Item 7H. BCWMC 11-20-19

Minnesota Wetland Conservation Act **Notice of Application**

	consists of 2 (27.67 acres).
Date of Application 09/27/19 (Received complete 10/01/19) I sheets as necessary): commental Services, dated th, MN. The project area 88 acres), 081182243000	Number 2019-13 Exemption Banking Plan September 27 consists of 2 (27.67 acres). 51 acres, and
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D DECISION	
e recipients in accordance	
	AND DECISION iate recipients in accordance LGU under the Wetland Comments can be submitted to: omments must be received besiness-day comment period):

Phone Number and E-mail Address

bscharenbroich@plymouthmn.gov

763-509-5527

Date, time, and location of decision: On/Before 4pm, November 22, 2019

Decision-maker for this application:

Governing Board or Council

3400 Plymouth Boulevard Plymouth, MN 55447

BWSR Forms 7-1-10 Page 1 of 3

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
leslie.parris@state.mn.us
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
Mambara of the multip who requested notice (notice only). Adam Company Vielbaug
Members of the public who requested notice (notice only): Adam Cameron, Kjolhaug
Environmental Services Company, 2500 Shadywood Road, Suite 130, Orono, MN 55331.
Environmental Services Company, 2500 Shadywood Road, Suite 130, Orono, MN 55331.
Environmental Services Company, 2500 Shadywood Road, Suite 130, Orono, MN 55331. adam@kjolhaugenv.com

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

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

BWSR Forms 7-1-10 Page 2 of 3

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).

BWSR Forms 7-1-10 Page 3 of 3

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

Plymouth, Hennepin County, Minnesota

Wetland Delineation Report

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FIGURES

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

APPENDICES

- A. Joint Application Form for Activities Affecting Water Resources in Minnesota
- B. Wetland Delineation Data Forms
- C. Precipitation Data

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		Wetland T	ype	Dominant Vegetation	Size (Acres
ID	Circular 39	Cowardin	Eggers and Reed	Dominant vegetation	Onsite)
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 <u>Corps of Engineers</u> Wetlands <u>Delineation Manual</u> (Waterways Experiment Station, 1987) and the <u>Regional Supplement to the Corps of Engineers Wetland Delineation Manual</u>: 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 <u>2015 National Wetland Plant List</u> (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 <u>National Wetlands Inventory (NWI)</u> (Minnesota Geospatial Commons 2009-2014 and <u>U.S.</u> <u>Fish and Wildlife Service</u>) showed six wetlands on the site (**Figure 3**).

The <u>Soil Survey</u> (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

G 1 1	CHN	_	% of	%	H 1: C 4
Symbol	Soil Name	Acres	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 <u>National Hydrography Dataset</u> (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

	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/PE M1A	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		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	M1Bd/PEM1	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/PEM 1A	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		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: <u>A Kyle Uhler, GIS & Remote Sensing Specialist</u>

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

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

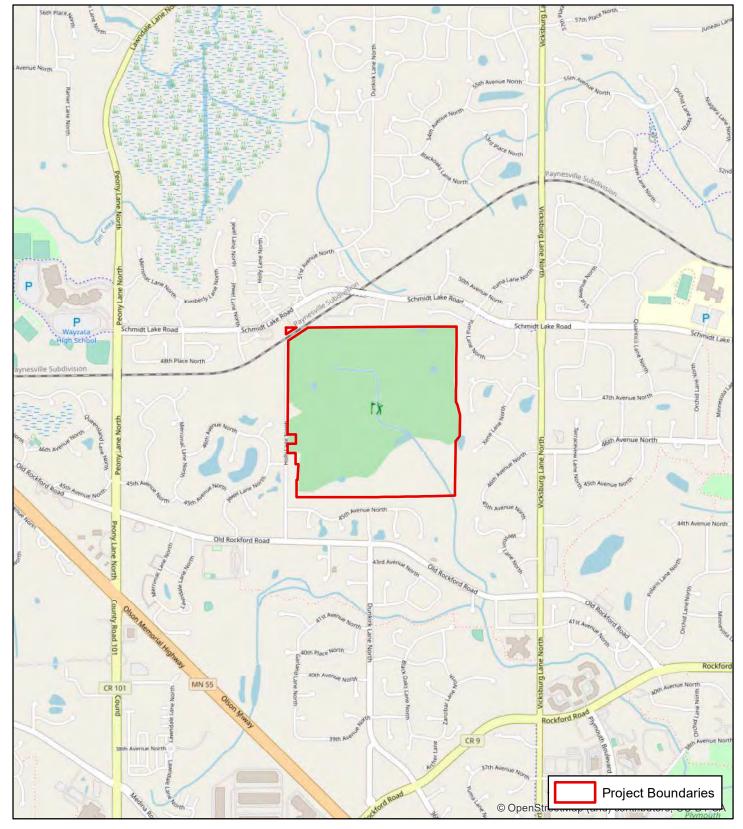
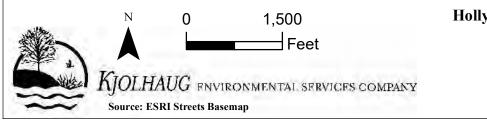


Figure 1 - Site Location Map



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

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

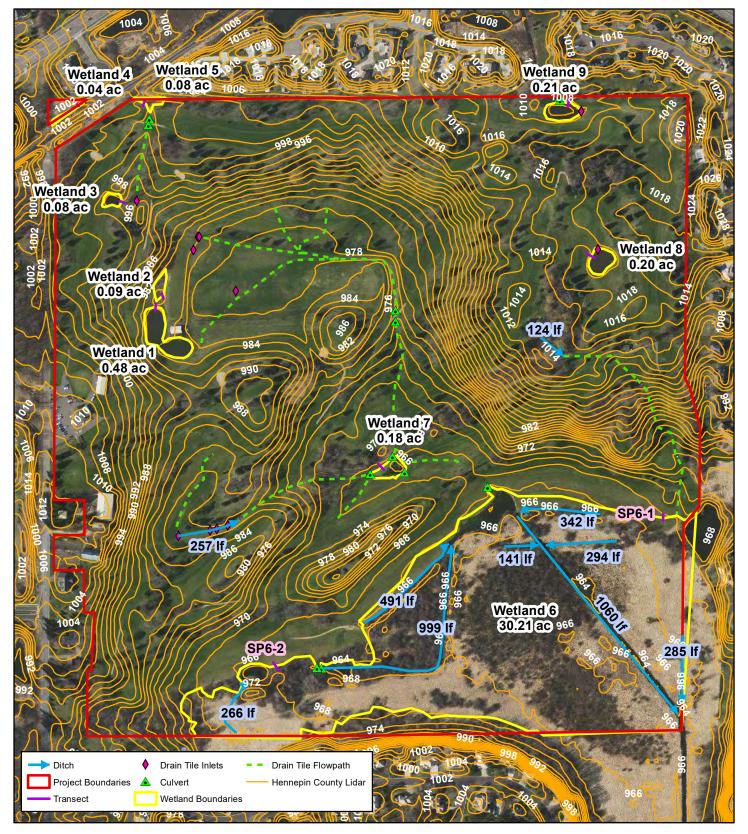


Figure 2 - Existing Conditions (2016 MNGEO Photo)



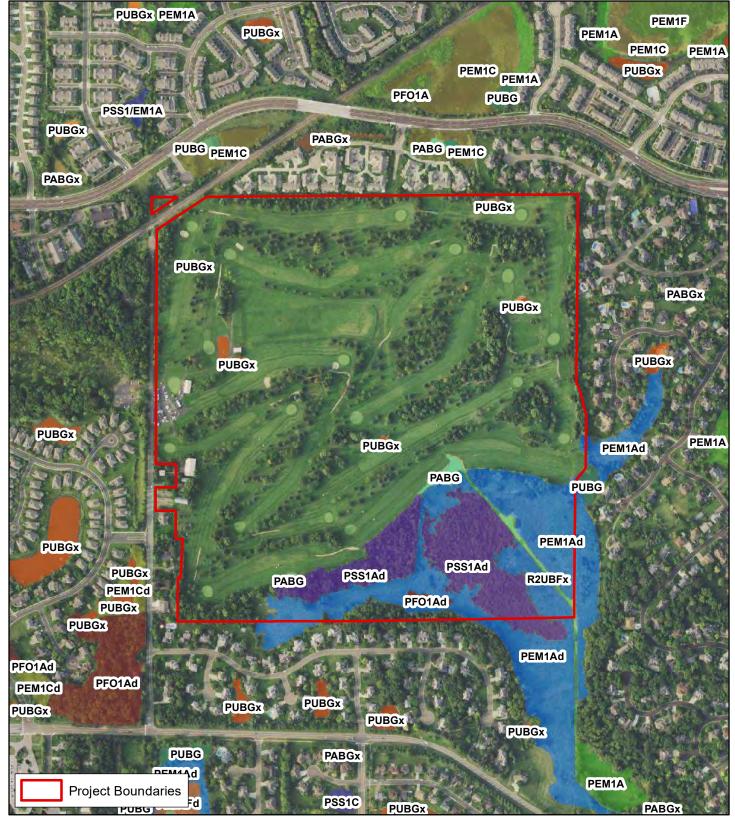


Figure 3 - National Wetlands Inventory



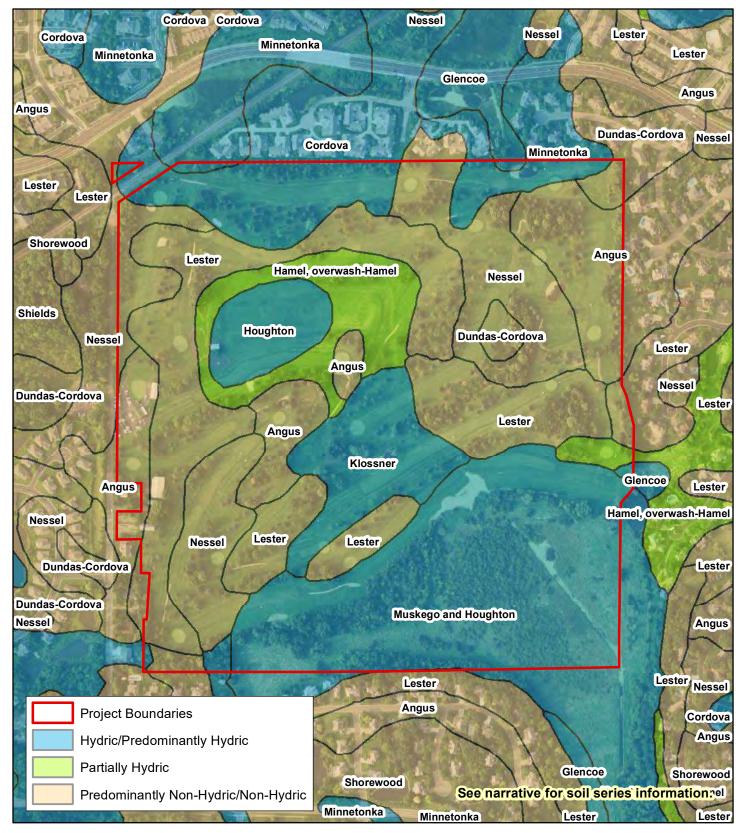
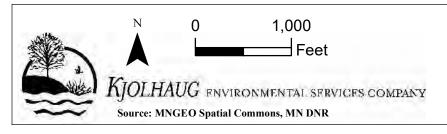


Figure 4 - Soil Survey





Figure 5 - DNR Public Waters Inventory



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

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

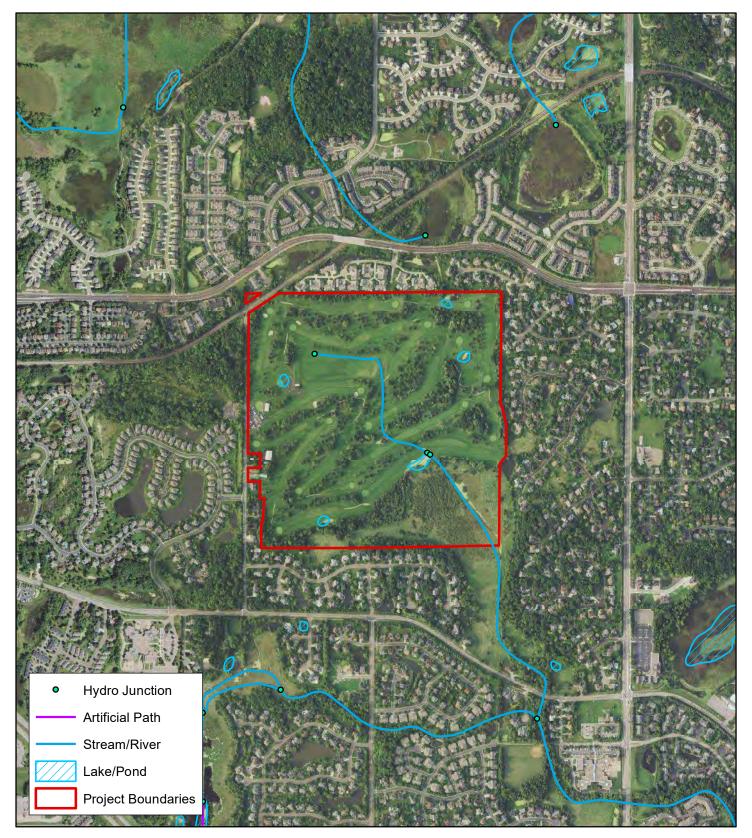
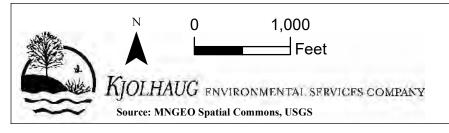


Figure 6 - National Hydrography Dataset



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

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

Wetland Delineation Report

APPENDIX A

Joint Application Form for Activities Affecting Water Resources in Minnesota

Project Name and/or Number: Hollydale Golf Course

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 GG 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.

Project Name and/or Number: Hollydale Golf Course

PART FOUR: Aquatic Resource Impact¹ Summary

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

Aquatic Resource ID (as noted on overhead view)	Aquatic Resource Type (wetland, lake, tributary etc.)	drain or	Impact	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

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)".

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 <u>pre-application</u> consultation with the provided. Regulatory entities will not initiate a formal application review if	
By signature below, I attest that the information in this application is compleauthority to undertake the work described herein. Holly dale GC Development, Inc.	ete and accurate. I further attest that I possess the
Signature: Hz: President	_ Date: 9/27/19

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.

²Impacts less than 0.01 acre should be reported in square feet. Impacts 0.01 acre or greater should be reported as acres and rounded to the nearest 0.01 acre. Tributary impacts must be reported in linear feet of impact and an area of impact by indicating first the linear feet of impact along the flowline of the stream followed by the area impact in parentheses). For example, a project that impacts 50 feet of a stream that is 6 feet wide would be reported as 50 ft (300 square feet).

³This is generally only applicable if you are applying for a de minimis exemption under MN Rules 8420.0420 Subp. 8, otherwise enter "N/A".

⁴Use Wetland Plants and Plant Community Types of Minnesota and Wisconsin 3rd Ed. as modified in MN Rules 8420.0405 Subp. 2.

⁵Refer to Major Watershed and Bank Service Area maps in MN Rules 8420.0522 Subp. 7.

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: Hollydale Golf Course

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

(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 <i>Guidelines for Submitting Wetland Delineations in Minnesota</i> (2013). http://www.mvp.usace.army.mil/Missions/Regulatory/DelineationJDGuidance.aspx

Wetland Delineation Report

APPENDIX B

Wetland Delineation Data Forms

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site Hollydale Golf Course	City/	County: F	Plymouth/He	nnepin Sampling	g Date:	08/14/2019
Applicant/Owner: See Joint Application Form		State:	MN	 I Sampling	Point:	SP1-1U
Investigator(s): Kyle Uhler & Will Effertz		Secti	on, Townshi	p, Range:	S8 T118N	N R22W
Landform (hillslope, terrace, etc.): Hillslope		Local r	elief (concav	/e, convex, none):		Linear
Slope (%): 1 to 4 Lat:		Long:		Datum:		
Soil Map Unit Name Hamel Consociation			١W١	Classification:	N	lone
Are climatic/hydrologic conditions of the site typical for this	s time o	of the year?	Y (If no, explain in rem	narks)	
Are vegetation X , soil X , or hydrology		significantly	disturbed?	Are "norn	nal circumst	ances"
Are vegetation , soil , or hydrology		naturally pro	oblematic?	7.10 110111		esent? No
SUMMARY OF FINDINGS				(If needed, expla	iin any answ	vers in remarks.)
Hydrophytic vegetation present? N						
Hydric soil present? Y		Is the s	ampled area	a within a wetland	?	N
Indicators of wetland hydrology present? N		If yes, op	otional wetlar	nd site ID:		
Remarks: (Explain alternative procedures here or in a sep	parate r	report.)				<u>—</u>
30-day precipitation rolling total is within norm		-	itation from	m gridded databa	ase metho	nd is typical
Sample point is located						a lo typical.
VEGETATION Use scientific names of plants.						
· ·	solute	Dominant	Indicator	Dominance Tes	t Worksher	et
	Cover	Species	Staus	Number of Domina	ant Species	
1				that are OBL, FAC		1 (A)
2				Total Number o	of Dominant	
3				Species Acros	s all Strata:	(B)
				Percent of Domina		50.000/ /A/D)
5	0 :	= Total Cover		that are OBL, FAC	vv, or FAC:	50.00% (A/B)
Sapling/Shrub stratur (Plot size: 15)		- Total Covel		Prevalence Inde	y Workshe	
1				Total % Cover of		
2				OBL species	0 x1=	= 0
3				FACW species	0 x 2 =	= 0
4				FAC species	55 x 3 =	= 165
5				FACU species	35 x 4 =	
	0	= Total Cover	•	UPL species	0 x 5 =	
Herb stratum (Plot size: 5)				Column totals	90 (A)	305 (B)
	55	<u>Y</u>	FAC	Prevalence Inde	x = B/A = _	3.39
	35	<u> </u>	FACU	Hudua abutia Va	matatian In	dia atawa :
3				Hydrophytic Ve	_	ic vegetation
5				Dominance t		=
6				Prevalence i		
7				Morphogical	adaptations	s* (provide
8				supporting d	•	**
9				separate she	et)	
10				Problematic	hydrophytic	vegetation*
	90 :	= Total Cover	•	(explain)		
Woody vine stratum (Plot size: 15) 1				•		and hydrology must be or problematic
2				Hydrophytic	•	
	0	= Total Cover	•	vegetation present?	N	
Remarks: (Include photo numbers here or on a separate s	sheet)					
Tromands, (molado prioto numbers nere or on a separate s	oncet)					

SOIL	Sampling Point:	004 411
50II	Sambling Point:	SP1-1U

Depth Color (moist) We Color (moist) We Type Lor" Texture Remarks	Profile Des	cription: (Descri	be to the	e depth needed t	o docun	nent the	indicato	r or confirm t	he absence	of indicators.)		
O to 4										•		
4 to 12 10YR 2/2 55	(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Textu	ıre	Remarks		
12 to 24	0 to 4	10YR 2/2	100					Mucky Loan	n			
12 to 24	4 to 12	10YR 2/2	55					Clay Loam		Disturbed		
Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix Hydric Soil Indicators: Histisci (A1) Sandy Glevyed Matrix (S4) Histisc (Pappedon (A2) Sandy Redox (S5) Histisci (Pappedon (A2) Sandy Redox (S5) Histisci (Pappedon (A2) Sandy Redox (S5) Hydrogen Sulfide (A4) X Loamy Mucky Mineral (F1) Very Shallow Dark Surface (F12) (LRR K, L, R) Dark Surface (S1) (LRR K, L, R) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Depleted Below Dark Surface (A12) Sandy Mucky Mineral (S1) So m Mucky Holeral (S1) So m Mucky Peat or Peat (S3) Restrictive Layer (If observed): Type: Depth (inches): Hydric soil present? Wetland Hydrology Indicators: Hydric soil present? Hydric soil present? Hydric soil present? Y Secondary Indicators (minimum of two required) Surface Water (A1) Drainage Patterns (B10)		10YR 3/1	45					Clay Loam		Disturbed		
Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix Hydric Soil Indicators: Histisci (A1) Sandy Glevyed Matrix (S4) Histisc (Pappedon (A2) Sandy Redox (S5) Histisci (Pappedon (A2) Sandy Redox (S5) Histisci (Pappedon (A2) Sandy Redox (S5) Hydrogen Sulfide (A4) X Loamy Mucky Mineral (F1) Very Shallow Dark Surface (F12) (LRR K, L, R) Dark Surface (S1) (LRR K, L, R) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Depleted Below Dark Surface (A12) Sandy Mucky Mineral (S1) So m Mucky Holeral (S1) So m Mucky Peat or Peat (S3) Restrictive Layer (If observed): Type: Depth (inches): Hydric soil present? Wetland Hydrology Indicators: Hydric soil present? Hydric soil present? Hydric soil present? Y Secondary Indicators (minimum of two required) Surface Water (A1) Drainage Patterns (B10)	12 to 24	10YR 2/1	100					Clay I oam				
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Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Aquatic Fauna (B13) Surface Soil Cracks (B6) High Water Table (A2) True Aquatic Plants (B14) Saturation (A3) Hydrogen Sulfide Odor (C1) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Inon Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Water-Stained Leaves (B9) Water Saturation Present? Yes No X Depth (inches): Water Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Drainage Patterns (B10) Surface Soil Cracks (B6) Drainage Patterns (B10) Surface Soil Cracks (B6) Drainage Patterns (B10) Dra												
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Aquatic Fauna (B13) Surface Soil Cracks (B6) High Water Table (A2) True Aquatic Plants (B14) Saturation (A3) Hydrogen Sulfide Odor (C1) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Inon Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Water-Stained Leaves (B9) Water Saturation Present? Yes No X Depth (inches): Water Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Drainage Patterns (B10) Surface Soil Cracks (B6) Drainage Patterns (B10) Surface Soil Cracks (B6) Drainage Patterns (B10) Dra												
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Aquatic Fauna (B13) Surface Soil Cracks (B6) High Water Table (A2) True Aquatic Plants (B14) Saturation (A3) Hydrogen Sulfide Odor (C1) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Inon Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Water-Stained Leaves (B9) Water Saturation Present? Yes No X Depth (inches): Water Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Drainage Patterns (B10) Surface Soil Cracks (B6) Drainage Patterns (B10) Surface Soil Cracks (B6) Drainage Patterns (B10) Dra	HYDROLO	OGY										
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Surface Water (A1) Aquatic Fauna (B13) Surface Soil Cracks (B6) High Water Table (A2) True Aquatic Plants (B14) Drainage Patterns (B10) Drainage Patte	_			required: check a	ll that an	nlv)		S	econdary Ind	dicators (minimum of two required		
High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Water-Stained Leaves (B9) Field Observations: Surface water present? Yes No X Depth (inches): Water Table (A2) True Aquatic Plants (B14) 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) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Water-Stained Leaves (B9) Other (Explain in Remarks) Indicators of wetland hydrology present? No X Depth (inches): Indicators of wetland hydrology present? N Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	-	•	01 0110 10	roquirou, oricoit u			13)	<u> </u>		•		
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) Field Observations: Surface water present? Yes No X Depth (inches): Water Marks (B1) Oxidized Rhizospheres on Living Roots Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5) FAC-Neutral Test (D5) Indicators of wetland (D9) Water-Stained Leaves (B9) Indicators of wetland (D9) Water table present? Yes No X Depth (inches): Indicators of wetland (D9) Notrology present? N Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		` '			•	•	,	_		, ,		
Sediment Deposits (B2) (C3) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Sparsely Vegetated Concave Surface (B8) Gauge or Well Data (D9) Water-Stained Leaves (B9) Other (Explain in Remarks) Field Observations: Surface water present? Yes No X Depth (inches): Water table present? Yes No X Depth (inches): Water table present? Yes No X Depth (inches): Saturation Visible on Aerial Imagery (C9) FAC-Neutral Test (D5) Indicators of wetland hydrology present? No X Depth (inches): Indicators of wetland hydrology present? N Includes capillary fringe)		, ,			_			_				
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) Field Observations: Surface water present? Water table present? Yes No Saturation present? Yes No X Depth (inches): Water Surface (B8) Saturation present? Yes No X Depth (inches): Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Water M	larks (B1)			Oxidized	l Rhizospl	heres on I	Living Roots	Crayfish	Burrows (C8)		
Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Water-Stained Leaves (B9) Field Observations: Surface water present? Water table present? Yes No X Depth (inches): Water table present? Yes No X Depth (inches): Saturation present? Yes No X Depth (inches): Indicators of wetland hydrology present? N Indicators of wetland hydrology present? N Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					• ' '							
Iron Deposits (B5) (C6) FAC-Neutral Test (D5) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Sparsely Vegetated Concave Surface (B8) Gauge or Well Data (D9) Water-Stained Leaves (B9) Other (Explain in Remarks) Field Observations: Surface water present? Yes No X Depth (inches): Water table present? Yes No X Depth (inches): Indicators of wetland hydrology present? N Saturation present? Yes No X Depth (inches): hydrology present? N Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					•)			_				
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Sparsely Vegetated Concave Surface (B8) Water-Stained Leaves (B9) Other (Explain in Remarks) Field Observations: Surface water present? Yes No X Depth (inches): Water table present? Yes No X Depth (inches): Saturation present? Yes No X Depth (inches): (includes capillary fringe) Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		` '	l Imagery	(B7)		ck Surfac	e (C7)	_		attai Test (De)		
Water-Stained Leaves (B9) Other (Explain in Remarks) Field Observations: Surface water present? Yes No X Depth (inches): Water table present? Yes No X Depth (inches): Saturation present? Yes No X Depth (inches): Indicators of wetland hydrology present? N (includes capillary fringe) Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			0,	· /			` '					
Surface water present? Yes No X Depth (inches): Water table present? Yes No X Depth (inches): Saturation present? Yes No X Depth (inches): Indicators of wetland hydrology present? N (includes capillary fringe) Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Water-S	tained Leaves (B9))		_							
Water table present? Yes No X Depth (inches): Indicators of wetland hydrology present? N (includes capillary fringe) Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Field Obser	vations:			-							
Saturation present? Yes No X Depth (inches): hydrology present? N (includes capillary fringe) Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:						_	,					
(includes capillary fringe) Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		•										
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			Yes	No	X	Depth (i	nches):		ny	drology present?		
			m dallas	monitoring well	aprial nh	notos pro	vious inc	nections) if a	vailable:			
Remarks:	Describe 160	Jorueu uala (Silea	ın yauye	, monitoring well,	acılal þľ	ioios, pre	vious IIIS	pecions), ii al	raliable.			
Remarks:												
	Remarks:											
	I											

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site Hollydale Golf Course	City/C	County: P	lymouth/He	nnep <u>i</u> n	Sampling Date:	08/14/2019		
Applicant/Owner: See Joint Application Form	•	State:	MN	I	Sampling Point:	SP1-1W		
Investigator(s): Kyle Uhler & Will Effertz		Section	on, Townshi	ship, Range: S8 T118N R22W				
Landform (hillslope, terrace, etc.): Depression	n	Local re	elief (concav	e, conve	k, none):	Concave		
Slope (%): 0 to 3 Lat:		Long:			Datum:			
Soil Map Unit Name Hamel Consociation			\WI (Classifica	tion:	PUBGx		
Are climatic/hydrologic conditions of the site typical for thi	is time of	f the year?	Υ (If no, exp	lain in remarks)			
Are vegetation X , soil , or hydrology		significantly	disturbed?		Are "normal circum	stances"		
Are vegetation , soil , or hydrology		naturally pro	blematic?			present? No		
SUMMARY OF FINDINGS				(If need	ded, explain any an	swers in remarks.)		
Hydrophytic vegetation present? Y								
Hydric soil present? Y		Is the sa	ampled area	a within a	wetland?	Υ		
Indicators of wetland hydrology present?			tional wetlar					
Remarks: (Explain alternative procedures here or in a se	narate re	enort)						
30-day precipitation rolling total is within nor		-	itation from	m aridde	nd datahasa matl	and is typical		
Sample point was on the						iou is typicai.		
VEGETATION Use scientific names of plants.								
·		Damainant	Indicator	Domin	ance Test Worksh	eet		
	solute Cover	Dominant Species	Staus		of Dominant Specie			
1					OBL, FACW, or FAC			
2	·				Number of Dominar			
4				·	of Dominant Specie	``		
5					OBL, FACW, or FAC			
	0 =	Total Cover						
Sapling/Shrub stratun (Plot size: 15)				Preval	ence Index Works	heet		
1					6 Cover of:			
2				OBL sp		1 = 3		
3					· —	2 = 4		
	·			FAC S		3 = <u>240</u> 4 = 60		
	0 =	Total Cover		UPL sp		5 = <u>00</u>		
Herb stratum (Plot size: 5)		10101 00101		1	n totals 100 (A			
` '	80	Υ	FAC		ence Index = B/A =	· — · · ·		
2 Digitaria ischaemum	15	 N	FACU	l loval	onde index B// t	0.07		
3 typha x glauca	3	N	OBL	Hydro	phytic Vegetation	Indicators:		
4 Bidens frondosa	2	N	FACW		pid test for hydroph			
5				X Do	minance test is >50	1%		
6				Pre	evalence index is ≤3	3.0*		
7				Мс	rphogical adaptatio	ns* (provide		
8					oporting data in Rer	narks or on a		
9				I —	parate sheet)			
10	100 =	Total Cover			oblematic hydrophyt (plain)	ic vegetation*		
Woody vine stratum (Plot size: 15)					ors of hydric soil and we oresent, unless disturbe	etland hydrology must be		
2	<u> </u>			Ну	drophytic getation	a or problematio		
	0 =	Total Cover			esent? Y	_		
Remarks: (Include photo numbers here or on a separate	sheet)							

SOIL Sampling Point: SP1-1W

Profile Desc	cription: (Descri	be to the	e depth needed t	o docun	nent the	indicato	r or confirm	the absence	of indicators.)
Depth	<u>Matrix</u>		Red	dox Feat	<u>ures</u>				
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Tex	ture	Remarks
0 to 4	10YR 2/1	100					Mucky Loa	ım	
4 to 10	10YR 2/1	80	5G 5/1	15	D	М	Clay Loam		
			10YR 4/6	5	С	М	Clay Loam		
			.0				olaj zeali.		
*Type: C = C	Concentration, D =	Depletion	on, RM = Reduce	d Matrix,	MS = Ma	asked Sa	nd Grains.	**Location:	PL = Pore Lining, M = Matrix
Hydric So	il Indicators:						Indicato	rs for Proble	ematic Hydric Soils:
	tisol (A1)			dy Gleye		(S4)			dox (A16) (LRR K, L, R)
	tic Epipedon (A2)			idy Redo				k Surface (S7	
	ck Histic (A3)			pped Ma				_	Masses (F12) (LRR K, L, R)
	Irogen Sulfide (A4	-		my Muck					k Surface (TF12)
	atified Layers (A5)			my Gleye		(F2)	— Othe	er (explain in	remarks)
	m Muck (A10)	Cumfaaa		oleted Ma lox Dark	. ,	(FC)			
	oleted Below Dark ok Dark Surface (/			oleted Da		` '	41 11		
	idy Mucky Minera	•		lox Depr		` ,			ophytic vegetation and weltand e present, unless disturbed or
	n Mucky Peat or f			iox Depi	53310113 (10)	riyui	ology must b	problematic
	-		/			ı			p. 32.3
	Layer (if observe	ea):					المرادا ا	!!	12 V
Type: Depth (inche	201:				•		nyaria	soil presen	t? <u>Y</u>
Берит (птопе					-				
Remarks:									
Likely De	epleted below d	lark sur	face						
LIVEROLO)OV								
HYDROLO									
_	drology Indicato								
-	cators (minimum o	of one is	required; check a				<u>S</u>	-	dicators (minimum of two required)
	Water (A1)				Fauna (B				Soil Cracks (B6)
X High wa	iter Table (A2)			True Aqu		Odor (C1			Patterns (B10) son Water Table (C2)
	arks (B1)					•) Living Roots		Burrows (C8)
	nt Deposits (B2)			(C3)	Milzosp	neres on	Living Noots		n Visible on Aerial Imagery (C9)
	oosits (B3)				e of Redu	ced Iron	(C4)		or Stressed Plants (D1)
	t or Crust (B4)			•		ction in Ti			ohic Position (D2)
Iron Dep	osits (B5)			(C6)			•	X FAC-Neu	ıtral Test (D5)
	on Visible on Aeria	0,	· ,		ck Surfac		•		
	Vegetated Conca		ce (B8)		r Well Da				
	tained Leaves (B9))		Other (E	xplain in	Remarks)			
Field Obser									
Surface water		Yes	No No	X	Depth (i	-		1 .	diagtary of weathers
Water table		Yes	X No		Depth (i	-	5		dicators of wetland drology present?
Saturation p (includes ca		Yes	X No		Depth (i	ncnes):	0	ny	/drology present? Y
		m daylaa	monitoring well	aerial ab	intos pro	wioue inc	nections) if a	vailable:	
Describe rec	corded data (strea	ııı yauge	, monitoring well,	aenai pri	iolos, pre	vious iris	pections), il a	avaliable.	
Remarks:									

