



# Wetland Delineation Report

## Scott County Trunk Highway 169 & Trunk Highway 41 Intersection

Jackson Township, MN 55379

November 17, 2016

Prepared for  
Scott County  
200 Fourth Ave West | Shakopee, MN 55379

---

WSB PROJECT NO. 3212-00



701 Xenia Avenue South, Suite 300  
Minneapolis, MN 55416  
Tel: (763) 541-4800 · Fax: (763) 541-1700  
wsbeng.com

# **LEVEL 2 WETLAND DELINEATION REPORT**

---

## **Scott County Trunk Highway 169 Improvements**

**For:**

**Scott County**

**November 17, 2016**

**Prepared By:**

**WSB & Associates, Inc.  
701 Xenia Avenue S., Suite 300  
Minneapolis, MN 55416  
(763) 541-4800  
(763) 541-1700 (Fax)**

# CERTIFICATION

---

This report was prepared by me:



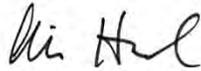
---

Dustin Simonson

Date: September 30, 2016

WDC-IT No. 5195

Quality Assurance Review completed by:



---

Alison Harwood

Date: September 30, 2016

WDC No. 1238

# TABLE OF CONTENTS

---

**TITLE PAGE**  
**CERTIFICATION**  
**TABLE OF CONTENTS**

|             |   |    |
|-------------|---|----|
| <b>I.</b>   | <b>Introduction</b> .....                       | 1  |
|             | A. Project Location.....                        | 1  |
|             | B. Project Purpose.....                         | 1  |
|             | C. Summary of Findings.....                     | 1  |
| <b>II.</b>  | <b>Delineation Procedure</b> .....              | 2  |
|             | A. Off-Site Determination: Base Map Review..... | 2  |
|             | B. On-Site Determination.....                   | 3  |
| <b>III.</b> | <b>Results and Wetland Information</b> .....    | 5  |
|             | C. <i>Wetland C</i> .....                       | 5  |
|             | D. <i>Wetland D</i> .....                       | 5  |
|             | D. <i>Wetland D</i> .....                       | 6  |
|             | E. <i>Wetland E</i> .....                       | 7  |
|             | F. <i>Wetland F</i> .....                       | 7  |
|             | G. <i>Wetland G</i> .....                       | 8  |
|             | H. Wet Ditches.....                             | 9  |
|             | I. Watercourse.....                             | 9  |
|             | J. Stormwater Ponds.....                        | 9  |
|             | K. Additional Sampled Areas.....                | 10 |
|             | L. Infiltration Basin.....                      | 10 |
| <b>IV.</b>  | <b>Summary and Closing Statements</b> .....     | 11 |
| <b>V.</b>   | <b>References</b> .....                         | 12 |

**Appendix A:** Figure 1 – Project Location  
Figure 2 – Topographic Map  
Figure 3 – DNR Public Waters Inventory  
Figure 4 – National Wetlands Inventory  
Figure 5 – Soil Survey of Scott County

**Appendix B:** Figure 6 – Wetland Delineation  
Figure 6a – Wetland Delineation  
Figure 6b – Wetland Delineation  
Figure 6c – Wetland Delineation  
Figure 6d – Wetland Delineation

Wetland Determination Data Forms

**Appendix C:** Wetland Photos

**Appendix D:** Antecedent Precipitation Data

**Appendix E:** Historic Aerials of Storm Ponds

# SECTION I

## I. Introduction

### A. Project Location

The project is located along Minnesota Trunk Highway (TH) 169 and TH 41, within Jackson and Louisville Townships, Scott County, Minnesota. The project area consists of approximately 23 acres in Section 15, and 28 of Township 115 and Range 23, Major Watershed Lower Minnesota River (#33), BSA #9 (**Figure 1, Appendix A**).

### B. Project Purpose

Scott County is proposing the following improvements along TH 169: a new interchange at the TH 41 intersection; an overpass over TH 169 between CSAH 14 and 145th Street; a frontage road along the east/south side of TH 169 between 133rd Street and CSAH 14; new roadway connections and access locations from just north of 145th Street to just south of CSAH 14; and access closures and modifications between 133rd Street and just south of CSAH 14. This report is intended to address any jurisdictional WCA, Public Waters, or Section 404 wetlands and/or waters for final design and permitting of this project. This project was authorized by Scott County.

### C. Summary of Findings

During the field investigation six wetlands, five wet ditches, one watercourse, and two storm ponds were found to exist within or adjacent to the project area. The wetlands are summarized in **Table 1**. For a visual representation of the wetlands and other water body locations, 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, Scott County Trunk Highway 169 Improvements, Scott County, Minnesota

| Wetland ID | Delineation Method | No. Flags/Transects | Eggers and Reed          | Circular 39) (Cowardin) | NWI | DNR PWI | County Soil Survey (Hydric/Non-Hydric) |
|------------|--------------------|---------------------|--------------------------|-------------------------|-----|---------|--|
| A          | Level 2            | 65/1                | Seasonally Flooded Basin | Type 1 (PEMA)           | Yes | No      | Sc                                     |
| B          | Level 2            | 18/1                | Wet Meadow               | Type 2 (PEMB)           | Yes | No      | TbC                                    |
| C          | Level 2            | 75/1                | Wet Meadow               | Type 2 (PEMB)           | Yes | No      | TbC                                    |
| D          | Level 2            | 11/1                | Wet Meadow               | Type 2 (PEMB)           | No  | No      | CdA                                    |
| E          | Level 2            | 16/1                | Shallow Open Water       | Type 5 (PABH)           | No  | No      | Dd                                     |
| F          | Level 2            | 35/0                | Shallow Marsh            | Type 3 (PEMC)           | No  | No      | Cc                                     |

## SECTION II

### II. Delineation Procedure

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

Topography: The project area is located east of the Minnesota River. The land east of the project area consists of land that slopes west, toward the TH 169 roadway. The topography of the area immediately surrounding TH 169 is generally flat. The land west of TH 169 generally slopes west toward the river. **(Figure 2, Appendix A).**

The *DNR Public Waters and Wetlands Map, Scott County, MN* (Minnesota Department of Natural Resources, 1983) indicates no DNR Public Waters are within the northern portion of the project area. An unnamed tributary to Sand Creek is located within the southern portion of the project area **(Figure 3, Appendix A).**

The *National Wetlands Inventory Map (NWI)* (Minnesota Department of Natural Resources) did not identify either of the wetlands within the northern section of project area as part of the National Wetlands Inventory. The NWI identified three wetlands within the southern section of the project area **(Figure 4, Appendix A).**

The *Soil Survey of Scott County, Minnesota* (<http://soildatamart.nrcs.esda.gov>) identified the following soils within the project area **(Figure 5, Appendix A):**

| Map Symbol | Soil Unit Name  | Percent Hydric | Mapped Hydric |
|------------|---|----------------|---------------|
| Aa         | Alluvial land, 0 to 2 percent slopes                    | 0              | No            |
| Ab         | Alluvial land, frequent overflow, 0 to 6 percent slopes | 90             | Yes           |
| Cc         | Comfrey silty clay loam                                 | 100            | Yes           |
| CdA        | Copaston silt loam, 0 to 2 percent slopes               | 15             | No            |
| CdB        | Copaston silt loam, 2 to 6 percent slopes               | 15             | No            |
| Dd         | Dorchester silty clay loam                              | 8              | No            |
| EaA        | Estherville loam and sandy loam, 0 to 2 percent slopes  | 0              | No            |
| EaB        | Estherville sandy loam, 2 to 6 percent slopes           | 1              | No            |
| EbB2       | Salida gravelly sandy loam                              | 0              | No            |
| HdB        | Sparta fine sand, 2 to 6 percent slopes                 | 0              | No            |
| HdC2       | Sparta fine sand, 6 to 12 percent slopes                | 0              | No            |
| HeB        | Sparta loamy fine sand, 2 to 6 percent slopes           | 0              | No            |
| Sc         | Stony land  | 0              | No            |
| TbC        | Terril loam, 6 to 12 percent slopes                     | 5              | No            |
| TcA        | Terril loam, 0 to 2 percent slopes                      | 7              | No            |
| TcB        | Terril loam, 2 to 6 percent slopes                      | 8              | No            |
| WaB        | Waukegan silt loam, 2 to 6 percent slopes               | 0              | No            |

## SECTION II

---

Antecedent Climate Conditions: Historic climate data and WETS data were obtained from the Minnesota Climatology Working Group for the three months preceding the October 23, 2015 site visit of the northern portion of the project area and the September 13, 2016 site visit of the southern portion of the project area. The precipitation preceding the 2015 site visit was determined to be normal. The three months preceding the 2016 site visit fell within the wetter than normal precipitation range. Records of the precipitation can be found in **Appendix D**.

### **B. On-Site Determination**

Field investigation of the northern portion of the project area was conducted by Dustin Simonson (WDC-IT #5195) on October 23, 2015. The field investigation of the southern portion of the project area was conducted by Dustin Simonson and Laura Messman (WDC-IT #5228) on September 13 and September 15, 2016. No deviations or omissions were undertaken as part of this investigation.

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, 2<sup>nd</sup> 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 Scott 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 according to 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 2010 (Version 7.0). 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 plots unless otherwise noted. Vegetation was measured as actual areal cover and may exceed 100% of total area due to overlap. Grasses and herbaceous vegetative cover was measured within a circular plot of a 5-foot-radius, woody vegetation taller than 3.28 feet and a diameter at breast height (DBH) less than 3 inches was recorded within a circular plot with a 15-foot-radius, and woody vegetation with a DBH greater than 3 inches 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

## SECTION II

---

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 wetlands. Flag locations were surveyed using a sub meter hand held GPS unit. Approximate sampling points, and delineated wetland edges are shown in **Figures 6, 6a, 6b, 6c, and, 6d, Appendix B**.

## 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 A**

**Circular 39:** Type 1

**Cowardin:** PEMA

**Eggers and Reed Field Classification:** Seasonally Flooded Basin

**Soil mapping unit:** Stony Land

**No. Transects:** 1      **No. Additional Sample Points:** 0

**Wetland Flags:** 65

**Wetland Size (within Project Area):** 1.03 acres

Wetland A is positioned in a ditch in the southern portion of the project area. The wetland is characterized as a seasonally flooded basin. The wetland boundary is outlined in **Figure 6b, Appendix B**. Wetland A was delineated in 2016.

Dominant vegetation in the wetland consisted of lakebank sedge (*Carex lacustris*) and reed canary grass (*Phalaris arundinacea*) in the herb stratum. Hydric soil indicators consisted of assuming thick dark surface (A12). Hydrology indicators included saturation visible on aerial imagery (C9), geomorphic position (D2), and FAC-neutral test (D5).

Dominant vegetation in the upland consisted of reed canary grass (*Phalaris arundinacea*), Kentucky blue grass (*Poa pratensis*), and common plantain (*Plantago major*) in the herb stratum. Hydric soil indicators consisted of assuming thick dark surface (A12). No hydrology indicators were present at the upland sample point.

The wetland boundary was placed along a topographic break where lakebank sedge was no longer present.

#### **B. Wetland B**

**Circular 39:** Type 2

**Cowardin:** PEMB

**Eggers and Reed Field Classification:** Wet Meadow

**Soil mapping unit:** Terril loam

**No. Transects:** 1      **No. Additional Sample Points:** 1

**Wetland Flags:** 18

**Wetland Size (within Project Area):** 0.91 acres

Wetland B is positioned west of TH 169 in the southern section of the project area. The wetland is characterized as a wet meadow. The wetland boundary is outlined in **Figure 6c, Appendix B**. Wetland B was delineated in 2016.

## SECTION III

---

Dominant vegetation in the wetland consisted of boxelder (*Acer negundo*) in the tree stratum; and reed canary grass (*Phalaris arundinacea*) in the herb stratum; and river bank grape (*Vitis riparia*) in the woody vine stratum. Hydric soil indicators consisted of thick dark surface (A12). Hydrology indicators included geomorphic position (D2) and FAC-Neutral test (D5).

Dominant vegetation in the upland consisted of cottonwood (*Populus deltoides*) in the tree stratum; common buckthorn (*Rhamnus cathartica*) in the sapling/shrub stratum; and Virginia creeper (*Parthenocissus quinquefolia*) and sow thistle (*Sonchus oleraceus*) in the herb stratum. No hydric soil indicators were encounter in the upland sample point. No hydrology indicators were encounter in the upland sample point.

The wetland boundary was placed along a topographic break where reed canary was no longer present.

### **C. Wetland C**

**Circular 39:** Type 2

**Cowardin:** PEMB

**Eggers and Reed Field Classification:** Wet Meadow

**Soil mapping unit:** Terril loam

**No. Transects:** 1      **No. Additional Sample Points:** 1

**Wetland Flags:** 75

**Wetland Size (within Project Area):** 3.10 acres

Wetland C is positioned west of TH 169 and south east of Wetland B in the southern section of the project area. The wetland is characterized as a large wet meadow with a shallow marsh center. The wetland boundary is outlined in **Figure 6c, Appendix B**. Wetland C was delineated in 2016.

Dominant vegetation in the wetland consisted of cotton wood (*Populus deltoides*) in the tree stratum; and reed canary grass (*Phalaris arundinacea*) in the herb stratum. Hydric soil indicators consisted of thick dark surface (A12). Hydrology indicators included geomorphic position (D2) and FAC-Neutral test (D5).

Dominant vegetation in the upland consisted of cottonwood (*Populus deltoides*) in the tree stratum; common buckthorn (*Rhamnus cathartica*) in the sapling/shrub stratum; and Virginia creeper (*Parthenocissus quinquefolia*) and sow thistle (*Sonchus oleraceus*) in the herb stratum. No hydric soil indicators were encounter in the upland sample point. No hydrology indicators were encounter in the upland sample point.

The wetland boundary was placed along a topographic break where reed canary was no longer present.

## SECTION III

---

### **D. Wetland D**

**Circular 39:** Type 2

**Cowardin:** PEMB

**Eggers and Reed Field Classification:** Wet Meadow

**Soil mapping unit:** Copaston silt loam

**No. Transects:** 1      **No. Additional Sample Points:** 0

**Wetland Flags:** 11

**Wetland Size (within Project Area):** 0.19 acres

Wetland D is positioned south east of Wetland C. The wetland is characterized as wet meadow located within a ditch along TH 169. The wetland boundary is outlined in **Figure 6c, Appendix B**. Wetland E was delineated in 2016.

Dominant vegetation in the wetland consisted of reed canary grass (*Phalaris arundinacea*) in the herb stratum. Hydric soil indicators were assumed based on the presence of hydric vegetation and hydrology but could not be confirmed due to a restrictive compacted rock layer at 8 inches. Hydrology indicators included saturation visible on aerial imagery (C9), 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 were encounter in the upland sample point. No hydrology indicators were encounter in the upland sample point.

The wetland boundary was placed along a topographic break where hydrology indicators were no longer met.

### **E. Wetland E**

**Circular 39:** Type 5

**Cowardin:** PABH

**Eggers and Reed Field Classification:** Shallow Open Water

**Soil mapping unit:** Dorchester

**No. Transects:** 1      **No. Additional Sample Points:** 0

**Wetland Flags:** 16

**Wetland Size (within Project Area):** 0.30 acres

Wetland E is positioned south of Wetland C. The wetland is characterized as shallow open water wetland. This wetland is currently functioning as a storm pond within the Mulch Store property. The wetland boundary is outlined in **Figure 6c, Appendix B**. Wetland E was delineated in 2016.

## SECTION III

---

Dominant vegetation in the wetland consisted of reed canary grass (*Phalaris arundinacea*) and narrow leaf cattail (*Typha angustifolia*) in the herb stratum. Soils within the upland sample point were disturbed in the past. A pea gravel layer was hit which restricted further soil sampling. Hydric soils were assumed based on the landscape, hydrophytic vegetation, and hydrology indicators. Hydrology indicators included geomorphic position (D2) and FAC-neutral test (D5).

Dominant vegetation in the upland consisted of reed canary grass (*Phalaris arundinacea*) and sow thistle (*Sonchus arvensis*) in the herb stratum and bindweed (*Fallopia convolvulus*) in the woody vine stratum. No hydric soil indicators were present in the upland sample point. No hydrology indicators were present in the upland sample point.

The wetland boundary was placed along a topographic break where vegetation transitions from reed canary to a mixture of upland species.

### **F. Wetland F**

**Circular 39:** Type 3

**Cowardin:** PEMC

**Eggers and Reed Field Classification:** Shallow Marsh

**Soil mapping unit:** Comfrey

**No. Transects:** 0      **No. Additional Sample Points:** 0

**Wetland Flags:** 35

**Wetland Size (within Project Area):** 0.42 acres

Wetland F is positioned east of Wetland C. The wetland is characterized as shallow marsh wetland. This wetland has been channelized and contains a culvert on the north end, and water flows south. The channel contains cattails. The wetland boundary is outlined in **Figure 6c, Appendix B**. Wetland F was delineated in 2016.

Dominant vegetation in the wetland consisted of narrow leaf cattail (*Typha angustifolia*) and reed canary grass (*Phalaris arundinacea*) in the herb stratum. No soil sample could be taken from this wetland due to the land restrictions to get to the wetland. Hydrology indicators included surface water (A1), geomorphic position (D2) and FAC-neutral test (D5).

Dominant vegetation in the upland consisted of reed canary grass (*Phalaris arundinacea*) and sow thistle (*Sonchus arvensis*) in the herb stratum. No hydric soil indicators were present in the upland sample point. No hydrology indicators were present in the upland sample point.

The wetland boundary was placed along a topographic break on the ditch slope where hydrology was no longer present.

## SECTION III

---

### H. Wet Ditches

In some instances, areas such as the bottoms of constructed roadside ditches can form wetland characteristics over time due to the topographic position of the ditch bottom and the frequency of hydrology from runoff. These areas may incidentally meet the three wetland criteria, but were not constructed for the purposes of creating wetland area. These areas are referred to as wet ditches. During the onsite review three areas were identified as meeting wet ditch criteria.

#### 1. Wet Ditch 1

Wet Ditch 1 (WD1) is located on the north end of the project area. This is a ditch flows north from CSAH 41 into an infiltration basin. The ditch boundary is outlined in **Figure 6a, Appendix B**.

#### 2. Wet Ditch 2

Wet Ditch 2 (WD2) is located on the north end of the south section of the project area. This is a roadside ditch on the west side of TH 169. The ditch boundary is outlined in **Figure 6b, Appendix B**.

#### 3. Wet Ditch 3

Wet Ditch 3 (WD3) is located east of TH 169 within the Minnesota Valley Garden Center. The Garden center has an irrigation system for the tree saplings. The excess water runoff from the irrigation flows into these ditches providing hydrology in a developed setting. The ditch boundary is outlined in **Figure 6b, Appendix B**.

