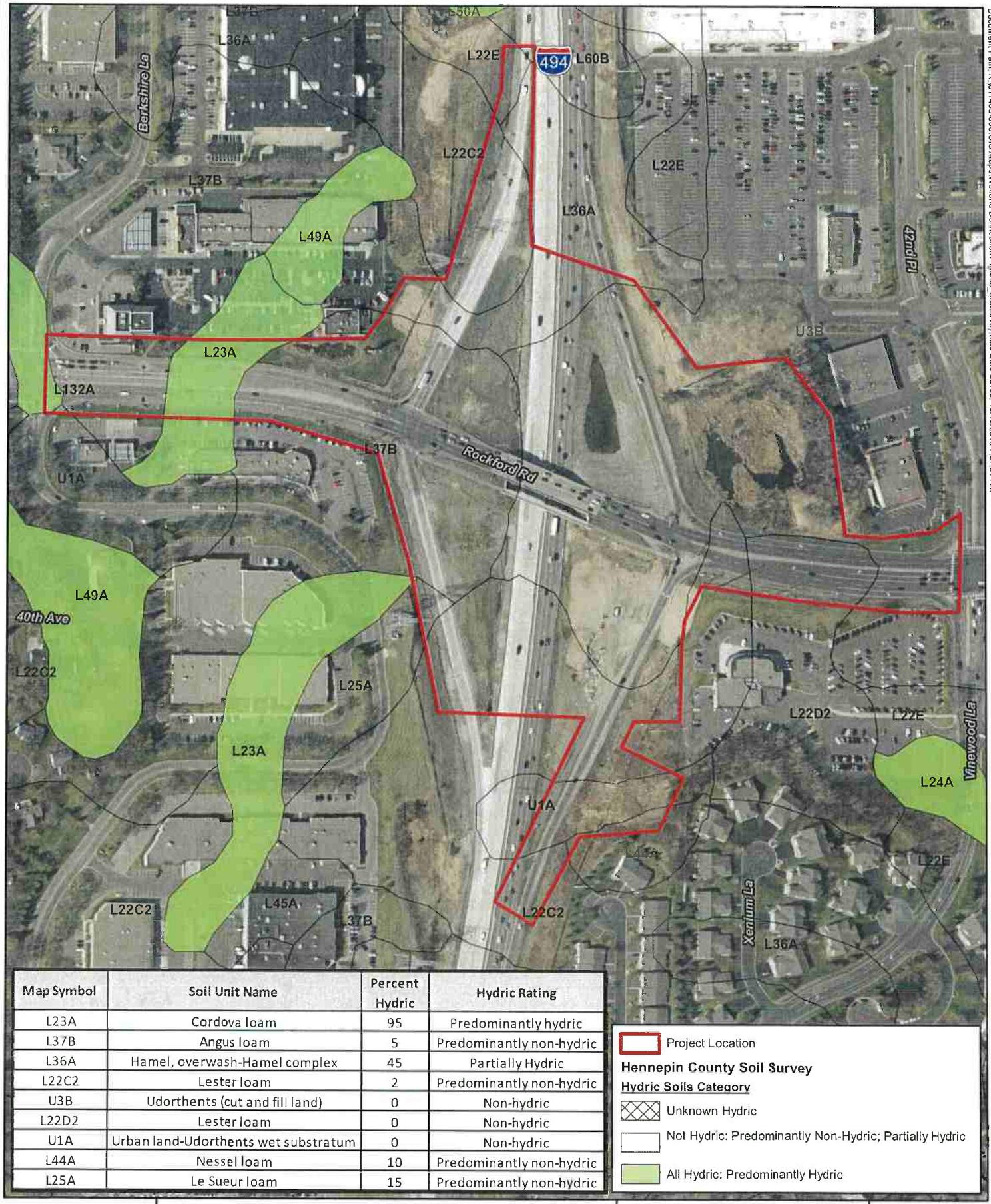
City of Plymouth Minnesota

N

0 300 Feet

1 inch = 300 feet

WSB




| Map Symbol | Soil Unit Name | Percent Hydric | Hydric Rating |
|---|---|---|---|
| L23A | Cordova loam | 95 | Predominantly hydric |
| L37B | Angus loam | 5 | Predominantly non-hydric |
| L36A | Hamel, overwash-Hamel complex | 45 | Partially Hydric |
| L22C2 | Lester loam | 2 | Predominantly non-hydric |
| U3B | Udorthents (cut and fill land) | 0 | Non-hydric |
| L22D2 | Lester loam | 0 | Non-hydric |
| U1A | Urban land-Udorthents wet substratum | 0 | Non-hydric |
| L44A | Nessel loam | 10 | Predominantly non-hydric |
| L25A | Le Sueur loam | 15 | Predominantly non-hydric |

Project Location

**Hennepin County Soil Survey**

**Hydric Soils Category**

Unknown Hydric

Not Hydric: Predominantly Non-Hydric; Partially Hydric

All Hydric: Predominantly Hydric

City of Plymouth Minnesota

# Figure 5 - Hennepin County Soil Survey

CSAH 9 (Rockford Road)/I-494 Interchange Project
City of Plymouth

N

0 300 Feet

1 inch = 300 feet

WSB

# APPENDIX

## APPENDIX B

Figure 6: Wetland Boundary
Wetland Determination Data Forms


Document Path: K:\011485-000\GIS\Mapsl\Wetland Delineation\Figure6_WetlandBoundary.mxd Date Saved: 11/14/2018 8:55:54 AM

**Figure 6 - Wetland Boundary**

City of Plymouth Minnesota

CSAH 9 (Rockford Road)/I-494 Interchange Project
City of Plymouth

N

0 300 Feet
1 inch = 300 feet

wsb

# WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: CSAH 9/I-494 Interchange Project | City/County: Plymouth/Hennepin | Sampling Date: 9/25/18

Applicant/Owner: City of Plymouth | State: MN | Sampling Point: 1-Up

Investigator(s): RF | Section, Township, Range: 15,118,22

Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): Linear

Slope (%): 20 | Lat: 45.029414 | Long: -93.455788 | Datum: WGS 84

Soil Map Unit Name: Cordova loam, 0 to 2 percent slopes | NWI Classification: None

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

Are vegetation ____, soil ____, 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? | Y |
| Hydric soil present? | Y |
| Indicators of wetland hydrology present? | N |
| **Is the sampled area within a wetland?** | N |
| If yes, optional wetland site ID: | |

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

Area is mowed.

## VEGETATION -- Use scientific names of plants.

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species | Indicator Staus |
|---|---|---|---|
| 1 *Fraxinus pennsylvanica* | 10 | Y | FACW |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 10 = Total Cover | | |
| **Sapling/Shrub stratum (Plot size: 15)** | | | |
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 0 = Total Cover | | |
| **Herb stratum (Plot size: 5)** | | | |
| 1 *Poa pratensis* | 95 | Y | FAC |
| 2 *Glechoma hederacea* | 5 | N | FACU |
| 3 *Taraxacum officinale* | 3 | N | FACU |
| 4 *Cirsium arvense* | 2 | N | FACU |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |
| | 105 = Total Cover | | |
| **Woody vine stratum (Plot size: 30)** | | | |
| 1 | | | |
| 2 | | | |
| | 0 = Total Cover | | |

### Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

### Prevalence Index Worksheet

Total % Cover of:

| | | | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 10 | x 2 = | 20 |
| FAC species | 95 | x 3 = | 285 |
| FACU species | 10 | x 4 = | 40 |
| UPL species | 0 | x 5 = | 0 |
| Column totals | 115 (A) | | 345 (B) |

Prevalence Index = B/A = 3.00

### Hydrophytic Vegetation Indicators:

- ____ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X 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?** Y

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

## SOIL

**Sampling Point:** 1-Up

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (Inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type* | Loc** | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-6 | 10YR 2/1 | 100 | | | | | Clay Loam | |
| 6-9 | 10YR 2/1 | 98 | 10YR 4/6 | 2 | C | M | Clay Loam | |
| 9-12 | 10YR 2/1 | 80 | 10YR 4/6 | 10 | C | M | Clay Loam | |
| | | | 10YR 6/3 | 10 | D | M | Clay Loam | Fill |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

**Hydric Soil Indicators:**

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

**Indicators for Problematic Hydric Soils:**

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

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

**Restrictive Layer (if observed):**

Type: Fill

Depth (inches): 12

**Hydric soil present?** Y

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

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

Secondary Indicators (minimum of two required)

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

**Field Observations:**

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

**Indicators of wetland hydrology present?** N

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

Remarks:

# WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: CSAH 9/I-494 Interchange Project | City/County: Plymouth/Hennepin | Sampling Date: 9/25/18

Applicant/Owner: City of Plymouth | State: MN | Sampling Point: 1-Wet

Investigator(s): RF | Section, Township, Range: 15, 118, 22

Landform (hillslope, terrace, etc.): Toeslope | Local relief (concave, convex, none): Concave

Slope (%): 0 | Lat: 45.029414 | Long: -93.455788 | Datum: WGS 84

Soil Map Unit Name: Cordova loam, 0 to 2 percent slopes | NWI Classification: PEM1C

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

Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal circumstances" present? No

Are vegetation ____, soil ____, or hydrology ____ naturally problematic? (If needed, explain any answers in remarks.)

## SUMMARY OF FINDINGS

| | |
|---|---|
| Hydrophytic vegetation present? | Y |
| Hydric soil present? | Y |
| Indicators of wetland hydrology present? | Y |
| **Is the sampled area within a wetland?** | Y |
| If yes, optional wetland site ID: | Wetland 1 |

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

There is a parking lot to the north and a retaining wall to the south. Much of the surrounding area is mowed.

## VEGETATION -- Use scientific names of plants.

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species | Indicator Staus |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 0 | = Total Cover | |

| Sapling/Shrub stratum (Plot size: 15) | | | |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 0 | = Total Cover | |

| Herb stratum (Plot size: 5) | | | |
|---|---|---|---|
| 1 *Typha angustifolia* | 70 | Y | OBL |
| 2 *Phalaris arundinacea* | 30 | Y | FACW |
| 3 *Poa pratensis* | 15 | N | FAC |
| 4 *Juncus effusus* | 15 | N | OBL |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |
| | 130 | = Total Cover | |

| Woody vine stratum (Plot size: 30) | | | |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| | 0 | = Total Cover | |

### Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

### Prevalence Index Worksheet

Total % Cover of:

| | | | |
|---|---|---|---|
| OBL species | 85 | x 1 = | 85 |
| FACW species | 30 | x 2 = | 60 |
| FAC species | 15 | x 3 = | 45 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column totals | 130 (A) | | 190 (B) |

Prevalence Index = B/A = 1.46

### Hydrophytic Vegetation Indicators:

- ____ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X 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?** Y

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

## SOIL

**Sampling Point:** 1-Wet

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

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

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

**Hydric Soil Indicators:**

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

**Indicators for Problematic Hydric Soils:**

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

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

**Restrictive Layer (if observed):**

Type: Fill

Depth (inches): 18"

**Hydric soil present?** Y

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

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

Secondary Indicators (minimum of two required)

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

**Field Observations:**

| | | | | | |
|---|---|---|---|---|---|
| Surface water present? | Yes | | No | X | Depth (inches): |
| Water table present? | Yes | X | No | | Depth (inches): 16" |
| Saturation present? (includes capillary fringe) | Yes | X | No | | Depth (inches): 12" |

**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: CSAH 9/I-494 Interchange Project | City/County: Plymouth/Hennepin | Sampling Date: 9/25/18

Applicant/Owner: City of Plymouth | State: MN | Sampling Point: 2-Up

Investigator(s): RF | Section, Township, Range: 15,118,22

Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): Linear

Slope (%): 0 | Lat: 45.029414 | Long: -93.455788 | Datum: WGS 84

Soil Map Unit Name: Hamel, overwash-Hamel complex, 0 to 3 percent slopes | NWI Classification: None

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

Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal circumstances" present? No

Are vegetation ____, soil ____, or hydrology ____ naturally problematic? (If needed, explain any answers in remarks.)

## SUMMARY OF FINDINGS

| | |
|---|---|
| Hydrophytic vegetation present? | Y |
| Hydric soil present? | N |
| Indicators of wetland hydrology present? | N |

**Is the sampled area within a wetland?** N

If yes, optional wetland site ID: PEM1A

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

Mowed area.

## VEGETATION -- Use scientific names of plants.

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species | Indicator Staus |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 0 | = Total Cover | |

| Sapling/Shrub stratum (Plot size: 15) | | | |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 0 | = Total Cover | |

| Herb stratum (Plot size: 5) | | | |
|---|---|---|---|
| 1 *Poa pratensis* | 98 | Y | FAC |
| 2 *Trifolium repens* | 2 | N | FACU |
| 3 *Cirsium arvense* | 2 | N | FACU |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |
| | 102 | = Total Cover | |

| Woody vine stratum (Plot size: 30) | | | |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| | 0 | = Total Cover | |

### Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

### Prevalence Index Worksheet

Total % Cover of:

| | | | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 98 | x 3 = | 294 |
| FACU species | 4 | x 4 = | 16 |
| UPL species | 0 | x 5 = | 0 |
| Column totals | 102 (A) | | 310 (B) |

Prevalence Index = B/A = 3.04

### Hydrophytic Vegetation Indicators:

- ___ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- ___ 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?** Y

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

## SOIL

**Sampling Point:** 2-Up

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (Inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type* | Loc** | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-6 | 10YR 2/1 | 100 | | | | | Loam | |
| 6-12 | 10YR 2/2 | 100 | | | | | Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

**Hydric Soil Indicators:**

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

**Indicators for Problematic Hydric Soils:**

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

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

**Restrictive Layer (if observed):**

Type: Fill

Depth (inches): 12"

**Hydric soil present?** N

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

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

Secondary Indicators (minimum of two required)

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

**Field Observations:**

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

**Indicators of wetland hydrology present?** N

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

Remarks:

# WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: CSAH 9/I-494 Interchange Project | City/County: Plymouth/Hennepin | Sampling Date: 9/25/18

Applicant/Owner: City of Plymouth | State: MN | Sampling Point: 2-Wet

Investigator(s): RF | Section, Township, Range: 15,118,22

Landform (hillslope, terrace, etc.): Toeslope | Local relief (concave, convex, none): None

Slope (%): 0 | Lat: 45.029414 | Long: -93.455788 | Datum: WGS 84

Soil Map Unit Name: Hamel, overwash-Hamel complex, 0 to 3 percent slopes | NWI Classification:

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

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

Are vegetation ____, soil ____, or hydrology ____ naturally problematic? (If needed, explain any answers in remarks.)