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site Hollydale Golf Course	City/C	County: F	Plymouth/Her	nnepin	Sampling Date:	08/14/2019
Applicant/Owner: See Joint Application Form		State:	MN	1 5	Sampling Point:	SP2-1U
Investigator(s): Kyle Uhler & Will Effertz		Secti	ion, Townshi	p, Range:	S8 T1	18N R22W
Landform (hillslope, terrace, etc.): Hillslope	!	Local r	elief (concav	e, convex,	none):	Linear
Slope (%): 1 to 4 Lat:		Long:			Datum:	
Soil Map Unit Name Hamel Consociation			/WI	Classificati	on:	None
Are climatic/hydrologic conditions of the site typical for th	is time o	f the year?	Υ (If no, expla	nin in remarks)	
Are vegetation X , soil X , or hydrology		significantly	/ disturbed?	,	Are "normal circur	mstances"
Are vegetation , soil , or hydrology		naturally pr	oblematic?			present? No
SUMMARY OF FINDINGS				(If need	ed, explain any ar	nswers in remarks.)
Hydrophytic vegetation present? N						
Hydric soil present? N		Is the s	ampled area	a within a	wetland?	N
Indicators of wetland hydrology present?		If yes, or	otional wetlar	nd site ID:	_	
Remarks: (Explain alternative procedures here or in a se	parate re	eport.)		-		
30-day precipitation rolling total is within nor Sample point is located	mal rar	nge. Precip		-		thod is typical.
VEGETATION Use scientific names of plants.						
·	solute	Dominant	Indicator	Domina	nce Test Works	heet
	Cover	Species	Staus		of Dominant Speci	
1					BL, FACW, or FA	
					Number of Domina ies Across all Strat	
4				Percent of	of Dominant Speci	``
5					BL, FACW, or FA	
<u> </u>	0 =	Total Cove	r			
Sapling/Shrub stratur (Plot size:15)					nce Index Works	sheet
				OBL sp	Cover of: ecies 0 x	1 = 0
3				FACW s		2 = 0
4				FAC spe	· —	3 = 240
5				FACU's		4 = 80
	0 =	Total Cove	r	UPL spe	ecies 0 x	5 = 0
Herb stratum (Plot size: 5)				Column	totals 100 (A) 320 (B)
1 Poa Pratensis	80	Υ	FAC	Prevale	nce Index = B/A =	= 3.20
2 Trifolium repens	20	Υ	FACU			
3					hytic Vegetation	
4				l — ·	id test for hydrop	
5					ninance test is >5	
				l —	valence index is ≤	
8					phogical adaptati	
9					porting data in Re arate sheet)	inarks or on a
10					olematic hydrophy	vtic vegetation*
	100 =	Total Cove	r		olain)	, no vogotanom
Woody vine stratum (Plot size: 15)					rs of hydric soil and w resent, unless disturb	vetland hydrology must be bed or problematic
2				_	lrophytic	
	0 =	Total Cove	r	_	etation sent? N	
Remarks: (Include photo numbers here or on a separate	sheet)			1		
·	•					

SOIL Sampling Point: SP2-	
	411
	-111

Profile Desc	cription: (Descri	be to the	e depth needed t	o docun	nent the	indicato	r or confirm the	e absence	of indicators.)
Depth	<u>Matrix</u>		Re	dox Feat	<u>ures</u>				
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Textur	е	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		
							,		
	Concentration, D =	Depletion	on, RM = Reduce	d Matrix,	MS = Ma	asked Sa			PL = Pore Lining, M = Matrix
_	il Indicators:		0			(0.4)			ematic Hydric Soils:
	isol (A1)			idy Gleye idy Redo	ed Matrix	(S4)			lox (A16) (LRR K, L, R)) (LRR K, L)
	ic Epipedon (A2) ck Histic (A3)			oped Ma	, ,			•	Masses (F12) (LRR K, L, R)
	rogen Sulfide (A4	1)			(30) xy Minera	I (F1)		-	k Surface (TF12)
	itified Layers (A5)			-	ed Matrix			explain in	
	n Muck (A10)			oleted Ma		(/		(0)(0)	, se,
Dep	leted Below Dark	Surface			Surface	(F6)			
Thic	k Dark Surface (A12)	Dep	leted Da	rk Surfac	ce (F7)	*Indicat	ors of hydr	ophytic vegetation and weltand
San	dy Mucky Minera	l (S1)	Red	lox Depr	essions (F8)			e present, unless disturbed or
5 cr	n Mucky Peat or F	Peat (S3)) <u>—</u>						problematic
Restrictive	Layer (if observe	ed):							
Type:	•	•					Hydric s	oil presen	1? N
Depth (inche	es):								
Remarks:									
HYDROLO									
Wetland Hy	drology Indicato	rs:							
Primary India	cators (minimum d	of one is	required; check a	ll that ap	ply)		Sec	condary Inc	licators (minimum of two required)
	Water (A1)			•	Fauna (B	,			Soil Cracks (B6)
	ter Table (A2)				uatic Plan		_		Patterns (B10)
Saturation	` '					Odor (C1	·	_	on Water Table (C2)
	arks (B1)			Oxidized (C3)	Rhizospl	heres on I	Living Roots	_ ′	Burrows (C8)
	t Deposits (B2) osits (B3)				e of Redu	ced Iron	(C4)		n Visible on Aerial Imagery (C9) or Stressed Plants (D1)
	t or Crust (B4)			•		ction in Ti		_	whic Position (D2)
	osits (B5)			(C6)					tral Test (D5)
Inundation	on Visible on Aeria	l Imagery	(B7)	Thin Mu	ck Surfac	e (C7)		_	, ,
Sparsely	Vegetated Concar	ve Surfac	e (B8)		r Well Da				
Water-S	tained Leaves (B9))	<u> </u>	Other (E	xplain in l	Remarks)			
Field Obser									
Surface water		Yes	No	X	Depth (i	,		1	linetono eferrador l
Water table	!	Yes	No No	X	Depth (i				licators of wetland
Saturation policy (includes cap		Yes	No	X	Depth (i	ilciles):		"	drology present? N
	orded data (strea	m daliga	monitoring well	aerial nh	inthe pro	vioue inc	nections) if avo	ilahla.	
Describe 160	orucu uala (Sifea	ııı yauye	, monitoring well,	a c ııaı pi	iolos, pre	vious iils	pecuonaj, ii ava	mapic.	
Remarks:									

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site Hollydale Golf Course	City/County:	Plymouth/H	ennepin	Sampling Date:	08/14/2019
Applicant/Owner: See Joint Application Form	Sta	ate: M	IN S	Sampling Point:	SP2-1W
Investigator(s): Kyle Uhler & Will Effertz		Section, Towns	hip, Range:	S8 T11	18N R22W
Landform (hillslope, terrace, etc.): Depression	Lo	ocal relief (conca	ave, convex,	, none):	Concave
Slope (%): 0 to 3 Lat:	Long:			Datum:	
Soil Map Unit Name Hamel Consociation		١W	I Classificati	ion:	None
Are climatic/hydrologic conditions of the site typical for this t	ime of the ye	ear? Y	(If no, expla	ain in remarks)	
Are vegetation, soil, or hydrology	signific	cantly disturbed	? ,	Are "normal circum	nstances"
Are vegetation , soil , or hydrology	natural	lly problematic?			present? Yes
SUMMARY OF FINDINGS			(If need	ed, explain any an	swers in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? Y	ls t	the sampled ar	ea within a	wetland?	Y
Indicators of wetland hydrology present? Y	If ye	es, optional wetl	and site ID:	Wetland 2	
Remarks: (Explain alternative procedures here or in a separ	rate report.)				
30-day precipitation rolling total is within normal Sample point was on the e					hod is typical.
VEGETATION Use scientific names of plants.					
Absol	lute Domin	ant Indicator	Domina	ance Test Worksh	neet
<u>Tree Stratum</u> (Plot size: <u>30</u>) % Co				of Dominant Specie DBL, FACW, or FAC	
2 3			-	Number of Dominar ies Across all Strata	nt ,
4			-	of Dominant Specie	``
5	= Total C	COVER			C: 100.00% (A/B)
Sapling/Shrub stratun (Plot size: 15)		J0 V C1	Prevale	ence Index Works	 sheet
1 Salix interior 10) Y	FACW		Cover of:	
2			OBL sp	ecies 35 x	1 = 35
3			-	·	2 = 90
4			FAC sp		3 = 0
5			FACU s	· —	4 = 0
Herb stratum (Plot size: 5)	= Total C	Cover	UPL spe		5 = 0 A) 125 (B)
	5 Y	OBL		nce Index = B/A =	
1 Typha x glauca 35 2 Impatiens capensis 25		FACW	- Pievaie	nce index – b/A –	1.50
3 Salix interior 10		FACW	Hydrop	hytic Vegetation	Indicators:
4			- -	oid test for hydroph	
5			X Don	minance test is >50)%
6			X Pre	valence index is ≤	3.0*
7			Mor	phogical adaptation	ons* (provide
8				porting data in Rei	marks or on a
9			· '	arate sheet)	
10) = Total C	Cover	-	blematic hydrophy olain)	tic vegetation*
Woody vine stratum (Plot size: 15)	10tai C	20vei	—		
1			рі	resent, unless disturbe	etland hydrology must be ed or problematic
2		<u> </u>	-	drophytic jetation	
0	= Total C	Cover	_	sent? Y	
Remarks: (Include photo numbers here or on a separate she	eet)				_
	,				

SOIL Sampling Point: SP2-1W

Profile Desc	cription: (Descri	be to the	e depth needed t	o docun	nent the	indicato	r or confirm	the absence	of indicators.)
Depth	<u>Matrix</u>		Red	dox Featı	<u>ures</u>				
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Tex	ture	Remarks
0 to 2	10YR 2/1	100					Mucky Loa	am	
2 to 10	10YR 2/1	100					Loam		
10 to 24	N 2.5/	100					Clay Loam	1	
	11 2.0,						0.00, 200		
*Type: C = C	Concentration, D =	Depletion	on, RM = Reduce	d Matrix,	MS = Ma	asked Sa	nd Grains.	**Location:	PL = Pore Lining, M = Matrix
Hydric So	il Indicators:						Indicato	ors for Proble	ematic Hydric Soils:
	isol (A1)			dy Gleye		(S4)			dox (A16) (LRR K, L, R)
	ic Epipedon (A2)			dy Redo	, ,			k Surface (S7	, ,
	ck Histic (A3)			pped Mat	. ,			=	Masses (F12) (LRR K, L, R)
	rogen Sulfide (A4	-		my Muck	-				k Surface (TF12)
	tified Layers (A5)			my Gleye		(F2)	Oth	er (explain in	remarks)
	n Muck (A10)	Cumfaaa		oleted Ma	. ,	(FC)			
	oleted Below Dark ok Dark Surface (/		· · · · —	lox Dark oleted Da					
	dy Mucky Minera	•		lox Depre					ophytic vegetation and weltand e present, unless disturbed or
	n Mucky Peat or I			iox Debi	53510115 (10)	nyu	rology must b	problematic
	<u> </u>	• •							problematio
	Layer (if observe	ed):					l le calad	!!	12 V
Type:	-1-				•		Hydric	c soil presen	t? <u>Y</u>
Depth (inche	es):				•				
Remarks:									
Likely De	epleted below d	lark sur	face						
HYDROLO									
_	drology Indicato								
Primary India	cators (minimum d	of one is	required; check a				<u> </u>	-	dicators (minimum of two required)
	Water (A1)				Fauna (B				Soil Cracks (B6)
	ter Table (A2)				uatic Plan		`		Patterns (B10)
X Saturation						Odor (C1	•		son Water Table (C2)
	arks (B1) It Deposits (B2)			(C3)	Knizospi	neres on	Living Roots		Burrows (C8) n Visible on Aerial Imagery (C9)
	osits (B3)				e of Redu	ced Iron	(C4)		or Stressed Plants (D1)
	t or Crust (B4)			•			illed Soils		phic Position (D2)
	osits (B5)			(C6)					ıtral Test (D5)
Inundation	on Visible on Aeria	l Imagery	(B7)	Thin Mud	ck Surfac	e (C7)			
Sparsely	Vegetated Conca	ve Surfac	e (B8)	Gauge o	r Well Da	ata (D9)			
Water-S	tained Leaves (B9))		Other (E	xplain in	Remarks)			
Field Obser									
Surface water	•	Yes	No No	X	Depth (i	-		. _	
Water table		Yes	X No		Depth (i	-	15	_	dicators of wetland
Saturation p		Yes	X No		Depth (i	ncnes):	0	. ⁿ \	/drology present? Y
(includes cap		m ac:::::	monitories	ooriel = !-	otoo :===	vious is s	nootions\ 'f	avoiloble:	
Describe red	orded data (strea	ın gauge	, monitoring well,	aeriai ph	iolos, pre	evious ins	pections), if a	avaliable:	
Remarks:									

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site Hollydale Golf Course	City/Cou	ınty: P	lymouth/Her	nnepin	Sampling Date:	08/14/2019
Applicant/Owner: See Joint Application Form		State:	MN		Sampling Point:	SP3-1U
Investigator(s): Kyle Uhler & Will Effertz		Section	on, Township	p, Range:	S8 T1	18N R22W
Landform (hillslope, terrace, etc.): Hillslope		Local re	elief (concav	e, convex	, none):	Linear
Slope (%): 1 to 4 Lat:	Lo	ong:			Datum:	
Soil Map Unit Name Hamel Consociation			/WI (Classificat	ion:	None
Are climatic/hydrologic conditions of the site typical for this	s time of th	e year?	Y (I	If no, expla	ain in remarks)	
Are vegetation X, soil X, or hydrology	sig	gnificantly	disturbed?		Are "normal circu	mstances"
Are vegetation, soil, or hydrology	na	turally pro	blematic?			present? No
SUMMARY OF FINDINGS				(If need	led, explain any a	nswers in remarks.)
Hydrophytic vegetation present? N						
Hydric soil present? Y		Is the sa	ampled area	a within a	wetland?	N
Indicators of wetland hydrology present? N		If yes, op	tional wetlar	nd site ID:		
Remarks: (Explain alternative procedures here or in a sep	arate repo	ort.)				
30-day precipitation rolling total is within norn Sample point is located	nal range	e. Precip		-		thod is typical.
VEGETATION Use scientific names of plants.	Within a	manoar	od lawn wi	unin gon		
	solute Do	ominant	Indicator	Domin:	ance Test Works	
		pecies	Staus		of Dominant Speci	
1					OBL, FACW, or FA	
		 -			Number of Domina cies Across all Stra	
4				Percent	of Dominant Speci	ies
5				that are 0	OBL, FACW, or FA	AC: 50.00% (A/B)
	0 = To	tal Cover				
Sapling/Shrub stratun (Plot size: 15)					ence Index Work	sheet
					Cover of:	.1- 0
3				OBL sp		(1 = <u>0</u> (2 = 0
				FAC sp	· —	3 = 240
5				FACU		(4 = 80
	0 = To	tal Cover		UPL sp	ecies 0	c 5 = 0
Herb stratum (Plot size: 5)				Column	n totals 100 ((A) 320 (B)
1 Poa Pratensis	80	Υ	FAC	Prevale	ence Index = B/A	= 3.20
2 Trifolium repens	20	Υ	FACU			
3					ohytic Vegetation	
				l ——	pid test for hydrop	
5				l ——	minance test is >5 valence index is :	
7		 -				
8					rphogical adaptat pporting data in Re	
9					parate sheet)	5a
10				Pro	blematic hydroph	ytic vegetation*
1	00 = To	tal Cover			plain)	
Woody vine stratum (Plot size: 15)					rs of hydric soil and voresent, unless distur	wetland hydrology must be bed or problematic
2		 -		_	drophytic	
	0 = To	otal Cover			getation esent? N	
Remarks: (Include photo numbers here or on a separate s	sheet)			1		
	•					

SOIL Sampling Point: SP3-1U

Profile Desc	cription: (Descri	be to the	e depth needed	to docun	nent the	indicato	r or confirm t	the absence	of indicators.)
Depth	Matrix		Re	dox Feat	<u>ures</u>				
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Text	ure	Remarks
0 to 5	10YR 2/2	100					Loam		
5 to 18	10YR 5/2	95	10YR 4/6	5	С	М	Clay Loam		
							•		
*Type: C = C	concentration, D =	Depletion	on, RM = Reduce	d Matrix,	MS = Ma	asked Sa	nd Grains.	**Location:	PL = Pore Lining, M = Matrix
Hydric So	il Indicators:						Indicato	rs for Proble	ematic Hydric Soils:
Hist	isol (A1)			ndy Gleye		(S4)	Coas	st Prairie Red	dox (A16) (LRR K, L, R)
Hist	ic Epipedon (A2)		Sai	ndy Redo	x (S5)			Surface (S7	
	ck Histic (A3)			pped Ma	` '			_	Masses (F12) (LRR K, L, R)
	rogen Sulfide (A4			amy Muck	-				k Surface (TF12)
	itified Layers (A5)	1		amy Gley		(F2)	Othe	er (explain in	remarks)
	n Muck (A10)			pleted Ma	, ,				
	leted Below Dark		` ' —	dox Dark		. ,			
	ck Dark Surface (•		pleted Da		. ,			ophytic vegetation and weltand
	dy Mucky Minera	. ,		dox Depr	essions (F8)	hydr	ology must b	e present, unless disturbed or
5 cr	n Mucky Peat or I	Peat (S3)						problematic
Restrictive	Layer (if observe	ed):							
Type:					_		Hydric	soil presen	t? <u>Y</u>
Depth (inche	es):				_				
Remarks:									
HYDROLO)GY								
Wetland Hy	drology Indicato	rs:							
Primary India	cators (minimum o	of one is	required; check a	all that ap	ply)		<u>s</u>	Secondary Inc	dicators (minimum of two required)
Surface '	Water (A1)		•	Aquatic	Fauna (B	13)	_	Surface S	Soil Cracks (B6)
——High Wa	ter Table (A2)			True Aqı			=	Drainage	Patterns (B10)
Saturation	n (A3)			Hydroge	n Sulfide	Odor (C1)	Dry-Seas	son Water Table (C2)
	arks (B1)			Oxidized	l Rhizospl	heres on	Living Roots	Crayfish	Burrows (C8)
	t Deposits (B2)			(C3)			_		n Visible on Aerial Imagery (C9)
	osits (B3)			_		iced Iron			or Stressed Plants (D1)
	t or Crust (B4)				ron Redu	ction in T	illed Soils		phic Position (D2)
	osits (B5)	Ilmagan	(D7)	(C6)	ck Surfac	a (C7)	-	FAC-Neu	ıtral Test (D5)
	on Visible on Aeria Vegetated Conca		· · ·	_	ск Surrac or Well Da	` '			
	tained Leaves (B9			_		ita (D9) Remarks)	1		
Field Obser	` '	/	_	- 011101 (E	.хрічін ін	rtemanto)	'		
Surface water		Yes	No	Χ	Depth (i	nches).			
Water table		Yes	X No		Depth (i		18	Ind	licators of wetland
Saturation p		Yes	X No	-	Depth (i	-	18		/drology present?
(includes cap					(.				
	orded data (strea	m gauge	. monitorina well	aerial nh	notos, pre	evious ins	pections), if a	vailable:	
			,	PI	, p. c		,,,		
Remarks:									
I									

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site Hollydale Golf Course	City/Cour	nty: P	lymouth/Her	nnepin Sa	ampling Date:	08/14/2019
Applicant/Owner: See Joint Application Form		State:	MN	Sa	mpling Point:	SP3-1W
Investigator(s): Kyle Uhler & Will Effertz		Section	on, Township	p, Range:	S8 T1	18N R22W
Landform (hillslope, terrace, etc.): Depression		Local re	elief (concav	e, convex, n	one):	Concave
Slope (%): 0 to 3 Lat:	Lo	ng:		Da	atum:	
Soil Map Unit Name Hamel Consociation			NMI (Classification	n:	PUBGx
Are climatic/hydrologic conditions of the site typical for this	time of the	e year?	Y (I	If no, explain	in remarks)	
Are vegetation X , soil , or hydrology	sig	nificantly	disturbed?	Ar	e "normal circun	nstances"
Are vegetation , soil , or hydrology	nat	urally pro	oblematic?			present? No
SUMMARY OF FINDINGS				(If needed	l, explain any ar	nswers in remarks.)
Hydrophytic vegetation present? Y						
Hydric soil present? Y		Is the sa	ampled area	a within a w	etland?	Υ
Indicators of wetland hydrology present? Y		lf yes, op	tional wetlar	nd site ID:	Wetland 3	
Remarks: (Explain alternative procedures here or in a sepa	arate repor	t.)				
30-day precipitation rolling total is within norm	nal range	. Precip				hod is typical.
Sample point was on the	edge of a	a mancı	ured lawn v	within golf	course.	
VEGETATION Use scientific names of plants.						
		minant	Indicator	Dominan	ce Test Works	heet
Tree Stratum (Plot size: 30) % C	over Sp	pecies	Staus		Dominant Specie L, FACW, or FAC	
2					ımber of Domina	
3					s Across all Strat	``
					Dominant Specie	es C: 100.00% (A/B)
	0 = Tot	tal Cover		that are OD	L, 1 AOVV, 01 1 A	3. 100.00% (A/B)
Sapling/Shrub stratur (Plot size: 15)		0010.		Prevalen	ce Index Works	sheet
1				Total % C		
2				OBL spec	cies 70 x	1 = 70
3				FACW sp	ecies 0 x	2 = 0
4				FAC spec	cies 10 x	3 = 30
5				FACU spe		4 = 0
	0 = Tot	tal Cover		UPL spec		5 = <u>0</u>
Herb stratum (Plot size: 5)				Column to		A) 100 (B)
	10	Y	OBL	Prevalence	e Index = B/A =	1.25
	10 <u> </u>	Y N	OBL FAC	Hydrophy	ytic Vegetation	Indicators
4			FAC		test for hydropl	
5				l — ·	nance test is >5	
6					lence index is ≤	
7					nogical adaptation	
8					orting data in Re	
9				separ	ate sheet)	
10				Proble	ematic hydrophy	tic vegetation*
8	30 = Tot	tal Cover		(expla	ain)	
Woody vine stratum (Plot size: 15)					of hydric soil and w sent, unless disturb	vetland hydrology must be bed or problematic
2					ophytic	
	0 = Tot	tal Cover		veget prese		
Remarks: (Include photo numbers here or on a separate s	heet)			1		_
	,					

SOIL Sampling Point: SP3-1W

Profile Desc	cription: (Descri	be to the	e depth needed t	o docun	nent the	indicato	r or confirm	the absence	of indicators.)
Depth	<u>Matrix</u>		Re	dox Feat	<u>ures</u>				
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Tex	ture	Remarks
0 to 12	10YR 2/1	94	10YR 4/6	3	С	М	Loam		Mucky Surface
			10YR 4/1	3	D	М	Loam		
12 to 24	10YR 2/1	100					Clay Loam	1	
							0.00, 200		
*Type: C = C	Concentration, D =	= Depletion	on, RM = Reduce	d Matrix,	MS = Ma	asked Sa	nd Grains.	**Location:	PL = Pore Lining, M = Matrix
Hydric So	il Indicators:						Indicato	ors for Proble	ematic Hydric Soils:
	tisol (A1)			ndy Gleye		(S4)			dox (A16) (LRR K, L, R)
	tic Epipedon (A2)			ndy Redo				k Surface (S7	
	ck Histic (A3)			pped Ma	, ,			_	Masses (F12) (LRR K, L, R)
	Irogen Sulfide (A4	-		my Muck	-			-	rk Surface (TF12)
	atified Layers (A5))		my Gleye			Oth	er (explain in	remarks)
	m Muck (A10)	Cumfaaa		oleted Ma					
· — ·	oleted Below Dark ok Dark Surface (/		` '	dox Dark bleted Da		. ,			
	ndy Mucky Minera	•		dox Depre					ophytic vegetation and weltand
	n Mucky Peat or I	. ,		иох Берг	cssions ((10)	riyu	rology must b	e present, unless disturbed or problematic
									problematio
	Layer (if observe	ed):							10
Type:	- 1.				-		Hydri	c soil presen	t? <u>Y</u>
Depth (inche	es): 				•				
Remarks:									
Likely De	epleted below o	lark sur	face						
HYDROLO									
Wetland Hy	drology Indicato	rs:							
Primary India	cators (minimum o	of one is	required; check a	ll that ap	ply)		3	Secondary Inc	<u>dicators (minimum of two required)</u>
	Water (A1)				Fauna (B				Soil Cracks (B6)
	iter Table (A2)			_	uatic Plan				Patterns (B10)
X Saturation						Odor (C1	,		son Water Table (C2)
	arks (B1) nt Deposits (B2)			(C3)	Rnizosp	neres on	Living Roots		Burrows (C8) In Visible on Aerial Imagery (C9)
	oosits (B3)			-	e of Redi	uced Iron	(C4)		or Stressed Plants (D1)
	it or Crust (B4)			•			illed Soils		phic Position (D2)
	osits (B5)			(C6)					utral Test (D5)
Inundation	on Visible on Aeria	l Imagery	(B7)	Thin Mu	ck Surfac	e (C7)			. ,
Sparsely	Vegetated Conca	ve Surfac	e (B8)	Gauge o	r Well Da	ata (D9)			
Water-S	tained Leaves (B9))		Other (E	xplain in	Remarks)			
Field Obser									
Surface water		Yes	No	X	Depth (i			_	
Water table		Yes	X No		Depth (i	-	5	- 1	dicators of wetland
Saturation p		Yes	X No		Depth (i	nches):	0	. h	ydrology present? Y
(includes ca								2.1.1	
Describe red	corded data (strea	ım gauge	, monitoring well,	aerial ph	otos, pre	evious ins	spections), if a	available:	
Remarks:									

Project/Site Hollydale Golf Course	City/	County: F	Plymouth/He	nnepin	Sampling Date:	08/14/2019	
Applicant/Owner: See Joint Application Form		State:	MN	I	Sampling Point:	SP4-1U	
Investigator(s): Kyle Uhler & Will Effertz		Secti	on, Townshi	ip, Range:	S8 T11	18N R22W	
Landform (hillslope, terrace, etc.):	Hillslope	Local r	elief (conca	e, convex	k, none):	Linear	
Slope (%): 1 to 4 Lat:		Long:			Datum:		
Soil Map Unit Name Cordova Consociation			IWI	Classifica	tion:	None	
Are climatic/hydrologic conditions of the site typic	cal for this time	of the year?	Υ (If no, expl	ain in remarks)		
Are vegetation, soil, or hy	ydrology	significantly	disturbed?		Are "normal circun	nstances"	
Are vegetation , soil , or hy	ydrology	naturally pro	oblematic?			present? Yes	
SUMMARY OF FINDINGS				(If need	ded, explain any ar	nswers in remarks.)	
Hydrophytic vegetation present?	N						
Hydric soil present?	N	Is the sampled area within a wetland?					
Indicators of wetland hydrology present?	N	If yes, or	otional wetla	nd site ID:			
Remarks: (Explain alternative procedures here of	or in a separate r	report.)					
30-day precipitation rolling total is wit	thin normal ra	nge. Precip	oitation fro	m gridde	d database met	hod is typical.	
VEGETATION Use scientific names of	plants.						
	Absolute	Dominant	Indicator	Domin	ance Test Worksl	neet	
Tree Stratum (Plot size: 30) % Cover	Species	Staus		of Dominant Specie OBL, FACW, or FAC		
2 3					Number of Domina		
4				1	of Dominant Specie		
5					OBL, FACW, or FAC		
C. allia ar/Ohanah saturatum / Dhat oirros	\	= Total Cover	-	Draval	Index Moules	4	
Sapling/Shrub stratur (Plot size: 15 1 Rhamnus cathartica))	Y	FAC		ence Index Works 6 Cover of:	heet	
2			TAC	OBL sp		1 = 0	
3						2 = 0	
4				FAC sp		3 = 150	
5				FACU	species 55 x	4 = 220	
	50	= Total Cover	-	UPL sp		5 = 0	
Herb stratum (Plot size: 5)			Columi	n totals(A	A) <u>370</u> (B)	
1 Solidago canadensis	35	<u>Y</u>	FACU	Prevale	ence Index = B/A =	3.52	
2 Parthenocissus quinquefolia	20	<u>Y</u>	FACU	<u> </u>			
3					phytic Vegetation		
4					pid test for hydroph minance test is >50		
5 6					minance test is >50 evalence index is ≤		
7				l —			
8					rphogical adaptation porting data in Re		
9	_				parate sheet)		
10				Pro	oblematic hydrophy	tic vegetation*	
	55	= Total Cover		(ex	rplain)		
Woody vine stratum (Plot size: 15)				ors of hydric soil and w oresent, unless disturb	etland hydrology must be ed or problematic	
2				-	drophytic		
	0	= Total Cover			getation esent? N		
Remarks: (Include photo numbers here or on a s	separate sheet)			1			
·	, ,						

SOIL	Sampling Point:	SP4-1U
50H	Sambing Point:	SP4-111

Profile Desc	cription: (Descri	be to the	e depth needed t	o docun	nent the	indicato	r or confirm the a	absence o	of indicators.)		
Depth	Matrix			dox Featı					·		
(Inches)	Color (moist)	%	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	С	М	Clay Loam				
							,	pam			
	Concentration, D =	Depletion	on, RM = Reduce	d Matrix,	MS = Ma	asked Sa			O :		
_	il Indicators:		0	مارير المارية	al Namenise	(C4)			-		
	isol (A1)			idy Gleye idy Redo		(S4)					
	ic Epipedon (A2) ck Histic (A3)			pped Mat	, ,			, ,	,		
	rogen Sulfide (A4	1)		my Muck	. ,	l (F1)					
	itified Layers (A5)			my Gleye	-				,		
	n Muck (A10)			oleted Ma		(-)					
Dep	leted Below Dark	Surface		lox Dark		(F6)					
Thic	ck Dark Surface (/	A12)	Dep	leted Da	rk Surfac	ce (F7)	*Indicators	s of hydro	phytic vegetation and weltand		
San	dy Mucky Minera	l (S1)	Red	lox Depre	essions (F8)			present, unless disturbed or		
5 cr	n Mucky Peat or F	Peat (S3)	<u> </u>					p	problematic		
Restrictive	Layer (if observe	ed):									
Type:							Hydric soil	present	? N		
Depth (inche	es):										
Remarks:						l					
HYDROLO											
	drology Indicato										
· · · · · ·	cators (minimum o	of one is	required; check a					-	cators (minimum of two required)		
	Water (A1)			•	Fauna (B	,			oil Cracks (B6)		
Saturatio	ter Table (A2)				uatic Plan	its (B14) Odor (C1		-	Patterns (B10) on Water Table (C2)		
	arks (B1)					•		•	urrows (C8)		
	it Deposits (B2)			(C3)	TTTIZOSPI	nores on		•	Visible on Aerial Imagery (C9)		
	osits (B3)			Presence	e of Redu	iced Iron			Stressed Plants (D1)		
Algal Ma	t or Crust (B4)				ron Redu	ction in T			nic Position (D2)		
	osits (B5)		<u>—</u>	(C6)			<u> </u>	FAC-Neuti	ral Test (D5)		
	on Visible on Aeria	0,	· /		ck Surfac	` '					
	Vegetated Concar		e (B8)		r Well Da	ita (D9) Remarks)					
	tained Leaves (B9))		Other (E	хріант ін і	Remarks)					
Field Obser Surface water		Yes	No	Х	Depth (i	nches).					
Water table		Yes	No	$\frac{\lambda}{X}$	Depth (i	,		Indi	cators of wetland		
Saturation p		Yes	No	$\frac{X}{X}$	Depth (i	-			drology present?		
(includes ca											
Describe rec	orded data (strea	m gauge	e, monitoring well,	aerial ph	otos, pre	vious ins	pections), if availa	ıble:			
<u> </u>											
Remarks:											

Project/Site Hollydale Golf Course C	ity/County:	Plymouth/He	nnepin Sampling	נ Date:	08/14/2019		
Applicant/Owner: See Joint Application Form	State:	MN	I Sampling	Point:	SP4-1W		
Investigator(s): Kyle Uhler & Will Effertz	Sec	tion, Townshi	ip, Range:	S8 T118N	R22W		
Landform (hillslope, terrace, etc.): Depression	Local	relief (concav	ve, convex, none):	Co	ncave		
Slope (%): 0 to 3 Lat:	Long:		Datum:				
Soil Map Unit Name Minnetonka Consociation		١W١	Classification:	PUE	3Gx		
Are climatic/hydrologic conditions of the site typical for this tin	ne of the year?	· Y (If no, explain in rem	narks)			
Are vegetation , soil , or hydrology	significant	tly disturbed?	Are "norn	nal circumsta	nces"		
Are vegetation , soil , or hydrology	naturally p	oroblematic?	7 0		sent? Yes		
SUMMARY OF FINDINGS			(If needed, expla	ain any answe	ers in remarks.)		
Hydrophytic vegetation present? Y							
Hydric soil present? Y	Is the sampled area within a wetland?						
Indicators of wetland hydrology present?	If yes,	optional wetla	nd site ID: W	etland 4			
Remarks: (Explain alternative procedures here or in a separa	te report.)				<u>=</u>		
30-day precipitation rolling total is within normal	range. Prec				l is typical.		
Sample point was on the ed	ge of a man	cured lawn	within golf cours	<u>e.</u>			
VEGETATION Use scientific names of plants.			_				
Absolut			Dominance Tes	t Worksheet	•		
Tree Stratum (Plot size: 30) % Cove		Staus	Number of Domina		0 (4)		
1 Acer negundo 50	<u>Y</u>	FAC	that are OBL, FAC	_	3 (A)		
3	_		Total Number of Species Acros		3 (B)		
4	_		Percent of Domina	_	(5)		
5		· ——	that are OBL, FAC		100.00% (A/B)		
	= Total Cov	er		_	` ′		
Sapling/Shrub stratun (Plot size: 15)			Prevalence Inde	ex Workshee	t		
1			Total % Cover of	f:			
2	_		OBL species	40 x 1 =	40		
3			FACW species	30 x 2 =	60		
			FAC species	50 x 3 =	150		
5	= Total Cov		FACU species _ UPL species	0 x 4 = 0 x 5 =	0		
Herb stratum (Plot size: 5)		GI	Column totals	120 (A)	250 (B)		
1 Typha x glauca 40	Υ	OBL	Prevalence Inde	` ′	2.08		
2 Phalaris arundinacea 30	_ <u>'</u>	FACW	1 Tevalence inde		2.00		
3	<u> </u>		Hydrophytic Ve	getation Ind	icators:		
4			1 ' '	or hydrophytic			
5			X Dominance t	test is >50%			
6			X Prevalence i	ndex is ≤3.0*			
7			Morphogical	adaptations*	(provide		
8				lata in Remar	ks or on a		
9			separate she	•			
10				hydrophytic v	egetation*		
Woody vine stratum (Plot size: 15)	= Total Cov	er	— (explain)				
Woody vine stratum (Plot size: 15) 1			present, unl	less disturbed or	d hydrology must be r problematic		
2			Hydrophytic	C			
0	= Total Cov	er	vegetation present?	Y			
Domarka: /Include photo numbers here as an a consiste sha	>t)		F- 300				
Remarks: (Include photo numbers here or on a separate shee	51 <i>)</i>						

