Item 7H.
BCWMC
11-20-19

Minnesota Wetland Conservation Act
Notice of Application

Local Government Unit (LGU)	Address
City of Plymouth	**3400 Plymouth Boulevard** **Plymouth, MN 55447**

1. PROJECT INFORMATION

Applicant Name	Project Name	Date of Application	Application Number
Hollydale Golf Course Development, Inc.	**Hollydale Golf Course**	**09/27/19 (Received complete 10/01/19)**	**2019-13**

Type of Application (check all that apply):

☒ Wetland Boundary or Type	☐ No-Loss	☐ Exemption
☐ Sequencing	☐ Replacement Plan	☐ Banking Plan

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

Wetland delineation report (prepared by Kjolhaug Environmental Services, dated September 27, 2019) for the 156.8 acre Hollydale Golf Course in Plymouth, MN. The project area consists of PID No. 0811822310001 (59.25 acres), 0811822340014 (69.88 acres), 0811822430002 (27.67 acres). Three additional parcels (PID No. 0811822340011 - 0.43 acres, 0811822340007 - 0.51 acres, and 0811822340009 - 0.91 acres) were added adjacent to the southwest project area during the TEP field review on October 11, 2019, resulting in the 158.65 acre total project area.

Wetland boundaries and types were found to be accurately defined in the wetland delineation report during the TEP field review on October 11, 2019. Minor report and map revisions were verbally requested by the TEP and will be detailed in the LGU findings and conclusion section of the NOD. The applicant's consultant will provide all requested revisions in a final wetland delineation report prior to issuing the NOD.

2. APPLICATION REVIEW AND DECISION

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

Name and Title of LGU Contact Person	Comments must be received by (minimum 15 business-day comment period):
Ben Scharenbroich, **Interim Water Resources Manager**	**4pm, November 4, 2019**
Address (if different than LGU)	Date, time, and location of decision: **On/Before 4pm, November 22, 2019** **3400 Plymouth Boulevard** **Plymouth, MN 55447**
Phone Number and E-mail Address **763-509-5527** **bscharenbroich@plymouthmn.gov**	Decision-maker for this application: ☒ Staff ☐ Governing Board or Council

Signature: _____ Date: 10/14/2019

3. LIST OF ADDRESSEES

☒ SWCD TEP member: **Stacey Lijewski, HCD, 701 Fourth Avenue South, Minneapolis, MN 55415-1600. stacey.lijewski@hennepin.us**
☒ BWSR TEP member: **Ben Carlson, BWSR, 520 Lafayette Road North, St. Paul, MN 55401. ben.carlson@state.mn.us**
☒ LGU TEP member (if different than LGU Contact): **Travis Fristed (ISG). travis.fristed@ISGinc.com**
☒ DNR TEP member: **Leslie Parris, MnDNR, 1200 Warner Road, St. Paul, MN 55106. leslie.parris@state.mn.us**
☒ DNR Regional Office (if different than DNR TEP member): **Jason Spiegel, MnDNR, 1200 Warner Road, St. Paul, MN 55106. jason.spiegel@state.mn.us**
☒ WD or WMO (if applicable): **Bassett Creek WMC, c/o Laura Jester, Keystone Waters LLC, 16145 Hillcrest Lane, Eden Prairie, MN 55346. laura.jester@keystonewaters.com**
Elm Creek WMO, c/o Judie Anderson, JASS, 3235 Fernbrook Lane North, Plymouth, MN 55447. judie@jass.biz
☒ Applicant (notice only) and Landowner (if different): **Jake Walesch (Hollydale Golf Course Development, Inc.). Jake@jakewalesch.com**
☒ Members of the public who requested notice (notice only): **Adam Cameron, Kjolhaug Environmental Services Company, 2500 Shadywood Road, Suite 130, Orono, MN 55331. adam@kjolhaugenv.com**
☒ Corps of Engineers Project Manager (notice only): **USACE, 180 5th Street East, Suite 700, St. Paul, MN 55101. usace_requests_mn@usace.army.mil**
☐ BWSR Wetland Bank Coordinator (wetland bank plan applications only)

4. MAILING INFORMATION

➢For a list of BWSR TEP representatives: www.bwsr.state.mn.us/contact/WCA_areas.pdf

➢For a list of DNR TEP representatives: www.bwsr.state.mn.us/wetlands/wca/DNR_TEP_contacts.pdf

➢Department of Natural Resources Regional Offices:

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

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

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

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

➢For Wetland Bank Plan applications, also send a copy of the application to:

Minnesota Board of Water and Soil Resources
Wetland Bank Coordinator
520 Lafayette Road North
St. Paul, MN 55155

5. ATTACHMENTS

In addition to the application, list any other attachments:

☒ **Hollydale Golf Course Wetland Delineation Report, September 27, 2019 (prepared by Kjolhaug Environmental Services Company, Inc).**

Hollydale Golf Course

Plymouth, Hennepin County, Minnesota

Wetland Delineation Report

Prepared for

Jake Walesch

by

Kjolhaug Environmental Services Company, Inc.
(KES Project No. 2019-113)

September 27, 2019

Hollydale Golf Course

Plymouth, Hennepin County, Minnesota

Wetland Delineation Report

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Hollydale Golf Course

Plymouth, Hennepin County, Minnesota

Wetland Delineation Report

1. WETLAND DELINEATION SUMMARY

- The 156.7-acre Hollydale Golf Course was inspected on August 14, 2019 for the presence and extent of wetland.
- The National Wetlands Inventory (NWI) map showed six wetlands on the site.
- The soil survey showed Muskego and Houghton (Hydric), Hamel (Partially Hydric), Klossner (Hydric), Cordova (Predominantly Hydric), Houghton (Hydric), Minnetonka (Hydric) and Glencoe (Hydric).
- The DNR Public Waters Inventory showed two DNR Public Wetlands (Unnamed 27-600 W and Unnamed 27-599 W) north of the site and one DNR Public Wetland (Unnamed 27-601 W) approximately 770 feet south of the site.
- The National Hydrography Dataset showed five Lake/Ponds within the site boundaries, as well as one Stream/River on the central and southeastern portion of the site.
- Nine wetlands were delineated within the site boundaries as summarized below in **Table 1**.

Table 1. Wetlands delineated on the Hollydale Golf Course

Wetland ID	Wetland Type			Dominant Vegetation	Size (Acres Onsite)
	Circular 39	Cowardin	Eggers and Reed		
1	Type 5	PUBGx	Excavated Open Water Wetland	Open water, narrow fringe of cattail, beggarticks, smartweed	0.48
2	Type 5	PUBGx	Excavated Open Water Wetland	Open water, narrow fringe of orange jewelweed, sandbar willow, redosier dogwood	0.09
3	Type 5	PUBGx	Excavated Open Water Wetland	Open water, duckweed	0.08
4	Type 3/2	PEM1C/PEM1A	Shallow Marsh, Wet Meadow	Cattail, reed canary grass and scattered green ash trees	0.04
5	Type 2	PEM1A	Wet Meadow	Fowl bluegrass, Kentucky bluegrass	0.08
6	Type 1/2/3/6	PFO1Ad/PEM1 Bd/PEM1Cd/PS S1Cd	Forested Seasonally Flooded Basin, Wet Meadow, Shallow Marsh, Shrub-Carr	Cattail and reed canary grass, orange jewelweed, arrowleaf tearthumb, redosier dogwood, black willow, stinging nettle, sedges	30.21
7	Type 5/2	PUBGx/PEM1A	Open Water, Wet Meadow	Open water with a narrow fringe of fowl bluegrass	0.18
8	Type 5	PUBGx	Open Water	Open water, duckweed	0.20
9	Type 5	PUBGx	Open Water	Open water with a narrow fringe of smartweed	0.21

2. OVERVIEW

The 156.7-acre Hollydale Golf Course was inspected on August 14, 2019 for the presence and extent of wetland. The property was located in Section 8, Township 118 North, Range 22 West, City of Plymouth, Hennepin County, Minnesota. The site was situated north of MN State Highway 55, west of Vicksburg Lane North (**Figure 1**). The property corresponded to the following Hennepin County PID's: 0811822340014 and 0811822310001.

The site consisted of a golf course with greens, fairways, cart paths, clubhouse, and maintenance buildings. Topography of the site was hilly, sloping from 1020 ft MSL on the northeast portion of the site to 964 ft MSL on the southeast portion. Surrounding land use consisted single-family housing developments, woodland, schools and commercial buildings south of the site.

Nine wetlands were delineated within the site boundaries. The delineated wetland boundaries and existing conditions are shown on **Figure 2**.

Appendix A of this report includes a Joint Application Form for Activities Affecting Water Resources in Minnesota, which is submitted in request for: (1) a wetland boundary, No-Loss and wetland type determination under the Minnesota Wetland Conservation Act (WCA), and (2) delineation concurrence under Section 404 of the Federal Clean Water Act.

3. METHODS

3.1 Wetland Delineation

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

Wetland boundaries were identified as the upper-most extent of wetland that met criteria for hydric soils, hydrophytic vegetation, and wetland hydrology. Wetland-upland boundaries were marked with pin flags that were located using Trimble Juno T41 GPS Units.

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

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

Plants were identified using standard regional plant keys. Taxonomy and indicator status of plant species was taken from the 2015 National Wetland Plant List (U.S. Army Corps of Engineers 2014. National Wetland Plant List, version 3.2, Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory, Hanover, NH).

4. RESULTS

4.1 Review of NWI, Soils, Public Waters, and NHD Information

The National Wetlands Inventory (NWI) (Minnesota Geospatial Commons 2009-2014 and U.S. Fish and Wildlife Service) showed six wetlands on the site (**Figure 3**).

The Soil Survey (USDA NRCS 2015) showed Muskego and Houghton (Hydric), Hamel (Partially Hydric), Klossner (Hydric), Cordova (Predominantly Hydric), Houghton (Hydric), Minnetonka (Hydric) and Glencoe (Hydric). Soil types are listed in **Table 2** on the following page and a map showing soil types is included as **Figure 4**.

Table 2. Soil types mapped on the Hollydale Golf Course

Symbol	Soil Name	Acres	% of Area	% Hydric	Hydric Category
L50A	Muskego and Houghton soils	37.88	24.13	100	Hydric
L44A	Nessel loam	22.33	14.22	10	Predominantly Non-Hydric
L22C2	Lester loam, 6 to 10 percent slopes, moderately eroded	21.62	13.77	2	Predominantly Non-Hydric
L37B	Angus loam	16.66	10.61	5	Predominantly Non-Hydric
L22D2	Lester loam, 10 to 16 percent slopes, moderately eroded	14.97	9.54	0	Non-Hydric
L36A	Hamel, overwash-Hamel complex, 0 to 3 percent slopes	11.22	7.15	45	Partially Hydric
L49A	Klossner soils	10.53	6.71	100	Hydric
L23A	Cordova loam, 0 to 2 percent slopes	9.29	5.92	95	Predominantly Hydric
L14A	Houghton muck	5.85	3.73	100	Hydric
L9A	Minnetonka silty clay loam	3.80	2.42	100	Hydric
L45A	Dundas-Cordova complex	2.14	1.36	30	Predominantly Non-Hydric
L40B	Angus-Kilkenny complex	0.68	0.44	5	Predominantly Non-Hydric
L24A	Glencoe clay loam	0.35	0.22	100	Hydric
L22F	Lester loam, morainic, 25 to 35 percent slopes	0.04	0.02	5	Predominantly Non-Hydric

The Minnesota DNR Public Waters Inventory (Minnesota Department of Natural Resources 2015) showed two DNR Public Wetlands (Unnamed 27-600 W and Unnamed 27-599 W) north of the site and one DNR Public Wetland (Unnamed 27-601 W) approximately 770 feet south of the site (**Figure 5**).

The National Hydrography Dataset (U.S. Geological Survey 2015) showed five Lake/Ponds within the site boundaries, as well as one Stream/River on the central and southeastern portion of the site (**Figure 6**).

4.2 Wetland Determinations and Delineations

Potential wetlands were evaluated during field observations on August 14, 2019. Nine wetlands were identified and delineated on the property (**Figure 2**). Corresponding data forms are included in **Appendix B**. The following descriptions of the wetlands and adjacent uplands reflects conditions observed at the time of the field visit. Herbaceous vegetation was actively growing. Precipitation conditions were within the normal range based on available 30-day rolling total precipitation and typical based on three-month antecedent precipitation data (**Appendix C**). A wetland boundary survey will be provided when it becomes available. Wetland descriptions are provided on the following page on **Table 3**.

Table 3. Delineated Wetland Descriptions - Hollydale Golf Course

Wetland ID	Circular 39	Cowardin	Eggers and Reed	Dominant Vegetation	Adjacent Upland Vegetation	Observed Drainage Features	Observed Hydrology Indicat	Mapped NWI Wetland	Mapped Soil Series	Size (Acres Onsite)	Comments
1	Type 5	PUBGx	Excavated Open Water Wetland	Open water, narrow fringe of cattail, beggarticks, smartweed	Mowed golf course green dominated by Kentucky bluegrass with a lesser amount of white clover	Isolated basin; no inlets or outlets observed	Saturation, High Water Table, Geomorphic Position, FAC Neutral Test	PUBGx	Houghton, Hamel, Lester	0.48	Wetland 1 is an ornamental pond that was excavated in upland as described in Section 4.4 of the report.
2	Type 5	PUBGx	Excavated Open Water Wetland	Open water, narrow fringe of orange jewelweed, sandbar willow, redosier dogwood	Mowed golf course green dominated by Kentucky bluegrass	Isolated basin; no inlets or outlets observed	Saturation, High Water Table, Geomorphic Position, FAC Neutral Test	None	Hamel	0.09	Wetland 2 is an ornamental pond that was excavated in upland as described in Section 4.4 of the report.
3	Type 5	PUBGx	Excavated Open Water Wetland	Open water, duckweed	Mowed golf course green dominated by Kentucky bluegrass with a lesser amount of white clover	Isolated basin; no inlets or outlets observed	Saturation, High Water Table, Geomorphic Position, FAC Neutral Test	PUBGx	Lester	0.08	Wetland 3 is an ornamental pond that was excavated in upland as described in Section 4.4 of the report.
4	Type 3/2	PEM1C/PEM1A	Shallow Marsh, Wet Meadow	Cattail, reed canary grass and scattered green ash trees	Meadow dominated by creeping charlie, reed canary grass, smooth brome and common milkweed with scattered common buckthorn	Wetland 4 extends offsite to the east and west, connecting with wetlands adjacent to the railroad tracks	Saturation, High Water Table, Geomorphic Position, FAC Neutral Test	None	Cordova	0.04	Wetland 4 was part of a linear wetland adjacent to the railroad.
5	Type 2	PEM1A	Wet Meadow	Fowl bluegrass, Kentucky bluegrass	Mowed golf course green dominated by Kentucky bluegrass	Wetland 4 extends offsite to the north, connecting with wetlands adjacent to the railroad tracks	Saturation, High Water Table, Geomorphic Position, FAC Neutral Test	None	Minnetonka	0.08	None
6	Type 1/2/3/6	PFO1Ad/PEM1Bd/PEM1Cd/PSS1Cd	Forested Seasonally Flooded Basin, Wet Meadow, Shallow Marsh, Shrub-Carr	Cattail and reed canary grass, orange jewelweed, arrowleaf tearthumb, redosier dogwood, black willow, stinging nettle, sedges	Mowed golf course green dominated by Kentucky bluegrass with a lesser amount of common plantain, white clover and dandelion	Flows into a ditch network that drains into Bassett Creek approximately 2,000 feet south of the site	Saturation, High Water Table, Geomorphic Position, FAC Neutral Test	PABG/PSS1Ad/PEM1Ad/PFO1Ad/R2UBFx	Muskego and Houghton, Minnetonka	30.21	Wetland 6 contained an extensive ditch network and shows evidence of drainage.
7	Type 5/2	PUBGx/PEM1A	Open Water, Wet Meadow	Open water with a narrow fringe of fowl bluegrass	Mowed golf course green dominated by Kentucky bluegrass	Contains several inlets from the surrounding drain tile network; no outlets were observed	Saturation, High Water Table, Geomorphic Position, FAC Neutral Test, Water-Stained Leaves	PUBGx	Klossner	0.18	None
8	Type 5	PUBGx	Open Water	Open water, duckweed	Mowed golf course green dominated by Kentucky bluegrass with a lesser amount of white clover and scattered white spruce and quaking aspen trees	Isolated basin; no inlets or outlets observed	Saturation, High Water Table, Geomorphic Position, FAC Neutral Test	PUBGx	Nessel, Angus	0.20	Wetland 8 is an ornamental pond that was excavated in upland as described in Section 4.4 of the report.
9	Type 5	PUBGx	Open Water	Open water with a narrow fringe of smartweed	Mowed golf course green dominated by Kentucky bluegrass	Drains though a tile into a ditch north of the site	Saturation, High Water Table, Geomorphic Position, FAC Neutral Test	PUBGx	Glencoe, Minnetonka	0.21	None

4.3 Other Areas

Other areas were investigated because they were: (1) observed to support a hydrophytic plant community, (2) had visible wetland hydrology indicators, (3) were shown as wetland on the NWI map, or (4) were depressional and mapped as hydric soil. Field investigation led to the conclusion that these areas were not wetland.

An area on the northern portion of the site was mapped as Cordova loam (Predominantly Hydric) on the soil survey (See **Figure 4**). This area was inspected in the field, and consisted of a hillslope golf course green dominated by Kentucky bluegrass, with a lesser amount of white clover, dandelion and white spruce trees.

An area on the central portion of the site was mapped with hydric soils including Houghton Muck (Hydric), Hamel (Partially Hydric) and Klossner (Hydric) on the soil survey (**See Figure 4**). This area was inspected in the field, and consisted of mowed golf course greens dominated by Kentucky bluegrass with a lesser amount of dandelion, common plantain, white clover and scattered white spruce trees. Although this area contained topographic depressions, it did not contain wetland plant communities, and was effectively drained by a network of drain tiles present onsite (**See Figure 2**). Because of the functional drainage system present within this area, Geomorphic Position does not apply. Although hydric soils were present, this area did not contain a wetland plant community, and did not meet one primary or two secondary indicators of wetland hydrology. Therefore, this area was determined to be upland.

4.4 Incidental Wetlands Discussion

The Hollydale Golf Course site contains numerous excavated ornamental ponds, and a separate memorandum will be prepared to establish the regulatory status of those ponds under the Minnesota Wetland Conservation Act and Section 404 of the Clean Water Act. Historic aerial photos and historic USGS Topography Maps will be provided at that time.

4.5 Request for Wetland Boundary and Jurisdictional Determination

Appendix A of this report includes a Joint Application Form for Activities Affecting Water Resources in Minnesota, which is submitted in request for: (1) a wetland boundary, No-Loss and wetland type determination under the Minnesota Wetland Conservation Act (WCA), and (2) delineation concurrence under Section 404 of the Federal Clean Water Act.

5. CERTIFICATION OF DELINEATION

The procedures utilized in the described delineation are based on the U.S. Army Corps of Engineers 1987 Wetlands Delineation Manual as required under Section 404 of the Clean Water Act and the Minnesota Wetland Conservation Act. This wetland delineation and report were prepared in compliance with the regulatory standards in place at the time the work was performed.

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

Delineation completed by: A Kyle Uhler, GIS & Remote Sensing Specialist
MN Certified Wetland Delineator

Will Effertz, Natural Resources Assistant

Report prepared by: Adam Cameron, Wetland Ecologist/GIS Specialist
MN Certified Wetland Delineator No. 1321

Report reviewed by: _____ Date: September 27, 2019
Mark Kjolhaug, Professional Wetland Scientist No. 000845

Hollydale Golf Course

Wetland Delineation Report

FIGURES

1. Site Location
2. Existing Conditions
3. National Wetlands Inventory
4. Soil Survey
5. DNR Protected Waters Inventory
6. National Hydrography Dataset

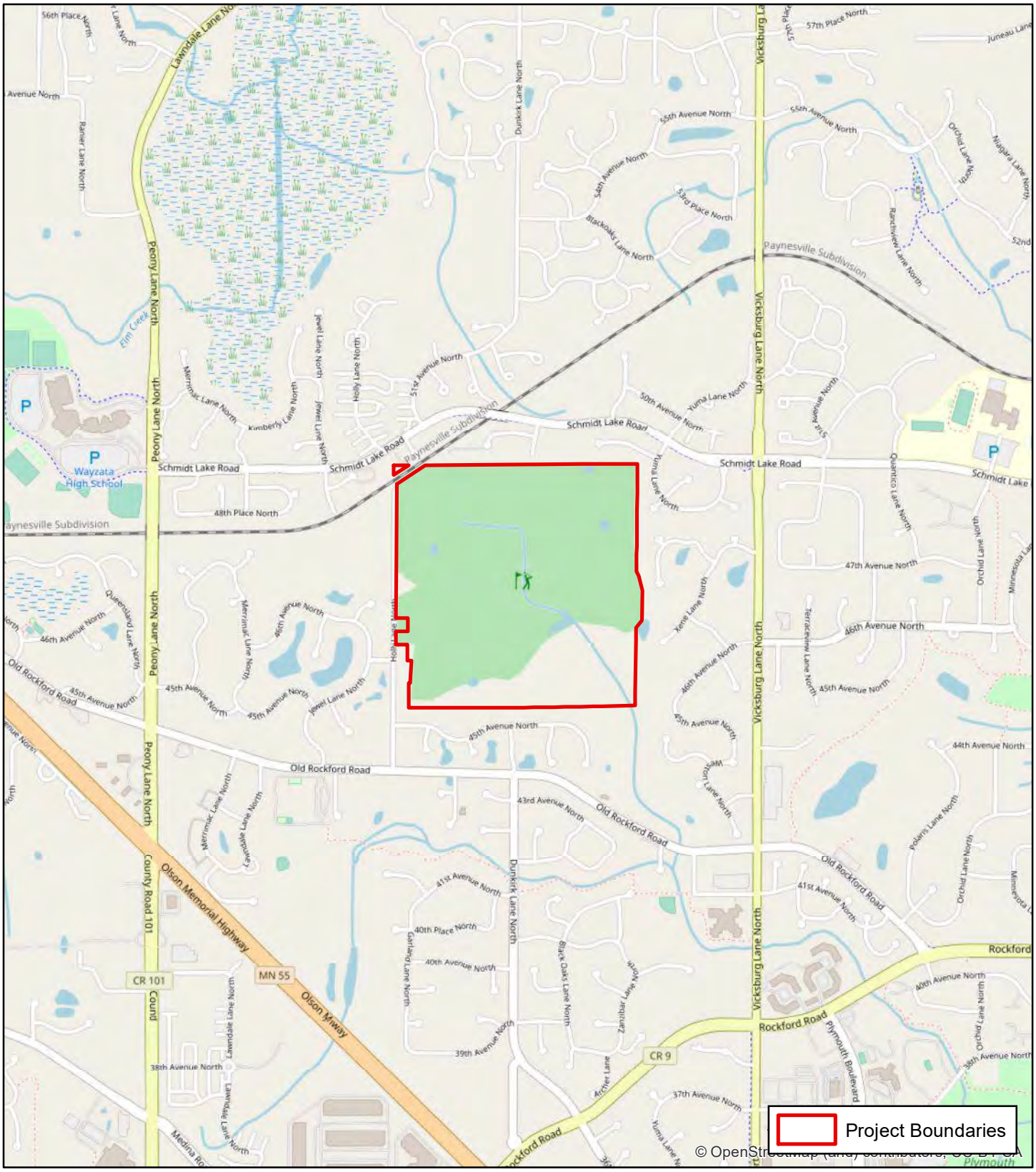


Figure 1 - Site Location Map

N

0 1,500 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: ESRI Streets Basemap

Hollydale Golf Course (KES 2019-113)
Plymouth, Minnesota

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

Figure 2 - Existing Conditions (2016 MNGEO Photo)