## SUMMARY OF FINDINGS

| | | | |
|---|---|---|---|
| Hydrophytic vegetation present? | Y | **Is the sampled area within a wetland?** | Y |
| Hydric soil present? | Y | f yes, optional wetland site ID: | PEM1A |
| Indicators of wetland hydrology present? | Y | | |

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

## VEGETATION -- Use scientific names of plants.

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species | Indicator Staus |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 0 | = Total Cover | |
| **Sapling/Shrub stratum (Plot size: 15)** | | | |
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 0 | = Total Cover | |
| **Herb stratum (Plot size: 5)** | | | |
| 1 *Phalaris arundinacea* | 95 | Y | FACW |
| 2 *Poa pratensis* | 15 | N | FAC |
| 3 *Solidago gigantea* | 5 | N | FACW |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |
| | 115 | = Total Cover | |
| **Woody vine stratum (Plot size: 30)** | | | |
| 1 *Solanum dulcamara* | 2 | | FAC |
| 2 | | | |
| | 2 | = Total Cover | |

**Dominance Test Worksheet**

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

**Prevalence Index Worksheet**

Total % Cover of:

| | | | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 100 | x 2 = | 200 |
| FAC species | 17 | x 3 = | 51 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column totals | 117 (A) | | 251 (B) |

Prevalence Index = B/A = 2.15

**Hydrophytic Vegetation Indicators:**

- ___ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X 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?** Y

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

## SOIL

**Sampling Point:** 2-Wet

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (Inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type* | Loc** | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-5 | 10YR 2/1 | 95 | 10YR 5/8 | 5 | C | M | Mucky Loam | |
| 5-18 | 10YR 2/1 | 60 | 10YR 7/1 | 30 | D | M | Clay Loam | |
| | | | 10YR 5/8 | 10 | C | M | Clay Loam | |
| 18-24 | 10YR 2/1 | 100 | | | | | Clay Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

**Hydric Soil Indicators:**

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

**Indicators for Problematic Hydric Soils:**

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

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

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric soil present?** Y

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

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

Secondary Indicators (minimum of two required)

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

**Field Observations:**

| | | | | | |
|---|---|---|---|---|---|
| Surface water present? | Yes | | No | X | Depth (inches): |
| Water table present? | Yes | X | No | | Depth (inches): 12 |
| Saturation present? (includes capillary fringe) | Yes | X | No | | Depth (inches): 9 |

**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: CSAH 9/I-494 Interchange Project | City/County: Plymouth/Hennepin | Sampling Date: 9/25/18

Applicant/Owner: City of Plymouth | State: MN | Sampling Point: 3-Up

Investigator(s): RF | Section, Township, Range: 15,118,22

Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): Linear

Slope (%): 30 | Lat: 45.029414 | Long: -93.455788 | Datum: WGS 84

Soil Map Unit Name: Hamel, overwash-Hamel complex, 0 to 3 percent slopes | NWI Classification: None

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

Are vegetation ____, soil ____, 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? Y | **Is the sampled area within a wetland?** N |
| Hydric soil present? N | If yes, optional wetland site ID: PEM1A |
| Indicators of wetland hydrology present? N | |

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

Constructed slope adjacent to parking lot.

### VEGETATION -- Use scientific names of plants.

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species | Indicator Staus |
|---|---|---|---|
| 1 *Acer negundo* | 80 | Y | FAC |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 80 = Total Cover | | |

| Sapling/Shrub stratum (Plot size: 15) | | | |
|---|---|---|---|
| 1 *Acer negundo* | 10 | Y | FAC |
| 2 *Rhamnus cathartica* | 10 | Y | FAC |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 20 = Total Cover | | |

| Herb stratum (Plot size: 5) | | | |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |
| | 0 = Total Cover | | |

| Woody vine stratum (Plot size: 30) | | | |
|---|---|---|---|
| 1 *Parthenocissus quinquefolia* | 5 | Y | FACU |
| 2 | | | |
| | 5 = Total Cover | | |

**Dominance Test Worksheet**

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across all Strata: 4 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 75.00% (A/B)

**Prevalence Index Worksheet**

Total % Cover of:

| | | | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 100 | x 3 = | 300 |
| FACU species | 5 | x 4 = | 20 |
| UPL species | 0 | x 5 = | 0 |
| Column totals | 105 (A) | | 320 (B) |

Prevalence Index = B/A = 3.05

**Hydrophytic Vegetation Indicators:**

- ___ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- ___ 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?** Y

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

## SOIL

**Sampling Point:** 3-Up

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (Inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type* | Loc** | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-24 | 10YR 2/2 | 100 | | | | | Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

**Hydric Soil Indicators:**

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

**Indicators for Problematic Hydric Soils:**

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

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

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric soil present?** N

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

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

Secondary Indicators (minimum of two required)

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

**Field Observations:**

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

**Indicators of wetland hydrology present?** N

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

Remarks:

# WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: CSAH 9/I-494 Interchange Project | City/County: Plymouth/Hennepin | Sampling Date: 9/25/18

Applicant/Owner: City of Plymouth | State: MN | Sampling Point: 3-Wet

Investigator(s): RF | Section, Township, Range: 15,118,22

Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): Concave

Slope (%): 20 | Lat: 45.029414 | Long: -93.455788 | Datum: WGS 84

Soil Map Unit Name: Udorthents (cut and fill land), 0 to 6 percent slopes | NWI Classification: None

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

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

Are vegetation ____, soil ____, or hydrology ____ naturally problematic? (If needed, explain any answers in remarks.)

## SUMMARY OF FINDINGS

| | |
|---|---|
| Hydrophytic vegetation present? Y | **Is the sampled area within a wetland?** Y |
| Hydric soil present? Y | If yes, optional wetland site ID: PEM1C |
| Indicators of wetland hydrology present? Y | |

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

## VEGETATION -- Use scientific names of plants.

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species | Indicator Staus |
|---|---|---|---|
| 1 *Rhamnus cathartica* | 85 | Y | FAC |
| 2 *Populus deltoides* | 70 | Y | FAC |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 155 | = Total Cover | |
| **Sapling/Shrub stratum (Plot size: 15)** | | | |
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 0 | = Total Cover | |
| **Herb stratum (Plot size: 5)** | | | |
| 1 *Rhamnus cathartica* | 85 | Y | FAC |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |
| | 85 | = Total Cover | |
| **Woody vine stratum (Plot size: 30)** | | | |
| 1 *Solanum dulcamara* | 2 | | FAC |
| 2 | | | |
| | 2 | = Total Cover | |

### Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across all Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

### Prevalence Index Worksheet

Total % Cover of:

| | | | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 242 | x 3 = | 726 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column totals | 242 (A) | | 726 (B) |

Prevalence Index = B/A = 3.00

### Hydrophytic Vegetation Indicators:

- ___ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X 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?** Y

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

## SOIL

**Sampling Point:** 3-Wet

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (Inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type* | Loc** | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-3 | 10YR 2/1 | 100 | | | | | Loam | |
| 3-9 | 10YR 2/2 | 98 | 10YR 6/1 | 2 | D | M | Loam | |
| 9-24 | 10YR 4/1 | 98 | 10YR 7/8 | 2 | C | M | Sandy Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

**Hydric Soil Indicators:**

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

**Indicators for Problematic Hydric Soils:**

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

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

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric soil present?** Y

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

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

Secondary Indicators (minimum of two required)

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

**Field Observations:**

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

**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: CSAH 9/I-494 Interchange Project | City/County: Plymouth/Hennepin | Sampling Date: 9/25/18

Applicant/Owner: City of Plymouth | State: MN | Sampling Point: 5-Up

Investigator(s): RF | Section, Township, Range: 15,118,22

Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): Linear

Slope (%): 25 | Lat: 45.029414 | Long: -93.455788 | Datum: WGS 84

Soil Map Unit Name: Hamel, overwash-Hamel complex, 0 to 3 percent slopes | NWI Classification: None

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

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

Are vegetation ____, soil ____, or hydrology ____ naturally problematic?

### SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

| | |
|---|---|
| Hydrophytic vegetation present? | Y |
| Hydric soil present? | N |
| Indicators of wetland hydrology present? | N |
| **Is the sampled area within a wetland?** | N |
| If yes, optional wetland site ID: | |

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

Area is adjacent to I-494 to the west and a car dealership to the east.

### VEGETATION -- Use scientific names of plants.

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species | Indicator Staus |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 0 | = Total Cover | |

| Sapling/Shrub stratum (Plot size: 15) | | | |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 0 | = Total Cover | |

| Herb stratum (Plot size: 5) | | | |
|---|---|---|---|
| 1 *Phalaris arundinacea* | 45 | Y | FACW |
| 2 *Solidago gigantea* | 15 | N | FACW |
| 3 *Trifolium repens* | 10 | N | FACU |
| 4 *Setaria faberi* | 8 | N | FACU |
| 5 *Tanacetum vulgare* | 5 | N | UPL |
| 6 *Poa pratensis* | 5 | N | FAC |
| 7 *Cirsium arvense* | 2 | N | FACU |
| 8 | | | |
| 9 | | | |
| 10 | | | |
| | 90 | = Total Cover | |

| Woody vine stratum (Plot size: 30) | | | |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| | 0 | = Total Cover | |

**Dominance Test Worksheet**

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

**Prevalence Index Worksheet**

Total % Cover of:

| | | | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 60 | x 2 = | 120 |
| FAC species | 5 | x 3 = | 15 |
| FACU species | 20 | x 4 = | 80 |
| UPL species | 5 | x 5 = | 25 |
| Column totals | 90 (A) | | 240 (B) |

Prevalence Index = B/A = 2.67

**Hydrophytic Vegetation Indicators:**

- ___ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- ___ 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?** Y

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

## SOIL

**Sampling Point:** 5-Up

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (Inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type* | Loc** | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-12 | 10YR 5/3 | 90 | 10YR 4/6 | 10 | C | M | Clay/Fill | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

**Hydric Soil Indicators:**

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

**Indicators for Problematic Hydric Soils:**

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

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

**Restrictive Layer (if observed):**

Type: Fill

Depth (inches): 12

**Hydric soil present?** N

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

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

Secondary Indicators (minimum of two required)

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

**Field Observations:**

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

**Indicators of wetland hydrology present?** N

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

Remarks:

# WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: CSAH 9/I-494 Interchange Project | City/County: Plymouth/Hennepin | Sampling Date: 9/25/18

Applicant/Owner: City of Plymouth | State: MN | Sampling Point: 5-Wet

Investigator(s): RF | Section, Township, Range: 15,118,22

Landform (hillslope, terrace, etc.): Toeslope | Local relief (concave, convex, none): Concave

Slope (%): 20 | Lat: 45.029414 | Long: -93.455788 | Datum: WGS 84

Soil Map Unit Name: Udorthents (cut and fill land), 0 to 6 percent slopes (U3B) | NWI Classification: None

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

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

Are vegetation ____, soil ____, or hydrology ____ naturally problematic? (If needed, explain any answers in remarks.)

## SUMMARY OF FINDINGS

| | |
|---|---|
| Hydrophytic vegetation present? Y | **Is the sampled area within a wetland?** Y |
| Hydric soil present? Y | If yes, optional wetland site ID: None |
| Indicators of wetland hydrology present? Y | |

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

Area is adjacenet to I-494 to the west and a car dealership to the east.

## VEGETATION -- Use scientific names of plants.

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 0 = Total Cover | | |

| Sapling/Shrub stratum (Plot size: 15) | | | |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 0 = Total Cover | | |

| Herb stratum (Plot size: 5) | | | |
|---|---|---|---|
| 1 *Phalaris arundinacea* | 100 | Y | FACW |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |
| | 100 = Total Cover | | |

| Woody vine stratum (Plot size: 30) | | | |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| | 0 = Total Cover | | |

**Dominance Test Worksheet**

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

**Prevalence Index Worksheet**

Total % Cover of:

| | | | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 100 | x 2 = | 200 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column totals | 100 (A) | | 200 (B) |

Prevalence Index = B/A = 2.00

**Hydrophytic Vegetation Indicators:**

- ___ Rapid test for hydrophytic vegetation
- X **Dominance test** is >50%
- X 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?** Y

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

## SOIL

**Sampling Point:** 5-Wet

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (Inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type* | Loc** | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-12 | 10YR 2/1 | 98 | 10YR 4/6 | 2 | C | M | Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

**Hydric Soil Indicators:**

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

**Indicators for Problematic Hydric Soils:**

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

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

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric soil present?** Y

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

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

Secondary Indicators (minimum of two required)

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

**Field Observations:**

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

**Indicators of wetland hydrology present?** Y

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

Remarks:

# APPENDIX

## APPENDIX C

Wetland Photos

Photo 1 - Wetland 2 facing north

Photo 2 - Wet Ditch 4 facing south

Photo 3 - Wetland 4 facing northwest

Photo 4 - Wetland 5 facing south

Photo 5 - Wetland 3 facing north

Photo 6 - Wet Ditch 5 facing northwest

Photo 7a - Stormwater Pond 1 facing northwest

Photo 7b - Stormwater Pond 1 facing southwest

Photo 8 - Wet Ditch 2 facing southeast

Photo 9 - Wet Ditch 3 facing northeast

Photo 10 - Stormwater Pond 2 facing northwest

## APPENDIX D

Antecedent Precipitation Data

# Minnesota State Climatology Office



## 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:**
**Tuesday, September 25, 2018**

**Score using 1981-2010 normal period**

| **values are in inches**<br>A 'R' following a monthly total indicates a provisional value derived from radar-based estimates. | first prior month: **August 2018** | second prior month: **July 2018** | third prior month: **June 2018** |
|---|---|---|---|
| **estimated precipitation total for this location:** | **3.32R** | **3.63R** | **4.34R** |
| **there is a 30% chance this location will have less than:** | 3.26 | 2.55 | 3.42 |
| **there is a 30% chance this location will have more than:** | 5.12 | 4.52 | 5.64 |
| **type of month:** dry normal wet | **normal** | **normal** | **normal** |
| **monthly score** | **3 * 2 = 6** | **2 * 2 = 4** | **1 * 2 = 2** |
| | | | |
| **multi-month score:**<br>6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet) | **12 (Normal)** | | |

## Other Resources:

- retrieve daily precipitation data
- view radar-based precipitation estimates
- view weekly precipitation maps
- *Evaluating Antecedent Precipitation Conditions* (BWSR)

Project Name and/or Number: CSAH 9 (Rockford Road) / I-494 Interchange Project

# *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:** City of Plymouth (Michael Thompson)
**Mailing Address:** 3400 Plymouth Boulevard, Plymouth, MN 55447
**Phone:** 763-509-5501
**E-mail Address:** mthompson@plymouthmn.gov

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

**Agent Name:** WSB & Associates (Roxy Franta)
**Mailing Address:** 701 Xenia Ave S, Suite 300, Minneapolis, MN 55416
**Phone:** 763-762-2844
**E-mail Address:** rfranta@wsbeng.com

# *PART TWO: Site Location Information*

**County: Hennepin** **City/Township: Plymouth**
**Parcel ID and/or Address: I-494 interchange at Rockford Road**
**Legal Description (Section, Township, Range): S 15, T118N, R22W**
**Lat/Long (decimal degrees): 45.028443, -93.452465**
**Attach a map showing the location of the site in relation to local streets, roads, highways. Figure 1**
**Approximate size of site (acres) or if a linear project, length (feet): 0.30 miles of CSAH 9, entrance and exit ramps**

*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.*

No known delineation approval has been granted for the project area.