SOIL Sampling Point: SP4-1W

Profile Desc	ription: (Descri	be to the	e depth needed t	o docun	nent the	indicato	r or confirm	the absence	of indicators.)	
Depth	<u>Matrix</u>		Red	dox Featı	ures					
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Tex	ture	Remarks	
0 to 4	10YR 2/1						Loam		Mucky Surface	
4 to 8	10YR 3/1	95	10YR 4/6	5	С	М	Loam			
8 to 16	10YR 7/1	80	10YR 6/6	20	С	М	Clay Loam	1		
16 to 24	N 7/	80	10YR 6/6	20	С	М	Clay Loam	1		
*T. / C C	'anagetestian D =	Damlatia	n DM – Daduas	d Name	MC - M	alead Ca	- d Ci	**!+i	DI - Dave Lining M - Matrix	
		Depletion	on, RM = Reduce	ı Matrix,	MS = Ma	asked Sa			PL = Pore Lining, M = Matrix	
_	il Indicators: isol (A1)		San	dy Glave	ed Matrix	(\$4)			ematic Hydric Soils: dox (A16) (LRR K, L, R)	
	ic Epipedon (A2)			dy Redo		(34)		k Surface (S7		
	k Histic (A3)			oped Mat	. ,				Masses (F12) (LRR K, L, R)	
	rogen Sulfide (A4	.)			ky Minera	I (F1)			k Surface (TF12)	
	tified Layers (A5)			-	ed Matrix			er (explain in	· · · · · · · · · · · · · · · · · · ·	
	n Muck (A10)			leted Ma		(/		o. (o.p.a		
	leted Below Dark	Surface			Surface	(F6)				
	k Dark Surface (/		` '		rk Surfac	, ,	*Indi	cators of hydr	ophytic vegetation and weltand	
	dy Mucky Minera	•			essions (. ,			e present, unless disturbed or	
5 cr	n Mucky Peat or I	Peat (S3)				,	,		problematic	
Restrictive	_ayer (if observe	ed):								
Type:	, , , , , , , , , ,	,					Hydri	c soil presen	t? Y	
Depth (inche	s):						•	•		
Remarks:										
rtemants.										
HYDROLO	GY									
Wetland Hy	drology Indicato	rs:								
			required; check a	ll that ap	ply)		;	Secondary Ind	dicators (minimum of two required)	
-	Water (A1)				 Fauna (B¹	13)	-	-	Soil Cracks (B6)	
	ter Table (A2)			•	uatic Plan	,		Drainage	Patterns (B10)	
X Saturation			-	Hydroge	n Sulfide	Odor (C1)	Dry-Seas	son Water Table (C2)	
Water M	arks (B1)			Oxidized	Rhizospl	heres on	Living Roots	Crayfish	Burrows (C8)	
Sedimen	t Deposits (B2)			(C3)					n Visible on Aerial Imagery (C9)	
	osits (B3)			i		iced Iron			or Stressed Plants (D1)	
	t or Crust (B4)				ron Redu	ction in T	lled Soils		phic Position (D2)	
	osits (B5)		(5.7)	(C6)		(O=)		X FAC-Neu	ıtral Test (D5)	
	on Visible on Aerial			1	ck Surfac					
	Vegetated Concar ained Leaves (B9)		e (B8)	_	r Well Da volain in l	ita (D9) Remarks)				
Field Obser	` '	'		Other (E	хріант ін і	Nemaiks)				
Surface water		Yes	No	Χ	Depth (i	nches).				
Water table		Yes	X No		Depth (i	•	8	Inc	licators of wetland	
Saturation pr		Yes	X No		Depth (i		0	_	/drology present?	
(includes car					(• •		
Describe rec	orded data (strea	m gauge	, monitoring well,	aerial ph	otos, pre	vious ins	pections), if	available:		
	`	, ,	5 ,	•			,.			
Remarks:										

Project/Site Hollydale Golf Course	City/C	ounty: P	lymouth/Her	nnepin	Sampling Date:	08/14/2019	
Applicant/Owner: See Joint Application Form		State:	MN		Sampling Point:	SP5-1U	
Investigator(s): Kyle Uhler & Will Effertz		Section	on, Townshi	p, Range:	S8 T1	18N R22W	
Landform (hillslope, terrace, etc.): Hillslope		Local re	elief (concav	e, convex	, none):	Linear	
Slope (%): 1 to 4 Lat:		Long:			Datum:		
Soil Map Unit Name Minnetonka Consociation		'	/WI	Classificat	ion:	None	
Are climatic/hydrologic conditions of the site typical for this	s time of	the year?	Υ (If no, expla	ain in remarks)		
Are vegetation X, soil X, or hydrology		significantly	disturbed?		Are "normal circur	mstances"	
Are vegetation , soil , or hydrology		naturally pro	oblematic?			present? No	
SUMMARY OF FINDINGS				(If need	ed, explain any ar	nswers in remarks.)	
Hydrophytic vegetation present? N							
Hydric soil present? Y		Is the sampled area within a wetland?					
Indicators of wetland hydrology present? N		If yes, op	tional wetlar	nd site ID:			
Remarks: (Explain alternative procedures here or in a sep	arate re	port.)					
30-day precipitation rolling total is within norn Sample point is located	mal ran	ge. Precip		-		thod is typical.	
VEGETATION Use scientific names of plants.				3-11			
	solute	Dominant	Indicator	Domina	ance Test Works	heet	
	Cover	Species	Staus		of Dominant Specie		
1					DBL, FACW, or FA		
					Number of Domina ies Across all Strat		
4				Percent	of Dominant Specie	es	
5				that are 0	DBL, FACW, or FA	C: 50.00% (A/B)	
	0 =	Total Cover	•				
Sapling/Shrub stratur (Plot size: 15)					ence Index Works	sheet	
					Cover of:	1 - 0	
3				OBL sp		11 = <u>0</u> 2 = 0	
				FAC sp	· —	3 = 225	
5				FACU		4 = 80	
	0 =	Total Cover		UPL sp	ecies 0 x	5 = 0	
Herb stratum (Plot size: 5)				Column	totals 95 (A	A) 305 (B)	
1 Poa Pratensis	75	Υ	FAC	Prevale	ence Index = B/A =	3.21	
	20	Υ	FACU				
3					hytic Vegetation		
					oid test for hydropl		
5					minance test is >5 valence index is ≤		
6 7				l —			
8					rphogical adaptation Porting data in Re		
9				-	arate sheet)		
10				Pro	blematic hydrophy	ytic vegetation*	
	95 =	Total Cover		(exp	plain)		
Woody vine stratum (Plot size: 15)					rs of hydric soil and w resent, unless disturb	vetland hydrology must be bed or problematic	
2				_	drophytic		
	0 =	Total Cover		_	jetation sent? N		
Remarks: (Include photo numbers here or on a separate s	sheet)			1			
	,						

00II 0II D-I4.	
SOIL Sampling Point:	SP5-1U

Profile Desc	cription: (Descri	be to the	e depth needed t	o docun	nent the	indicato	r or confirm the	absence	of indicators.)	
Depth	<u>Matrix</u>		Red	dox Featı	<u>ures</u>				·	
(Inches)	Color (moist)	%	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	С	М	Clay Loam			
20 to 26	10YR 4/1	90	10YR 4/6	10	С	М	Clay Loam			
							,	**Location: PL = Pore Lining, M = Mate **Location: PL = Pore Lining ***Location: PL = Pore Lining ***Location: PL = Pore Lining ****Indicators (Pl = Pore Lining ***** ***** **** **** **** **** ****		
	Concentration, D =	Depletion	on, RM = Reduce	d Matrix,	MS = Ma	asked Sa			0:	
_	il Indicators:					(0.4)			-	
	isol (A1)			ndy Gleye		(S4)				
	ic Epipedon (A2)			ndy Redo				•		
	ck Histic (A3) rogen Sulfide (A4	1)		pped Mat my Muck	. ,	J (E1)				
	itified Layers (A5)			my Gleye	-				, ,	
	n Muck (A10)			oleted Ma		· (1 -)		эхрічін ін і	cmano,	
	leted Below Dark	Surface		lox Dark		(F6)			1	
	k Dark Surface (/		· · · —	oleted Da			*Indicate	ors of hydro	onhytic vegetation and weltand	
San	dy Mucky Minera	l (S1)		dox Depre						
5 cr	n Mucky Peat or I	Peat (S3)					•		The state of the s	
Restrictive	Layer (if observe	ed):								
Туре:							Hydric so	il present	? Y	
Depth (inche	es):				•		•	•		
Remarks:					•					
Remarks.										
HYDROLO	OGY									
	drology Indicato	rs:								
	cators (minimum o		required: check a	II that ap	(vla		Sec	ondary Ind	licators (minimum of two required)	
-	Water (A1)	01 0110 10	roquirou, orroon u		Fauna (B	13)	<u>000</u>	-	• • • • • • • • • • • • • • • • • • • •	
	ter Table (A2)			•	uatic Plan	,				
Saturation	on (A3)			_		Odor (C1)	Dry-Seas	on Water Table (C2)	
Water M	arks (B1)			Oxidized	Rhizospl	heres on	Living Roots	Crayfish I	Burrows (C8)	
	t Deposits (B2)			(C3)				_		
	osits (B3)			•)		ced Iron		_		
	t or Crust (B4) osits (B5)			(C6)	ron Redu	ction in Ti	lled Soils			
	on Visible on Aerial	l Imagery	(B7)		ck Surfac	e (C7)		- FAC-Neu	tial Test (D3)	
	Vegetated Conca	0,	· ,		r Well Da	` '				
	tained Leaves (B9)		. ,	_		Remarks)				
Field Obser	vations:			•						
Surface water	er present?	Yes	No	X	Depth (i	nches):				
Water table		Yes	No	X	Depth (i	nches):				
Saturation p		Yes	No	Х	Depth (i	nches):		hy	drology present? N	
(includes cap										
Describe rec	orded data (strea	m gauge	, monitoring well,	aerial ph	otos, pre	evious ins	pections), if avai	lable:		
Remarks:										

Project/Site Hollydale Golf Course	City/County:	Plymouth/He	nnepin Sampling	Date: 08/14/2019			
Applicant/Owner: See Joint Application Form	State	MN	Sampling	Point: SP5-1W			
Investigator(s): Kyle Uhler & Will Effertz	Sec	ction, Townshi	p, Range:	S8 T118N R22W			
Landform (hillslope, terrace, etc.): Depression	Loca	relief (conca	/e, convex, none):	Concave			
Slope (%): 0 to 3 Lat:	Long:		Datum:				
Soil Map Unit Name Minnetonka Consociation		١W١	Classification:	None			
Are climatic/hydrologic conditions of the site typical for this t	ime of the year?	· Y (If no, explain in rem	arks)			
Are vegetation X , soil , or hydrology	significan	tly disturbed?	Are "norm	nal circumstances"			
Are vegetation , soil , or hydrology	naturally _l	oroblematic?		present? No			
SUMMARY OF FINDINGS			(If needed, expla	in any answers in remarks.)			
Hydrophytic vegetation present? Y							
Hydric soil present? Y	Is the sampled area within a wetland?						
Indicators of wetland hydrology present? Y	If yes,	optional wetla	nd site ID: W	etland 5			
Remarks: (Explain alternative procedures here or in a separ	rate report.)						
30-day precipitation rolling total is within normal Sample point was with	al range. Pred	•	•	ase method is typical.			
	iii a mancure	u lawii wiliii	ii goii course.				
VEGETATION Use scientific names of plants.			I 8 · · · · +	(W. L.L.)			
Absol Tree Stratum (Plot size: 30) % Co		Indicator Staus	Dominance Tes				
Tree Stratum (Plot size: 30) % Co	Species	Staus	Number of Domina that are OBL, FAC				
2			Total Number o Species Across				
4			Percent of Domina	, ` '			
5				W, or FAC: 100.00% (A/B)			
0	= Total Cov	er					
Sapling/Shrub stratun (Plot size: 15)			Prevalence Inde				
			Total % Cover of				
3			OBL species FACW species	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$			
			FAC species	100 x 3 = 300			
5			FACU species	0 x 4 = 0			
	= Total Cov	er	UPL species	0 x 5 = 0			
Herb stratum (Plot size: 5)			Column totals	100 (A) 300 (B)			
1 Poa pratensis 100	0 Y	FAC	Prevalence Index	x = B/A = 3.00			
2							
3			Hydrophytic Ve	getation Indicators:			
4			l ——	r hydrophytic vegetation			
5			X Dominance t				
6			X Prevalence in	ndex is ≤3.0*			
				adaptations* (provide			
8			supporting da separate she	ata in Remarks or on a			
10				hydrophytic vegetation*			
100	0 = Total Cov	er	(explain)	nydropnytic vegetation			
Woody vine stratum (Plot size: 15)			,	soil and wetland hydrology must bess disturbed or problematic			
2			Hydrophytic	· ·			
0	= Total Cov	er	vegetation present?	Υ			
Remarks: (Include photo numbers here or on a separate she	eet)						
Tromaino. (moidde photo nambers here or on a separate shi	<i>,</i>						

SOIL	Sampling Point:	SP5-1W
OUIL	Sallibilliu Pollit.	2P2-1VV

Profile Desc	cription: (Descri	be to the	e depth needed t	o docun	nent the	indicato	r or confirm the	absence	of indicators.)
Depth	<u>Matrix</u>		Re	dox Featı	<u>ures</u>				-
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture		Remarks
0 to 4	10YR 2/1	95	10YR 6/2	5	D	М	Loam		
4 to 18	10YR 2/1	95	10YR 6/2	5	D	М	Clay Loam		
18 to 24	10YR 6/1	85	10YR 6/6	15	С	М	Clay Loam		
							,		
	concentration, D =	- Depletion	on, RM = Reduce	d Matrix,	MS = Ma	asked Sa			PL = Pore Lining, M = Matrix
-	il Indicators:					(0.4)			matic Hydric Soils:
	isol (A1)			dy Gleye		(S4)			ox (A16) (LRR K, L, R)
	ic Epipedon (A2)			idy Redo oped Mat				. ,) (LRR K, L) Masses (F12) (LRR K, L, R)
	ck Histic (A3) rogen Sulfide (A4	1)		my Muck	, ,	J (E1)			Surface (TF12)
	itified Layers (A5)			my Gleye	-			xplain in r	* *
	n Muck (A10)			oleted Ma		· (1 -)		дріант інт	omano)
	leted Below Dark	Surface		lox Dark		(F6)			
	k Dark Surface (/		, ,	leted Da			*Indicator	rs of hydro	ophytic vegetation and weltand
San	dy Mucky Minera	l (S1)		lox Depre					e present, unless disturbed or
5 cr	n Mucky Peat or F	Peat (S3)							problematic
Restrictive	Layer (if observe	ed):							
Type:							Hydric soi	il present	? Y
Depth (inche	es):				•		-	•	
Remarks:									
Remarks.									
HYDROLO	OGY								
	drology Indicato	rs:							
_	cators (minimum o		required: check a	ll that ap	nlv)		Seco	ndary Ind	icators (minimum of two required)
-	Water (A1)	011010	roquirou, orrock a		Fauna (B	13)			foil Cracks (B6)
	ter Table (A2)			•	uatic Plan	,			Patterns (B10)
X Saturation						Odor (C1		-	on Water Table (C2)
Water M	arks (B1)			Oxidized	Rhizospl	heres on	Living Roots	Crayfish E	Burrows (C8)
	t Deposits (B2)			(C3)				•	No Visible on Aerial Imagery (C9)
	osits (B3)					ced Iron	· ·		r Stressed Plants (D1)
	t or Crust (B4) osits (B5)			(C6)	ron Redu	ction in Ti			hic Position (D2) tral Test (D5)
	on Visible on Aerial	l Imagery	(B7)		ck Surfac	e (C7)		- AC-Neut	tiai Test (D3)
	Vegetated Conca	0 ,	` '		r Well Da	` '			
	tained Leaves (B9)			_		Remarks)			
Field Obser	vations:								
Surface water		Yes	No	Х	Depth (i	nches):			
Water table	!	Yes	X No		Depth (i	nches):	0		icators of wetland
Saturation p		Yes	X No		Depth (i	nches):	0	hy	drology present? Y
(includes cap									
Describe rec	orded data (strea	m gauge	, monitoring well,	aerial ph	otos, pre	evious ins	pections), if availa	able:	
Remarks:									
. tomanto.									

Project/Site Hollydale Golf Course	City/C	County: F	lymouth/Her	nnepin s	Sampling Date:	08/14/2019	
Applicant/Owner: See Joint Application Form		State:	MN	1 5	Sampling Point:	SP6-1U	
Investigator(s): Kyle Uhler & Will Effertz		Secti	on, Townshi	p, Range:	S8 T1	18N R22W	
Landform (hillslope, terrace, etc.): Hillslope		Local re	elief (concav	e, convex,	none):	Linear	
Slope (%): 1 to 2 Lat:		Long:			Datum:		
Soil Map Unit Name Glencoe Consociation			/WI	Classificati	on:	None	
Are climatic/hydrologic conditions of the site typical for this	s time o	f the year?	Υ (If no, expla	in in remarks)		
Are vegetationX _ , soilX _ , or hydrology _		significantly	disturbed?	A	Are "normal circun	nstances"	
Are vegetation, soil, or hydrology		naturally pro	oblematic?			present? No	
SUMMARY OF FINDINGS				(If need	ed, explain any ar	nswers in remarks.)	
Hydrophytic vegetation present? Y							
Hydric soil present? Y		Is the sampled area within a wetland?					
Indicators of wetland hydrology present? N		If yes, op	tional wetlar	nd site ID:			
Remarks: (Explain alternative procedures here or in a sep	arate re	eport.)					
30-day precipitation rolling total is within norn Sample point is located	mal rar	nge. Precip		-		hod is typical.	
VEGETATION Use scientific names of plants.							
	solute	Dominant	Indicator	Domina	nce Test Works	heet	
	Cover	Species	Staus	Number of	of Dominant Specie	es	
1					BL, FACW, or FAC		
3					Number of Domina es Across all Strat		
4				Percent of	of Dominant Specie	es	
5				that are C	BL, FACW, or FAC	C: 100.00% (A/B)	
	0 =	Total Cover	•				
Sapling/Shrub stratur (Plot size: 15)					nce Index Works	sheet	
					Cover of:	1 - 0	
3				OBL spe		1 = 0 $2 = 0$	
				FAC spe		3 = 225	
5				FACU s		4 = 80	
	0 =	Total Cover		UPL spe	ecies 0 x	5 = 0	
Herb stratum (Plot size: 5)				Column	totals 95 (A	A) 305 (B)	
1 Poa Pratensis	75	Υ	FAC	Prevale	nce Index = B/A =	3.21	
	15	N	FACU				
3 Taraxacum officinale	5	N	FACU		hytic Vegetation		
				I — ·	id test for hydropl		
5					ninance test is >5⊌ valence index is ≤		
				l —			
8					phogical adaptation porting data in Re		
9					arate sheet)		
10				Prob	olematic hydrophy	tic vegetation*	
9	95 =	Total Cover		(exp	olain)		
Woody vine stratum (Plot size: 15)					s of hydric soil and w esent, unless disturb	retland hydrology must be red or problematic	
2				_	lrophytic		
	0 =	Total Cover	•	_	etation sent? Y	<u></u>	
Remarks: (Include photo numbers here or on a separate s	sheet)			1			
·	•						

··		
SOIL	Sampling Point:	SP6-1U
JUIL	Samping rout.	350-10

Profile Desc	cription: (Descri	be to the	e depth needed t	o docun	nent the	indicato	r or confirm t	he absence	of indicators.)
Depth	<u>Matrix</u>		Redox Features						
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Text	ure	Remarks
0 to 14	10YR 3/1	97	10YR 4/6	3	С	М	Loam		
14 to 20	N 2.5/	100					Loam		
20 to 26	N 2.5/	100					Sapric Orga	anic	
		Depletion	on, RM = Reduce	d Matrix,	MS = Ma	sked Sa			PL = Pore Lining, M = Matrix
_	il Indicators:		_						ematic Hydric Soils:
	isol (A1)				ed Matrix	(S4)			dox (A16) (LRR K, L, R)
	ic Epipedon (A2)			dy Redo	, ,			,	() (LRR K, L) Masses (F12) (LRR K, L, R)
	ck Histic (A3)	1)		pped Mai	. ,	I /E4\		-	
	rogen Sulfide (A4 tified Layers (A5)	-			ky Minera ed Matrix			ואט אוווטש טוו er (explain in ו	k Surface (TF12)
	n Muck (A10)	1		oleted Ma		(1 2)		i (explain iii	remarks)
	leted Below Dark	Surface			Surface	(F6)			1
	k Dark Surface (· · · · —		rk Surfac	. ,	*Indic	ators of hydro	ophytic vegetation and weltand
	dy Mucky Minera	,			essions (. ,			e present, unless disturbed or
	n Mucky Peat or I	. ,		•	,	,	,		problematic
Restrictive	Layer (if observe	7 4).							
Type:	Layer (ii observe	.ω,.					Hvdric	soil present	t? Y
Depth (inche	es):				•		,	J	·· <u> </u>
Remarks:	<u> </u>				•				
Remarks.									
HYDROLO	OGY								
	drology Indicato	rs:							
_			required; check a	ll that an	nlv)		S	econdary Inc	dicators (minimum of two required)
-	Water (A1)	JI OHE IS	required, crieck a		נעיט Fauna (B	13)	<u> </u>		Soil Cracks (B6)
	ter Table (A2)			•	uatic Plan	,	-		Patterns (B10)
Saturation					n Sulfide		<u> </u>		son Water Table (C2)
Water M	arks (B1)						Living Roots		Burrows (C8)
Sedimen	t Deposits (B2)			(C3)				Saturatio	n Visible on Aerial Imagery (C9)
	osits (B3)			•	e of Redu		· · · · · -		or Stressed Plants (D1)
	t or Crust (B4)				ron Redu	ction in T	illed Soils		phic Position (D2)
	osits (B5)	l lmagagn	(D7)	(C6)	-I. Of	- (07)	_		ıtral Test (D5)
	on Visible on Aeria Vegetated Conca		· · ·		ck Surface or Well Da	` '			
	tained Leaves (B9			_	xplain in F				
Field Obser	•	<u>'</u>			хрічін і	tomanto)		1	
Surface water		Yes	No	Х	Depth (ii	nches):			
Water table	•	Yes	X No		Depth (ii		13	Ind	licators of wetland
Saturation p		Yes	X No		Depth (ii	-	13	hy	/drology present? N
(includes ca						,			
Describe rec	orded data (strea	m gauge	e, monitoring well,	aerial ph	otos, pre	vious ins	pections), if a	vailable:	
		-	-				•		
Remarks:									

Project/Site Hollydale Golf Course	City/Cour	County: Plymouth/Henne			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:	Lo	ng:			Datum:			
Soil Map Unit Name Minnetonka Consociation			١W١	Classifica	tion:	None		
Are climatic/hydrologic conditions of the site typical for this	time of the	e year?	Υ (If no, expl	ain in remarks)			
Are vegetation X , soil , or hydrology	X sig	nificantly	disturbed?		Are "normal circu	umstances"		
Are vegetation , soil , or hydrology	nat	urally pro	oblematic?			present? No		
SUMMARY OF FINDINGS				(If need	ded, explain any a	answers in remarks.)		
Hydrophytic vegetation present? N								
Hydric soil present?		Is the s	ampled area	a within a	wetland?	N		
Indicators of wetland hydrology present? Y		lf yes, op	otional wetlar	nd site ID:	Wetland	6		
Remarks: (Explain alternative procedures here or in a sepa	arate repor	t.)						
30-day precipitation rolling total is within norm	•	,	nitation from	m aridde	d database me	ethod is typical		
Sample point was within a mancured lawn								
VEGETATION Use scientific names of plants.								
	olute Do	minant	Indicator	Domin	ance Test Work	sheet		
		ecies	Staus	Number	of Dominant Spec	cies		
1 5	50	Υ			OBL, FACW, or F			
2				Total	Number of Domir	nant		
3				Spec	cies Across all Str	ata: 2 (B)		
4					of Dominant Spec			
5	·0 - T-4	al Cava		that are	OBL, FACW, or F	AC: 50.00% (A/B)		
Sapling/Shrub stratun (Plot size: 15)	50 = Tot	al Cover		Proval	ence Index Wor	kehoot		
1					Cover of:	KSHEEL		
2				OBL sp		x 1 = 0		
3				-		x 2 = 0		
4				FAC sp	pecies 90	x 3 = 270		
5					·	x 4 = 40		
	0 = Tot	al Cover	•	UPL sp		x = 0		
Herb stratum (Plot size: 5)				Colum		(A) <u>310</u> (B)		
	00	Y	FAC	Prevale	ence Index = B/A	= 3.10		
2 Trifolium repens 1	0	N	FACU	Hydro	ohytic Vegetatio	un Indicatoro:		
				_		phytic vegetation		
5					minance test is >			
6				Pre	evalence index is	≤3.0*		
7				Mo	rphogical adapta	tions* (provide		
8					pporting data in R	**		
9				sep	parate sheet)			
10		10			blematic hydropl	hytic vegetation*		
	00 = Tot	al Cover	•	— (ex	plain)			
Woody vine stratum (Plot size: 15)				F	present, unless distu	wetland hydrology must be rbed or problematic		
2					drophytic getation			
	0 = Tot	al Cove	•		esent?	1		
Remarks: (Include photo numbers here or on a separate s	heet)				-			

	SP6-1W
SOIL Sampling Point	SPh-177

Profile Desc	cription: (Descri	be to the	e depth needed t	o docun	nent the	indicato	r or confirm	the absence	of indicators.)
Depth	Matrix		Re	dox Feat	<u>ures</u>				
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Tex	ture	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	D	М	Clay Loam			
11 to 26	10YR 3/2	100					Fibric Peat		
		Depletion	on, RM = Reduce	d Matrix,	MS = Ma	asked Sa			PL = Pore Lining, M = Matrix
_	il Indicators:		_						ematic Hydric Soils:
	isol (A1)			ndy Gleye		(S4)			dox (A16) (LRR K, L, R)
	ic Epipedon (A2)			ndy Redo	. ,			k Surface (S7) (LRR K, L) Masses (F12) (LRR K, L, R)
	ck Histic (A3)	1)		pped Mai my Muck		J /E4)		_	
	rogen Sulfide (A4 tified Layers (A5)	-		my Gleye				/ อกลแอพ บลเ er (explain in	k Surface (TF12)
	n Muck (A10)	1		oleted Ma		(1 2)		er (explain in	Terriarks)
	eleted Below Dark	Surface		dox Dark	, ,	(F6)			1
	ck Dark Surface (` '	oleted Da		. ,	*Indic	eators of hydr	ophytic vegetation and weltand
	dy Mucky Minera	,		dox Depre		, ,			e present, unless disturbed or
5 cr	n Mucky Peat or I	Peat (S3)		•	·	, ,	,	0,	problematic
Restrictive	Layer (if observe	νη).							
Type:	Layer (ii observe	.ω,.					Hvdrid	soil presen	t? Y
Depth (inche	es):				•		,	, co p. coo	·· <u> </u>
Remarks:	<u></u>								
ixemarks.									
HYDROLO)GY								
Wetland Hy	drology Indicato	rs:							
_			required; check a	II that ap	(vla		Ş	Secondary Inc	dicators (minimum of two required)
-	Water (A1)				Fauna (B	13)	2		Soil Cracks (B6)
	ter Table (A2)			True Aqu			•		Patterns (B10)
X Saturation	n (A3)			Hydroge	n Sulfide	Odor (C1)	Dry-Seas	son Water Table (C2)
Water M	arks (B1)			Oxidized	Rhizosp	heres on	Living Roots	Crayfish	Burrows (C8)
	t Deposits (B2)			(C3)			•		n Visible on Aerial Imagery (C9)
	osits (B3)			-		iced Iron	` '		or Stressed Plants (D1)
	t or Crust (B4) osits (B5)			Recent I (C6)	ron Redu	ction in T	illed Soils		phic Position (D2)
	osแร (ฮอ) on Visible on Aeria	l Imagery	(B7)	• ' '	ck Surfac	e (C7)	•	A FAC-Net	ıtral Test (D5)
	Vegetated Conca		· · · · · · · · · · · · · · · · · · ·	-	r Well Da	` '			
	tained Leaves (B9)					Remarks)			
Field Obser	` '			. `	-				
Surface water		Yes	No	Х	Depth (i	nches):			
Water table	•	Yes	X No	-	Depth (i	-	18	Inc	licators of wetland
Saturation p	resent?	Yes	X No		Depth (i	nches):	11	hy	/drology present? Y
(includes cap	oillary fringe)								
Describe rec	orded data (strea	m gauge	, monitoring well,	aerial ph	otos, pre	evious ins	pections), if a	available:	
Domarica									
Remarks:									

Project/Site Hollydale Golf Course	City/Co	unty: P	lymouth/Her	nepin	Sampling Date:	08/14/2019			
Applicant/Owner: See Joint Application Form		State:	MN	5	Sampling Point: SP6-2U				
Investigator(s): Kyle Uhler & Will Effertz		Section	on, Township	o, Range:	S8 T1	18N R22W			
Landform (hillslope, terrace, etc.): Hillslope		Local re	elief (concav	e, convex,	none):	Linear			
Slope (%): 1 to 3 Lat:	L	.ong:			Datum:				
Soil Map Unit Name Muskego Consociation		NWI Classification: None							
Are climatic/hydrologic conditions of the site typical for this	time of t	he year?	Y (I	f no, expla	nin in remarks)				
Are vegetation X, soil X, or hydrology	si	gnificantly	disturbed?	,	Are "normal circu	mstances"			
Are vegetation , soil , or hydrology	na	aturally pro	blematic?			present? No			
SUMMARY OF FINDINGS				(If need	ed, explain any a	nswers in remarks.)			
Hydrophytic vegetation present? Y									
Hydric soil present? Y		Is the sa	ampled area	a within a	wetland?	N			
Indicators of wetland hydrology present? N		If yes, op	tional wetlar	nd site ID:					
Remarks: (Explain alternative procedures here or in a sepa	arate repo	ort.)							
30-day precipitation rolling total is within norm Sample point is located	nal rang	e. Precip		-		thod is typical.			
VEGETATION Use scientific names of plants.	Within	marioare	od lawn wi	umi gon					
	olute D	ominant	Indicator	Domina	nce Test Works	hoot			
		Species	Staus		of Dominant Speci				
1		<u>. </u>			DBL, FACW, or FA				
					Number of Domina ies Across all Stra				
4				Percent of	of Dominant Speci	es			
5				that are C	BL, FACW, or FA	C: 100.00% (A/B)			
	0 = T	otal Cover							
Sapling/Shrub stratun (Plot size: 15)					nce Index Work	sheet			
					Cover of:	.1 - 0			
3				OBL sp		(1 = <u>0</u> (2 = 0			
4				FAC sp	· —	3 = 240			
5				FACU s		4 = 60			
	0 = T	otal Cover		UPL spe	ecies 0 x	5 = 0			
Herb stratum (Plot size: 5)				Column	totals 95 (A) 300 (B)			
1 Poa Pratensis	30	Υ	FAC	Prevale	nce Index = B/A =	3.16			
	10	N	FACU						
<u> </u>	5	N	FACU		hytic Vegetation				
					oid test for hydrop				
5					ninance test is >5 valence index is s				
7									
8					phogical adaptati porting data in Re				
9					arate sheet)				
10				Prol	blematic hydroph	ytic vegetation*			
9	95 = T	otal Cover		(exp	olain)				
Woody vine stratum (Plot size: 15)					rs of hydric soil and v	vetland hydrology must be bed or problematic			
2					Irophytic				
	0 = T	otal Cover		_	etation sent? Y				
Remarks: (Include photo numbers here or on a separate s	sheet)			1					
, .	,								