N

0 400 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons

Hollydale Golf Course (KES 2019-113)
Plymouth, Minnesota

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

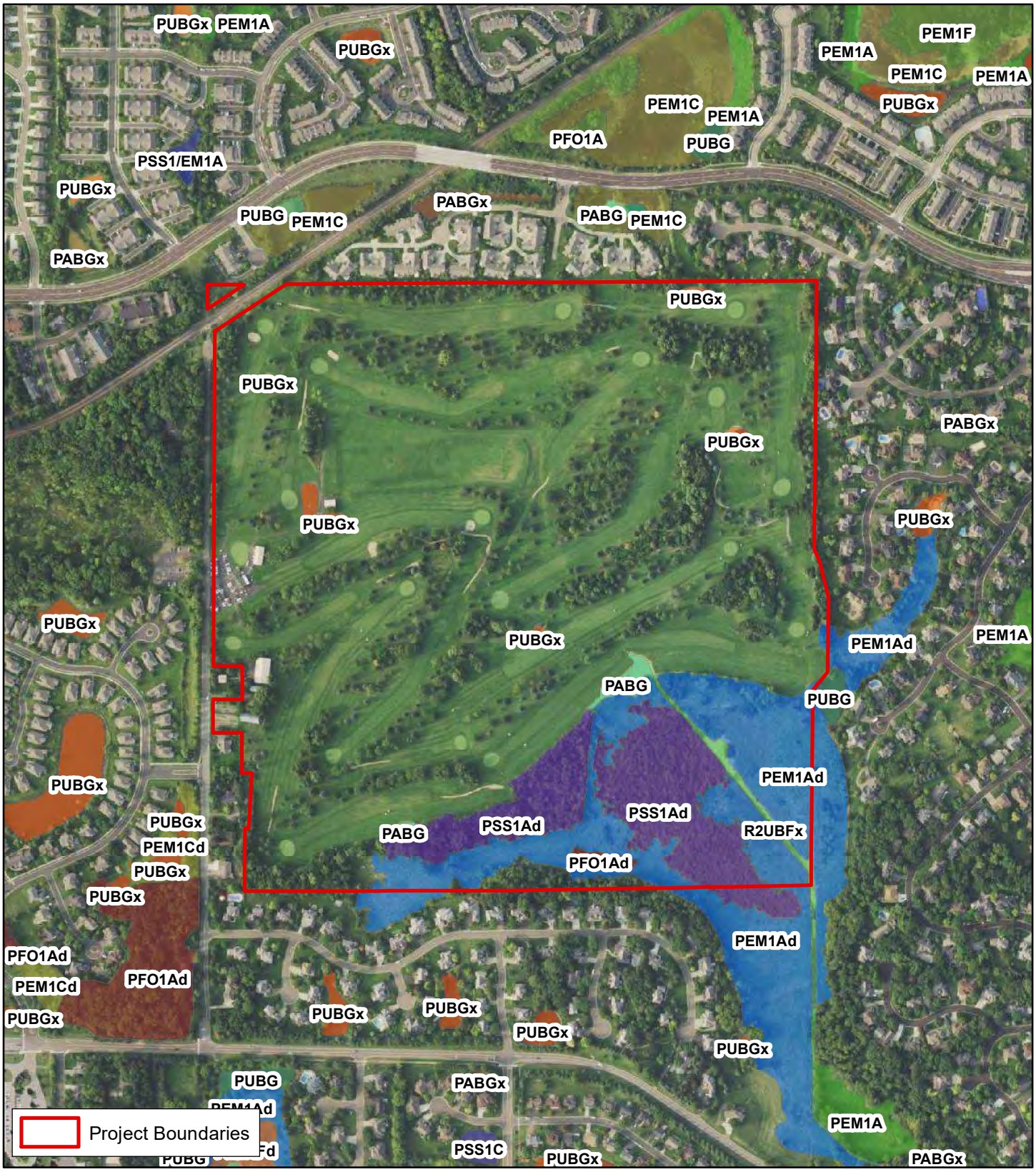


Figure 3 - National Wetlands Inventory

N

0 600 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons, USFWS

Hollydale Golf Course (KES 2019-113)
Plymouth, Minnesota

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

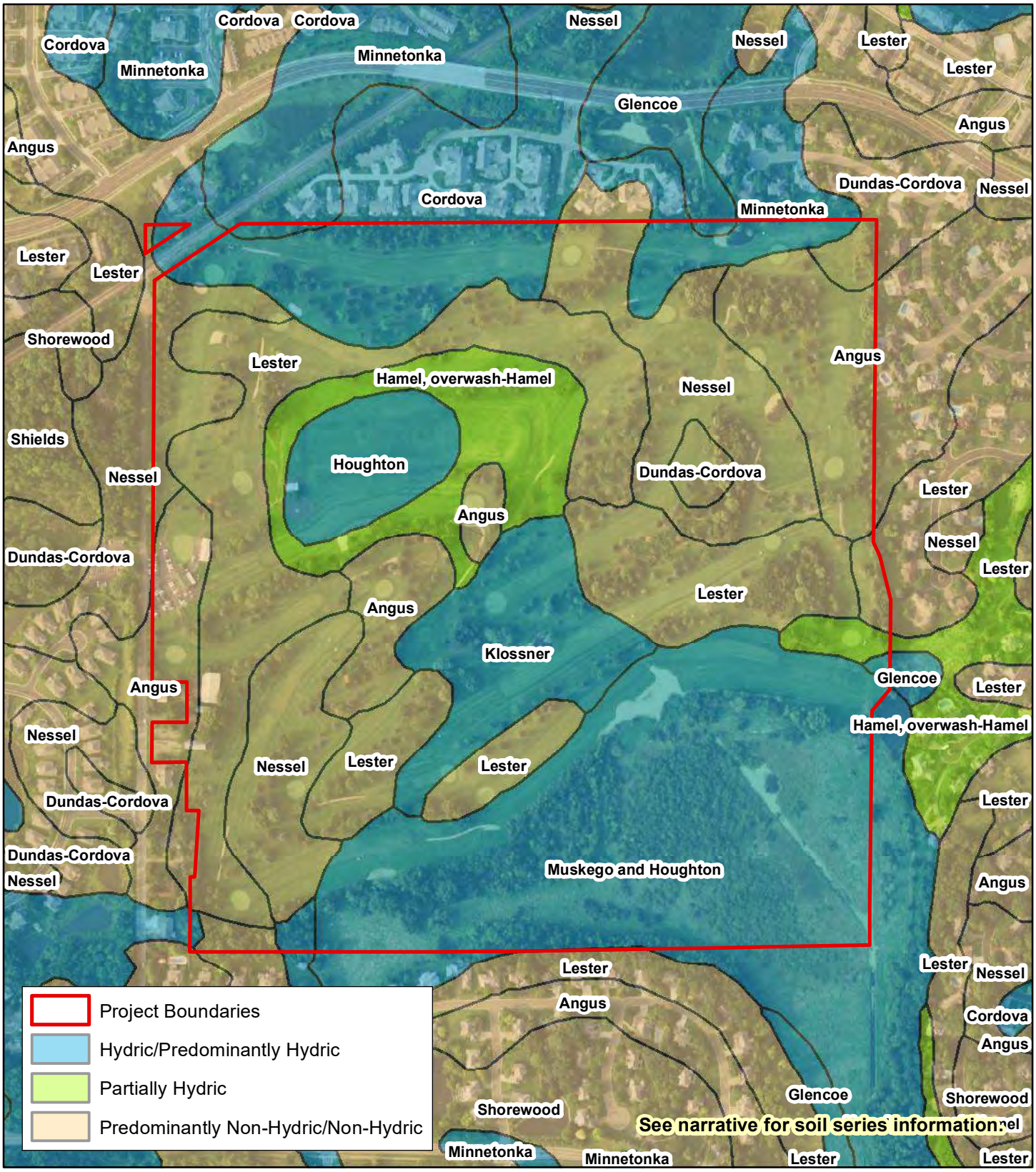


Figure 4 - Soil Survey

N

0 500 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons, USDA, NRCS

Hollydale Golf Course (KES 2019-113)
Plymouth, Minnesota

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

Figure 5 - DNR Public Waters Inventory

N

0 1,000 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons, MN DNR

Hollydale Golf Course (KES 2019-113)
Plymouth, Minnesota

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

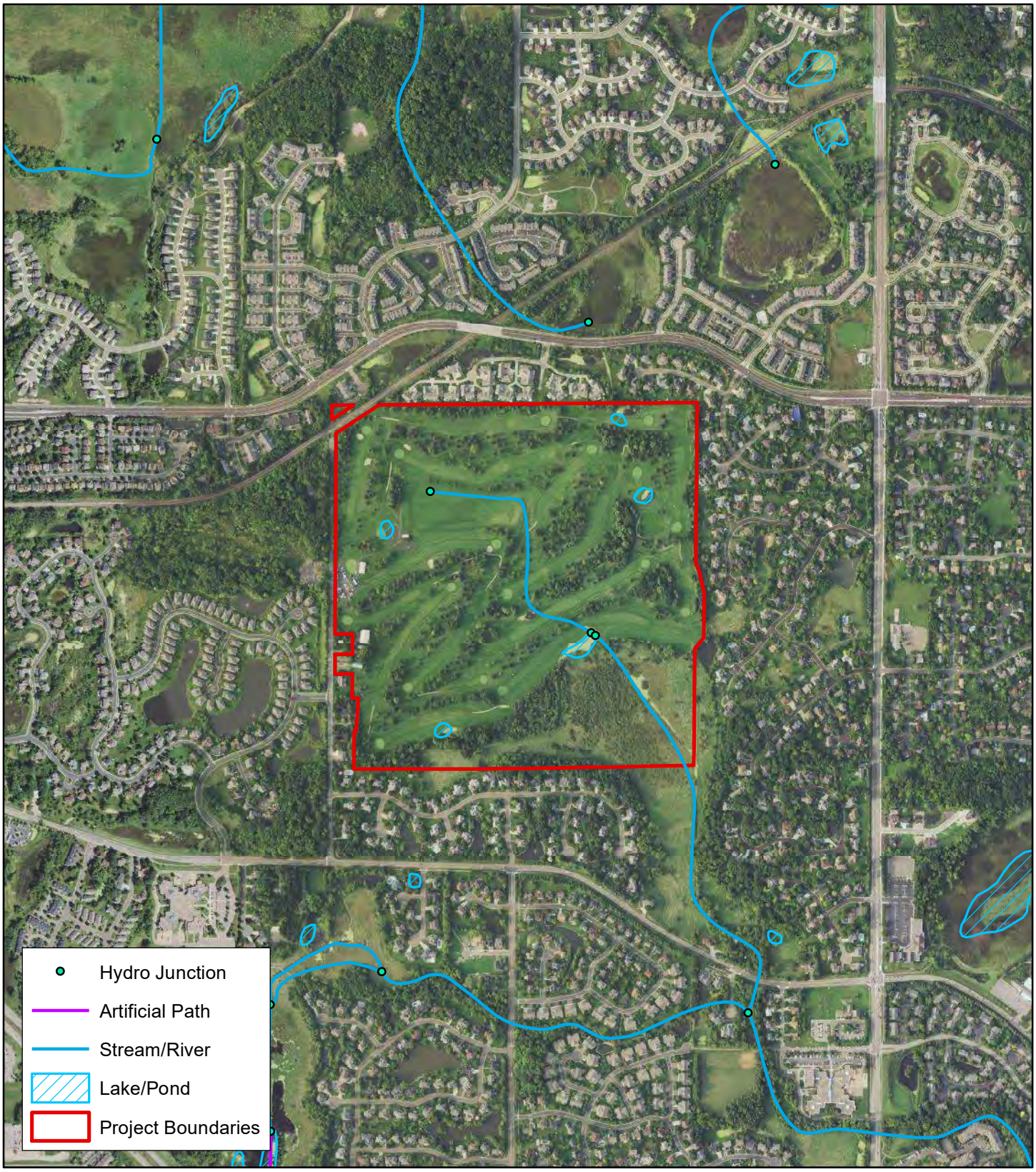


Figure 6 - National Hydrography Dataset

N

0 1,000 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons, USGS

Hollydale Golf Course (KES 2019-113)
Plymouth, Minnesota

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

Hollydale Golf Course

Wetland Delineation Report

APPENDIX A

Joint Application Form for Activities Affecting Water Resources in Minnesota

PART ONE: Applicant Information

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

Applicant/Landowner Name: ~~Jake Walesch~~ Hollydale GC Development, Inc.
Mailing Address: 10850 Old County Road 15, Suite 200, Plymouth MN 55441
Phone: 612-749-1360
E-mail Address: Jake@Jakewalesch.com

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

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

PART TWO: Site Location Information

County: Hennepin **City/Township: Plymouth**
Parcel ID and/or Address: 0811822340014, 0811822310001
Legal Description (Section, Township, Range): S:8 T:118N R:22W
Lat/Long (decimal degrees): -
Attach a map showing the location of the site in relation to local streets, roads, highways.
Approximate size of site (acres) or if a linear project, length (feet): 156.7

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

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

PART THREE: General Project/Site Information

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

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

PART FOUR: Aquatic Resource Impact[1] Summary

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

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

[1]If impacts are temporary; enter the duration of the impacts in days next to the "T". For example, a project with a temporary access fill that would be removed after 220 days would be entered "T (220)".
[2]Impacts less than 0.01 acre should be reported in square feet. Impacts 0.01 acre or greater should be reported as acres and rounded to the nearest 0.01 acre. Tributary impacts must be reported in linear feet of impact and an area of impact by indicating first the linear feet of impact along the flowline of the stream followed by the area impact in parentheses). For example, a project that impacts 50 feet of a stream that is 6 feet wide would be reported as 50 ft (300 square feet).
[3]This is generally only applicable if you are applying for a de minimis exemption under MN Rules 8420.0420 Subp. 8, otherwise enter "N/A".
[4]Use *Wetland Plants and Plant Community Types of Minnesota and Wisconsin* 3rd Ed. as modified in MN Rules 8420.0405 Subp. 2.
[5]Refer to Major Watershed and Bank Service Area maps in MN Rules 8420.0522 Subp. 7.

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

PART FIVE: Applicant Signature

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

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

Hollydale GC Development, Inc.

Signature: _____ Date: 9/27/19

Its: President

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

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

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

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

☒ **Wetland Type Confirmation**

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

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

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

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

Hollydale Golf Course

Wetland Delineation Report

APPENDIX B

Wetland Delineation Data Forms

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Hollydale Golf Course | City/County: Plymouth/Hennepin | Sampling Date: 08/14/2019

Applicant/Owner: See Joint Application Form | State: MN | Sampling Point: SP1-1U

Investigator(s): Kyle Uhler & Will Effertz | Section, Township, Range: S8 T118N R22W

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

Slope (%): 1 to 4 | Lat: | Long: | Datum:

Soil Map Unit Name: Hamel Consociation | NWI Classification: None

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

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

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

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

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

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

30-day precipitation rolling total is within normal range. Precipitation from gridded database method is typical. Sample point is located within a mancured lawn within golf course.

VEGETATION -- Use scientific names of plants.

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

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

Herb stratum (Plot size: 5)			
1 *Poa Pratensis*	55	Y	FAC
2 *Trifolium repens*	35	Y	FACU
3			
4			
5			
6			
7			
8			
9			
10			
	90	= Total Cover	

Woody vine stratum (Plot size: 15)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

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

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

Percent of Dominant Species that are OBL, FACW, or FAC: 50.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	55	x 3 =	165
FACU species	35	x 4 =	140
UPL species	0	x 5 =	0
Column totals	90 (A)		305 (B)

Prevalence Index = B/A = 3.39

Hydrophytic Vegetation Indicators:

- ____ Rapid test for hydrophytic vegetation
- ____ Dominance test is >50%
- ____ Prevalence index is ≤3.0*
- ____ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- ____ Problematic hydrophytic vegetation* (explain)

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

Hydrophytic vegetation present? N

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

SOIL **Sampling Point:** SP1-1U

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0 to 4	10YR 2/2	100					Mucky Loam	
4 to 12	10YR 2/2	55					Clay Loam	Disturbed
	10YR 3/1	45					Clay Loam	Disturbed
12 to 24	10YR 2/1	100					Clay Loam	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

Indicators of wetland hydrology present? N

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

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Hollydale Golf Course | City/County: Plymouth/Hennepin | Sampling Date: 08/14/2019

Applicant/Owner: See Joint Application Form | State: MN | Sampling Point: SP1-1W

Investigator(s): Kyle Uhler & Will Effertz | Section, Township, Range: S8 T118N R22W

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

Slope (%): 0 to 3 | Lat: | Long: | Datum:

Soil Map Unit Name: Hamel Consociation | NWI Classification: PUBGx

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"

Are vegetation , soil , or hydrology naturally problematic? present? No

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

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

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

30-day precipitation rolling total is within normal range. Precipitation from gridded database method is typical. Sample point was on the edge of a mancured lawn within golf course.

VEGETATION -- Use scientific names of plants.

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

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

Herb stratum (Plot size: 5)			
1 *Poa Pratensis*	80	Y	FAC
2 *Digitaria ischaemum*	15	N	FACU
3 *typha x glauca*	3	N	OBL
4 *Bidens frondosa*	2	N	FACW
5			
6			
7			
8			
9			
10			
	100	= Total Cover	

Woody vine stratum (Plot size: 15)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

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

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

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

Prevalence Index Worksheet

Total % Cover of:

OBL species	3	x 1 =	3
FACW species	2	x 2 =	4
FAC species	80	x 3 =	240
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column totals	100 (A)		307 (B)

Prevalence Index = B/A = 3.07

Hydrophytic Vegetation Indicators:

- Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- Prevalence index is ≤3.0*
- Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- Problematic hydrophytic vegetation* (explain)

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

Hydrophytic vegetation present? Y

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

SOIL

Sampling Point: SP1-1W

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0 to 4	10YR 2/1	100					Mucky Loam	
4 to 10	10YR 2/1	80	5G 5/1	15	D	M	Clay Loam	
			10YR 4/6	5	C	M	Clay Loam	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? Y

Remarks:

Likely Depleted below dark surface

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- X High Water Table (A2)
- X 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)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes		No	X	Depth (inches):	
Water table present?	Yes	X	No		Depth (inches):	5
Saturation present? (includes capillary fringe)	Yes	X	No		Depth (inches):	0

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: Hollydale Golf Course | City/County: Plymouth/Hennepin | Sampling Date: 08/14/2019

Applicant/Owner: See Joint Application Form | State: MN | Sampling Point: SP2-1U

Investigator(s): Kyle Uhler & Will Effertz | Section, Township, Range: S8 T118N R22W

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

Slope (%): 1 to 4 | Lat: | Long: | Datum:

Soil Map Unit Name: Hamel Consociation | NWI Classification: None

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

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

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

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

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

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

30-day precipitation rolling total is within normal range. Precipitation from gridded database method is typical. Sample point is located within a mancured lawn within golf course.

VEGETATION -- Use scientific names of plants.

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

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

Herb stratum (Plot size: 5)			
1 *Poa Pratensis*	80	Y	FAC
2 *Trifolium repens*	20	Y	FACU
3			
4			
5			
6			
7			
8			
9			
10			
	100	= Total Cover	

Woody vine stratum (Plot size: 15)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

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

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

Percent of Dominant Species that are OBL, FACW, or FAC: 50.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	80	x 3 =	240
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column totals	100 (A)		320 (B)

Prevalence Index = B/A = 3.20

Hydrophytic Vegetation Indicators:

- ____ Rapid test for hydrophytic vegetation
- ____ Dominance test is >50%
- ____ Prevalence index is ≤3.0*
- ____ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- ____ Problematic hydrophytic vegetation* (explain)

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

Hydrophytic vegetation present? N

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

SOIL **Sampling Point:** SP2-1U

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0 to 12	10YR 2/2	100					Loam	
12 to 18	10YR 2/1	100					Clay Loam	
18 to 27	10YR 3/1	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 weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? N

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

Indicators of wetland hydrology present? N

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

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Hollydale Golf Course | City/County: Plymouth/Hennepin | Sampling Date: 08/14/2019

Applicant/Owner: See Joint Application Form | State: MN | Sampling Point: SP2-1W

Investigator(s): Kyle Uhler & Will Effertz | Section, Township, Range: S8 T118N R22W

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

Slope (%): 0 to 3 | Lat: | Long: | Datum:

Soil Map Unit Name: Hamel Consociation | NWI Classification: None

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

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

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

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	Y		
Hydric soil present?	Y	**Is the sampled area within a wetland?**	Y
Indicators of wetland hydrology present?	Y	If yes, optional wetland site ID:	Wetland 2

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

30-day precipitation rolling total is within normal range. Precipitation from gridded database method is typical. Sample point was on the edge of a mancured lawn within golf course.

VEGETATION -- Use scientific names of plants.

	Absolute % Cover	Dominant Species	Indicator Staus
Tree Stratum (Plot size: 30)			
1			
2			
3			
4			
5			
	0 = Total Cover		
Sapling/Shrub stratun (Plot size: 15)			
1 *Salix interior*	10	Y	FACW
2			
3			
4			
5			
	10 = Total Cover		
Herb stratum (Plot size: 5)			
1 *Typha x glauca*	35	Y	OBL
2 *Impatiens capensis*	25	Y	FACW
3 *Salix interior*	10	N	FACW
4			
5			
6			
7			
8			
9			
10			
	70 = Total Cover		
Woody vine stratum (Plot size: 15)			
1			
2			
	0 = Total Cover		

Dominance Test Worksheet

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

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

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

Prevalence Index Worksheet

Total % Cover of:			
OBL species	35	x 1 =	35
FACW species	45	x 2 =	90
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	80 (A)		125 (B)

Prevalence Index = B/A = 1.56

Hydrophytic Vegetation Indicators:

- ____ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- ____ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- ____ Problematic hydrophytic vegetation* (explain)

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

Hydrophytic vegetation present? Y

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

SOIL **Sampling Point:** SP2-1W

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0 to 2	10YR 2/1	100					Mucky Loam	
2 to 10	10YR 2/1	100					Loam	
10 to 24	N 2.5/	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)
- X Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? Y

Remarks:

Likely Depleted below dark surface

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X 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)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes		No	X	Depth (inches):	
Water table present?	Yes	X	No		Depth (inches):	15
Saturation present? (includes capillary fringe)	Yes	X	No		Depth (inches):	0

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: Hollydale Golf Course | City/County: Plymouth/Hennepin | Sampling Date: 08/14/2019

Applicant/Owner: See Joint Application Form | State: MN | Sampling Point: SP3-1U

Investigator(s): Kyle Uhler & Will Effertz | Section, Township, Range: S8 T118N R22W

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

Slope (%): 1 to 4 | Lat: | Long: | Datum:

Soil Map Unit Name: Hamel Consociation | NWI Classification: None

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

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

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

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

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

Is the sampled area within a wetland? N

If yes, optional wetland site ID:

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

30-day precipitation rolling total is within normal range. Precipitation from gridded database method is typical. Sample point is located within a mancured lawn within golf course.

VEGETATION -- Use scientific names of plants.

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

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

Herb stratum (Plot size: 5)			
1 *Poa Pratensis*	80	Y	FAC
2 *Trifolium repens*	20	Y	FACU
3			
4			
5			
6			
7			
8			
9			
10			
	100	= Total Cover	

Woody vine stratum (Plot size: 15)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

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

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

Percent of Dominant Species that are OBL, FACW, or FAC: 50.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	80	x 3 =	240
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column totals	100 (A)		320 (B)

Prevalence Index = B/A = 3.20

Hydrophytic Vegetation Indicators:

- ____ Rapid test for hydrophytic vegetation
- ____ Dominance test is >50%
- ____ Prevalence index is ≤3.0*
- ____ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- ____ Problematic hydrophytic vegetation* (explain)

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

Hydrophytic vegetation present? N

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

SOIL

Sampling Point: SP3-1U

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

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

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface water present?	Yes		No	X	Depth (inches):	
Water table present?	Yes	X	No		Depth (inches):	18
Saturation present? (includes capillary fringe)	Yes	X	No		Depth (inches):	18

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: Hollydale Golf Course | City/County: Plymouth/Hennepin | Sampling Date: 08/14/2019

Applicant/Owner: See Joint Application Form | State: MN | Sampling Point: SP3-1W

Investigator(s): Kyle Uhler & Will Effertz | Section, Township, Range: S8 T118N R22W

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

Slope (%): 0 to 3 | Lat: | Long: | Datum:

Soil Map Unit Name: Hamel Consociation | NWI Classification: PUBGx

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"

Are vegetation , soil , or hydrology naturally problematic? present? No

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	Y	**Is the sampled area within a wetland?**	Y
Hydric soil present?	Y	If yes, optional wetland site ID:	Wetland 3
Indicators of wetland hydrology present?	Y		

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

30-day precipitation rolling total is within normal range. Precipitation from gridded database method is typical. Sample point was on the edge of a mancured lawn within golf course.

VEGETATION -- Use scientific names of plants.