#### 4. Wet Ditch 4

Wet Ditch 4 (WD4) is located east of TH 169 on the south portion of the project area. The ditch boundary is outlined in **Figure 6c, Appendix B**.

#### 5. Wet Ditch 5

Wet Ditch 5 (WD5) is located north of unnamed to sand creek. This is a roadside ditch on the west side of TH 169. The ditch boundary is outlined in **Figure 6d, Appendix B**.

### I. Watercourse

One watercourse was identified onsite (DNR Unnamed Tributary to Sand Creek). This creek bed is located on the south end of the project and crosses under TH 169 through culverts. The banks of the creek bed were investigated and determined to not contain a wetland fringe. The top of bank for this watercourse is outlined in **Figure 6d, Appendix B**.

### J. Stormwater Ponds

## SECTION III

---

Similar to wet ditches, stormwater ponds can also form wetland characteristics over time. Two such areas are present within the project area. Although these areas did meet wetland characteristics, they were determined to not be under the jurisdiction of the WCA as they were created in non-wetland areas for the purpose of stormwater management and not for wetland creation. The delineated boundary for the storm ponds are outlined in **Figure 6c, Appendix B** and are described below.

### 1. Stormwater Pond 1

Stormwater Pond 1 is located east of TH 169, adjacent to Commercial Truck Collision. This stormwater pond did not show up on aerials until 2013. Prior to 2013 it was a farm field. In May of 2012 Google earth imagery shows the area to be under construction with the expansion of the Commercial Truck Collision area. The next available aerial in 2013 shows the stormwater pond. The area has culverts bringing water into the area with a water level control structure on the south end. Aerials used in this determination can be found in **Appendix E**.

### 2. Stormwater Pond 2

Stormwater Pond 2 is located south of Stormwater Pond 1. This stormwater pond does not appear in a 1991 aerial, but does appear in subsequent aerial images. In the 1991 aerial the area in question is an agricultural field. The next available aerial is in 2003, at which time an open water pond with defined edges appears. The pond is lined with ornamental shrubs with culverts on the west end bringing water into the pond. Aerials used in this determination can be found in **Appendix E**.

### K. Additional Sampled Areas

An additional sample point (SP1) was taken in a depressional ditch area west of TH 41 and north of TH 169. The area is a mowed ditch running parallel to TH 41 (**Figure 6a, Appendix B**). The area had flowing water in the ditch during the delineation, likely due to a rainfall that preceded the 2015 site visit. The area did not meet hydroptic vegetation or hydric soil criteria. The dominant vegetation at the sample point consisted of common mullein (*Verbascum thapsus*) and ground ivy (*Glechoma hederacea*) in the herb stratum, and quacking aspen (*Populus tremuloides*) in the sapling stratum. Because the ditch area did not meet all of the wetland criteria, it was determined to be upland and is shown on **Figure 6a** as a dry ditch.

### L. Infiltration Basin

One area was investigated for the presence of wetlands and was determined to be an infiltration basin. This area is east of TH 41 and south of TH 169. The area shows hydrology and hydric vegetation. However, the area does not have hydric soils. The area is mapped as an Estherville soils series. The soil sample taken had sediment fill for the top two inches. After that the soils goes to straight sand. Since the area does not meet hydric soils it was determined to be an infiltration basin and not a wetland. The infiltration basin explains the present of hydrology and hydric vegetation being present.

## SECTION IV

---

### IV. Summary and Closing Statements

Six wetlands, Wetland A through Wetland F, were delineated within the project area using the Level 2 method. Additionally two stormwater ponds, one watercourse, one infiltration basin and five wet ditches were delineated.

The wetland delineation report was completed by Dustin Simonson 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 and to address all water bodies found on site for consideration by Section 404 permitting. The application for boundary and type 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

Board of Water and Soil Resources. 2009. Wetland Conservation Act Rules, Chapter 8420. Print Communication Division, St. Paul.

Cowardin L.M. USFWS. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Government Printing Office, Carver, D.C. 131 pp.

Eggers, S.D. and D.M. Reed. 1997. Wetland Plants and Plant Communities of Minnesota & Wisconsin, Second Edition. United States Army Corps of Engineers, St. Paul District. 263 pp.

Fredine, C.G. and S.P. Shaw. 1956. Wetlands of the United States (Circular 39). United States Government Printing Office, Carver, D.C.

Kollmorgen Instruments Corp. 2009 Revised Edition. Munsell Soil Color Charts.

National Technical Committee for Hydric Soils. 1991. Hydric Soils of the United States. U.S.D.A. Soil Conservation Service. Carver, D.C. Misc. Publication 1491. Revised December 15, 1995.

United States Army Corps of Engineers. Minnesota 2014 State Wetland Plant List-National Wetland Plant List. 2014 Ratings. Cold Regions Research and Engineering Laboratory (CRREL).

United States Army Corps of Engineers. August 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, and C. V. Nobel. ERDC/EL TR-10-16. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

United States Army Corps of Engineers- St. Paul District and Minnesota Board of Water & Soil Resources. April 25, 2013. Guidance for Submittal of Delineation Reports to the St. Paul District Army Corps of Engineers and Wetland Conservation Act Local Governmental Units in Minnesota.

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.

## SECTION V

---

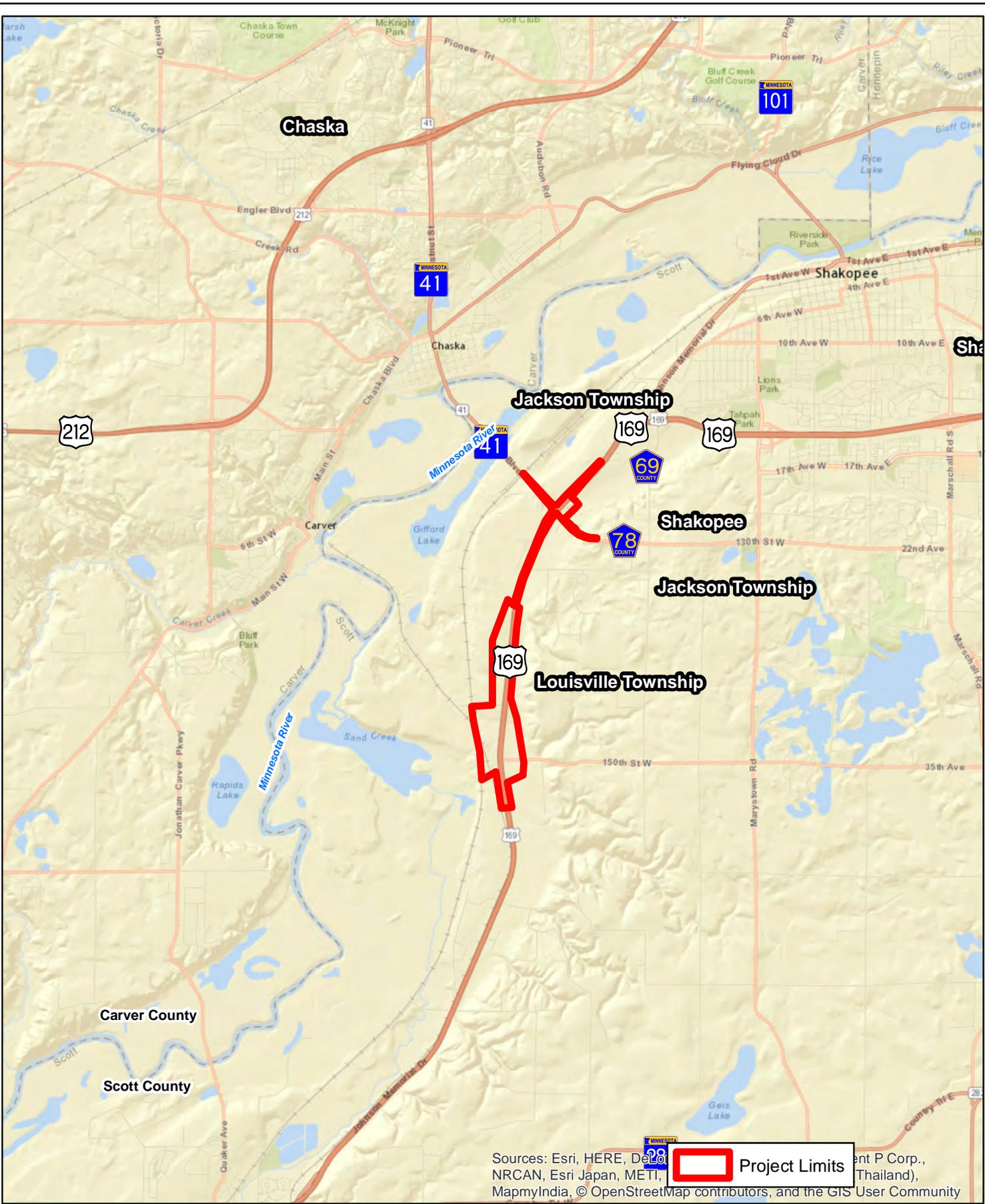
Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Webs Soil Survey, Minnesota. Available online at <http://websoilsurvey.nrcs.usda.gov/>. Accessed 9/9/2015.

# APPENDIX

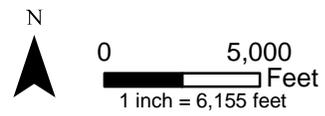
---

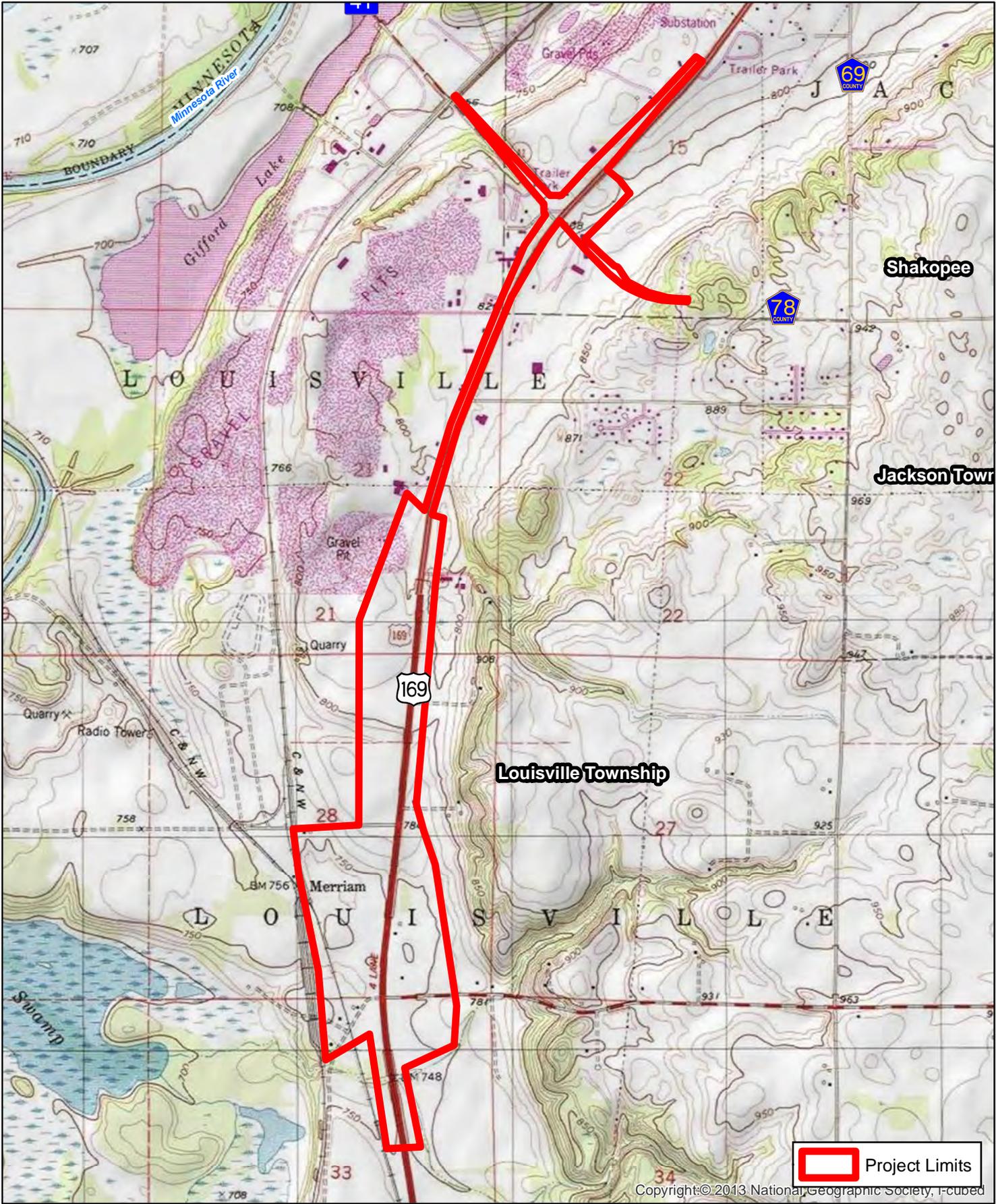
## APPENDIX A

- Figure 1 – Project Location Map
- Figure 2 – Topographic Map
- Figure 3 – DNR Public Waters Inventory
- Figure 4 – National Wetlands Inventory
- Figure 5 – Soil Survey of Scott County