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

Profile Desc	cription: (Descri	be to the	e depth needed t	o docun	nent the	indicato	r or confirm th	e absence	of indicators.)
Depth	<u>Matrix</u>		Re	dox Feat	<u>ures</u>				-
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Textu	re	Remarks
0 to 12	10YR 2/1	100					Loam		
12 to16	N 2.5/	100					Loam		
16 to 28	N 2.5/	100					Sapric Organ	nic	
							1 0		
	concentration, D =	Depletion	on, RM = Reduce	d Matrix,	MS = Ma	asked Sa			PL = Pore Lining, M = Matrix
_	il Indicators:		Con	alv Olava	al Maduise	(04)			ematic Hydric Soils: dox (A16) (LRR K, L, R)
	isol (A1) ic Epipedon (A2)			idy Gleye idy Redo	ed Matrix	(34)			() (LRR K, L)
	ck Histic (A3)			pped Ma					Masses (F12) (LRR K, L, R)
	rogen Sulfide (A4	.)			ky Minera	l (F1)			k Surface (TF12)
	itified Layers (A5)			-	ed Matrix			(explain in	· · · · · · · · · · · · · · · · · · ·
	n Muck (A10)			oleted Ma		,		` '	,
Dep	leted Below Dark	Surface	(A11) Red	dox Dark	Surface	(F6)			
	ck Dark Surface (•			ırk Surfac		*Indicat	tors of hydr	ophytic vegetation and weltand
	dy Mucky Minera	. ,		dox Depre	essions (F8)	hydrol	ogy must b	e present, unless disturbed or
5 cr	n Mucky Peat or F	Peat (S3))						problematic
Restrictive	Layer (if observe	ed):							
Type:					_		Hydric s	oil presen	t? <u>Y</u>
Depth (inche	es):				_				
Remarks:									
Likely De	pleted Below [Dark Su	ırface.						
LIVEROLG	201								
HYDROLO									
	drology Indicato								
-	cators (minimum o	of one is	required; check a			40)	<u>Se</u>	-	dicators (minimum of two required)
	Water (A1) ter Table (A2)				Fauna (B uatic Plan				Soil Cracks (B6) Patterns (B10)
Saturation				_		Odor (C1	_		son Water Table (C2)
	arks (B1)					•	/ _iving Roots		Burrows (C8)
Sedimen	t Deposits (B2)			(C3)			<u> </u>		n Visible on Aerial Imagery (C9)
Drift Dep	osits (B3)			Presenc	e of Redu	ced Iron	(C4)	Stunted of	or Stressed Plants (D1)
	t or Crust (B4)				ron Redu	ction in Ti	lled Soils		phic Position (D2)
	osits (B5)		(DZ)	(C6)	1.0.1	(07)		FAC-Neu	ıtral Test (D5)
	on Visible on Aerial Vegetated Conca	0,	· /		ck Surfac or Well Da	` '			
	tained Leaves (B9)			_		na (D9) Remarks)			
Field Obser	` '			0 (_					
Surface water		Yes	No	X	Depth (i	nches):			
Water table		Yes	X No		Depth (i	,	16	Inc	licators of wetland
Saturation p	resent?	Yes	X No		Depth (i	nches):	16	hy	drology present? N
(includes ca	oillary fringe)								
Describe rec	orded data (strea	m gauge	e, monitoring well,	aerial ph	otos, pre	vious ins	pections), if ava	ailable:	
Remarks:									

Project/Site Hollydale Golf Course	City/County:	: Plymouth/h	Hennepin	Sampling Date:	08/14/2019	
Applicant/Owner: See Joint Application Form	St	tate: N	ΛN	Sampling Point: SP6-2W		
Investigator(s): Kyle Uhler & Will Effertz		Section, Towns	ship, Range:	S8 T1	18N R22W	
Landform (hillslope, terrace, etc.): Depression	L	ocal relief (cond	cave, convex	, none):	Concave	
Slope (%): 0 to 3 Lat:	Long	:		Datum:		
Soil Map Unit Name Minnetonka Consociation		٧W	/I Classificat	tion:	PSS1Ad	
Are climatic/hydrologic conditions of the site typical for this	time of the ye	ear? Y	(If no, expl	ain in remarks)		
Are vegetation , soil , or hydrology	X signifi	icantly disturbed	l?	Are "normal circur	mstances"	
Are vegetation , soil , or hydrology	natura	ally problematic		7 0 0 0 0 0	present? Yes	
SUMMARY OF FINDINGS			(If need	ded, explain any ar	nswers in remarks.)	
Hydrophytic vegetation present? Y						
Hydric soil present? Y	Is	the sampled a	rea within a	wetland?	Υ	
Indicators of wetland hydrology present? Y	lf y	es, optional wet	tland site ID:	Wetland 6		
Remarks: (Explain alternative procedures here or in a sepa	rate report.)					
30-day precipitation rolling total is within norm		Precipitation fr	om aridde	d database met	thod is typical	
Hydrology disturbed due to historic	_	•	•		• •	
VEGETATION Use scientific names of plants.				•		
Abso	olute Domir	nant Indicator	Domin	ance Test Works	heet	
Tree Stratum (Plot size: 30) % Co				of Dominant Specie	es	
1 Salix nigra 30	0 Y	OBL		OBL, FACW, or FA		
2			Total	Number of Domina	nt	
3			Spec	cies Across all Strat	a: 4 (B)	
				of Dominant Specie		
5		0	that are 0	OBL, FACW, or FA	C: 100.00% (A/B)	
Sapling/Shrub stratur (Plot size: 15)	0 = Total	Cover	Brovol	ence Index Works	- hoot	
Sapling/Shrub stratun (Plot size: 15) 1 Frangula alnus 20	0 Y	FACW		6 Cover of:	STIGE C	
2			OBL sp	_	1 = 45	
3			_		2 = 90	
4		-	FAC sp	pecies 0 x	3 = 0	
5			FACU	species 0 x	4 = 0	
	0 = Total	Cover	UPL sp		5 = 0	
Herb stratum (Plot size: 5			Columr	n totals 90 (A	A) <u>135</u> (B)	
1 Impatiens capensis 2			Prevale	ence Index = B/A =	1.50	
2 Persicaria sagittata 19	5 Y	OBL	_ llvelee	- h ti - \/ t - ti	Indiantara.	
3			_ ' '	phytic Vegetation pid test for hydropl		
5			_	minance test is >5	•	
6			-	evalence index is ≤		
7			- 	rphogical adaptation	ons* (provide	
8				pporting data in Re		
9			sep	parate sheet)		
10				oblematic hydrophy	tic vegetation*	
40	0 = Total	Cover	(ex	rplain)		
Woody vine stratum (Plot size: 15)					vetland hydrology must be	
				oresent, unless disturb	ed or problematic	
	= Total	Cover	_	getation		
	iotai	2310.		esent? Y	<u> </u>	
Remarks: (Include photo numbers here or on a separate sh	neet)		1			

SOIL	Sampling Point:	SP6-2W
SUIL	Samping Point.	5P0-2VV

Profile Desc	ription: (Descri	be to the	e depth needed t	o docum	nent the	indicato	r or confirm	the absence	of indicators.)
Depth	<u>Matrix</u>		Red	dox Featu	<u>ures</u>				
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Tex	ture	Remarks
0 to 18	10YR 2/1						Loam		
18 to 23	10YR 3/1	97	10YR 4/6	3	С	М	Loam		
11 to 26	10YR 4/1	95	10YR 4/6	5	С	М	Loam		
*Tvne: C = C	oncentration D =	Denletic	on, RM = Reduce	d Matrix	MS = Ma	sked Sa	nd Grains	**Location:	PL = Pore Lining, M = Matrix
	il Indicators:	Depletit	on, raw – raeduce	a iviatiix,	IVIO – IVIE	askeu oa			ematic Hydric Soils:
_	isol (A1)		San	dv Gleve	ed Matrix	(S4)			dox (A16) (LRR K, L, R)
	ic Epipedon (A2)			dy Redo		` ,		k Surface (S7	
	ck Histic (A3)			oped Mat			Iron	-Manganese	Masses (F12) (LRR K, L, R)
— Hyd	rogen Sulfide (A4	.)	Loa	my Muck	y Minera	l (F1)	Very	y Shallow Dar	k Surface (TF12)
Stra	tified Layers (A5)				ed Matrix	(F2)	Othe	er (explain in	remarks)
	n Muck (A10)			leted Ma	. ,				
	leted Below Dark				Surface	, ,			
	ck Dark Surface (•			rk Surfac	. ,			ophytic vegetation and weltand
	dy Mucky Minera	. ,		lox Depre	essions (F8)	hydi	rology must b	e present, unless disturbed or
	n Mucky Peat or F	` '							problematic
	_ayer (if observe	ed):							,
Type:	- \-				•		Hydric	soil presen	t? <u>Y</u>
Depth (inche	s):								
HYDROLC	GY								
Wetland Hy	drology Indicato	rs:							
			required; check a	ll that app	oly)		9	Secondary Ind	dicators (minimum of two required)
-	Water (A1)		•		 Fauna (B⁻	13)	=	•	Soil Cracks (B6)
High Wa	ter Table (A2)		-	True Aqu	ıatic Plan	ts (B14)	•	Drainage	Patterns (B10)
X Saturatio	,			Hydroge	n Sulfide	Odor (C1)		son Water Table (C2)
Water Ma	` '				Rhizospl	heres on I	Living Roots		Burrows (C8)
	t Deposits (B2)			(C3)	(5.1		(0.4)		n Visible on Aerial Imagery (C9)
	osits (B3) t or Crust (B4)					iced Iron (ction in Ti			or Stressed Plants (D1) ohic Position (D2)
	osits (B5)			(C6)	ron Redu	Cuon in Ti	lied Solls		utral Test (D5)
	on Visible on Aerial	l Imagery	(B7)		ck Surface	e (C7)	,		attal Tost (Bo)
	Vegetated Concar	0,	` '		r Well Da				
Water-St	ained Leaves (B9))		_		Remarks)			
Field Obser	vations:								
Surface water		Yes	No	Х	Depth (i				
Water table		Yes	X No		Depth (i		20		dicators of wetland
Saturation pr (includes cap		Yes	X No		Depth (i	nches):	11	. ny	/drology present? Y
· ·		m aquaa	monitoring well	aarial nh	otoo pro	vious ins	nactiona) if a	avoiloblo:	
Describe rec	orded data (strea	m gauge	, monitoring well,	аенаі рп	otos, pre	vious iris	pections), ii a	avaliable.	
Remarks:									

Project/Site Hollydale Golf Course	City/Co	ounty: P	lymouth/Her	nepin S	Sampling Date:	08/14/2019
Applicant/Owner: See Joint Application Form		State: MN			Sampling Point: SP7-1U	
Investigator(s): Kyle Uhler & Will Effertz		Section	on, Township	o, Range:	S8 T11	8N R22W
Landform (hillslope, terrace, etc.): Hillslope		Local re	elief (concav	e, convex,	none):	Linear
Slope (%): 1 to 3 Lat:		Long:			Datum:	
Soil Map Unit Name Klossner Consociation			/WI	Classificatio	on:	None
Are climatic/hydrologic conditions of the site typical for this	s time of	the year?	<u>Y</u> (I	f no, explai	n in remarks)	
Are vegetation X , soil X , or hydrology	S	ignificantly	disturbed?	А	re "normal circum	nstances"
Are vegetation , soil , or hydrology	r	naturally pro	blematic?			present? No
SUMMARY OF FINDINGS				(If neede	ed, explain any an	swers in remarks.)
Hydrophytic vegetation present? Y						
Hydric soil present? Y		Is the sa	ampled area	a within a v	vetland?	N
Indicators of wetland hydrology present?		If yes, op	tional wetlar	nd site ID:	_	
Remarks: (Explain alternative procedures here or in a sepa	arate rec	ort.)				
30-day precipitation rolling total is within norm Sample point is located	nal rang	ge. Precip		-		nod is typical.
VEGETATION Use scientific names of plants.						
,	olute [Dominant	Indicator	Domina	nce Test Worksh	neet
		Species	Staus	Number o	f Dominant Specie	S
1 Picea pungens			NI	that are O	BL, FACW, or FAC	C:(A)
					lumber of Dominar es Across all Strata	
4				Percent o	f Dominant Specie	s
5				that are O	BL, FACW, or FAC	: 100.00% (A/B)
	0 = T	otal Cover				
Sapling/Shrub stratur (Plot size: 15)					nce Index Works	heet
					Cover of:	1 – 0
3				OBL spe FACW s		1 = <u>0</u> 2 = 0
				FAC spe	· —	
5				FACU sp		4 = 80
	0 = T	otal Cover		UPL spe	cies 0 x	5 = 0
Herb stratum (Plot size: 5)				Column	totals 120 (A	380 (B)
1 Poa Pratensis 8	30	Υ	FAC	Prevalen	ice Index = B/A =	3.17
2 Trifolium repens 2	20	N	FACU			
3 Plantago major 2	20	N	FAC		nytic Vegetation	
4					d test for hydroph	
5					inance test is >50	
				 —	alence index is ≤	
8					hogical adaptatio	
9					orting data in Rer rate sheet)	narks or on a
10				l — '	lematic hydrophy	tic vegetation*
	20 = T	otal Cover		(expl		no vogotanom
Woody vine stratum (Plot size: 15)					of hydric soil and we	etland hydrology must be
					rophytic	
	0 = 7	otal Cover		vege	etation ent? Y	
Remarks: (Include photo numbers here or on a separate s	theet)			<u> </u>		_
ntomarks. (moidde photo numbers nere or on a separate s	nie c t)					

SOIL	Sampling Point:	007.411
50II	Sambling Point:	SP7-1U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth <u>Matrix</u> <u>Redox Features</u>									
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Re	emarks
0 to 20	10YR 2/1	100					Loam		
12 to16	10YR 3/1	97	10YR 4/6	5	С	М	Clay Loam		
16 to 28	10YR 4/1	97	10YR 4/6	5	С	М	Clay Loam		
10 10 20	1011(4/1	31	1011(4/0	3	-	IVI	Clay Loani		
*T. /= 0 - 0	`anacutuction D -	Danisti	DM - Dadwaa	al Maduisc	NC - M	ankad Ca	- d Ci **! -	aation: DL — Dana Lini	n a. M. – Matrix
*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix Hydric Soil Indicators: Indicators for Problematic Hydric Soils:									
_			C	مارير ڪام	al Massuise	(04)		-	
	isol (A1)			ndy Gleye		(54)		rie Redox (A16) (LRR	K K, L, K)
	ic Epipedon (A2)			ndy Redo				ice (S7) (LRR K, L) anese Masses (F12) (IDDKID)
	ck Histic (A3)	1.		pped Mai	, ,	-I (E4)			
	rogen Sulfide (A4	-		my Muck	-			ow Dark Surface (TF1	2)
	itified Layers (A5)			my Gleye			Other (exp	lain in remarks)	l
	n Muck (A10)	0 (oleted Ma	. ,				i
	leted Below Dark		· · · · · · · · · · · · · · · · · · ·	dox Dark					
	ck Dark Surface (•		oleted Da				of hydrophytic vegetat	
	dy Mucky Minera	. ,		dox Depre	essions ((F8)	hydrology	must be present, unle	ss disturbed or
5 cr	n Mucky Peat or F	Peat (S3)					problematic	
Restrictive	Layer (if observe	ed):							
Type:							Hydric soil p	resent? Y	
Depth (inche	es):								
Remarks:					•				
r torriarito.									
HYDROLO)CV								
	drology Indicato	ro:							1
-									
-	•	of one is	required; check a					dary Indicators (minim	
	Water (A1)			Aquatic I				urface Soil Cracks (B6)	
	ter Table (A2)					nts (B14)		rainage Patterns (B10)	
Saturation	` '					Odor (C1	·	ry-Season Water Table	(C2)
	arks (B1)				Rhizosp	heres on		rayfish Burrows (C8)	(00)
	t Deposits (B2)			(C3)	(D.			aturation Visible on Aer	
	osits (B3)			•		uced Iron	` '	unted or Stressed Plan	, ,
	t or Crust (B4)				ron Redu	iction in T		eomorphic Position (D2	2)
	osits (B5)		(DZ)	(C6)		(07)	<u></u> F	AC-Neutral Test (D5)	
	on Visible on Aerial		· ·	Thin Mu		` '			
	Vegetated Conca		e (B8)	Gauge o					
	tained Leaves (B9))		Other (E	xpiain in	Remarks)	<u> </u>		
Field Obser							T		
Surface water		Yes	No	X	Depth (i			1.00	
Water table		Yes	No	X	Depth (i	-		Indicators of wet	
Saturation p		Yes	No	X	Depth (i	inches):		hydrology prese	ent? N
(includes ca									
Describe rec	orded data (strea	m gauge	e, monitoring well,	aerial ph	otos, pre	evious ins	pections), if availab	le:	
Dansadas									
Remarks:									

Project/Site Hollydale Golf Course	City/0	County:	Plymouth/He	ennepin Sampling Date: 08/14/2019			
Applicant/Owner: See Joint Application Form		State:	MN	1 5	Sampling Point:	SP7-1W	
Investigator(s): Kyle Uhler & Will Effertz		Sec	tion, Townshi	ip, Range:	S8 T1	18N R22W	
Landform (hillslope, terrace, etc.): Depression	า	Local	relief (concav	ve, convex,	none):	Concave	
Slope (%): 0 to 3 Lat:		Long:		ļ	Datum:		
Soil Map Unit Name Klossner Consociation			١W١	Classificati	on:	PUBGx	
Are climatic/hydrologic conditions of the site typical for this	s time o	of the year?	Υ ((If no, expla	in in remarks)		
Are vegetation X , soil , or hydrology		significantl	y disturbed?	A	Are "normal circun	mstances"	
Are vegetation , soil , or hydrology		naturally p	roblematic?			present? No	
SUMMARY OF FINDINGS				(If neede	ed, explain any ar	nswers in remarks.)	
Hydrophytic vegetation present? Y							
Hydric soil present?		Is the	sampled area	a within a	wetland?	Υ	
Indicators of wetland hydrology present?		If yes, o	ptional wetlar	nd site ID:	Wetland 7		
Remarks: (Explain alternative procedures here or in a sep	parate r	eport.)					
30-day precipitation rolling total is within norr		-	pitation from	m aridded	l database met	thod is typical.	
Sample point was on the							
VEGETATION Use scientific names of plants.							
,	solute	Dominant	Indicator	Domina	nce Test Works	heet	
	Cover	Species	Staus	Number of	of Dominant Specie	es	
1				that are O	BL, FACW, or FA	C:1 (A)	
2					Number of Domina		
3				Speci	es Across all Strat	a: 1 (B)	
					of Dominant Specie		
5	0 :	= Total Cove		that are O	BL, FACVV, OF FAC	C: 100.00% (A/B)	
Sapling/Shrub stratur (Plot size: 15)		- Total Cove	71	Prevale	nce Index Works	sheet	
1					Cover of:	511001	
2				OBL spe		1 = 5	
3				FACW s	species 0 x	2 = 0	
4				FAC spe	ecies 80 x	3 = 240	
5				FACU s		4 = 0	
	0 :	= Total Cove	er	UPL spe		5 = 0	
Herb stratum (Plot size: 5)				Column		A) <u>245</u> (B)	
	80	<u>Y</u>	FAC	Prevaler	nce Index = B/A =	2.88	
2 Persicaria amphibia 3	5	N	OBL	Hydron	hytic Vegetation	Indicators	
				1 -	id test for hydroph		
5					ninance test is >5	, 0	
6				X Prev	/alence index is ≤	3.0*	
7				Mor	phogical adaptation	ons* (provide	
8				supp	porting data in Re	**	
9					arate sheet)		
10	0.5	T-4-1 0			olematic hydrophy	tic vegetation*	
Woody vine stratum (Plot size: 15)	85 =	= Total Cove	er	— (exp	olain)		
1					s of hydric soil and w esent, unless disturb	vetland hydrology must be	
					rophytic	or problemate	
	0 :	= Total Cove	er	veg	etation		
				pres	sent? Y	<u> </u>	
Remarks: (Include photo numbers here or on a separate s	sheet)						

SOIL Sampling Point: SP7-1W

Profile Desc	cription: (Descri	be to the	e depth needed t	o docun	nent the	indicato	r or confirm	the absence	of indicators.)
Depth Matrix Redox Features									
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Tex	ture	Remarks
0 to 10	10YR 2/1	100					Loam		Mucky Surface
10 to 24	10YR 2/1	100					Clay Loam	1	-
	101112/1						0.4, 204		
*Tvpe: C = C	Concentration, D =	Depletion	on. RM = Reduce	d Matrix.	MS = Ma	asked Sa	nd Grains.	**Location:	PL = Pore Lining, M = Matrix
	il Indicators:		,	,					ematic Hydric Soils:
_	isol (A1)		Sar	dy Gleye	ed Matrix	(S4)			dox (A16) (LRR K, L, R)
	ic Epipedon (A2)			dy Redo		, ,	Dar	k Surface (S7	') (LRR K, L)
Blad	ck Histic (A3)		Stri	pped Mat	trix (S6)		Iron	-Manganese	Masses (F12) (LRR K, L, R)
— Hyd	rogen Sulfide (A4	.)	Loa	my Muck	y Minera	al (F1)	Ver	y Shallow Dai	rk Surface (TF12)
Stra	itified Layers (A5)		Loa	my Gleye	ed Matrix	(F2)	Oth	er (explain in	remarks)
2 cr	n Muck (A10)			leted Ma					
Dep	leted Below Dark	Surface	· · · · —	lox Dark					
	ck Dark Surface (<i>i</i>	•	Dep	leted Da	rk Surfac	ce (F7)	*Indi	cators of hydr	ophytic vegetation and weltand
	dy Mucky Minera			lox Depre	essions ((F8)	hyd	rology must b	e present, unless disturbed or
5 cr	n Mucky Peat or F	Peat (S3)	1						problematic
Restrictive	Layer (if observe	ed):							
Type:							Hydri	c soil presen	t? Y
Depth (inche	es):				•				
Remarks:					•				
	epleted below d	lark cur	face						
LIKELY DE	spieted below d	iaik Sui	iace						
HYDROLO	OGY								
	drology Indicato	rs.							
_	cators (minimum o		roquirod: obook o	ll that an	nlu)			Cacandan, In	dicators (minimum of two required)
	Water (A1)	or orie is	required, check a		<u>piy)</u> Fauna (B	12\		•	dicators (minimum of two required) Soil Cracks (B6)
	ter Table (A2)				rauna (b uatic Plan				Patterns (B10)
X Saturation						Odor (C1)		son Water Table (C2)
	arks (B1)					•	, Living Roots	X Crayfish	` ,
	it Deposits (B2)			(C3)	т индоор	110100 011	Living reods		n Visible on Aerial Imagery (C9)
	osits (B3)				e of Redu	iced Iron	(C4)		or Stressed Plants (D1)
	t or Crust (B4)			•			illed Soils		ohic Position (D2)
Iron Dep	osits (B5)			(C6)					utral Test (D5)
Inundation	on Visible on Aeria	l Imagery	(B7)	Thin Mud	ck Surfac	e (C7)			
Sparsely	Vegetated Conca	ve Surfac	e (B8)	Gauge o	r Well Da	ta (D9)			
Water-S	tained Leaves (B9))		Other (E	xplain in l	Remarks)			
Field Obser									
Surface water	•	Yes	No	X	Depth (i	-			
Water table		Yes	X No		Depth (i	-	8	_	dicators of wetland
Saturation p		Yes	X No		Depth (i	ncnes):	11	- I hy	ydrology present? Y
(includes ca								9 1 1	
Describe red	orded data (strea	m gauge	, monitoring well,	aerial ph	otos, pre	evious ins	pections), if	available:	
Remarks:									
omano.									
1									

Project/Site Hollydale Golf Course	City/	County:	Plymouth/He	ennepin	Sampling Date:	08/14/2019
Applicant/Owner: See Joint Application Form		State:	M	١	Sampling Point:	SP8-1U
Investigator(s): Kyle Uhler & Will Effertz		Sec	tion, Townsh	ip, Range:	S8 T11	18N R22W
Landform (hillslope, terrace, etc.): Hillslo	рре	Local	relief (conca	ve, convex	., none):	Linear
Slope (%): 1 to 3 Lat:		Long:			Datum:	
Soil Map Unit Name Nessel Consociation			١W١	Classificat	ion:	None
Are climatic/hydrologic conditions of the site typical fo	r this time	of the year?	Υ	(If no, expla	ain in remarks)	
Are vegetation X , soil X , or hydrolo	ogy	significantl	y disturbed?		Are "normal circun	nstances"
Are vegetation , soil , or hydrolo	ogy	naturally p	roblematic?	•	, ao morma di can	present? No
SUMMARY OF FINDINGS				(If need	led, explain any ar	nswers in remarks.)
Hydrophytic vegetation present? N						
Hydric soil present? Y		Is the	sampled are	a within a	wetland?	N
Indicators of wetland hydrology present? N			ptional wetla			
Remarks: (Explain alternative procedures here or in a	separate i	roport)	•			
30-day precipitation rolling total is within r			nitation fro	no ariddo	d databasa mat	thad is turnical
Sample point is loca		•	•	-		nod is typical.
· · ·			il Cu lawii w	numi gon	Course.	
VEGETATION Use scientific names of plan		<u> </u>		Domin	ance Test Worksl	haat
<u>Tree Stratum</u> (Plot size: 30)	Absolute % Cover	Dominant Species	Indicator Staus			
1 Picea pungens	70 00101	Орослос	NI		of Dominant Specie OBL, FACW, or FAC	
2		-			Number of Domina	``
3					cies Across all Strata	
4				Percent	of Dominant Specie	es
5				that are 0	OBL, FACW, or FAC	C: 50.00% (A/B)
	0	= Total Cove	er			
Sapling/Shrub stratur (Plot size: 15)					ence Index Works	sheet
1					Cover of:	
2				OBL sp		1 = 0 $2 = 0$
				FAC sp		3 = 240
5				FACU		4 = 80
-	0	= Total Cove	er	UPL sp	· —	5 = 0
Herb stratum (Plot size: 5)				Column	n totals 100 (A	A) 320 (B)
1 Poa Pratensis	80	Υ	FAC	Prevale	ence Index = B/A =	3.20
2 Trifolium repens	20	Υ	FACU			
3				Hydrop	ohytic Vegetation	Indicators:
4				Rap	pid test for hydroph	nytic vegetation
5					minance test is >50	
6				Pre	evalence index is ≤	3.0*
					rphogical adaptation	
8		-			pporting data in Re parate sheet)	marks or on a
10					,	tio vogototion*
	100	= Total Cove			blematic hydrophy plain)	tic vegetation
Woody vine stratum (Plot size: 15)		10101 0010		 — ` '		rational burdening array as the
1					ors of nyaric soil and w present, unless disturb	retland hydrology must be red or problematic
2				Hyd	drophytic	<u> </u>
	0	= Total Cove	er		getation	
				pre	esent? N	<u> </u>
Remarks: (Include photo numbers here or on a separa	ate sheet)					

SOIL	Sampling Point:	SP8-1U
BUIL	Samping Point.	259-10

Profile Des	cription: (Descri	be to the	e depth needed t	o docun	nent the	indicato	r or confirm the	e absence	of indicators.)
Depth	Matrix			dox Feat					,
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Textur	е	Remarks
0 to 14	10YR 2/1	100					Loam		
14 to 22	10YR 3/1	97	10YR 4/6	5	С	М	Clay Loam		
22 to 28	10YR 4/1	97	10YR 4/6	5	С	М	Clay Loam		
							- ,		
	Concentration, D =	= Depletion	on, RM = Reduce	d Matrix,	MS = Ma	asked Sa			PL = Pore Lining, M = Matrix
_	oil Indicators:		Sor	ndy Gleye	d Matrix	(84)			ematic Hydric Soils: dox (A16) (LRR K, L, R)
	tisol (A1) tic Epipedon (A2)			idy Gleye idy Redo		(34)			() (LRR K, L)
	ck Histic (A3)			pped Ma				•	Masses (F12) (LRR K, L, R)
	Irogen Sulfide (A4	1)		my Muck	. ,	ıl (F1)			k Surface (TF12)
	atified Layers (A5)			my Gleye	-			explain in	` '
2 cı	m Muck (A10)		Dep	oleted Ma	trix (F3)	` '			,
Dep	oleted Below Dark	Surface	(A11) Red	dox Dark	Surface	(F6)			
	ck Dark Surface (•		oleted Da			*Indicat	ors of hydr	ophytic vegetation and weltand
	ndy Mucky Minera	` '		dox Depre	essions (F8)	hydrolo	ogy must b	e present, unless disturbed or
5 ci	m Mucky Peat or I	Peat (S3))						problematic
	Layer (if observe	ed):							
Type:					•		Hydric s	oil presen	t? <u>Y</u>
Depth (inche	es):				•				
Remarks:									
HYDROLO	OGY								
	drology Indicato	rs:							
	cators (minimum		required: check a	ll that ap	nlv)		Sec	condary Inc	dicators (minimum of two required)
-	Water (A1)	01 0110 10	roquirou, orrock a		Fauna (B	13)	<u>000</u>	-	Soil Cracks (B6)
	iter Table (A2)			•	uatic Plan	,	Patterns (B10)		
Saturation	on (A3)			Hydroge	n Sulfide	Odor (C1		Dry-Seas	son Water Table (C2)
	arks (B1)				Rhizospl	heres on	Living Roots	_ ′	Burrows (C8)
	nt Deposits (B2)			(C3)			-	_	n Visible on Aerial Imagery (C9)
	oosits (B3)			•)		iced Iron	· · · · —	_	or Stressed Plants (D1)
	it or Crust (B4) osits (B5)			(C6)	ron Redu	ction in Ti	illed Solls		ohic Position (D2) utral Test (D5)
	on Visible on Aeria	l Imagery	(B7)		ck Surfac	e (C7)	_		arai 1651 (56)
Sparsely	Vegetated Conca	ve Surfac	e (B8)	Gauge o	r Well Da	ita (D9)			
Water-S	tained Leaves (B9))		Other (E	xplain in l	Remarks)			
Field Obser									
Surface wat		Yes	No	X	Depth (i	,			
Water table	•	Yes	No	X	Depth (i	-			licators of wetland
Saturation p	resent? pillary fringe)	Yes	No	X	Depth (i	ricnes):		n	/drology present? N
	corded data (strea	ım dalıda	monitoring well	aerial nh	intos pro	vious inc	nections) if ava	ilahle [.]	
Describe 160	orueu uala (Silea	ıııı yauye	, monitoring well,	acriai pi	ioios, pre	vious IIIS	poolionaj, ii ava	avi6.	
Remarks:									
Remarks:									

Project/Site Hollydale Golf Course	City/	County:	Plymouth/Hei	ennepin Sampling Date: 08/14/2019			
Applicant/Owner: See Joint Application Form		State: MN Sampling Point: SP8-					
Investigator(s): Kyle Uhler & Will Effertz		Sec	tion, Townshi	ip, Range:	S8 T1	18N R22W	
Landform (hillslope, terrace, etc.): Depression	n	Local	relief (concav	ve, convex,	none):	Concave	
Slope (%): 0 to 3 Lat:		Long:		ļ	Datum:		
Soil Map Unit Name Nessel Consociation			1WI	Classificati	on:	PUBGx	
Are climatic/hydrologic conditions of the site typical for thi	is time o	of the year?	Υ (If no, expla	in in remarks)		
Are vegetation X , soil , or hydrology		significant	y disturbed?	A	Are "normal circur	mstances"	
Are vegetation , soil , or hydrology		naturally p	roblematic?			present? No	
SUMMARY OF FINDINGS	,			(If need	ed, explain any ar	nswers in remarks.)	
Hydrophytic vegetation present? Y							
Hydric soil present? Y		Is the	sampled area	a within a	wetland?	Υ	
Indicators of wetland hydrology present?		If yes, c	ptional wetlar	nd site ID:	Wetland 8		
Remarks: (Explain alternative procedures here or in a seg	parate r	eport.)					
30-day precipitation rolling total is within norm		-	pitation from	m ariddea	l database met	thod is typical.	
Sample point was on the						.,,,	
VEGETATION Use scientific names of plants.							
	solute	Dominant	Indicator	Domina	nce Test Works	heet	
	Cover	Species	Staus	Number of	of Dominant Speci	es	
1				that are C	BL, FACW, or FA	C: (A)	
2					Number of Domina		
3				Speci	es Across all Strat	ta: 2 (B)	
					of Dominant Specie		
5	0 :	= Total Cove		that are C	DL, FACW, OF FA	C: 100.00% (A/B)	
Sapling/Shrub stratur (Plot size: 15)		- Total Cove	5 1	Prevale	nce Index Works	sheet	
1					Cover of:	onoot	
2				OBL spe		1 = 25	
3				FACW	species 0 x	2 = 0	
4				FAC spe	ecies 80 x	3 = 240	
5				FACU s		4 = 0	
	0 :	= Total Cove	er	UPL spe		5 = 0	
Herb stratum (Plot size: 5)				Column		A) <u>265</u> (B)	
	80	<u>Y</u>	FAC	Prevale	nce Index = B/A =	2.52	
2 <u>lemna minor</u> 3	25	Y	OBL	Hydron	hytic Vegetation	Indicators	
4		·			id test for hydrop		
5				I — '	ninance test is >5	, ,	
6				X Prev	/alence index is ≤	£3.0*	
7	,			Mor	phogical adaptati	ons* (provide	
8				sup	porting data in Re		
9					arate sheet)		
10	405	T-4-1 0			olematic hydrophy	ytic vegetation*	
Woody vine stratum (Plot size: 15)	105	= Total Cove	er	— (exp	olain)		
1					s of hydric soil and w esent, unless disturb	vetland hydrology must be ned or problematic	
					rophytic	ood of problematio	
	0 :	= Total Cove	er	veg	etation		
				pres	sent? Y	<u> </u>	
Remarks: (Include photo numbers here or on a separate	sheet)						