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

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

Herb stratum (Plot size: 5)			
1 *Lemna minor*	40	Y	OBL
2 *Persicaria amphibia*	30	Y	OBL
3 *Poa pratensis*	10	N	FAC
4			
5			
6			
7			
8			
9			
10			
	80	= Total Cover	

Woody vine stratum (Plot size: 15)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

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

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

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

Prevalence Index Worksheet

Total % Cover of:

OBL species	70	x 1 =	70
FACW species	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	80 (A)		100 (B)

Prevalence Index = B/A = 1.25

Hydrophytic Vegetation Indicators:

- Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- Problematic hydrophytic vegetation* (explain)

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

Hydrophytic vegetation present? Y

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

SOIL

Sampling Point: SP3-1W

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0 to 12	10YR 2/1	94	10YR 4/6	3	C	M	Loam	Mucky Surface
			10YR 4/1	3	D	M	Loam	
12 to 24	10YR 2/1	100					Clay Loam	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? Y

Remarks:

Likely Depleted below dark surface

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- X High Water Table (A2)
- X 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)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes		No	X	Depth (inches):	
Water table present?	Yes	X	No		Depth (inches):	5
Saturation present? (includes capillary fringe)	Yes	X	No		Depth (inches):	0

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: Hollydale Golf Course | City/County: Plymouth/Hennepin | Sampling Date: 08/14/2019

Applicant/Owner: See Joint Application Form | State: MN | Sampling Point: SP4-1U

Investigator(s): Kyle Uhler & Will Effertz | Section, Township, Range: S8 T118N R22W

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

Slope (%): 1 to 4 | Lat: | Long: | Datum:

Soil Map Unit Name: Cordova Consociation | NWI Classification: None

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

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

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

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	N
Hydric soil present?	N
Indicators of wetland hydrology present?	N

Is the sampled area within a wetland? N

If yes, optional wetland site ID:

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

30-day precipitation rolling total is within normal range. Precipitation from gridded database method is typical.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species	Indicator Staus
1			
2			
3			
4			
5			
	0	= Total Cover	
Sapling/Shrub stratur (Plot size: 15)			
1 *Rhamnus cathartica*	50	Y	FAC
2			
3			
4			
5			
	50	= Total Cover	
Herb stratum (Plot size: 5)			
1 *Solidago canadensis*	35	Y	FACU
2 *Parthenocissus quinquefolia*	20	Y	FACU
3			
4			
5			
6			
7			
8			
9			
10			
	55	= Total Cover	
Woody vine stratum (Plot size: 15)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

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

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

Percent of Dominant Species that are OBL, FACW, or FAC: 33.33% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	50	x 3 =	150
FACU species	55	x 4 =	220
UPL species	0	x 5 =	0
Column totals	105 (A)		370 (B)

Prevalence Index = B/A = 3.52

Hydrophytic Vegetation Indicators:

- ____ Rapid test for hydrophytic vegetation
- ____ Dominance test is >50%
- ____ Prevalence index is ≤3.0*
- ____ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- ____ Problematic hydrophytic vegetation* (explain)

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

Hydrophytic vegetation present? N

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

SOIL **Sampling Point:** SP4-1U

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0 to 8	10YR 2/2	100					Loam	
8 to 16	10YR 3/2	100					Clay Loam	
16 to 24	10YR 4/1	95	10YR 4/6	5	C	M	Clay Loam	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? N

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

Indicators of wetland hydrology present? N

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

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Hollydale Golf Course | City/County: Plymouth/Hennepin | Sampling Date: 08/14/2019

Applicant/Owner: See Joint Application Form | State: MN | Sampling Point: SP4-1W

Investigator(s): Kyle Uhler & Will Effertz | Section, Township, Range: S8 T118N R22W

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

Slope (%): 0 to 3 | Lat: | Long: | Datum:

Soil Map Unit Name: Minnetonka Consociation | NWI Classification: PUBGx

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

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

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

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	Y		
Hydric soil present?	Y	**Is the sampled area within a wetland?**	Y
Indicators of wetland hydrology present?	Y	If yes, optional wetland site ID:	Wetland 4

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

30-day precipitation rolling total is within normal range. Precipitation from gridded database method is typical. Sample point was on the edge of a mancured lawn within golf course.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species	Indicator Staus
1 *Acer negundo*	50	Y	FAC
2			
3			
4			
5			
	50	= Total Cover	

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

Herb stratum (Plot size: 5)			
1 *Typha x glauca*	40	Y	OBL
2 *Phalaris arundinacea*	30	Y	FACW
3			
4			
5			
6			
7			
8			
9			
10			
	70	= Total Cover	

Woody vine stratum (Plot size: 15)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

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

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

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

Prevalence Index Worksheet

Total % Cover of:

OBL species	40	x 1 =	40
FACW species	30	x 2 =	60
FAC species	50	x 3 =	150
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	120 (A)		250 (B)

Prevalence Index = B/A = 2.08

Hydrophytic Vegetation Indicators:

- ____ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- ____ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- ____ Problematic hydrophytic vegetation* (explain)

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

Hydrophytic vegetation present? Y

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

SOIL

Sampling Point: SP4-1W

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0 to 4	10YR 2/1						Loam	Mucky Surface
4 to 8	10YR 3/1	95	10YR 4/6	5	C	M	Loam	
8 to 16	10YR 7/1	80	10YR 6/6	20	C	M	Clay Loam	
16 to 24	N 7/	80	10YR 6/6	20	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)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- X High Water Table (A2)
- X 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)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes		No	X	Depth (inches):	
Water table present?	Yes	X	No		Depth (inches):	8
Saturation present? (includes capillary fringe)	Yes	X	No		Depth (inches):	0

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: Hollydale Golf Course | City/County: Plymouth/Hennepin | Sampling Date: 08/14/2019

Applicant/Owner: See Joint Application Form | State: MN | Sampling Point: SP5-1U

Investigator(s): Kyle Uhler & Will Effertz | Section, Township, Range: S8 T118N R22W

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

Slope (%): 1 to 4 | Lat: | Long: | Datum:

Soil Map Unit Name: Minnetonka Consociation | NWI Classification: None

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

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

Are vegetation ____, soil ____, or hydrology ____ naturally problematic? present? No

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

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

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

30-day precipitation rolling total is within normal range. Precipitation from gridded database method is typical. Sample point is located within a mancured lawn within golf course.

VEGETATION -- Use scientific names of plants.

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

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

Herb stratum (Plot size: 5)			
1 *Poa Pratensis*	75	Y	FAC
2 *Trifolium repens*	20	Y	FACU
3			
4			
5			
6			
7			
8			
9			
10			
	95	= Total Cover	

Woody vine stratum (Plot size: 15)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

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

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

Percent of Dominant Species that are OBL, FACW, or FAC: 50.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	75	x 3 =	225
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column totals	95 (A)		305 (B)

Prevalence Index = B/A = 3.21

Hydrophytic Vegetation Indicators:

- ____ Rapid test for hydrophytic vegetation
- ____ Dominance test is >50%
- ____ Prevalence index is ≤3.0*
- ____ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- ____ Problematic hydrophytic vegetation* (explain)

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

Hydrophytic vegetation present? N

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

SOIL

Sampling Point: SP5-1U

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0 to 14	10YR 2/1	100					Loam	
14 to 20	10YR 3/1	95	10YR 4/6	5	C	M	Clay Loam	
20 to 26	10YR 4/1	90	10YR 4/6	10	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)
- X Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

Indicators of wetland hydrology present? N

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

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Hollydale Golf Course | City/County: Plymouth/Hennepin | Sampling Date: 08/14/2019

Applicant/Owner: See Joint Application Form | State: MN | Sampling Point: SP5-1W

Investigator(s): Kyle Uhler & Will Effertz | Section, Township, Range: S8 T118N R22W

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

Slope (%): 0 to 3 | Lat: | Long: | Datum:

Soil Map Unit Name: Minnetonka Consociation | NWI Classification: None

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

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

Are vegetation , soil , or hydrology naturally problematic?

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	Y	**Is the sampled area within a wetland?**	Y
Hydric soil present?	Y	If yes, optional wetland site ID:	Wetland 5
Indicators of wetland hydrology present?	Y		

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

30-day precipitation rolling total is within normal range. Precipitation from gridded database method is typical. Sample point was within a mancured lawn within golf course.

VEGETATION -- Use scientific names of plants.

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

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

Herb stratum (Plot size: 5)			
1 *Poa pratensis*	100	Y	FAC
2			
3			
4			
5			
6			
7			
8			
9			
10			
	100	= Total Cover	

Woody vine stratum (Plot size: 15)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

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

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

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

Prevalence Index Worksheet

Total % Cover of:

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

Prevalence Index = B/A = 3.00

Hydrophytic Vegetation Indicators:

- Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- Problematic hydrophytic vegetation* (explain)

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

Hydrophytic vegetation present? Y

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

SOIL

Sampling Point: SP5-1W

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0 to 4	10YR 2/1	95	10YR 6/2	5	D	M	Loam	
4 to 18	10YR 2/1	95	10YR 6/2	5	D	M	Clay Loam	
18 to 24	10YR 6/1	85	10YR 6/6	15	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)
- X Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- X High Water Table (A2)
- X 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)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

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

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: Hollydale Golf Course | City/County: Plymouth/Hennepin | Sampling Date: 08/14/2019

Applicant/Owner: See Joint Application Form | State: MN | Sampling Point: SP6-1U

Investigator(s): Kyle Uhler & Will Effertz | Section, Township, Range: S8 T118N R22W

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

Slope (%): 1 to 2 | Lat: | Long: | Datum:

Soil Map Unit Name: Glencoe Consociation | NWI Classification: None

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

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

Are vegetation ____, soil ____, or hydrology ____ naturally problematic? present? No

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

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

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

30-day precipitation rolling total is within normal range. Precipitation from gridded database method is typical. Sample point is located within a mancured lawn within golf course.

VEGETATION -- Use scientific names of plants.

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

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

Herb stratum (Plot size: 5)			
1 *Poa Pratensis*	75	Y	FAC
2 *Trifolium repens*	15	N	FACU
3 *Taraxacum officinale*	5	N	FACU
4			
5			
6			
7			
8			
9			
10			
	95	= Total Cover	

Woody vine stratum (Plot size: 15)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

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

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

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

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	75	x 3 =	225
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column totals	95 (A)		305 (B)

Prevalence Index = B/A = 3.21

Hydrophytic Vegetation Indicators:

- ____ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- ____ Prevalence index is ≤3.0*
- ____ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- ____ Problematic hydrophytic vegetation* (explain)

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

Hydrophytic vegetation present? Y

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

SOIL

Sampling Point: SP6-1U

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0 to 14	10YR 3/1	97	10YR 4/6	3	C	M	Loam	
14 to 20	N 2.5/	100					Loam	
20 to 26	N 2.5/	100					Sapric Organic	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface water present?	Yes		No	X	Depth (inches):	
Water table present?	Yes	X	No		Depth (inches):	13
Saturation present? (includes capillary fringe)	Yes	X	No		Depth (inches):	13

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: Hollydale Golf Course | City/County: Plymouth/Hennepin | Sampling Date: 08/14/2019

Applicant/Owner: See Joint Application Form | State: MN | Sampling Point: SP6-1W

Investigator(s): Kyle Uhler & Will Effertz | Section, Township, Range: S8 T118N R22W

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

Slope (%): 0 to 3 | Lat: | Long: | Datum:

Soil Map Unit Name: Minnetonka Consociation | NWI Classification: None

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

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

Are vegetation , soil , or hydrology naturally problematic? present? No

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	N		
Hydric soil present?	Y	**Is the sampled area within a wetland?**	N
Indicators of wetland hydrology present?	Y	If yes, optional wetland site ID:	Wetland 6

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

30-day precipitation rolling total is within normal range. Precipitation from gridded database method is typical. Sample point was within a mancured lawn within golf course. Hydrology disturbed due to historic ditch.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species	Indicator Staus
1	50	Y	
2			
3			
4			
5			
	50 = Total Cover		
Sapling/Shrub stratum (Plot size: 15)			
1			
2			
3			
4			
5			
	0 = Total Cover		
Herb stratum (Plot size: 5)			
1 *Poa pratensis*	90	Y	FAC
2 *Trifolium repens*	10	N	FACU
3			
4			
5			
6			
7			
8			
9			
10			
	100 = Total Cover		
Woody vine stratum (Plot size: 15)			
1			
2			
	0 = Total Cover		

Dominance Test Worksheet

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

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

Percent of Dominant Species that are OBL, FACW, or FAC: 50.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	90	x 3 =	270
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column totals	100 (A)		310 (B)

Prevalence Index = B/A = 3.10

Hydrophytic Vegetation Indicators:

- Rapid test for hydrophytic vegetation
- Dominance test is >50%
- Prevalence index is ≤3.0*
- Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- Problematic hydrophytic vegetation* (explain)

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

Hydrophytic vegetation present? N

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

SOIL

Sampling Point: SP6-1W

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0 to 4	10YR 3/1	95	10YR 4/6	5	D	M	Loam	
4 to 11	10YR 4/1	95	10YR 4/6	5	D	M	Clay Loam	
11 to 26	10YR 3/2	100					Fibric Peat	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X 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)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes		No	X	Depth (inches):	
Water table present?	Yes	X	No		Depth (inches):	18
Saturation present? (includes capillary fringe)	Yes	X	No		Depth (inches):	11

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: Hollydale Golf Course | City/County: Plymouth/Hennepin | Sampling Date: 08/14/2019

Applicant/Owner: See Joint Application Form | State: MN | Sampling Point: SP6-2U

Investigator(s): Kyle Uhler & Will Effertz | Section, Township, Range: S8 T118N R22W

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

Slope (%): 1 to 3 | Lat: | Long: | Datum:

Soil Map Unit Name: Muskego Consociation | NWI Classification: None

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

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

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

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

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

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

30-day precipitation rolling total is within normal range. Precipitation from gridded database method is typical. Sample point is located within a mancured lawn within golf course.

VEGETATION -- Use scientific names of plants.

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

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

Herb stratum (Plot size: 5)			
1 *Poa Pratensis*	80	Y	FAC
2 *Trifolium repens*	10	N	FACU
3 *Taraxacum officinale*	5	N	FACU
4			
5			
6			
7			
8			
9			
10			
	95	= Total Cover	

Woody vine stratum (Plot size: 15)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

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

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

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

Prevalence Index Worksheet

Total % Cover of:			
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	80	x 3 =	240
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column totals	95 (A)		300 (B)

Prevalence Index = B/A = 3.16

Hydrophytic Vegetation Indicators:

- ____ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- ____ Prevalence index is ≤3.0*
- ____ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- ____ Problematic hydrophytic vegetation* (explain)

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

Hydrophytic vegetation present? Y

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

SOIL **Sampling Point:** SP6-2U

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0 to 12	10YR 2/1	100					Loam	
12 to16	N 2.5/	100					Loam	
16 to 28	N 2.5/	100					Sapric Organic	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? Y

Remarks:

Likely Depleted Below Dark Surface.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

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: Hollydale Golf Course | City/County: Plymouth/Hennepin | Sampling Date: 08/14/2019

Applicant/Owner: See Joint Application Form | State: MN | Sampling Point: SP6-2W

Investigator(s): Kyle Uhler & Will Effertz | Section, Township, Range: S8 T118N R22W

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

Slope (%): 0 to 3 | Lat: | Long: | Datum:

Soil Map Unit Name: Minnetonka Consociation | NWI Classification: PSS1Ad

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 X significantly disturbed? Are "normal circumstances" present? Yes

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

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	Y		
Hydric soil present?	Y	**Is the sampled area within a wetland?**	Y
Indicators of wetland hydrology present?	Y	If yes, optional wetland site ID:	Wetland 6

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

30-day precipitation rolling total is within normal range. Precipitation from gridded database method is typical. Hydrology disturbed due to historic ditch, however normal circumstances were present.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species	Indicator Staus
1 *Salix nigra*	30	Y	OBL
2			
3			
4			
5			
	30 = Total Cover		

Sapling/Shrub stratun (Plot size: 15)			
1 *Frangula alnus*	20	Y	FACW
2			
3			
4			
5			
	20 = Total Cover		

Herb stratum (Plot size: 5)			
1 *Impatiens capensis*	25	Y	FACW
2 *Persicaria sagittata*	15	Y	OBL
3			
4			
5			
6			
7			
8			
9			
10			
	40 = Total Cover		

Woody vine stratum (Plot size: 15)			
1			
2			
	0 = Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

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

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

Prevalence Index Worksheet

Total % Cover of:			
OBL species	45	x 1 =	45
FACW species	45	x 2 =	90
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	90 (A)		135 (B)

Prevalence Index = B/A = 1.50

Hydrophytic Vegetation Indicators:

- ____ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- ____ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- ____ Problematic hydrophytic vegetation* (explain)

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

Hydrophytic vegetation present? Y

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

SOIL

Sampling Point: SP6-2W

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0 to 18	10YR 2/1						Loam	
18 to 23	10YR 3/1	97	10YR 4/6	3	C	M	Loam	
11 to 26	10YR 4/1	95	10YR 4/6	5	C	M	Loam	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X 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)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes		No	X	Depth (inches):	
Water table present?	Yes	X	No		Depth (inches):	20
Saturation present? (includes capillary fringe)	Yes	X	No		Depth (inches):	11

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: Hollydale Golf Course | City/County: Plymouth/Hennepin | Sampling Date: 08/14/2019

Applicant/Owner: See Joint Application Form | State: MN | Sampling Point: SP7-1U

Investigator(s): Kyle Uhler & Will Effertz | Section, Township, Range: S8 T118N R22W

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

Slope (%): 1 to 3 | Lat: | Long: | Datum:

Soil Map Unit Name: Klossner Consociation | NWI Classification: None

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

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

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

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

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

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

30-day precipitation rolling total is within normal range. Precipitation from gridded database method is typical. Sample point is located within a mancured lawn within golf course.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species	Indicator Staus
1 *Picea pungens*			NI
2			
3			
4			
5			
	0	= Total Cover	
Sapling/Shrub stratur (Plot size: 15)			
1			
2			
3			
4			
5			
	0	= Total Cover	
Herb stratum (Plot size: 5)			
1 *Poa Pratensis*	80	Y	FAC
2 *Trifolium repens*	20	N	FACU
3 *Plantago major*	20	N	FAC
4			
5			
6			
7			
8			
9			
10			
	120	= Total Cover	
Woody vine stratum (Plot size: 15)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

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

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

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

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	100	x 3 =	300
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column totals	120 (A)		380 (B)

Prevalence Index = B/A = 3.17

Hydrophytic Vegetation Indicators:

- ____ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- ____ Prevalence index is ≤3.0*
- ____ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- ____ Problematic hydrophytic vegetation* (explain)

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

Hydrophytic vegetation present? Y

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

SOIL

Sampling Point: SP7-1U

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0 to 20	10YR 2/1	100					Loam	
12 to16	10YR 3/1	97	10YR 4/6	5	C	M	Clay Loam	
16 to 28	10YR 4/1	97	10YR 4/6	5	C	M	Clay Loam	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

Indicators of wetland hydrology present? N

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

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Hollydale Golf Course | City/County: Plymouth/Hennepin | Sampling Date: 08/14/2019

Applicant/Owner: See Joint Application Form | State: MN | Sampling Point: SP7-1W

Investigator(s): Kyle Uhler & Will Effertz | Section, Township, Range: S8 T118N R22W

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

Slope (%): 0 to 3 | Lat: | Long: | Datum:

Soil Map Unit Name: Klossner Consociation | NWI Classification: PUBGx

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"

Are vegetation , soil , or hydrology naturally problematic? present? No

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	Y		
Hydric soil present?	Y	**Is the sampled area within a wetland?**	Y
Indicators of wetland hydrology present?	Y	If yes, optional wetland site ID:	Wetland 7

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

30-day precipitation rolling total is within normal range. Precipitation from gridded database method is typical. Sample point was on the edge of a mancured lawn within golf course.

VEGETATION -- Use scientific names of plants.

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

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

Herb stratum (Plot size: 5)			
1 *Poa pratensis*	80	Y	FAC
2 *Persicaria amphibia*	5	N	OBL
3			
4			
5			
6			
7			
8			
9			
10			
	85	= Total Cover	

Woody vine stratum (Plot size: 15)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

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

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

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

Prevalence Index Worksheet

Total % Cover of:

OBL species	5	x 1 =	5
FACW species	0	x 2 =	0
FAC species	80	x 3 =	240
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	85 (A)		245 (B)

Prevalence Index = B/A = 2.88

Hydrophytic Vegetation Indicators:

- Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- Problematic hydrophytic vegetation* (explain)

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

Hydrophytic vegetation present? Y

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

SOIL **Sampling Point:** SP7-1W

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

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

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? Y

Remarks:

Likely Depleted below dark surface

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- X High Water Table (A2)
- X 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)
- X Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes		No	X	Depth (inches):	
Water table present?	Yes	X	No		Depth (inches):	8
Saturation present? (includes capillary fringe)	Yes	X	No		Depth (inches):	1

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: Hollydale Golf Course | City/County: Plymouth/Hennepin | Sampling Date: 08/14/2019

Applicant/Owner: See Joint Application Form | State: MN | Sampling Point: SP8-1U

Investigator(s): Kyle Uhler & Will Effertz | Section, Township, Range: S8 T118N R22W

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

Slope (%): 1 to 3 | Lat: | Long: | Datum:

Soil Map Unit Name: Nessel Consociation | NWI Classification: None

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

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

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

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

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

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

30-day precipitation rolling total is within normal range. Precipitation from gridded database method is typical. Sample point is located within a mancured lawn within golf course.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species	Indicator Staus
1 *Picea pungens*			NI
2			
3			
4			
5			
	0	= Total Cover	

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

Herb stratum (Plot size: 5)			
1 *Poa Pratensis*	80	Y	FAC
2 *Trifolium repens*	20	Y	FACU
3			
4			
5			
6			
7			
8			
9			
10			
	100	= Total Cover	

Woody vine stratum (Plot size: 15)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

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

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

Percent of Dominant Species that are OBL, FACW, or FAC: 50.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	80	x 3 =	240
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column totals	100 (A)		320 (B)

Prevalence Index = B/A = 3.20

Hydrophytic Vegetation Indicators:

- ____ Rapid test for hydrophytic vegetation
- ____ Dominance test is >50%
- ____ Prevalence index is ≤3.0*
- ____ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- ____ Problematic hydrophytic vegetation* (explain)

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

Hydrophytic vegetation present? N

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

SOIL **Sampling Point:** SP8-1U

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0 to 14	10YR 2/1	100					Loam	
14 to 22	10YR 3/1	97	10YR 4/6	5	C	M	Clay Loam	
22 to 28	10YR 4/1	97	10YR 4/6	5	C	M	Clay Loam	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

Indicators of wetland hydrology present? N

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

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Hollydale Golf Course | City/County: Plymouth/Hennepin | Sampling Date: 08/14/2019

Applicant/Owner: See Joint Application Form | State: MN | Sampling Point: SP8-1W

Investigator(s): Kyle Uhler & Will Effertz | Section, Township, Range: S8 T118N R22W

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

Slope (%): 0 to 3 | Lat: | Long: | Datum:

Soil Map Unit Name: Nessel Consociation | NWI Classification: PUBGx

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"

Are vegetation , soil , or hydrology naturally problematic? present? No

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	Y		
Hydric soil present?	Y	**Is the sampled area within a wetland?**	Y
Indicators of wetland hydrology present?	Y	If yes, optional wetland site ID:	Wetland 8

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

30-day precipitation rolling total is within normal range. Precipitation from gridded database method is typical. Sample point was on the edge of a mancured lawn within golf course.

VEGETATION -- Use scientific names of plants.

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

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

Herb stratum (Plot size: 5)			
1 *Poa pratensis*	80	Y	FAC
2 *lemna minor*	25	Y	OBL
3			
4			
5			
6			
7			
8			
9			
10			
	105	= Total Cover	

Woody vine stratum (Plot size: 15)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

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

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

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

Prevalence Index Worksheet

Total % Cover of:

OBL species	25	x 1 =	25
FACW species	0	x 2 =	0
FAC species	80	x 3 =	240
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	105 (A)		265 (B)

Prevalence Index = B/A = 2.52

Hydrophytic Vegetation Indicators:

- Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- Problematic hydrophytic vegetation* (explain)

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

Hydrophytic vegetation present? Y

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

Sampling Point: SP8-1W

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0 to 4	10YR 2/1	100					Mucky Loam	
4 to 10	10YR 4/1	55	5GY 5/1	30	D	M	Clay Loam	
			10YR 4/6	15	C	M	Clay Loam	
10 to 16	10YR 5/1	70	5GY 5/1	15	D	M	Clay Loam	
			10YR 4/6	15	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)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- X Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- X High Water Table (A2)
- X 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)
- X Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes		No	X	Depth (inches):	
Water table present?	Yes	X	No		Depth (inches):	4
Saturation present? (includes capillary fringe)	Yes	X	No		Depth (inches):	0

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: Hollydale Golf Course | City/County: Plymouth/Hennepin | Sampling Date: 08/14/2019

Applicant/Owner: See Joint Application Form | State: MN | Sampling Point: SP9-1U

Investigator(s): Kyle Uhler & Will Effertz | Section, Township, Range: S8 T118N R22W

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

Slope (%): 1 to 3 | Lat: | Long: | Datum:

Soil Map Unit Name: Minnetonka Consociation | NWI Classification: None

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

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

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

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

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

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

30-day precipitation rolling total is within normal range. Precipitation from gridded database method is typical. Sample point is located within a mancured lawn within golf course.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species	Indicator Staus
1 *Picea pungens*			NI
2			
3			
4			
5			
	0	= Total Cover	
Sapling/Shrub stratur (Plot size: 15)			
1			
2			
3			
4			
5			
	0	= Total Cover	
Herb stratum (Plot size: 5)			
1 *Poa Pratensis*	60	Y	FAC
2 *Trifolium repens*	40	Y	FACU
3			
4			
5			
6			
7			
8			
9			
10			
	100	= Total Cover	
Woody vine stratum (Plot size: 15)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

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

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

Percent of Dominant Species that are OBL, FACW, or FAC: 50.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	60	x 3 =	180
FACU species	40	x 4 =	160
UPL species	0	x 5 =	0
Column totals	100 (A)		340 (B)

Prevalence Index = B/A = 3.40

Hydrophytic Vegetation Indicators:

- ____ Rapid test for hydrophytic vegetation
- ____ Dominance test is >50%
- ____ Prevalence index is ≤3.0*
- ____ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- ____ Problematic hydrophytic vegetation* (explain)

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

Hydrophytic vegetation present? N

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

SOIL **Sampling Point:** SP9-1U

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0 to 12	10YR 2/2	100					Loam	
12 to 19	10YR 2/1	100					Clay Loam	
19 to 26	10YR 3/1	95	10YR 4/6	5	C	M	Clay Loam	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? N

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

Indicators of wetland hydrology present? N

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

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Hollydale Golf Course | City/County: Plymouth/Hennepin | Sampling Date: 08/14/2019

Applicant/Owner: See Joint Application Form | State: MN | Sampling Point: SP9-1W

Investigator(s): Kyle Uhler & Will Effertz | Section, Township, Range: S8 T118N R22W

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

Slope (%): 0 to 3 | Lat: | Long: | Datum:

Soil Map Unit Name: Minnetonka Consociation | NWI Classification: PUBGx

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"

Are vegetation , soil , or hydrology naturally problematic? present? No

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	Y		
Hydric soil present?	Y	**Is the sampled area within a wetland?**	Y
Indicators of wetland hydrology present?	Y	If yes, optional wetland site ID:	Wetland 9

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

30-day precipitation rolling total is within normal range. Precipitation from gridded database method is typical. Sample point was on the edge of a mancured lawn within golf course.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species	Indicator Staus
1 *Salix nigra*	50	Y	OBL
2			
3			
4			
5			
	50	= Total Cover	

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

Herb stratum (Plot size: 5)			
1 *Poa pratensis*	80	Y	FAC
2 *Persicaria amphibia*	15	N	OBL
3			
4			
5			
6			
7			
8			
9			
10			
	95	= Total Cover	

Woody vine stratum (Plot size: 15)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

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

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

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

Prevalence Index Worksheet

Total % Cover of:

OBL species	65	x 1 =	65
FACW species	0	x 2 =	0
FAC species	80	x 3 =	240
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	145 (A)		305 (B)

Prevalence Index = B/A = 2.10

Hydrophytic Vegetation Indicators:

- Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- Problematic hydrophytic vegetation* (explain)

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

Hydrophytic vegetation present? Y

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

Sampling Point: SP9-1W

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0 to 10	10YR 2/1	100					Mucky Loam	
10 o 18	10YR 2/1	100					Clay Loam	
18 to 24	10 YR 3/1	90	10YR 4/6	10	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)
- X Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? Y

Remarks:

Likely Depleted below dark surface

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- X High Water Table (A2)
- X 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)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes		No	X	Depth (inches):	
Water table present?	Yes	X	No		Depth (inches):	4
Saturation present? (includes capillary fringe)	Yes	X	No		Depth (inches):	0

Indicators of wetland hydrology present? Y

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

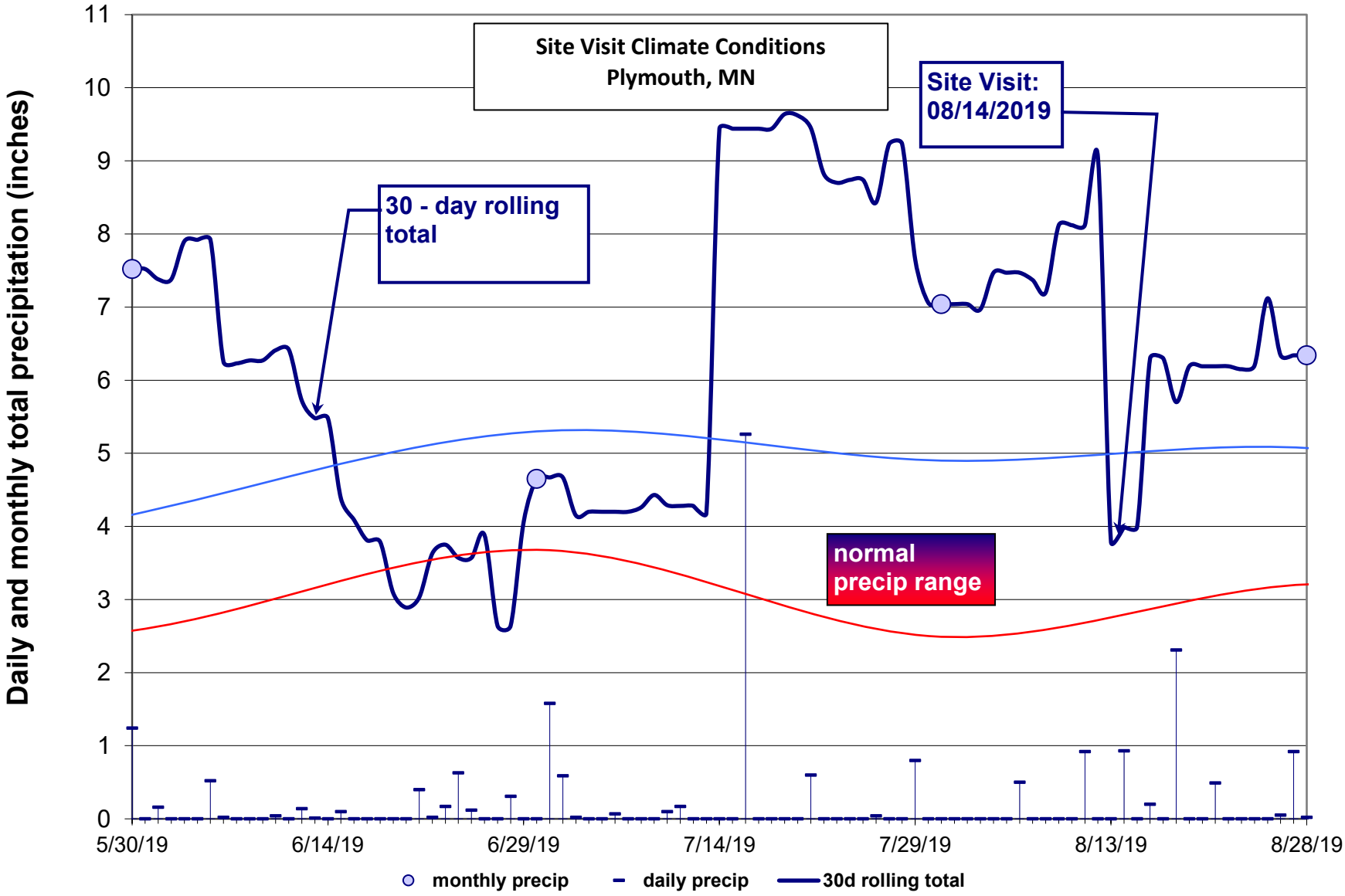
Remarks:

Hollydale Golf Course

Wetland Delineation Report

APPENDIX C

Precipitation Data


Site Visit Climate Conditions
Plymouth, MN
Site Visit:
08/14/2019
30 - day rolling
total
normal
precip range
Daily and monthly total precipitation (inches)
11
10
9
8
7
6
5
4
3
2
1
0
5/30/19
6/14/19
6/29/19
7/14/19
7/29/19
8/13/19
8/28/19
monthly precip
daily precip
30d rolling total

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

Monthly Totals: 2019

Target: 118N 22W S8 (latitude: 45.04362 longitude: 93.49205)

```
mon year  cc tttN rrW ss nnnn ooooooo   pre (inches)
```

May/June/July/August Daily Records

```
Jan 2019  27 118N 21W 20  NWS NEW HOPE   .46
Feb 2019  27 118N 21W 20  NWS NEW HOPE  2.39
Mar 2019  27 118N 21W 20  NWS NEW HOPE  2.42
Apr 2019  27 119N 22W 31 BYRG           3.16
May 2019  27 119N 22W 31 BYRG           7.83
Jun 2019  27 119N 22W 31 BYRG           2.64
Jul 2019  27 119N 22W 31 BYRG           9.23
Aug 2019  27 119N 21W 31 BYRG           6.34
```

May 1, 2019 .43	Jun 1, 2019 .16	Jul 1, 2019 1.58	Aug 1, 2019 0
May 2, 2019 .04	Jun 2, 2019 0	Jul 2, 2019 .59	Aug 2, 2019 0
May 3, 2019 0	Jun 3, 2019 0	Jul 3, 2019 .02	Aug 3, 2019 0
May 4, 2019 .14	Jun 4, 2019 0	Jul 4, 2019 0	Aug 4, 2019 0
May 5, 2019 T	Jun 5, 2019 .52	Jul 5, 2019 -	Aug 5, 2019 0
May 6, 2019 0	Jun 6, 2019 .02	Jul 6, 2019 .07	Aug 6, 2019 .50
May 7, 2019 0	Jun 7, 2019 0	Jul 7, 2019 T	Aug 7, 2019 0
May 8, 2019 0	Jun 8, 2019 0	Jul 8, 2019 0	Aug 8, 2019 0
May 9, 2019 1.67	Jun 9, 2019 0	Jul 9, 2019 0	Aug 9, 2019 0
May 10, 2019 .02	Jun 10, 2019 .04	Jul 10, 2019 .10	Aug 10, 2019 0
May 11, 2019 0	Jun 11, 2019 0	Jul 11, 2019 .17	Aug 11, 2019 .92
May 12, 2019 T	Jun 12, 2019 .14	Jul 12, 2019 0	Aug 12, 2019 0
May 13, 2019 0	Jun 13, 2019 .01	Jul 13, 2019 0	Aug 13, 2019 0
May 14, 2019 0	Jun 14, 2019 0	Jul 14, 2019 0	Aug 14, 2019 .93
May 15, 2019 .70	Jun 15, 2019 .10	Jul 15, 2019 0	Aug 15, 2019 0
May 16, 2019 .34	Jun 16, 2019 T	Jul 16, 2019 5.26	Aug 16, 2019 .20
May 17, 2019 0	Jun 17, 2019 T	Jul 17, 2019 0	Aug 17, 2019 0
May 18, 2019 1.10	Jun 18, 2019 0	Jul 18, 2019 0	Aug 18, 2019 2.31
May 19, 2019 .29	Jun 19, 2019 0	Jul 19, 2019 0	Aug 19, 2019 0
May 20, 2019 .28	Jun 20, 2019 0	Jul 20, 2019 0	Aug 20, 2019 0
May 21, 2019 .02	Jun 21, 2019 .40	Jul 21, 2019 .60	Aug 21, 2019 .49
May 22, 2019 1.10	Jun 22, 2019 .02	Jul 22, 2019 0	Aug 22, 2019 0
May 23, 2019 .22	Jun 23, 2019 .17	Jul 23, 2019 0	Aug 23, 2019 0
May 24, 2019 .03	Jun 24, 2019 .63	Jul 24, 2019 0	Aug 24, 2019 0
May 25, 2019 .03	Jun 25, 2019 .12	Jul 25, 2019 0	Aug 25, 2019 0
May 26, 2019 0	Jun 26, 2019 0	Jul 26, 2019 .04	Aug 26, 2019 .05
May 27, 2019 .18	Jun 27, 2019 0	Jul 27, 2019 0	Aug 27, 2019 .92
May 28, 2019 -	Jun 28, 2019 .31	Jul 28, 2019 0	Aug 28, 2019 .02
May 29, 2019 -	Jun 29, 2019 -	Jul 29, 2019 .80	Aug 29, 2019 0
May 30, 2019 1.24	Jun 30, 2019 -	Jul 30, 2019 0	Aug 30, 2019 0
May 31, 2019 0		Jul 31, 2019 0	

1981-2010 Summary Statistics

	Jan	*Feb*	*Mar*	*Apr*	*May*	*Jun*	*Jul*	*Aug*	*Sep*	*Oct*	*Nov*	*Dec*	*WARM*	*ANN*	*WAT*
30%	0.47	0.41	1.24	1.94	2.60	3.68	2.49	3.21	1.99	1.29	1.06	0.64	16.25	26.93	27.02
70%	0.92	0.89	1.91	2.89	4.20	5.30	4.90	5.03	3.70	3.23	2.00	1.44	21.22	33.19	33.74
mean	0.78	0.75	1.73	2.66	3.51	4.42	4.08	4.12	3.34	2.44	1.65	1.12	19.47	30.60	30.41

Minnesota State Climatology Office

Precipitation Worksheet Using Gridded Database

Precipitation data for target wetland location:
county: **Hennepin** township number: **118N**
township name: **Plymouth** range number: **22W**
nearest community: **Hamel** section number: **8**

Aerial photograph or site visit date:
Wednesday, August 14, 2019

Score using 1981-2010 normal period

values are in inches A 'R' following a monthly total indicates a provisional value derived from radar-based estimates.	first prior month: **July 2019**	second prior month: **June 2019**	third prior month: **May 2019**
estimated precipitation total for this location:	**8.57R**	**2.59R**	**7.74R**
there is a 30% chance this location will have less than:	2.49	3.68	2.60
there is a 30% chance this location will have more than:	4.90	5.30	4.20
type of month: dry normal wet	**wet**	**dry**	**wet**
monthly score	**3 * 3 = 9**	**2 * 1 = 2**	**1 * 3 = 3**
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	**14 (Normal)**		

Other Resources:

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

Minnesota Wetland Conservation Act
Notice of Application

Local Government Unit (LGU)	Address
City of Plymouth	**3400 Plymouth Blvd** **Plymouth, MN 55447**

1. PROJECT INFORMATION

Applicant Name	Project Name	Date of Application	Application Number
Xcel Energy	**Hollydale Distribution Project Wetland**	**10/25/2019**	**2019-15**

Type of Application (check all that apply):

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

☐ Replacement Plan ☐ Banking Plan

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

The Hollydale Distrubition Project site is located at 3940 County Road No 101 in Plymouth, MN. The Xcel Energy Right of Way (ROW) 0.3 miles and the historically disturbed land that totals 3.65 acres was investigated by Cardno on July 25th, 2019 for the presence and extent of wetlands. The property is located in Section 18. Township 118 North, Range 22 West, City of Plymouth, Hennepin County. The site is situated to the east of County Road 101, north of 38th Avenue North, south of 40th Avenue North and west of State Highway 55.

Two wetland complexes totaling 1.03 acres (44,773 square feet) were delineated within the existing Xcel Energy Right of Way. Approximatly 0.98 acres of Shallow Marsh community was identified. The vegetation in the shallow marsh was dominiated by narrow leaved cattail. Non-dominant vegetation observed included jewelweed and reed canary grass. Approximately 0.05 acres (1,960 square feet) of Fresh (Wet) Meadow (degraded) was also identieid within the site. The vegetation in the fresh wet meadow was dominated by reed canary grass and narrow-leaved cattail. There was no non-dominat vegetation observed.

The comment period closes on November 19th, 2019.

2. APPLICATION REVIEW AND DECISION

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

Name and Title of LGU Contact Person	Comments must be received by (minimum 15 business-day comment period):
Ben Scharenbroich **Interim Water Resources Manager**	**November 19, 2019**
Address (if different than LGU) **3400 Plymouth Blvd** **Plymouth, MN 55447**	Date, time, and location of decision: **November 20, 2019**
Phone Number and E-mail Address	Decision-maker for this application:

763-509-5527 **bscharenbroich@plymouthmn.gov**	☒ Staff ☐ Governing Board or Council

Signature: _____ **Date:** 10/28/2019

3. LIST OF ADDRESSEES

☒ SWCD TEP member: **Ms. Stacey Lijewski, HCD, 701 Fourth Avenue South, Suite 700, Minneapolis, MN 55415-1600 (sent electronically)**

☒ BWSR TEP member: **Ben Carlson, BWSR 520 Lafayette Road North, St. Paul, MN 55401 (sent electronically)**
☒ LGU TEP member (if different than LGU Contact): **Ben Scharenbroich, City of Plymouth, 3400 Plymouth Blvd, Plymouth, MN 55447 (sent electronically)**
☒ DNR TEP member: **Leslie Parris, MnDNR, 1200 Warner Road, St. Paul, MN 55106 (sent electronically)**
☐ DNR Regional Office (if different than DNR TEP member)
☐ WD or WMO (if applicable): **BCWMC, c/o Laura Jester, 16145 Hillcrest Lane, Eden Prairie, MN 55346 (sent electronically)**
☒ Applicant (notice only) and Landowner (if different)
☒ Members of the public who requested notice (notice only):
Xcel Energy, c/o Ellen Heine 414 Nicollet Mall, 414-6A, Minneapolis, MN 55401
Cardno, Inc. c/o Dan Salas, 6130 West Cottonwood Drive, Fitchburg, WI 53719

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

4. MAILING INFORMATION

➢For a list of BWSR TEP representatives: www.bwsr.state.mn.us/contact/WCA_areas.pdf

➢For a list of DNR TEP representatives: www.bwsr.state.mn.us/wetlands/wca/DNR_TEP_contacts.pdf

➢Department of Natural Resources Regional Offices:

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

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

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

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

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

5. ATTACHMENTS

In addition to the application, list any other attachments:

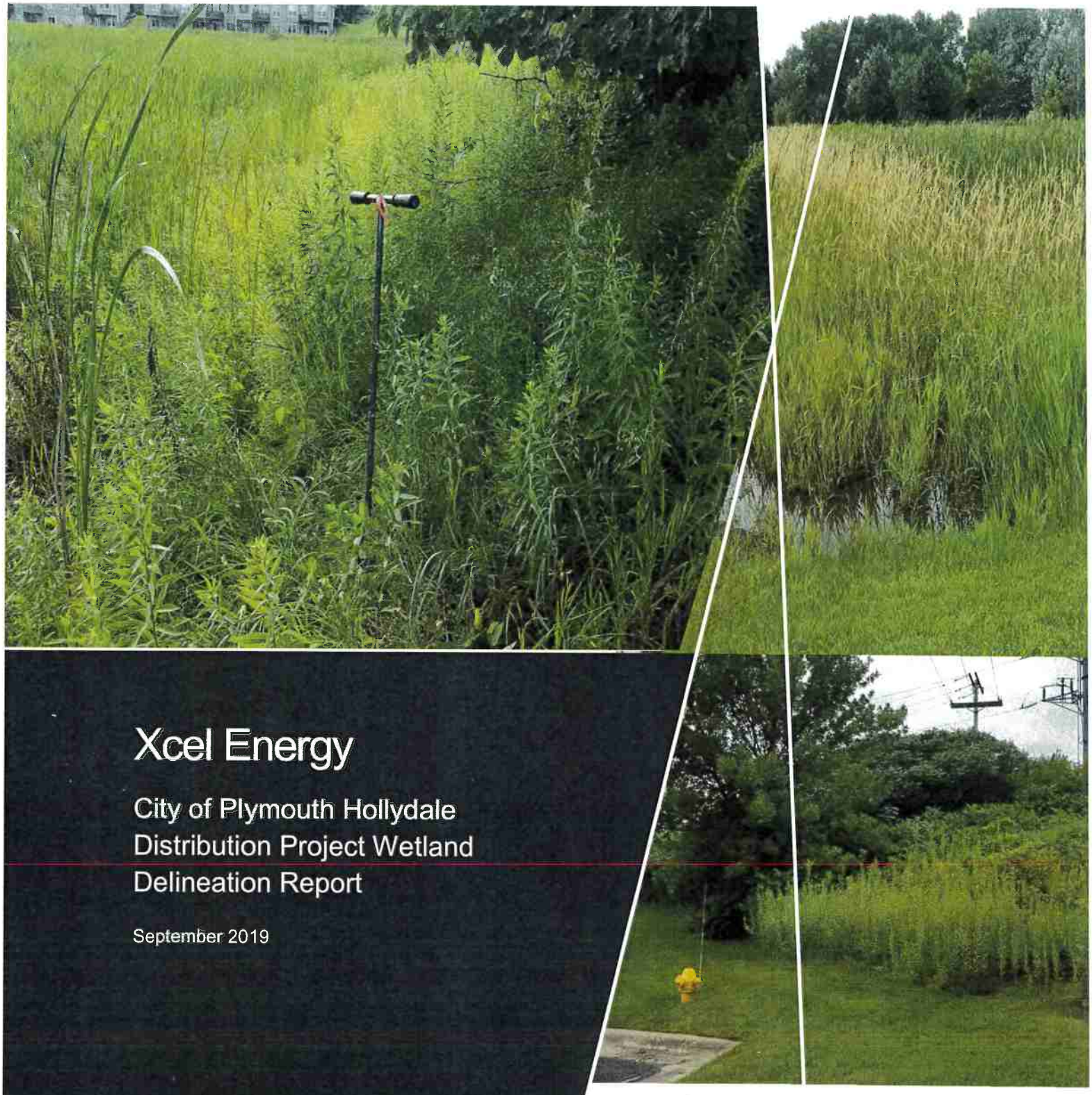
☒ **Xcel Energy - City of Plymouth Hollydale Distribution Project Wetland Delineation Report - September 2019**

☒ **Joint Application Form for Activities Affecting Water Resources in Minnesota**

☐

☐

☐



Xcel Energy

City of Plymouth Hollydale Distribution Project Wetland Delineation Report

September 2019

Cardno®

Document Information

Prepared for	Xcel Energy
Project Name	City of Plymouth Hollydale Distribution Project Wetland Delineation Report
Xcel Project #	4500390136
Cardno Project #	J153001M13
Project Manager	Dan Salas, Cardno
Date	September 2019

Prepared for:

Xcel Energy®
RESPONSIBLE BY NATURE®

8701 Monticello Lane N, Maple Grove, MN 55369-4550

Prepared by:

Cardno

Cardno, Inc.
6130 West Cottonwood Drive, Fitchburg, WI 53719 USA

Table of Contents

Tables

Appendices

Figures

1 Introduction

Cardno was contracted by Xcel Energy to complete a wetland delineation and classification of wetland resources between Lawndale Ln N and Highway 55, then paralleling HWY 55 in Hennepin County, Minnesota. The surveys included approximately 0.3 miles of Xcel Energy right-of-way (ROW) and historically disturbed land that total approximately 3.65 acres. The survey area is depicted with the associated delineation boundaries (survey area) in Figures 1-5.

Based on field investigations conducted by Cardno on July 25, 2019, and desktop review of related resource maps, it is our professional opinion that two wetland complexes, totaling 1.03 acres (44,773 square feet) are located within the existing Plymouth ROW survey area. No waterbodies or waterways were identified within or immediately adjacent to the survey area.

This report has been compiled by the following staff that are trained and experienced in delineation methodologies and applicable regulations:

- **Will Taylor – Project Scientist; Field Lead:** Will has worked in the field of wetland restoration and ecology with Cardno for the past 7 years and has been leading wetland delineations, habitat surveys, and wildlife surveys for Cardno for the past 5 years throughout the Upper Midwest. He holds a Bachelor of Science degree in Biological Aspects of Conservation from the University of Wisconsin – Madison. Other related training and experience includes completion of the WDNR and USACE basic wetland delineation training, NRCS hydric soils identification training, NASECA erosion control inspection training courses, and multiple plant and wildlife identification and survey technique certificates. Will is responsible for wetland delineations, wildlife and habitat surveys, landscape restoration and planning, project management, report writing, habitat management planning, and construction permitting and oversight.

- **Shannon McClusky - Staff Ecologist;** Shannon has over 4 years of experience working in the field of restoration and ecology, including 2 years as a restoration technician for Cardno. She holds a Bachelor's of Science in Environmental Studies from the University of Wisconsin-Oshkosh. Currently, Shannon's job responsibilities include assistance in field surveys efforts including wetland delineations, stream surveys, threatened and endangered species and habitat, report writing, permitting, and environmental monitoring for a variety of linear corridor projects.

- **Michael Smith – GIS Analyst:** Michael has over 5 years of experience in ecology and conservation biology, including four years applying his GIS expertise in the natural resources field. He holds a Bachelor of Science in Conservation Biology, a certificate in Environmental Studies, and a graduate-level certification in GIS, all from the University of Wisconsin-Madison. His experiences range from field and laboratory work to data management, GIS analysis, process development, cartography, data visualization and aerial imagery interpretation. He has experience developing wetland and water data layers for consumer mapping applications. Since joining Cardno, Michael provides GIS support to a variety of projects by conducting spatial analysis, managing data, and maintaining web maps. He is also responsible for creating project deliverables including figures, maps, and tables from data collected in the field.

2 Methods

Cardno conducted a field wetland determination and delineation on July 25, 2019 to identify wetland and waterway limits within the survey area provided by Xcel Energy. Prior to the field investigation, Cardno conducted a desktop review to determine the likelihood and potential location of wetlands and waterways. Sources reviewed include:

- United States Geological Survey (USGS) Topographical Map (Figure 2)
- USDA-NRCS Web Soil Survey Database for Hennepin, MN (Figure 3)
- National Wetland Inventory (NWI) Mapping (Figure 4)
- Hennepin County Wetland Inventory (Figure 5)

These maps display wetland indicators, including hydrology and hydric soil units, within the survey area. Locations that exhibited wetland signatures from aerial imagery review were further reviewed in the field to make a final determination on wetland limits. The sole use of any of these maps to make wetland determinations is not acceptable to the regulating agencies.

The delineation of wetlands and waterways was based on the methodology described in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region* Version 2.0 (Environmental Laboratory, 2010) as required by current policy.

2.1 Survey Method

During site reconnaissance, Cardno walked the extent of the survey area with the specific intent of determining wetland and waterway limits. Data points were collected within and near potential wetland areas to document soil characteristics, evidence of hydrology, and vegetation. Wetland ditch systems that were connected through culverted access drives and contained like communities were typically grouped with a representative pair of data points.

Cardno crews surveyed all data point locations and wetland boundaries using GPS technology. Data collection settings for the GPS units use available satellites, including two DGPS (Differential Global Positioning System) satellites, to capture location data. Cardno's GPS units acquire multiple readings per data point and use the Wide Area Augmentation System (WAAS) satellite readings to increase accuracy, usually to sub-meter. While Cardno's GPS surveys provide reasonably spatial accuracy, they do not provide the same accuracy as a professional land survey.

2.2 Naming Protocol

Feature naming for spatial data collected in field followed the following conventions:

- DP-xx = Data Point (may also include photos)
- PP-xx = Photo Point
- W-xx = Wetland

2.3 Site Photographs

Representative site photographs were taken at wetland and upland sample point locations as well as for general documentation throughout the survey area and are included in Appendix A. These photographs represent site conditions at the time of field delineation.

2.4 Delineation Data Sheets

The USACE Midwest Region routine wetland delineation data sheets used in the wetland delineation process are included in Appendix B. These forms are the written documentation of how representative data point locations meet or do not meet each of the wetland criteria. Plant species nomenclature follows the 2016 National Wetland Plant List (Lichvar et al., 2016). Soils were identified using the methods outlined in the *USDA NRCS Field Indicators of Hydric Soils in the United States, Version 8.1* (USDA-NRCS 2017). Wetland communities follow the naming conventions described by Eggers and Reed (1997).

3 Results and Discussion

3.1 Desktop Review

3.1.1 Recent Climatic Conditions and Precipitation Data

Recent precipitation data was compared with historic precipitation data from a 47-year dataset (1971-2018) from a nearby weather station (Minneapolis-St. Paul International Airport, MN) to determine if normal hydrologic and climatic conditions were present on-site during the delineation. When compared to the WETS Station data, the observed precipitation data from three months prior to the delineation indicated normal precipitation conditions at the time of the delineation. The antecedent hydrologic condition analysis is provided below:

		Long-term rainfall records (1971 - 2018)							
WETS Station: Minneapolis-St. Paul International Airport, MN	Month	<30%	Mean	>30%	Actual	Condition	Condition Value	Month Weight Value	Condition Value X Month Weight
3rd Prior Month	May	2.45	3.54	4.22	6.68	Wet	3	1	3
2nd Prior Month	June	3.01	4.46	5.33	2.72	Dry	1	2	2
1st Prior Month	July	2.46	3.90	4.71	6.48	Wet	3	3	9
								Sum:	14
								Conditions Onsite:	Normal

If sum is:	
6 to 9	then prior period has been drier than normal
10 to 14	then prior period has been normal
15 to 18	then prior period has been wetter than normal

Condition Values:
(1) Dry
(2) Normal
(3) Wet

3.1.2 Topography

A review of the USGS Topographical Map (Figure 2) for the survey area shows higher elevations in the western half of the survey area that gradually slope downward as the ROW continues east.