*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.*

The City of Plymouth is proposing to replace the Rockford Road bridge crossing interstate I-494, reconstruct the bridge approaches and portions of the I-494 ramps, construct a multiuse trail along the north side of Rockford Road (including bridge), reconstruct a multiuse trail along the south side of Rockford Road, reconstruct a retaining wall north of Rockford Road, and make drainage improvements.

Project Name and/or Number: CSAH 9 (Rockford Road) / I-494 Interchange Project

# *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:* _____ 10/17/2018 *Date:*

*I hereby authorize* **WSB & Associates (Roxy Franta)** *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.*

Project Name and/or Number: CSAH 9 (Rockford Road) / I-494 Interchange Project

# *Attachment A*
# *Request for Delineation Review, Wetland Type Determination, or Jurisdictional Determination*

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

☒ ***Wetland Type Confirmation***

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

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

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

*In order for the Corps and LGU to process your request, the wetland delineation must be prepared in accordance with the 1987 Corps of Engineers Wetland Delineation Manual, any approved Regional Supplements to the 1987 Manual, and the Guidelines for Submitting Wetland Delineations in Minnesota (2013).*
*http://www.mvp.usace.army.mil/Missions/Regulatory/DelineationJDGuidance.aspx*

Project Name and/or Number: CSAH 9 (Rockford Road) / I-494 Interchange Project

# *Attachment B*
# *Supporting Information for Applications Involving Exemptions, No Loss Determinations, and Activities Not Requiring Mitigation*

*Complete this part **if** you maintain that the identified aquatic resource impacts in Part Four do not require wetland replacement/compensatory mitigation OR **if** you are seeking verification that the proposed water resource impacts are either exempt from replacement or are not under CWA/WCA jurisdiction.*

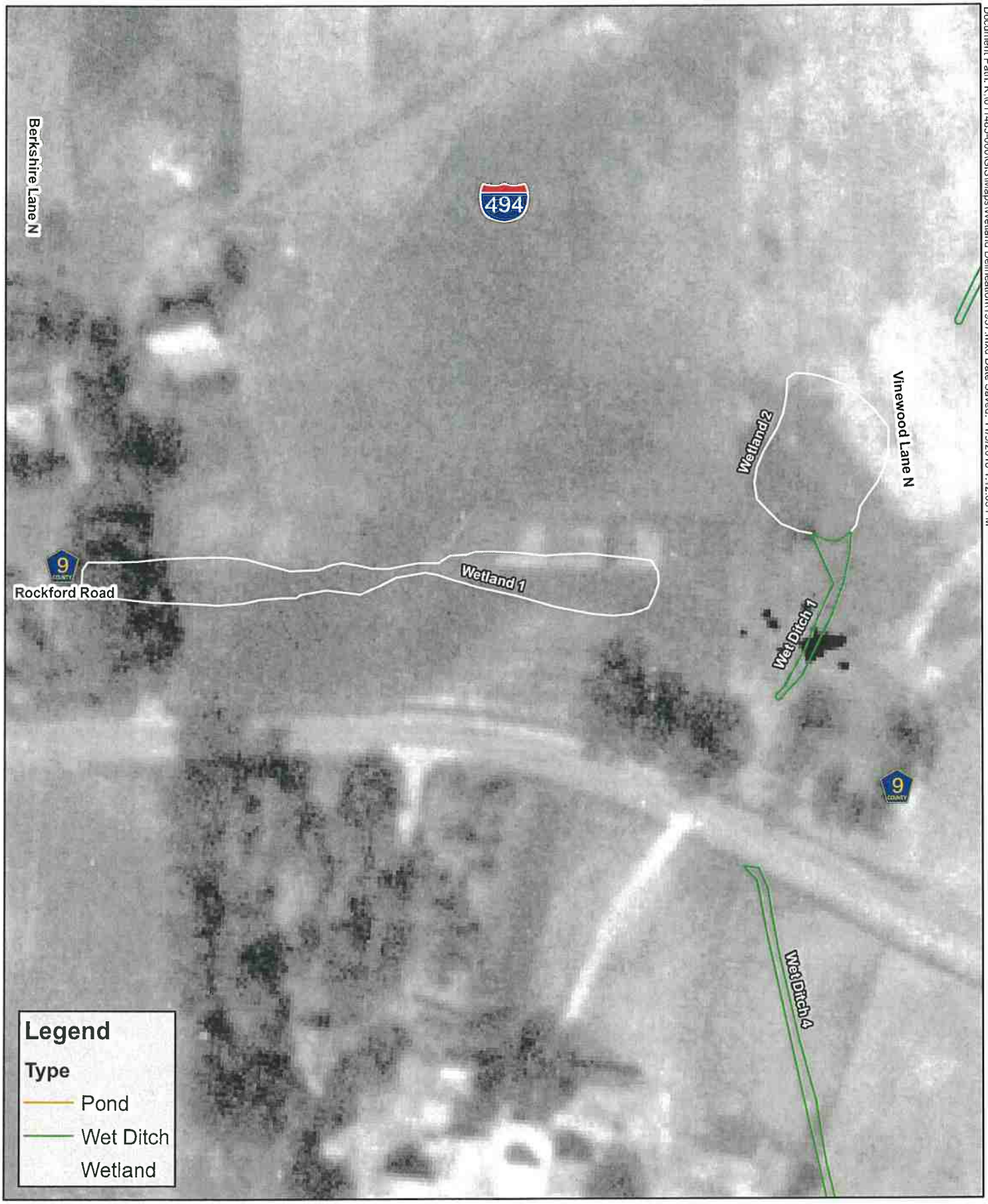
*Identify the specific exemption or no-loss provision for which you believe your project or site qualifies:*

MN Rules 8420.0105 SCOPE Subpart 2.D.

*Provide a detailed explanation of how your project or site qualifies for the above. Be specific and provide and refer to attachments and exhibits that support your contention. Applicants should refer to rules (e.g. WCA rules), guidance documents (e.g. BWSR guidance, Corps guidance letters/public notices), and permit conditions (e.g. Corps General Permit conditions) to determine the necessary information to support the application. Applicants are strongly encouraged to contact the WCA LGU and Corps Project Manager prior to submitting an application if they are unsure of what type of information to provide:*

Incidental wetlands are wetland areas that were created in non-wetland areas, not for the purpose of creating wetlands. Often, incidental wetlands occur as wet ditches along roadsides where drainage is concentrated. Eight wet ditches and two stormwater ponds were identified during the wetland delineation which appear to have been incidentally created in upland. Descriptions of the following aquatic resources are included in Section III.F of the attached delineation report.

- Wetland 1 – A review of historic aerial photography shows that few wetland signatures occur at the location of the existing wetland and that the historic wetland was likely located to the north of the existing wetland 1. The historic aerial photos are included on the following pages.
- Wet Ditch 1 – Constructed during the development of I-494.
- Wet Ditch 2 – Constructed during the development of I-494.
- Wet Ditch 3 – Constructed during the development of I-494.
- Wet Ditch 4 – Constructed during the development of I-494.
- Wet Ditch 5 – Constructed during the development of I-494.
- Wet Ditch 6 – Constructed during the development of I-494.
- Wet Ditch 7 – Constructed during the development of I-494.
- Wet Ditch 8 – Constructed during the development of I-494.
- Stormwater Pond 1 – Constructed during the development of I-494.
- Stormwater Pond 2 – Constructed during the development of I-494.




City of Plymouth Minnesota

**1937**

CSAH 9 (Rockford Road)/I-494 Interchange Project
City of Plymouth

N

0 100 Feet


Document Path: K:\011485-000\GIS\Maps\Wetland Delineation1945.mxd Date Saved: 11/9/2018 11:04:59 AM

City of Plymouth Minnesota

**1945**

CSAH 9 (Rockford Road)/I-494 Interchange Project
City of Plymouth

N

0 100 Feet


City of Plymouth Minnesota

**1956**

CSAH 9 (Rockford Road)/I-494 Interchange Project
City of Plymouth

N

0 100 Feet


Document Path: K:\011495-000\GIS\Maps\Wetland Delineation1967.mxd Date Saved: 11/9/2018 11:14:18 AM

City of Plymouth Minnesota

**1967**

CSAH 9 (Rockford Road)/I-494 Interchange Project
City of Plymouth

N

City of Plymouth Minnesota

# LEVEL 2 WETLAND DELINEATION REPORT

## CSAH 9 (ROCKFORD ROAD) / I-494 INTERCHANGE PROJECT

OCTOBER 1, 2018
UPDATED NOVEMBER 14, 2018
UPDATED NOVEMBER 28, 2018

Prepared for:
City of Plymouth
3400 Plymouth Boulevard
Plymouth, MN 55447

WSB PROJECT NO. 011485-000

WSB

# LEVEL 2 WETLAND DELINEATION REPORT

CSAH 9 (ROCKFORD ROAD) / I-494 INTERCHANGE PROJECT

For:

City of Plymouth

October 1, 2018
Updated November 14, 2018
Updated November 28, 2018

Prepared By:

# CERTIFICATION

The report was prepared by:

Roxy Franta, WDC No.1317

Date: October 1, 2018 Title: Environmental Scientist

I hereby certify that this report was reviewed by me and that I am a Certified Wetland Delineator in the State of Minnesota.

Alison Harwood, WDC No.1238

Date: October 4, 2018 Title: Senior Environmental Scientist

# TABLE OF CONTENTS

# SECTION I

## I. Introduction

### A. Project Location

The project is located at the CSAH 9 (Rockford Road) and I-494 interchange in the City of Plymouth, Hennepin County, Minnesota. The project area consists of approximately 0.30 mile of Rockford Road including Bridge No. 27W45 over I-494 and approximately 500 feet to the east and to the west of the bridge. The project also includes approximately 500 feet of the northbound entrance ramp to I-494, 600 feet of the southbound entrance ramp to I-494, 250 feet of the northbound exit ramp onto Rockford Road, and 160 feet of the southbound exit ramp onto Rockford Road. The project is located in Section 15 of Township 118 and Range 22, Major Watershed No. 20, BSA No. 7 (**Figure 1, Appendix A**).

### B. Project Purpose

The City of Plymouth is proposing to replace the Rockford Road bridge crossing I-494, reconstruct the bridge approaches and portions of the I-494 ramps, construct a multiuse trail along the north side of Rockford Road (including bridge), reconstruct a multiuse trail along the south side of Rockford Road, reconstruct a retaining wall north of Rockford Road, and make drainage improvements. This report is intended to address all jurisdictional WCA, Public Water, or Section 404 wetlands and/or waters for final design and permitting of this project. This project was authorized by the City of Plymouth.

### C. Project Scope

The scope of this project was to delineate all wetlands within the outlined project area.

### D. Summary of Findings

A Level 2 wetland delineation was performed on the site. A total of four wetlands, eight wet ditches, and two stormwater ponds were identified and delineated in the preparation of this report, as summarized in **Table 1**. For a visual representation of the wetland locations and sizes, please see **Figure 6**, **Appendix B**. All potential wetland areas (mapped hydric soils, NWI signatures, and low depressional areas) were reviewed on-site and either delineated or determined to be upland.