**Figure1 - Project Location**  
 TH 169 and TH 41  
 Scott County





Copyright © 2013 National Geographic Society, I-cubed

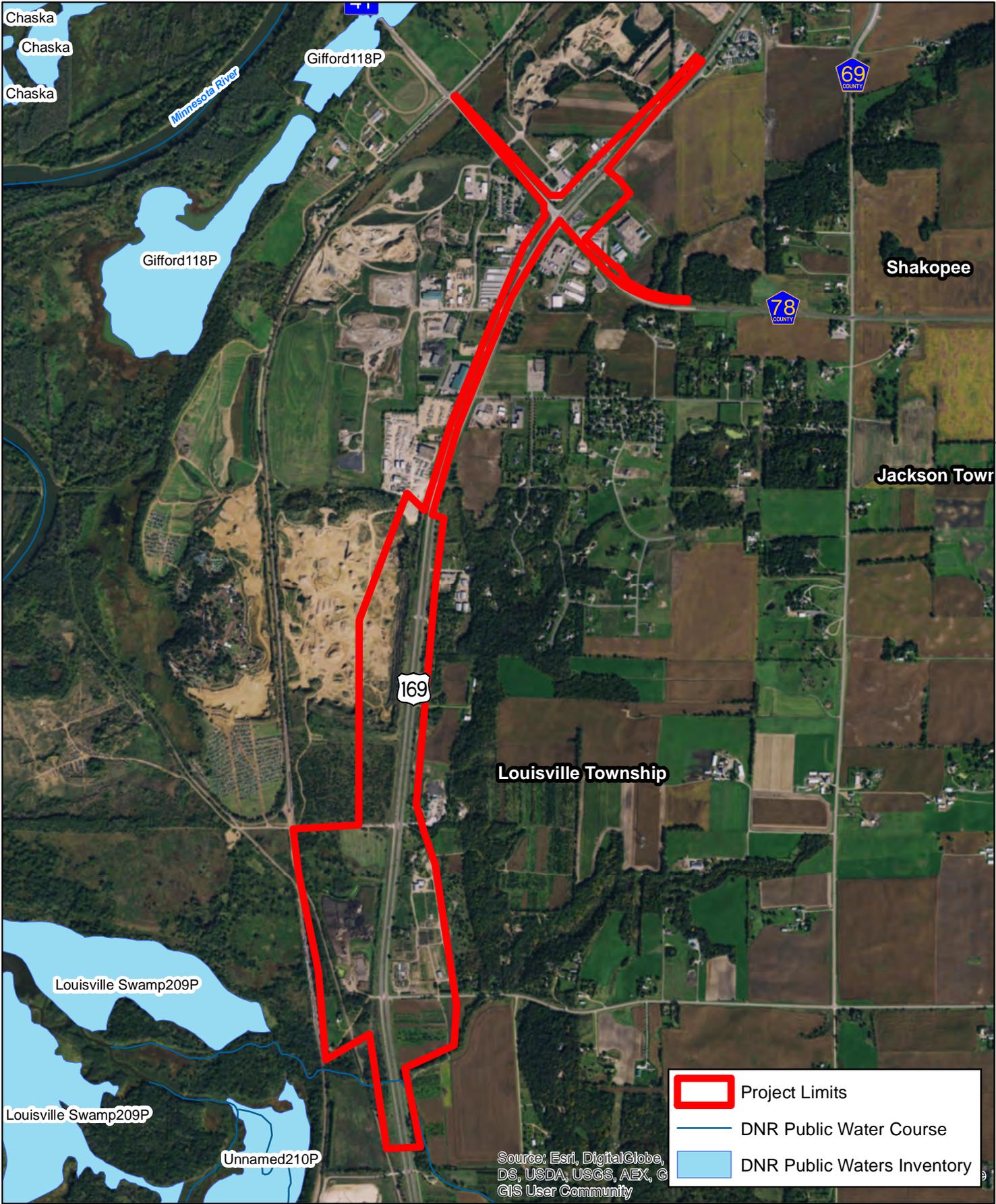


**Figure 2 - Topographic Map**  
TH 169 and TH 41  
Scott County



0 2,000  
Feet  
1 inch = 1,982 feet



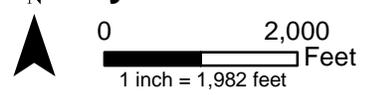


Source: Esri, DigitalGlobe, DS, USDA, USGS, AEX, © GIS User Community

-  Project Limits
-  DNR Public Water Course
-  DNR Public Waters Inventory



**Figure 3 - DNR Public Waters Inventory**  
 TH 169 and TH 41  
 Scott County





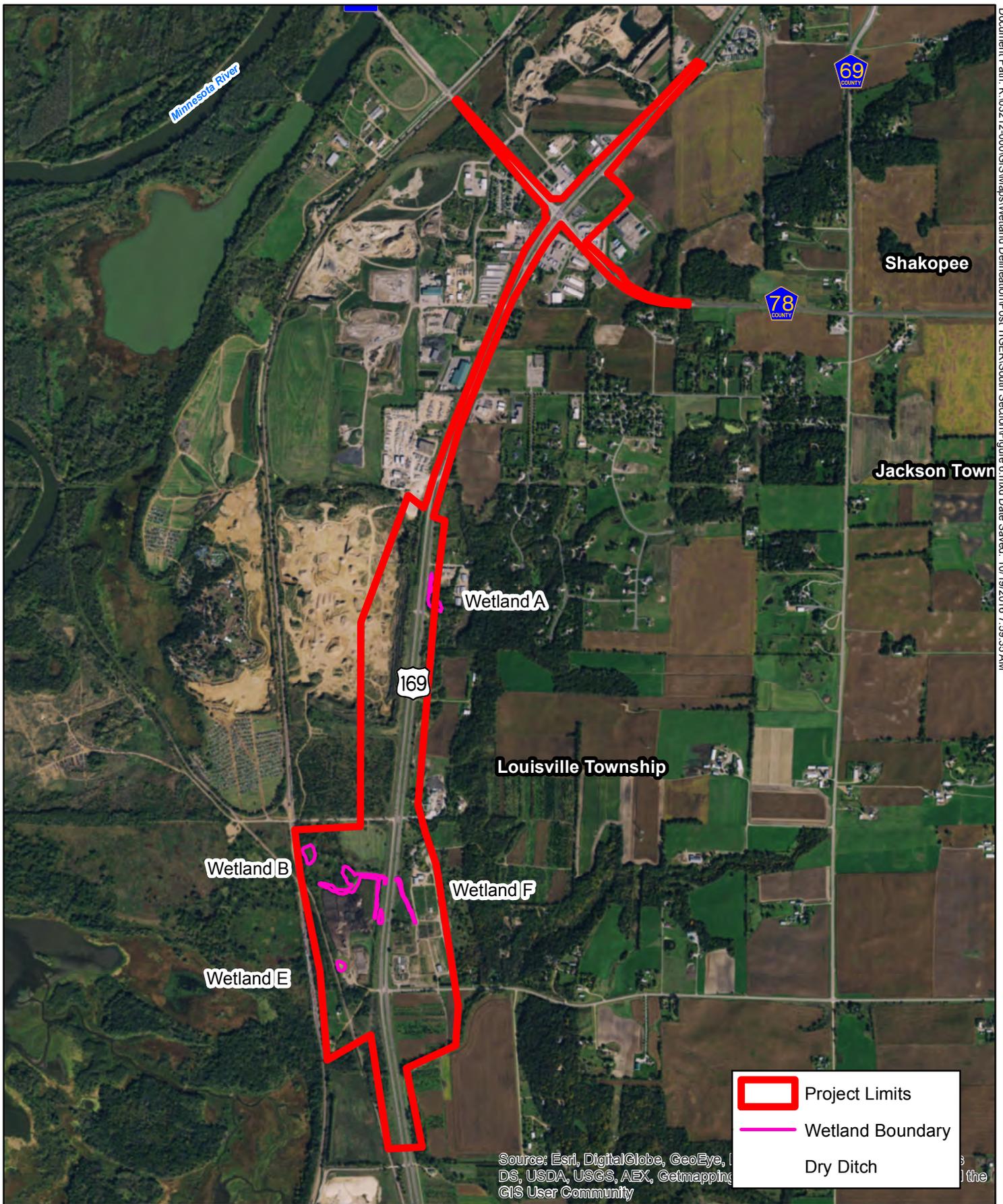


# APPENDIX

---

## APPENDIX B

Figure 6 – Wetland Delineation  
Figure 6a – Wetland Delineation  
Figure 6b – Wetland Delineation  
Figure 6a – Wetland Delineation  
Figure 6b – Wetland Delineation  
Wetland Determination Data Forms

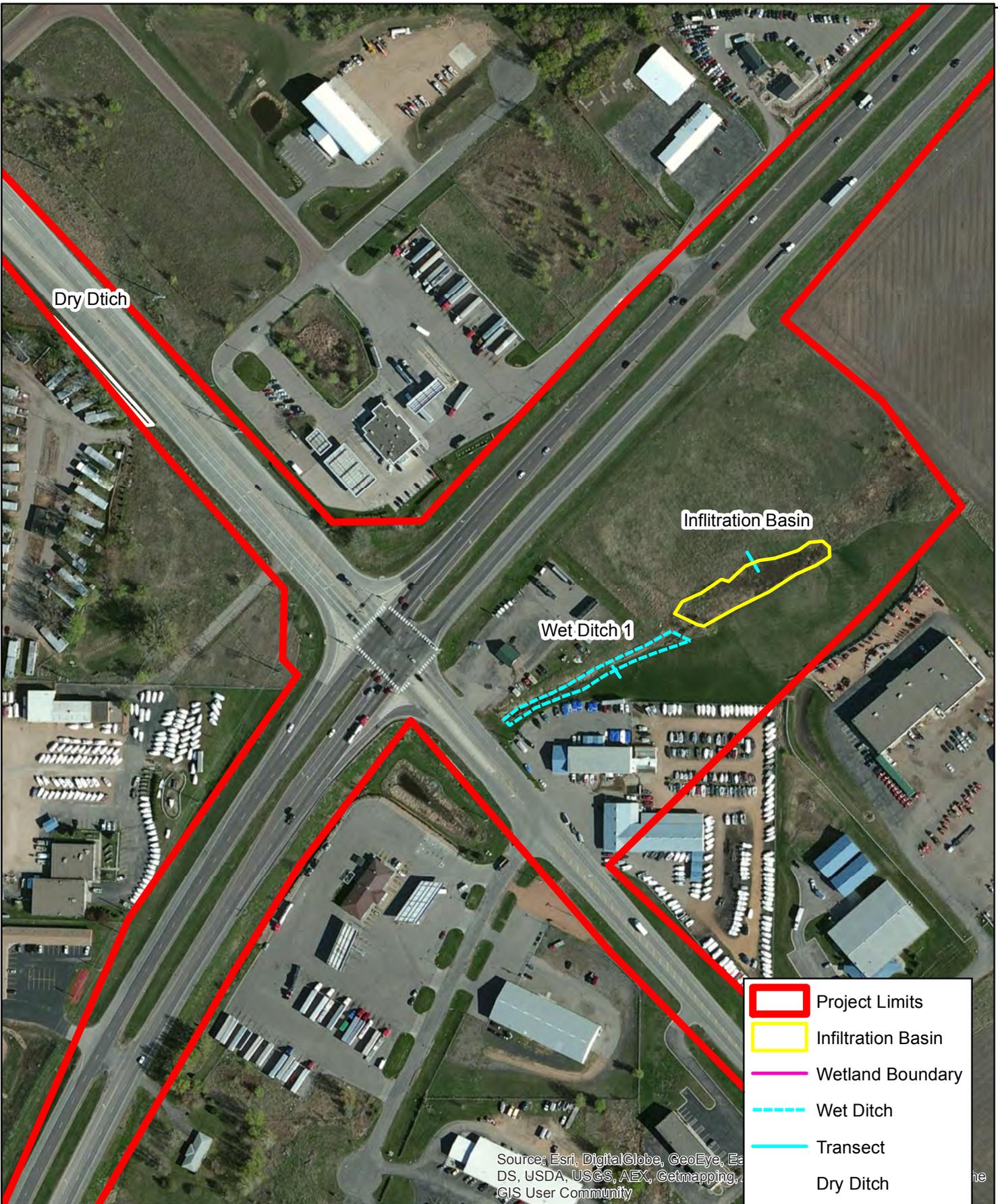


**Figure 6 - Wetland Delineation**  
 TH 169 and TH 41  
 Scott County

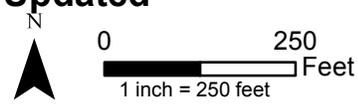


0 2,000 Feet  
 1 inch = 1,984 feet



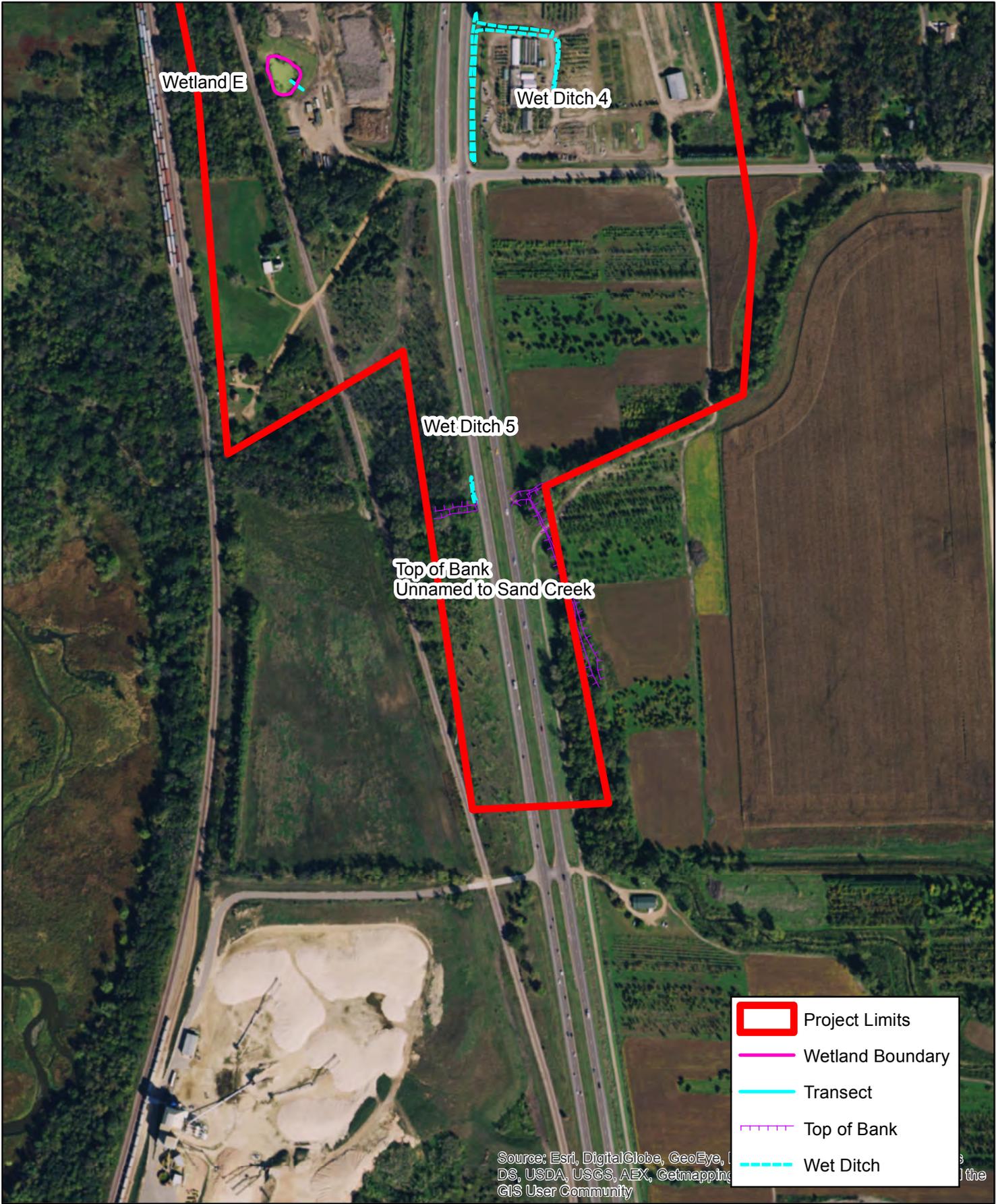


**Figure 6a - Wetland Delineation Updated**  
TH 169 and TH 41  
Scott County









Source: Esri, DigitalGlobe, GeoEye, ... DS, USDA, USGS, AEX, Getmapping ... GIS User Community

- Project Limits
- Wetland Boundary
- Transect
- Top of Bank
- Wet Ditch



### Figure 6d - Wetland Delineation

TH 169 and TH 41  
Scott County



0 500 Feet  
1 inch = 494 feet



**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site CSAH 169/41 South City/County: Scott Sampling Date: 9/15/2016  
 Applicant/Owner: Scott County State: MN Sampling Point: A1 Up  
 Investigator(s): Dustin S. Laura M. Section, Township, Range: S28, T115, R23  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave  
 Slope (%): 0-2% Lat: 44.750701 Long: -93.585977 Datum: WGS84  
 Soil Map Unit Name Stony Land NWI Classification: PEM1A

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? Yes

**SUMMARY OF FINDINGS**

(If needed, explain any answers in remarks.)

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

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

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

| Tree Stratum          | (Plot size: <u>30'</u> )    | Absolute % Cover | Dominant Species | Indicator Status                            | <b>Dominance Test Worksheet</b>   |  |
|-----------------------|-----------------------------|------------------|------------------|---|---|--|
| 1                     | _____                       | _____            | _____            | _____                                       | Number of Dominant Species that are OBL, FACW, or FAC: <u>3</u> (A)                               |  |
| 2                     | _____                       | _____            | _____            | _____                                       | Total Number of Dominant Species Across all Strata: <u>3</u> (B)                                  |  |
| 3                     | _____                       | _____            | _____            | _____                                       | Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)                      |  |
| 4                     | _____                       | _____            | _____            | _____                                       |   |  |
| 5                     | _____                       | _____            | _____            | _____                                       |   |  |
|                       |                             | <u>0</u>         | = Total Cover    |   |   |  |
| Sapling/Shrub stratum | (Plot size: <u>15'</u> )    |                  |                  |   | <b>Prevalence Index Worksheet</b>   |  |
| 1                     | _____                       | _____            | _____            | _____                                       | Total % Cover of:   |  |
| 2                     | _____                       | _____            | _____            | _____                                       | OBL species <u>0</u> x 1 = <u>0</u>   |  |
| 3                     | _____                       | _____            | _____            | _____                                       | FACW species <u>40</u> x 2 = <u>80</u>  |  |
| 4                     | _____                       | _____            | _____            | _____                                       | FAC species <u>40</u> x 3 = <u>120</u>  |  |
| 5                     | _____                       | _____            | _____            | _____                                       | FACU species <u>20</u> x 4 = <u>80</u>  |  |
|                       |                             | <u>0</u>         | = Total Cover    |   | UPL species <u>0</u> x 5 = <u>0</u>   |  |
|                       |                             |                  |                  | Column totals <u>100</u> (A) <u>280</u> (B) |   |  |
|                       |                             |                  |                  | Prevalence Index = B/A = <u>2.80</u>        |   |  |
| Herb stratum          | (Plot size: <u>5'</u> )     |                  |                  |   | <b>Hydrophytic Vegetation Indicators:</b>   |  |
| 1                     | <u>Phalaris arundinacea</u> | <u>40</u>        | <u>Y</u>         | <u>FACW</u>                                 | <input type="checkbox"/> Rapid test for hydrophytic vegetation                                    |  |
| 2                     | <u>Poa Pratensis</u>        | <u>20</u>        | <u>Y</u>         | <u>FAC</u>                                  | <input checked="" type="checkbox"/> Dominance test is >50%  |  |
| 3                     | <u>Plantago major</u>       | <u>20</u>        | <u>Y</u>         | <u>FAC</u>                                  | <input checked="" type="checkbox"/> Prevalence index is ≤3.0*                                     |  |
| 4                     | <u>Taraxacum officinale</u> | <u>10</u>        | <u>N</u>         | <u>FACU</u>                                 | Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)            |  |
| 5                     | <u>Cirsium arvense</u>      | <u>10</u>        | <u>N</u>         | <u>FACU</u>                                 | Problematic hydrophytic vegetation* (explain)   |  |
| 6                     | _____                       | _____            | _____            | _____                                       | *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic |  |
| 7                     | _____                       | _____            | _____            | _____                                       |   |  |
| 8                     | _____                       | _____            | _____            | _____                                       |   |  |
| 9                     | _____                       | _____            | _____            | _____                                       |   |  |
| 10                    | _____                       | _____            | _____            | _____                                       |   |  |
|                       |                             | <u>100</u>       | = Total Cover    |   |   |  |
| Woody vine stratum    | (Plot size: <u>30'</u> )    |                  |                  |   | <b>Hydrophytic vegetation present?</b>  |  |
| 1                     | _____                       | _____            | _____            | _____                                       | <u>Y</u>  |  |
| 2                     | _____                       | _____            | _____            | _____                                       |   |  |
|                       |                             | <u>0</u>         | = Total Cover    |   |   |  |

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

**SOIL**

Sampling Point: A1 Up

| Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) |               |     |                |   |       |       |           |         |
|---|---------------|-----|----------------|---|-------|-------|-----------|---------|
| Depth (Inches)  | Matrix        |     | Redox Features |   |       |       | Texture   | Remarks |
|   | Color (moist) | %   | Color (moist)  | % | Type* | Loc** |           |         |
| 0-26  | 10YR 2/1      | 100 |                |   |       |       | Loam      |         |
| 23-36   | 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:                                    | Indicators for Problematic Hydric Soils:                           |
|--|--|
| <input type="checkbox"/> Histisol (A1)                     | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)   |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Dark Surface (S7) (LRR K, L)              |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Very Shallow Dark Surface (TF12)          |
| <input type="checkbox"/> Stratified Layers (A5)            | <input checked="" type="checkbox"/> Other (explain in remarks)     |
| <input type="checkbox"/> 2 cm Muck (A10)                   |  |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) |  |
| <input type="checkbox"/> Thick Dark Surface (A12)          |  |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          |  |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |  |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          |  |
| <input type="checkbox"/> Sandy Redox (S5)                  |  |
| <input type="checkbox"/> Stripped Matrix (S6)              |  |
| <input type="checkbox"/> Loamy Mucky Mineral (F1)          |  |
| <input type="checkbox"/> Loamy Gleyed Matrix (F2)          |  |
| <input type="checkbox"/> Depleted Matrix (F3)              |  |
| <input type="checkbox"/> Redox Dark Surface (F6)           |  |
| <input type="checkbox"/> Depleted Dark Surface (F7)        |  |
| <input type="checkbox"/> Redox Depressions (F8)            |  |

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

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

Remarks:  
Assumed A12

**HYDROLOGY**

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

|  |  |
|--|--|
| <b>Field Observations:</b>   |  |
| Surface water present? Yes _____ No <u>X</u> Depth (inches): _____                             | <b>Indicators of wetland hydrology present?</b> <u>N</u> |
| Water table present? Yes _____ No <u>X</u> Depth (inches): _____                               |  |
| Saturation present? Yes _____ No <u>X</u> Depth (inches): _____<br>(includes capillary fringe) |  |

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

Remarks:  
Water flows down into ditch from sample point

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site CSAH 169/41 South City/County: Scott Sampling Date: 9/15/2016  
 Applicant/Owner: Scott County State: MN Sampling Point: A1 Wet  
 Investigator(s): Dustin S. Laura M. Section, Township, Range: S28, T115, R23  
 Landform (hillslope, terrace, etc.): Ditch Local relief (concave, convex, none): Concave  
 Slope (%): 0-2% Lat: 44.750701 Long: -93.585977 Datum: WGS84  
 Soil Map Unit Name Stony Land NWI Classification: PEM1A