3.1.3 Soil Survey

The USDA-NRCS Web Soil Survey Maps (Figure 3) identified eight soil types, two of which are considered hydric within the survey areas. Areas where hydric soil indicators exist were given priority for data collection, however data points were collected in all areas as necessary despite existing hydric rating

if wetland hydrological or topographical characteristics were present. A summary of mapped soil types and their hydric and wetland soil indicator status are outlined in Table 3-1 below.

Table 3-1 Mapped Soil Units

Symbol	Map Unit Name	Hydric Rating	Acreage	Percent of Survey Area
L37B	Angus loam, 2 to 6 percent slopes	None	0.97	26.71%
L36A	Hamel, overwash-Hamel complex, 1 to 4 percent slopes	None	0.28	7.71%
L22D2	Lester loam, morainic, 12 to 18 percent slopes, eroded	None	0.39	10.70%
L24A	Glencoe loam, depressional, 0 to 1 percent slopes	Hydric	0.25	6.85%
L50A	Houghton and Muskego soils, depressional, 0 to 1 percent slopes	Hydric	0.53	14.41%
L44A	Nessel loam, 1 to 3 percent slopes	None	0.69	18.80%
L37B	Angus loam, 2 to 6 percent slopes	None	0.40	10.85%
L22C2	Lester loam, morainic, 6 to 12 percent slopes, eroded	None	0.15	3.98%
Total			**3.65**	100.00%

3.1.4 National Wetland Inventory

The NWI (Figure 4) was reviewed to identify potential wetlands mapped within the survey area. Areas where mapped wetland features exist were given priority; however data points were collected in all areas as necessary despite existing mapped wetland features if wetland hydrological, topographical, or vegetative characteristics were present. The NWI data identified the approximately 0.96 acres of wetlands outlined in the table below. A summary of mapped NWI wetlands is outlined in Table 3-2 below.

Table 3-2 Mapped NWI Wetlands

Symbol	Wetland Type	Square Feet	Acreage	Percent of Survey Area
PEMCd	Freshwater Emergent Wetland	41,988.75	0.96	100.00%
Total		**41,988.75**	**0.96**	100.00%

3.1.5 Hennepin County Wetland Inventory

The Hennepin County Wetland Inventory (HCWI) was developed from a combination of remote sensing, NRCS slide reviews. The HCWI is intended to help locate wetlands and does not classify wetlands, whereas the NWI classifies wetlands based on the Cowardin classification system. The HCWI only identifies *potential* and *probable* wetlands. Based on the HCWI map review of the survey area, both *potential* and *probable* wetlands were identified in the project area.

3.2 General Site Conditions

The parcels contained within the survey area consist primarily of maintained residential lawns with wetlands connected by culverts, bordered by highway and the continuing industrial and residential landscape. Upland areas are dominated by old field grasses and goldenrod.

3.3 Wetlands

Based on this field investigation and desktop review of related resource maps, it is our professional opinion that two wetland complexes that consist of two wetland communities are present within the survey area. These wetlands total 1.03 acres within the survey area. These features are further described below.

Delineated wetlands (Figure 6) were assigned community types according to the Eggers and Reed (1997) community classification system. The wetlands that were identified were generally located in lowland areas or geomorphically positioned to collect water and drain more slowly, such as in valleys bordered by

impermeable surfaces and man-made basin features. Factors in determining wetland boundaries included topography of the landscape, dominant vegetation, soil, and hydrology observation. Documentation of these features, including wetland community type, associated data points, observed hydrology and hydric soil indictors, and dominant vegetation may be found in the wetland determination forms found in Appendix B, while general descriptions for observed wetland communities are found in Table 3-3 below.

3.3.1 Shallow Marsh

Approximately 0.98 acres (26% of survey area) of Shallow Marsh community was identified and was the most abundant wetland type found. Vegetation in the shallow marsh community was dominated by narrow leaved cattail (*Typha angustifolia*). Non-dominant vegetation observed included jewelweed (*Impatiens capensis)* and reed canary grass (*Phalaris arundinacea*). Dominant soils across the shallow marsh ranged from silt loam to silty clay loam. The most common hydric soils indicators for these areas were found to be Depleted Below Dark Surface (A11), Loamy Gleyed Matrix (F2), Depleted Matrix (F3), Redox Dark Surface (F6), and Redox Depressions (F8). Hydrology indicators consisted of Geomorphic Position (D2), FAC Neutral Test (D5), Surface Water (A1), High Water Table (A2), and Saturation (A3).

3.3.2 Fresh Wet Meadow (Degraded)

Approximately 0.05 acres (1.4% of survey area) of wet meadow community was identified and was the second most abundant wetland type identified within the survey area. Dominant vegetation in the wet meadow community included reed canary grass (*Phalaris arundinacea*), and narrow-leaved cattail (*Typha angustifolia*). There was no non-dominant vegetation observed in the wet meadow community. The dominant soils across the wet meadow communities was clay loam. Indicators of hydric soils present included Depleted Matrix (F3). Hydrology indicators consisted of Surface Water (A1), Geomorphic Position (D2), and FAC Neutral Test (D5).

Table 3-3 Delineated Wetland Summary Table

Wetland ID	Wetland Type	Square Feet	Acreage	Percent of Total Wetland
W-01	Shallow Marsh	42,812.68	0.98	95.62%
W-03	Fresh (Wet) Meadow (Degraded)	289.02	0.01	0.65%
W-02	Fresh (Wet) Meadow (Degraded)	1,671.48	0.04	3.73%
Total		**44,773.19**	**1.03**	100.00%

3.3.3 Naturally Problematic and Significantly Disturbed Wetlands

Based on the guidance provided in Section 5: Difficult Wetland Situations in the Midwest Region, of the Regional Supplement to the USACE Delineation Manual: Midwest Region, Version 2.0, it was determined that DP-01 of the recorded wetland data points contained naturally problematic soils despite faint or no hydric soil indicator presence. Soils in this area are being considered hydric due to strong hydrophytic vegetation and wetland hydrology characteristics. The wetland is in an area that will collect water and the water table was at the surface at the time of the survey.

4 Summary and Conclusion

Cardno was contracted by Xcel Energy to complete a wetland delineation and classification of wetland resources between Lawndale Ln and Highway 55, then paralleling HWY 55 in Hennepin County, Minnesota. The survey included approximately 0.3 miles of ROW including historically disturbed land that total approximately 3.65 acres. Based on field investigations conducted by Cardno on July 25, 2019, and desktop review of related resource maps, it is our professional opinion that 2 wetland complexes, totaling 1.03 acres (44,773 square feet), zero waterways, and zero waterbodies are located within the existing Plymouth ROW survey area.

This report represents our best professional judgment based on our knowledge and experience. The field wetland determination and delineation was conducted within the survey area provided to Cardno. The project corridor is described generally above and is depicted on all figures that accompany this report.

The wetlands identified for this report may be subject to federal regulation under the jurisdiction of the U.S. Army Corps of Engineers, state regulation under the jurisdiction of Minnesota DNR, and local jurisdiction under the county, town, city or village.

5 Literature Cited

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Available online at the following link: https://websoilsurvey.sc.egov.usda.gov/. Accessed July 2019 (Figure 3).

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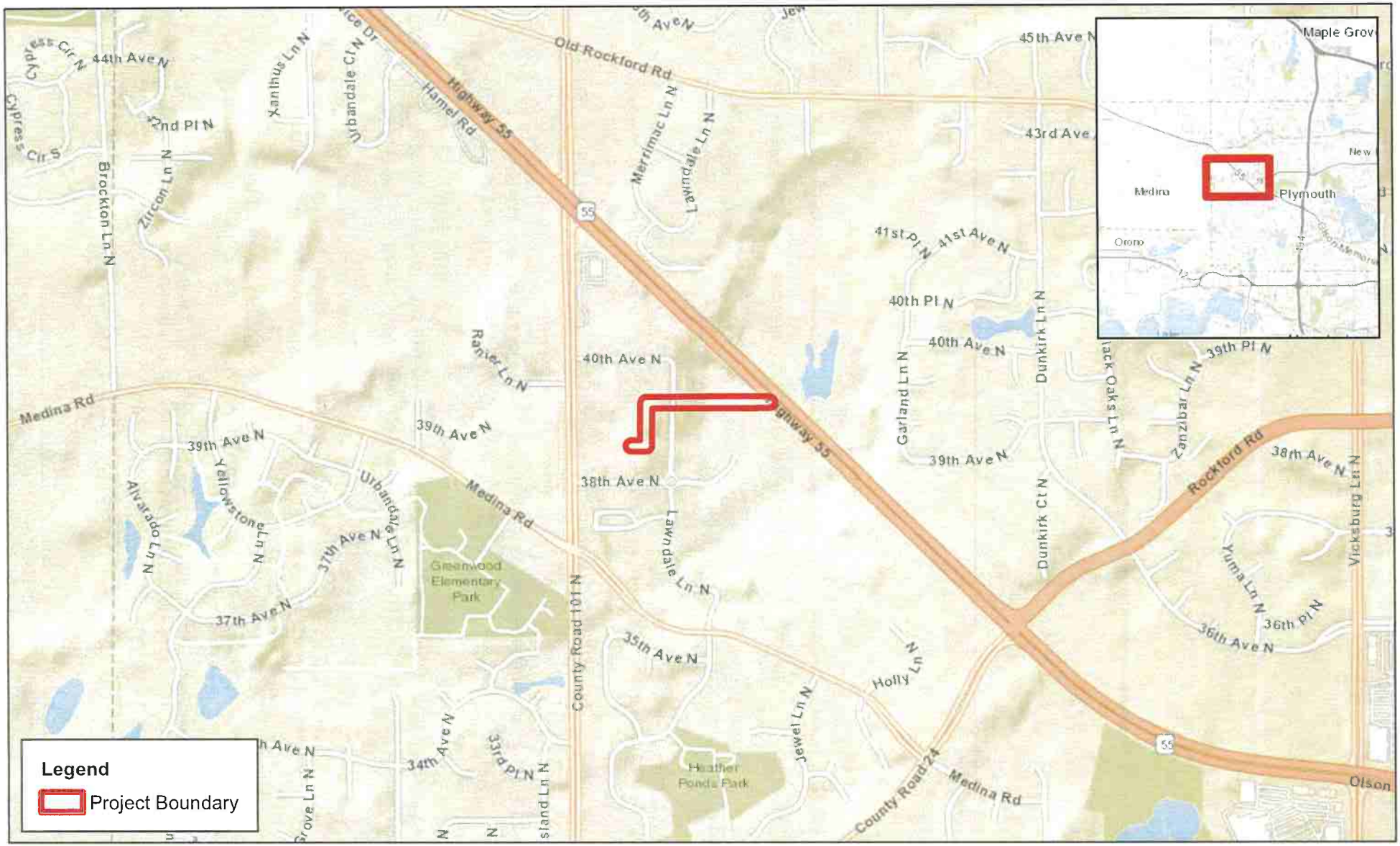
United States Geological Survey (USGS) Topographical Map (Figure 2).



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Project No. J153001M13

Figure 1: Location Map

Plymouth Wetland Delineation
Xcel Energy
Hennepin County, Minnesota

0 500 1,000 2,000
Feet

Cardno
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Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
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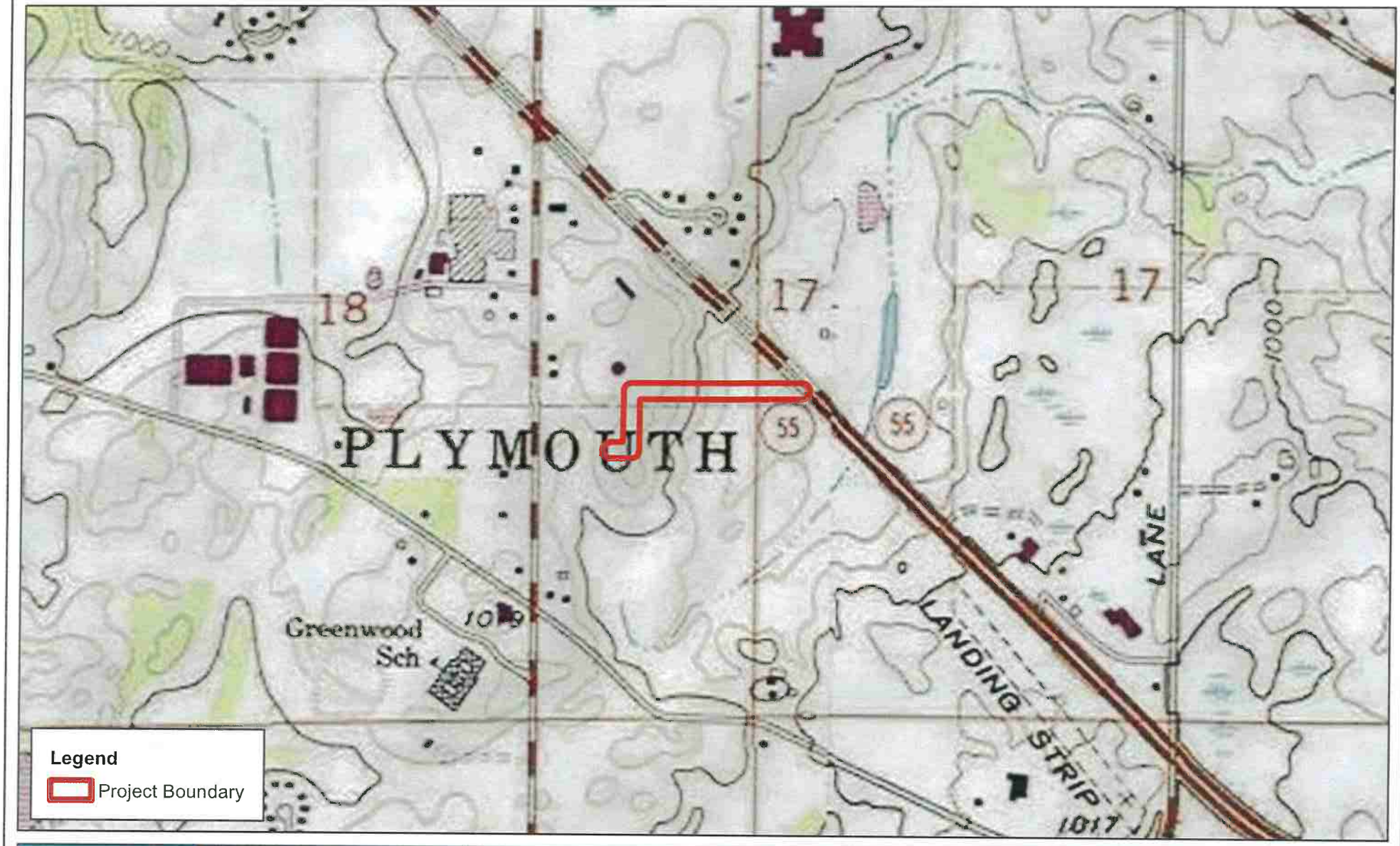

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Project No. J153001M13

Figure 2: Topographic Map

Plymouth Wetland Delineation
Xcel Energy
Hennepin County, Minnesota

0 250 500 1,000
Feet

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Date Created: 8/13/2019 Date Revised: 8/4/2019 File Path: \\cardno.com\Global\US\Shared\CJF\Projects\Projects\153001M00_XcelEnergy_Master\M13_Plymouth Delineation\GIS\MXD\Delineation\Topographic_Map.mxd

Data Sources: ESRI Imagery Basemap - Aerial Imagery, Hydrology - WDNR, Soil - NRCS, Roads - WisDOT

GIS Analyst: michael.smith

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Project No. J153001M13

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Figure 3: Mapped Soil Units

Plymouth Wetland Delineation
Xcel Energy
Hennepin County, Minnesota

0 50 100 200
Feet

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Figure 4: NWI Mapped Wetlands

Plymouth Wetland Delineation
Xcel Energy
Hennepin County, Minnesota

0 50 100 200
Feet

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Date Created: 8/13/2019 Date Revised: 9/4/2019

Data Sources: ESRI Imagery Basemap - Aerial Imagery; Hydrology - WDNR; Soil - NRCS; Roads - WisDOT

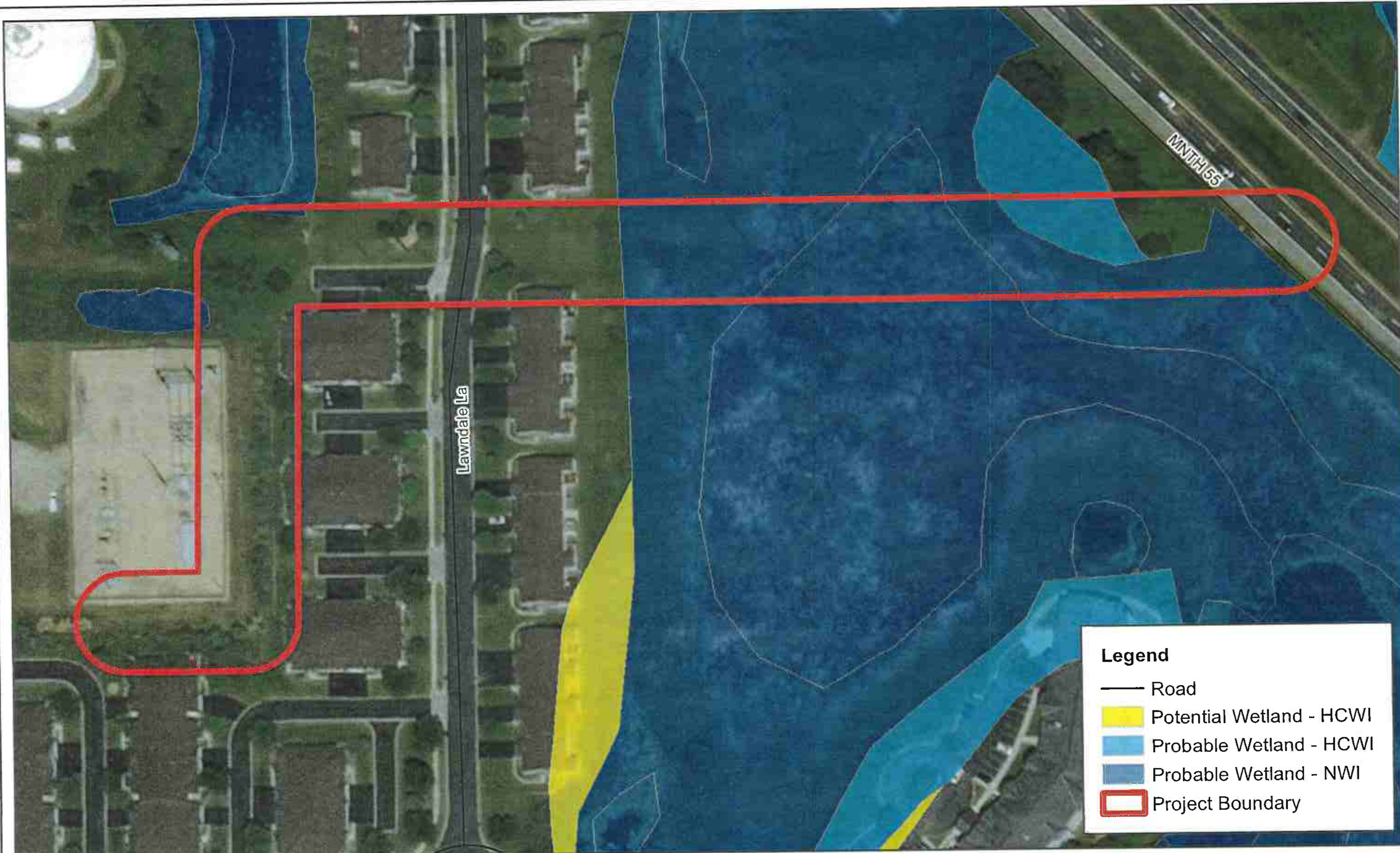

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Figure 5: Hennepin County Wetland Inventory

Plymouth Wetland Delineation
Xcel Energy
Hennepin County, Minnesota

0 50 100 200
Feet

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Figure 6: Wetland Delineation

Plymouth Wetland Delineation
Xcel Energy
Hennepin County, Minnesota

0 50 100 200
Feet

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Date Created: 8/13/2019 Date Revised: 8/4/2019 File Path: [illegible]

Data Sources: ESRI Imagery Basemap - Aerial Imagery, Hydrology - WDNR, SAM - NRCS, Roads - WisDOT

GIS Analyst: [illegible]

City of Plymouth Hollydale
Distribution Project Wetland
Delineation Report

APPENDIX A

Site Photographs

Photograph DP-01 - View South

Photograph DP-02 - View South

Photograph DP-03 - View North

Photograph DP-04 - View West

Photograph DP-05 - View West

Photograph DP-06 - View West

Photograph PP-01 - View East

Photograph PP-01 - View West

Photograph PP-02 - View East

Photograph PP-02 - View West-Southwest

Photograph PP-03 - View Northeast

Photograph PP-03 - View Northwest

Photograph PP-03 - View Southwest

Photograph PP-04 - View North

Photograph PP-04 - View South

City of Plymouth Hollydale
Distribution Project Wetland
Delineation Report

APPENDIX B

Wetland Delineation Forms – Midwest Region

WETLAND DETERMINATION DATA FORM -- Midwest Region

Project/Site: Plymouth Wetland Delineation | City/County: Hennepin County | Sampling Date: 7/25/2019

Applicant/Owner: Xcel Energy | State: MN | Sampling Point: DP-01

Investigator(s): W. Taylor; S. McClusky | Section, Township, Range: TWP 118N, RNG 22W, SEC 18

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

Slope (%): 0-1% | Lat: 45.0273 | Long: -93.50329 | Datum: NAD83

Soil Map Unit Name: L22D2-Lester loam, morainic, 12 to 18 percent slopes, eroded | NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation N, Soil Y, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?**	Yes X No ____
Hydric Soil Present?	Yes X	No ____		
Wetland Hydrology Present?	Yes X	No ____		

Remarks:
Soil not meeting a hydric soil indicator, but area features strong hydrophytic vegetation and hydrology. Soils are dark but lack features to give hydric rating. Point taken within cattail marsh affected by runoff and surrounding impermeable surfaces.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Herb Stratum (Plot size: 5' radius)			
1. *Typha angustifolia*	90%	Yes	OBL
2. *Impatiens capensis*	10%	No	FACW
3. *Phalaris arundinacea*	5%	No	FACW
4. *Solanum dulcamara*	1%	No	FAC
5. *Persicaria amphibia*	1%	No	OBL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
	107% = Total Cover		

Woody Vine Stratum (Plot size: 30' radius)			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	A/B
OBL species	91%	x1 =	0.91
FACW species	15%	x2 =	0.3
FAC species	1%	x3 =	0.03
FACU species		x4 =	
UPL species		x5 =	
Column Totals:	1.07 (A)		1.24 (B)

Prevalence Index = B/A = 1.16

Hydrophytic Vegetation Indicators:

X 1-Rapid Test for Hydrophytic Vegetation
X 2-Dominance Test is >50%
X 3-Prevalence Index is ≤3.0[1]
____ 4-Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

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

SOIL

Sampling Point: DP-01

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8"	10YR 2/1	100					Silt Loam	
8-34"	10YR 2/1	95	10YR 6/1	5	D	M	Silt Loam	
34-36"	10YR 2/1	100					Silty Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators[3]:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Test Indicators of Hydric Soils:

- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]The hydric soil indicators have been updated to comply with the *Field Indicators of Hydric Soils in the United States*, Version 8.0, 2016.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

Soil lacks features for typical hydric soil category, but is dark throughout and community features strong wetland hydrology and hydrophytic vegetation. D

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- X High Water Table (A2)
- X 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)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): N/A

Water Table Present? Yes X No ___ Depth (inches): Surface

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): Surface

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM -- Midwest Region

Project/Site: Plymouth Wetland Delineation | City/County: Hennepin | Sampling Date: 7/25/2019

Applicant/Owner: Xcel Energy | State: MN | Sampling Point: DP-02

Investigator(s): W. Taylor; S. McClusky | Section, Township, Range: TWP 118N, RNG 22W, SEC 18

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

Slope (%): 3-5% | Lat: 45.0273 | Long: -93.5034 | Datum: NAD83

Soil Map Unit Name: L22D2-Lester loam, moralnic, 12 to 18 percent slopes, eroded | NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? | Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? | (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?**	Yes ____ No X
Hydric Soil Present?	Yes X	No ____		
Wetland Hydrology Present?	Yes ____	No X		

Remarks:
Backslope above cattail marsh. Hydrophytic vegetation creeps far upslope but area lacks hydrology.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Herb Stratum (Plot size: 5' radius)			
1. *Solidago canadensis*	30%	Yes	FACU
2. *Phalaris arundinacea*	25%	Yes	FACW
3. *Impatiens capensis*	25%	Yes	FACW
4. *Typha angustifolia*	15%	No	OBL
5. *Parthenocissus quinquefolia*	10%	No	FACU
6. *Cirsium arvense*	5%	No	FACU
7. *Urtica dioica*	5%	No	FACW
8. *Persicaria amphibia*	5%	No	OBL
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
	120% = Total Cover		

Woody Vine Stratum (Plot size: 30' radius)			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 67% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	A/B
That Are OBL, FACW, or FAC:		
OBL species 20%	x1 =	0.2
FACW species 55%	x2 =	1.1
FAC species	x3 =	
FACU species 45%	x4 =	1.8
UPL species	x5 =	
Column Totals: 1.20 (A)		3.1 (B)

Prevalence Index = B/A = 2.58

Hydrophytic Vegetation Indicators:

____ 1-Rapid Test for Hydrophytic Vegetation
X 2-Dominance Test is >50%
____ 3-Prevalence Index is ≤3.0[1]
____ 4-Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

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

SOIL

Sampling Point: DP-02

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9"	10YR 3/2	95	10YR 5/6	5	C	M	Silt Loam	
9-19"	10YR 5/3	93	7.5YR 4/6	7	C	M	Silty Clay Loam	
19-30"	10YR 2/1	100					Silty Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators[3]:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Test Indicators of Hydric Soils:

- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]The hydric soil indicators have been updated to comply with the *Field Indicators of Hydric Soils in the United States*, Version 8.0, 2016.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ___ No X	Depth (inches):	N/A
Water Table Present?	Yes X No ___	Depth (inches):	24"
Saturation Present? (includes capillary fringe)	Yes ___ No X	Depth (inches):	N/A

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM -- Midwest Region

Project/Site: Plymouth Wetland Delineation | City/County: Plymouth, Hennepin County | Sampling Date: 7/25/2019

Applicant/Owner: Xcel Energy | State: MN | Sampling Point: DP-03

Investigator(s): W. Taylor; S. McClusky | Section, Township, Range: TWP 118N, RNG 22W, SEC 18

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

Slope (%): 2-3% | Lat: 45.0272 | Long: -93.50489 | Datum: NAD83

Soil Map Unit Name: L37B- Angus loam, 2 to 6 percent slopes | NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? | Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? | (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?**	Yes ____ No X
Hydric Soil Present?	Yes ____	No X		
Wetland Hydrology Present?	Yes ____	No X		

Remarks:
Community is on what appears to be a man-made berm above housing development. Area is mowed adjacent to the naturally vegetated shrub community the point was taken within.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 15' radius)			
1. *Rhus glabra*	90%	Yes	UPL
2. *Celtis occidentalis*	30%	Yes	FAC
3.			
4.			
5.			
	120% = Total Cover		

Herb Stratum (Plot size: 5' radius)			
1. *Poa pratensis*	30%	Yes	FAC
2. *Phalaris arundinacea*	5%	No	FACW
3. *Solidago canadensis*	5%	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
	40% = Total Cover		

Woody Vine Stratum (Plot size: 30' radius)			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 67% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
That Are OBL, FACW, or FAC:		A/B
OBL species	x1 =	
FACW species 5%	x2 =	0.1
FAC species 60%	x3 =	1.8
FACU species 5%	x4 =	0.2
UPL species 90%	x5 =	4.5
Column Totals: 1.60 (A)		6.6 (B)

Prevalence Index = B/A = 4.13

Hydrophytic Vegetation Indicators:

____ 1-Rapid Test for Hydrophytic Vegetation
X 2-Dominance Test is >50%
____ 3-Prevalence Index is ≤3.0[1]
____ 4-Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

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

SOIL

Sampling Point: DP-03

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7"	10YR 3/3	100					Loam	
7-12"	10YR 3/2	80	10YR 4/3	20	C	M	Loam	
12-20"	10YR 2/1	60	10YR 4/3	30	C	M	Loam	
			10YR 3/1	10	C	M	Loam	Mixed Matrix

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators[3]:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Test Indicators of Hydric Soils:

- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]The hydric soil indicators have been updated to comply with the *Field Indicators of Hydric Soils in the United States*, Version 8.0, 2016.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ___ No X	Depth (inches):	N/A
Water Table Present?	Yes ___ No X	Depth (inches):	N/A
Saturation Present? (includes capillary fringe)	Yes ___ No X	Depth (inches):	N/A

Wetland Hydrology Present? **Yes** _____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM -- Midwest Region

Project/Site: Plymouth Wetland Delineation | City/County: Plymouth, Hennepin County | Sampling Date: 7/25/2019

Applicant/Owner: Xcel Energy | State: MN | Sampling Point: DP-04

Investigator(s): W. Taylor; S. McClusky | Section, Township, Range: TWP 118N, RNG 22W, SEC 18

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

Slope (%): 0-2% | Lat: 45.0272 | Long: -93.50495 | Datum: NAD83 UTM16N

Soil Map Unit Name: L44A-Nessel loam, 1 to 3 percent slopes | NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?**	Yes X No ____
Hydric Soil Present?	Yes X	No ____		
Wetland Hydrology Present?	Yes X	No ____		

Remarks:
Wetland appears to be a man-made basin on top of a berm to collect runoff.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Herb Stratum (Plot size: 5' radius)			
1. *Phalaris arundinacea*	90%	Yes	FACW
2. *Typha angustifolia*	10%	No	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
	100% = Total Cover		

Woody Vine Stratum (Plot size: 30' radius)			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
That Are OBL, FACW, or FAC:			A/B
OBL species	10%	x1 =	0.1
FACW species	90%	x2 =	1.8
FAC species		x3 =	
FACU species		x4 =	
UPL species		x5 =	
Column Totals:	1.00 (A)		1.9 (B)

Prevalence Index = B/A = 1.90

Hydrophytic Vegetation Indicators:

X 1-Rapid Test for Hydrophytic Vegetation
X 2-Dominance Test is >50%
X 3-Prevalence Index is ≤3.0[1]
____ 4-Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

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

SOIL

Sampling Point: DP-04

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12"	10YR 5/1	60	10YR 5/8	10	C	M	Clay Loam	
	10YR 2/1	20						mixed matrix

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators[3]:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)

Test Indicators of Hydric Soils:

- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]The hydric soil indicators have been updated to comply with the *Field Indicators of Hydric Soils in the United States*, Version 8.0, 2016.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- X High Water Table (A2)
- X 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)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 7"

Water Table Present? Yes X No ___ Depth (inches): Surface

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): Surface

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM -- Midwest Region

Project/Site: Plymouth Wetland Delineation | City/County: Plymouth, Hennepin County | Sampling Date: 7/25/2019

Applicant/Owner: Xcel Energy | State: MN | Sampling Point: DP-05

Investigator(s): W. Taylor; S. McClusky | Section, Township, Range: TWP 118N, RNG 22W, SEC 17

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

Slope (%): 3-5% | Lat: 45.0273 | Long: -93.50133 | Datum: NAD83

Soil Map Unit Name: L37B-Angus loam, 2 to 6 percent slopes | NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? | Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? | (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?**	Yes ____ No X
Hydric Soil Present?	Yes X	No ____		
Wetland Hydrology Present?	Yes ____	No X		

Remarks:
Community is along a man-made berm, connected to the road by a grave drive. Area is impacted but indicators or lack thereof are evident.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Tilia americana*	40%	Yes	FACU
2. *Quercus rubra*	20%	Yes	FACU
3.			
4.			
5.			
	60%	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Herb Stratum (Plot size: 5' radius)			
1. *Festuca rubra*	30%	Yes	FACU
2. *Phalaris arundinacea*	20%	Yes	FACW
3. *Solidago canadensis*	15%	Yes	FACU
4. *Poa pratensis*	10%	No	FAC
5. *Vitis riparia*	5%	No	FACW
6. *Cirsium arvense*	5%	No	FACU
7. *Panicum virgatum*	5%	No	FAC
8. *Rhus glabra*	5%	No	UPL
9. *Parthenocissus quinquefolia*	3%	No	FACU
10. *Rhamnus cathartica*	3%	No	FAC
11. *Agrostis gigantea*	3%	No	FACW
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
	104%	= Total Cover	

Woody Vine Stratum (Plot size: 30' radius)			
1.			
2.			
		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 20% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
That Are OBL, FACW, or FAC:			A/B
OBL species		x1 =	
FACW species	28%	x2 =	0.56
FAC species	18%	x3 =	0.54
FACU species	113%	x4 =	4.52
UPL species	5%	x5 =	0.25
Column Totals:	1.64 (A)		5.87 (B)

Prevalence Index = B/A = 3.58

Hydrophytic Vegetation Indicators:

____ 1-Rapid Test for Hydrophytic Vegetation
____ 2-Dominance Test is >50%
____ 3-Prevalence Index is ≤3.0[1]
____ 4-Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

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

SOIL

Sampling Point: DP-05

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9"	10YR 3/2	97	10YR 4/6	3	C	M	Silt Loam	
9-20"	10YR 6/1	80	7.5YR 5/6	20	C	PL	Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators[3]:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Test Indicators of Hydric Soils:

- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]The hydric soil indicators have been updated to comply with the *Field Indicators of Hydric Soils in the United States*, Version 8.0, 2016.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ___ No X	Depth (inches):	N/A
Water Table Present?	Yes ___ No X	Depth (inches):	N/A
Saturation Present? (includes capillary fringe)	Yes ___ No X	Depth (inches):	N/A

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM -- Midwest Region

Project/Site: Plymouth Wetland Delineation | City/County: Plymouth, Hennepin County | Sampling Date: 7/25/2019

Applicant/Owner: Xcel Energy | State: MN | Sampling Point: DP-06

Investigator(s): W. Taylor; S. McClusky | Section, Township, Range: TWP 118N, RNG 22W, Sec 17

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

Slope (%): 0-2% | Lat: 45.02726 | Long: -93.50137 | Datum: NAD83

Soil Map Unit Name: L24A-Glencoe loam, depressional, 0 to 1 percent slopes | NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? | Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? | (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?**	Yes X No ____
Hydric Soil Present?	Yes X	No ____		
Wetland Hydrology Present?	Yes X	No ____		

Remarks:
shallow marsh community fed by storm water drains

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Herb Stratum (Plot size: 5' radius)			
1. *Calamagrostis canadensis*	60%	Yes	OBL
2. *Typha angustifolia*	40%	Yes	OBL
3. *Scirpus cyperinus*	5%	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
	105% = Total Cover		

Woody Vine Stratum (Plot size: 30' radius)			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	A/B
That Are OBL, FACW, or FAC:		
OBL species 105%	x1 =	1.05
FACW species	x2 =	
FAC species	x3 =	
FACU species	x4 =	
UPL species	x5 =	
Column Totals: 1.05 (A)		1.05 (B)

Prevalence Index = B/A = 1.00

Hydrophytic Vegetation Indicators:

X 1-Rapid Test for Hydrophytic Vegetation
X 2-Dominance Test is >50%
X 3-Prevalence Index is ≤3.0[1]
____ 4-Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

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

SOIL

Sampling Point: DP-06

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6"	10YR 2/1	100					Silt Loam	
6-12"	N 5/	95	10YR 5/8	5	C	M	Silty Clay	
12-20"	N 5/	70	10YR 5/8	30	C	M	Silty Clay	gravel inclusions

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators[3]:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- X Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Test Indicators of Hydric Soils:

- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]The hydric soil indicators have been updated to comply with the *Field Indicators of Hydric Soils in the United States*, Version 8.0, 2016.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- X High Water Table (A2)
- X 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)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___ No X	Depth (inches):	N/A
Water Table Present?	Yes X No ___	Depth (inches):	11"
Saturation Present? (includes capillary fringe)	Yes X No ___	Depth (inches):	8"

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

About Cardno

Cardno is an ASX-200 professional infrastructure and environmental services company, with expertise in the development and improvement of physical and social infrastructure for communities around the world. Cardno's team includes leading professionals who plan, design, manage, and deliver sustainable projects and community programs. Cardno is an international company listed on the Australian Securities Exchange [ASX:CDD].

Cardno Zero Harm

Cardno ZERO HARM EVERY JOB. EVERY DAY.

At Cardno, our primary concern is to develop and maintain safe and healthy conditions for anyone involved at our project worksites. We require full compliance with our Health and Safety Policy Manual and established work procedures and expect the same protocol from our subcontractors. We are committed to achieving our Zero Harm goal by continually improving our safety systems, education, and vigilance at the workplace and in the field.

Safety is a Cardno core value and through strong leadership and active employee participation, we seek to implement and reinforce these leading actions on every job, every day.

www.cardno.com

Cardno®

Joint Application Form for Activities Affecting Water Resources in Minnesota

This joint application form is the accepted means for initiating review of proposals that may affect a water resource (wetland, tributary, lake, etc.) in the State of Minnesota under state and federal regulatory programs. Applicants for Minnesota Department of Natural Resources (DNR) Public Waters permits **MUST** use the MPARS online permitting system for submitting applications to the DNR. Applicants can use the information entered into MPARS to substitute for completing parts of this joint application form (see the paragraph on MPARS at the end of the joint application form instructions for additional information). This form is only applicable to the water resource aspects of proposed projects under state and federal regulatory programs; other local applications and approvals may be required. Depending on the nature of the project and the location and type of water resources impacted, multiple authorizations may be required as different regulatory programs have different types of jurisdiction over different types of resources.

Regulatory Review Structure

Federal

The St. Paul District of the U.S. Army Corps of Engineers (Corps) is the federal agency that regulates discharges of dredged or fill material into waters of the United States (wetlands, tributaries, lakes, etc.) under Section 404 of the Clean Water Act (CWA) and regulates work in navigable waters under Section 10 of the Rivers and Harbors Act. Applications are assigned to Corps project managers who are responsible for implementing the Corps regulatory program within a particular geographic area.

State

There are three state regulatory programs that regulate activities affecting water resources. The Wetland Conservation Act (WCA) regulates most activities affecting wetlands. It is administered by local government units (LGUs) which can be counties, townships, cities, watershed districts, watershed management organizations or state agencies (on state-owned land). The Minnesota DNR Division of Ecological and Water Resources issues permits for work in specially-designated public waters via the Public Waters Work Permit Program (DNR Public Waters Permits). The Minnesota Pollution Control Agency (MPCA) under Section 401 of the Clean Water Act certifies that discharges of dredged or fill material authorized by a federal permit or license comply with state water quality standards. One or more of these regulatory programs may be applicable to any one project.

Required Information

Prior to submitting an application, applicants are **strongly encouraged** to seek input from the Corps Project Manager and LGU staff to identify regulatory issues and required application materials for their proposed project. Project proponents can request a pre-application consultation with the Corps and LGU to discuss their proposed project by providing the information required in Sections 1 through 5 of this joint application form to facilitate a meaningful discussion about their project. Many LGUs provide a venue (such as regularly scheduled technical evaluation panel meetings) for potential applicants to discuss their projects with multiple agencies prior to submitting an application. Contact information is provided below.

The following bullets outline the information generally required for several common types of determinations/authorizations.

- For delineation approvals and/or jurisdictional determinations, submit Parts 1, 2 and 5, and Attachment A.
- For activities involving CWA/WCA exemptions, WCA no-loss determinations, and activities not requiring mitigation, submit Parts 1 through 5, and Attachment B.
- For activities requiring compensatory mitigation/replacement plan, submit Parts 1 thru 5, and Attachments C and D.
- For local road authority activities that qualify for the state's local road wetland replacement program, submit Parts 1 through 5, and Attachments C, D (if applicable), and E to both the Corps and the LGU.

Submission Instructions

Send the completed joint application form and all required attachments to:

U.S Army Corps of Engineers. Applications may be sent directly to the appropriate Corps Office. For a current listing of areas of responsibilities and contact information, visit the St. Paul District's website at: http://www.mvp.usace.army.mil/Missions/Regulatory.aspx and select "Minnesota" from the contact Information box. Alternatively, applications may be sent directly to the St. Paul District Headquarters and the Corps will forward them to the appropriate field office.

Section 401 Water Quality Certification: Applicants do not need to submit the joint application form to the MPCA unless specifically requested. The MPCA will request a copy of the completed joint application form directly from an applicant when they determine an individual 401 water quality certification is required for a proposed project.

Wetland Conservation Act Local Government Unit: Send to the appropriate Local Government Unit. If necessary, contact your county Soil and Water Conservation District (SWCD) office or visit the Board of Water and Soil Resources (BWSR) web site (www.bwsr.state.mn.us) to determine the appropriate LGU.

DNR Public Waters Permitting: In 2014 the DNR will begin using the Minnesota DNR Permitting and Reporting System (MPARS) for submission of Public Waters permit applications (https://webapps11.dnr.state.mn.us/mpars/public/authentication/login). Applicants for Public Waters permits **MUST** use the MPARS online permitting system for submitting applications to the DNR. To avoid duplication and to streamline the application process among the various resource agencies, applicants can use the information entered into MPARS to substitute for completing parts of this joint application form. The MPARS print/save function will provide the applicant with a copy of the Public Waters permit application which, at a minimum, will satisfy Parts one and two of this joint application. For certain types of activities, the MPARS application may also provide all of the necessary information required under Parts three and four of the joint application. However, it is the responsibility of the Applicant to make sure that the joint application contains all of the required information, including identification of all aquatic resources impacted by the project (see Part four of the joint application). After confirming that the MPARS application contains all of the required information in Parts one and two the Applicant may attach a copy to the joint application and fill in any missing information in the remainder of the joint application.

PART ONE: Applicant Information

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

Applicant/Landowner Name: Xcel Energy, Attn: Ellen Heine
Mailing Address: 414 Nicollet Mall, 414-6
Phone: 612-330-6073
E-mail Address: Ellen.L.Heine@XcelEnergy.com

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

Agent Name: Dan Salas, Cardno
Mailing Address: 6130 Cottonwood Drive, Ste B, Fitchburg, WI 53719
Phone: 608-620-0745
E-mail Address: dan.salas@cardno.com

PART TWO: Site Location Information

County: **Hennepin** **City/Township:** **Plymouth**
Parcel ID and/or Address: **Between County Hwy 101 and Highway 55**
Legal Description (Section, Township, Range):
Lat/Long (decimal degrees): **45° 1'38.43"N, 93°30'8.24"W**
Attach a map showing the location of the site in relation to local streets, roads, highways.
Approximate size of site (acres) or if a linear project, length (feet): **Linear: 0.3 miles (1520 feet) (wetland crossing length is approximately 430 feet)**

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

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

PART THREE: General Project/Site Information

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

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

The project involves installation of an underground electric distribution duct line running along Highway 55 then crossing the shallow marsh wetland described in this application and then connecting to the

Hollydale Substation located west of Lawndale Ln N. The duct line will be installed via open trench installation, and the trench will be closed and restored following completion of the installation. The area of wetland to be impacted is estimated to be 430 feet in length and approximately 4-10 feet in width. The project was initially expected to be done in the fall of 2019, but may end up being completed in the spring of 2020 instead. The construction is expected to take approximately 3 months to complete. The duct will not impact the small degraded fresh wet meadow located on the north side of the substation.

PART FOUR: Aquatic Resource Impact[1] Summary

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

Aquatic Resource ID (as noted on overhead view)	**Aquatic Resource Type** (wetland, lake, tributary etc.)	**Type of Impact** (fill, excavate, drain, or remove vegetation)	**Duration of Impact** Permanent (P) or Temporary (T)[1]	**Size of Impact**[2]	**Overall Size of Aquatic Resource** [3]	**Existing Plant Community Type(s)** in Impact Area[4]	**County, Major Watershed #, and Bank Service Area #** of Impact Area[5]
w-01	wetland	excavate	T	2150 sq ft	N/A	Shallow marsh	20
w-03	wetland	excavate	T	100 sq ft	N/A	Fresh wet meadow (degraded)	20

[1]If impacts are temporary; enter the duration of the impacts in days next to the "T". For example, a project with a temporary access fill that would be removed after 220 days would be entered "T (220)".
[2]Impacts less than 0.01 acre should be reported in square feet. Impacts 0.01 acre or greater should be reported as acres and rounded to the nearest 0.01 acre. Tributary impacts must be reported in linear feet of impact and an area of impact by indicating first the linear feet of impact along the flowline of the stream followed by the area impact in parentheses). For example, a project that impacts 50 feet of a stream that is 6 feet wide would be reported as 50 ft (300 square feet).
[3]This is generally only applicable if you are applying for a de minimis exemption under MN Rules 8420.0420 Subp. 8, otherwise enter "N/A".
[4]Use *Wetland Plants and Plant Community Types of Minnesota and Wisconsin* 3rd Ed. as modified in MN Rules 8420.0405 Subp. 2.
[5]Refer to Major Watershed and Bank Service Area maps in MN Rules 8420.0522 Subp. 7.

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

PART FIVE: Applicant Signature

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

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

Signature: ellen.l.heine@xcelenergy.com Digitally signed by ellen.l.heine@xcelenergy.com DN: cn=ellen.l.heine@xcelenergy.com Date: 2019.10.04 09:40:33 -05'00' Date:

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

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

Project Name and/or Number:

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

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

☐ **Wetland Type Confirmation**

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

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

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

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

Project Name and/or Number:

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

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

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

The project qualifies under MN WCA rule 8420.0420 Exemption Standards, Subpart 6 Utilities

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

The project involves the installation of a distribution (utility) line as described in 8420.0420 Subp. 6 and the impacts have been minimized to the extent possible and modify or alter less than one-half of an acre of wetland. The duct line will be placed within an existing overhead transmission line corridor.

Attachment C
Avoidance and Minimization

Project Purpose, Need, and Requirements. Clearly state the purpose of your project and need for your project. Also include a description of any specific requirements of the project as they relate to project location, project footprint, water management, and any other applicable requirements. Attach an overhead plan sheet showing all relevant features of the project (buildings, roads, etc.), aquatic resource features (impact areas noted) and construction details (grading plans, storm water management plans, etc.), referencing these as necessary:

This project is needed to connect the distribution system to the Hollydale Substation which is located west of the location where the wetland impacts will occur.

Avoidance. Both the CWA and the WCA require that impacts to aquatic resources be avoided if practicable alternatives exist. Clearly describe all on-site measures considered to avoid impacts to aquatic resources and discuss at least two project alternatives that avoid all impacts to aquatic resources on the site. These alternatives may include alternative site plans, alternate sites, and/or not doing the project. Alternatives should be feasible and prudent (see MN Rules 8420.0520 Subp. 2 C). Applicants are encouraged to attach drawings and plans to support their analysis:

The wetland being crossed is fairly large and there is an existing utility easement and overhead line which crosses the wetland in the location of the proposed distribution duct bank. An alternative of routing the distribution line further north around the wetland would require the acquisition of new land rights and increased project costs.

The no-build option would not accomplish the goals of the project to improve the electric distribution system in the area.

Minimization. Both the CWA and the WCA require that all unavoidable impacts to aquatic resources be minimized to the greatest extent practicable. Discuss all features of the proposed project that have been modified to minimize the impacts to water resources (see MN Rules 8420.0520 Subp. 4):

The proposed location minimizes impacts by placing the duct bank within an existing electric utility easement beneath existing overhead power lines. Installation of the duct bank will result in temporary impacts to the wetland which will be restored once construction is complete. There will be no permanent structures above ground within the wetland.

Off-Site Alternatives. An off-site alternatives analysis is not required for all permit applications. If you know that your proposal will require an individual permit (standard permit or letter of permission) from the U.S. Army Corps of Engineers, you may be required to provide an off-site alternatives analysis. The alternatives analysis is not required for a complete application but must be provided during the review process in order for the Corps to complete the evaluation of your application and reach a final decision. Applicants with questions about when an off-site alternatives analysis is required should contact their Corps Project Manager.


40th Ave
Highway 55
W-01
W-02
W-03
HOLLYDALE SUBSTATION
Lawndale Ln N
Proposed UG distribution
69 kV Transmission Line
Delineated wetlands
Fresh (Wet) Meadow (Degraded)
Shallow Marsh
N
0
100
200
400 Feet

Minnesota Wetland Conservation Act
Notice of Application

Local Government Unit (LGU)	Address
City of Plymouth	**3400 Plymouth Boulevard** **Plymouth, MN 55447**

1. PROJECT INFORMATION

Applicant Name	Project Name	Date of Application	Application Number
Hollydale Golf Course Development, Inc.	**Hollydale Golf Course**	**10/09/19**	**2019-13**

Type of Application (check all that apply):

☐ Wetland Boundary or Type	☒ No-Loss	☐ Exemption
☐ Sequencing	☐ Replacement Plan	☐ Banking Plan

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

Applicant is requesting a No-Loss determination for delineated wetlands 1, 2, 3, 8, and 9 on the 158.65-acre Hollydale Golf Course property in Plymouth, MN. The wetland delineation was field reviewed and found to be accurate during the October 11th TEP field review (report is public noticed and anticipated to be approved in early November 2019).

The applicant's memorandum (prepared by Kjolhaug Environmental Services, dated October 9, 2019) claims these wetlands were historically excavated within upland areas, and therefore are not regulated under the WCA ("incidental wetlands" per MN Rules 8420.0105 Subp. 2D) and Section 404 Clean Water Act. Additional information was requested from the TEP at the October 11th meeting to further clarify/support the applicant's claim of incidental wetlands to the satisfaction of the LGU. The applicant's consultant is preparing a second submittal for TEP review in early November. The original and second submittal will be detailed in the LGU findings and conclusion section of the NOD.