10 Sampling Point: SP8-1W

Despth Color (moist) Scolor (moist	Profile Desc	ription: (Descri	be to the	e depth needed t	o docun	nent the	indicato	r or confirm the absence	ee of indicators.)	
10 to 4	Depth	<u>Matrix</u>		Red	dox Featı	<u>ures</u>				
4 to 10	(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks	
10 to 16	0 to 4	10YR 2/1	100					Mucky Loam		
10 to 16 10 YR 5/1 70 5GY 5/1 15 D M Clay Leam	4 to 10	10YR 4/1	55	5GY 5/1	30	D	М	Clay Loam		
Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix Mydric Soil Indicators: Hydric Soil Indicators: Histisol (A1)				10YR 4/6	15	С	М	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)	10 to 16	10YR 5/1	70	5GY 5/1	15	D	М	Clay Loam		
Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix Hydric Soil Indicators: Indicators for Problematic Hydric Soils: Location: PL = Pore Lining, M = Matrix Hydric Soil Indicators for Problematic Hydric Soils: Location: PL = Pore Lining, M = Matrix Hydric Soil Indicators for Problematic Hydric Soils: Location: PL = Pore Lining, M = Matrix Hydric Soil Indicators for Problematic Hydric Soils: Location: PL = Pore Lining, M = Matrix Hydric Soil Partial Pack (AT) Location: PL = Pore Lining, M = Matrix Hydric Soil Partial Pack (AT) Location: PL = Pore Lining, M = Matrix Hydric Soil Pack (AT) Location: PL = Pore Lining, M = Matrix Hydric Soil Pack (AT) Location: PL = Pore Lining, M = Matrix Hydric Soil Pack (AT) Location: PL = Pore Lining, M = Matrix Hydric Soil Pack (AT) Location: PL = Pore Lining, M = Matrix Hydric Soil Pack (AT) Location: PL = Pore Lining, M = Matrix Location: PL = Pore Lining, M = Matrix Hydric Soil Pack (AT) Location: PL = Pore Lining, M = Matrix				10YR 4/6	15	С	М	,		
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X Saturation (A3)		` '			•	•	,		` ,	
Sediment Deposits (B2) (C3) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) X Geomorphic Position (D2) Iron Deposits (B5) (C6) X FAC-Neutral Test (D5) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Sparsely Vegetated Concave Surface (B8) Gauge or Well Data (D9) Water-Stained Leaves (B9) Other (Explain in Remarks) Field Observations: Surface water present? Yes No Depth (inches): Indicators of wetland hydrology present? Yes X No Depth (inches): 0 Indicators of wetland hydrology present? Yes x No Depth (inches): 1 Indicators of wetland hydrology present? Yes x No Depth (inches): 1 Indicators of wetland hydrology present? Yes x No Depth (inches): 1 Indicators of wetland hydrology present? Yes x No Depth (inches): 1 Indicators of wetland hydrology present? Yes x No Depth (inches): 1 Indicators of wetland hydrology present? Yes x No Depth (inches): 1 Indicators of wetland hydrology present? Yes x No Depth (inches): 1 Indicators of wetland hydrology present? Yes x No Depth (inches): 1 Indicators of wetland hydrology present? Yes x No Depth (inches): 1 Indicators of wetland hydrology present? Yes x No Depth (inches): 1 Indicators of wetland hydrology present? Yes x No Depth (inches): 1 Indicators of wetland hydrology present? Yes x No Depth (inches): 1 Indicators of wetland hydrology present? Yes x No Depth (inches): 1 Indicators of wetland hydrology present? Yes x No Depth (inches): 1 Indicators of wetland hydrology present? Yes x No Depth (inches): 1 Indicators of wetland hydrology present? Yes x No Depth (inches): 1 Indicators of wetland hydrology present? Yes x No Depth (inches): 1 Indicators of wetland hydrology present? Yes x No Depth (inches): 1 Indicators of wetland hydrology present? Yes x No Depth (inches): 1 Indicators of wetland hydrology present? Yes x No Depth (inches): 1 Indicators of wetland hydrology present? Yes x No Depth (inches): 1				-						
Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Field Observations: Surface water present? Water table present? Water table present? Yes X No Depth (inches): Water Stained Capillary fringe) Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils X Geomorphic Position (D2) X FAC-Neutral Test (D5) Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks) Field Observations: Surface water present? Yes No Depth (inches): Indicators of wetland hydrology present? Y	Water M	arks (B1)			Oxidized	Rhizospl	heres on	Living Roots X Crayfis	h Burrows (C8)	
Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Water-Stained Leaves (B9) Field Observations: Surface water present? Water table present? Water table present? Yes X Surface Water able present? Yes X No Depth (inches): Depth (inches): Other (inches): Depth (inches): Other (inches): Other (inches): Depth (inches): Other (inches): Indicators of wetland hydrology present? Yes Water able present? Yes X No Depth (inches): Other (inches): Indicators of wetland hydrology present? Yes Indicators of wetland hydrology present?	Sedimen	t Deposits (B2)			(C3)					
Iron Deposits (B5) (C6) X FAC-Neutral Test (D5) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Sparsely Vegetated Concave Surface (B8) Gauge or Well Data (D9) Water-Stained Leaves (B9) Other (Explain in Remarks) Field Observations: Surface water present? Yes No X Depth (inches): Water table present? Yes X No Depth (inches): Indicators of wetland hydrology present? Yes (includes capillary fringe) Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					Presence	e of Redu	iced Iron		* *	
Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Water-Stained Leaves (B9) Field Observations: Surface water present? Water table present? Yes X No Depth (inches): Water table present? Yes X No Depth (inches): V						ron Redu	ction in T			
Sparsely Vegetated Concave Surface (B8) Water-Stained Leaves (B9) Other (Explain in Remarks) Field Observations: Surface water present? Yes No X Depth (inches): Water table present? Yes X No Depth (inches): Saturation present? Yes X No Depth (inches): (includes capillary fringe) Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		` '		(DZ)	. ,		(07)	X FAC-N	eutral Test (D5)	
Water-Stained Leaves (B9) Other (Explain in Remarks) Field Observations: Surface water present? Yes No X Depth (inches): Water table present? Yes X No Depth (inches): 4 Indicators of wetland hydrology present? Yes X No Depth (inches): 0 hydrology present? Yes (includes capillary fringe) Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			0 ,	` '			` '			
Field Observations: Surface water present? Yes No X Depth (inches): Water table present? Yes X No Depth (inches): 4 Indicators of wetland hydrology present? Yes X No Depth (inches): 0 hydrology present? Y (includes capillary fringe) Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		-			_					
Surface water present? Yes No X Depth (inches): Water table present? Yes X No Depth (inches): 4 Indicators of wetland hydrology present? Yes X No Depth (inches): 0 hydrology present? Y Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		` ,	<u>'</u>		Other (E	лріант ін і	(Cilial No)			
Water table present? Yes X No Depth (inches): 4 Indicators of wetland hydrology present? Yes X No Depth (inches): 0 hydrology present? Y (includes capillary fringe) Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			Yes	No	×	Denth /i	nches).			
Saturation present? Yes X No Depth (inches): 0 hydrology present? Y (includes capillary fringe) Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:							,	III	ndicators of wetland	
(includes capillary fringe) Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		!					-			
						. ' `	,			
			m gauge	, monitoring well.	aerial ph	otos, pre	vious ins	pections), if available:		
Remarks:		,	5 5-	5 ,	•	, ,		. "		
Remarks:										
	Remarks:									

Project/Site Hollydale Golf Course	City	City/County: Plymouth/He			nnepin Sampling Date: 08/14/2019			
Applicant/Owner: See Joint Application Form		State	: MN	Sampling Point:	SP9-1U			
Investigator(s): Kyle Uhler & Will Effertz		Se	ction, Townsh	ip, Range:	S8 T1	18N R22W		
Landform (hillslope, terrace, etc.): Hillslo	оре	Loca	l relief (conca	ve, convex	x, none):	Linear		
Slope (%): 1 to 3 Lat:		Long:			Datum:			
Soil Map Unit Name Minnetonka Consociation			١W١	Classificat	tion:	None		
Are climatic/hydrologic conditions of the site typical fo	r this time	e of the year	? Y	(If no, expl	lain in remarks)			
Are vegetation X , soil X , or hydrolo	ogy	significan	tly disturbed?		Are "normal circur	mstances"		
Are vegetation , soil , or hydrold			problematic?		7 To Horman on our	present? No		
SUMMARY OF FINDINGS		_		(If need	ded, explain any ar	nswers in remarks.)		
Hydrophytic vegetation present? N								
Hydric soil present? N	•	Is the	sampled are	a within a	wetland?	N		
Indicators of wetland hydrology present?	•	If yes,	optional wetla	ind site ID:	-			
Remarks: (Explain alternative procedures here or in a	separate	e report.)						
30-day precipitation rolling total is within			rinitation fro	m aridde	nd database met	thod is typical		
Sample point is loca						tilod is typical.		
VEGETATION Use scientific names of plan				9				
- Ose scientific flames of plan	Absolute	Dominan	t Indicator	Domin	ance Test Works	heet		
<u>Tree Stratum</u> (Plot size: 30)	% Cover		Staus		of Dominant Specie			
1 Picea pungens		·	NI		OBL, FACW, or FA			
2				Total	Number of Domina	ant		
3				Spec	cies Across all Strat	ta: <u>2</u> (B)		
4					of Dominant Specie			
5				that are	OBL, FACW, or FA	.C: <u>50.00%</u> (A/B)		
Continue/Charle stratum (Diet sine) 45	0	= Total Cov	/er	Draval	amaa laalaa Mark	abaat .		
Sapling/Shrub stratur (Plot size: 15)					ence Index Works 6 Cover of:	sneet		
			-	OBL sp		(1 = 0		
3				1		2 = 0		
4		_		FAC sp	pecies 60 x	3 = 180		
5				FACU:	species 40 x	4 = 160		
	0	= Total Cov	/er	UPL sp		5 = 0		
Herb stratum (Plot size: 5						A) <u>340</u> (B)		
1 Poa Pratensis	60	<u>Y</u>	FAC	Prevale	ence Index = B/A =	= 3.40		
2 Trifolium repens	40	Y	FACU					
3					phytic Vegetation			
5		_			pid test for hydropl minance test is >5	, ,		
6		_			evalence index is ≤			
7				—	orphogical adaptation			
8					pporting data in Re			
9					parate sheet)			
10					oblematic hydrophy	ytic vegetation*		
	100	= Total Cov	/er	(ex	φlain)			
Woody vine stratum (Plot size:15) 1					ors of hydric soil and w present, unless disturb	vetland hydrology must be bed or problematic		
2				_	drophytic			
	0	= Total Cov	/er		getation esent? N	_		
Remarks: (Include photo numbers here or on a separ	ate sheet	:)						

SOIL	Sampling Point:	SP9-1U
50H	Sampling Point:	QDQ_111

Profile Desc	cription: (Descri	be to the	e depth needed t	o docun	nent the	indicato	r or confirm	the absence	of indicators.)
Depth	<u>Matrix</u>		Red	dox Feat	<u>ures</u>				
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Text	ture	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	С	М	Clay Loam		
							,		
		Depletion	on, RM = Reduce	d Matrix,	MS = Ma	asked Sa			PL = Pore Lining, M = Matrix
_	il Indicators:								ematic Hydric Soils:
	isol (A1)				ed Matrix	(S4)			dox (A16) (LRR K, L, R)
	ic Epipedon (A2)			dy Redo	. ,			Surface (S7	
	ck Histic (A3)	1.		pped Ma		1 (54)		_	Masses (F12) (LRR K, L, R)
	rogen Sulfide (A4 atified Layers (A5)	-			ky Minera ed Matrix			r (explain in	k Surface (TF12)
	n Muck (A10)			oleted Ma		· (FZ)		er (explain in	remarks)
	oleted Below Dark	Surface			Surface	(F6)			1
	ck Dark Surface (· · · —		irk Surfac	. ,	*India	atoro of budr	ophytic vegetation and weltand
	dy Mucky Minera	•			essions (` '			e present, unless disturbed or
	n Mucky Peat or I	` ,			(/	, =	0.097	problematic
	Layer (if observe					1			
Type:	Layer (II Observe	u).					Hydric	soil presen	t? N
Depth (inche	es):				-		riyano	John process	··· <u> </u>
Remarks:					•				
HYDROLO	OGY								
Wetland Hy	drology Indicato	rs:							
Primary India	cators (minimum	of one is	required; check a	ll that ap	ply)		<u>s</u>	Secondary Inc	dicators (minimum of two required)
Surface 1	Water (A1)			Aquatic I	Fauna (B	13)	_	Surface S	Soil Cracks (B6)
High Wa	ter Table (A2)				uatic Plan		-	Drainage	Patterns (B10)
Saturation	` '					Odor (C1	-		son Water Table (C2)
	arks (B1)				l Rhizospl	heres on	Living Roots		Burrows (C8)
	t Deposits (B2)			(C3)	f D l.		(04)		n Visible on Aerial Imagery (C9)
	osits (B3) t or Crust (B4)					iced Iron	illed Soils		or Stressed Plants (D1) whic Position (D2)
	osits (B5)			(C6)	ion Redu	CHOITHIT	illed Solls		itral Test (D5)
	on Visible on Aeria	l Imagery	(B7)	• ' '	ck Surfac	e (C7)	-		a. 1961 (29)
	Vegetated Conca		· · · · · · · · · · · · · · · · · · ·	-	r Well Da	, ,			
Water-S	tained Leaves (B9))		Other (E	xplain in l	Remarks)	1		
Field Obser	vations:			-					
Surface water		Yes	No	X	Depth (i				
Water table		Yes	No	Х	Depth (i				licators of wetland
Saturation p		Yes	No	X	Depth (i	nches):		hy	/drology present? N
(includes cap							,,		
Describe rec	orded data (strea	m gauge	e, monitoring well,	aerial ph	otos, pre	evious ins	pections), if a	vailable:	
Remarks:									
i verriariks.									

Project/Site Hollydale Golf Course	City/County:	Plymouth/He	nnepin Sampling	Date: 08/14/2019	
Applicant/Owner: See Joint Application Form	State	MN	Sampling	Point: SP9-1W	
Investigator(s): Kyle Uhler & Will Effertz	Se	ction, Townshi	ip, Range:	S8 T118N R22W	
Landform (hillslope, terrace, etc.): Depression	Loca	l relief (concav	ve, convex, none):	Concave	
Slope (%): 0 to 3 Lat:	Long:		Datum:		
Soil Map Unit Name Minnetonka Consociation		١W١	Classification:	PUBGx	
Are climatic/hydrologic conditions of the site typical for this	time of the year	? Y ((If no, explain in rem	arks)	
Are vegetation X , soil , or hydrology	significan	tly disturbed?	Are "norm	nal circumstances"	
Are vegetation , soil , or hydrology	naturally	problematic?		present? No	
SUMMARY OF FINDINGS			(If needed, expla	in any answers in remarks.))
Hydrophytic vegetation present? Y					
Hydric soil present? Y	Is the	sampled are	a within a wetland	? Y	
Indicators of wetland hydrology present? Y	If yes,	optional wetla	nd site ID: W	etland 9	
Remarks: (Explain alternative procedures here or in a sepa	rate report.)				
30-day precipitation rolling total is within norma	al range. Pred				
Sample point was on the e	euge of a man	cured lawii	within gon course	j.	
VEGETATION Use scientific names of plants.			Daminon Too	4 10/ 4	
Abso Tree Stratum (Plot size: 30) % Co		t Indicator Staus	Dominance Tes		
1 Salix nigra (Flot size	•	OBL	Number of Domina that are OBL, FAC		
2	<u> </u>		Total Number of	 ``´	
3		- ——	Species Across		
4			Percent of Domina	ant Species	
5			that are OBL, FAC	W, or FAC: <u>100.00%</u> (A/B	3)
50	= Total Cov	er er			
Sapling/Shrub stratun (Plot size: 15)			Prevalence Inde		
			Total % Cover of		
			OBL species FACW species	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	
			FAC v species _	80 x 3 = 240	
5			FACU species	$\frac{30}{0} \times 4 = \frac{240}{0}$	
	= Total Cov	er	UPL species	$\frac{0}{0}$ x 5 = $\frac{0}{0}$	
Herb stratum (Plot size: 5)			Column totals	145 (A) 305 (B)	
1 Poa pratensis 80) Y	FAC	Prevalence Index	x = B/A = 2.10	
2 Persicaria amphibia 15	5 N	OBL			
3			Hydrophytic Ve	getation Indicators:	
4			Rapid test fo	r hydrophytic vegetation	
5			X Dominance to		
			X Prevalence in	ndex is ≤3.0*	
				adaptations* (provide	
8		- ——	supporting da separate she	ata in Remarks or on a	
10				hydrophytic vegetation*	
95	= Total Cov	er	(explain)	nydropriytic vegetation	
Woody vine stratum (Plot size: 15)		-	1—· · · ·	a all and watland by deal any movet	4 h.a
1				soil and wetland hydrology must ess disturbed or problematic	. De
2			Hydrophytic	;	
	= Total Cov	er	vegetation	V	
			present?	<u>Y</u>	
Remarks: (Include photo numbers here or on a separate sh	eet)				

10 Sampling Point: SP9-1W

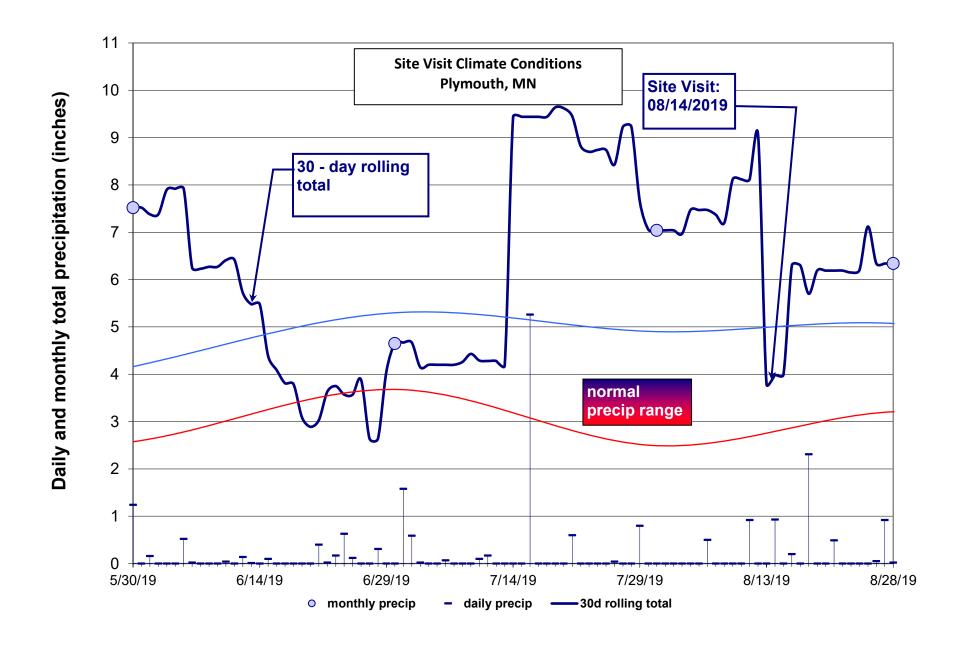
Profile Desc	cription: (Descri	be to the	e depth needed t	o docun	nent the	indicato	r or confirm	the absence	of indicators.)
Depth	<u>Matrix</u>		Re	dox Feat	ures				
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Text	ture	Remarks
0 to 10	10YR 2/1	100					Mucky Loa	m	
10 o 18	10YR 2/1	100					Clay Loam		
18 to 24	10 YR 3/1	90	10YR 4/6	10	С	М	Clay Loam		
							,		
	=								
	Concentration, D =	= Depletion	on, RM = Reduce	d Matrix,	MS = Ma	asked Sa			PL = Pore Lining, M = Matrix
_	il Indicators: isol (A1)		Sar	ndy Gleye	od Matrix	(\$4)			ematic Hydric Soils: lox (A16) (LRR K, L, R)
	ic Epipedon (A2)			idy Gleye idy Redo		(34)		st i fame rtec s Surface (S7	
	ck Histic (A3)			pped Ma	. ,				Masses (F12) (LRR K, L, R)
	rogen Sulfide (A4	1)		my Muck	. ,	ıl (F1)	— Verv	Shallow Dar	k Surface (TF12)
	itified Layers (A5)	•		my Gleye	-			er (explain in	
2 cr	n Muck (A10)		— Dep	oleted Ma	trix (F3)				•
	leted Below Dark		(A11) Red	dox Dark	Surface	(F6)			
	ck Dark Surface (,		oleted Da		. ,			ophytic vegetation and weltand
	dy Mucky Minera	` '		dox Depre	essions (F8)	hydr	ology must b	e present, unless disturbed or
5 cr	n Mucky Peat or I	Peat (S3)						problematic
	Layer (if observe	ed):							
Type:					•		Hydric	soil presen	!? <u>Y</u>
Depth (inche	es):				•				
Remarks:									
Likely De	epleted below of	lark sur	face						
HYDROLO)GY								
	drology Indicato	rs.							_
_	cators (minimum		required: check a	ll that an	nlv)		c	Secondary Inc	dicators (minimum of two required)
	Water (A1)	JI UHE IS	required, crieck a		<u>Piy)</u> Fauna (B	13)	9	-	Soil Cracks (B6)
	ter Table (A2)			True Aqu	•	,	-		Patterns (B10)
X Saturation	, ,					Odor (C1	·		on Water Table (C2)
Water M	arks (B1)						Living Roots		Burrows (C8)
	t Deposits (B2)			(C3)					n Visible on Aerial Imagery (C9)
	osits (B3)					iced Iron	` ′		or Stressed Plants (D1)
	t or Crust (B4) osits (B5)			Recent I (C6)	ron Redu	ction in Ti	illed Soils		hic Position (D2)
	osแร (ธร) on Visible on Aeria	l Imagery	(B7)	• ' '	ck Surfac	e (C7)	-	A FAC-Neu	tral Test (D5)
	Vegetated Conca		· · ·	-	r Well Da	, ,			
	tained Leaves (B9)			_		Remarks)	1		
Field Obser	vations:			•					
Surface water	er present?	Yes	No	X	Depth (i				
Water table		Yes	X No		Depth (i		4		licators of wetland
Saturation p		Yes	X No		Depth (i	nches):	0	hy	drology present? Y
	(includes capillary fringe)								
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:									
Remarks:									
1									

Hollydale Golf Course

Wetland Delineation Report

APPENDIX C

Precipitation Data



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 oooooooo 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

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	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

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

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Precipitation Worksheet Using Gridded Database

Precipitation data for target wetland location:

county: Hennepin township number: 118N township name: Plymouth range number: 22W nearest community: 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)				

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) City of Plymouth	Address 3400 Plymouth Blvd Plymouth, MN 55447								
1.	1. PROJECT INFORMATION								
Applicant Name Xcel Energy	Project Name Hollydale Distributio Wetland	n Project	Date of Application 10/25/2019	Application Number 2019-15					
Type of Application (check all that apply):									
Wetland Boundary or Type Sequencing	☐ No-Loss	☐ Exe	mption						
Replacemen	t Plan	Bank	ng 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 25 th , 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 38 th Avenue North, south of 40 th 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 identicid 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 Nove	ember 19 th , 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				
Ben Scharenbroich	business-day comment period):				
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	Governing Board or Council					
Signature: 3. LIST O	Date: 10/28/2019 OF ADDRESSEES					
	i, HCD, 701 Fourth Avenue South, Suite 700, cally)					
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 e						
DNR TEP member: Leslie Parris, MnDNI	R, 1200 Warner Road, St. Paul, MN 55106 (sent					
electronically)						
DNR Regional Office (if different than DN	R 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 Nicolle						
Cardno, Inc. c/o Dan Salas, 6130 West C	ottonwood Drive, Fitchburg, WI 53719					
Corps of Engineers Project Manager (notice	e only)					
BWSR Wetland Bank Coordinator (wetland						

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

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

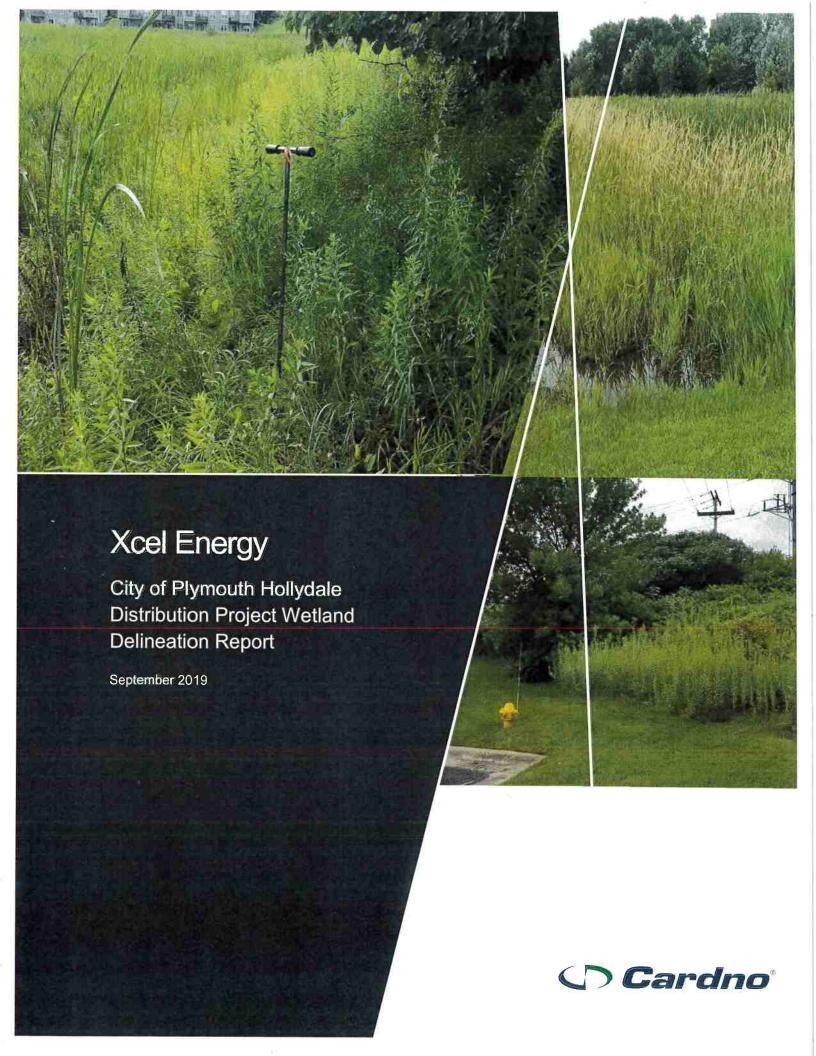
BWSR Forms 7-1-10

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
The state of the s

BWSR Forms 7-1-10

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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:



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

Prepared by:



Cardno, Inc.

6130 West Cottonwood Drive, Fitchburg, WI 53719 USA

September 2019 Cardno Document Information i

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Appendix A: Site Photographs

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Figures

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Figure 3: Mapped Soil Units
Figure 4: National Wetland Inventory (NWI)
Figure 5: Hennepin County Wetland Inventory

Figure 6: Wetland Delineation

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* (USDANRCS 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-t	erm rainfall	records (197	71 - 2018)	5			
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
If sum is:					Condition Values:		Conditions Onsite: Norma		

ii sairi 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

(1) Dry
(2) Norma
12/11011/101
(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 Ioam, 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 Ioam, 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 <u>Fresh Wet Meadow (Degraded)</u>

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 <u>Naturally Problematic and Significantly Disturbed Wetlands</u>

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.

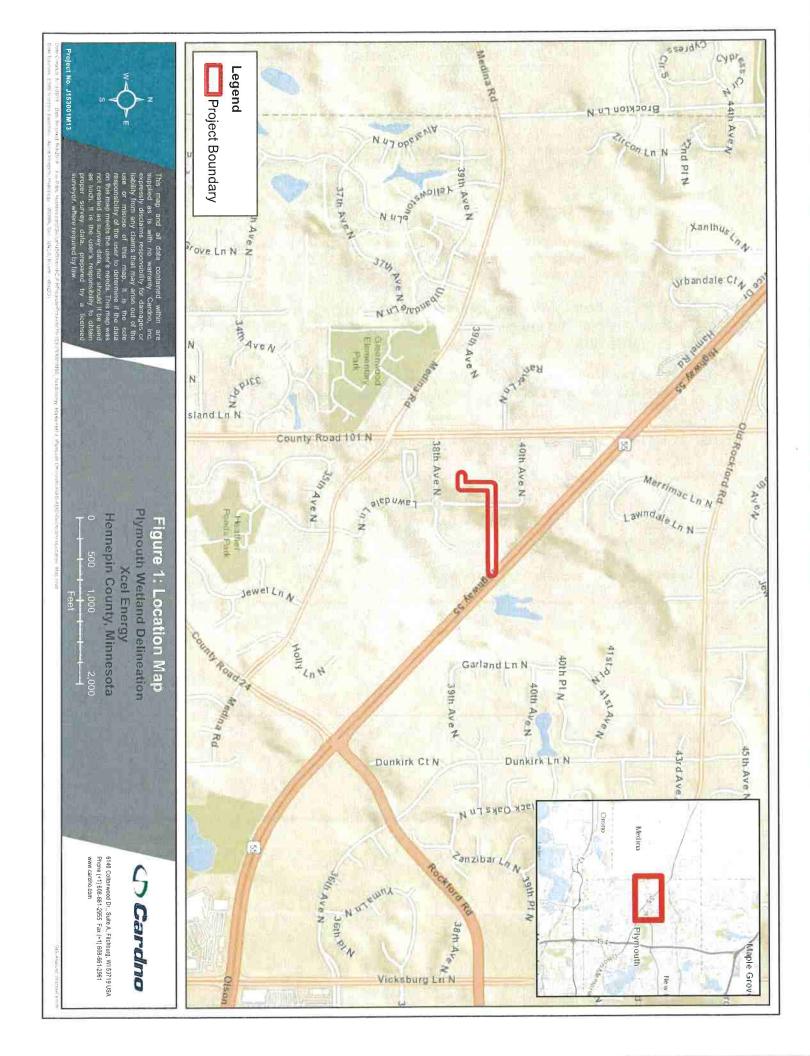
This report represents our best professional judgment based on our knowledge and experience. The field wetland determination and delineation was conducted within the survey area provided to Cardno. The project corridor is described generally above and is depicted on all figures that accompany this report.

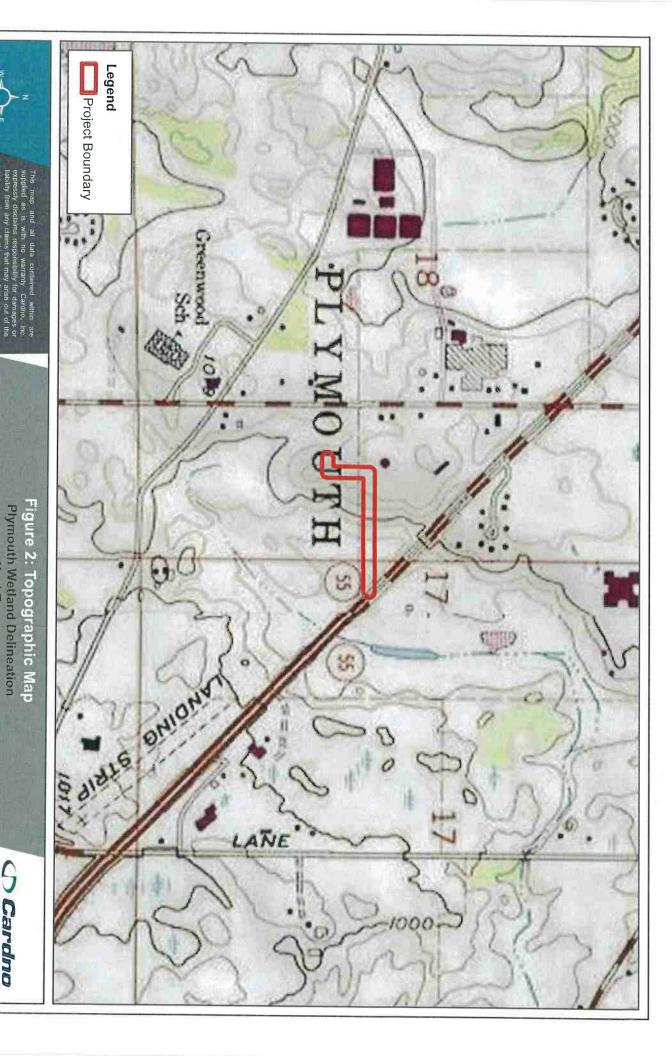
The wetlands identified for this report may be subject to federal regulation under the jurisdiction of the U.S. Army Corps of Engineers, state regulation under the jurisdiction of Minnesota DNR, and local jurisdiction under the county, town, city or village.

5 Literature Cited

- Eggers, Steve D. and Donald M. Reed. 1997. Wetland Plants and Plant Communities of Minnesota & Wisconsin. Second Edition. U.S. Army Corps of Engineers St. Paul District.
- Environmental Laboratory. 1987. *U.S. Army Corps of Engineers' Wetland Delineation Manual*, Technical Report Y-87-1, U.S. Waterways Experiment Station, Vicksburg, MS.
- Environmental Laboratory. 2012. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (version 2.0), ERDC/EL TR-12-01, U.S. Army Engineer Research and Development Center, Vicksburg, MS.
- Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. *The National Wetland Plant List:* 2016 wetland ratings. Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X. http://www.phytoneuron.net/.
- NRCS-USDA Web Soil Survey. Soil Survey of Hennepin County, MN

 Available online at the following link: https://websoilsurvey.sc.egov.usda.gov/. Accessed July 2019 (Figure 3).
- USDA Field Office Climate Data. http://agacis.rcc-acis.org/?fips=55095. Accessed August 2019.
- USDA-NRCS. 2017. Field Indicators of Hydric Soils in the United States. A Guide for Identifying and Delineating Hydric Soils, Version 8.1. Edited by L.M. Vasilas, G.W. Hurt, and C.V. Noble.
- United States Fish and Wildlife Service (USFWS) National Wetland Inventory. Accessed August 18, 2019. Imagery date May 1980.
- United States Geological Survey (USGS) Topographical Map (Figure 2).