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

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

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

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

| Tree Stratum          | (Plot size: <u>30'</u> )    | Absolute % Cover | Dominant Species | Indicator Status |  |
|-----------------------|-----------------------------|------------------|------------------|------------------|--|
| 1                     |                             |                  |                  |                  | <b>Dominance Test Worksheet</b><br>Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A)<br>Total Number of Dominant Species Across all Strata: <u>2</u> (B)<br>Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)   |
| 2                     |                             |                  |                  |                  |  |
| 3                     |                             |                  |                  |                  |  |
| 4                     |                             |                  |                  |                  |  |
| 5                     |                             |                  |                  |                  |  |
|                       |                             | <u>0</u>         | = Total Cover    |                  | <b>Prevalence Index Worksheet</b><br>Total % Cover of:<br>OBL species <u>60</u> x 1 = <u>60</u><br>FACW species <u>40</u> x 2 = <u>80</u><br>FAC species <u>0</u> x 3 = <u>0</u><br>FACU species <u>0</u> x 4 = <u>0</u><br>UPL species <u>0</u> x 5 = <u>0</u><br>Column totals <u>100</u> (A) <u>140</u> (B)<br>Prevalence Index = B/A = <u>1.40</u>   |
| Sapling/Shrub stratum | (Plot size: <u>15'</u> )    |                  |                  |                  |  |
| 1                     |                             |                  |                  |                  |  |
| 2                     |                             |                  |                  |                  |  |
| 3                     |                             |                  |                  |                  |  |
| 4                     |                             |                  |                  |                  |  |
| 5                     |                             |                  |                  |                  |  |
|                       |                             | <u>0</u>         | = Total Cover    |                  |  |
| Herb stratum          | (Plot size: <u>5'</u> )     |                  |                  |                  | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> Rapid test for hydrophytic vegetation<br><input checked="" type="checkbox"/> Dominance test is >50%<br><input checked="" type="checkbox"/> Prevalence index is ≤3.0*<br><br>Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)<br><br>Problematic hydrophytic vegetation* (explain)<br><br>*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic |
| 1                     | <u>Carex lacustris</u>      | <u>60</u>        | <u>Y</u>         | <u>OBL</u>       |  |
| 2                     | <u>Phalaris arundinacea</u> | <u>40</u>        | <u>Y</u>         | <u>FACW</u>      |  |
| 3                     |                             |                  |                  |                  |  |
| 4                     |                             |                  |                  |                  |  |
| 5                     |                             |                  |                  |                  |  |
| 6                     |                             |                  |                  |                  |  |
| 7                     |                             |                  |                  |                  |  |
| 8                     |                             |                  |                  |                  |  |
| 9                     |                             |                  |                  |                  |  |
| 10                    |                             |                  |                  |                  |  |
|                       |                             | <u>100</u>       | = Total Cover    |                  |  |
| Woody vine stratum    | (Plot size: <u>30'</u> )    |                  |                  |                  | <b>Hydrophytic vegetation present?</b> <u>Y</u>  |
| 1                     |                             |                  |                  |                  |  |
| 2                     |                             |                  |                  |                  |  |
|                       |                             | <u>0</u>         | = Total Cover    |                  |  |

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

**SOIL**

Sampling Point: A1 Wet

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

| Depth (Inches) | Matrix        |     | Redox Features |   |       |       | Texture   | Remarks |
|----------------|---------------|-----|----------------|---|-------|-------|-----------|---------|
|                | Color (moist) | %   | Color (moist)  | % | Type* | Loc** |           |         |
| 0-23           | 10YR 2/1      | 100 |                |   |       |       | Loam      |         |
| 23-36          | 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)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils:**

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

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

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_  
Depth (inches): \_\_\_\_\_

Hydric soil present? Y

Remarks:

Assumed A12

**HYDROLOGY**

**Wetland Hydrology Indicators:**

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

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

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

Secondary Indicators (minimum of two required)

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

**Field Observations:**

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

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 169/41 South City/County: Scott Sampling Date: 9/13/2016  
 Applicant/Owner: Scott County State: MN Sampling Point: B1 Up  
 Investigator(s): Dustin S. Laura M. Section, Township, Range: S28, T115, R23  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave  
 Slope (%): 3-5% Lat: 44.73917 Long: -93.593214 Datum: WGS84  
 Soil Map Unit Name Terril loam NWI Classification: PEMB

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? Yes

**SUMMARY OF FINDINGS**

(If needed, explain any answers in remarks.)

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

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

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

| Tree Stratum (Plot size: <u>30'</u> )          | Absolute % Cover | Dominant Species | Indicator Staus | <b>Dominance Test Worksheet</b>   |
|--|------------------|------------------|-----------------|---|
| 1 <u>Populus deltoides</u>                     | 30               | Y                | FAC             |   |
| 2 _____  | _____            | _____            | _____           | Total Number of Dominant Species Across all Strata: <u>4</u> (B)  |
| 3 _____  | _____            | _____            | _____           | Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)   |
| 4 _____  | _____            | _____            | _____           |   |
| 5 _____  | _____            | _____            | _____           |   |
| 30 = Total Cover                               |                  |                  |                 |   |
| Sapling/Shrub stratum (Plot size: <u>15'</u> ) | Absolute % Cover | Dominant Species | Indicator Staus | <b>Prevalence Index Worksheet</b>   |
| 1 <u>Rhamnus cathartica</u>                    | 40               | Y                | FAC             |   |
| 2 _____  | _____            | _____            | _____           | OBL species <u>0</u> x 1 = <u>0</u>   |
| 3 _____  | _____            | _____            | _____           | FACW species <u>0</u> x 2 = <u>0</u>  |
| 4 _____  | _____            | _____            | _____           | FAC species <u>70</u> x 3 = <u>210</u>  |
| 5 _____  | _____            | _____            | _____           | FACU species <u>80</u> x 4 = <u>320</u>   |
| 40 = Total Cover                               |                  |                  |                 | UPL species <u>0</u> x 5 = <u>0</u>   |
| 40 = Total Cover                               |                  |                  |                 | Column totals <u>150</u> (A) <u>530</u> (B)   |
| Herb stratum (Plot size: <u>5'</u> )           | Absolute % Cover | Dominant Species | Indicator Staus | Prevalence Index = B/A = <u>3.53</u>  |
| 1 <u>Parthenocissus quinquefolia</u>           | 50               | Y                | FACU            | <b>Hydrophytic Vegetation Indicators:</b><br>_____ Rapid test for hydrophytic vegetation<br>_____ Dominance test is >50%<br>_____ Prevalence index is ≤3.0*<br><br>Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)<br>_____ Problematic hydrophytic vegetation* (explain)<br><br>*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic |
| 2 <u>Sonchus oleraceus</u>                     | 30               | Y                | FACU            |   |
| 3 _____  | _____            | _____            | _____           |   |
| 4 _____  | _____            | _____            | _____           |   |
| 5 _____  | _____            | _____            | _____           |   |
| 6 _____  | _____            | _____            | _____           |   |
| 7 _____  | _____            | _____            | _____           |   |
| 8 _____  | _____            | _____            | _____           |   |
| 9 _____  | _____            | _____            | _____           |   |
| 10 _____                                       | _____            | _____            | _____           |   |
| 80 = Total Cover                               |                  |                  |                 |   |
| Woody vine stratum (Plot size: <u>30'</u> )    | Absolute % Cover | Dominant Species | Indicator Staus | <b>Hydrophytic vegetation present?</b> <u>N</u>   |
| 1 _____  | _____            | _____            | _____           |   |
| 2 _____  | _____            | _____            | _____           |   |
| 0 = Total Cover                                |                  |                  |                 |   |

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

**SOIL**

Sampling Point: B1 Up

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

| Depth (Inches) | Matrix        |     | Redox Features |   |       |       | Texture   | Remarks |
|----------------|---------------|-----|----------------|---|-------|-------|-----------|---------|
|                | Color (moist) | %   | Color (moist)  | % | Type* | Loc** |           |         |
| 0-18           | 10YR 2/1      | 100 |                |   |       |       | Loam      |         |
| 18-24          | 10YR 2/2      | 100 |                |   |       |       | Clay Loam |         |
|                |               |     |                |   |       |       |           |         |
|                |               |     |                |   |       |       |           |         |
|                |               |     |                |   |       |       |           |         |
|                |               |     |                |   |       |       |           |         |
|                |               |     |                |   |       |       |           |         |

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

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

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

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

**HYDROLOGY**

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

|  |   |
|--|---|
| <p><b>Field Observations:</b></p> <p>Surface water present? Yes _____ No <u>  X  </u> Depth (inches): _____</p> <p>Water table present? Yes _____ No <u>  X  </u> Depth (inches): _____</p> <p>Saturation present? Yes _____ No <u>  X  </u> Depth (inches): _____<br/>(includes capillary fringe)</p> | <p><b>Indicators of wetland hydrology present?</b> <u>  N  </u></p> |
|--|---|

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

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site CSAH 169/41 South City/County: Scott Sampling Date: 9/13/2016  
 Applicant/Owner: Scott County State: MN Sampling Point: B1 Wet  
 Investigator(s): Dustin S. Laura M. Section, Township, Range: S28, T115, R23  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-2% Lat: 44.739114 Long: -93.593194 Datum: WGS84  
 Soil Map Unit Name Terril loam NWI Classification: PEM1A

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

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

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

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

| Tree Stratum (Plot size: <u>30'</u> )          | Absolute % Cover | Dominant Species | Indicator Staus | <b>Dominance Test Worksheet</b>  |
|--|------------------|------------------|-----------------|--|
| 1 <u>Acer negundo</u>                          | 30               | Y                | FAC             |  |
| 2 _____  |                  |                  |                 | Total Number of Dominant Species Across all Strata: <u>4</u> (B)                       |
| 3 _____  |                  |                  |                 | Percent of Dominant Species that are OBL, FACW, or FAC: <u>75.00%</u> (A/B)            |
| 4 _____  |                  |                  |                 |  |
| 5 _____  |                  |                  |                 |  |
| 30 = Total Cover                               |                  |                  |                 |  |
| Sapling/Shrub stratum (Plot size: <u>15'</u> ) | Absolute % Cover | Dominant Species | Indicator Staus | <b>Prevalence Index Worksheet</b>  |
| 1 _____  | 40               | Y                |                 |  |
| 2 _____  |                  |                  |                 | OBL species <u>0</u> x 1 = <u>0</u>  |
| 3 _____  |                  |                  |                 | FACW species <u>115</u> x 2 = <u>230</u>   |
| 4 _____  |                  |                  |                 | FAC species <u>30</u> x 3 = <u>90</u>  |
| 5 _____  |                  |                  |                 | FACU species <u>0</u> x 4 = <u>0</u>   |
|  |                  |                  |                 | UPL species <u>0</u> x 5 = <u>0</u>  |
| 40 = Total Cover                               |                  |                  |                 | Column totals <u>145</u> (A) <u>320</u> (B)  |
|  |                  |                  |                 | Prevalence Index = B/A = <u>2.21</u>   |
| Herb stratum (Plot size: <u>5'</u> )           | Absolute % Cover | Dominant Species | Indicator Staus | <b>Hydrophytic Vegetation Indicators:</b>  |
| 1 <u>Phalaris arundinacea</u>                  | 100              | Y                | FACW            |  |
| 2 _____  |                  |                  |                 | <input checked="" type="checkbox"/> Dominance test is >50%                             |
| 3 _____  |                  |                  |                 | <input checked="" type="checkbox"/> Prevalence index is ≤3.0*                          |
| 4 _____  |                  |                  |                 | Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) |
| 5 _____  |                  |                  |                 | Problematic hydrophytic vegetation* (explain)  |
| 6 _____  |                  |                  |                 |  |
| 7 _____  |                  |                  |                 |  |
| 8 _____  |                  |                  |                 |  |
| 9 _____  |                  |                  |                 |  |
| 10 _____                                       |                  |                  |                 |  |
| 100 = Total Cover                              |                  |                  |                 |  |
| Woody vine stratum (Plot size: <u>30'</u> )    | Absolute % Cover | Dominant Species | Indicator Staus | <b>Hydrophytic vegetation present?</b> <u>Y</u>  |
| 1 <u>Vitis riparia</u>                         | 15               | Y                | FACW            |  |
| 2 _____  |                  |                  |                 |  |
| 15 = Total Cover                               |                  |                  |                 |  |

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

**SOIL**

Sampling Point: B1 Wet

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

| Depth (Inches) | Matrix        |     | Redox Features |   |       |       | Texture   | Remarks |
|----------------|---------------|-----|----------------|---|-------|-------|-----------|---------|
|                | Color (moist) | %   | Color (moist)  | % | Type* | Loc** |           |         |
| 0-24           | 10YR 2/1      | 100 |                |   |       |       | Loam      |         |
| 24-28          | 10YR 5/1      | 95  | 10YR 4/4       | 5 | C     | M     | Clay Loam |         |
|                |               |     |                |   |       |       |           |         |
|                |               |     |                |   |       |       |           |         |
|                |               |     |                |   |       |       |           |         |
|                |               |     |                |   |       |       |           |         |
|                |               |     |                |   |       |       |           |         |
|                |               |     |                |   |       |       |           |         |

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

**Hydric Soil Indicators:**

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

**Indicators for Problematic Hydric Soils:**

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

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

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric soil present? Y

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

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

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

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

Secondary Indicators (minimum of two required)

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

**Field Observations:**

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

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 169/41 South City/County: Scott Sampling Date: 9/13/2016  
 Applicant/Owner: Scott County State: MN Sampling Point: C1 Up  
 Investigator(s): Dustin S. Laura M. Section, Township, Range: S28, T115, R23  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave  
 Slope (%): 3-5% Lat: 44.73917 Long: -93.593194 Datum: WGS84  
 Soil Map Unit Name Terril loam NWI Classification: PEM1A

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? Yes

**SUMMARY OF FINDINGS**

(If needed, explain any answers in remarks.)

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

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

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

| Tree Stratum (Plot size: <u>30'</u> )          | Absolute % Cover | Dominant Species | Indicator Staus | <b>Dominance Test Worksheet</b>   |
|--|------------------|------------------|-----------------|---|
| 1 <u>Populus deltoides</u>                     | 15               | Y                | FAC             |   |
| 2 _____  | _____            | _____            | _____           | Total Number of Dominant Species Across all Strata: <u>5</u> (B)  |
| 3 _____  | _____            | _____            | _____           | Percent of Dominant Species that are OBL, FACW, or FAC: <u>60.00%</u> (A/B)   |
| 4 _____  | _____            | _____            | _____           |   |
| 5 _____  | _____            | _____            | _____           |   |
| 15 = Total Cover                               |                  |                  |                 |   |
| Sapling/Shrub stratum (Plot size: <u>15'</u> ) | Absolute % Cover | Dominant Species | Indicator Staus | <b>Prevalence Index Worksheet</b>   |
| 1 <u>Rubus idaeus</u>                          | 10               | Y                | FACU            |   |
| 2 _____  | _____            | _____            | _____           | OBL species <u>0</u> x 1 = <u>0</u>   |
| 3 _____  | _____            | _____            | _____           | FACW species <u>35</u> x 2 = <u>70</u>  |
| 4 _____  | _____            | _____            | _____           | FAC species <u>15</u> x 3 = <u>45</u>   |
| 5 _____  | _____            | _____            | _____           | FACU species <u>60</u> x 4 = <u>240</u>   |
| 10 = Total Cover                               |                  |                  |                 | UPL species <u>15</u> x 5 = <u>75</u>   |
| 10 = Total Cover                               |                  |                  |                 | Column totals <u>125</u> (A) <u>430</u> (B)   |
| Herb stratum (Plot size: <u>5'</u> )           | Absolute % Cover | Dominant Species | Indicator Staus | Prevalence Index = B/A = <u>3.44</u>  |
| 1 <u>Cirsium arvense</u>                       | 50               | Y                | FACU            | <b>Hydrophytic Vegetation Indicators:</b><br>_____ Rapid test for hydrophytic vegetation<br>X Dominance test is >50%<br>_____ Prevalence index is ≤3.0*<br><br>Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)<br><br>Problematic hydrophytic vegetation* (explain)<br><br>*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic |
| 2 <u>Phalaris arundinacea</u>                  | 25               | Y                | FACW            |   |
| 3 <u>Verbascum thapsus</u>                     | 15               | N                | UPL             |   |
| 4 _____  | _____            | _____            | _____           |   |
| 5 _____  | _____            | _____            | _____           |   |
| 6 _____  | _____            | _____            | _____           |   |
| 7 _____  | _____            | _____            | _____           |   |
| 8 _____  | _____            | _____            | _____           |   |
| 9 _____  | _____            | _____            | _____           |   |
| 10 _____                                       | _____            | _____            | _____           |   |
| 90 = Total Cover                               |                  |                  |                 |   |
| Woody vine stratum (Plot size: <u>30'</u> )    | Absolute % Cover | Dominant Species | Indicator Staus | <b>Hydrophytic vegetation present?</b> <u>Y</u>   |
| 1 <u>Vitis riparia</u>                         | 10               | Y                | FACW            |   |
| 2 _____  | _____            | _____            | _____           |   |
| 10 = Total Cover                               |                  |                  |                 |   |

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

**SOIL**

Sampling Point:       C1 Up      

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

| Depth (Inches) | Matrix        |     | Redox Features |   |       |       | Texture   | Remarks |
|----------------|---------------|-----|----------------|---|-------|-------|-----------|---------|
|                | Color (moist) | %   | Color (moist)  | % | Type* | Loc** |           |         |
| 0-13           | 10YR 2/1      | 100 |                |   |       |       | Loam      |         |
| 13-21          | 10YR 2/2      | 100 |                |   |       |       | Loam      |         |
| 21-24          | 10YR 3/3      | 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)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils:**

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

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

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_  
Depth (inches): \_\_\_\_\_

Hydric soil present?   N  

Remarks:

**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     Depth (inches): \_\_\_\_\_  
 Water table present?    Yes     No     Depth (inches): \_\_\_\_\_  
 Saturation present?    Yes     No     Depth (inches): \_\_\_\_\_  
 (includes capillary fringe)

Indicators of wetland hydrology present?   N  

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

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site CSAH 169/41 South City/County: Scott Sampling Date: 9/13/2016  
 Applicant/Owner: Scott County State: MN Sampling Point: C1 Wet  
 Investigator(s): Dustin S. Laura M. Section, Township, Range: S28, T115, R23  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-2% Lat: 44.739114 Long: -93.593214 Datum: WGS84  
 Soil Map Unit Name Terril loam NWI Classification: PEM1A

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology X naturally problematic? present? Yes

**SUMMARY OF FINDINGS**

(If needed, explain any answers in remarks.)