2. APPLICATION REVIEW AND DECISION

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

Name and Title of LGU Contact Person	Comments must be received by (minimum 15 business-day comment period):
Ben Scharenbroich, **Interim Water Resources Manager**	**4pm, November 28, 2019**
Address (if different than LGU)	Date, time, and location of decision: **On/Before 4pm, December 13, 2019** **3400 Plymouth Boulevard** **Plymouth, MN 55447**
Phone Number and E-mail Address **763-509-5527** **bscharenbroich@plymouthmn.gov**	Decision-maker for this application: ☒ Staff ☐ Governing Board or Council

Signature: _____ Date: October 28, 2019

3. LIST OF ADDRESSEES

☒ SWCD TEP member: **Stacey Lijewski, HCD, 701 Fourth Avenue South, Minneapolis, MN 55415-1600. stacey.lijewski@hennepin.us**
☒ BWSR TEP member: **Ben Carlson, BWSR, 520 Lafayette Road North, St. Paul, MN 55401. ben.carlson@state.mn.us**
☒ LGU TEP member (if different than LGU Contact): **Travis Fristed (ISG). travis.fristed@ISGinc.com**
☒ DNR TEP member: **Leslie Parris, MnDNR, 1200 Warner Road, St. Paul, MN 55106. leslie.parris@state.mn.us**
☒ DNR Regional Office (if different than DNR TEP member): **Jason Spiegel, MnDNR, 1200 Warner Road, St. Paul, MN 55106. jason.spiegel@state.mn.us**
☒ WD or WMO (if applicable): **Bassett Creek WMC, c/o Laura Jester, Keystone Waters LLC, 16145 Hillcrest Lane, Eden Prairie, MN 55346. laura.jester@keystonewaters.com**
Elm Creek WMO, c/o Judie Anderson, JASS, 3235 Fernbrook Lane North, Plymouth, MN 55447. judie@jass.biz
☒ Applicant (notice only) and Landowner (if different): **Jake Walesch (Hollydale Golf Course Development, Inc.). Jake@jakewalesch.com**
☒ Members of the public who requested notice (notice only): **Adam Cameron, Kjolhaug Environmental Services Company, 2500 Shadywood Road, Suite 130, Orono, MN 55331. adam@kjolhaugenv.com**
☒ Corps of Engineers Project Manager (notice only): **USACE, 180 5th Street East, Suite 700, St. Paul, MN 55101. usace_requests_mn@usace.army.mil**
☐ BWSR Wetland Bank Coordinator (wetland bank plan applications only)

4. MAILING INFORMATION

➢For a list of BWSR TEP representatives: www.bwsr.state.mn.us/contact/WCA_areas.pdf

➢For a list of DNR TEP representatives: www.bwsr.state.mn.us/wetlands/wca/DNR_TEP_contacts.pdf

➢Department of Natural Resources Regional Offices:

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

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

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

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

➢For Wetland Bank Plan applications, also send a copy of the application to:

Minnesota Board of Water and Soil Resources
Wetland Bank Coordinator
520 Lafayette Road North
St. Paul, MN 55155

5. ATTACHMENTS

In addition to the application, list any other attachments:

☒ **Hollydale Golf Course- WCA/CWA Jurisdictional Summary, October 28, 2019 (prepared by Kjolhaug Environmental Services Company, Inc).**

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Providing Sound, Balanced, Comprehensive Natural Resource Solutions

Memorandum

Date: October 9, 2019

To: Regulatory, U.S. Army Corps of Engineers
Travis Fristed, ISG
Ben Scharenbroich, City of Plymouth

Cc: Jake Walesch, Project Applicant
Ben Carlson, Board of Water and Soil Resources (BWSR)
Stacey Lijewski, Hennepin County

From: Adam Cameron, Kjolhaug Environmental Services Company (KES)
Rob Bouta, Kjolhaug Environmental Services Company

Re: Hollydale Golf Course, WCA/CWA Jurisdictional Summary
KES Project #2019-118

The 156.7-acre Hollydale Golf Course was inspected on August 14, 2019 by Kjolhaug Environmental Services (KES) staff to delineate wetlands on the subject property. The property was located in Section 8, Township 118 North, Range 22 West, City of Plymouth, Hennepin County, Minnesota. The site was situated north of MN State Highway 55, west of Vicksburg Lane North (**Figure 1**). The property corresponded to the following Hennepin County PID's: 0811822340014 and 0811822310001. The Hollydale Golf Course Wetland Delineation Report was submitted to the City of Plymouth and the U.S. Army Corps of Engineers on September 27, 2019.

The Hollydale Golf Course contains numerous excavated ponds that were created during the construction of the course, and during ongoing maintenance of the course. This memo is intended to address the status of wetlands on the subject property by providing a review of historic photos and soil survey data, as well as a summary of the anticipated regulatory status of the ornamental ponds under the Minnesota Wetland Conservation Act (WCA) and Section 404 of the Clean Water Act (CWA). The Joint Application Form has been included as **Appendix A**.

No-Loss Request & Review of Figures

Historic photos showing the site conditions from 1937 through 1971 have been included to document the site conditions prior to, during and after conversion of the subject property from agricultural land to a golf course (**Appendix B**). As a part of construction of the golf course, ornamental ponds were excavated within areas of the site that appear to be upland prior to pond construction. Aerial photo interpretations and comments are provided below in **Table 1**:

Table 1. Hollydale Golf Course Site Historic Aerial Photography Summary

Year	Condition Observed
1937	Farmstead present on west side of site, entire site appears farmed or grazed except for the large Wetland 6. No wetlands appear to be present at the location of Wetland 1, 2, 3, 8 or 9.
1945	Similar to 1937 except ditches appear more prominent. No wetlands appear to be present at the location of Wetland 1, 2, 3, 8 or 9.
1956	Entire site drained and farmed except for Wetland 6 and area in vicinity of Wetland 7. No wetlands appear to be present at the location of Wetland 1, 2, 3, 8 or 9.
1960	Entire site drained and farmed except for Wetland 6 and area in vicinity of Wetland 7. No wetlands appear to be present at the location of Wetland 1, 2, 3, 8 or 9.
1962	Wetlands appear to have re-formed in the ditched northwestern and central parts of the sites. No wetlands appear to be present at the location of Wetland 1, 2, 3, 8 or 9.
1967	Golf course present. Ornamental golf course ponds have been excavated at the location of Wetland 8 and Wetland 9.
1971	Similar to 1967, except ditch draining from NW part of site to Wetland 6 appears more prominent

No wetland signatures were observed at the location of Wetland 1, 2, 3, 8 or 9 on aerial imagery prior to construction of the golf course. Therefore, it appears that those wetlands are ornamental ponds that were excavated in upland. Additional information regarding the site conditions, and anticipated regulatory status of Wetland 1, 2, 3, 8 and 9 under WCA and the CWA is provided on the following pages.

Minnesota Wetland Conservation Act: Incidental Wetlands Determination

Historic aerial photos and historic USGS Topography Maps (**Appendix B**) were referenced to determine whether the ornamental ponds present on the Hollydale Golf Course correspond with historic wetlands, or were excavated upland. Wetland 1, 2, 3, 8 and 9 were partially or wholly located within predominantly non-hydric soil units (See **Figure 3**), and do not appear to correspond with historic wetlands. The following summaries were prepared for each wetland.

Wetland 1 was excavated sometime between 1971 and 1991 as an ornamental pond for the Hollydale Golf Course. Wetland 1 was located within hydric (Houghton), partially hydric (Hamel) and predominantly non-hydric (Lester loam) soils. This area was reviewed on historic aerial imagery, and did not show wetland signatures, standing water or saturated soils within the area of Wetland 1 prior to excavation. Therefore, Wetland 1 appears to have been incidentally created in upland as an ornamental pond.

Wetland 2 was excavated sometime between 1971 and 1991 as an ornamental pond for the Hollydale Golf Course. Wetland 2 was located within partially hydric soils (Hamel). This area was reviewed on historic aerial imagery, and did not show wetland signatures, standing water or saturated soils within the area of Wetland 2 prior to excavation. Therefore, Wetland 2 appears to have been incidentally created in upland as an ornamental pond.

Wetland 3 was excavated sometime between 1971 and 1991 as an ornamental pond for the Hollydale Golf Course. Wetland 3 was located within predominantly non-hydric soils (Lester loam). This area was reviewed on historic aerial imagery, and did not show wetland signatures, standing water or saturated soils within the area of Wetland 3 prior to excavation. Therefore, Wetland 3 appears to have been incidentally created in upland as an ornamental pond.

Wetland 8 consisted of an ornamental pond that was excavated sometime between 1962 and 1967 as part of initial construction of the eastern portion of the Hollydale Golf Course. The area surrounding the pond was mapped with predominantly non-hydric soils including Nessel loam and Angus loam. Historic aerial photos were referenced, and Wetland 8 did not appear to be wetland prior to construction of the golf course. Therefore, Wetland 8 appears to have been incidentally created in upland as an ornamental pond.

Wetland 9 consisted of an ornamental pond that was excavated sometime between 1962 and 1967 as part of initial construction of the eastern portion of the Hollydale Golf Course. The area surrounding the pond was mapped with hydric soils including Minnetonka silty clay loam and Glencoe loam. Historic aerial photos were referenced, and Wetland 9 did not appear to be wetland prior to construction of the golf course. Therefore, Wetland 9 appears to have been incidentally created in upland as an ornamental pond.

Regulatory Compliance

Based on a review of historic aerial photos dating back to 1937, KES has concluded that Wetland 1, 2, 3, 8 and 9 were incidentally created in upland and are therefore not regulated under WCA according to MN WCA Rule 8420.0105 SCOPE Subp. 2.D. which states the following:

“This chapter does not regulate impacts to incidental wetlands. "Incidental wetlands" are wetland areas that the landowner can demonstrate, to the satisfaction of the local government unit, were created in nonwetland areas solely by actions, the purpose of which was not to create the wetland. Incidental wetlands include drainage ditches, impoundments, or excavations constructed in nonwetlands solely for the purpose of effluent treatment, containment of waste material, storm water retention or detention, drainage, soil and water conservation practices, and water quality improvements and not as part of a wetland replacement process that may, over time, take on wetland characteristics.”

The Joint Application Form requesting a No-Loss under WCA has been included as **Appendix A**.

Section 404 of the Clean Water Act: Jurisdictional Summary

We evaluated delineated wetlands using the definition of waters of the United States set forth under 33 CFR Part 328.3 (November 13, 1986) to assess the potential for federal regulatory

jurisdiction. This definition indicates the following are generally not considered to be waters of the United States:

1. Non-tidal drainage and irrigation ditches excavated on dry land.
2. Artificially irrigated areas which would revert to upland if the irrigation ceased.
3. Artificial lakes or ponds created by excavating and/or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing.
4. Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating and/or diking dry land to retain water for primarily aesthetic reasons.
5. Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States.

The following paragraphs explain why we believe Wetlands 1, 2, 3, 8 and 9 are not waters of the United States and how they fit within the general exceptions to waters of the U.S. as listed above.

Wetland 1 is an artificial ornamental golf course pond excavated on dry land primarily for aesthetic reasons. Wetland 1 first appeared on aerial photography in 1984 after the area had been farmed, ditched, and drained. The golf course ponds have been maintained and have not been abandoned. Wetland 1 was expanded between 1984 and 1991 to provide a larger ornamental pond. Wetland 1 is located on soils mapped as Lester loam (2% hydric), Hamel complex (45% hydric) and Houghton muck (100% hydric) (See **Figure 3**). On average, these soil types are considered 49% hydric. This implies that the chance that Wetland 1 was excavated on dry land is greater than 50% because the mapped soil types are on average more likely than not to occupy upland landscape positions.

Wetland 2 is an artificial ornamental golf course pond excavated on dry land primarily for aesthetic reasons. Wetland 2 is believed to have been excavated from upland between 1984 and 1991, the time when Wetland 1 was expanded. Wetland 1 first appeared after the area had been farmed, ditched, drained, and converted to a golf course. The golf course ponds have been maintained and have not been abandoned. Wetland 2 is located on soils mapped as Hamel complex, which is considered 45% hydric. This implies that the chance that Wetland 2 was excavated on dry land is greater than 50% because most Hamel soils occupy upland landscape positions.

Wetland 3 is an artificial ornamental golf course pond excavated on dry land primarily for aesthetic reasons. Wetland 3 first appeared on aerial photography in 1991 after the area had been farmed, ditched, drained, and converted to golf course. The golf course ponds have been maintained and have not been abandoned. Wetland 3 is located on soils mapped as Lester loam, which are considered only 2% hydric and generally occupy upland landscape positions.

Wetland 8 is an artificial ornamental golf course pond excavated on dry land primarily for aesthetic reasons. Wetland 8 first appeared on aerial photography in 1967, after golf construction in 1965. Prior to that, the area had been farmed. Wetland 8 is located on soils mapped as Angus

and Nessel loams, which are considered only 5 and 10% hydric, respectively. This implies that Wetland 8 was excavated on dry land incidental to construction activity, the purpose of which was to create an ornamental golf course pond.

Wetland 9 is an artificial ornamental golf course pond excavated on dry land primarily for aesthetic reasons. Wetland 9 first appeared on aerial photography in 1967, after golf construction in 1965. Prior to that, the area had been farmed and showed moisture stress only in 1947 and 1962. Although Wetland 9 is located on soils mapped as Glencoe clay loam and Minnetonka silty clay loam, which are both considered 100% hydric, the aerial history suggests Wetland 9 was excavated on dry land incidental to construction activity, the purpose of which was to create an ornamental golf course pond.

Regulatory Compliance

Based on the exclusions listed above, we submit that Wetlands 1, 2, 3, 8 and 9 are not waters of the United States. We understand the definition of waters of the United States cited above will become effective in Minnesota on November 11, 2019, and assume the Corps will complete an Approved Jurisdictional Determination (AJD) in response to this request after that date.

The project area does not include any ditches, tributaries, or other watercourses located outside the limits of delineated wetlands, as all ditches and watercourses outside of wetlands have been placed into buried pipes and drain tile lines. Therefore, we believe that the AJD will only need to address Wetlands 1 to 9. Small wetlands on the site appear to be connected to large wetlands and downstream waters via buried pipes and drain tiles (see **Figure 2**).

Approvals Requested

At this time we are requesting a Notice of Decision under WCA for the No-Loss Application, and a letter from the U.S. Army Corps of Engineers verifying the jurisdictional status of the ornamental ponds present on the Hollydale Golf Course Site, including Wetland 1, 2, 3, 8 and 9. If you have any questions regarding this application, please do not hesitate to contact us.

Thank you.

Hollydale Golf Course

WCA/CWA Jurisdictional Summary

Figure 1 – Site Location Map
Figure 2 – Existing Conditions Map
Figure 3 – Soil Survey Overlay Map

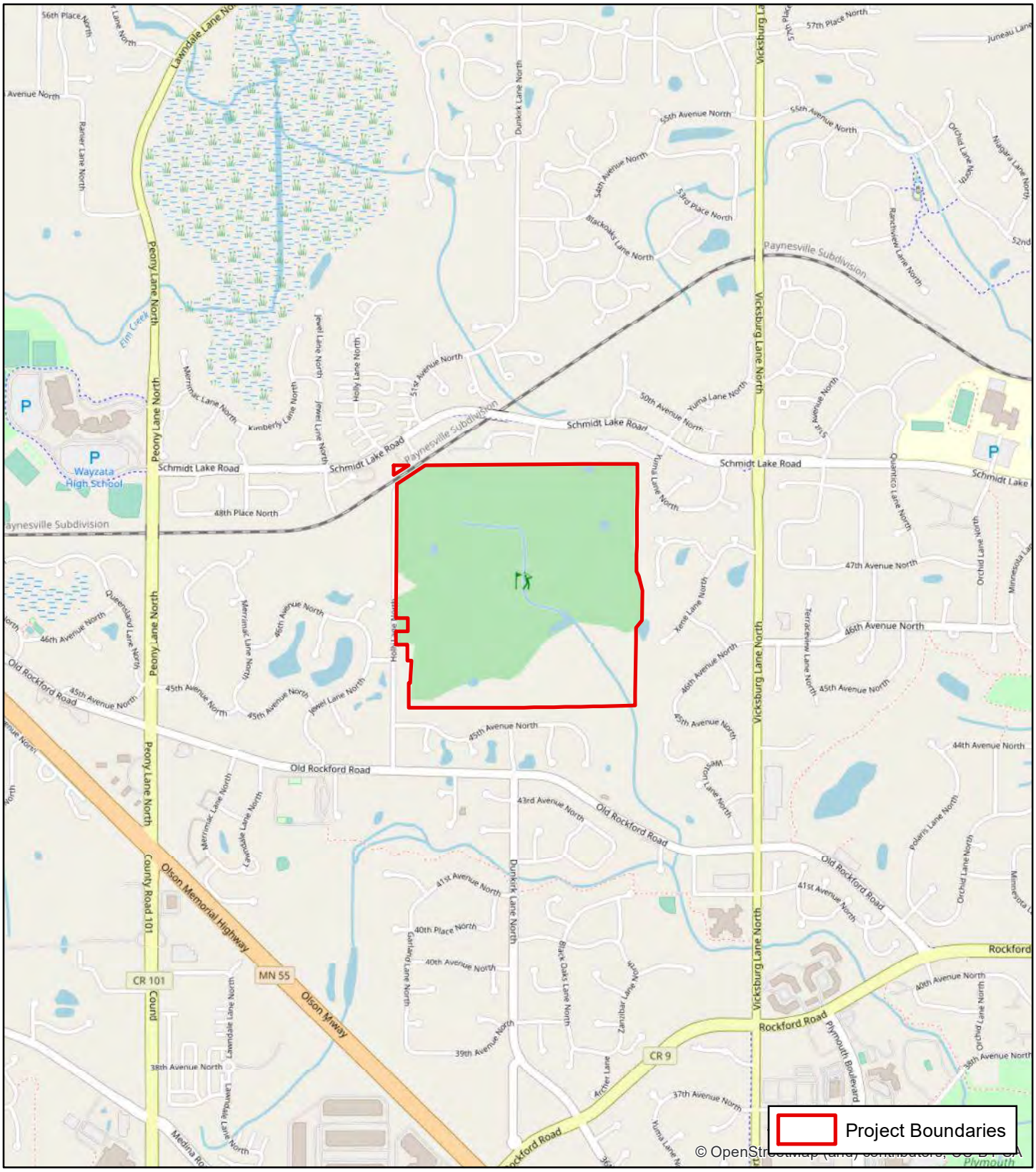

Figure 1 - Site Location Map

N

0 1,500 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: ESRI Streets Basemap

Hollydale Golf Course (KES 2019-113)
Plymouth, Minnesota

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

Figure 2 - Existing Conditions (2016 MNGEO Photo)

N

0 400 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons

Hollydale Golf Course (KES 2019-113)
Plymouth, Minnesota

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

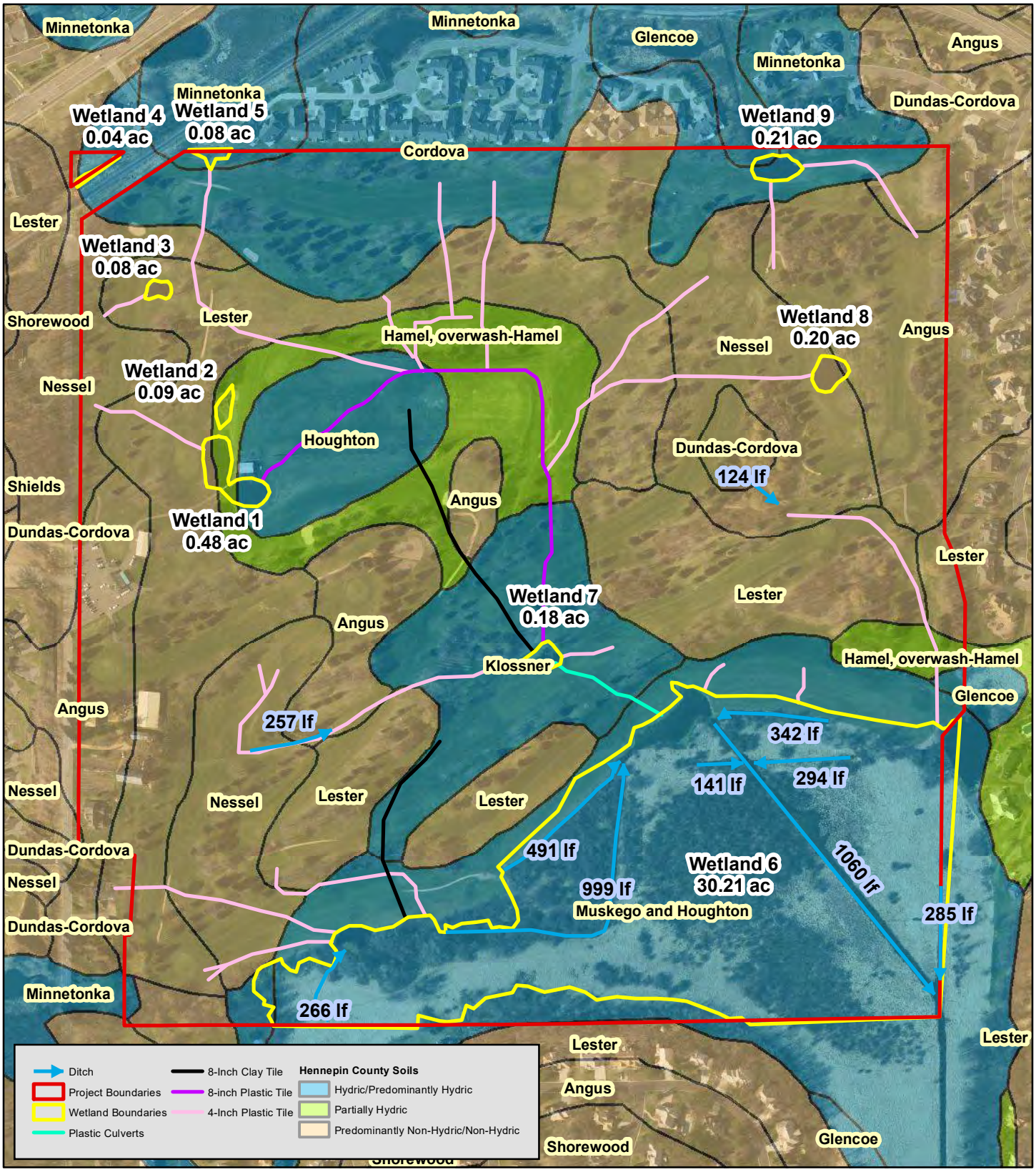

Figure 3 - Soil Survey Overlay Map

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0 400 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons, Web Soil Survey

Hollydale Golf Course (KES 2019-113)
Plymouth, Minnesota

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

Hollydale Golf Course

WCA/CWA Jurisdictional Summary

Appendix A: Joint Application Form

PART ONE: Applicant Information

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

Applicant/Landowner Name: ~~Jake Walesch~~ Hollydale GC Development, Inc.
Mailing Address: 10850 Old County Road 15, Suite 200, Plymouth MN 55441
Phone: 612-749-1360
E-mail Address: Jake@Jakewalesch.com

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

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

PART TWO: Site Location Information

County: Hennepin **City/Township: Plymouth**
Parcel ID and/or Address: 0811822340014, 0811822310001
Legal Description (Section, Township, Range): S:8 T:118N R:22W
Lat/Long (decimal degrees): -
Attach a map showing the location of the site in relation to local streets, roads, highways.
Approximate size of site (acres) or if a linear project, length (feet): 156.7

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

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

PART THREE: General Project/Site Information

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

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

PART FOUR: Aquatic Resource Impact[1] Summary

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

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

[1]If impacts are temporary; enter the duration of the impacts in days next to the "T". For example, a project with a temporary access fill that would be removed after 220 days would be entered "T (220)".
[2]Impacts less than 0.01 acre should be reported in square feet. Impacts 0.01 acre or greater should be reported as acres and rounded to the nearest 0.01 acre. Tributary impacts must be reported in linear feet of impact and an area of impact by indicating first the linear feet of impact along the flowline of the stream followed by the area impact in parentheses). For example, a project that impacts 50 feet of a stream that is 6 feet wide would be reported as 50 ft (300 square feet).
[3]This is generally only applicable if you are applying for a de minimis exemption under MN Rules 8420.0420 Subp. 8, otherwise enter "N/A".
[4]Use *Wetland Plants and Plant Community Types of Minnesota and Wisconsin* 3rd Ed. as modified in MN Rules 8420.0405 Subp. 2.
[5]Refer to Major Watershed and Bank Service Area maps in MN Rules 8420.0522 Subp. 7.

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

PART FIVE: Applicant Signature

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

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

Hollydale GC Development, Inc.

Signature: _____ Date: 9/27/19

Its: President

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

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

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

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

☐ **Wetland Type Confirmation**

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

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

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

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

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

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

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

Minnesota Wetland Conservation Act (WCA): 8420.0105 Subp. 2D.

Section 404 of the Clean Water Act (CWA): Seeking verification that ornamental ponds excavated in upland are not under CWA Jurisdiction.

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

WCA: See the attached memo for the discussion of the ornamental ponds (incidentally created wetlands) present onsite.

CWA: See the attached memo for the discussion of the ornamental ponds present onsite.