**Table 1.** Summary of Delineated Wetlands, CSAH 9/I-494 Interchange, Hennepin County, Minnesota

| Wetland ID | Delineation Method | No. Flags/ Transects | Eggers and Reed | Circular 39) (Cowardin) | NWI* | DNR PWI** | County Soil Survey (Hydric/ Non-Hydric)*** |
|---|---|---|---|---|---|---|---|
| Wetland 1 | Level 2 | 1-10/1 | Seasonally Flooded/ Shallow Marsh/ Open Water | Type 1/3/5 (PEMA/ PEM1C/ PUBGx) | PEM1C/ PABGx | No | **L23A**/L37B |
| Wetland 2 | Level 2 | 1-5/1 | Fresh (Wet) Meadow | Type 2 (PEMB) | PEM1A | No | L37B |

# SECTION I

| Wetland ID | Delineation Method | No. Flags/ Transects | Eggers and Reed | Circular 39) (Cowardin) | NWI* | DNR PWI** | County Soil Survey (Hydric/ Non-Hydric)*** |
|---|---|---|---|---|---|---|---|
| Wetland 3 | Level 3 | 0/1 | Seasonally Flooded Basin/ Shallow Marsh | Type 1/3 (PEMA/ PEMC) | PEM1C/ PABGx | No | U3B |
| Wetland 4 | Level 2 | 1-7/0 | Shallow Marsh | Type 3 (PEMC) | N/A | No | U1A |
| Wetland 5 | Level 2 | 0/1 | Seasonally Flooded | Type 1 (PEMA) | N/A | No | U3B/L22C2 |
| Wet Ditch 1 | Level 2 | 0/0 | Seasonally Flooded Basin | Type 1 (PEMA) | N/A | No | L37B |
| Wet Ditch 2 | Level 2 | 0/0 | Seasonally Flooded Basin | Type 1 (PEMA) | N/A | No | L37B/U3B/ **L36A** |
| Wet Ditch 3 | Level 2 | 0/0 | Seasonally Flooded Basin | Type 1 (PEMA) | N/A | No | L22C2/U3B |
| Wet Ditch 4 | Level 2 | 0/0 | Seasonally Flooded Basin | Type 1 (PEMA) | N/A | No | L37A/L25A/ L22C2 |
| Wet Ditch 5 | Level 2 | 0/0 | Seasonally Flooded Basin | Type 1 (PEMA) | N/A | No | U3B |
| Wet Ditch 6 | Level 2 | 0/0 | Seasonally Flooded Basin | Type 1 (PEMA) | N/A | No | U3B/L22C2 |
| Wet Ditch 7 | Level 2 | 0/0 | Seasonally Flooded Basin | Type 1 (PEMA) | N/A | No | U1A/L22C2 |
| Wet Ditch 8 | Level 2 | 0/0 | Seasonally Flooded Basin | Type 1 (PEMA) | N/A | No | L22C2 |
| Stormwater Pond 1 | Level 2 | 0/0 | Shallow Marsh/Open Water | Type 3/5 (PEMC/ PUBGx) | N/A | No | U3B/**L36A** |
| Stormwater Pond 2 | Level 2 | 0/0 | Shallow Marsh | Type 3 (PEMC) | N/A | No | U3B/L22C2 |

** "Yes" indicates wetland is mapped in the NWI and "No" indicates the wetland is not mapped in the NWI.*

*** "NA" indicates the wetland is not mapped in the PWI. Numbers listed are the DNR ID, indicating the wetland is mapped in the PWI.*

****Bolded numbers indicate hydric soils.*

# II. Delineation Procedure

## A. Off-Site Determination: Base Map Review

Topography: The landform is generally lower at the interchange where the configuration of I-494 has created low points for drainage. Rockford Road slopes from west to east. Water generally flows to the southeast towards Medicine Lake (DNR PWI No. 51465). The wetlands were located at low points adjacent to I-494, the I-494 ramps, and Rockford Road (**Figure 2, Appendix A**).

The *DNR Public Waters and Wetlands Map, Hennepin County, MN* (Minnesota Department of Natural Resources 1983) shows no public waters within the project area **(Figure 3, Appendix A)**.

The *National Wetlands Inventory Map* (Minnesota Department of Natural Resources) identified several wetlands as part of the National Wetlands Inventory (NWI) **(Figure 4, Appendix A)**. The NWI identifies the following wetland types: PEM1C, PABGx, and PEM1A.

The *Soil Survey of Hennepin County, Minnesota* (https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm) identified the following soils (**Table 2**) within the project area (**Figure 5, Appendix A**):

**Table 2.** Soil Survey

| Map Symbol | Soil Unit Name | Percent Hydric | Hydric Rating |
|---|---|---|---|
| L23A | Cordova loam | 95 | Predominantly hydric |
| L37B | Angus loam | 5 | Predominantly non-hydric |
| L36A | Hamel, overwash-Hamel complex | 45 | Partially Hydric |
| L22C2 | Lester loam | 2 | Predominantly non-hydric |
| U3B | Udorthents (cut and fill land) | 0 | Non-hydric |
| L22D2 | Lester loam | 0 | Non-hydric |
| U1A | Urban land-Udorthents wet substratum | 0 | Non-hydric |
| L44A | Nessel loam | 10 | Predominantly non-hydric |
| L25A | Le Sueur loam | 15 | Predominantly non-hydric |

Antecedent Climate Conditions: Historic climate data and WETS data were obtained from the Minnesota Climatology Working Group preceding the September 25, 2018 site visit, which fell within the normal precipitation range. Records of the precipitation can be found in **Appendix D**.

## B. On-Site Determination

A Level 2 field investigation was conducted by Roxy Franta (WDC No. 1317) of WSB & Associates, Inc. on September 25, 2018 within the project area. No deviation or omissions were undertaken as part of this investigation.

# SECTION II

The project area was delineated using the routine methodology described in the *Corps of Engineers Wetlands Delineation Manual* (US Army Corps of Engineers 1987), with additional guidance provided by the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0)*. Wetlands were classified according to the methodologies set forth in *Wetlands of the United States (Circular 39),* USFWS Shaw and Fredine 1971; *Classification of Wetlands and Deepwater Habitats of the United States*, Cowardin 1979; and *Wetland Plants and Plant Communities of Minnesota and Wisconsin, 2nd ed.*, Eggers and Reed 1997. The wetland types in this report are classified by the Circular 39, Cowardin, and Eggers and Reed Classifications.

Soil types were researched prior to the on-site investigation with the assistance of the *Soil Survey of Hennepin County* from the National Resources Conservation Service. All soil test pits were excavated to a minimum depth of 24 inches unless otherwise noted. Soil colors were described on-site per the *Munsell Soil Color Charts* (2009 Revised Edition) from the test pits in and adjacent to the wetlands. Hydric soils were identified using the current technical criteria for hydric soils developed by the NRCS in 2017 (Version 8.1). The presence of water was observed after time was allowed for movement of water through the substrate. This time varied depending upon soil characteristics.

The quadrant sampling method was employed for all sample points unless otherwise noted. Vegetation was measured as actual areal cover and may exceed 100 percent of total area due to overlap. Grasses and herbaceous vegetative cover were measured within a circular plot of a 5-foot-radius, all woody shrubs and saplings were measured within a circular plot with a 15-foot-radius, and trees and woody vines were measured in a 30-foot-radius circular plot. Regional plant identification resources were utilized in the identification of plant species, with indicator status taken from the *2016 National Wetland Plant List* (US Army Corps of Engineers 2016). Plant species dominance was estimated based on the absolute percent coverage for herbaceous, shrub-sapling, and tree strata if present. In addition to the use of indicators of hydrology, hydric soils, and the presence of hydrophytic vegetation, other evidence such as topographic breaks and watershed characteristics were used to determine the wetland boundary.

Midwest Regional Supplement Routine Wetland Delineation data forms were used to record vegetation, hydrology, and soil characteristics at sample points in and adjacent to the wetlands (**Appendix B**). Sampling transects were taken along the wetland-upland boundary of the wetland. Transects and delineated wetland boundaries were field surveyed using a sub-meter accuracy hand held GPS unit. Approximate sampling points and delineated wetland edges are shown on **Figure 6, Appendix B.** Pictures of each wetland can be found in **Appendix C**.

## III. Results and Wetland Information

The wetland delineation data forms (**Appendix B**) and photos (**Appendix C**) are attached. A summary of the delineation is below.

**A. Wetland 1**
**Circular 39:** Type 1/3/5
**Cowardin:** PEMA/PEM1C/PUBGx
**Eggers and Reed Field Classification:** Seasonally Flooded/Shallow Marsh/Open Water
**Soil mapping unit:** Cordova loam, 0 to 2 percent slopes (L23A)/Angus loam, 2 to 6 percent slopes (L37B)
**No. Transects:** 1 **No. Additional Sample Points:** 0
**Wetland Flags:** 10
**Wetland Size (within Project Area):** 0.30 acre

Wetland 1 is positioned north of Rockford Road to the west of the I-494 interchange. The wetland is adjacent to a paved parking lot to the north which contributes water to the wetland. A retaining wall is adjacent to the south. The wetland is characterized as a shallow marsh on the west end and an open water wetland on the east end. There is a seasonally flooded swale that connects between these two plant community types. The wetland has an overflow at the east edge where water flows overland downhill to Wetland 2. Based on a review of historic aerial photography, it appears that Wetland 1 was created in upland. The wetland boundary is outlined in **Figure 6, Appendix B**.

Dominant vegetation in the wetland consisted of narrow-leaved cattail (*Typha angustifolia*) and reed canary grass (*Phalaris arundinacea)* in the herb stratum. Hydric soil indicators consisted of Redox Dark Surface (F6). Hydrology indicators included Dry-Season Water Table (C2) and FAC-Neutral Test (D5).

Dominant vegetation in the upland consisted of green ash (*Fraxinus pennsylvanica*) in the tree stratum and Kentucky bluegrass (*Poa pratensis*) in the herb stratum. Hydric soil indicators consisted of Redox Dark Surface (F6). No hydrology indicators were identified at this sample point.

The wetland boundary was placed along a slight topographic break where there was transition from the presence of wetland hydrology to the lack of wetland hydrology.

**B. Wetland 2**
**Circular 39:** Type 2
**Cowardin:** PEMB
**Eggers and Reed Field Classification:** Fresh (Wet) Meadow
**Soil mapping unit:** Angus Loam, 2 to 6 percent slopes (L37B)
**No. Transects:** 1 **No. Additional Sample Points:** 0
**Wetland Flags:** 5
**Wetland Size (within Project Area):** 0.22 acre

Wetland 2 is positioned to the north of Rockford Road and to the west of the southbound exit ramp to Rockford Road, adjacent to the roadway. The wetland is located at the toe of a large hill to the south and a steep roadway slope to the east. Water overflows from Wetland 1 into Wetland 2. A wet ditch (Wet Ditch 1) also flows along the ramp from the south into Wetland 2. The wetland is characterized as fresh (wet) meadow. The wetland boundary is outlined in **Figure 6, Appendix B**.

Dominant vegetation in the wetland consisted of reed canary grass (*Phalaris arundinacea*) in the herb stratum. Hydric soil indicators consisted of Redox Dark Surface (F6). Hydrology indicators included Dry-Season Water Table (C2) and FAC-Neutral Test (D5).

Dominant vegetation in the upland consisted of Kentucky bluegrass (*Poa pratensis*) in the herb stratum. No hydric soil indicators or hydrology indicators were identified at this sample point.

The wetland boundary was placed along a slight topographic break slightly above the toe of the adjacent slopes.

**C. Wetland 3**
**Circular 39:** Type 1/3
**Cowardin:** PEMA/PEMC
**Eggers and Reed Field Classification:** Seasonally Flooded Basin/Shallow Marsh
**Soil mapping unit:** Udorthents (cut and fill land) (U3B)
**No. Transects:** 1 **No. Additional Sample Points:** 0
**Wetland Flags:** 0
**Wetland Size (within Project Area):** 1.8 acres

Wetland 3 is positioned north of Rockford Road and east of the I-494 northbound entrance ramp. A constructed slope to a parking lot is located at the east side of the basin. The wetland has a seasonally flooded, forested perimeter to the north, east, and south. The west side of the wetland is adjacent to the entrance ramp slope. The wetland transitions from the seasonally flooded perimeter to a shallow marsh towards the center. The wetland boundary is outlined in **Figure 6, Appendix B**.

Dominant vegetation in the wetland consisted of common buckthorn (*Rhamnus cathartica*) and eastern cottonwood (*Populus deltoides*) in the tree stratum, common buckthorn (*Rhamnus cathartica*) in the herb stratum, and bittersweet nightshade (*Solanum dulcamara*) in the woody vine stratum. Hydric soil indicators consisted of Depleted Below Dark Surface (A11). Hydrology indicators included Water-Stained Leaves (B9).

Dominant vegetation in the upland consisted of box elder (*Acer negundo*) in the tree stratum, box elder (*Acer negundo*) and common buckthorn (*Rhamnus cathartica*) in the sapling/shrub stratum, and Virginia creeper (*Parthenocissus quinquefolia*) in the woody vine stratum. No hydric soil indicators or hydrology indicators were identified at this sample point.

The wetland boundary was placed along a slight topographic break slightly above the toe of the adjacent slopes.

**D. Wetland 4**
**Circular 39:** Type 3
**Cowardin:** PEMC
**Eggers and Reed Field Classification:** Shallow Marsh
**Soil mapping unit:** Urban land-Udorthents, wet substratum, complex (U1A)
**No. Transects:** 0 **No. Additional Sample Points:** uphill of connected Wet Ditch 6
**Wetland Flags:** 7
**Wetland Size (within Project Area):** 0.54 acre

Wetland 4 is positioned east of the northbound exit ramp to Rockford Road. The wetland is located downhill of Wetland 5, Wet Ditch 6 and Wet Ditch 7. Wetland 4 outlets to the northeast. The wetland is characterized as a shallow marsh. The wetland boundary is outlined in **Figure 6, Appendix B**. No sample points were taken at Wetland 4, but wetland and upland sample points were taken at the top of Wetland 5, which contained similar plant community characteristics to Wetland 4.

Dominant vegetation at the wetland sample point consisted of reed canary grass (*Phalaris arundinacea*) in the herb stratum. Hydric soil indicators consisted of Redox Dark Surface (F6). Hydrology indicators included Geomorphic Position (D2) and FAC-Neutral Test (D5).

Dominant vegetation in the upland consisted of reed canary grass (*Phalaris arundinacea*) in the herb stratum. No hydric soil indicators or hydrology indicators were identified at this sample point.

The wetland boundary of Wetland 4 was placed along a topographic break slightly above the toe of the adjacent slopes.

**E. Wetland 5**
**Circular 39:** Type 1
**Cowardin:** PEMA
**Eggers and Reed Field Classification:** Seasonally Flooded
**Soil mapping unit:** Udorthents (cut and fill land) (U3B), Lester Loam (L22C2)
**No. Transects:** 0 **No. Additional Sample Points:** uphill of Wet Ditch 6
**Wetland Flags:** 0
**Wetland Size (within Project Area):** 0.29 acres

Wetland 5 is positioned east of the northbound exit ramp to Rockford Road. The wetland is located uphill of Wet Ditch 6 and Wetland 4. The wetland is characterized as a seasonally flooded basin. The wetland boundary is outlined in **Figure 6, Appendix B**. One sample point was taken at Wetland 5.