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

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

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

| Tree Stratum (Plot size: <u>30'</u> )          | Absolute % Cover | Dominant Species | Indicator Staus | <b>Dominance Test Worksheet</b>   |  |
|--|------------------|------------------|-----------------|---|--|
| 1 <u>Populus deltoides</u>                     | 15               | Y                | FAC             | Number of Dominant Species that are OBL, FACW, or FAC: <u>3</u> (A)                               |  |
| 2 _____  | _____            | _____            | _____           | Total Number of Dominant Species Across all Strata: <u>4</u> (B)                                  |  |
| 3 _____  | _____            | _____            | _____           | Percent of Dominant Species that are OBL, FACW, or FAC: <u>75.00%</u> (A/B)                       |  |
| 4 _____  | _____            | _____            | _____           |   |  |
| 5 _____  | _____            | _____            | _____           |   |  |
| 15 = Total Cover                               |                  |                  |                 |   |  |
| Sapling/Shrub stratum (Plot size: <u>15'</u> ) | Absolute % Cover | Dominant Species | Indicator Staus | <b>Prevalence Index Worksheet</b>   |  |
| 1 _____  | _____            | _____            | _____           | Total % Cover of:   |  |
| 2 _____  | _____            | _____            | _____           | OBL species <u>0</u> x 1 = <u>0</u>   |  |
| 3 _____  | _____            | _____            | _____           | FACW species <u>50</u> x 2 = <u>100</u>   |  |
| 4 _____  | _____            | _____            | _____           | FAC species <u>35</u> x 3 = <u>105</u>  |  |
| 5 _____  | _____            | _____            | _____           | FACU species <u>25</u> x 4 = <u>100</u>   |  |
| 0 = Total Cover                                |                  |                  |                 | UPL species <u>0</u> x 5 = <u>0</u>   |  |
| 0 = Total Cover                                |                  |                  |                 | Column totals <u>110</u> (A) <u>305</u> (B)   |  |
| 0 = Total Cover                                |                  |                  |                 | Prevalence Index = B/A = <u>2.77</u>  |  |
| Herb stratum (Plot size: <u>5'</u> )           | Absolute % Cover | Dominant Species | Indicator Staus | <b>Hydrophytic Vegetation Indicators:</b>   |  |
| 1 <u>Phalaris arundinacea</u>                  | 50               | Y                | FACW            | ____ Rapid test for hydrophytic vegetation  |  |
| 2 <u>Cirsium arvense</u>                       | 25               | Y                | FACU            | <u>X</u> Dominance test is >50%   |  |
| 3 <u>Rumex crispus</u>                         | 20               | Y                | FAC             | <u>X</u> Prevalence index is ≤3.0*  |  |
| 4 _____  | _____            | _____            | _____           | Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)            |  |
| 5 _____  | _____            | _____            | _____           | ____ Problematic hydrophytic vegetation* (explain)  |  |
| 6 _____  | _____            | _____            | _____           |   |  |
| 7 _____  | _____            | _____            | _____           |   |  |
| 8 _____  | _____            | _____            | _____           |   |  |
| 9 _____  | _____            | _____            | _____           |   |  |
| 10 _____                                       | _____            | _____            | _____           |   |  |
| 95 = Total Cover                               |                  |                  |                 | *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic |  |
| Woody vine stratum (Plot size: <u>30'</u> )    | Absolute % Cover | Dominant Species | Indicator Staus | <b>Hydrophytic vegetation present?</b> <u>Y</u>   |  |
| 1 _____  | _____            | _____            | _____           |   |  |
| 2 _____  | _____            | _____            | _____           |   |  |
| 0 = Total Cover                                |                  |                  |                 |   |  |

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

**SOIL**

Sampling Point: C1 Wet

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

| Depth (Inches) | Matrix        |     | Redox Features |   |       |       | Texture   | Remarks |
|----------------|---------------|-----|----------------|---|-------|-------|-----------|---------|
|                | Color (moist) | %   | Color (moist)  | % | Type* | Loc** |           |         |
| 0-19           | 10YR 2/1      | 100 |                |   |       |       | Loam      |         |
| 19-26          | 10YR 3/1      | 100 |                |   |       |       | Clay Loam |         |
| 26-30          | 10YR 5/2      | 95  | 10YR 4/3       | 5 | C     | M     | Clay Loam |         |
|                |               |     |                |   |       |       |           |         |
|                |               |     |                |   |       |       |           |         |
|                |               |     |                |   |       |       |           |         |
|                |               |     |                |   |       |       |           |         |
|                |               |     |                |   |       |       |           |         |

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

**Hydric Soil Indicators:**

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

**Indicators for Problematic Hydric Soils:**

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

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

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric soil present? Y

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

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

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

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

Secondary Indicators (minimum of two required)

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

**Field Observations:**

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

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 169/41 South City/County: Scott Sampling Date: 9/13/2016  
 Applicant/Owner: Scott County State: MN Sampling Point: D1 Up  
 Investigator(s): Dustin S. Laura M. Section, Township, Range: S28, T115, R23  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave  
 Slope (%): 3-5% Lat: 44.736347 Long: -93.588864 Datum: WGS84  
 Soil Map Unit Name Copaston silt loam NWI Classification: NA

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? Yes

**SUMMARY OF FINDINGS**

(If needed, explain any answers in remarks.)

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

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

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

| Tree Stratum          | (Plot size: <u>30'</u> )    | Absolute % Cover | Dominant Species | Indicator Status |  |
|-----------------------|-----------------------------|------------------|------------------|------------------|--|
| 1                     |                             |                  |                  |                  |  |
| 2                     |                             |                  |                  |                  |  |
| 3                     |                             |                  |                  |                  |  |
| 4                     |                             |                  |                  |                  |  |
| 5                     |                             |                  |                  |                  |  |
|                       |                             | <u>0</u>         | = Total Cover    |                  |  |
| Sapling/Shrub stratum | (Plot size: <u>15'</u> )    |                  |                  |                  |  |
| 1                     |                             |                  |                  |                  |  |
| 2                     |                             |                  |                  |                  |  |
| 3                     |                             |                  |                  |                  |  |
| 4                     |                             |                  |                  |                  |  |
| 5                     |                             |                  |                  |                  |  |
|                       |                             | <u>0</u>         | = Total Cover    |                  |  |
| Herb stratum          | (Plot size: <u>5'</u> )     |                  |                  |                  |  |
| 1                     | <i>Phalaris arundinacea</i> | 90               | Y                | FACW             |  |
| 2                     | <i>Asclepias syriaca</i>    | 10               | N                | FACU             |  |
| 3                     |                             |                  |                  |                  |  |
| 4                     |                             |                  |                  |                  |  |
| 5                     |                             |                  |                  |                  |  |
| 6                     |                             |                  |                  |                  |  |
| 7                     |                             |                  |                  |                  |  |
| 8                     |                             |                  |                  |                  |  |
| 9                     |                             |                  |                  |                  |  |
| 10                    |                             |                  |                  |                  |  |
|                       |                             | <u>100</u>       | = Total Cover    |                  |  |
| Woody vine stratum    | (Plot size: <u>30'</u> )    |                  |                  |                  |  |
| 1                     |                             |                  |                  |                  |  |
| 2                     |                             |                  |                  |                  |  |
|                       |                             | <u>0</u>         | = 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   | <u>0</u>       | x 1 = | <u>0</u>       |
| FACW species  | <u>90</u>      | x 2 = | <u>180</u>     |
| FAC species   | <u>0</u>       | x 3 = | <u>0</u>       |
| FACU species  | <u>10</u>      | x 4 = | <u>40</u>      |
| UPL species   | <u>0</u>       | x 5 = | <u>0</u>       |
| Column totals | <u>100</u> (A) |       | <u>220</u> (B) |

Prevalence Index = B/A = 2.20

---

**Hydrophytic Vegetation Indicators:**

Rapid test for hydrophytic vegetation

Dominance test is >50%

Prevalence index is ≤3.0\*

Morphological adaptations\* (provide supporting data in Remarks or on a separate sheet)

Problematic hydrophytic vegetation\* (explain)

\*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

---

**Hydrophytic vegetation present?** Y

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

**SOIL**

Sampling Point:          D1 Up

| Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) |               |     |                |   |       |       |           |         |
|---|---------------|-----|----------------|---|-------|-------|-----------|---------|
| Depth (Inches)  | Matrix        |     | Redox Features |   |       |       | Texture   | Remarks |
|   | Color (moist) | %   | Color (moist)  | % | Type* | Loc** |           |         |
| 0-18  | 10YR 2/1      | 100 |                |   |       |       | Silt Loam |         |
| 18-24   | 10YR 3/2      | 100 |                |   |       |       | Clay Loam |         |
|   |               |     |                |   |       |       |           |         |
|   |               |     |                |   |       |       |           |         |
|   |               |     |                |   |       |       |           |         |
|   |               |     |                |   |       |       |           |         |
|   |               |     |                |   |       |       |           |         |

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

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

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

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

Remarks:

**HYDROLOGY**

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

|   |  |
|---|--|
| <p><b>Field Observations:</b></p> <p>Surface water present?    Yes _____ No <u>  X  </u>    Depth (inches): _____</p> <p>Water table present?      Yes _____ No <u>  X  </u>    Depth (inches): _____</p> <p>Saturation present?        Yes _____ No <u>  X  </u>    Depth (inches): _____</p> <p>(includes capillary fringe)</p> | <p><b>Indicators of wetland hydrology present?</b>    <u>  N  </u></p> |
|---|--|

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

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site CSAH 169/41 South City/County: Scott Sampling Date: 9/13/2016  
 Applicant/Owner: Scott County State: MN Sampling Point: D1 Wet  
 Investigator(s): Dustin S. Laura M. Section, Township, Range: S28, T115, R23  
 Landform (hillslope, terrace, etc.): Ditch Local relief (concave, convex, none): Concave  
 Slope (%): 0-2% Lat: 44.736256 Long: -93.588879 Datum: WGS84  
 Soil Map Unit Name Copaston silt loam NWI Classification: NA

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? Yes

**SUMMARY OF FINDINGS**

(If needed, explain any answers in remarks.)

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

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

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

| Tree Stratum          | (Plot size: <u>30'</u> )    | Absolute % Cover | Dominant Species | Indicator Status | <b>Dominance Test Worksheet</b>  |
|-----------------------|-----------------------------|------------------|------------------|------------------|--|
| 1                     | _____                       | _____            | _____            | _____            |  |
| 2                     | _____                       | _____            | _____            | _____            | Total Number of Dominant Species Across all Strata: <u>1</u> (B)   |
| 3                     | _____                       | _____            | _____            | _____            | Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)   |
| 4                     | _____                       | _____            | _____            | _____            |  |
| 5                     | _____                       | _____            | _____            | _____            |  |
|                       |                             | <u>0</u>         | = Total Cover    |                  |  |
| Sapling/Shrub stratum | (Plot size: <u>15'</u> )    |                  |                  |                  | <b>Prevalence Index Worksheet</b>  |
| 1                     | _____                       | _____            | _____            | _____            |  |
| 2                     | _____                       | _____            | _____            | _____            | OBL species <u>0</u> x 1 = <u>0</u>  |
| 3                     | _____                       | _____            | _____            | _____            | FACW species <u>100</u> x 2 = <u>200</u>   |
| 4                     | _____                       | _____            | _____            | _____            | FAC species <u>0</u> x 3 = <u>0</u>  |
| 5                     | _____                       | _____            | _____            | _____            | FACU species <u>0</u> x 4 = <u>0</u>   |
|                       |                             | <u>0</u>         | = Total Cover    |                  | UPL species <u>0</u> x 5 = <u>0</u>  |
|                       |                             |                  |                  |                  | Column totals <u>100</u> (A) <u>200</u> (B)  |
|                       |                             |                  |                  |                  | Prevalence Index = B/A = <u>2.00</u>   |
| Herb stratum          | (Plot size: <u>5'</u> )     |                  |                  |                  | <b>Hydrophytic Vegetation Indicators:</b><br>_____ Rapid test for hydrophytic vegetation<br><u>X</u> Dominance test is >50%<br><u>X</u> Prevalence index is ≤3.0*<br><br>Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)<br><br>Problematic hydrophytic vegetation* (explain)<br>_____<br>*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic |
| 1                     | <u>Phalaris arundinacea</u> | <u>100</u>       | <u>Y</u>         | <u>FACW</u>      |  |
| 2                     | _____                       | _____            | _____            | _____            |  |
| 3                     | _____                       | _____            | _____            | _____            |  |
| 4                     | _____                       | _____            | _____            | _____            |  |
| 5                     | _____                       | _____            | _____            | _____            |  |
| 6                     | _____                       | _____            | _____            | _____            |  |
| 7                     | _____                       | _____            | _____            | _____            |  |
| 8                     | _____                       | _____            | _____            | _____            |  |
| 9                     | _____                       | _____            | _____            | _____            |  |
| 10                    | _____                       | _____            | _____            | _____            |  |
|                       |                             | <u>100</u>       | = Total Cover    |                  |  |
| Woody vine stratum    | (Plot size: <u>30'</u> )    |                  |                  |                  | <b>Hydrophytic vegetation present?</b> <u>Y</u>  |
| 1                     | _____                       | _____            | _____            | _____            |  |
| 2                     | _____                       | _____            | _____            | _____            |  |
|                       |                             | <u>0</u>         | = Total Cover    |                  |  |

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

**SOIL**

Sampling Point: D1 Wet

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

| Depth (Inches) | Matrix        |     | Redox Features |   |       |       | Texture   | Remarks |
|----------------|---------------|-----|----------------|---|-------|-------|-----------|---------|
|                | Color (moist) | %   | Color (moist)  | % | Type* | Loc** |           |         |
| 0-8            | 10YR 2/1      | 100 |                |   |       |       | Silt Loam |         |
|                |               |     |                |   |       |       |           |         |
|                |               |     |                |   |       |       |           |         |
|                |               |     |                |   |       |       |           |         |
|                |               |     |                |   |       |       |           |         |
|                |               |     |                |   |       |       |           |         |
|                |               |     |                |   |       |       |           |         |

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

**Hydric Soil Indicators:**

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

**Indicators for Problematic Hydric Soils:**

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

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

**Restrictive Layer (if observed):**

Type: Compacted Rock  
 Depth (inches): 8

Hydric soil present? Y

Remarks:

Assumed hydric based on land scape and other indicators met.

**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  Depth (inches): \_\_\_\_\_  
 Water table present? Yes  No  Depth (inches): \_\_\_\_\_  
 Saturation present? Yes  No  Depth (inches): \_\_\_\_\_  
 (includes capillary fringe)

Indicators of wetland hydrology present? Y

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

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site CSAH 169/41 South City/County: Scott Sampling Date: 9/13/2016  
 Applicant/Owner: Scott County State: MN Sampling Point: E1 Up  
 Investigator(s): Dustin S. Laura M. Section, Township, Range: S28, T115, R23  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave  
 Slope (%): 3-5% Lat: 44.733932 Long: -93.591 Datum: WGS84  
 Soil Map Unit Name Dorchester NWI Classification: PABFx

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

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

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

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

| Tree Stratum          | (Plot size: <u>30'</u> )    | Absolute % Cover | Dominant Species | Indicator Status | <b>Dominance Test Worksheet</b>   |  |
|-----------------------|-----------------------------|------------------|------------------|------------------|---|--|
| 1                     |                             |                  |                  |                  | Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A)                         |  |
| 2                     |                             |                  |                  |                  | Total Number of Dominant Species Across all Strata: <u>4</u> (B)                            |  |
| 3                     |                             |                  |                  |                  | Percent of Dominant Species that are OBL, FACW, or FAC: <u>25.00%</u> (A/B)                 |  |
| 4                     |                             |                  |                  |                  |   |  |
| 5                     |                             |                  |                  |                  |   |  |
|                       |                             | <u>0</u>         | = Total Cover    |                  |   |  |
| Sapling/Shrub stratum | (Plot size: <u>15'</u> )    | Absolute % Cover | Dominant Species | Indicator Status | <b>Prevalence Index Worksheet</b>   |  |
| 1                     |                             | <u>40</u>        | <u>Y</u>         |                  | Total % Cover of:   |  |
| 2                     |                             |                  |                  |                  | OBL species <u>0</u> x 1 = <u>0</u>   |  |
| 3                     |                             |                  |                  |                  | FACW species <u>50</u> x 2 = <u>100</u>   |  |
| 4                     |                             |                  |                  |                  | FAC species <u>10</u> x 3 = <u>30</u>   |  |
| 5                     |                             |                  |                  |                  | FACU species <u>45</u> x 4 = <u>180</u>   |  |
|                       |                             | <u>40</u>        | = Total Cover    |                  | UPL species <u>5</u> x 5 = <u>25</u>  |  |
|                       |                             |                  |                  |                  | Column totals <u>110</u> (A) <u>335</u> (B)   |  |
|                       |                             |                  |                  |                  | Prevalence Index = B/A = <u>3.05</u>  |  |
| Herb stratum          | (Plot size: <u>5'</u> )     | Absolute % Cover | Dominant Species | Indicator Status | <b>Hydrophytic Vegetation Indicators:</b>   |  |
| 1                     | <u>Phalaris arundinacea</u> | <u>50</u>        | <u>Y</u>         | <u>FACW</u>      | ____ Rapid test for hydrophytic vegetation  |  |
| 2                     | <u>Sonchus arvensis</u>     | <u>25</u>        | <u>Y</u>         | <u>FACU</u>      | ____ Dominance test is >50%   |  |
| 3                     | <u>Rumex crispus</u>        | <u>10</u>        | <u>N</u>         | <u>FAC</u>       | ____ Prevalence index is ≤3.0*  |  |
| 4                     | <u>Taraxacum officinale</u> | <u>10</u>        | <u>N</u>         | <u>FACU</u>      | ____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) |  |
| 5                     | <u>Daucus carota</u>        | <u>5</u>         | <u>N</u>         | <u>UPL</u>       | ____ Problematic hydrophytic vegetation* (explain)  |  |
| 6                     |                             |                  |                  |                  |   |  |
| 7                     |                             |                  |                  |                  |   |  |
| 8                     |                             |                  |                  |                  |   |  |
| 9                     |                             |                  |                  |                  |   |  |
| 10                    |                             |                  |                  |                  |   |  |
|                       |                             | <u>100</u>       | = Total Cover    |                  |   |  |
| Woody vine stratum    | (Plot size: <u>30'</u> )    | Absolute % Cover | Dominant Species | Indicator Status | <b>Hydrophytic vegetation present?</b> <u>N</u>   |  |
| 1                     | <u>Fallopia convolvulus</u> | <u>10</u>        | <u>Y</u>         | <u>FACU</u>      |   |  |
| 2                     |                             |                  |                  |                  |   |  |
|                       |                             | <u>10</u>        | = Total Cover    |                  |   |  |

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

**SOIL**

Sampling Point: E1 Up

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

| Depth (Inches) | Matrix        |     | Redox Features |   |       |       | Texture    | Remarks |
|----------------|---------------|-----|----------------|---|-------|-------|------------|---------|
|                | Color (moist) | %   | Color (moist)  | % | Type* | Loc** |            |         |
| 0-12           | 10YR 3/3      | 100 |                |   |       |       | Loam       |         |
| 12-14          | 10YR 4/1      | 100 |                |   |       |       | Pea Gravel |         |
|                |               |     |                |   |       |       |            |         |
|                |               |     |                |   |       |       |            |         |
|                |               |     |                |   |       |       |            |         |
|                |               |     |                |   |       |       |            |         |
|                |               |     |                |   |       |       |            |         |