Hennepin County, Minnesota Xcel Energy

6140 Cottonwood Dr., Suite A, Fitchburg, WJ 53719 USA Phone (+1) 608-861-2955 Fax (+1) 608-661-2961 www.cardno.com

G Cardino



Project No. 179400 M S

A continuation of the state of

Plymouth Wetland Delineation Xcel Energy

Hennepin County, Minnesota

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COST SHARING CO.

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Xcel Energy Hennepin County, Minnesota

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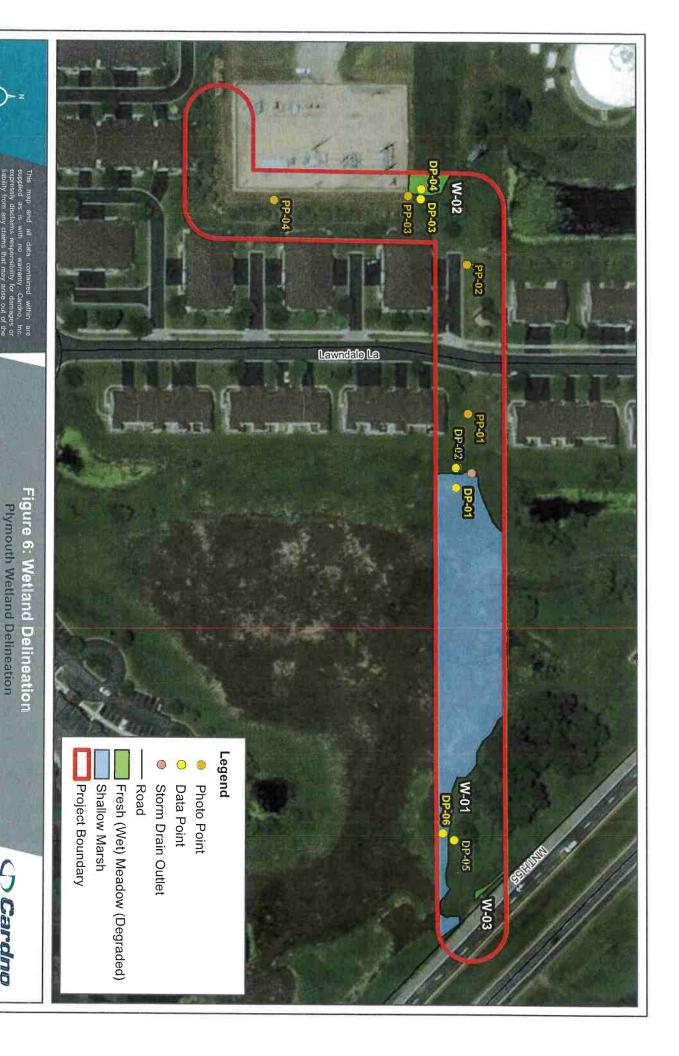
Figure 5: Hennepin County Wetland Inventory

Plymouth Wetland Delineation Xcel Energy Hennepin County, Minnesota





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Hennepin County, Minnesota

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City of Plymouth Hollydale Distribution Project Wetland Delineation Report

APPENDIX



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



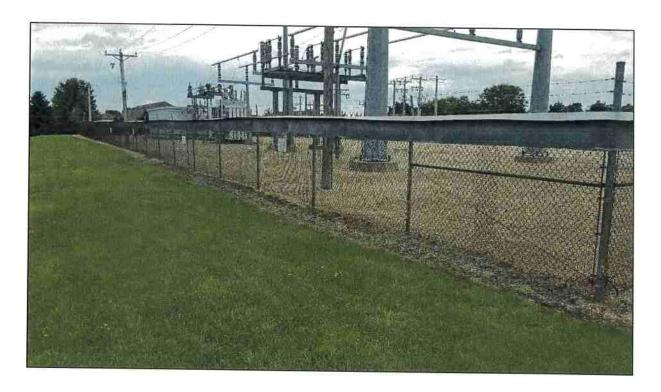
Photograph PP-02 - View West-Southwest



Photograph PP-03 - View Northeast



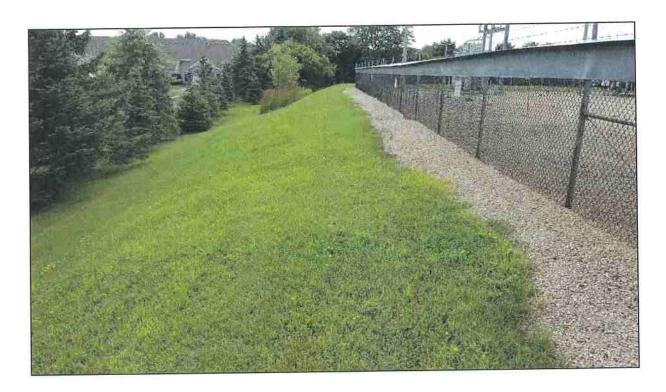
Photograph PP-03 - View Northwest



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

В

Wetland Delineation Forms – Midwest Region

WETLAND DETERMINATION DATA FORM -- Midwest Region

- 1 100	Discould Walland Delineation	City/County:	Hennepin County	Sampli	ng Date. 7/25/2019
Project/Site:	Plymouth Wetland Delineation	State:		Sampling Point:	DP-01
Applicant/Owner: Investigator(s):	Xcel Energy W. Taylor, S. McClusky			, Range: TWP 118N, RNG 22W, SEC 18	
Landform (hillslope,			Local	relief (concave, convex, none); concave	
Slope (%):	0-1% Lat: 45,0273	Long!	-9:	3_50329 Date	ım: NAD83
	e: L22D2-Lester loam, morainic, 12 to 18 percent slopes, eroded			NWI classification:	none
	logic conditions on the site typical for this time of year?	Yes _	X No	(If no, explain in Remarks.)	
Are Vegetation	N , Soll N , or Hydrology N significantly distur	bed?			es No X
Are Vegetation	N , Soil Y , or Hydrology N naturally problems			explain any answers in Remarks.)	
SUMMARY OF	FINDINGS Attach site map showing sampling point locations, transects, important	ortant feature	es, etc.		
Hydrophytic Ve	getation Present? Yes X No No No		Sampled Are	a Yes X	Nic
Hydric Soil Pres		within	a Wetland?	1es	
Wetland Hydro	logy Present? Yes X No				
Remarks: Soil not meeting a l impermeable surfac	hydric soil indicator, but area features strong hydrophytic vegetation and hydrology. Soils are dark but lack fe ces.	eatures to give hy	dric rating. Point t	aken within cattail marsh affected by runc	off and surrounding
VEGETATION	Use scientific names of plants.		(Caracata)		
	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
Tree Stratum (Plot	size; 30' radius) % Cover	opedes:	0.0.03		
1				Number of Dominant Species	
1.00				That Are OBL, FACW, or FAC:	1 (A)
4					
5	·			Total Number of Dominant	
11766		= Total Cover		Species Across All Strata:	1 (B)
Sapling/Shrub Stra	atum (Plot size; 15' radius)			Percent of Dominant Species	10 (D)
12		·		That Are OBL, FACW, or FAC:	100% (A/B)
2.					
100				a la	
4				Prevalence Index worksheet:	
5.		- T-tel Ceues		Total % Cover of:	Multiply by:
		= Total Cover		That Are OBL, FACW, or FAC:	A/B
	and the second s				x1 = 0.91
Herb Stratum (Plo	500/	Yes	OBL	FACW species 15%	(2 = 0.3
Typha angusti Impations can	10%	No	FACW	FAC species 1%	x3 = 0.03
Impatiens cap Phalaris arund	594	No	FACW	FACU species	x4 =
Solanum dulca	49/	No	FAC	UPL species	x5 =
5. Persicaria am	19/	No	OBL	Column Totals 1.07 (A	1.24 (B)
6.	V				
7.				Prevalence Index = B/A =	1.16
8.					
9.					
10.				Hydrophytic Vegetation Indicators:	
11.				X 1-Rapid Test for Hydrophytic	Vegetation
12			·——	X 2-Dominance Test is >50%	Vegetation
13			·—	x 3-Prevalence Index is ≤3.01	
14		//		4-Morphological Adaptations ¹	(Provide supporting
15				data in Remarks or on a sep	
16				Problematic Hydrophytic Veg	
17.					
18				¹ Indicators of hydric soil and wetland h	ydrology must
19				be present, unless disturbed or proble	matic.
20	107%	= Total Cover			
Woody Vine Strat	um (Plot size: 30' radius)			Hydrophytic	
1.				Vegetation	
2.				Present? Yes X	NO
200		= Total Cover			
Remarks: (Includ	le photo numbers here or on a separate sheet.)				

SOIL

Sampling	Point:
----------	--------

DP-01

0-8" 8-34"	Matrix			ox Features			f indicators.)	
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	D
8-34"	10YR 2/1	100			- 1700	LUC		Remarks
	10YR 2/1	95	10YR 6/1	5			Silt Loam	
34-36"	10YR 2/1	100				M	Silt Loam	
							Silty Clay	
			-					
/)-						_		
Type: C=Cor	centration D=Denle	tion PM-Poduced	Matrix, CS=Covered			2	·———	
ydric Soil Ind	licators ³ :	don, raw-raeduced	Mauix, CS=Covered	or Coated S	Sand Grains.		on: PL=Pore Lining, N	
Histosol (Sandy Gleyed	Matrix (SA)		les	t Indicators of Hydric	
Histic Epi	pedon (A2)		Sandy Redox					se Masses (F12)
Black Hist	tic (A3)		Stripped Matr					Dark Surface (F22)
	Sulfide (A4)		Dark Surface				Other (Explain	in Remarks)
	Layers (A5)		Loamy Mucky)			
_ 2 cm Muc	, , ,		Loamy Gleyed					
	Below Dark Surface	(A11)	Depleted Mate	rix (F3)				
	k Surface (A12)		Redox Dark S				³ The hydric soil indic	ators have been updated to
	icky Mineral (S1)		Depleted Dark		7)		comply with the F	ield Indicators of Hydric Soils
	ky Peat or Peat (S3)		Redox Depres	ssions (F8)				es , Version 8.0, 2016.
	er (if observed):							
Type:								
Depth (inch	nes):					Hydric	Soil Present?	Yes X No
YDROLOG	ogy Indicators:							
	ors (minimum of one	is required; about	all that and A					
Surface W	ater (A1)	is required, check a	Water-Stained	Logues (DO	,			(minimum of two required)
	r Table (A2)	-)		Surface Soil Ci	
Saturation		-	Aquatic Fauna True Aquatic F				Drainage Patte	
Water Mark		-	Hydrogen Sulfi		1		Dry-Season Wa	
	Deposits (B2)	-	Oxidized Rhizo				Crayfish Burroy	ve (C8)
_ Sediment L		_		apricios oir	I bying Doots /	C2\	0 1 11 11 11	
Sediment D Drift Depos			Presence of Re	educed Iron	Living Roots ((C4)	C3)	Saturation Visit	ole on Aerial Imagery (C9)
Drift Depos	or Crust (B4)	-	Presence of Re	educed Iron	(C4)		Stunted or Stre	ole on Aerial Imagery (C9) ssed Plants (D1)
Drift Depos		-	Presence of Re	educed Iron duction in Ti	(C4)		X Geomorphic Po	ole on Aerial Imagery (C9) ssed Plants (D1) osition (D2)
Drift Depos Algal Mat o Iron Deposi		- gery (B7)	Presence of Re Recent Iron Re Thin Muck Sur	educed Iron eduction in Ti face (C7)	(C4)		Stunted or Stre	ole on Aerial Imagery (C9) ssed Plants (D1) osition (D2)
Drift Depos Algal Mat o Iron Deposi Inundation	its (B5)		Presence of Re	educed Iron duction in Ti face (C7) Data (D9)	(C4) illed Soils (C6)		X Geomorphic Po	ole on Aerial Imagery (C9) ssed Plants (D1) osition (D2)
Drift Depos Algal Mat o Iron Deposi Inundation Sparsely Ve	its (B5) Visible on Aerial Ima egetated Concave S		Presence of Re Recent Iron Re Thin Muck Sur Gauge or Well	educed Iron duction in Ti face (C7) Data (D9)	(C4) illed Soils (C6)		X Geomorphic Po	ole on Aerial Imagery (C9) ssed Plants (D1) osition (D2)
Drift Depos Algal Mat o Iron Deposi Inundation Sparsely Ve	its (B5) Visible on Aerial Ima egetated Concave S	urface (B8)	Presence of Re Recent Iron Re Thin Muck Suri Gauge or Well Other (Explain	educed Iron duction in Ti face (C7) Data (D9) in Remarks)	(C4) illed Soils (C6)		X Geomorphic Po	ole on Aerial Imagery (C9) ssed Plants (D1) osition (D2)
Drift Depos Algal Mat o Iron Deposi Inundation	its (B5) Visible on Aerial Ima egetated Concave S ons: resent?	vrface (B8) /es No _ X	Presence of Re Recent Iron Re Thin Muck Suri Gauge or Well Other (Explain Depth (inches):	educed Iron duction in Ti face (C7) Data (D9) in Remarks)	(C4) illed Soils (C6)		X Geomorphic Po	ole on Aerial Imagery (C9) ssed Plants (D1) osition (D2)
Drift Depos Algal Mat o Iron Deposi Inundation Sparsely Ve Id Observation Frace Water Presenter Table Presenter	its (B5) Visible on Aerial Ima egetated Concave S ons: resent?	/es No _X /es _X No	Presence of Re Recent Iron Re Thin Muck Suri Gauge or Well Other (Explain Depth (inches): Depth (inches):	educed Iron of duction in Triface (C7) Data (D9) in Remarks) N/A Surface	(C4) illed Soils (C6))	Stunted or Stre X Geomorphic Po X FAC-Neutral To	ole on Aerial Imagery (C9) ssed Plants (D1) osition (D2) est (D5)
Drift Depose Algal Mat of Iron Deposition Inundation Sparsely Velid Observation Face Water Poster Table Presenturation Presectudes capillar	its (B5) Visible on Aerial Ima egetated Concave S ons: resent? sent? y fringe)	/es No _X /es _X No	Presence of Re Recent Iron Re Thin Muck Suri Gauge or Well Other (Explain Depth (inches): Depth (inches): Depth (inches):	educed Iron eduction in Ti face (C7) Data (D9) in Remarks) N/A Surface Surface	(C4) illed Soils (C6) Wetland Hy) ydrolog	Stunted or Stre X Geomorphic Po X FAC-Neutral To	ole on Aerial Imagery (C9) ssed Plants (D1) osition (D2)
Drift Depose Algal Mat of Iron Deposition Inundation Sparsely Velid Observation Face Water Poster Table Presenturation Presectudes capillar	its (B5) Visible on Aerial Ima egetated Concave S ons: resent? sent? y fringe)	/es No _X /es _X No	Presence of Re Recent Iron Re Thin Muck Suri Gauge or Well Other (Explain Depth (inches): Depth (inches): Depth (inches):	educed Iron eduction in Ti face (C7) Data (D9) in Remarks) N/A Surface Surface	(C4) illed Soils (C6) Wetland Hy) ydrolog	Stunted or Stre X Geomorphic Po X FAC-Neutral To	ole on Aerial Imagery (C9) ssed Plants (D1) osition (D2) est (D5)
Drift Depose Algal Mat of Iron Deposition Inundation Sparsely Velid Observation Face Water Poster Table Presenturation Presecutes capillar	its (B5) Visible on Aerial Ima egetated Concave S ons: resent? sent? y fringe)	/es No _X /es _X No	Presence of Re Recent Iron Re Thin Muck Suri Gauge or Well Other (Explain Depth (inches): Depth (inches):	educed Iron eduction in Ti face (C7) Data (D9) in Remarks) N/A Surface Surface	(C4) illed Soils (C6) Wetland Hy) ydrolog	Stunted or Stre X Geomorphic Po X FAC-Neutral To	ole on Aerial Imagery (C9) ssed Plants (D1) osition (D2) est (D5)
Drift Depos Algal Mat o Iron Deposi Inundation Sparsely Ve Id Observation Frace Water Preseturation Presecutors capillar scribe Record	its (B5) Visible on Aerial Ima egetated Concave S ons: resent? sent? y fringe)	/es No _X /es _X No	Presence of Re Recent Iron Re Thin Muck Suri Gauge or Well Other (Explain Depth (inches): Depth (inches): Depth (inches):	educed Iron eduction in Ti face (C7) Data (D9) in Remarks) N/A Surface Surface	(C4) illed Soils (C6) Wetland Hy) ydrolog	Stunted or Stre X Geomorphic Po X FAC-Neutral To	ole on Aerial Imagery (C9) ssed Plants (D1) osition (D2) est (D5)
Drift Depose Algal Mat of Iron Deposition Inundation Sparsely Velid Observation Face Water Poster Table Presenturation Presecutes capillar	its (B5) Visible on Aerial Ima egetated Concave S ons: resent? sent? y fringe)	/es No _X /es _X No	Presence of Re Recent Iron Re Thin Muck Suri Gauge or Well Other (Explain Depth (inches): Depth (inches): Depth (inches):	educed Iron eduction in Ti face (C7) Data (D9) in Remarks) N/A Surface Surface	(C4) illed Soils (C6) Wetland Hy) ydrolog	Stunted or Stre X Geomorphic Po X FAC-Neutral To	ole on Aerial Imagery (C9) ssed Plants (D1) osition (D2) est (D5)
Drift Depos Algal Mat o Iron Deposi Inundation Sparsely Ve Id Observation Frace Water Preseturation Presecutors capillar scribe Record	its (B5) Visible on Aerial Ima egetated Concave S ons: resent? sent? y fringe)	/es No _X /es _X No	Presence of Re Recent Iron Re Thin Muck Suri Gauge or Well Other (Explain Depth (inches): Depth (inches): Depth (inches):	educed Iron eduction in Ti face (C7) Data (D9) in Remarks) N/A Surface Surface	(C4) illed Soils (C6) Wetland Hy) ydrolog	Stunted or Stre X Geomorphic Po X FAC-Neutral To	ole on Aerial Imagery (C9) ssed Plants (D1) osition (D2) est (D5)

WETLAND DETERMINATION DATA FORM -- Midwest Region

oject/Site:				City/County: I	Hennepin	Sampling Date: 7/25/2019
200 100	Plymouth Wetland Delineation			State: I		Sampling Point: DP-02
plicant/Owner:	Xcel Energy					, Range: TWP 118N, RNG 22W, SEC 18
estigator(s)	W. Taylor, S. McClusky					relief (concave, convex, none): convex
dform (hillslope,		45.0273		Long	-9	3_5034 Datum: NAD83
pe (%):	3-5% Lat:			N -		NWI classification: none
	e: L22D2-Lester loam, moranic, 12 to 18 percei logic conditions on the site typical for this time of			Yes	X No_	(If no, explain in Remarks.)
	N Soll N	, or Hydrology N	significantly disturb	ed?	Are "Normal	Circumstances" present? Yes X No
e Vegetation		, or Hydrology N		ic?	(If needed, e	explain any answers in Remarks.)
e Vegetation	FINDINGS Attach site map show	ring sampling point location	ns, transects, impo	rtant feature	es, etc.	
		Yes X	No	is the	Sampled Are	a
ydrophytic ve ydric Soil Pre	egetation Present?	Yes X	No	within	a Wetland?	Yes No X
	logy Present?	Yes	No x			
marks: ckslope above c	cattail marsh. Hydrophylic vegetation creeps far	upslope but area lacks hydrology.				
EGETATION	Use scientific names of plants.		Absolute	Dominant	Indicator	
eo Stratum (Plo	et size: 30' radius)		% Cover	Species?	Status	Dominance Test worksheet:
	n size. 30 Tadio3)					X-00 0.5 0.1 0.2 0.2
						Number of Dominant Species That Are ORL FACW or FAC: 2 (A)
						That Are OBL, FACW, or FAC: 2 (A)
						Tatal Number of Dominant
						Total Number of Dominant Species Across All Strata: 3 (B)
				Total Cover		Species Across All Strata: 3 (B)
						Percent of Dominant Species
apling/Shrub Stra	atum (Plot size: 15' radius)					That Are OBL, FACW, or FAC 67% (A/B)
L						Anatom observations
2						
3						Prevalence Index worksheet:
4						
5.				Total Cover		Total % Cover of: Multiply by:
				, 5(1) 50(0)		That Are OBL, FACW, or FAC:
lash Charles /DI	-1 -1 Et anding)					OBL species 20% x1 = 0.2
reio stratum (Pl						
	ot size: 5' radius)		30%	Yes	FACU	FACW species 55%
1. Solidago cana	adensis	 -	25%	Yes Yes	FACU	FAC species x3 =
Solidago cana Phalaris arune	adensis dinacea					FAC species
Solidago cana Phalaris aruna Impatiens cap	adensis dinacea pensis		25%	Yes	FACW	FAC species
Solidago cana Phalaris aruna Impatiens cap Typha angust	adensis dinacea pensis tifolia		25% 25%	Yes Yes	FACW FACW	FAC species
Solidago cana Phalaris aruni Impetiens cap Typha angust Parthenocissi	adensis dinacea pensis tifolia us quinquefolia		25% 25% 15%	Yes Yes No	FACW FACW OBL	FAC species
Solidago cana Phalaris arund Impaliens cap Typha angust Parthenocissi Cirsium arver	adensis dinacea pensis tifolia us quinquefolia nse		25% 25% 15% 10%	Yes Yes No	FACW OBL FACU	FAC species
Solidago cana Phalaris arund Impatiens cap Typha angust Parthenociss Cirsium arver Urtica dioica	adensis dinacea pensis tifolia us quinquefolia nse		25% 25% 15% 10% 5%	Yes Yes No No	FACW FACW OBL FACU FACU	FAC species
Solidago cana Phalaris arund Impaliens cap Typha angust Parthenocissi Cirsium arver Urtica dioica Persicaria arund	adensis dinacea pensis tifolia us quinquefolia nse		25% 25% 15% 10% 5%	Yes Yes No No No No	FACW FACW OBL FACU FACU FACW	FAC species
Solidago cana Phalaris arunu Impatiens cap Typha angust Parthenociss Cirsium arver Urtica dioica Persicaria aru	adensis dinacea pensis tifolia us quinquefolia nse		25% 25% 15% 10% 5%	Yes Yes No No No No	FACW FACW OBL FACU FACU FACW	FAC species
Solidago cana Phalaris aruma Impatiens caj Typha angust Parthenociss Ciraium arver Urtice dioica Persicaria am 9	adensis dinacea pensis tifolia us quinquefolia nse		25% 25% 15% 10% 5%	Yes Yes No No No No	FACW FACW OBL FACU FACU FACW	FAC species
Solidago cana Phalaris arum Impatiens caj Typha angust Parthenociss Ciraium arver Urtice dioica Persicaria an O	adensis dinacea pensis tifolia us quinquefolia nse		25% 25% 15% 10% 5%	Yes Yes No No No No	FACW FACW OBL FACU FACU FACW	FAC species
Solidago cana Phalaris arum Impaliens caj Typha angust Parthenocisse Ciraium arver Urtice dioica Persicaria arr Unica dioica Persicaria arr Unica dioica Typha angust	adensis dinacea pensis tifolia us quinquefolia nse		25% 25% 15% 10% 5%	Yes Yes No No No No	FACW FACW OBL FACU FACU FACW	FAC species
Solidago cana Phalaris arum Impaliens caj Typha angust Parthenocissi Ciraium arver Urtica dioica Persicaria am O	adensis dinacea pensis tifolia us quinquefolia nse		25% 25% 15% 10% 5%	Yes Yes No No No No	FACW FACW OBL FACU FACU FACW	FAC species
Solidago cana Phalaris arum Impatiens caj Typha angust Parthenocissi Cirsium arver Urtica dioica Persicaria and Persicaria and Solidago	adensis dinacea pensis tifolia us quinquefolia nse		25% 25% 15% 10% 5%	Yes Yes No No No No	FACW FACW OBL FACU FACU FACW	FAC species
Solidago cana Phalaris arum Impatiens caj Typha angust Parthenocissi Cirsium arver Urtica dioica Persicaria and Persicaria and Solidago	adensis dinacea pensis tifolia us quinquefolia nse		25% 25% 15% 10% 5%	Yes Yes No No No No	FACW FACW OBL FACU FACU FACW	FAC species
Solidago cana Phalaris arum Impaliens caj Typha angust Parthenociss Ciraium arver Urtice dioica Persicaria am O	adensis dinacea pensis tifolia us quinquefolia nse		25% 25% 15% 10% 5%	Yes Yes No No No No	FACW FACW OBL FACU FACU FACW	FAC species
Solidago cana Phalaris arum Impaliens caj Typhe angust Parthenociss Ciraium arver Urtice dioica Persicaria am O	adensis dinacea pensis tifolia us quinquefolia nse		25% 25% 15% 10% 5%	Yes Yes No No No No	FACW FACW OBL FACU FACU FACW	FAC species
Solidago cana Phalaris arum Impaliens cai Typha angust Parthenociss Cirsium arver Urtice dioica Persicaria arr Urtice dioica Persicaria arr Turtice dioica Persicaria arr	adensis dinacea pensis tifolia us quinquefolia nse		25% 25% 15% 10% 5%	Yes Yes No No No No	FACW FACW OBL FACU FACU FACW	FAC species
Solidago cana Phalaris arum Impatiens caj Typha angust Cirsium arver Untice dioica Persicaria aru Unice dioica Persicaria aru 1 1 2 1 3 4 5 6 7 8 9 9	adensis dinacea pensis tifolia us quinquefolia nse		25% 25% 15% 10% 5% 5% 5%	Yes Yes No No No No No	FACW FACW OBL FACU FACU FACW	FAC species
Solidago cana Phalaris arum Impatiens caj Typha angust Cirsium arver Untice dioica Persicaria aru Unice dioica Persicaria aru 1 1 2 1 3 4 5 6 7 8 9 9	adensis dinacea pensis tifolia us quinquefolia nse		25% 25% 15% 10% 5% 5% 5%	Yes Yes No No No No	FACW FACW OBL FACU FACU FACW	FAC species
1. Solidago cana 2. Phalaris arum 3. Impaliens cat 4. Typha angust 5. Parthenociss 6. Cirsium arver 7. Urtica dioica 8. Persicaria am 9. 0. 1. 2. 3. 4. 5. 6. 7. 8. 99.	adensis dinacea pensis tifolia us quinquefolia nse		25% 25% 15% 10% 5% 5% 5%	Yes Yes No No No No No	FACW FACW OBL FACU FACU FACW	FAC species
Solidago cana Phalaris arum Impatiens car Typha angust Parthenociss Ciraium arver Urtica dicica Persicaria am Persicari	adensis dinacea pensis tifolia us quinquefolia nse		25% 25% 15% 10% 5% 5% 5%	Yes Yes No No No No No	FACW FACW OBL FACU FACU FACW	FAC species
Solidago cana Phalaris arum Impeliens car Typha angust Parthenociss Cirsium arver Urtice dioice Persicaria am Persicari	adensis dinacea pensis tifolia us quinquefolia nse		25% 25% 15% 10% 5% 5% 5% 120%	Yes Yes No No No No No Total Cover	FACW FACW OBL FACU FACU FACW	FAC species
Solidago cana Phalaris arum Impatiens car Typha angust Parthenociss Ciraium arver Urtica dicica Persicaria am Persicari	adensis dinacea pensis tifolia us quinquefolia nse		25% 25% 15% 10% 5% 5% 5% 120%	Yes Yes No No No No No	FACW FACW OBL FACU FACU FACW	FAC species
1. Solidago cana 2. Phalaris arun 3. Impatiens cat 4. Typha angust 5. Parthenociss 6. Ciraium arver 7. Urtica dioica 8. Persicaria an 9. 0. 1. 2. 3. 4. 4. 5. 6. 6. 7. 8. 99. 20.	adensis dinacea pensis tifolia us quinquefolia nse		25% 25% 15% 10% 5% 5% 5% 120%	Yes Yes No No No No No Total Cover	FACW FACW OBL FACU FACU FACW	FAC species

							Sampling	g Point:	DP-02
Profile Descri Depth	iption: (Describe to t	he depth ne	eded to document the in			bsence o	of indicators.)		
inches)	Matrix Color (moist)	%		dox Features			= 0.		
0-9"	10YR 3/2		Color (moist)	%	Type ¹	Loc ²	Texture	Re	emarks
9-19"		95	10YR 5/6	5		M	Silt Loam		
19-30"	10YR 5/3	93	7.5YR 4/6			M	Silty Clay Loam		
19-30	10YR 2/1						Silty Clay		
Type: C=Co	ncentration, D=Depleti	ion, RM=Red	uced Matrix, CS=Covere	d or Coated	Sand Grains	21 ocat	ion: PL=Pore Lining, M=	-Matrix	
lydric Soil In	dicators ³ :				ound Ordina.		t Indicators of Hydric S		
Black His Hydroger Stratified 2 cm Muc Depleted Thick Dai Sandy Mu 5 cm Muc	ipedon (A2) stic (A3) n Sulfide (A4) Layers (A5) ck (A10) Below Dark Surface (A12) ucky Mineral (S1) cky Peat or Peat (S3)	A11)	Sandy Gleye Sandy Redox Stripped Mat Dark Surface Loamy Muck Loamy Gleye Depleted Ma X Redox Dark S Depleted Dar Redox Depre	x (S5) rix (S6) e (S7) y Mineral (F2 d Matrix (F2) trix (F3) Surface (F6) rk Surface (F6)	())		Iron-Manganes Very Shallow D Other (Explain i	ark Surface (in Remarks) ators have be eld Indicators	F22) en updated to to Hydric Soils
estrictive Las Type:	yer (if observed):								
Depth (inc	ches):					Hydric	Soil Present?	Yes X	. No
marks:							141		
YDROLO	GY								
	ology Indicators:								
	nouv indicators:								
	ors (minimum of one is	roquired	ook all that a - 1 \				Secondary Indicators		

Type: C-Concentration, D-Depletion, RM=	Reduced Matrix, CS=Covered or Coated Sand Grains.	² Location: PL=Pore Lining, M=Matrix.
Hydric Soll Indicators ³ :		Test Indicators of Hydric Soils:
Histosol (A1)	Sandy Gleyed Matrix (S4)	Iron-Manganese Masses (F12)
Histic Epipedon (A2)	Sandy Redox (S5)	Very Shallow Dark Surface (F22)
Black Histic (A3)	Stripped Matrix (S6)	Other (Explain in Remarks)
Hydrogen Sulfide (A4)	Dark Surface (S7)	
Stratified Layers (A5)	Loamy Mucky Mineral (F1)	
2 cm Muck (A10)	Loamy Gleyed Matrix (F2)	
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)	9
Thick Dark Surface (A12)	X Redox Dark Surface (F6)	³ The hydric soil indicators have been updated to
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)	comply with the Field Indicators of Hydric Soils
5 cm Mucky Peat or Peat (S3)	Redox Depressions (F8)	in the United States, Version 8.0, 2016.
Restrictive Layer (if observed):		5 5
Type:		
Depth (inches):		Hardy O. H.D.
10-00-000		Hydric Soil Present? Yes X No No
Remarks:		¥3
HYDROLOGY Wetland Hydrology Indicators:		
	habaat. 20 d a can a	1
Primary Indicators (minimum of one is required Surface Water (A1)		Secondary Indicators (minimum of two required)
	Water-Stained Leaves (B9)	Surface Soil Cracks (B6)
High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10)
Saturation (A3)	True Aquatic Plants (B14)	Dry-Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
Drift Denocite (R3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Drift Deposits (B3)		
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)) Geomorphic Position (D2)
Algal Mat or Crust (B4) Iron Deposits (B5)		
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7)	
Algal Mat or Crust (B4) Iron Deposits (B5)	Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7) Gauge or Well Data (D9)	
Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7)	Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7) Gauge or Well Data (D9)	
Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations:	Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks)	
Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes	Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks) No X Depth (inches): N/A	
Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Water Table Present? Yes X	Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks) No X Depth (inches): N/A Depth (inches): 24"	X FAC-Neutral Test (D5)
Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Water Table Present? Saturation Present? Yes Saturation Present?	Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks) No X Depth (inches): N/A Depth (inches): 24"	
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Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Water Table Present? Yes X 1 Saturation Present? Yes X 1 (includes capillary fringe)	Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks) No X Depth (inches): N/A Depth (inches): 24"	X FAC-Neutral Test (D5) ydrology Present? Yes NoX
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Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Water Table Present? Yes X 1 Saturation Present? Yes X 1 (includes capillary fringe)	Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks) No X Depth (inches): N/A Depth (inches): 24" No X Depth (inches): N/A Wetland Hy	X FAC-Neutral Test (D5) ydrology Present? Yes NoX
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Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8 Field Observations: Surface Water Present? Water Table Present? Water Table Present? Yes X 1 Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gauge, monit	Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks) No X Depth (inches): N/A Depth (inches): 24" No X Depth (inches): N/A Wetland Hy	X FAC-Neutral Test (D5) ydrology Present? Yes NoX
Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8 Field Observations: Surface Water Present? Water Table Present? Water Table Present? Yes X 1 Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gauge, monit	Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks) No X Depth (inches): N/A Depth (inches): 24" No X Depth (inches): N/A Wetland Hy	X FAC-Neutral Test (D5) ydrology Present? Yes NoX
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Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8 Field Observations: Surface Water Present? Water Table Present? Water Table Present? Yes X 1 Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gauge, monit	Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks) No X Depth (inches): N/A Depth (inches): 24" No X Depth (inches): N/A Wetland Hy	X FAC-Neutral Test (D5) ydrology Present? Yes NoX

WETLAND DETERMINATION DATA FORM -- Midwest Region

Jeniook/Citer	Plymouth Watland Delineation		City/County:	Plymouth, Henne	epin County	Sampling Date: 7/25/2019
roject/Site: .pplicant/Owner:	Plymouth Wetland Delineation Xcel Energy	27	State	MN	Sampling Point:	DP-03
pplicant/Owner: vestigator(s);	W. Taylor, S. McClusky			Section, Township	o, Range: TWP 118N, RNG 22	W, SEC 18
vestigator(s); andform (hillslope:					I relief (concave, convex, none	e): convex
оре (%):	2-3% Lat: 45.0272		Long:	-9	3.50489	Datum: NAD83
	e: L378- Angus Ioam, 2 to 6 percent slopes					ssification: none
	logic conditions on the site typical for this time of year?		Yes_		(If no, explain in Remark	
re Vegetation	N , Sail N , or Hydrology N	significantly distu	rbed?		I Circumstances* present?	Yes X No
re Vegetation	N Soil N , or Hydrology N	naturally problem			explain any answers in Remark	(5.)
UMMARY OF	FINDINGS Attach site map showing sampling point locations, tr	ansects, imp	ortant feature	es, etc.		
lydrophytic Ve	egetation Present? Yes X No	0	Is the	Sampled Are a Wetland?	ea Yes	No <u>x</u>
lydric Soil Pre	sent? Yes No logy Present? Yes No			4 1101111111	100 A	
retrologgement out #30000 4	what appears to be a man-made berm above housing development. Area is mowed adjacer	nt to the naturally	vegetated shrub o	community the po	int was taken within.	
/EGETATION	Use scientific names of plants.	7.0	20000	10000000	Ĭ	
		Absolute	Dominant Species?	Indicator Status	Dominance Test workshee	t;
ree Stratum (Plo	t size: 30' radius)	% Çover	Species	Dialos		
1.					Number of Dominant Specie	s
11.1					That Are OBL, FACW, or FA	
3			-			
4		. = = =	-		Total Number of Dominant	
5.			= Total Cover		Species Across All Strata:	3 (B)
Capling/Shark Star	atum (Plot size: 15' radius)				Percent of Dominant Specie	
1. Rhus glabra	atom (Flot size. 13 fadids)	90%	Yes	UPL	That Are OBL, FACW, or FA	AC: 67% (A/B)
Celtis occiden	talio	30%	Yes	FAC		
3.	idis					
4					Prevalence Index workshe	et:
·						
J.		120%	= Total Cover		Total % Cover of:	Multiply by:
			=1		That Are OBL, FACW, or FA	
Herb Stratum (Plo	ot size: 5' radius)				OBL species	x1 =
1. Poa pratensis		30%	Yes	FAC	1	5% x2 = 0.1
2. Phalaris aruno		5%	No	FACW		0% x3 = 1.8 5% x4 = 0.2
3. Solidago cana	adensis	5%	No	FACU		-
4.	21.010				-	0% x5 = 4.5 .60 (A) 6.6 (B)
5.			-		Column Totals: 1	_60 (A)(B)
6.					5	B(A
7.					Prevalence Ind	ex = B/A = 4.13
8.		. —				
9.					i la la la la Manadadian II	-diestore:
10.			-0		Hydrophytic Vegetation I	idicators.
11,			-13		1 Repid Tost for h	lydrophytic Vegetation
12.			Z//		X 2-Dominance Tes	
13.					3-Prevalence Inde	
14.		-:				daptations ¹ (Provide supporting
15.						or on a separate sheet)
16.		-				ophytic Vegetation ¹ (Explain)
17			-			
18.					Indicators of hydric soil an	d wetland hydrology must
19.					be present, unless disturbe	
20.		-			De present, unioss distarb	od of problemana
		40%	= Total Cover			
					- Hydrophytic	
Woody Vine Stra	tum (Plot size: 30' radius)				2 2002	
910		-			- Vegetation	Yes X No
2.					Present?	
		(= Total Cover			
Remarks: (Includ	de photo numbers here or on a separate sheet.)					