Dominant vegetation at the wetland sample point consisted of reed canary grass (*Phalaris arundinacea*) in the herb stratum. Hydric soil indicators consisted of Redox Dark Surface (F6). Hydrology indicators included Geomorphic Position (D2) and FAC-Neutral Test (D5).

Dominant vegetation in the upland consisted of reed canary grass (*Phalaris arundinacea*) in the herb stratum. No hydric soil indicators or hydrology indicators were identified at this sample point.

The wetland boundary of Wetland 5 was placed along a topographic break slightly above the toe of the adjacent slopes where vegetation transitioned from upland to wetland species.

**F. Additional Sampled Areas**

No additional areas were sampled.

**G. Additional Water Resources**

In addition to the wetlands identified within this report, the project area also contained a total of eight wet ditches and two stormwater ponds. The following are descriptions of the additional water resources:

Wet Ditch 1: Wet Ditch 1 is located north of Rockford Road and west of the southbound exit ramp onto Rockford Road. The ditch flows from the corner of these two roadways to the north into Wetland 2. The areas adjacent to the east, west, and south are upland.

Wet Ditch 2: Wet Ditch 2 is located to the west of I-494 and to the east of the I-494 southbound exit ramp to Rockford Road. The ditch is located adjacent to a hill to the west and roadway to the east, both of which are upland areas.

Wet Ditch 3: Wet Ditch 3 is located to the west of I-494 and to the east of the I-494 southbound entrance ramp onto I-494. The ditch is located adjacent to a hill to the west and a roadway to the east, both of which are upland areas.

Wet Ditch 4: Wet Ditch 4 is located to the west of the I-494 southbound entrance ramp onto I-494. The ditch is adjacent to a roadway to the east and a hill to the west, both of which are upland areas.

Wet Ditch 5: Wet Ditch 5 is located to the east of the northbound entrance ramp onto I-494. The wet ditch generally flows from north to south through an upland area into Wetland 3.

Wet Ditch 6: Wet Ditch 6 is located to the east of the northbound exit ramp onto Rockford Road. The ditch generally begins at the bottom of Wetland 5 and flows south through an upland area into Wetland 4.

Wet Ditch 7: Wet Ditch 7 is located to the east of I-494 and south of Wetland 4. The wet ditch generally flows from the south to the north through upland into Wetland 4.

Wet Ditch 8: Wet Ditch 8 is located to the west of the I-494 southbound exit ramp onto Rockford Road. The wet ditch is located between a steep hill and I-494.

Stormwater Pond 1: Pond 1 is located within the interchange to the east of I-494 and to the west of the northbound ramp onto I-494. The area is a shallow marsh near the edges and shallow open water at the center. The stormwater pond was developed within MnDOT right-of-way for drainage. Based on historic aerial photography, the stormwater pond was created in 2015. The pond was excavated from within an upland area. The general stormwater pond area is outlined in white on the photos below.

2014 

2015 

Stormwater Pond 2: Pond 2 is located within the interchange to the east of I-494 and to the west of the northbound exit ramp onto Rockford Road. The pond is used as an infiltration area by MnDOT and was developed between 2016 and 2017, as shown on aerial photographs. The pond was excavated from within an upland area. The general pond area is outlined in white on the photos below.

2016 

2017 

# SECTION IV

## IV. Summary and Closing Statements

Five wetlands, eight wet ditches, and two stormwater ponds were delineated within the project area using the Level 2 method.

The wetland delineation report was completed by Roxy Franta of WSB & Associates, Inc. This delineation report is being submitted as a request for approval of Wetland Type and Boundary of the wetland described herein as well as a No Loss determination for wetland areas which appear to have been incidentally created within upland. The application for Boundary and Type/No Loss Approval is included along with this report.

# SECTION V

## V. References

The following sources of information were reviewed to assist in performing the wetland delineation.

Literature Sources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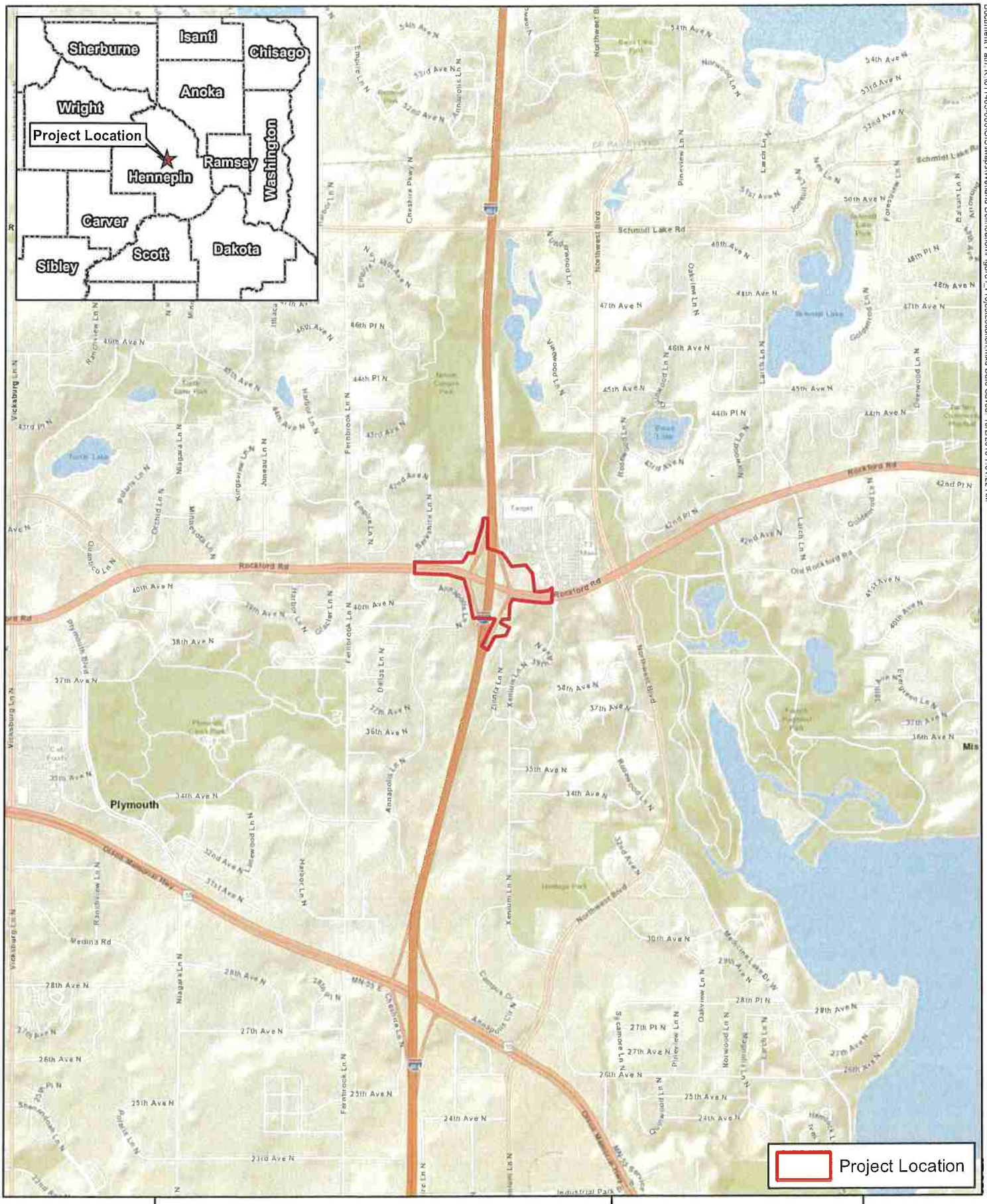
# APPENDIX

## APPENDIX A

Figure 1: Project Location
Figure 2: Topography
Figure 3: DNR Public Waters Inventory
Figure 4: National Wetlands Inventory
Figure 5: Hennepin County Soil Survey




# Figure 1 - Project Location

CSAH 9 (Rockford Road)/I-494 Interchange Project
City of Plymouth

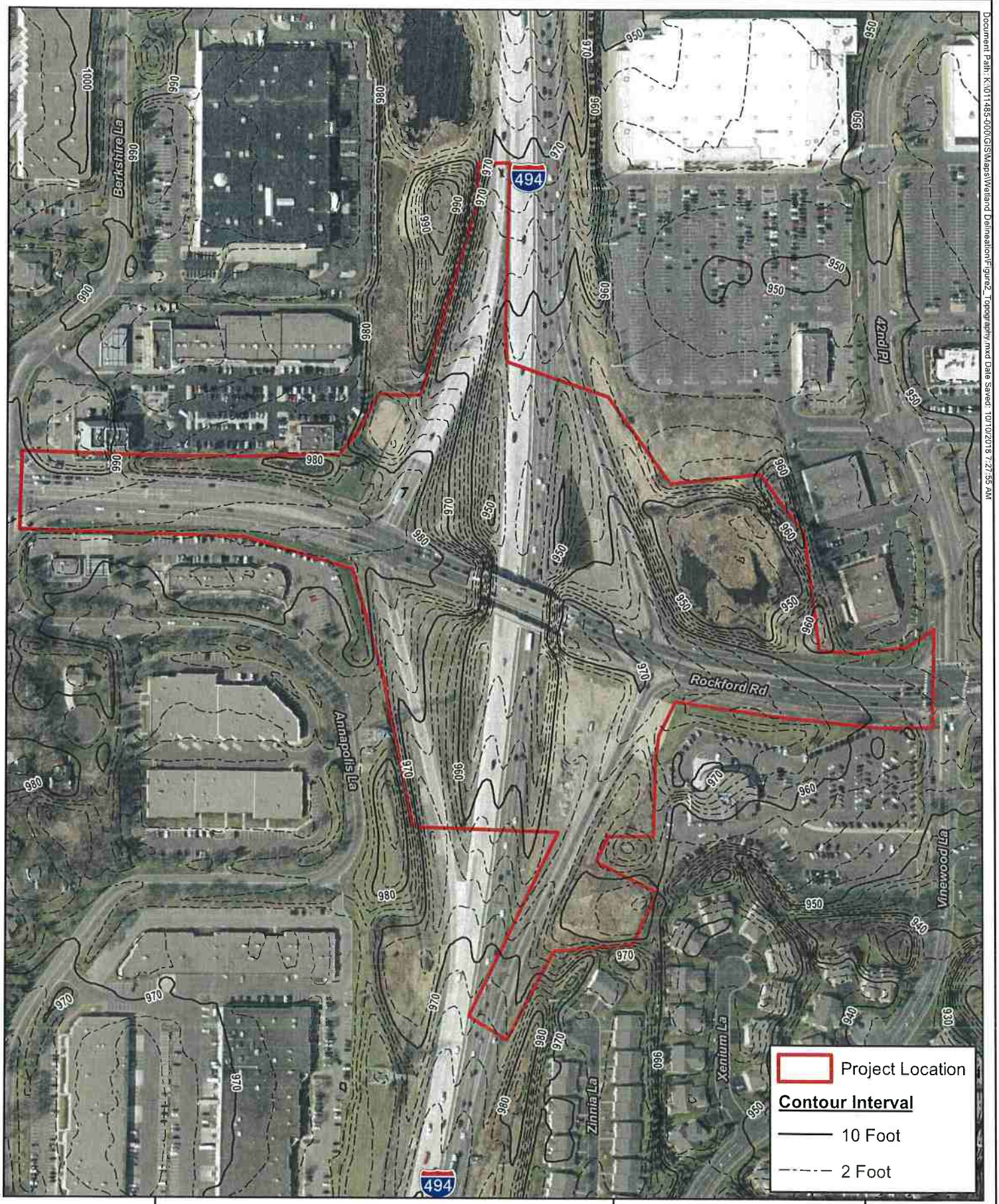
City of Plymouth Minnesota

N

0 2,000 Feet

1 inch = 2,000 feet

WSB

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## Figure 2 - Topography

CSAH 9 (Rockford Road)/I-494 Interchange Project
City of Plymouth

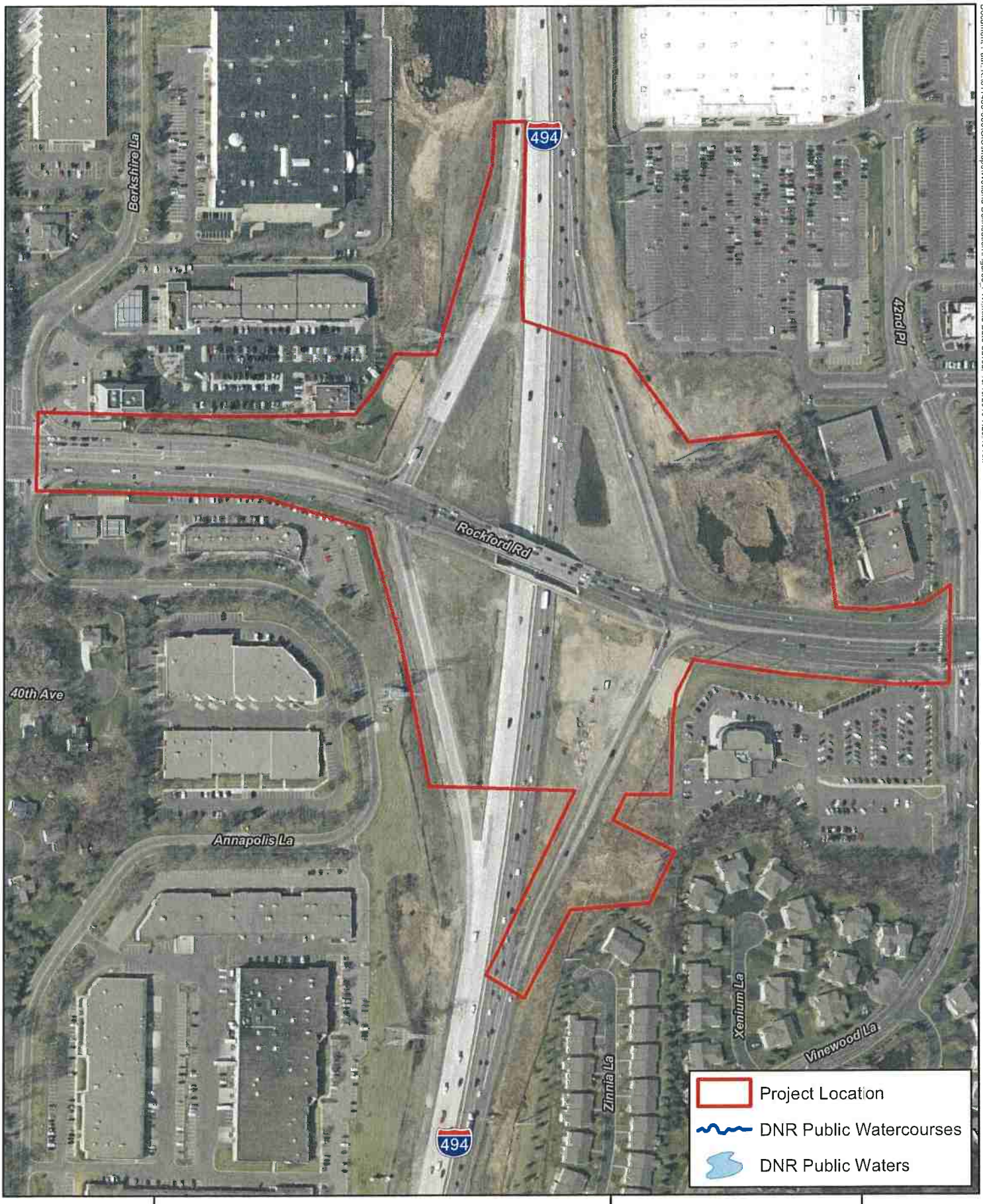
City of Plymouth Minnesota

N

0 300 Feet

1 inch = 300 feet

WSB

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# Figure 3 - DNR Public Waters Inventory