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

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

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

|   |                                      |
|---|--------------------------------------|
| <b>Restrictive Layer (if observed):</b><br>Type: <u>Gravel</u><br>Depth (inches): <u>14</u> | <b>Hydric soil present?</b> <u>N</u> |
|---|--------------------------------------|

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

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

|  |  |
|--|--|
| <b>Field Observations:</b><br>Surface water present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____<br>Water table present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____<br>Saturation present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____<br>(includes capillary fringe) | <b>Indicators of wetland hydrology present?</b> <u>N</u> |
|--|--|

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

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site CSAH 169/41 South City/County: Scott Sampling Date: 9/13/2016  
 Applicant/Owner: Scott County State: MN Sampling Point: E1 Wet  
 Investigator(s): Dustin S. Laura M. Section, Township, Range: S28, T115, R23  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-2% Lat: 44.733932 Long: -93.591 Datum: WGS84  
 Soil Map Unit Name Dorchester NWI Classification: PABFx

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

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

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

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

| Tree Stratum          | (Plot size: <u>30'</u> ) | Absolute % Cover | Dominant Species | Indicator Status | <b>Dominance Test Worksheet</b>  |
|-----------------------|--------------------------|------------------|------------------|------------------|--|
| 1                     |                          |                  |                  |                  |  |
| 2                     |                          |                  |                  |                  | Total Number of Dominant Species Across all Strata: <u>3</u> (B)                       |
| 3                     |                          |                  |                  |                  | Percent of Dominant Species that are OBL, FACW, or FAC: <u>66.67%</u> (A/B)            |
| 4                     |                          |                  |                  |                  |  |
| 5                     |                          |                  |                  |                  |  |
|                       |                          | <u>0</u>         | = Total Cover    |                  |  |
| Sapling/Shrub stratum | (Plot size: <u>15'</u> ) | Absolute % Cover | Dominant Species | Indicator Status | <b>Prevalence Index Worksheet</b>  |
| 1                     |                          | <u>40</u>        | <u>Y</u>         |                  |  |
| 2                     |                          |                  |                  |                  | OBL species <u>25</u> x 1 = <u>25</u>  |
| 3                     |                          |                  |                  |                  | FACW species <u>75</u> x 2 = <u>150</u>  |
| 4                     |                          |                  |                  |                  | FAC species <u>0</u> x 3 = <u>0</u>  |
| 5                     |                          |                  |                  |                  | FACU species <u>0</u> x 4 = <u>0</u>   |
|                       |                          | <u>40</u>        | = Total Cover    |                  | UPL species <u>0</u> x 5 = <u>0</u>  |
|                       |                          |                  |                  |                  | Column totals <u>100</u> (A) <u>175</u> (B)  |
|                       |                          |                  |                  |                  | Prevalence Index = B/A = <u>1.75</u>   |
| Herb stratum          | (Plot size: <u>5'</u> )  | Absolute % Cover | Dominant Species | Indicator Status | <b>Hydrophytic Vegetation Indicators:</b>  |
| 1                     |                          | <u>75</u>        | <u>Y</u>         | <u>FACW</u>      |  |
| 2                     |                          | <u>25</u>        | <u>Y</u>         | <u>OBL</u>       | <input checked="" type="checkbox"/> Dominance test is >50%                             |
| 3                     |                          |                  |                  |                  | <input checked="" type="checkbox"/> Prevalence index is ≤3.0*                          |
| 4                     |                          |                  |                  |                  | Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) |
| 5                     |                          |                  |                  |                  | Problematic hydrophytic vegetation* (explain)  |
| 6                     |                          |                  |                  |                  |  |
| 7                     |                          |                  |                  |                  |  |
| 8                     |                          |                  |                  |                  |  |
| 9                     |                          |                  |                  |                  |  |
| 10                    |                          |                  |                  |                  |  |
|                       |                          | <u>100</u>       | = Total Cover    |                  |  |
| Woody vine stratum    | (Plot size: <u>30'</u> ) | Absolute % Cover | Dominant Species | Indicator Status |  |
| 1                     |                          |                  |                  |                  |  |
| 2                     |                          |                  |                  |                  |  |
|                       |                          | <u>0</u>         | = Total Cover    |                  |  |

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

**SOIL**

Sampling Point: E1 Wet

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

| Depth (Inches) | Matrix        |     | Redox Features |   |       |       | Texture    | Remarks |
|----------------|---------------|-----|----------------|---|-------|-------|------------|---------|
|                | Color (moist) | %   | Color (moist)  | % | Type* | Loc** |            |         |
| 0-10           | 10YR 2/1      | 100 |                |   |       |       | Loam       |         |
| 10-12          | 10YR 4/1      | 100 |                |   |       |       | Pea Gravel |         |
|                |               |     |                |   |       |       |            |         |
|                |               |     |                |   |       |       |            |         |
|                |               |     |                |   |       |       |            |         |
|                |               |     |                |   |       |       |            |         |
|                |               |     |                |   |       |       |            |         |
|                |               |     |                |   |       |       |            |         |

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

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

|   |                                      |
|---|--------------------------------------|
| <b>Restrictive Layer (if observed):</b><br>Type: <u>Gravel</u><br>Depth (inches): <u>12</u> | <b>Hydric soil present?</b> <u>Y</u> |
|---|--------------------------------------|

Remarks:  
 Stom pond lined with restricted gravel layer. Assumed hydric on vegetation and hydrology.

**HYDROLOGY**

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

|  |  |  |
|--|--|--|
| <b>Field Observations:</b><br>Surface water present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____<br>Water table present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____<br>Saturation present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____<br>(includes capillary fringe) |  | <b>Indicators of wetland hydrology present?</b> <u>Y</u> |
|--|--|--|

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

Remarks:

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site CSAH 169/41 South City/County: Scott Sampling Date: 9/13/2016  
 Applicant/Owner: Scott County State: MN Sampling Point: F1 Up  
 Investigator(s): Dustin S. Laura M. Section, Township, Range: S28, T115, R23  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-2% Lat: 44.737608 Long: -93.587756 Datum: WGS84  
 Soil Map Unit Name Dorchester NWI Classification: PABFx

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? Yes

### SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

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

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

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

| Tree Stratum          | (Plot size: <u>30'</u> )    | Absolute % Cover         | Dominant Species | Indicator Status |   |
|-----------------------|-----------------------------|--------------------------|------------------|------------------|---|
| 1                     |                             |                          |                  |                  | <b>Dominance Test Worksheet</b><br>Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A)<br>Total Number of Dominant Species Across all Strata: <u>3</u> (B)<br>Percent of Dominant Species that are OBL, FACW, or FAC: <u>33.33%</u> (A/B)   |
| 2                     |                             |                          |                  |                  |   |
| 3                     |                             |                          |                  |                  |   |
| 4                     |                             |                          |                  |                  |   |
| 5                     |                             |                          |                  |                  |   |
|                       |                             | <u>0</u> = Total Cover   |                  |                  |   |
| Sapling/Shrub stratum | (Plot size: <u>15'</u> )    | Absolute % Cover         | Dominant Species | Indicator Status |   |
| 1                     |                             | <u>40</u>                | <u>Y</u>         |                  | <b>Prevalence Index Worksheet</b><br>Total % Cover of:<br>OBL species <u>0</u> x 1 = <u>0</u><br>FACW species <u>75</u> x 2 = <u>150</u><br>FAC species <u>0</u> x 3 = <u>0</u><br>FACU species <u>25</u> x 4 = <u>100</u><br>UPL species <u>0</u> x 5 = <u>0</u><br>Column totals <u>100</u> (A) <u>250</u> (B)<br>Prevalence Index = B/A = <u>2.50</u>  |
| 2                     |                             |                          |                  |                  |   |
| 3                     |                             |                          |                  |                  |   |
| 4                     |                             |                          |                  |                  |   |
| 5                     |                             |                          |                  |                  |   |
|                       |                             | <u>40</u> = Total Cover  |                  |                  |   |
| Herb stratum          | (Plot size: <u>5'</u> )     | Absolute % Cover         | Dominant Species | Indicator Status |   |
| 1                     | <u>Phalaris arundinacea</u> | <u>75</u>                | <u>Y</u>         | <u>FACW</u>      | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> Rapid test for hydrophytic vegetation<br><input type="checkbox"/> Dominance test is >50%<br><input checked="" type="checkbox"/> Prevalence index is ≤3.0*<br><br>Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic hydrophytic vegetation* (explain)<br><br><small>*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic</small> |
| 2                     | <u>Sonchus arvensis</u>     | <u>25</u>                | <u>Y</u>         | <u>FACU</u>      |   |
| 3                     |                             |                          |                  |                  |   |
| 4                     |                             |                          |                  |                  |   |
| 5                     |                             |                          |                  |                  |   |
| 6                     |                             |                          |                  |                  |   |
| 7                     |                             |                          |                  |                  |   |
| 8                     |                             |                          |                  |                  |   |
| 9                     |                             |                          |                  |                  |   |
| 10                    |                             |                          |                  |                  |   |
|                       |                             | <u>100</u> = Total Cover |                  |                  |   |
| Woody vine stratum    | (Plot size: <u>30'</u> )    | Absolute % Cover         | Dominant Species | Indicator Status |   |
| 1                     |                             |                          |                  |                  | <b>Hydrophytic vegetation present?</b> <u>Y</u>   |
| 2                     |                             |                          |                  |                  |   |
|                       |                             | <u>0</u> = Total Cover   |                  |                  |   |

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

**SOIL**

Sampling Point: F1 Up

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

| Depth (Inches) | Matrix        |     | Redox Features |   |       |       | Texture   | Remarks |
|----------------|---------------|-----|----------------|---|-------|-------|-----------|---------|
|                | Color (moist) | %   | Color (moist)  | % | Type* | Loc** |           |         |
| 0-15           | 10YR 2/1      | 100 |                |   |       |       | Loam      |         |
| 15-24          | 10YR 3/2      | 100 |                |   |       |       | Clay Loam |         |
|                |               |     |                |   |       |       |           |         |
|                |               |     |                |   |       |       |           |         |
|                |               |     |                |   |       |       |           |         |
|                |               |     |                |   |       |       |           |         |
|                |               |     |                |   |       |       |           |         |

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

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

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

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

**HYDROLOGY**

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

|  |   |
|--|---|
| <p><b>Field Observations:</b></p> <p>Surface water present? Yes _____ No <u>  X  </u> Depth (inches): _____</p> <p>Water table present? Yes _____ No <u>  X  </u> Depth (inches): _____</p> <p>Saturation present? Yes _____ No <u>  X  </u> Depth (inches): _____<br/>(includes capillary fringe)</p> | <p><b>Indicators of wetland hydrology present?</b> <u>  N  </u></p> |
|--|---|

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

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site CSAH 169/41 South City/County: Scott Sampling Date: 9/13/2016  
 Applicant/Owner: Scott County State: MN Sampling Point: F1 Wet  
 Investigator(s): Dustin S. Laura M. Section, Township, Range: S28, T115, R23  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-2% Lat: 44.737608 Long: -93.587756 Datum: WGS84  
 Soil Map Unit Name Dorchester NWI Classification: PABFx

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? Yes

**SUMMARY OF FINDINGS**

(If needed, explain any answers in remarks.)

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

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

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

| Tree Stratum          | (Plot size: <u>30'</u> )           | Absolute % Cover | Dominant Species | Indicator Status | <b>Dominance Test Worksheet</b>   |  |
|-----------------------|------------------------------------|------------------|------------------|------------------|---|--|
| 1                     |                                    |                  |                  |                  |   | Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A)                    |
| 2                     |                                    |                  |                  |                  | Total Number of Dominant Species Across all Strata: <u>3</u> (B)            |  |
| 3                     |                                    |                  |                  |                  | Percent of Dominant Species that are OBL, FACW, or FAC: <u>66.67%</u> (A/B) |  |
| 4                     |                                    |                  |                  |                  |   |  |
| 5                     |                                    |                  |                  |                  |   |  |
|                       |                                    | <u>0</u>         | = Total Cover    |                  |   |  |
| Sapling/Shrub stratum | (Plot size: <u>15'</u> )           | Absolute % Cover | Dominant Species | Indicator Status | <b>Prevalence Index Worksheet</b>   |  |
| 1                     |                                    | <u>40</u>        | <u>Y</u>         |                  |   | Total % Cover of:  |
| 2                     |                                    |                  |                  |                  | OBL species <u>75</u> x 1 = <u>75</u>                                       |  |
| 3                     |                                    |                  |                  |                  | FACW species <u>25</u> x 2 = <u>50</u>                                      |  |
| 4                     |                                    |                  |                  |                  | FAC species <u>0</u> x 3 = <u>0</u>   |  |
| 5                     |                                    |                  |                  |                  | FACU species <u>0</u> x 4 = <u>0</u>  |  |
|                       |                                    | <u>40</u>        | = Total Cover    |                  | UPL species <u>0</u> x 5 = <u>0</u>   |  |
|                       |                                    |                  |                  |                  | Column totals <u>100</u> (A) <u>125</u> (B)                                 |  |
|                       |                                    |                  |                  |                  | Prevalence Index = B/A = <u>1.25</u>  |  |
| Herb stratum          | (Plot size: <u>5'</u> )            | Absolute % Cover | Dominant Species | Indicator Status | <b>Hydrophytic Vegetation Indicators:</b>                                   |  |
| 1                     | <u><i>Typha angustifolia</i></u>   | <u>75</u>        | <u>Y</u>         | <u>OBL</u>       |   | <input type="checkbox"/> Rapid test for hydrophytic vegetation                         |
| 2                     | <u><i>Phalaris arundinacea</i></u> | <u>25</u>        | <u>Y</u>         | <u>FACW</u>      |   | <input checked="" type="checkbox"/> Dominance test is >50%                             |
| 3                     |                                    |                  |                  |                  |   | <input checked="" type="checkbox"/> Prevalence index is ≤3.0*                          |
| 4                     |                                    |                  |                  |                  |   | Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) |
| 5                     |                                    |                  |                  |                  |   | Problematic hydrophytic vegetation* (explain)  |
| 6                     |                                    |                  |                  |                  |   |  |
| 7                     |                                    |                  |                  |                  |   |  |
| 8                     |                                    |                  |                  |                  |   |  |
| 9                     |                                    |                  |                  |                  |   |  |
| 10                    |                                    |                  |                  |                  |   |  |
|                       |                                    | <u>100</u>       | = Total Cover    |                  |   |  |
| Woody vine stratum    | (Plot size: <u>30'</u> )           | Absolute % Cover | Dominant Species | Indicator Status |   |  |
| 1                     |                                    |                  |                  |                  |   |  |
| 2                     |                                    |                  |                  |                  |   |  |
|                       |                                    | <u>0</u>         | = Total Cover    |                  |   |  |

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

**SOIL**

Sampling Point: F1 Wet

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

| Depth (Inches) | Matrix        |     | Redox Features |   |       |       | Texture        | Remarks |
|----------------|---------------|-----|----------------|---|-------|-------|----------------|---------|
|                | Color (moist) | %   | Color (moist)  | % | Type* | Loc** |                |         |
| 0-10           | 10YR 2/1      | 100 |                |   |       |       | Sandy Sediment |         |
| 10-18          | 10YR 2/1      | 100 |                |   |       |       | Loamy Clay     |         |
| 18-24          | 10YR 2/1      | 100 |                |   |       |       | Clay           |         |
|                |               |     |                |   |       |       |                |         |
|                |               |     |                |   |       |       |                |         |
|                |               |     |                |   |       |       |                |         |
|                |               |     |                |   |       |       |                |         |
|                |               |     |                |   |       |       |                |         |

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

**Hydric Soil Indicators:**

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

**Indicators for Problematic Hydric Soils:**

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

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

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_  
Depth (inches): \_\_\_\_\_

Hydric soil present? Y

Remarks:

Assumed A12

**HYDROLOGY**

**Wetland Hydrology Indicators:**

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

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

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

Secondary Indicators (minimum of two required)

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

**Field Observations:**

Surface water present? Yes X No \_\_\_\_\_ Depth (inches): 3  
 Water table present? Yes X No \_\_\_\_\_ Depth (inches): 0  
 Saturation present? Yes X No \_\_\_\_\_ Depth (inches): 0  
 (includes capillary fringe)

Indicators of wetland hydrology present? Y

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

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site Scott TH 169 & TH 41 City/County: Shakopee Sampling Date: 9/15/2016  
 Applicant/Owner: Scott County State: MN Sampling Point: Infiltration Basin 1  
 Investigator(s): Dustin Simonson Section, Township, Range: S15 T115 R23  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-2% Lat: 44.765982 Long: -93.576238 Datum: \_\_\_\_\_  
 Soil Map Unit Name Estherville NWI Classification: NA

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? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

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

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

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

| Tree Stratum          | (Plot size: <u>30</u> )   | Absolute % Cover | Dominant Species | Indicator Staus | <b>Dominance Test Worksheet</b>   |
|-----------------------|---------------------------|------------------|------------------|-----------------|---|
| 1                     |                           |                  |                  |                 |   |
| 2                     |                           |                  |                  |                 | Total Number of Dominant Species Across all Strata: <u>1</u> (B)                                  |
| 3                     |                           |                  |                  |                 | Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)                        |
| 4                     |                           |                  |                  |                 |   |
| 5                     |                           |                  |                  |                 |   |
|                       |                           | <u>0</u>         | = Total Cover    |                 |   |
| Sapling/Shrub stratum | (Plot size: <u>15</u> )   |                  |                  |                 | <b>Prevalence Index Worksheet</b>   |
| 1                     |                           |                  |                  |                 |   |
| 2                     |                           |                  |                  |                 | OBL species <u>0</u> x 1 = <u>0</u>   |
| 3                     |                           |                  |                  |                 | FACW species <u>0</u> x 2 = <u>0</u>  |
| 4                     |                           |                  |                  |                 | FAC species <u>0</u> x 3 = <u>0</u>   |
| 5                     |                           |                  |                  |                 | FACU species <u>100</u> x 4 = <u>400</u>  |
|                       |                           |                  |                  |                 | UPL species <u>0</u> x 5 = <u>0</u>   |
|                       |                           |                  |                  |                 | Column totals <u>100</u> (A) <u>400</u> (B)   |
|                       |                           |                  |                  |                 | Prevalence Index = B/A = <u>4.00</u>  |
| Herb stratum          | (Plot size: <u>5</u> )    |                  |                  |                 | <b>Hydrophytic Vegetation Indicators:</b>   |
| 1                     | <u>Sorghastrum nutans</u> | <u>100</u>       | <u>Y</u>         | <u>FACU</u>     |   |
| 2                     |                           |                  |                  |                 | ___ Dominance test is >50%  |
| 3                     |                           |                  |                  |                 | ___ Prevalence index is ≤3.0*   |
| 4                     |                           |                  |                  |                 | Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)            |
| 5                     |                           |                  |                  |                 | ___ Problematic hydrophytic vegetation* (explain)   |
| 6                     |                           |                  |                  |                 |   |
| 7                     |                           |                  |                  |                 |   |
| 8                     |                           |                  |                  |                 |   |
| 9                     |                           |                  |                  |                 |   |
| 10                    |                           |                  |                  |                 |   |
|                       |                           |                  |                  |                 | *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic |
|                       |                           | <u>100</u>       | = Total Cover    |                 |   |
| Woody vine stratum    | (Plot size: <u>30</u> )   |                  |                  |                 | <b>Hydrophytic vegetation present?</b> <u>N</u>   |
| 1                     |                           |                  |                  |                 |   |
| 2                     |                           |                  |                  |                 |   |
|                       |                           |                  |                  |                 |   |
|                       |                           | <u>0</u>         | = Total Cover    |                 |   |