Profile Description: Description: Description: Description: Description: Description: Description: Matrix. Profile Description: National Profile Descrip	DP-03	
Type: C=Constitution		
D-7* 10YR 3/3 100		
10-77	arks	
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Text Indicators of Hydric Solis:		
10YR 2/1		
Type: C=Concentration, D=Dupletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Tost Indicators*: Histoc Epipedon (A2) Sandy Glayed Matrix (S4) Histoc Epipedon (A2) Sandy Redox (S5) Hydrogan Suffice (A3) Siriped Matrix (S6) Hydrogan Suffice (A3) Siriped Matrix (S6) Dark Surface (S7) Straffled Layers (A5) Loamy Mucky Mineral (F1) Depleted Bloow Dark Surface (A11) Depleted Dark Surface (F2) Saraby Mucky Mineral (S1) Some Mucky Peat or Peat (S3) Redox Dark Surface (F7) Some Mucky Peat or Peat (S3) Redox Depressions (F8) Pyper Depth (Inches): Hydrology Indicators: Hydrology Indicators Surface Water (A1) High Water Table (A2) Saturation (A3) True Aquatic Plants (B14) Figure Table (A2) Saturation (A3) True Aquatic Plants (B14) Figure Table (A2) Saturation (A3) True Aquatic Plants (B14) Figure Table (A2) Some Marks (B1) Some Marks		
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. *Location: PL=Pore Lining, M=Matrix. Ptyrire Soil Indicators*: Histosoi (A1) Sandy Gleyed Matrix (S4) Information and Sand Grains. *Location: PL=Pore Lining, M=Matrix. Ptyrire Soil Indicators*: Histosoi (A2) Sandy Redox (S5) Very Shallow Dark Surface (F22) Black Histos (A3) Strepted Matrix (S8) Other (Explain in Remarks) Hydrogen Sulfide (A4) Dark Surface (S7) Stratified Layers (A5) Loarny Muky Mineral (F1) 2 cm Musk (A10) Loarny Gleyed Matrix (F2) Depleted Matrix (F3) Thick Dark Surface (A11) Depleted Matrix (F2) Depleted Matrix (F3) Sandy Mucky Mineral (S1) Comply with the Field Indicators of My, 5 cm Mucky Past or Peat (S3) Redox Depressions (F8) in the United States, Varsion 8.0, 20 testrictive Layer (if observed): Type: Paper (if observed): Type: Paper (inches): Hydric Soil Present? Yes Patrices (R6) Surface Water (A1) Present? Yes Patriana (B14) High Water Table (A2) Aquatic Fauna (B13) Drivage Patterns (B10) Saturation (A3) True Aquatic Plants (B14) Pory-Seaso Water Table (C2) Water Marks (B1) Hydrogen Sulfide Odor (C1) Saturation (A3) Frue Aquatic Plants (B14) Pory-Seaso (Water Table (C2) Carylish Burrows (C8) Sadiment Deposits (B3) Presence of Reduced Iron (C4) Sturted or Siressed Plants (D1) In on Deposits (B3) Presence of Reduced Iron (C4) Sturted or Siressed Plants (D1) In on Deposits (B3) Presence (B4) Other (Explain in Remarks) eld Observations: urface Water Present? Yes No X Depth (Inches): N/A Wetland Hydrology Present? Yes Intractives and Present? Yes No X Depth (Inches): N/A Wetland Hydrology Present? Yes Inches Card (B4) Provides Card (B4) Present? Yes No X Depth (Inches): N/A Wetland Hydrology Present? Yes Inches Card (B7) Present? Yes No X Depth (Inches): N/A Wetland Hydrology Present? Yes No X Depth (Inches): N/A Wetland Hydrology Present? Yes No X Depth (Inches): N/A Wetland Hydrology Present? Yes No X Depth (Inches): N/A Wetland Hydrology Present? Yes No X Depth (Inches): N/A		
Histosol (A1) Sandy Gleyed Matrix (S4) Indicators of Hydric Soils: Histosol (A1) Sandy Redox (S5) Loro-Manganese Masses (F12) Histo Epipedon (A2) Sandy Redox (S5) Loro-Manganese Masses (F12) Black Histic (A3) Stripped Matrix (S6) Loro-Manganese Masses (F12) Black Histic (A3) Stripped Matrix (S6) Loro-Matrix (S7) Straffied Layers (A5) Loamy Mucky Mineral (F1) 2 cm Muck (A10) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F2) Depleted Below Dark Surface (A12) Redox Dark Surface (F2) Sandy Mucky Mineral (F1) Loamy Gleyed Matrix (F2) Depleted Dark Surface (F2) Comply with the Field Indicators have been up to the United States (F2) Comply with the Field Indicators of Hydric Soil Indicators have been up to the United States (F2) Comply with the Field Indicators of Hydric Layer (If observed): Type: Depth (Inches): Redox Depressions (F8) In the United States, Version 8.0, 20 Vettand Hydrology Indicators: YDROLOGY Yettand Hydrology Indicators: YPW Water Table (A2) Aqualic Fauna (S13) Surface Water (A1) Depleted Matrix (B1) Water Marixs (B1) Hydrogen Sulfide Odor (C1) Craftis (B6) Water Marixs (B1) Hydrogen Sulfide Odor (C1) Craftis Burrows (C8) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Images (B2) Introduction in Tilled Soils (C6) Cemorphic Position (D2) Introduction Visible on Aerial Imager (B7) Gauge or Wall Data (D9) Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks) eld Observations: urdace Water Tesen? Yes No X Depth (Inches): N/A Algal Mat or Crust (B4) Research (B6) Capth (Inches): N/A Algal Mat or Crust (B4) Research (B6) Capth (Inches): N/A Algal Mat or Crust (B4) Research (B6) Capth (Inches): N/A Algal Mat or Crust (B4) Research (B6) Capth (Inches): N/A Algal Mat or Crust (B4) Research (B6) Capth (Inches): N/A Algal Mat or Crust (B4) Research (B6) Capth (Inches): N/A Algal Mat or Crust (B4) Research (B6) Capth (Inches): N/A Algal Mat or Crust (B4) Research (B6) Capth (Inches): N/A Wettand Hydrology Present?	√atrix	
Histosol (A1) Sandy Gleyed Matrix (S4) Indicators of Hydric Soils: Histosol (A1) Sandy Redox (S5) Loro-Manganese Masses (F12) Histo Epipedon (A2) Sandy Redox (S5) Loro-Manganese Masses (F12) Black Histic (A3) Stripped Matrix (S6) Loro-Manganese Masses (F12) Black Histic (A3) Stripped Matrix (S6) Loro-Matrix (S7) Straffied Layers (A5) Loamy Mucky Mineral (F1) 2 cm Muck (A10) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F2) Depleted Below Dark Surface (A12) Redox Dark Surface (F2) Sandy Mucky Mineral (F1) Loamy Gleyed Matrix (F2) Depleted Dark Surface (F2) Comply with the Field Indicators have been up to the United States (F2) Comply with the Field Indicators of Hydric Soil Indicators have been up to the United States (F2) Comply with the Field Indicators of Hydric Layer (If observed): Type: Depth (Inches): Redox Depressions (F8) In the United States, Version 8.0, 20 Vettand Hydrology Indicators: YDROLOGY Yettand Hydrology Indicators: YPW Water Table (A2) Aqualic Fauna (S13) Surface Water (A1) Depleted Matrix (B1) Water Marixs (B1) Hydrogen Sulfide Odor (C1) Craftis (B6) Water Marixs (B1) Hydrogen Sulfide Odor (C1) Craftis Burrows (C8) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Images (B2) Introduction in Tilled Soils (C6) Cemorphic Position (D2) Introduction Visible on Aerial Imager (B7) Gauge or Wall Data (D9) Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks) eld Observations: urdace Water Tesen? Yes No X Depth (Inches): N/A Algal Mat or Crust (B4) Research (B6) Capth (Inches): N/A Algal Mat or Crust (B4) Research (B6) Capth (Inches): N/A Algal Mat or Crust (B4) Research (B6) Capth (Inches): N/A Algal Mat or Crust (B4) Research (B6) Capth (Inches): N/A Algal Mat or Crust (B4) Research (B6) Capth (Inches): N/A Algal Mat or Crust (B4) Research (B6) Capth (Inches): N/A Algal Mat or Crust (B4) Research (B6) Capth (Inches): N/A Algal Mat or Crust (B4) Research (B6) Capth (Inches): N/A Wettand Hydrology Present?		
Histosol (A1) Sandy Gleyed Matrix (S4) Iron-Manganese Masses (F12) Histosol (A1) Sandy Redox (S5) Perps Masses (F12) Histosol (A2) Sandy Redox (S5) Perps Matrix (S6) Perps Masses (F12) Histosol (A3) Stripped Matrix (S6) Perps Matrix (S7) Perps Ma		
ydric Soil Indicators*:		
Histosof (A1) Histosof (A2) Histosof (A2) Sandy Redox (S5) Wey Shallow Dark Surface (F22) Wey Shallow Dark Surface (F22) John Mucky Mineral (F1) Sendy Mucky Mineral (F1) Sendy Mucky Mineral (F1) Sendy Mucky Mineral (F1) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Sendy Mucky Mineral (F1) Sendy Mucky Mineral (S1) Depleted Dark Surface (A12) Redox Dark Surface (F6) Sendy Mucky Mineral (S1) Depleted Dark Surface (F6) Sendy Mucky Mineral (S1) Depleted Dark Surface (F7) Comply with the Field Indicators of Hy for Mucky Peat or Peat (S3) Redox Depressions (F8) Fedox Depressions (F8) Secondary Indicators (minimum of two restrictive Layer (If observed): Type: Depth (Inches): Water-Stalned Leaves (B9) Surface Soil Cracks (B6) High Water Table (A2) Aqualic Feans (B13) Saturation (A3) Water-Stalned Leaves (B9) Surface Water (A1) Water-Stalned Leaves (B9) Surface Soil Cracks (B6) Presence of Reduced In (A3) Water Marks (B1) Water Table (A2) Aqualic Feans (B14) Dru-Season Water Table (C2) Crafish Burrows (C8) Drift Deposits (B3) Drift Deposits (B3) Presence of Reduced Inn (C4) Sunded or Stressed Plants (D1) Algal Mat or Crust (B4) Inn dation Visible on Aerial Imagery (B7) Spansely Vegetated Concave Surface (B8) Olther (Explain in Remarks) ield Observations: Wetland Hydrology Present? Yes No X Depth (Inches): N/A ater Table Present? Yes No X Depth (Inches): N/A Wetland Hydrology Present? Yes		
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WETLAND DETERMINATION DATA FORM -- Midwest Region

	ect/Site: Pl	Plymouth Wetland Delineation				City/County:	Plymouth, Henne	epin County	Sampling Date: 7/25/2019	
Part	_	-								
Section Sect							Section, Township	p, Range: TWP 118N, RNG 22	W, SEC 18	
This part Pa			Toeslone							
Mathematical Control				45.0272		Long	-9	93.50495	Datum: NAD83 UTM16N	
March Marc				101027				NWI clas	ssification. none	
Name				?		Yes	X No	(If no, explain in Remark	S.)	
No.					significantly distu	-		I Circumstances present?	Yes X No	20)
September Processing Process							(If needed,	explain any answers in Remark	(S.)	
Hydrocolay Vest X No within a Welland? Yes X No within a Welland? Yes X No within a Welland? Yes X No No No No No No				, or rijorolagi			es etc.			
No			map snowing s					22		
VEGETATION Use acientific names of plants VEGETATION									x No	
VECETATION - Use accientific names of plants.						***************************************		-		
VESETATION - Use scientific names of plants.	etiano riyotolog	gy Present?		163						
Manual M		e a man-made basin on top o	a berm to collect run	off.						
Station Pot size: 30' radies) Station	GETATION U	Use scientific names	of plants.							
Tree State (Prior size 5 or Smiles)								To the state of th	4.	
Number of Dominant Species	e Stratum (Plot size	ze: 30' radius)			% Cover	Species?	Status	Dominance Test Workshee	*	- 1
Total Acro OBL, FACW, or FAC: 1								Number of Demins - LC:	-	
Total Number of Dominant Species Across Al Strata: 1										
Section Stratum Floridat Section Stratum Section Stratum Section Stratum Section Stratum Section Stratum Section Stratum Stratum Section Stratum Section Stratum Section Stratum Section Sec								That Are OBL, FACW, or FA	(A)	
Section Stratum Floridat Section Stratum Section Stratum Section Stratum Section Stratum Section Stratum Section Stratum Stratum Section Stratum Section Stratum Section Stratum Section Sec										
Saedina/Shrub Statum (Plot size: 15' radius)									1 (B)	
That Are OBL, FACW, or FAC; 100%						= Total Cover		Species Across All Strata	(6)	
That Are OBL, FACW, or FAC; 100%										
1. 2. 3. 4. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5.	ling/Shrub Stratum	n (Plot size: 15' radius)								D)
Same	<u> </u>							That Are OBL, FACVV, or FA	.C. 100% (AL	رد
						00				
Total Scover of: Multi Total Scover of: Total Scover of: Multi Total Stratum (Plot size: 5' radius) Total Stratum (Plot size: 5' radius) Total Scover of: Total Scover								i i i madabatan		
Total K. Cover of Multi	ú							Prevalence Index worksnee	AG.	
That Are OBL, FACW, or FAC: Species 10% x1 = Species 10%									B. d. d binder become	
See Stratum (Piot size: 5' radius) See S						= Total Cover			C: Multiply by: A/B	=
Start Statum (Plot size: 30 radius)										-
1. Phalais anuntinaces 2. Typha angustifolia 3.	b Stratum (Plot siz	ze: 5' radius)								-
2. Typha angustidala 3.	Phalaris arundinad	cea						-		
3.	Typha angustifolia	а			10%	No	OBL			-
Column Totals: 1.00 (A)								WIII		-
5.								No.		— (B)
7								Column Totals 1.	00 (A) 1.9	— ^(B)
7										
10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 19. 19. 20. 20. 20. 20. 20. 20. 20. 20. 20. 20								Prevalence Inde	ex = B/A = 1.90	
10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 19. 19. 20. 20. 20. 20. 20. 20. 20. 20. 20. 20						·				
10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 20. 20. 20. 20. 20. 20. 20. 20. 20										
11.						-1		Hydrophytic Vegetation In	dicators:	
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100% = Total Cover	_							be present, unless disturbe	d or problematic.	
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SOIL

Type: Color (moist)				edox Features	R		ription: (Describe to Matrix	Depth
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Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. **Location: PL=** ydric Soil Indicators*: Histosol (A1) Sandy Gieyed Matrix (S4) Histic Epipedon (A2) Sandy Redox (S5) Hydrogen Sulfide (A4) Dark Surface (S7) Stratified Layers (A5) Loamy Mucky Mineral (F1) 2 cm Muck (A10) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) X Depleted Matrix (F2) Depleted Below Dark Surface (A11) X Depleted Dark Surface (F6) **The k Corn Som Mucky Mineral (S1) Corn Mucky Peat or Peat (S3) X Redox Depressions (F8) **Inhibit Apply (Inches): Hydric Soil Presents: **Depleted Matrix (F3) Depleted Dark Surface (F6) **The k Corn Som Mucky Peat or Peat (S3) X Redox Depressions (F8) **Inhibit Apply (Inches): Hydric Soil Presents: **Depleted Matrix (F3) Depleted Dark Surface (F7) Corn Soil Presents: **Depleted Dark Surface (F7) Corn Soil Mucky Peat or Peat (S3) X Redox Depressions (F8) **Inhibit Apply (Inches): Hydric Soil Presents: **Depleted Dark Surface (F7) Corn Soil Mucky Peat or Peat (S3) X Redox Depressions (F8) **Inhibit Apply (Inches): Depth (Inches): Depth (Inches): Depth (Inches): Surface (T7) Corn Soil Presents (S3) Aguatic Fauna (S13) Depth (Inches): Soil Presence of Reduced Inn (C4) Soil Red Soil Red (F8) Soil Presence of Reduced Inn (C4) Soil Red (F8) Soil Presence of Reduced Inn (C4) Soil Red (F8) Soil Presence of Reduced Inn (C4) Soil Red (F8) Soil Re	Tremains					60		0-12"
Page: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. PLest Indicators*: Test Indicators*: Test Indicators*: Test Indicators*: Test Indicators*: Test Indicators*: Test Indicators*:		M Clay Lo			101103/0			
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WETLAND DETERMINATION DATA FORM -- Midwest Region

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No	e Vegetation	N Soil	N , or Hydrology N	naturally problem			explain any answers in Remarks.)
No	UMMARY OF	F FINDINGS Attach site map sh	owing sampling point location	ons, transects, imp	ortant feature	es, etc.	
This Soft Present? Yes No X Wes Target Soft Present? Yes No X Assessed Target Soft Present Soft Soft Soft Soft Soft Soft Soft Sof			Yes	Nox	Is the	Sampled Are	ea Yes No X
Section Processor Proces					WILLIAM	a wettand:	
	etland Hydro	ology Present?	Tes				
Marchan	emarks: ommunity is alon	ng a man-made berm, connected to the road	by a grave drive. Area is impacted but	indicators or lack thereof	are evident.		
No. control	EGETATION	I Use scientific names of plants	S 2	Absolute	Dominant	Indicator	
Age Part Processes Part Par	Ote-1: /DI	at nizo: 30' radius'					Dominance Test worksheet:
March Marc						FACU	91
Trad Arr OBL, PACK, or PUS 1				20%	Yes	FACU	W. Carlotte and Ca
	2. Quercus ruora 3.						That Are OBL, FACW, or FAC: 1 (A)
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That Are OBL, FACW, or FAC: 20% ARB AR				60%	= Total Cover		Species Across All Strata: 5 (B)
That Are OBL, FACW, or FAC: 20% ARB AR							
	anling/Shrub Str	ratum (Plot size: 15' radius)					
	1.						That Are OBL, FACW, or FAC
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Total Scover of the Multiply by the Age Total Scover of the Multiply by the Age Total Scover of the Multiply by the Age Total Scover of the	3.	.#;					Bravalanca Index worksheet:
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Phalaris atmifiliacea 20% Yes FACW FACS				30%	Yes	FACU	FACW species 28% x2 = 0.56
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Similar arvanse	9/			5%	No	FACW	Column Totals: 1.64 (A) 5.87
Particum virgalium		nse		5%	No	FACU	·
Ritus glabra 5%				5%	No	FAC	Prevalence Index = B/A = 3.58
Pathenocissus quinquefolia Rhamnus eathartica 3% No FACU Agrostis gigantea 3% No FACW Agrostis gigantea 3% No FACW 1-Rapid Test for Hydrophytic Vegetation 2-Dominance Test is >50% 3-Prevalence Index is \$3.0\ 4-Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) 1-Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. 104% = Total Cover 1-Yes_No_X 1-Rapid Test for Hydrophytic Vegetation 2-Dominance Test is >50% 3-Prevalence Index is \$3.0\ 4-Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) 1-Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. 104% = Total Cover 1-Total Cover 1-Total Cover 1-Total Cover 1-Rapid Test for Hydrophytic Vegetation 2-Dominance Test is >50% 3-Prevalence Index is \$3.0\ 1-Amorphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation 1-Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. 1-Total Cover 1-Total Cover 1-Rapid Test for Hydrophytic Vegetation 1-Rapid Test for Hydr	200			5%	No		
Rhamnus eatharitica 3% No (FACW) Hydrophytic Vegetation indicators: Agrostis gigantea 3% No FACW 1-Rapid Test for Hydrophytic Vegetation 2-Dominance Test is >50% 3-Prevalence Index is ≤3.0° 4-Morphological Adaptations* (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation (Explain) 4-Morphological Adaptations* (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation (Explain) 4-Morphological Adaptations* (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation (Explain) 4-Morphological Adaptations* (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation (Explain) 4-Morphological Adaptations* (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation (Explain) 4-Morphological Adaptations* (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation (Explain) 4-Morphological Adaptations* (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation (Provide supporting data in Remarks or on a separate sheet) 5		sus quinquefolia		3%	No	-	=
				3%	- 1		- Hydrophytic Vegetation indicators:
2-Dominance Test is >50% 3-Prevalence Index is ≤3.0 d 4-Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation (Explain) 1-Indicators of hydric soil and welland hydrology must be present, unless disturbed or problematic. 104% = Total Cover 104% = Total Cover Hydrophytic Vegetation	1. Agrostis giga	antea		3%	No	FACW	and the state of the second to Magazinian
3-Prevalence Index is \$3.0¹ 4-Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) 104% = Total Cover 104% = Total Cover Hydrophytic Vegetation Present? Yes No X	12.						- C
4-Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) 1ndicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. 104% = Total Cover	13.				-		
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. 104% = Total Cover Ocody Vine Stratum (Plot size: 30' radius) = Total Cover Total Cover Adat in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation	14.					//======	
Problematic Hydrophytic Vegetation (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. 104% = Total Cover Hydrophytic Vegetation Present? Yes No X	15.				-09		
Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. 104% = Total Cover Hydrophytic Vegetation Present? Yes No X	16.					_	
be present, unless disturbed or problematic. 104% = Total Cover 104% = Total Cover Hydrophytic Vegetation Present? Yes No X	17						-
be present, unless disturbed or problematic. 104% = Total Cover	18.					-	¹Indicators of hydric soil and wetland hydrology must
104% = Total Cover Hydrophytic Vegetation Present? Yes No X	19.				-		_
Hydrophytic Vegetation Present? Yes No X	20			4040/	= Total Cover		
Vegetation				104%	= Total Cover		
Vegetation							Hydrophytic
Present? Yes No X 2 = Total Cover	Woody Vine Stra	atum (Plot size: 30' radius)					
2 = Total Cover	1						
	2				= Total Cover	-	
emarks: (Include photo numbers here or on a separate sheet.)				-	- 10(0) 00461		
emarks: (Include photo numbers here or on a separate sheet.)							
	Remarks: (Inclu	ıde pholo numbers here or оп а separate sh	eet.)				

epth _	priori. (Describe to ti	ne depth nee	eded to document the	indicator or o	confirm the	absence o	of indicators.)	
	Matrix			edox Features				
(inches)	Color (moist)	<u> </u>	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-9"	10YR 3/2	97	10YR 4/6	3	C	М	Silt Loam	
9-20"	10YR 6/1	80	7.5YR 5/6	20	C	PL	Loam	
						-		
							-	
				-111		-		
Type: C=Cor	ncentration, D=Depletion	on, RM=Red	uced Matrix, CS=Cover	ed or Coated	Sand Grains	. ² Locat	ion: PL=Pore Lining, N	Λ=Matrix.
Histosol (Tes	t Indicators of Hydric	
_	ipedon (A2)			ed Matrix (S4))		Iron-Mangane	se Masses (F12)
Black His			Sandy Redo				Very Shallow	Dark Surface (F22)
	Sulfide (A4)		Stripped Ma				Other (Explain	ı in Remarks)
	Layers (A5)		Dark Surfac					
2 cm Muc				ky Mineral (F1				
	Below Dark Surface (A	11)		ed Matrix (F2))			
	rk Surface (A12)	,	_X Depleted Ma	Surface (F6)			3	
	ucky Mineral (S1)			ark Surface (F6)	7)		The hydric soil indic	cators have been updated to
	ky Peat or Peat (S3)			essions (F8)	<i>(</i>)		comply with the F	Field Indicators of Hydric Soils tes , Version 8.0, 2016.
Type: Depth (inc	hes): -					Hydric	Soil Present?	Yes X No
Depth (inc						Hydric	Soil Present?	Yes X No
Depth (incommarks:	ЭY					Hydric	Soil Present?	Yes X No
Depth (incommarks: YDROLOG etland Hydro	GY logy Indicators:	required; ch	ack all that apply)			Hydric		
Depth (incommarks: YDROLOG etland Hydro	GY logy Indicators: ors (minimum of one is	required: ch		ad Looves (PS		Hydric	Secondary Indicators	s (minimum of two required)
Depth (incommarks: YDROLOG etland Hydrorimary Indicate Surface W	GY logy Indicators: ors (minimum of one is vater (A1)	required: ch	Water-Staine	ed Leaves (B9	()	Hydric	Secondary Indicators Surface Soil C	s (minimum of two required) racks (B6)
Depth (incommarks: YDROLOGetland Hydrorimary Indicate Warface W	Iogy Indicators: pors (minimum of one is vater (A1) par Table (A2)	required: ch	Water-Staine Aquatic Fau	na (B13)		Hydric	Secondary Indicators Surface Soil C Drainage Patte	s (minimum of two required) racks (B6) ems (B10)
Depth (incomarks: TDROLOG Stland Hydro imary Indicate Surface W High Wate Saturation	logy Indicators: ors (minimum of one is dater (A1) or Table (A2) (A3)	required: ch	Water-Staine Aquatic Faur True Aquatic	na (B13) Plants (B14)		Hydric	Secondary Indicators Surface Soil C Drainage Patte Dry-Season W	s (minimum of two required) racks (B6) ems (B10) rater Table (C2)
Depth (incomarks: TDROLOG Stland Hydro imary Indicate Surface W High Wate Saturation Water Mar	logy Indicators: ors (minimum of one is dater (A1) or Table (A2) (A3)	required: ch	Water-Staine Aquatic Faur True Aquatic Hydrogen St	na (B13) Plants (B14) Iffide Odor (C	1)		Secondary Indicators Surface Soil C Drainage Patte Dry-Season W Crayfish Burro	s (minimum of two required) racks (B6) ems (B10) ater Table (C2) ws (C8)
Depth (incomarks: TDROLOG etland Hydro imary Indicate Surface W High Wate Saturation Water Mar	logy Indicators: ors (minimum of one is vater (A1) or Table (A2) (A3) rks (B1) Deposits (B2)	required: ch	Water-Staine Aquatic Faur True Aquatic Hydrogen St	na (B13) Plants (B14) Ilfide Odor (C zospheres on	1) Living Roots		Secondary Indicators Surface Soil C Drainage Patte Dry-Season W Crayfish Burro	s (minimum of two required) racks (B6) ems (B10) fater Table (C2) ws (C8) ble on Aerial Imagery (C9)
Depth (incomarks: PROLOCEMENT Marks: PROLOCEMENT Marks: Proceeding Marks Ma	logy Indicators: ors (minimum of one is vater (A1) or Table (A2) (A3) rks (B1) Deposits (B2)	required: ch	Water-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi Presence of	na (B13) Plants (B14) Iffide Odor (C zospheres on Reduced Iron	1) Living Roots (C4)	s (C3)	Secondary Indicators Surface Soil C Drainage Patte Dry-Season W Crayfish Burrot Saturation Visi	s (minimum of two required) racks (B6) ems (B10) later Table (C2) ws (C8) ble on Aerial Imagery (C9) essed Plants (D1)
POROLOC Total Angle Ang	logy Indicators: ors (minimum of one is later (A1) or Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4)	required: ch	Water-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi Presence of Recent Iron 6	na (B13) Plants (B14) Ilfide Odor (Conspheres on Reduced Iron Reduction in T	1) Living Roots (C4)	s (C3)	Secondary Indicators Surface Soil C Drainage Patte Dry-Season W Crayfish Burro Saturation Visi Stunted or Stre	s (minimum of two required) racks (B6) ems (B10) rater Table (C2) ws (C8) ble on Aerial Imagery (C9) essed Plants (D1) osition (D2)
Depth (incomarks: PROLOCE Total And Hydro Imary Indicate Surface W High Wate Saturation Water Mar Sediment I Drift Depose Algal Mat of Iron Depose	logy Indicators: ors (minimum of one is /ater (A1) or Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4)		Water-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi Presence of Recent Iron I	na (B13) Plants (B14) Iffide Odor (Conspheres on Reduced Iron Reduction in Turface (C7)	1) Living Roots (C4)	s (C3)	Secondary Indicators Surface Soil C Drainage Patte Dry-Season W Crayfish Burrot Saturation Visi	s (minimum of two required) racks (B6) ems (B10) rater Table (C2) ws (C8) ble on Aerial Imagery (C9) essed Plants (D1) osition (D2)
POROLOGIC TOROLOGIC TOROLO	logy Indicators: ors (minimum of one is later (A1) or Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4)	ery (B7)	Water-Stains Aquatic Faus True Aquatic Hydrogen Stains Oxidized Rhi Presence of Recent Iron 6 Thin Muck S Gauge or We	na (B13) Plants (B14) Iffide Odor (Conspheres on Reduced Iron Reduction in Turface (C7)	1) Living Roots (C4) Tilled Soils (C	s (C3)	Secondary Indicators Surface Soil C Drainage Patte Dry-Season W Crayfish Burro Saturation Visi Stunted or Stre	s (minimum of two required) racks (B6) ems (B10) rater Table (C2) ws (C8) ble on Aerial Imagery (C9) essed Plants (D1) osition (D2)
POPPOLOC Timary Indicate Surface W High Wate Saturation Water Mar Sediment I Drift Depos Algal Mat o Iron Depos Inundation Sparsely V	logy Indicators: ors (minimum of one is later (A1) or Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) Visible on Aerial Imag	ery (B7)	Water-Stains Aquatic Faus True Aquatic Hydrogen Stains Oxidized Rhi Presence of Recent Iron 6 Thin Muck S Gauge or We	na (B13) Plants (B14) Iffide Odor (Concept of the concept of the c	1) Living Roots (C4) Tilled Soils (C	s (C3)	Secondary Indicators Surface Soil C Drainage Patte Dry-Season W Crayfish Burro Saturation Visi Stunted or Stre	s (minimum of two required) racks (B6) ems (B10) rater Table (C2) ws (C8) ble on Aerial Imagery (C9) essed Plants (D1) osition (D2)
POPPOLOC etland Hydro rimary Indicate Surface W High Water Mar Sediment I Drift Depos Algal Mat o Iron Depos Inundation Sparsely V	logy Indicators: ors (minimum of one is vater (A1) or Table (A2) (A3) orks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) Visible on Aerial Imag	ery (B7) face (B8)	Water-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi Presence of Recent Iron R Thin Muck S Gauge or We Other (Explain	na (B13) Plants (B14) Iffide Odor (Control of Control o	1) Living Roots (C4) Tilled Soils (C	s (C3)	Secondary Indicators Surface Soil C Drainage Patte Dry-Season W Crayfish Burro Saturation Visi Stunted or Stre	s (minimum of two required) racks (B6) ems (B10) rater Table (C2) ws (C8) ble on Aerial Imagery (C9) essed Plants (D1) osition (D2)
YDROLOG etland Hydrogenimary Indicate Surface W High Water Mare Sediment I Drift Depose Algal Mate Iron Depose Inundation	logy Indicators: ors (minimum of one is vater (A1) or Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) Visible on Aerial Imag vegetated Concave Sur	ery (B7) face (B8) s No	Water-Staine Aquatic Faur Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi Presence of Recent Iron R Thin Muck S Gauge or We Other (Explain	na (B13) Plants (B14) Iffide Odor (Cizospheres on Reduced Iron Reduction in Turface (C7) Iffide Data (D9) In in Remarks In N/A	1) Living Roots (C4) Tilled Soils (C	s (C3)	Secondary Indicators Surface Soil C Drainage Patte Dry-Season W Crayfish Burro Saturation Visi Stunted or Stre	s (minimum of two required) racks (B6) ems (B10) rater Table (C2) ws (C8) ble on Aerial Imagery (C9) essed Plants (D1) osition (D2)
POPPOLOC Timary Indicate Surface W High Wate Saturation Water Mar Sediment I Drift Depos Inundation Sparsely V Cold Observation	logy Indicators: ors (minimum of one is /ater (A1) or Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) Visible on Aerial Imag /egetated Concave Sur ons: Present? Ye eact? Ye eact? Ye eact? Ye eact?	ery (B7) face (B8) s No _ s No _	Water-Staine Aquatic Faur True Aquatic Hydrogen St Oxidized Rhi Presence of Recent Iron 6 Thin Muck S Gauge or We Other (Explai	na (B13) Plants (B14) Ilfide Odor (Cizospheres on Reduced Iron Reduction in Turface (C7) Ill Data (D9) In in Remarks N/A	Living Roots (C4) Tilled Soils (C	s (C3)	Secondary Indicators Surface Soil C Drainage Patte Dry-Season W Crayfish Burro Saturation Visi Stunted or Stre	s (minimum of two required) racks (B6) ems (B10) rater Table (C2) ws (C8) ble on Aerial Imagery (C9) essed Plants (D1) osition (D2)