CSAH 9 (Rockford Road)/I-494 Interchange Project
City of Plymouth

City of Plymouth Minnesota

N

0 300 Feet

1 inch = 300 feet

WSB


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# Figure 4 - National Wetlands Inventory

CSAH 9 (Rockford Road)/I-494 Interchange Project
City of Plymouth

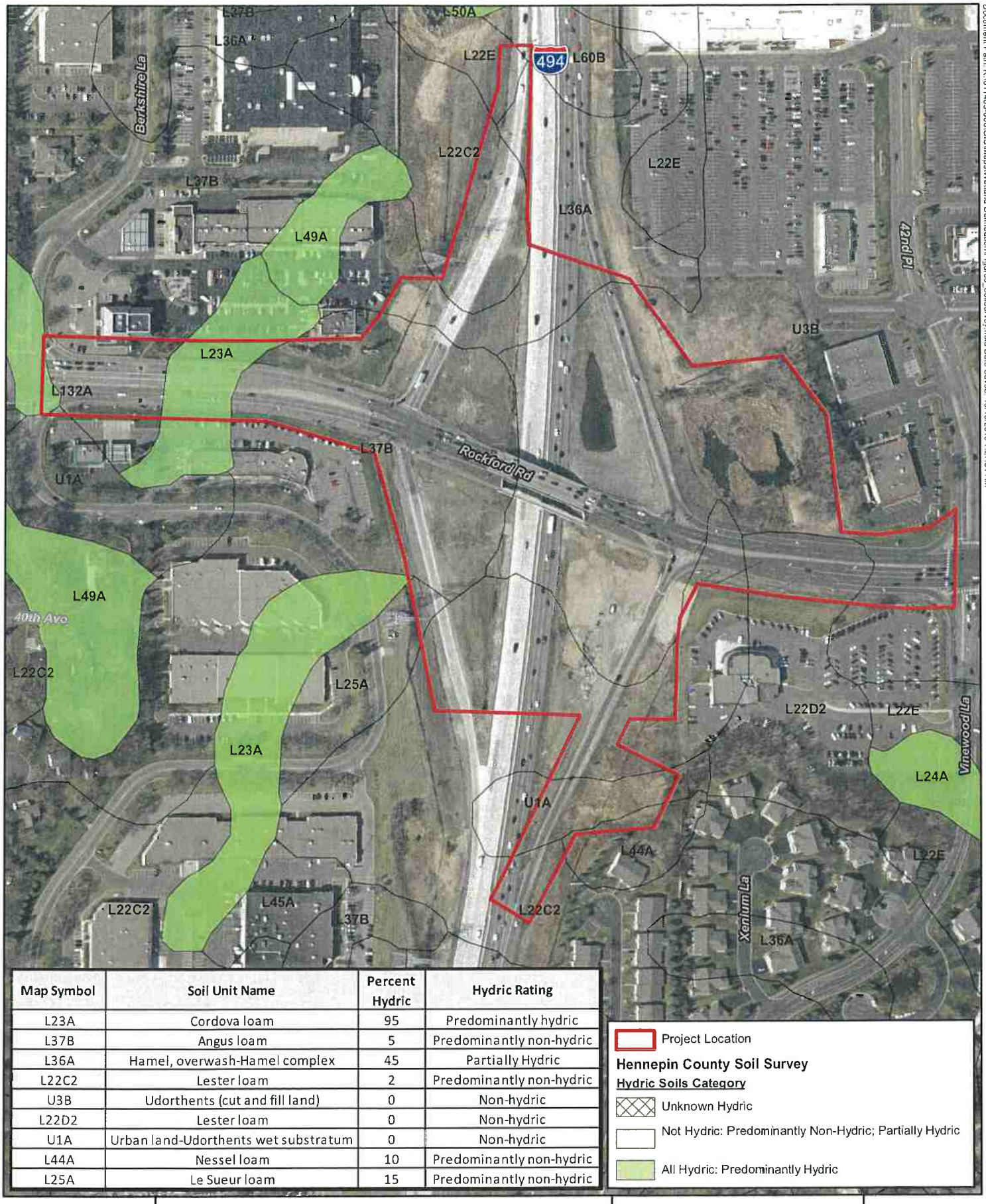
City of Plymouth Minnesota

N

0 300 Feet

1 inch = 300 feet

WSB




| Map Symbol | Soil Unit Name | Percent Hydric | Hydric Rating |
|---|---|---|---|
| L23A | Cordova loam | 95 | Predominantly hydric |
| L37B | Angus loam | 5 | Predominantly non-hydric |
| L36A | Hamel, overwash-Hamel complex | 45 | Partially Hydric |
| L22C2 | Lester loam | 2 | Predominantly non-hydric |
| U3B | Udorthents (cut and fill land) | 0 | Non-hydric |
| L22D2 | Lester loam | 0 | Non-hydric |
| U1A | Urban land-Udorthents wet substratum | 0 | Non-hydric |
| L44A | Nessel loam | 10 | Predominantly non-hydric |
| L25A | Le Sueur loam | 15 | Predominantly non-hydric |

Project Location

**Hennepin County Soil Survey**

**Hydric Soils Category**

Unknown Hydric

Not Hydric: Predominantly Non-Hydric; Partially Hydric

All Hydric: Predominantly Hydric

City of Plymouth Minnesota

# Figure 5 - Hennepin County Soil Survey

CSAH 9 (Rockford Road)/I-494 Interchange Project
City of Plymouth

N

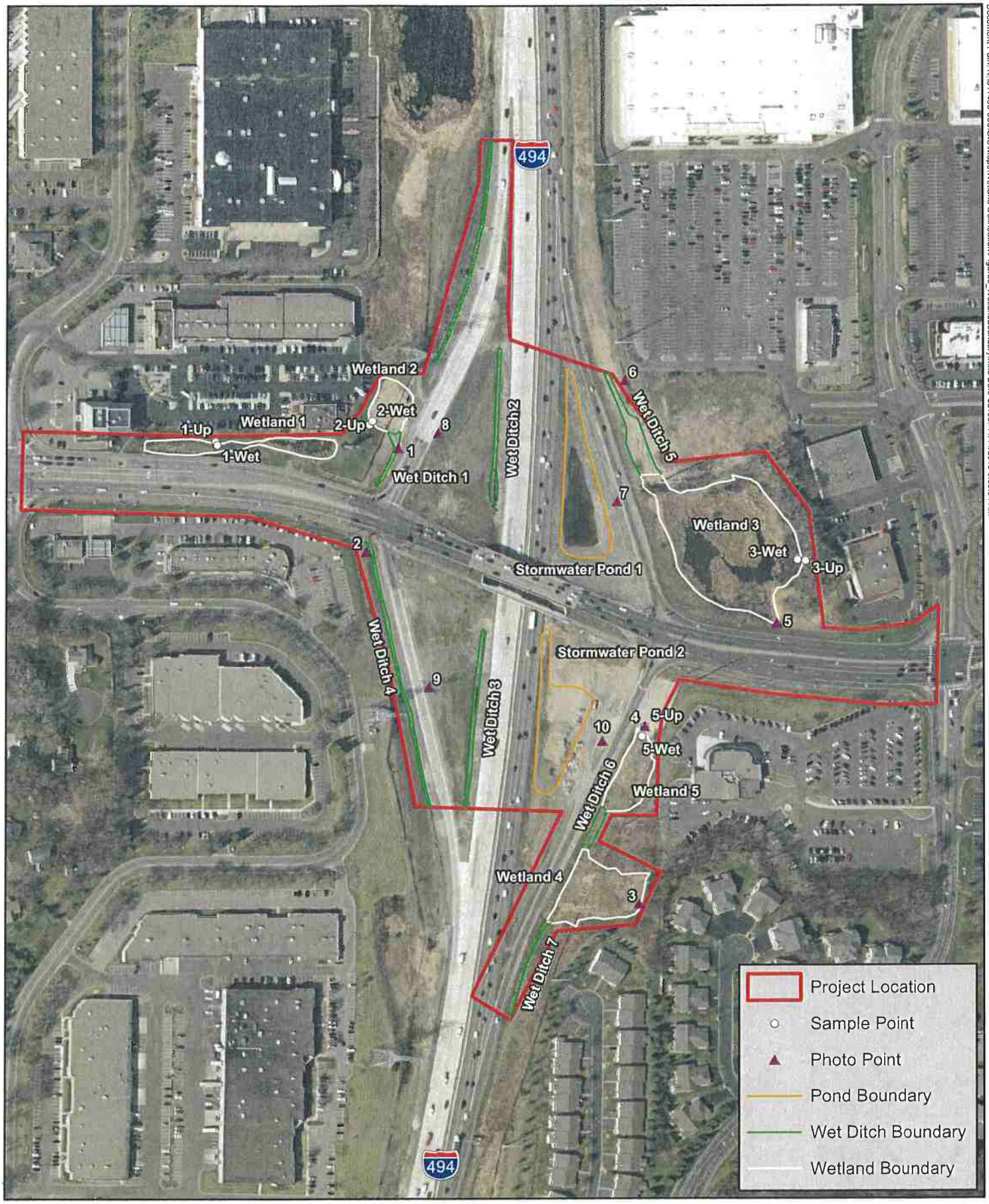
0 300 Feet

1 inch = 300 feet

WSB

## APPENDIX B

Figure 6: Wetland Boundary
Wetland Determination Data Forms

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## Figure 6 - Wetland Boundary

City of Plymouth Minnesota

CSAH 9 (Rockford Road)/I-494 Interchange Project
City of Plymouth

N

0 300 Feet

1 inch = 300 feet

wsb

# WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: CSAH 9/I-494 Interchange Project | City/County: Plymouth/Hennepin | Sampling Date: 9/25/18

Applicant/Owner: City of Plymouth | State: MN | Sampling Point: 1-Up

Investigator(s): RF | Section, Township, Range: 15,118,22

Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): Linear

Slope (%): 20 | Lat: 45.029414 | Long: -93.455788 | Datum: WGS 84

Soil Map Unit Name: Cordova loam, 0 to 2 percent slopes | NWI Classification: None

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

Are vegetation ____, soil ____, 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? Y | **Is the sampled area within a wetland?** N |
| Hydric soil present? Y | f yes, optional wetland site ID: |
| Indicators of wetland hydrology present? N | |

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

Area is mowed.

## VEGETATION -- Use scientific names of plants.

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species | Indicator Staus |
|---|---|---|---|
| 1 *Fraxinus pennsylvanica* | 10 | Y | FACW |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 10 = Total Cover | | |
| **Sapling/Shrub stratum** (Plot size: 15) | | | |
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 0 = Total Cover | | |
| **Herb stratum** (Plot size: 5) | | | |
| 1 *Poa pratensis* | 95 | Y | FAC |
| 2 *Glechoma hederacea* | 5 | N | FACU |
| 3 *Taraxacum officinale* | 3 | N | FACU |
| 4 *Cirsium arvense* | 2 | N | FACU |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |
| | 105 = Total Cover | | |
| **Woody vine stratum** (Plot size: 30) | | | |
| 1 | | | |
| 2 | | | |
| | 0 = Total Cover | | |

**Dominance Test Worksheet**

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

**Prevalence Index Worksheet**

Total % Cover of:

| | | | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 10 | x 2 = | 20 |
| FAC species | 95 | x 3 = | 285 |
| FACU species | 10 | x 4 = | 40 |
| UPL species | 0 | x 5 = | 0 |
| Column totals | 115 (A) | | 345 (B) |

Prevalence Index = B/A = 3.00

**Hydrophytic Vegetation Indicators:**

- ___ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X 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?** Y

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

## SOIL

**Sampling Point:** 1-Up

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (Inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type* | Loc** | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-6 | 10YR 2/1 | 100 | | | | | Clay Loam | |
| 6-9 | 10YR 2/1 | 98 | 10YR 4/6 | 2 | C | M | Clay Loam | |
| 9-12 | 10YR 2/1 | 80 | 10YR 4/6 | 10 | C | M | Clay Loam | |
| | | | 10YR 6/3 | 10 | D | M | Clay Loam | Fill |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

**Hydric Soil Indicators:**

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

**Indicators for Problematic Hydric Soils:**

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

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

**Restrictive Layer (if observed):**

Type: Fill

Depth (inches): 12

**Hydric soil present?** Y

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

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

Secondary Indicators (minimum of two required)

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

**Field Observations:**

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

**Indicators of wetland hydrology present?** N

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

Remarks:

# WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: CSAH 9/I-494 Interchange Project | City/County: Plymouth/Hennepin | Sampling Date: 9/25/18

Applicant/Owner: City of Plymouth | State: MN | Sampling Point: 1-Wet

Investigator(s): RF | Section, Township, Range: 15, 118, 22

Landform (hillslope, terrace, etc.): Toeslope | Local relief (concave, convex, none): Concave

Slope (%): 0 | Lat: 45.029414 | Long: -93.455788 | Datum: WGS 84

Soil Map Unit Name: Cordova loam, 0 to 2 percent slopes | NWI Classification: PEM1C

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

Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal circumstances" present? No

Are vegetation ____, soil ____, or hydrology ____ naturally problematic? (If needed, explain any answers in remarks.)