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

**SOIL**

Sampling Point: Infiltration Basin 1

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

| Depth (Inches) | Matrix        |     | Redox Features |   |       |       | Texture     | Remarks |
|----------------|---------------|-----|----------------|---|-------|-------|-------------|---------|
|                | Color (moist) | %   | Color (moist)  | % | Type* | Loc** |             |         |
| 0-4            | 10YR 2/2      | 100 |                |   |       |       | Sand        |         |
| 4-12           | 10YR 4/4      | 100 |                |   |       |       | Gravel Fill |         |
|                |               |     |                |   |       |       |             |         |
|                |               |     |                |   |       |       |             |         |
|                |               |     |                |   |       |       |             |         |
|                |               |     |                |   |       |       |             |         |
|                |               |     |                |   |       |       |             |         |
|                |               |     |                |   |       |       |             |         |

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

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

|   |                                      |
|---|--------------------------------------|
| <b>Restrictive Layer (if observed):</b><br>Type: <u>Rock</u><br>Depth (inches): <u>12</u> | <b>Hydric soil present?</b> <u>N</u> |
|---|--------------------------------------|

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

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

|  |  |  |
|--|--|--|
| <b>Field Observations:</b><br>Surface water present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____<br>Water table present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____<br>Saturation present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____<br>(includes capillary fringe) |  | <b>Indicators of wetland hydrology present?</b> <u>N</u> |
|--|--|--|

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

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site Scott TH 169 & TH 41 City/County: Shakopee Sampling Date: 9/15/2016  
 Applicant/Owner: Scott County State: MN Sampling Point: Infiltration Basin 2  
 Investigator(s): Dustin Simonson Section, Township, Range: S15 T115 R23  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-2% Lat: 44.765982 Long: -93.576238 Datum: \_\_\_\_\_  
 Soil Map Unit Name Estherville NWI Classification: NA

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? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

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

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

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

| Tree Stratum          | (Plot size: <u>30</u> ) | Absolute % Cover                | Dominant Species | Indicator Status   |  |
|-----------------------|-------------------------|---------------------------------|------------------|--------------------|--|
| 1                     |                         |                                 |                  |                    | <b>Dominance Test Worksheet</b><br>Number of Dominant Species that are OBL, FACW, or FAC: <u>    1    </u> (A)<br>Total Number of Dominant Species Across all Strata: <u>    1    </u> (B)<br>Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)   |
| 2                     |                         |                                 |                  |                    |  |
| 3                     |                         |                                 |                  |                    |  |
| 4                     |                         |                                 |                  |                    |  |
| 5                     |                         |                                 |                  |                    |  |
|                       |                         | <u>    0    </u> = Total Cover  |                  |                    |  |
| Sapling/Shrub stratum | (Plot size: <u>15</u> ) |                                 |                  |                    |  |
| 1                     |                         |                                 |                  |                    | <b>Prevalence Index Worksheet</b><br>Total % Cover of:<br>OBL species <u>    70    </u> x 1 = <u>    70    </u><br>FACW species <u>    0    </u> x 2 = <u>    0    </u><br>FAC species <u>    0    </u> x 3 = <u>    0    </u><br>FACU species <u>    0    </u> x 4 = <u>    0    </u><br>UPL species <u>    0    </u> x 5 = <u>    0    </u><br>Column totals <u>    70    </u> (A) <u>    70    </u> (B)<br>Prevalence Index = B/A = <u>    1.00    </u>         |
| 2                     |                         |                                 |                  |                    |  |
| 3                     |                         |                                 |                  |                    |  |
| 4                     |                         |                                 |                  |                    |  |
| 5                     |                         |                                 |                  |                    |  |
|                       |                         | <u>    0    </u> = Total Cover  |                  |                    |  |
| Herb stratum          | (Plot size: <u>5</u> )  |                                 |                  |                    |  |
| 1                     | <u>Carex lacustris</u>  | <u>    70    </u>               | <u>    Y    </u> | <u>    OBL    </u> | <b>Hydrophytic Vegetation Indicators:</b><br><u>    </u> Rapid test for hydrophytic vegetation<br><u>  X  </u> Dominance test is >50%<br><u>  X  </u> Prevalence index is ≤3.0*<br><br>Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)<br><u>    </u> Problematic hydrophytic vegetation* (explain)<br><br><small>*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic</small> |
| 2                     |                         |                                 |                  |                    |  |
| 3                     |                         |                                 |                  |                    |  |
| 4                     |                         |                                 |                  |                    |  |
| 5                     |                         |                                 |                  |                    |  |
| 6                     |                         |                                 |                  |                    |  |
| 7                     |                         |                                 |                  |                    |  |
| 8                     |                         |                                 |                  |                    |  |
| 9                     |                         |                                 |                  |                    |  |
| 10                    |                         |                                 |                  |                    |  |
|                       |                         | <u>    70    </u> = Total Cover |                  |                    |  |
| Woody vine stratum    | (Plot size: <u>30</u> ) |                                 |                  |                    |  |
| 1                     |                         |                                 |                  |                    | <b>Hydrophytic vegetation present?</b> <u>    Y    </u>  |
| 2                     |                         |                                 |                  |                    |  |
|                       |                         | <u>    0    </u> = Total Cover  |                  |                    |  |

Remarks: (Include photo numbers here or on a separate sheet)  
 Open water 30% cover

**SOIL**

Sampling Point: Infiltration Basin 2

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

| Depth (Inches) | Matrix        |     | Redox Features |   |       |       | Texture    | Remarks |
|----------------|---------------|-----|----------------|---|-------|-------|------------|---------|
|                | Color (moist) | %   | Color (moist)  | % | Type* | Loc** |            |         |
| 0-2            | 10YR 2/1      | 100 |                |   |       |       | Sediment   | Runoff  |
| 2-8            | 10YR 2/1      | 100 |                |   |       |       | Sandy Clay |         |
| 8-10           | 10YR 2/1      | 100 |                |   |       |       | Sand       |         |
|                |               |     |                |   |       |       |            |         |
|                |               |     |                |   |       |       |            |         |
|                |               |     |                |   |       |       |            |         |
|                |               |     |                |   |       |       |            |         |
|                |               |     |                |   |       |       |            |         |

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

**Hydric Soil Indicators:**

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

**Indicators for Problematic Hydric Soils:**

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

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

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric soil present?   N  

Remarks:

Standing water made getting a deeper sand sample impossible

**HYDROLOGY**

**Wetland Hydrology Indicators:**

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

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

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

Secondary Indicators (minimum of two required)

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

**Field Observations:**

Surface water present? Yes   X   No \_\_\_\_\_ Depth (inches):   3    
 Water table present? Yes   X   No \_\_\_\_\_ Depth (inches):   Surface    
 Saturation present? Yes   X   No \_\_\_\_\_ Depth (inches):   Surface    
 (includes capillary fringe)

Indicators of wetland hydrology present?   Y  

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

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site Scott TH 169 & TH 41 City/County: Shakopee Sampling Date: 9/15/2016  
 Applicant/Owner: Scott County State: MN Sampling Point: Ditch 1 Up  
 Investigator(s): Dustin Simonson Section, Township, Range: S15 T115 R23  
 Landform (hillslope, terrace, etc.): Ditch Slope Local relief (concave, convex, none): Concave  
 Slope (%): 5-7% Lat: 44.765982 Long: -93.576238 Datum: \_\_\_\_\_  
 Soil Map Unit Name Estherville NWI Classification: NA

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation X, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? No  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? No

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

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

Remarks: (Explain alternative procedures here or in a separate report.)  
 Mowed edge up to ditch slope

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

| Tree Stratum          | (Plot size: <u>30</u> )     | Absolute % Cover | Dominant Species | Indicator Staus | <b>Dominance Test Worksheet</b>  |
|-----------------------|-----------------------------|------------------|------------------|-----------------|--|
| 1                     | _____                       | _____            | _____            | _____           |  |
| 2                     | _____                       | _____            | _____            | _____           | Total Number of Dominant Species Across all Strata: <u>2</u> (B)   |
| 3                     | _____                       | _____            | _____            | _____           | Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)   |
| 4                     | _____                       | _____            | _____            | _____           |  |
| 5                     | _____                       | _____            | _____            | _____           |  |
|                       |                             | <u>0</u>         | = Total Cover    |                 |  |
| Sapling/Shrub stratum | (Plot size: <u>15</u> )     |                  |                  |                 | <b>Prevalence Index Worksheet</b>  |
| 1                     | _____                       | _____            | _____            | _____           |  |
| 2                     | _____                       | _____            | _____            | _____           | OBL species <u>0</u> x 1 = <u>0</u>  |
| 3                     | _____                       | _____            | _____            | _____           | FACW species <u>40</u> x 2 = <u>80</u>   |
| 4                     | _____                       | _____            | _____            | _____           | FAC species <u>60</u> x 3 = <u>180</u>   |
| 5                     | _____                       | _____            | _____            | _____           | FACU species <u>0</u> x 4 = <u>0</u>   |
|                       |                             | <u>0</u>         | = Total Cover    |                 | UPL species <u>0</u> x 5 = <u>0</u>  |
|                       |                             | <u>0</u>         | = Total Cover    |                 | Column totals <u>100</u> (A) <u>260</u> (B)  |
| Herb stratum          | (Plot size: <u>5</u> )      |                  |                  |                 | Prevalence Index = B/A = <u>2.60</u>   |
| 1                     | <u>Poa pratensis</u>        | <u>60</u>        | <u>Y</u>         | <u>FAC</u>      | <b>Hydrophytic Vegetation Indicators:</b><br>_____ Rapid test for hydrophytic vegetation<br><u>X</u> Dominance test is >50%<br><u>X</u> Prevalence index is ≤3.0*<br><br>Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)<br><br>Problematic hydrophytic vegetation* (explain)<br>_____<br><br>*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic |
| 2                     | <u>Phalaris arundinacea</u> | <u>40</u>        | <u>Y</u>         | <u>FACW</u>     |  |
| 3                     | _____                       | _____            | _____            | _____           |  |
| 4                     | _____                       | _____            | _____            | _____           |  |
| 5                     | _____                       | _____            | _____            | _____           |  |
| 6                     | _____                       | _____            | _____            | _____           |  |
| 7                     | _____                       | _____            | _____            | _____           |  |
| 8                     | _____                       | _____            | _____            | _____           |  |
| 9                     | _____                       | _____            | _____            | _____           |  |
| 10                    | _____                       | _____            | _____            | _____           |  |
|                       |                             | <u>100</u>       | = Total Cover    |                 |  |
| Woody vine stratum    | (Plot size: <u>30</u> )     |                  |                  |                 | <b>Hydrophytic vegetation present?</b> <u>Y</u>  |
| 1                     | _____                       | _____            | _____            | _____           |  |
| 2                     | _____                       | _____            | _____            | _____           |  |
|                       |                             | <u>0</u>         | = Total Cover    |                 |  |

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

**SOIL**

Sampling Point: Ditch 1 Up

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

| Depth (Inches) | Matrix        |     | Redox Features |   |       |       | Texture       | Remarks |
|----------------|---------------|-----|----------------|---|-------|-------|---------------|---------|
|                | Color (moist) | %   | Color (moist)  | % | Type* | Loc** |               |         |
| 0-8            | 10YR 2/2      | 100 |                |   |       |       | Sand          |         |
| 8-14           | 10YR 4/4      | 100 |                |   |       |       | Gravelly Sand |         |
|                |               |     |                |   |       |       |               |         |
|                |               |     |                |   |       |       |               |         |
|                |               |     |                |   |       |       |               |         |
|                |               |     |                |   |       |       |               |         |
|                |               |     |                |   |       |       |               |         |

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

**Hydric Soil Indicators:**

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

**Indicators for Problematic Hydric Soils:**

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

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

**Restrictive Layer (if observed):**

Type: Rocky  
 Depth (inches): 14

Hydric soil present? N

Remarks:

Sample taken on upslope of ditch. Area has been urbanized resulting in an excess gravel creating a restrictive layer.

**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  Depth (inches): \_\_\_\_\_  
 Water table present? Yes  No  Depth (inches): \_\_\_\_\_  
 Saturation present? Yes  No  Depth (inches): \_\_\_\_\_  
 (includes capillary fringe)

Indicators of wetland hydrology present? N

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

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site Scott TH 169 & TH 41 City/County: Shakopee Sampling Date: 9/15/2016  
 Applicant/Owner: Scott County State: MN Sampling Point: Ditch 1 Wet  
 Investigator(s): Dustin Simonson Section, Township, Range: S15 T115 R23  
 Landform (hillslope, terrace, etc.): Ditch Local relief (concave, convex, none): Concave  
 Slope (%): 0-2% Lat: 44.765982 Long: -93.576238 Datum: \_\_\_\_\_  
 Soil Map Unit Name Estherville NWI Classification: NA

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? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

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

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

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

| Tree Stratum          | (Plot size: <u>30</u> )     | Absolute % Cover | Dominant Species | Indicator Status | <b>Dominance Test Worksheet</b>  |  |
|-----------------------|-----------------------------|------------------|------------------|------------------|--|--|
| 1                     |                             |                  |                  |                  |  | Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A)                    |
| 2                     |                             |                  |                  |                  | Total Number of Dominant Species Across all Strata: <u>2</u> (B)             |  |
| 3                     |                             |                  |                  |                  | Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B) |  |
| 4                     |                             |                  |                  |                  |  |  |
| 5                     |                             |                  |                  |                  |  |  |
|                       |                             | <u>0</u>         | = Total Cover    |                  |  |  |
| Sapling/Shrub stratum | (Plot size: <u>15</u> )     |                  |                  |                  | <b>Prevalence Index Worksheet</b>  |  |
| 1                     |                             |                  |                  |                  |  | Total % Cover of:  |
| 2                     |                             |                  |                  |                  | OBL species <u>40</u> x 1 = <u>40</u>  |  |
| 3                     |                             |                  |                  |                  | FACW species <u>60</u> x 2 = <u>120</u>                                      |  |
| 4                     |                             |                  |                  |                  | FAC species <u>0</u> x 3 = <u>0</u>  |  |
| 5                     |                             |                  |                  |                  | FACU species <u>0</u> x 4 = <u>0</u>   |  |
|                       |                             |                  |                  |                  | UPL species <u>0</u> x 5 = <u>0</u>  |  |
|                       |                             |                  |                  |                  | Column totals <u>100</u> (A) <u>160</u> (B)                                  |  |
|                       |                             |                  |                  |                  | Prevalence Index = B/A = <u>1.60</u>   |  |
| Herb stratum          | (Plot size: <u>5</u> )      |                  |                  |                  | <b>Hydrophytic Vegetation Indicators:</b>                                    |  |
| 1                     | <u>Phalaris arundinacea</u> | <u>60</u>        | <u>Y</u>         | <u>FACW</u>      |  | <input type="checkbox"/> Rapid test for hydrophytic vegetation                         |
| 2                     | <u>Typha angustifolia</u>   | <u>40</u>        | <u>Y</u>         | <u>OBL</u>       |  | <input checked="" type="checkbox"/> Dominance test is >50%                             |
| 3                     |                             |                  |                  |                  |  | <input checked="" type="checkbox"/> Prevalence index is ≤3.0*                          |
| 4                     |                             |                  |                  |                  |  | Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) |
| 5                     |                             |                  |                  |                  |  | Problematic hydrophytic vegetation* (explain)  |
| 6                     |                             |                  |                  |                  |  |  |
| 7                     |                             |                  |                  |                  |  |  |
| 8                     |                             |                  |                  |                  |  |  |
| 9                     |                             |                  |                  |                  |  |  |
| 10                    |                             |                  |                  |                  |  |  |
|                       |                             | <u>100</u>       | = Total Cover    |                  |  |  |
| Woody vine stratum    | (Plot size: <u>30</u> )     |                  |                  |                  | <b>Hydrophytic vegetation present?</b> <u>Y</u>                              |  |
| 1                     |                             |                  |                  |                  |  |  |
| 2                     |                             |                  |                  |                  |  |  |
|                       |                             | <u>0</u>         | = Total Cover    |                  |  |  |

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

**SOIL**

Sampling Point: Ditch 1 Wet

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

| Depth (Inches) | Matrix        |   | Redox Features |   |       |       | Texture | Remarks |
|----------------|---------------|---|----------------|---|-------|-------|---------|---------|
|                | Color (moist) | % | Color (moist)  | % | Type* | Loc** |         |         |
|                |               |   |                |   |       |       |         |         |
|                |               |   |                |   |       |       |         |         |
|                |               |   |                |   |       |       |         |         |
|                |               |   |                |   |       |       |         |         |
|                |               |   |                |   |       |       |         |         |
|                |               |   |                |   |       |       |         |         |
|                |               |   |                |   |       |       |         |         |
|                |               |   |                |   |       |       |         |         |
|                |               |   |                |   |       |       |         |         |
|                |               |   |                |   |       |       |         |         |

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

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

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

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

Remarks:  
 No Soil sample could be taken in the wetland due to high flowing water within the ditch. Based on land form, vegetatio

**HYDROLOGY**

**Wetland Hydrology Indicators:**

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

|   |  |
|---|--|
| <b>Field Observations:</b><br>Surface water present?    Yes <u>  X  </u> No _____    Depth (inches): <u>  6  </u><br>Water table present?    Yes <u>  X  </u> No _____    Depth (inches): <u>  Surface  </u><br>Saturation present?    Yes <u>  X  </u> No _____    Depth (inches): <u>  Surface  </u><br>(includes capillary fringe) | <b>Indicators of wetland hydrology present?</b> <u>  Y  </u> |
|---|--|