Hollydale Golf Course

WCA/CWA Jurisdictional Summary

Appendix B: Historic Aerial Photos and USGS Topo Maps

Historic Aerial Photos (1937 MNGEO Photo)

N

0 400 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons

Hollydale Golf Course (KES 2019-113)
Plymouth, Minnesota

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

Historic Aerial Photos (1945 MNGEO Photo)

N

0 400 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons

Hollydale Golf Course (KES 2019-113)
Plymouth, Minnesota

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

Historic Aerial Photos (1956 MNGEO Photo)

N

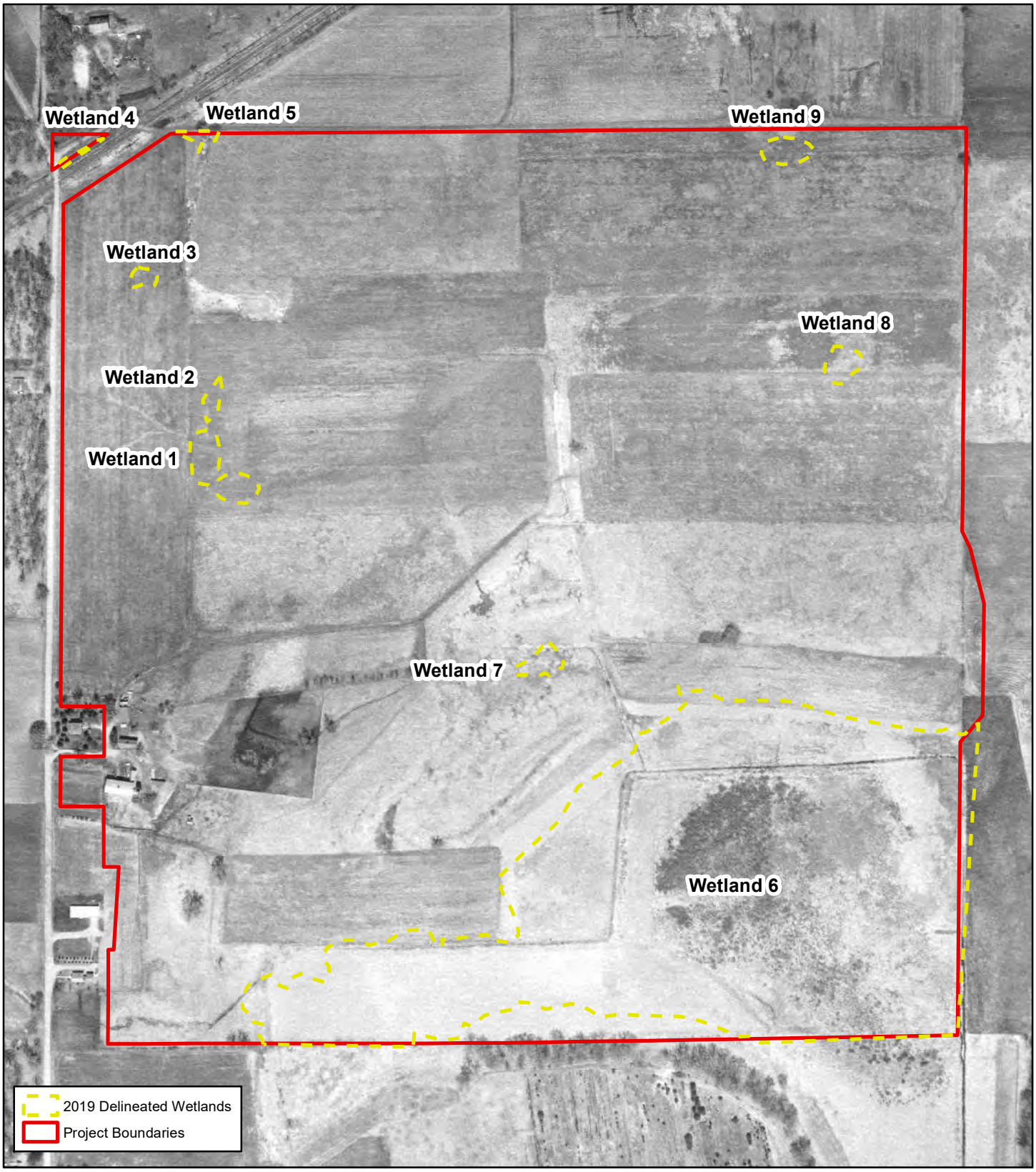
0 400 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons

Hollydale Golf Course (KES 2019-113)
Plymouth, Minnesota

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



Historic Aerial Photos (1960 MNGEO Photo)

N

0 400 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons

Hollydale Golf Course (KES 2019-113)
Plymouth, Minnesota

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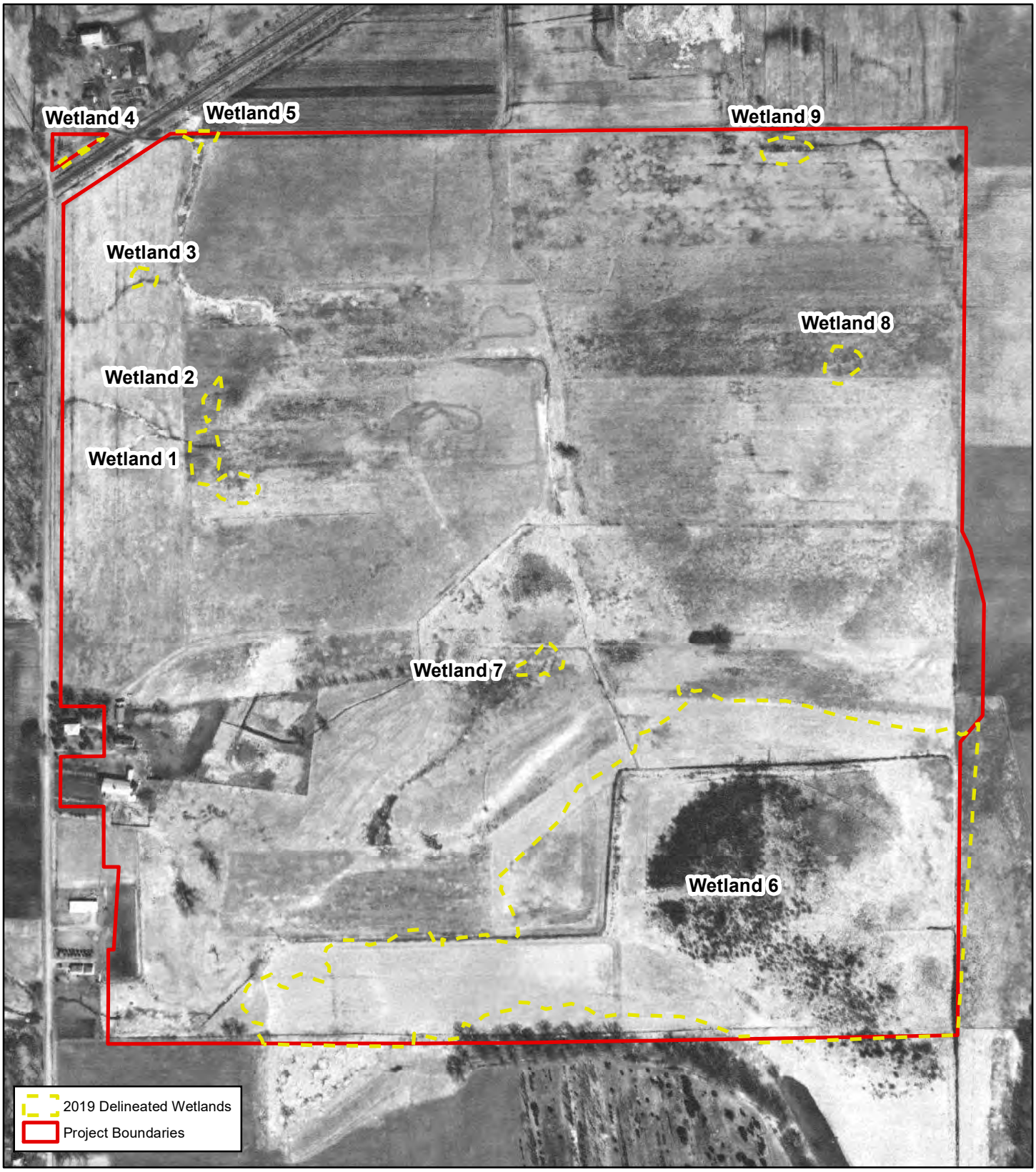

Historic Aerial Photos (1962 MNGEO Photo)

N

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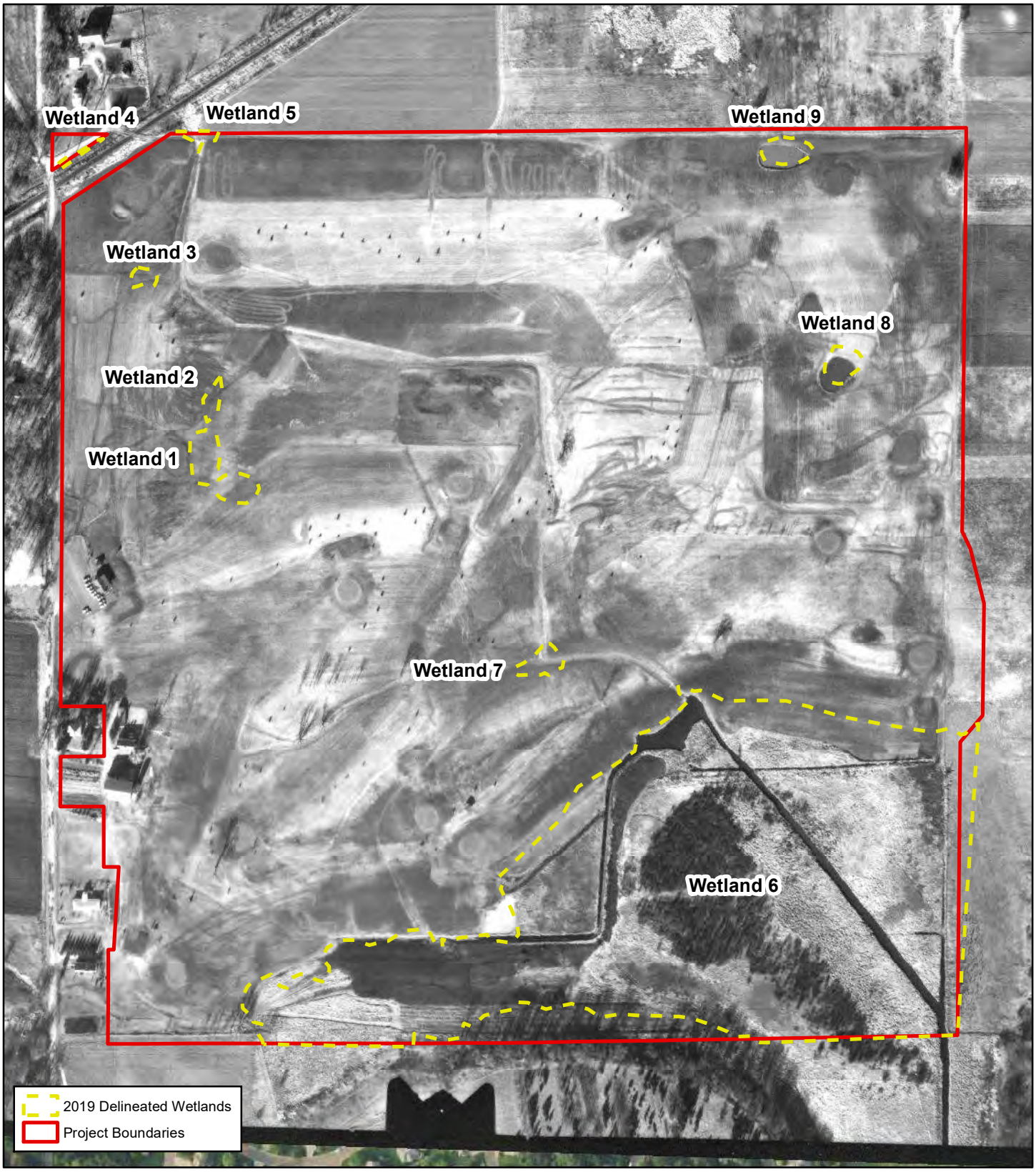
KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons

Hollydale Golf Course (KES 2019-113)
Plymouth, Minnesota

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



Historic Aerial Photos (1967 MNGEO Photo)

N

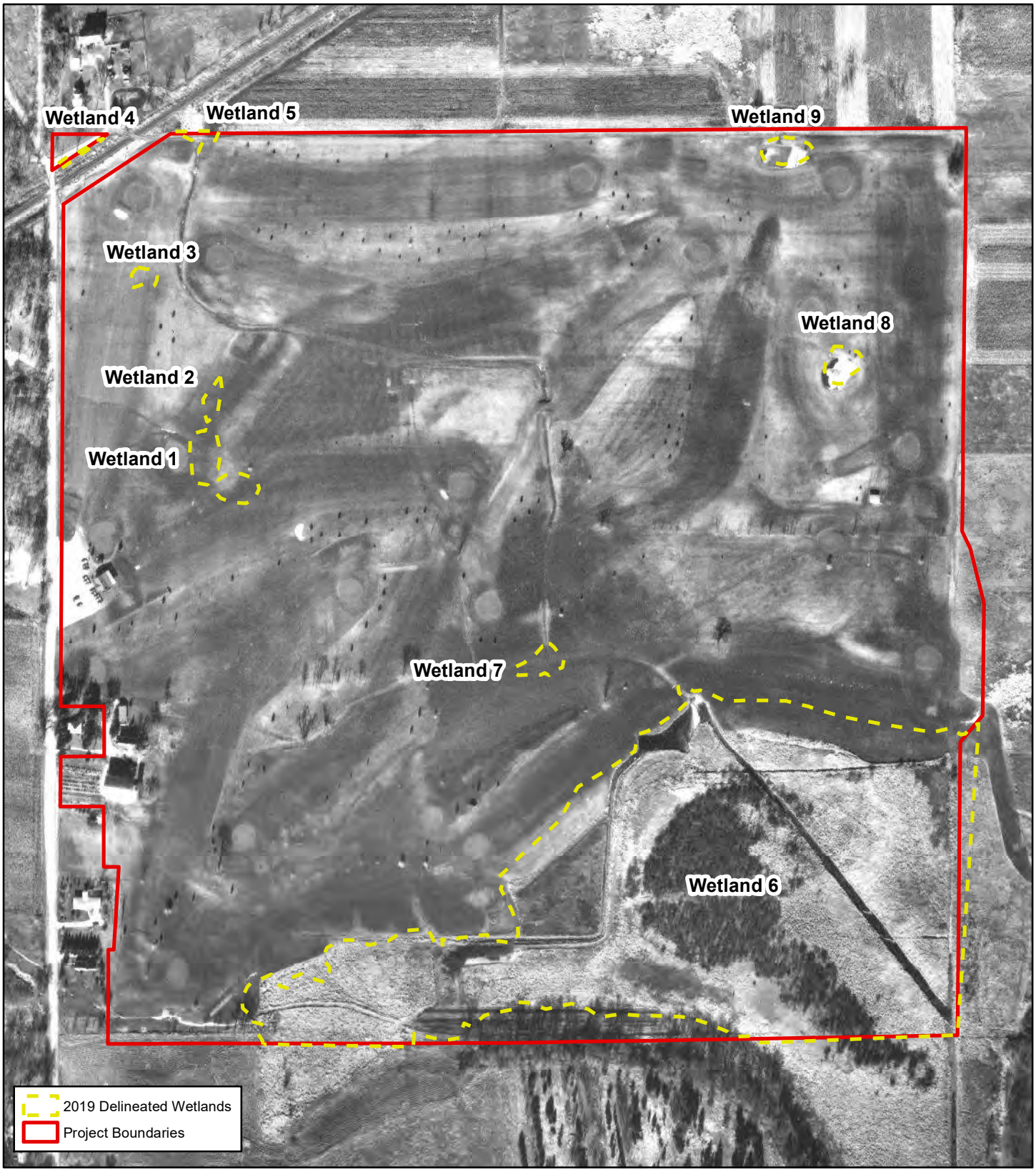
0 400 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons

Hollydale Golf Course (KES 2019-113)
Plymouth, Minnesota

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



Historic Aerial Photos (1971 MNGEO Photo)

N

0 400 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons

Hollydale Golf Course (KES 2019-113)
Plymouth, Minnesota

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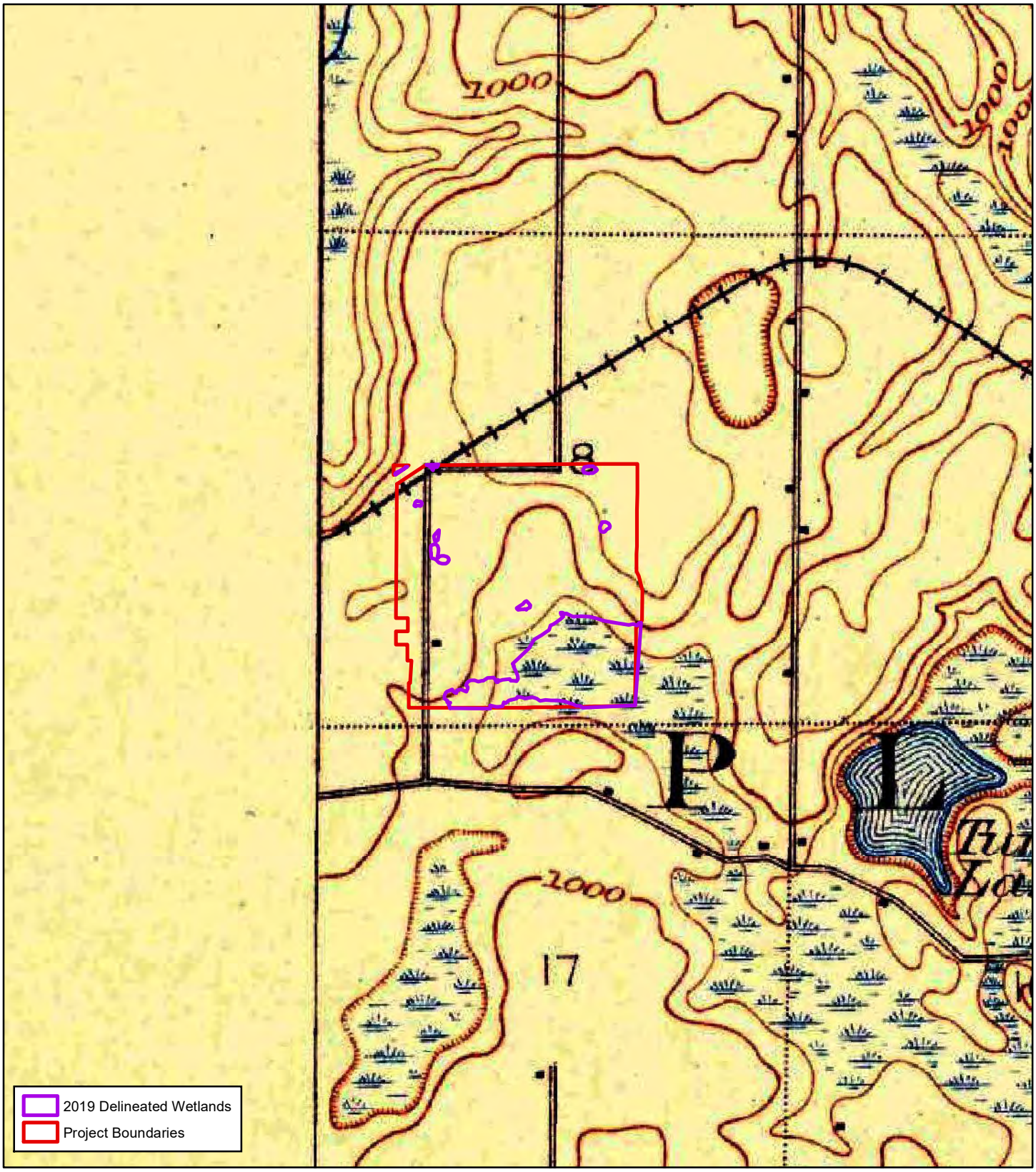

USGS Historic Topography Map - 1902

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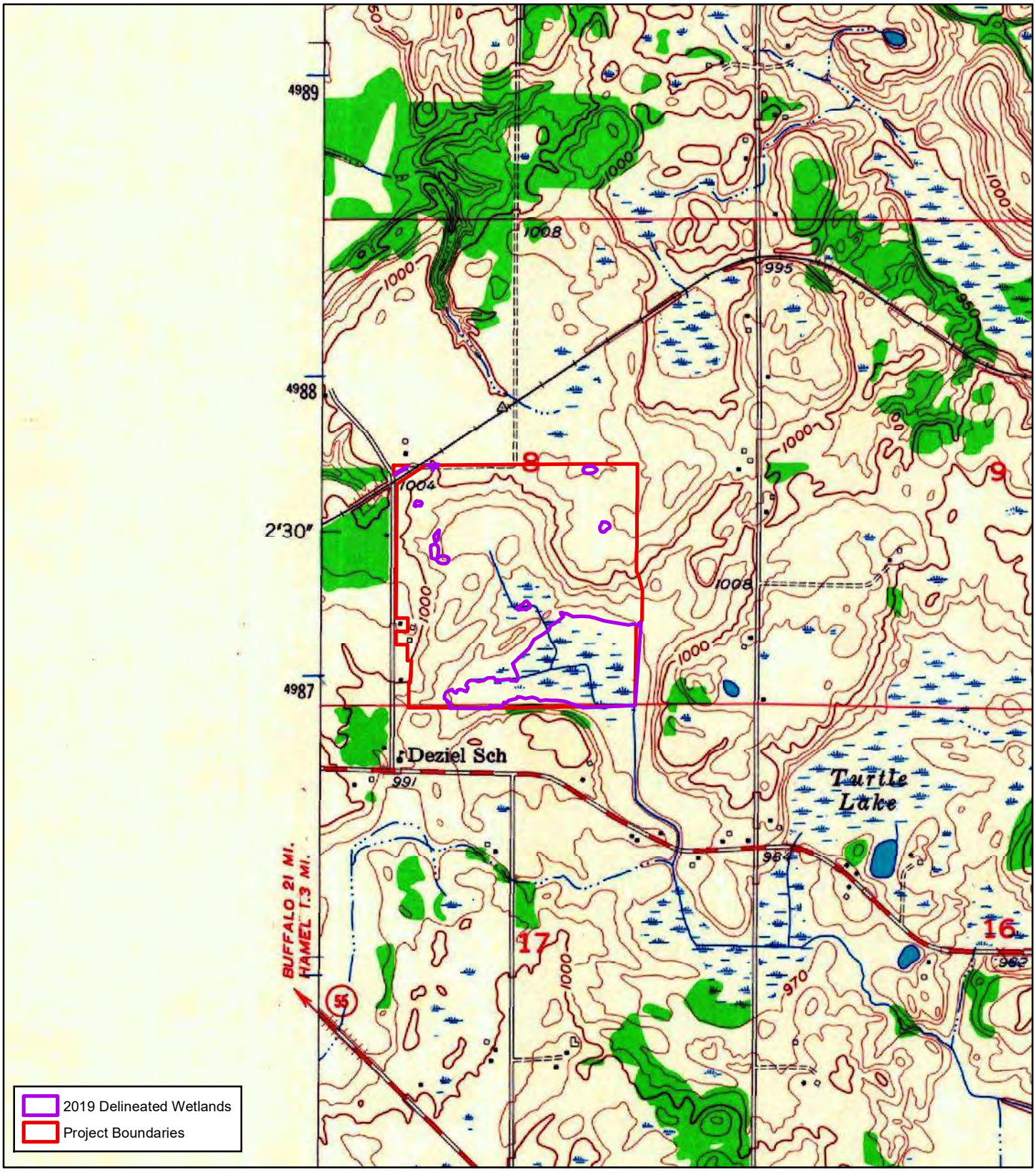
KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons

Hollydale Golf Course (KES 2019-113)
Plymouth, Minnesota

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



USGS Historic Topography Map - 1955

N

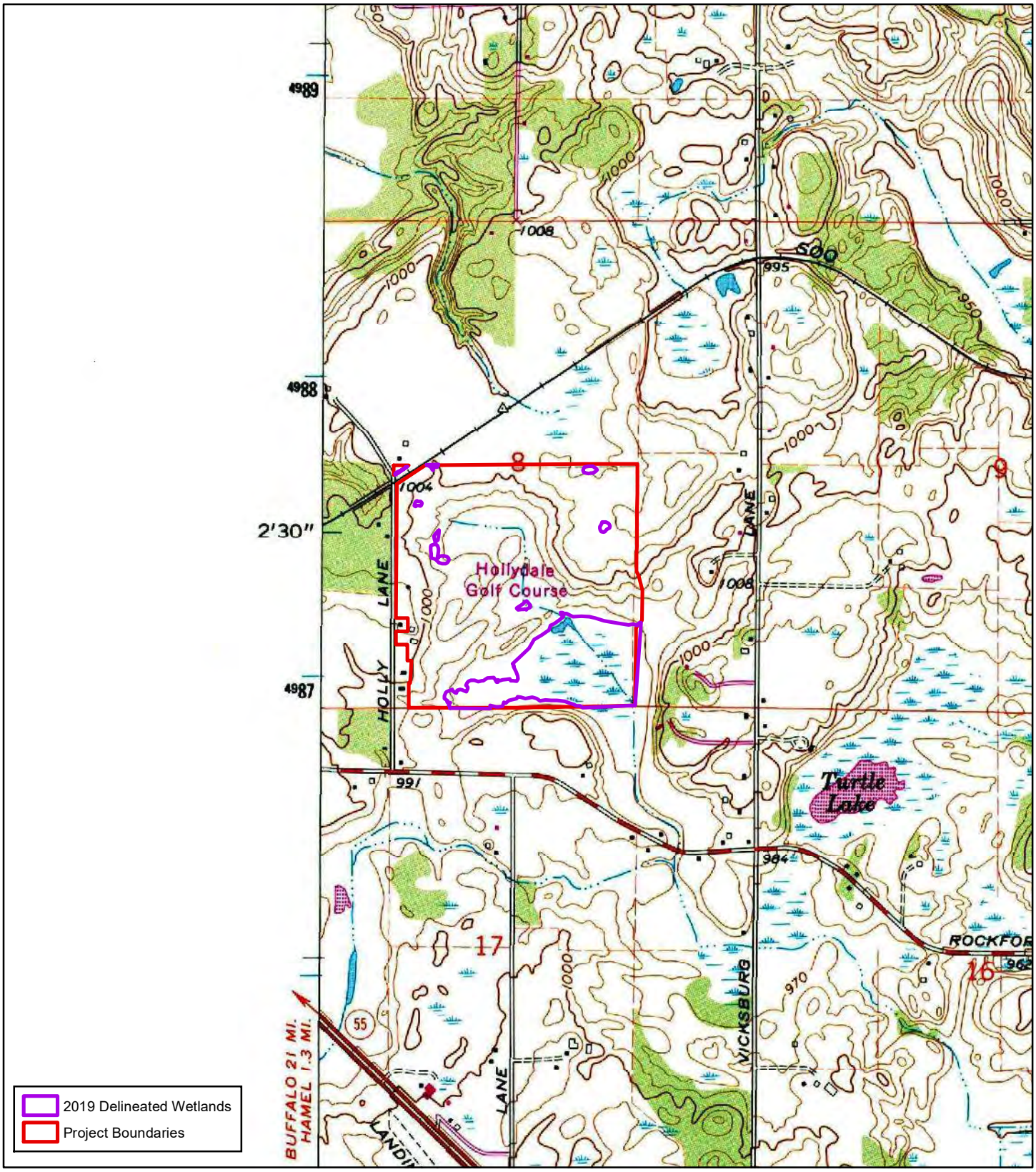
0 1,500 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons

Hollydale Golf Course (KES 2019-113)
Plymouth, Minnesota

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



USGS Historic Topography Map - 1967

N

0 1,500 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons

Hollydale Golf Course (KES 2019-113)
Plymouth, Minnesota

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