## SUMMARY OF FINDINGS

| | |
|---|---|
| Hydrophytic vegetation present? Y | **Is the sampled area within a wetland?** Y |
| Hydric soil present? Y | If yes, optional wetland site ID: Wetland 1 |
| Indicators of wetland hydrology present? Y | |

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

There is a parking lot to the north and a retaining wall to the south. Much of the surrounding area is mowed.

## VEGETATION -- Use scientific names of plants.

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species | Indicator Staus |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 0 | = Total Cover | |
| **Sapling/Shrub stratum (Plot size: 15)** | | | |
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 0 | = Total Cover | |
| **Herb stratum (Plot size: 5)** | | | |
| 1 *Typha angustifolia* | 70 | Y | OBL |
| 2 *Phalaris arundinacea* | 30 | Y | FACW |
| 3 *Poa pratensis* | 15 | N | FAC |
| 4 *Juncus effusus* | 15 | N | OBL |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |
| | 130 | = Total Cover | |
| **Woody vine stratum (Plot size: 30)** | | | |
| 1 | | | |
| 2 | | | |
| | 0 | = Total Cover | |

**Dominance Test Worksheet**

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

**Prevalence Index Worksheet**

Total % Cover of:

| | | | |
|---|---|---|---|
| OBL species | 85 | x 1 = | 85 |
| FACW species | 30 | x 2 = | 60 |
| FAC species | 15 | x 3 = | 45 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column totals | 130 (A) | | 190 (B) |

Prevalence Index = B/A = 1.46

**Hydrophytic Vegetation Indicators:**

- ___ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X 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?** Y

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

## SOIL

**Sampling Point:** 1-Wet

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

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

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

**Hydric Soil Indicators:**

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

**Indicators for Problematic Hydric Soils:**

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

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

**Restrictive Layer (if observed):**

Type: Fill

Depth (inches): 18"

**Hydric soil present?** Y

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

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

Secondary Indicators (minimum of two required)

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

**Field Observations:**

| | | | | | |
|---|---|---|---|---|---|
| Surface water present? | Yes | | No | X | Depth (inches): |
| Water table present? | Yes | X | No | | Depth (inches): 16" |
| Saturation present? (includes capillary fringe) | Yes | X | No | | Depth (inches): 12" |

**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: CSAH 9/I-494 Interchange Project | City/County: Plymouth/Hennepin | Sampling Date: 9/25/18

Applicant/Owner: City of Plymouth | State: MN | Sampling Point: 2-Up

Investigator(s): RF | Section, Township, Range: 15,118,22

Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): Linear

Slope (%): 0 | Lat: 45.029414 | Long: -93.455788 | Datum: WGS 84

Soil Map Unit Name: Hamel, overwash-Hamel complex, 0 to 3 percent slopes | NWI Classification: None

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

Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal circumstances" present? No

Are vegetation ____, soil ____, or hydrology ____ naturally problematic? (If needed, explain any answers in remarks.)

## SUMMARY OF FINDINGS

| | |
|---|---|
| Hydrophytic vegetation present? Y | **Is the sampled area within a wetland?** N |
| Hydric soil present? N | f yes, optional wetland site ID: PEM1A |
| Indicators of wetland hydrology present? N | |

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

Mowed area.

## VEGETATION -- Use scientific names of plants.

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species | Indicator Staus |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 0 = Total Cover | | |
| **Sapling/Shrub stratum (Plot size: 15)** | | | |
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 0 = Total Cover | | |
| **Herb stratum (Plot size: 5)** | | | |
| 1 *Poa pratensis* | 98 | Y | FAC |
| 2 *Trifolium repens* | 2 | N | FACU |
| 3 *Cirsium arvense* | 2 | N | FACU |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |
| | 102 = Total Cover | | |
| **Woody vine stratum (Plot size: 30)** | | | |
| 1 | | | |
| 2 | | | |
| | 0 = Total Cover | | |

**Dominance Test Worksheet**

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

**Prevalence Index Worksheet**

Total % Cover of:

| | | | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 98 | x 3 = | 294 |
| FACU species | 4 | x 4 = | 16 |
| UPL species | 0 | x 5 = | 0 |
| Column totals | 102 (A) | | 310 (B) |

Prevalence Index = B/A = 3.04

**Hydrophytic Vegetation Indicators:**

- ___ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- ___ 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?** Y

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

## SOIL

**Sampling Point:** 2-Up

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (Inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type* | Loc** | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-6 | 10YR 2/1 | 100 | | | | | Loam | |
| 6-12 | 10YR 2/2 | 100 | | | | | Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

**Hydric Soil Indicators:**

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

**Indicators for Problematic Hydric Soils:**

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

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

**Restrictive Layer (if observed):**

Type: Fill

Depth (inches): 12"

**Hydric soil present?** N

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

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

Secondary Indicators (minimum of two required)

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

**Field Observations:**

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

**Indicators of wetland hydrology present?** N

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

Remarks:

# WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: CSAH 9/I-494 Interchange Project | City/County: Plymouth/Hennepin | Sampling Date: 9/25/18

Applicant/Owner: City of Plymouth | State: MN | Sampling Point: 2-Wet

Investigator(s): RF | Section, Township, Range: 15,118,22

Landform (hillslope, terrace, etc.): Toeslope | Local relief (concave, convex, none): None

Slope (%): 0 | Lat: 45.029414 | Long: -93.455788 | Datum: WGS 84

Soil Map Unit Name: Hamel, overwash-Hamel complex, 0 to 3 percent slopes | NWI Classification:

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

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

Are vegetation ____, soil ____, or hydrology ____ naturally problematic? (If needed, explain any answers in remarks.)

## SUMMARY OF FINDINGS

| | |
|---|---|
| Hydrophytic vegetation present? Y | **Is the sampled area within a wetland?** Y |
| Hydric soil present? Y | If yes, optional wetland site ID: PEM1A |
| Indicators of wetland hydrology present? Y | |

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

## VEGETATION -- Use scientific names of plants.

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species | Indicator Staus |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 0 = Total Cover | | |
| **Sapling/Shrub stratum (Plot size: 15)** | | | |
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 0 = Total Cover | | |
| **Herb stratum (Plot size: 5)** | | | |
| 1 *Phalaris arundinacea* | 95 | Y | FACW |
| 2 *Poa pratensis* | 15 | N | FAC |
| 3 *Solidago gigantea* | 5 | N | FACW |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |
| | 115 = Total Cover | | |
| **Woody vine stratum (Plot size: 30)** | | | |
| 1 *Solanum dulcamara* | 2 | | FAC |
| 2 | | | |
| | 2 = Total Cover | | |

**Dominance Test Worksheet**

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

**Prevalence Index Worksheet**

Total % Cover of:

| | | | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 100 | x 2 = | 200 |
| FAC species | 17 | x 3 = | 51 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column totals | 117 (A) | | 251 (B) |

Prevalence Index = B/A = 2.15

**Hydrophytic Vegetation Indicators:**

- ___ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X 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?** Y

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

## SOIL

**Sampling Point:** 2-Wet

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (Inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type* | Loc** | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-5 | 10YR 2/1 | 95 | 10YR 5/8 | 5 | C | M | Mucky Loam | |
| 5-18 | 10YR 2/1 | 60 | 10YR 7/1 | 30 | D | M | Clay Loam | |
| | | | 10YR 5/8 | 10 | C | M | Clay Loam | |
| 18-24 | 10YR 2/1 | 100 | | | | | Clay Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

**Hydric Soil Indicators:**

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

**Indicators for Problematic Hydric Soils:**

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

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

**Restrictive Layer (if observed):**
Type: _____
Depth (inches): _____

**Hydric soil present?** Y

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

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

Secondary Indicators (minimum of two required)

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

**Field Observations:**

| | | | | | |
|---|---|---|---|---|---|
| Surface water present? | Yes | | No | X | Depth (inches): |
| Water table present? | Yes | X | No | | Depth (inches): 12 |
| Saturation present? (includes capillary fringe) | Yes | X | No | | Depth (inches): 9 |

**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: CSAH 9/I-494 Interchange Project | City/County: Plymouth/Hennepin | Sampling Date: 9/25/18

Applicant/Owner: City of Plymouth | State: MN | Sampling Point: 3-Up

Investigator(s): RF | Section, Township, Range: 15,118,22

Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): Linear

Slope (%): 30 | Lat: 45.029414 | Long: -93.455788 | Datum: WGS 84

Soil Map Unit Name: Hamel, overwash-Hamel complex, 0 to 3 percent slopes | NWI Classification: None

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

Are vegetation ____, soil ____, 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? Y | **Is the sampled area within a wetland?** N |
| Hydric soil present? N | f yes, optional wetland site ID: PEM1A |
| Indicators of wetland hydrology present? N | |

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

Constructed slope adjacent to parking lot.

## VEGETATION -- Use scientific names of plants.

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species | Indicator Staus |
|---|---|---|---|
| 1 *Acer negundo* | 80 | Y | FAC |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 80 = Total Cover | | |
| **Sapling/Shrub stratum (Plot size: 15)** | | | |
| 1 *Acer negundo* | 10 | Y | FAC |
| 2 *Rhamnus cathartica* | 10 | Y | FAC |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 20 = Total Cover | | |
| **Herb stratum (Plot size: 5)** | | | |
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |
| | 0 = Total Cover | | |
| **Woody vine stratum (Plot size: 30)** | | | |
| 1 *Parthenocissus quinquefolia* | 5 | Y | FACU |
| 2 | | | |
| | 5 = Total Cover | | |

### Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across all Strata: 4 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 75.00% (A/B)

### Prevalence Index Worksheet

Total % Cover of:

| | | | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 100 | x 3 = | 300 |
| FACU species | 5 | x 4 = | 20 |
| UPL species | 0 | x 5 = | 0 |
| Column totals | 105 (A) | | 320 (B) |

Prevalence Index = B/A = 3.05

### Hydrophytic Vegetation Indicators:

- ___ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- ___ 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?** Y

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

## SOIL

**Sampling Point:** 3-Up

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (Inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type* | Loc** | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-24 | 10YR 2/2 | 100 | | | | | Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

**Hydric Soil Indicators:**

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

**Indicators for Problematic Hydric Soils:**

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

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

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric soil present?** N

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

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

Secondary Indicators (minimum of two required)

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

**Field Observations:**

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

**Indicators of wetland hydrology present?** N

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

Remarks:

# WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: CSAH 9/I-494 Interchange Project | City/County: Plymouth/Hennepin | Sampling Date: 9/25/18

Applicant/Owner: City of Plymouth | State: MN | Sampling Point: 3-Wet

Investigator(s): RF | Section, Township, Range: 15,118,22

Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): Concave

Slope (%): 20 | Lat: 45.029414 | Long: -93.455788 | Datum: WGS 84

Soil Map Unit Name: Udorthents (cut and fill land), 0 to 6 percent slopes | NWI Classification: None

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

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

Are vegetation ____, soil ____, or hydrology ____ naturally problematic? (If needed, explain any answers in remarks.)

## SUMMARY OF FINDINGS

| | |
|---|---|
| Hydrophytic vegetation present? Y | **Is the sampled area within a wetland?** Y |
| Hydric soil present? Y | If yes, optional wetland site ID: PEM1C |
| Indicators of wetland hydrology present? Y | |

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

## VEGETATION -- Use scientific names of plants.

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species | Indicator Staus |
|---|---|---|---|
| 1 *Rhamnus cathartica* | 85 | Y | FAC |
| 2 *Populus deltoides* | 70 | Y | FAC |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 155 | = Total Cover | |

| Sapling/Shrub stratum (Plot size: 15) | | | |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 0 | = Total Cover | |

| Herb stratum (Plot size: 5) | | | |
|---|---|---|---|
| 1 *Rhamnus cathartica* | 85 | Y | FAC |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |
| | 85 | = Total Cover | |

| Woody vine stratum (Plot size: 30) | | | |
|---|---|---|---|
| 1 *Solanum dulcamara* | 2 | | FAC |
| 2 | | | |
| | 2 | = Total Cover | |

**Dominance Test Worksheet**

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across all Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

**Prevalence Index Worksheet**

Total % Cover of:

| | | | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 242 | x 3 = | 726 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column totals | 242 (A) | | 726 (B) |

Prevalence Index = B/A = 3.00

**Hydrophytic Vegetation Indicators:**

- ___ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X 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?** Y

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

## SOIL

**Sampling Point:** 3-Wet

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (Inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type* | Loc** | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-3 | 10YR 2/1 | 100 | | | | | Loam | |
| 3-9 | 10YR 2/2 | 98 | 10YR 6/1 | 2 | D | M | Loam | |
| 9-24 | 10YR 4/1 | 98 | 10YR 7/8 | 2 | C | M | Sandy Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

**Hydric Soil Indicators:**

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

**Indicators for Problematic Hydric Soils:**

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

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

**Restrictive Layer (if observed):**
Type: _____
Depth (inches): _____

**Hydric soil present?** Y

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

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

Secondary Indicators (minimum of two required)

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

**Field Observations:**

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

**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: CSAH 9/I-494 Interchange Project | City/County: Plymouth/Hennepin | Sampling Date: 9/25/18
Applicant/Owner: City of Plymouth | State: MN | Sampling Point: 5-Up
Investigator(s): RF | Section, Township, Range: 15,118,22
Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): Linear
Slope (%): 25 | Lat: 45.029414 | Long: -93.455788 | Datum: WGS 84
Soil Map Unit Name: Hamel, overwash-Hamel complex, 0 to 3 percent slopes | NWI Classification: None
Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)
Are vegetation ____, soil ____, 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? | Y |
| Hydric soil present? | N |
| Indicators of wetland hydrology present? | N |

**Is the sampled area within a wetland?** N
If yes, optional wetland site ID: ____

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

Area is adjacent to I-494 to the west and a car dealership to the east.