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

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site CSAH 169/41 South City/County: Scott Sampling Date: 9/13/2016  
 Applicant/Owner: Scott County State: MN Sampling Point: Wet Ditch 3  
 Investigator(s): Dustin S. Laura M. Section, Township, Range: S28, T115, R23  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-2% Lat: 44.735744 Long: -93.586675 Datum: WGS84  
 Soil Map Unit Name Comgrey silty clay loam/stony land NWI Classification: NA

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

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

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

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

| Tree Stratum          | (Plot size: <u>30'</u> ) | Absolute % Cover | Dominant Species | Indicator Status | <b>Dominance Test Worksheet</b>   |
|-----------------------|--------------------------|------------------|------------------|------------------|---|
| 1                     |                          |                  |                  |                  |   |
| 2                     |                          |                  |                  |                  | Total Number of Dominant Species Across all Strata: <u>3</u> (B)                                  |
| 3                     |                          |                  |                  |                  | Percent of Dominant Species that are OBL, FACW, or FAC: <u>66.67%</u> (A/B)                       |
| 4                     |                          |                  |                  |                  |   |
| 5                     |                          |                  |                  |                  |   |
|                       |                          | <u>0</u>         | = Total Cover    |                  |   |
| Sapling/Shrub stratum | (Plot size: <u>15'</u> ) | Absolute % Cover | Dominant Species | Indicator Status | <b>Prevalence Index Worksheet</b>   |
| 1                     |                          | <u>40</u>        | <u>Y</u>         |                  |   |
| 2                     |                          |                  |                  |                  | OBL species <u>50</u> x 1 = <u>50</u>   |
| 3                     |                          |                  |                  |                  | FACW species <u>50</u> x 2 = <u>100</u>   |
| 4                     |                          |                  |                  |                  | FAC species <u>0</u> x 3 = <u>0</u>   |
| 5                     |                          |                  |                  |                  | FACU species <u>0</u> x 4 = <u>0</u>  |
|                       |                          | <u>40</u>        | = Total Cover    |                  | UPL species <u>0</u> x 5 = <u>0</u>   |
|                       |                          |                  |                  |                  | Column totals <u>100</u> (A) <u>150</u> (B)   |
|                       |                          |                  |                  |                  | Prevalence Index = B/A = <u>1.50</u>  |
| Herb stratum          | (Plot size: <u>5'</u> )  | Absolute % Cover | Dominant Species | Indicator Status | <b>Hydrophytic Vegetation Indicators:</b>   |
| 1                     |                          | <u>50</u>        | <u>Y</u>         | <u>OBL</u>       |   |
| 2                     |                          | <u>50</u>        | <u>Y</u>         | <u>FACW</u>      | <input checked="" type="checkbox"/> Dominance test is >50%  |
| 3                     |                          |                  |                  |                  | <input checked="" type="checkbox"/> Prevalence index is ≤3.0*                                     |
| 4                     |                          |                  |                  |                  | Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)            |
| 5                     |                          |                  |                  |                  | Problematic hydrophytic vegetation* (explain)   |
| 6                     |                          |                  |                  |                  |   |
| 7                     |                          |                  |                  |                  |   |
| 8                     |                          |                  |                  |                  |   |
| 9                     |                          |                  |                  |                  |   |
| 10                    |                          |                  |                  |                  |   |
|                       |                          | <u>100</u>       | = Total Cover    |                  | *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic |
| Woody vine stratum    | (Plot size: <u>30'</u> ) | Absolute % Cover | Dominant Species | Indicator Status | <b>Hydrophytic vegetation present?</b> <u>Y</u>   |
| 1                     |                          |                  |                  |                  |   |
| 2                     |                          |                  |                  |                  |   |
|                       |                          | <u>0</u>         | = Total Cover    |                  |   |

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

**SOIL**

Sampling Point: Wet Ditch 3

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

| Depth (Inches) | Matrix        |     | Redox Features |   |       |       | Texture         | Remarks |
|----------------|---------------|-----|----------------|---|-------|-------|-----------------|---------|
|                | Color (moist) | %   | Color (moist)  | % | Type* | Loc** |                 |         |
| 0-8            | 10YR 2/1      | 100 |                |   |       |       | Loam            |         |
| 8-16           | 10YR 2/1      | 100 |                |   |       |       | Gravel Sediment |         |
| 16-24          | 10YR 2/1      | 100 |                |   |       |       | Loam            |         |
|                |               |     |                |   |       |       |                 |         |
|                |               |     |                |   |       |       |                 |         |
|                |               |     |                |   |       |       |                 |         |
|                |               |     |                |   |       |       |                 |         |
|                |               |     |                |   |       |       |                 |         |

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

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

|   |  |
|---|--|
| <b>Restrictive Layer (if observed):</b><br>Type: _____<br>Depth (inches): _____ | <b>Hydric soil present?</b> <u>  N  </u> |
| Remarks: _____  |  |

**HYDROLOGY**

**Wetland Hydrology Indicators:**

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

|   |  |  |
|---|--|--|
| <b>Field Observations:</b><br>Surface water present? Yes _____ No <u>  X  </u> Depth (inches): _____<br>Water table present? Yes _____ No <u>  X  </u> Depth (inches): _____<br>Saturation present? Yes <u>  X  </u> No _____ Depth (inches): <u>  Surface  </u><br>(includes capillary fringe) |  | <b>Indicators of wetland hydrology present?</b> <u>  Y  </u> |
|---|--|--|

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

Remarks:  
 Ditch collecting excess water from irrigation system.

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site CSAH 169/41 South City/County: Scott Sampling Date: 9/13/2016  
 Applicant/Owner: Scott County State: MN Sampling Point: Wet Ditch 5  
 Investigator(s): Dustin S. Laura M. Section, Township, Range: S28, T115, R23  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-2% Lat: 44.735744 Long: -93.586675 Datum: WGS84  
 Soil Map Unit Name Comgrey silty clay loam/stony land NWI Classification: NA

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? Yes

**SUMMARY OF FINDINGS**

(If needed, explain any answers in remarks.)

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

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

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

| Tree Stratum          | (Plot size: <u>30'</u> )           | Absolute % Cover | Dominant Species | Indicator Status | <b>Dominance Test Worksheet</b>  |
|-----------------------|------------------------------------|------------------|------------------|------------------|--|
| 1                     |                                    |                  |                  |                  |  |
| 2                     |                                    |                  |                  |                  | Total Number of Dominant Species Across all Strata: <u>3</u> (B)                       |
| 3                     |                                    |                  |                  |                  | Percent of Dominant Species that are OBL, FACW, or FAC: <u>66.67%</u> (A/B)            |
| 4                     |                                    |                  |                  |                  |  |
| 5                     |                                    |                  |                  |                  |  |
|                       |                                    | <u>0</u>         | = Total Cover    |                  |  |
| Sapling/Shrub stratum | (Plot size: <u>15'</u> )           | Absolute % Cover | Dominant Species | Indicator Status | <b>Prevalence Index Worksheet</b>  |
| 1                     |                                    | <u>40</u>        | <u>Y</u>         |                  |  |
| 2                     |                                    |                  |                  |                  | OBL species <u>50</u> x 1 = <u>50</u>  |
| 3                     |                                    |                  |                  |                  | FACW species <u>50</u> x 2 = <u>100</u>  |
| 4                     |                                    |                  |                  |                  | FAC species <u>0</u> x 3 = <u>0</u>  |
| 5                     |                                    |                  |                  |                  | FACU species <u>0</u> x 4 = <u>0</u>   |
|                       |                                    | <u>40</u>        | = Total Cover    |                  | UPL species <u>0</u> x 5 = <u>0</u>  |
|                       |                                    |                  |                  |                  | Column totals <u>100</u> (A) <u>150</u> (B)  |
|                       |                                    |                  |                  |                  | Prevalence Index = B/A = <u>1.50</u>   |
| Herb stratum          | (Plot size: <u>5'</u> )            | Absolute % Cover | Dominant Species | Indicator Status | <b>Hydrophytic Vegetation Indicators:</b>  |
| 1                     | <u><i>Typha angustifolia</i></u>   | <u>50</u>        | <u>Y</u>         | <u>OBL</u>       |  |
| 2                     | <u><i>Phalaris arundinacea</i></u> | <u>50</u>        | <u>Y</u>         | <u>FACW</u>      | <input checked="" type="checkbox"/> Dominance test is >50%                             |
| 3                     |                                    |                  |                  |                  | <input checked="" type="checkbox"/> Prevalence index is ≤3.0*                          |
| 4                     |                                    |                  |                  |                  | Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) |
| 5                     |                                    |                  |                  |                  | Problematic hydrophytic vegetation* (explain)  |
| 6                     |                                    |                  |                  |                  |  |
| 7                     |                                    |                  |                  |                  |  |
| 8                     |                                    |                  |                  |                  |  |
| 9                     |                                    |                  |                  |                  |  |
| 10                    |                                    |                  |                  |                  |  |
|                       |                                    | <u>100</u>       | = Total Cover    |                  |  |
| Woody vine stratum    | (Plot size: <u>30'</u> )           | Absolute % Cover | Dominant Species | Indicator Status |  |
| 1                     |                                    |                  |                  |                  |  |
| 2                     |                                    |                  |                  |                  |  |
|                       |                                    | <u>0</u>         | = Total Cover    |                  |  |

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

**SOIL**

Sampling Point: Wet Ditch 5

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

| Depth (Inches) | Matrix        |     | Redox Features |   |       |       | Texture         | Remarks |
|----------------|---------------|-----|----------------|---|-------|-------|-----------------|---------|
|                | Color (moist) | %   | Color (moist)  | % | Type* | Loc** |                 |         |
| 0-8            | 10YR 2/1      | 100 |                |   |       |       | Loam            |         |
| 8-16           | 10YR 2/1      | 100 |                |   |       |       | Gravel Sediment |         |
| 16-24          | 10YR 2/1      | 100 |                |   |       |       | Loam            |         |
|                |               |     |                |   |       |       |                 |         |
|                |               |     |                |   |       |       |                 |         |
|                |               |     |                |   |       |       |                 |         |
|                |               |     |                |   |       |       |                 |         |
|                |               |     |                |   |       |       |                 |         |

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

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

|   |  |
|---|--|
| <b>Restrictive Layer (if observed):</b><br>Type: _____<br>Depth (inches): _____ | <b>Hydric soil present?</b> <u>  N  </u> |
|---|--|

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

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

|   |  |  |
|---|--|--|
| <b>Field Observations:</b><br>Surface water present? Yes _____ No <u>  X  </u> Depth (inches): _____<br>Water table present? Yes _____ No <u>  X  </u> Depth (inches): _____<br>Saturation present? Yes <u>  X  </u> No _____ Depth (inches): <u>  Surface  </u><br>(includes capillary fringe) |  | <b>Indicators of wetland hydrology present?</b> <u>  Y  </u> |
|---|--|--|

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

Remarks:  
 Ditch collecting excess water from irrigation system.

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site Scott TH 169 & TH 41 City/County: Shakopee Sampling Date: 9/15/2016  
 Applicant/Owner: Scott County State: MN Sampling Point: Infiltration Basin 2  
 Investigator(s): Dustin Simonson Section, Township, Range: S15 T115 R23  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-2% Lat: 44.765982 Long: -93.576238 Datum: \_\_\_\_\_  
 Soil Map Unit Name Estherville NWI Classification: NA

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? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

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

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

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

| Tree Stratum          | (Plot size: <u>30</u> ) | Absolute % Cover | Dominant Species | Indicator Status | <b>Dominance Test Worksheet</b>  |
|-----------------------|-------------------------|------------------|------------------|------------------|--|
| 1                     |                         |                  |                  |                  |  |
| 2                     |                         |                  |                  |                  | Total Number of Dominant Species Across all Strata: <u>1</u> (B)                       |
| 3                     |                         |                  |                  |                  | Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)           |
| 4                     |                         |                  |                  |                  |  |
| 5                     |                         |                  |                  |                  |  |
|                       |                         | <u>0</u>         | = Total Cover    |                  |  |
| Sapling/Shrub stratum | (Plot size: <u>15</u> ) |                  |                  |                  | <b>Prevalence Index Worksheet</b>  |
| 1                     |                         |                  |                  |                  |  |
| 2                     |                         |                  |                  |                  | OBL species <u>70</u> x 1 = <u>70</u>  |
| 3                     |                         |                  |                  |                  | FACW species <u>0</u> x 2 = <u>0</u>   |
| 4                     |                         |                  |                  |                  | FAC species <u>0</u> x 3 = <u>0</u>  |
| 5                     |                         |                  |                  |                  | FACU species <u>0</u> x 4 = <u>0</u>   |
|                       |                         | <u>0</u>         | = Total Cover    |                  | UPL species <u>0</u> x 5 = <u>0</u>  |
|                       |                         | <u>70</u>        | = Total Cover    |                  | Column totals <u>70</u> (A) <u>70</u> (B)  |
|                       |                         | <u>70</u>        | = Total Cover    |                  | Prevalence Index = B/A = <u>1.00</u>   |
| Herb stratum          | (Plot size: <u>5</u> )  |                  |                  |                  | <b>Hydrophytic Vegetation Indicators:</b>  |
| 1                     | <u>Carex lacustris</u>  | <u>70</u>        | <u>Y</u>         | <u>OBL</u>       |  |
| 2                     |                         |                  |                  |                  | <input checked="" type="checkbox"/> Dominance test is >50%                             |
| 3                     |                         |                  |                  |                  | <input checked="" type="checkbox"/> Prevalence index is ≤3.0*                          |
| 4                     |                         |                  |                  |                  | Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) |
| 5                     |                         |                  |                  |                  | Problematic hydrophytic vegetation* (explain)  |
| 6                     |                         |                  |                  |                  |  |
| 7                     |                         |                  |                  |                  |  |
| 8                     |                         |                  |                  |                  |  |
| 9                     |                         |                  |                  |                  |  |
| 10                    |                         |                  |                  |                  |  |
|                       |                         | <u>70</u>        | = Total Cover    |                  |  |
| Woody vine stratum    | (Plot size: <u>30</u> ) |                  |                  |                  | <b>Hydrophytic vegetation present?</b> <u>Y</u>  |
| 1                     |                         |                  |                  |                  |  |
| 2                     |                         |                  |                  |                  |  |
|                       |                         | <u>0</u>         | = Total Cover    |                  |  |

Remarks: (Include photo numbers here or on a separate sheet)  
 Open water 30% cover

**SOIL**

Sampling Point: Infiltration Basin 2

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

| Depth (Inches) | Matrix        |     | Redox Features |   |       |       | Texture    | Remarks |
|----------------|---------------|-----|----------------|---|-------|-------|------------|---------|
|                | Color (moist) | %   | Color (moist)  | % | Type* | Loc** |            |         |
| 0-2            | 10YR 2/1      | 100 |                |   |       |       | Sediment   | Runoff  |
| 2-8            | 10YR 2/1      | 100 |                |   |       |       | Sandy Clay |         |
| 8-10           | 10YR 2/1      | 100 |                |   |       |       | Sand       |         |
|                |               |     |                |   |       |       |            |         |
|                |               |     |                |   |       |       |            |         |
|                |               |     |                |   |       |       |            |         |
|                |               |     |                |   |       |       |            |         |
|                |               |     |                |   |       |       |            |         |

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

**Hydric Soil Indicators:**

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

**Indicators for Problematic Hydric Soils:**

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

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

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric soil present?   N  

Remarks:

Standing water made getting a deeper sand sample impossible

**HYDROLOGY**

**Wetland Hydrology Indicators:**

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

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

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

Secondary Indicators (minimum of two required)

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

**Field Observations:**

Surface water present? Yes   X   No \_\_\_\_\_ Depth (inches):   3    
 Water table present? Yes   X   No \_\_\_\_\_ Depth (inches):   Surface    
 Saturation present? Yes   X   No \_\_\_\_\_ Depth (inches):   Surface    
 (includes capillary fringe)

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



culvert north ditch



Edge of pond



Ponding in wetland B



rock rip rap non  
wetland



sample point 1 2



Wetland B boundary



Wetland B north



Wetland B sample  
point



Wetland B



Culvert at end of wet ditch



Storm Pond 1



Unnamed to Sand Creek



Upland Island in Wetland C



Wet Dich South on 169



Wetland C boundary facing  
south



Wetland C facing north



Wetland D North Boundary



Wetland D



Wetland Ditch North Side



Wetland F



Wetland F2

# APPENDIX

---

## APPENDIX D

Antecedent Precipitation Data

**NRCS method - Rainfall Documentation Worksheet Hydrology Tools for Wetland Determination  
NRCS Engineering Field Handbook Chapter 19**

|                        |           |                          |              |
|------------------------|-----------|--------------------------|--------------|
| <b>Date</b>            | 9/13/2016 | <b>Landowner/Project</b> | Scott County |
| <b>Weather Station</b> | Merriam   | <b>State</b>             | MN           |
| <b>County</b>          | Scott     | <b>Growing Season</b>    | Yes          |
| <b>Photo/obs Date</b>  | 9/13/2016 | <b>Soil Name</b>         | Stony Land   |

shaded cells are locked or calculated

**Long-term rainfall statistics**  
(from WETS table or State Climatology Office)

|                         | <b>Month</b> | <b>30% chance &lt;</b> | <b>30% chance &gt;</b> | <b>Precip</b> | <b>Condition Dry, Wet, Normal</b> | <b>Condition Value</b> | <b>Month Weight Value</b> | <b>Product of Previous 2 Columns</b> |
|-------------------------|--------------|------------------------|------------------------|---------------|-----------------------------------|------------------------|---------------------------|--------------------------------------|
| <b>1st Prior Month*</b> | August       | 3.45                   | 5.37                   | 8.34          | W                                 | 3                      | 3                         | 9                                    |
| <b>2nd Prior Month*</b> | July         | 2.47                   | 4.36                   | 5.01          | W                                 | 3                      | 2                         | 6                                    |
| <b>3rd Prior Month*</b> | June         | 3.21                   | 4.66                   | 3.19          | D                                 | 1                      | 1                         | 1                                    |
|                         | <b>Sum</b>   |                        |                        |               |                                   |                        |                           | <b>16</b>                            |

\*compared to photo/observation date

|                        |  |
|------------------------|--|
| <b>Note: If sum is</b> |  |
| <b>6 - 9</b>           | prior period has been drier than normal  |
| <b>10 - 14</b>         | prior period has been normal             |
| <b>15 - 18</b>         | prior period has been wetter than normal |

|                         |
|-------------------------|
| <b>Condition value:</b> |
| Dry =1                  |
| Normal =2               |
| Wet =3                  |

**Conclusions:** prior period has been wetter than normal

# APPENDIX

---

## APPENDIX E

Historic Aerials of Stormwater Ponds



Storm Ponds 2016



Storm Pond 1 Construction 2012



Storm Pond 2 Pre construction 1991