## VEGETATION -- Use scientific names of plants.

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species | Indicator Staus |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 0 | = Total Cover | |

| Sapling/Shrub stratum (Plot size: 15) | | | |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 0 | = Total Cover | |

| Herb stratum (Plot size: 5) | | | |
|---|---|---|---|
| 1 *Phalaris arundinacea* | 45 | Y | FACW |
| 2 *Solidago gigantea* | 15 | N | FACW |
| 3 *Trifolium repens* | 10 | N | FACU |
| 4 *Setaria faberi* | 8 | N | FACU |
| 5 *Tanacetum vulgare* | 5 | N | UPL |
| 6 *Poa pratensis* | 5 | N | FAC |
| 7 *Cirsium arvense* | 2 | N | FACU |
| 8 | | | |
| 9 | | | |
| 10 | | | |
| | 90 | = Total Cover | |

| Woody vine stratum (Plot size: 30) | | | |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| | 0 | = Total Cover | |

**Dominance Test Worksheet**

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across all Strata: 1 (B)
Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

**Prevalence Index Worksheet**

Total % Cover of:

| | | | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 60 | x 2 = | 120 |
| FAC species | 5 | x 3 = | 15 |
| FACU species | 20 | x 4 = | 80 |
| UPL species | 5 | x 5 = | 25 |
| Column totals | 90 (A) | | 240 (B) |

Prevalence Index = B/A = 2.67

**Hydrophytic Vegetation Indicators:**

- ___ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- ___ 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?** Y

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

## SOIL

**Sampling Point:** 5-Up

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (Inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type* | Loc** | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-12 | 10YR 5/3 | 90 | 10YR 4/6 | 10 | C | M | Clay/Fill | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

**Hydric Soil Indicators:**

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

**Indicators for Problematic Hydric Soils:**

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

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

**Restrictive Layer (if observed):**

Type: Fill

Depth (inches): 12

**Hydric soil present?** N

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

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

Secondary Indicators (minimum of two required)

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

**Field Observations:**

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

**Indicators of wetland hydrology present?** N

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

Remarks:

# WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: CSAH 9/I-494 Interchange Project | City/County: Plymouth/Hennepin | Sampling Date: 9/25/18

Applicant/Owner: City of Plymouth | State: MN | Sampling Point: 5-Wet

Investigator(s): RF | Section, Township, Range: 15,118,22

Landform (hillslope, terrace, etc.): Toeslope | Local relief (concave, convex, none): Concave

Slope (%): 20 | Lat: 45.029414 | Long: -93.455788 | Datum: WGS 84

Soil Map Unit Name: Udorthents (cut and fill land), 0 to 6 percent slopes (U3B) | NWI Classification: None

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

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

Are vegetation ____, soil ____, or hydrology ____ naturally problematic? (If needed, explain any answers in remarks.)

## SUMMARY OF FINDINGS

| | |
|---|---|
| Hydrophytic vegetation present? Y | **Is the sampled area within a wetland?** Y |
| Hydric soil present? Y | If yes, optional wetland site ID: None |
| Indicators of wetland hydrology present? Y | |

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

Area is adjacenet to I-494 to the west and a car dealership to the east.

## VEGETATION -- Use scientific names of plants.

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 0 = Total Cover | | |
| **Sapling/Shrub stratum (Plot size: 15)** | | | |
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 0 = Total Cover | | |
| **Herb stratum (Plot size: 5)** | | | |
| 1 *Phalaris arundinacea* | 100 | Y | FACW |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |
| | 100 = Total Cover | | |
| **Woody vine stratum (Plot size: 30)** | | | |
| 1 | | | |
| 2 | | | |
| | 0 = Total Cover | | |

**Dominance Test Worksheet**

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

**Prevalence Index Worksheet**

Total % Cover of:

| | | | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 100 | x 2 = | 200 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column totals | 100 (A) | | 200 (B) |

Prevalence Index = B/A = 2.00

**Hydrophytic Vegetation Indicators:**

- ___ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X 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?** Y

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

## SOIL

**Sampling Point:** 5-Wet

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (Inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type* | Loc** | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-12 | 10YR 2/1 | 98 | 10YR 4/6 | 2 | C | M | Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

**Hydric Soil Indicators:**

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

**Indicators for Problematic Hydric Soils:**

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

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

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric soil present?** Y

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

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

Secondary Indicators (minimum of two required)

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

**Field Observations:**

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

**Indicators of wetland hydrology present?** Y

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

Remarks:

# APPENDIX

## APPENDIX C

Wetland Photos

Photo 1 - Wetland 2 facing north

Photo 2 - Wet Ditch 4 facing south

Photo 3 - Wetland 4 facing northwest

Photo 4 - Wetland 5 facing south

Photo 5 - Wetland 3 facing north

Photo 6 - Wet Ditch 5 facing northwest

Photo 7a - Stormwater Pond 1 facing northwest

Photo 7b - Stormwater Pond 1 facing southwest

Photo 8 - Wet Ditch 2 facing southeast

Photo 9 - Wet Ditch 3 facing northeast

Photo 10 - Stormwater Pond 2 facing northwest

## APPENDIX D

Antecedent Precipitation Data

# Minnesota State Climatology Office



## 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:**
**Tuesday, September 25, 2018**

**Score using 1981-2010 normal period**

| **values are in inches**<br>A 'R' following a monthly total indicates a provisional value derived from radar-based estimates. | first prior month: **August 2018** | second prior month: **July 2018** | third prior month: **June 2018** |
|---|---|---|---|
| **estimated precipitation total for this location:** | **3.32R** | **3.63R** | **4.34R** |
| **there is a 30% chance this location will have less than:** | 3.26 | 2.55 | 3.42 |
| **there is a 30% chance this location will have more than:** | 5.12 | 4.52 | 5.64 |
| **type of month:** dry normal wet | **normal** | **normal** | **normal** |
| **monthly score** | **3 * 2 = 6** | **2 * 2 = 4** | **1 * 2 = 2** |
| | | | |
| **multi-month score:**<br>6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet) | **12 (Normal)** | | |

## Other Resources:

- retrieve daily precipitation data
- view radar-based precipitation estimates
- view weekly precipitation maps
- *Evaluating Antecedent Precipitation Conditions* (BWSR)

# Minnesota Wetland Conservation Act
# Notice of Decision

| Local Government Unit (LGU) | Address |
|---|---|
| **City of Plymouth** | **3400 Plymouth Blvd**<br>**Plymotuh, MN 554477** |

## 1. PROJECT INFORMATION

| Applicant Name | Project Name | Date of Application | Application Number |
|---|---|---|---|
| **Wayzata Public Schools** | **Sunset Hills Elementary School** | **11/06/2018** | **N/A** |

☒ Attach site locator map.

Type of Decision:

☒ Wetland Boundary or Type Sequencing ☐ No-Loss ☐ Exemption ☐

☐ Replacement Plan ☐ Banking Plan

Technical Evaluation Panel Findings and Recommendation (if any):

☒ Approve ☐ Approve with conditions ☐ Deny

Summary (or attach): A TEP was help on November 16th, 2018 to review the delineated wetland boundaries. The TEP noted two channels on the site. One on the north side of Wetland 1 and one channel connected the two basins of Wetland 1. The TEP agreed that these channels did not meet wetland criteria; however, would be considered an aquatic resources. The wetland boundaries and types were accepted as delineated.

## 2. LOCAL GOVERNMENT UNIT DECISION

Date of Decision: **12-10-2018**

☒ Approved ☐ Approved with conditions (include below) ☐ Denied

LGU Findings and Conclusions (attach additional sheets as necessary):

Pinnacle Engineering investigated and delineated 1 wetland located within the Sunset Hills Elementary School site on September 27, 2018. The TEP reviewed the delineated boundaries and accepted as delineated on November 16, 2018. The TEP noted that the linear channel that appears between the two larger basins on the site did not meet wetland criteria; however, would be considered an aquatic resource. A channel is also depicted on the north side of Wetland 1 and appears to be an aquatic resource; however; does not meet wetland criteria. It should also be noted that the larger basin along the eastern property edge is a DNR Public Water Wetland. A revised figure 2 has been requested from the delineator.

The wetland boundary and type for Wetland 1 is approved

For Replacement Plans using credits from the State Wetland Bank:

| Bank Account # | Bank Service Area | County | Credits Approved for Withdrawal (sq. ft. or nearest .01 acre) |
|---|---|---|---|
| **N/A** | | | |

**Replacement Plan Approval Conditions.** In addition to any conditions specified by the LGU, the approval of a Wetland Replacement Plan is conditional upon the following:

☐ **Financial Assurance:** For project-specific replacement that is not in-advance, a financial assurance specified by the LGU must be submitted to the LGU in accordance with MN Rule 8420.0522, Subp. 9 (List amount and type in LGU Findings).

☐ **Deed Recording:** For project-specific replacement, evidence must be provided to the LGU that the BWSR "Declaration of Restrictions and Covenants" and "Consent to Replacement Wetland" forms have been filed with the county recorder's office in which the replacement wetland is located.

☐ **Credit Withdrawal:** For replacement consisting of wetland bank credits, confirmation that BWSR has withdrawn the credits from the state wetland bank as specified in the approved replacement plan.

**Wetlands may not be impacted until all applicable conditions have been met!**

LGU Authorized Signature:

Signing and mailing of this completed form to the appropriate recipients in accordance with 8420.0255, Subp. 5 provides notice that a decision was made by the LGU under the Wetland Conservation Act as specified above. If additional details on the decision exist, they have been provided to the landowner and are available from the LGU upon request.

| Name | Title | |
|---|---|---|
| **Michael Thompson**<br>**City of Plymouth** | **Public Works Director** | |
| Signature | Date | Phone Number and E-mail |
| | **12/10/2018** | **763-509-5501**<br>**mthompson@plymouth.gov** |

THIS DECISION ONLY APPLIES TO THE MINNESOTA WETLAND CONSERVATION ACT. Additional approvals or permits from local, state, and federal agencies may be required. Check with all appropriate authorities before commencing work in or near wetlands.

Applicants proceed at their own risk if work authorized by this decision is started before the time period for appeal (30 days) has expired. If this decision is reversed or revised under appeal, the applicant may be responsible for restoring or replacing all wetland impacts.

This decision is valid for three years from the date of decision unless a longer period is advised by the TEP and specified in this notice of decision.

## 3. APPEAL OF THIS DECISION

Pursuant to MN Rule 8420.0905, any appeal of this decision can only be commenced by mailing a petition for appeal, including applicable fee, within thirty (30) calendar days of the date of the mailing of this Notice to the following as indicated:

Check one:

| | |
|---|---|
| ☒ Appeal of an LGU staff decision. Send petition and $0 fee (if applicable) to:<br><br>**Michael Thompson, Public Works Director**<br>**City of Plymouth**<br>**3400 Plymouth Blvd.**<br>**Plymouth, MN** | ☐ Appeal of LGU governing body decision. Send petition and $500 filing fee to:<br>Executive Director<br>Minnesota Board of Water and Soil Resources<br>520 Lafayette Road North<br>St. Paul, MN 55155 |

## 4. 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 (sent electronically)**
☒ LGU TEP member (if different than LGU Contact): **Ben Scharenbroich, City of Plymouth, 3400 Plymouth Blvd, Plymouth, MN 55447 (sent electronically)**
☒ DNR TEP member: **Becky Horton, MnDNR, 1200 Warner Road, St. Paul, MN 55106 (sent electronically)**
☐ DNR Regional Office (if different than DNR TEP member)
☒ WD or WMO (if applicable): **BCWMC, c/o Laura Jester, Keystone Waters, LLC, 16145 Hillcrest Lane, Eden Prairie, MN 55346 (sent electronically)**
☒ Applicant and Landowner (if different)
☒ Members of the public who requested notice:
**Arlee Carlson, Sunde Land Surveying, 9001 East Bloomington Freeway, Suite 118, Bloomington, MN 55420 (sent electronically)**

**Scott Thelen, Pinnacle Engineering, Inc., 11541 95th Ave North, Minneapolis, MN 55369 (sent electronically)**

☒ Corps of Engineers Project Manager
☐ BWSR Wetland Bank Coordinator (wetland bank plan decisions only)

## 5. MAILING INFORMATION

➢For a list of BWSR TEP representatives: www.bwsr.state.mn.us/aboutbwsr/workareas/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.<br>Div. Ecol. Resources | Reg. Env. Assess. Ecol.<br>Div. Ecol. Resources | Reg. Env. Assess.<br>Ecol. | Reg. Env. Assess. Ecol.<br>Div. Ecol. Resources |

| | | | |
|---|---|---|---|
| 2115 Birchmont Beach Rd. NE<br>Bemidji, MN 56601 | 1201 E. Hwy. 2<br>Grand Rapids, MN 55744 | Div. Ecol. Resources<br>1200 Warner Road<br>St. Paul, MN 55106 | 261 Hwy. 15 South<br>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

## 6. ATTACHMENTS

In addition to the site locator map, list any other attachments:

- ☒ **Figure 2. Delineated Boundaries**
- ☐
- ☐
- ☐
- ☐


Pinnacle Engineering

11541 95th Ave N.
Minneapolis, MN 55369
(763) 315-4501
www.pineng.com

PROJECT NUMBER: EM20180974 | DRAWN: BG | REVIEWED: ST | DATE: 11/19/2018

Figure 2.
Revised Site Layout

Sunset Hills Elementary School
13005 Sunset Trail
Plymouth, MN 55441

LEGEND
- Site Boundary
- Wetland
- Sampling Points
- Channel
- Transect

File: Figure 2 - Site Layout.mxd