WETLAND DETERMINATION DATA FORM -- Midwest Region

- 11: 11:00 m	Discount Method Deligonting			City/County: 1	Plymouth, Henne	pin County Sampling Date: 7/25/2019
roject/Site:	Plymouth Wetland Delineation			State		Sampling Point: DP-06
pplicant/Owner:	Xcel Energy			s	ection, Township	o, Range: TWP 118N, RNG 22W, Sec 17
vestigator(s):	W. Taylor, S. McClusky terrace, etc.): Toeslope				Loca	I relief (concave, convex, none): concave
andform (hillslope,		45.02726		Long:	-9	3.50137 Datum: NAD83
ope (%):	0-2% Lat					NWI classification: none
	e: L24A-Glencoe loam, depressional, 0 to 1 per degic conditions on the site typical for this time			Yes	X No	(if no, explain in Remarks.)
			significantly distur	_		Circumstances" present? Yes X No
re Vegetation			naturally problema		(If needed,	explain any answers in Remarks.)
re Vegetation	N Soil N				es, etc.	
	FINDINGS Attach site map sho		No.	le the	Sampled Are	a
	getation Present?	100	No		a Wetland?	Yes x No
Hydric Soil Pres Vetland Hydrol			No			
emarks:	nmunity fed by storm water drains					
/EGETATION	Use scientific names of plants.		Absolute	Dominant	Indicator	
ree Stratum (Plot	t cize: 30' radius)		% Cover	Species?	Status	Dominance Test worksheet:
ree Stratum (Plot	taize ou lauraj					
-						Number of Dominant Species
						That Are OBL, FACW, or FAC: 2 (A)
5						Total Number of Dominant
***				≃ Total Cover		Species Across All Strata. 2 (B)
Sapling/Shrub Stra	atum (Plot size: 15' radius)					Percent of Dominant Species
1.	· · · · · · · · · · · · · · · · · · ·			11-		That Are OBL, FACW, or FAC: 100% (A/B)
2				(r		
3						
4					1	Prevalence Index worksheet:
5.						AL IS Labor.
-				= Total Cover		Total % Cover of: Multiply by: That Are ORL FACW or FAC: A/B
						Illat Ale OBE, I AGT, GTTTE
Herb Stratum (Plo	ot size: 5' radius)				0.51	Obe species
1. Calamagrostis	s canadensis		60%	Yes	OBL	
2. Typhe angusti	tifolia		40%	Yes	OBL	FAC species x3 =
3. Scirpus cypen	inus		5%	No No	OBL	UPL species x5 =
4.						Column Totals: 1.05 (A) 1.05 (B)
5.						Column Totals
6.			-8			Prevalence index = B/A = 1.00
7.						Prevalence lidex
8.						
9.					-	Hydrophytic Vegetation Indicators:
10.				-		, , , , , , , , , , , , , , , , , , , ,
1,				10,		X 1-Rapid Test for Hydrophytic Vegetation
12				0		X 2-Dominance Test is >50%
13.				-:	-	x 3-Prevalence Index is ≤3.0
14.						4-Morphological Adaptations ¹ (Provide supporting
15.						data in Remarks or on a separate sheet)
16.						Problematic Hydrophytic Vegetation ¹ (Explain)
17.						
18.						¹ Indicators of hydric soil and welland hydrology must
				-		be present, unless disturbed or problematic.
19				T.1-10		Do prodeit, dilicos distasse el prodeit.
VAST			105%	= Total Cover		
VAST						Hudrophytic
20.	utum (Plot size: 30' radius)					Hydrophytic
20.	utum (Plot size: 30' radius)					Vegetation
20. Woody Vine Strat	utum (Plot size: 30' radius)					1 75 01.5
1	utum (Plot size: 30' radius)			= Total Cover	-	Vegetation

r rome beso	cription: (Describe to	the depth nee	ded to document the	indicator or co	onfirm the a	absence c	of indicators)	ling Point: DP-06	
Бериі	IVIATRIX			edox Features			maicators.)		
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	- Texture	Remarks	
0-6 [⊮]	10YR 2/1	100					Silt Loam	Remarks	
6-12"	N 5/	95	10YR 5/8	5		M	Silty Clay		
12-20"	N 5/	70	10YR 5/8	30	C	M	Silty Clay		
							- Only Gray	gravel inclusions	
Type: C=C	Concentration, D=Deplet	tion, RM=Redu	ced Matrix, CS=Cover	ed or Coated S	and Grains	21 const			
ydric Soil I	Indicators ³ :		1	ou or oddica o	and Grains.		ion: PL=Pore Lining, I		
Histoso	•		Sandy Gley	ed Matrix (S4)		162		: Soils: ese Masses (F12)	
	Epipedon (A2)		Sandy Red					Dark Surface (F22)	
	Histic (A3)		Stripped Ma				Other (Explai	n in Remarks)	
	en Sulfide (A4)		Dark Surface					, in the same of t	
	ed Layers (A5) ruck (A10)			ky Mineral (F1))				
	ed Below Dark Surface ('Δ11\	X Loamy Gley						
	ark Surface (A12)	(411)	X Depleted M	` ,					
	Mucky Mineral (S1)			: Surface (F6) ark Surface (F7	·\		The hydric soil indi	cators have been updated to	
	ucky Peat or Peat (S3)			essions (F8))		comply with the Field Indicators of Hydric Soils		
CHOCK NAMES OF THE	ayer (if observed):			00010110 (1 0)			in the United Sta	ites, Version 8.0, 2016.	
estrictive I :									
	ayer (ii observed):								
Type:									
						Hydric	Soil Present?	Yes X No	
Type: Depth (in	nches):					Hydric	Soil Present?	Yes <u>X</u> No	
Type:	DGY					Hydric	Soil Present?	Yes <u>X</u> No	
Type:	OGY rology Indicators:	s roquired; also				Hydric			
Type:	OGY rology Indicators: ators (minimum of one is	s required; che				Hydric	Secondary Indicator	s (minimum of two required)	
Type:	OGY rology Indicators: ators (minimum of one is	s required: che	Water-Staine	ed Leaves (B9)		Hydric	Secondary Indicator Surface Soil C	s (minimum of two required) cracks (B6)	
Type:	OGY rology Indicators: ators (minimum of one is Water (A1) ster Table (A2)	s required: che	Water-Staine Aquatic Faur	na (B13)		Hydric	Secondary Indicator Surface Soil C	s (minimum of two required) cracks (B6) erns (B10)	
Type:	OGY rology Indicators: ators (minimum of one is Water (A1) ster Table (A2)	s required; che	Water-Staine Aquatic Faur True Aquatic	na (B13) Plants (B14)		Hydric	Secondary Indicator Surface Soil C Drainage Patt Dry-Season W	s (minimum of two required) cracks (B6) erns (B10) /ater Table (C2)	
Type:	DGY rology Indicators: ators (minimum of one is Water (A1) ater Table (A2) on (A3) arks (B1) at Deposits (B2)	s required: che	Water-Staine Aquatic Faur True Aquatic Hydrogen St	na (B13) Plants (B14) Ilfide Odor (C1))		Secondary Indicator Surface Soil C Drainage Patt Dry-Season W Crayfish Burro	s (minimum of two required) Fracks (B6) erns (B10) Vater Table (C2) ws (C8)	
Type:	DGY rology Indicators: ators (minimum of one is Water (A1) atter Table (A2) on (A3) arks (B1)	s required: che	Water-Staine Aquatic Faur True Aquatic Hydrogen St	na (B13) Plants (B14) Ilfide Odor (C1) zospheres on L) Living Roots		Secondary Indicator Surface Soil C Drainage Patt Dry-Season W Crayfish Burro Saturation Vis	s (minimum of two required) iracks (B6) erns (B10) /ater Table (C2) ws (C8) ible on Aerial Imagery (C9)	
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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

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.



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

<u>Federal</u>

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 <u>strongly encouraged</u> 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 preapplication 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

appropriate field office.

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

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.

Project Name and/or Number:

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/Regulatory/Docs/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 Impact¹ Summary

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

Aquatic Resource ID (as noted on overhead view)	Aquatic	l drain or l	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	Т	2150 sq ft	N/A	Shallow marsh	20
w-03	wetland	excavate	Т	100 sq ft	N/A	Fresh wet meadow (degraded)	20
				-			

¹If impacts are temporary; enter the duration of the impacts in days next to the "T". For example, a project with a temporary access fill that would be removed after 220 days would be entered "T (220)".

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- provided. Regulatory entities will not initia	<u>-application</u> consultation with th ate a formal application review if	e Corps and LGU based on the information you have this box is checked.
By signature below, I attest that the inform authority to undertake the work described	nation in this application is comp herein.	lete and accurate. I further attest that I possess the
ellen.l.heine@xcelen	Digitally signed by	
Signature: ergy.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 I	behalf as my agent in the proces	sing of this application and to furnish, upon request,

supplemental information in support of this application.

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).

³This is generally only applicable if you are applying for a de minimis exemption under MN Rules 8420.0420 Subp. 8, otherwise enter "N/A". ⁴Use Wetland Plants and Plant Community Types of Minnesota and Wisconsin 3rd Ed. as modified in MN Rules 8420.0405 Subp. 2.

⁵Refer to Major Watershed and Bank Service Area maps in MN Rules 8420.0522 Subp. 7.

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:

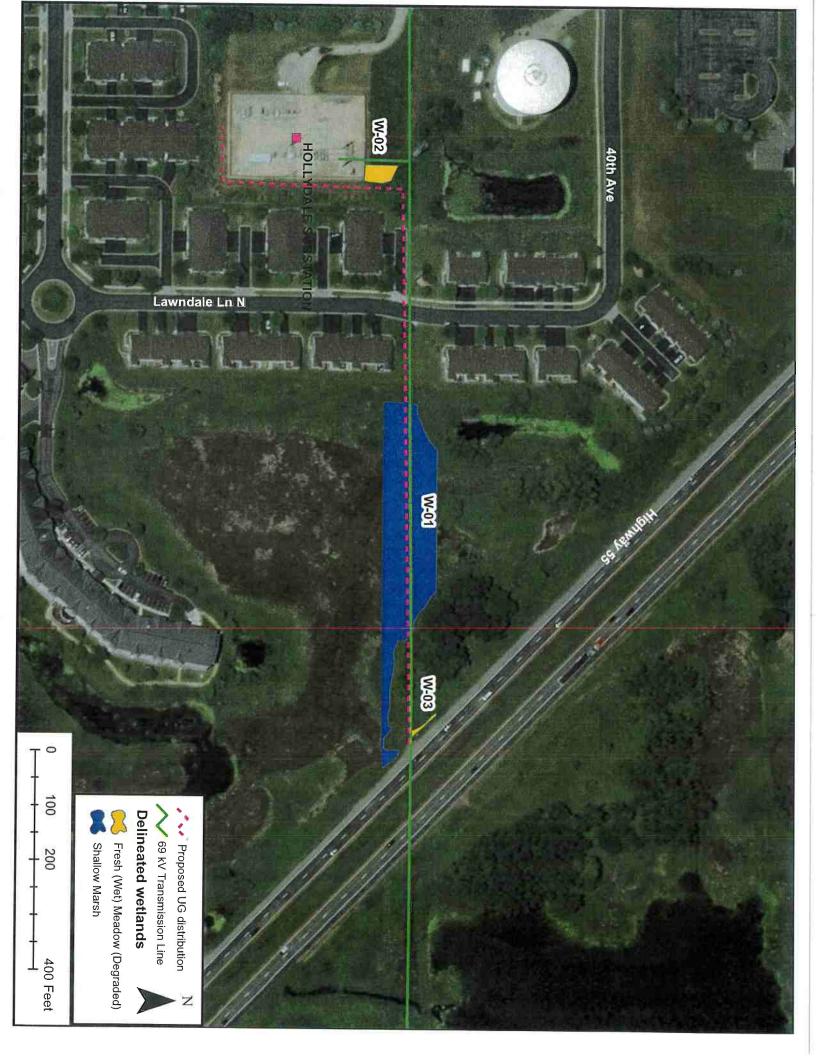
The wetland being crossed is fairly large and there is an existing utility easement and overhead line which crosses the wetland in the location of the proposed distribution duct bank. An alternative of routing the distribution line further north around the wetland would require the acquisition of new 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.



		9	

Minnesota Wetland Conservation Act Notice of Application

Local Government Unit (LGU) City of Plymouth		Address 3400 Plymouth Boulevard Plymouth, MN 55447			
	1. PROJECT INFORMA	ΓΙΟΝ			
Applicant Name Hollydale Golf Course Development, Inc.	Project Name Hollydale Golf Course	Date of Application 10/09/19	Application Number 2019-13		
Type of Application (check all that	apply):				
☐ Wetland Boundary or Type	⊠ No-Loss		Exemption		
Sequencing	Replacement Plan	n 🔲 1	Banking Plan		
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 11 th 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 11 th 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	i the 110D.				
2. APP	LICATION REVIEW ANI	D DECISION			
Signing and mailing of this comple Subp. 3 provides notice that an appl	11 1	•			

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
Ben Scharenbroich,	business-day comment period):
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	Decision-maker for this application:
763-509-5527	Staff
bscharenbroich@plymouthmn.gov	Governing Board or Council
//	11

Date: October 28, 2019

BWSR Forms 7-1-10 Page 1 of 3

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
leslie.parris@state.mn.us
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. Viele @ leteral code
Development, Inc.). Jake@jakewalesch.com
Members of the public who requested notice (notice only): Adam Cameron, Kjolhaug
Members of the public who requested notice (notice only): Adam Cameron, Kjolhaug
Members of the public who requested notice (notice only): Adam Cameron, Kjolhaug Environmental Services Company, 2500 Shadywood Road, Suite 130, Orono, MN 55331.
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

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

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

BWSR Forms 7-1-10 Page 2 of 3

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).

BWSR Forms 7-1-10 Page 3 of 3



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

Table 1. Honydaic Gon Course Site Historic Actual Hotography 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

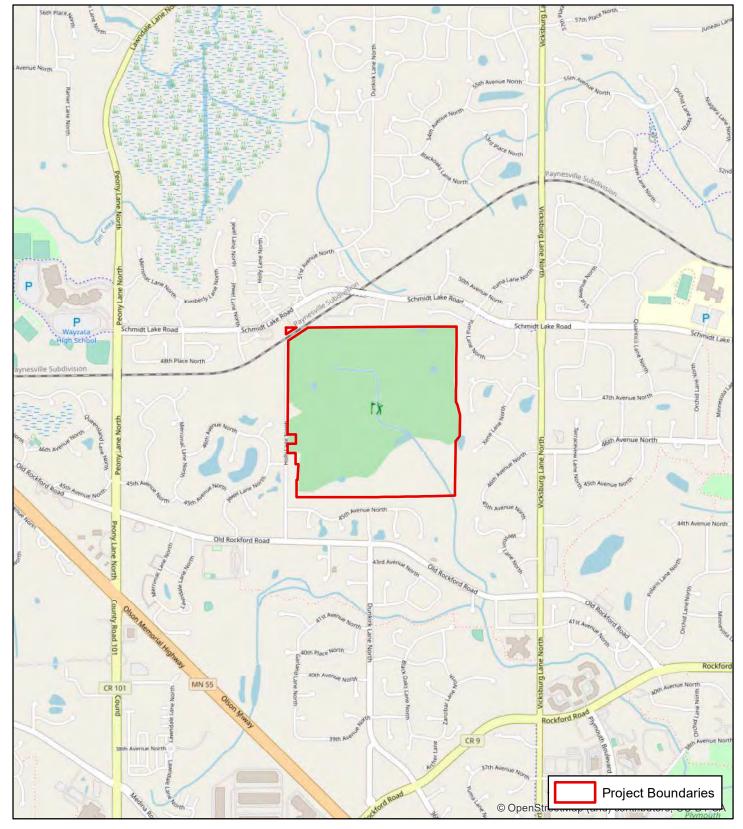


Figure 1 - Site Location Map

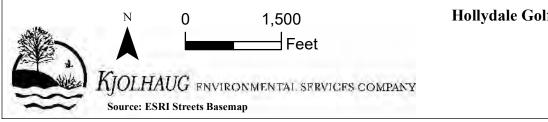




Figure 2 - Existing Conditions (2016 MNGEO Photo)



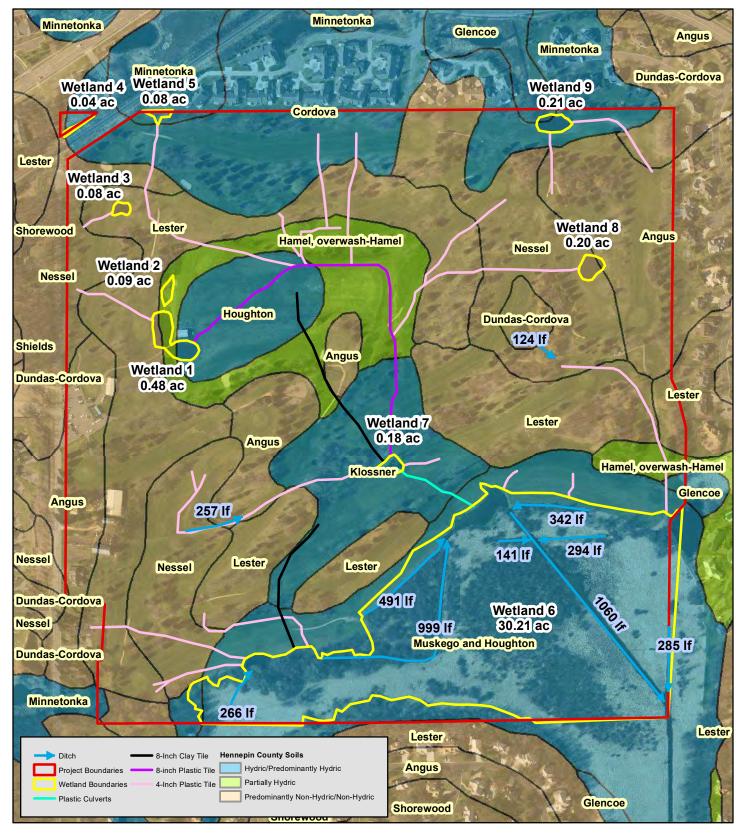


Figure 3 - Soil Survey Overlay Map



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 GG 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): 5:8 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 Impact¹ Summary

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

Aquatic Resource ID (as noted on overhead view)	Aquatic Resource Type (wetland, lake, tributary etc.)	drain or	Impact	Size of Impact ²	Overall Size of Aquatic Resource ³	Existing Plant Community Type(s) in Impact Area ⁴	County, Major Watershed #, and Bank Service Area # of Impact Area ⁵

¹If impacts are temporary; enter the duration of the impacts in days next to the "T". For example, a project with a temporary access fill that would be removed after 220 days would be entered "T (220)".

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 <u>pre-application</u> consultation with the provided. Regulatory entities will not initiate a formal application review in	
By signature below, I attest that the information in this application is compauthority to undertake the work described herein. Holly dale GC Development Inc.	plete and accurate. I further attest that I possess the
Signature: 13: President	_ Date: 9/27/19

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.

²Impacts less than 0.01 acre should be reported in square feet. Impacts 0.01 acre or greater should be reported as acres and rounded to the nearest 0.01 acre. Tributary impacts must be reported in linear feet of impact and an area of impact by indicating first the linear feet of impact along the flowline of the stream followed by the area impact in parentheses). For example, a project that impacts 50 feet of a stream that is 6 feet wide would be reported as 50 ft (300 square feet).

³This is generally only applicable if you are applying for a de minimis exemption under MN Rules 8420,0420 Subp. 8, otherwise enter "N/A".

⁴Use Wetland Plants and Plant Community Types of Minnesota and Wisconsin 3rd Ed. as modified in MN Rules 8420,0405 Subp. 2.

⁵Refer to Major Watershed and Bank Service Area maps in MN Rules 8420.0522 Subp. 7.

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:

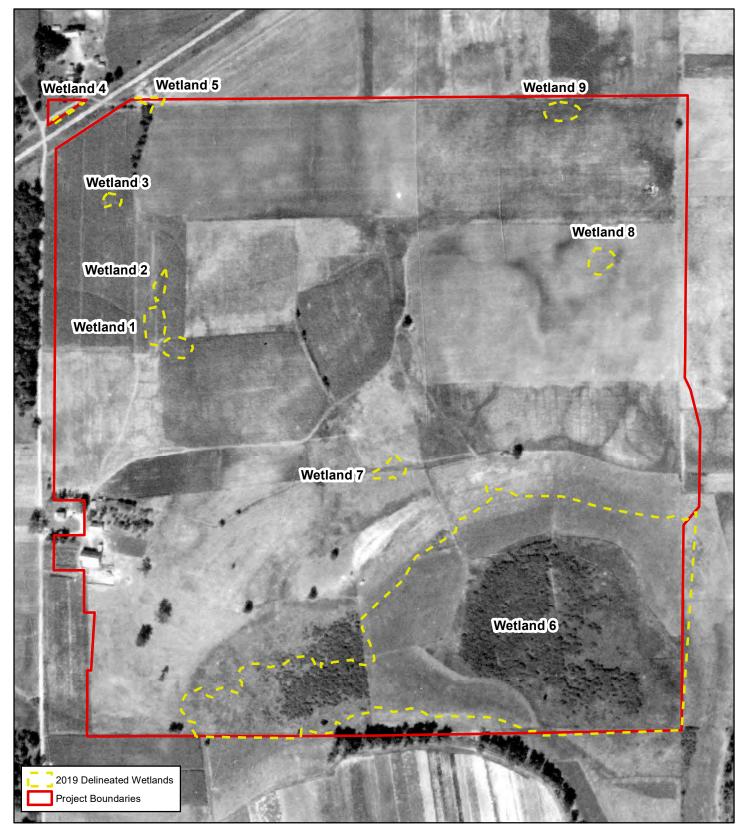
WCA: See the attached memo for the discussion of the ornamental ponds (incidentally created wetlands) present onsite.

CWA: See the attached memo for the discussion of the ornamental ponds present onsite.

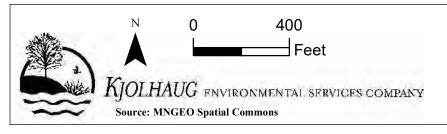
Hollydale Golf Course

WCA/CWA Jurisdictional Summary

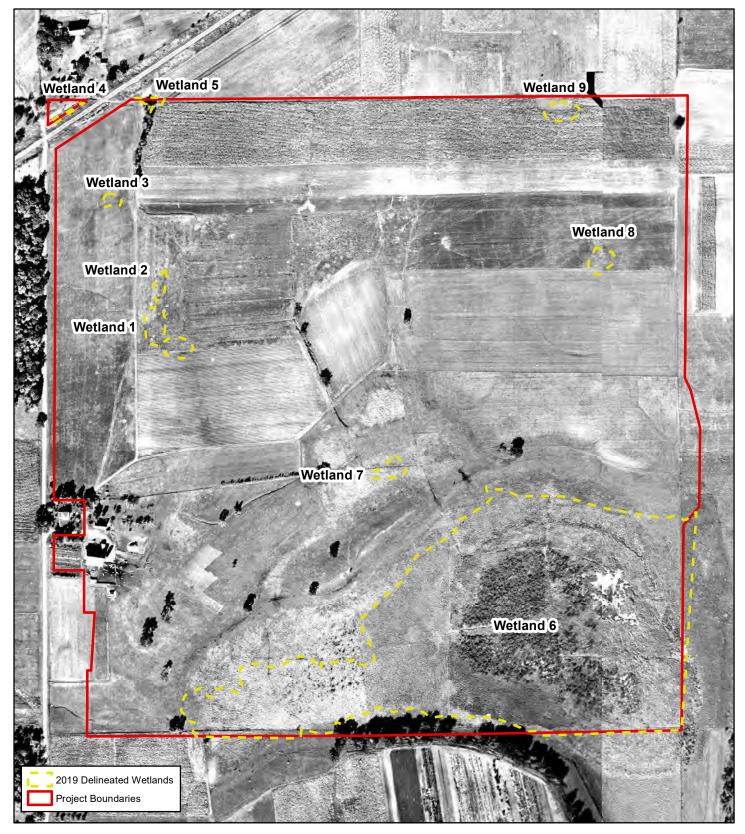
Appendix B: Historic Aerial Photos and USGS Topo Maps



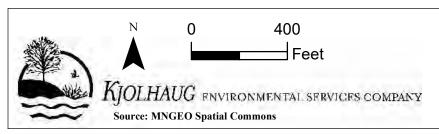
Historic Aerial Photos (1937 MNGEO Photo)



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

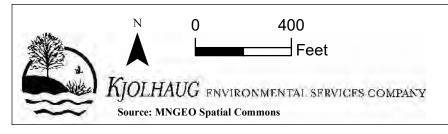


Historic Aerial Photos (1945 MNGEO Photo)

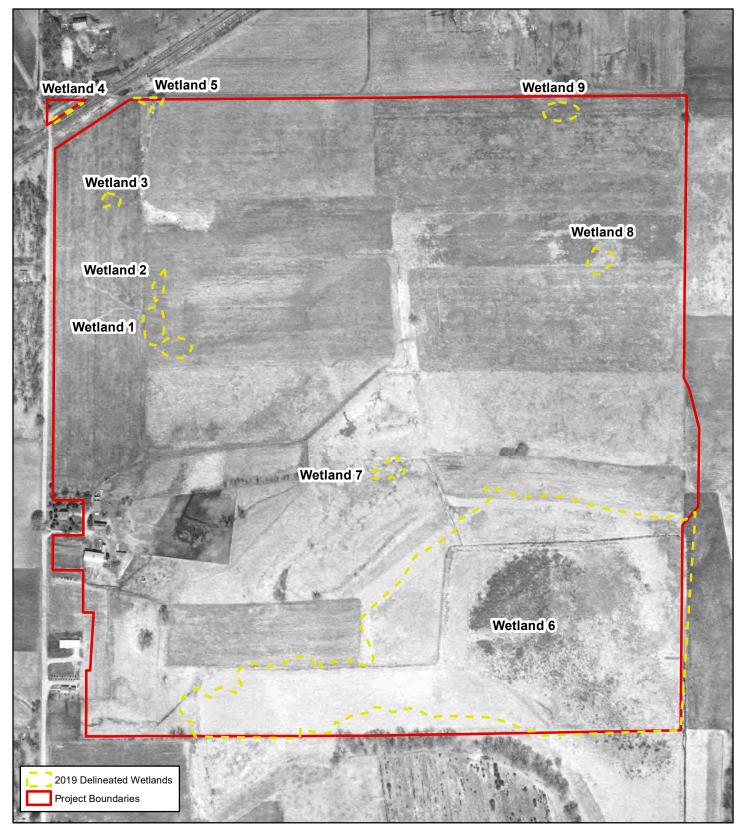




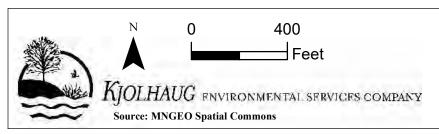
Historic Aerial Photos (1956 MNGEO Photo)



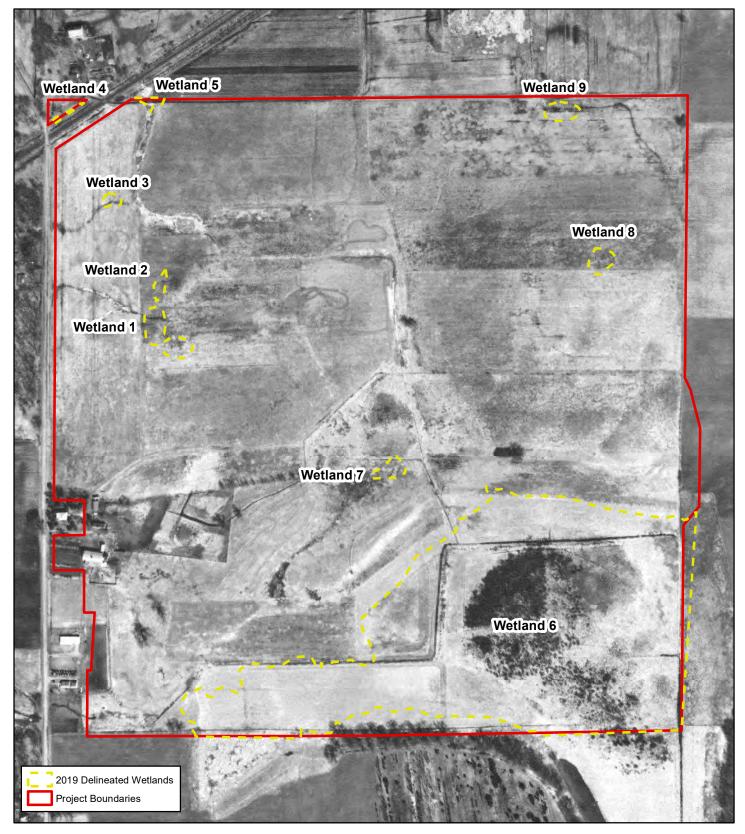
Hollydale Golf Course (KES 2019-113) Plymouth, Minnesota



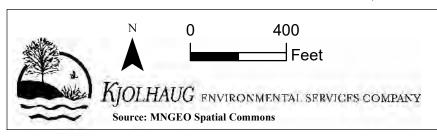
Historic Aerial Photos (1960 MNGEO Photo)



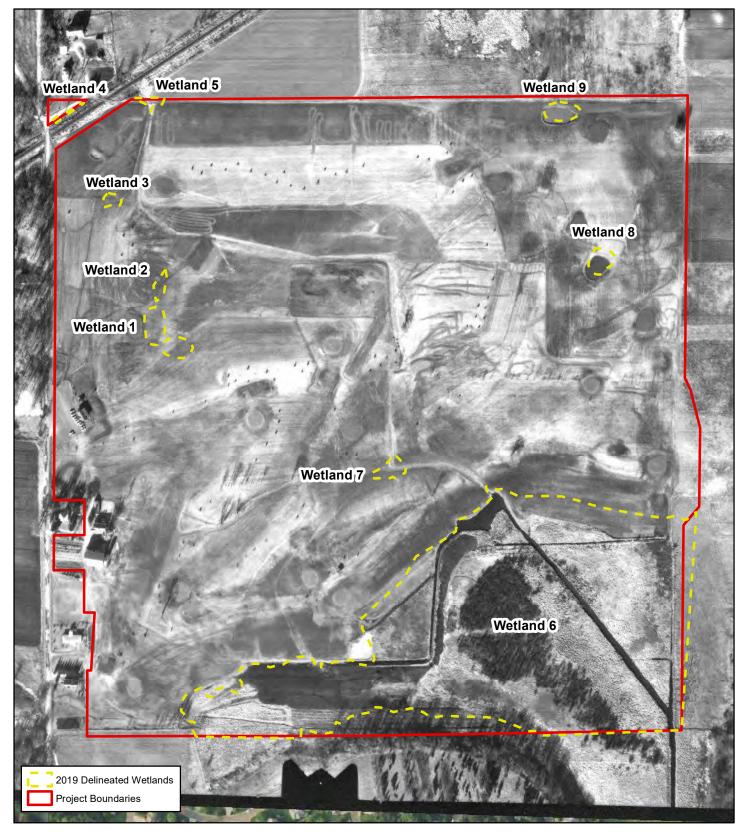
Hollydale Golf Course (KES 2019-113) Plymouth, Minnesota



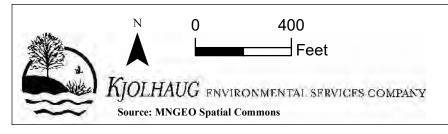
Historic Aerial Photos (1962 MNGEO Photo)



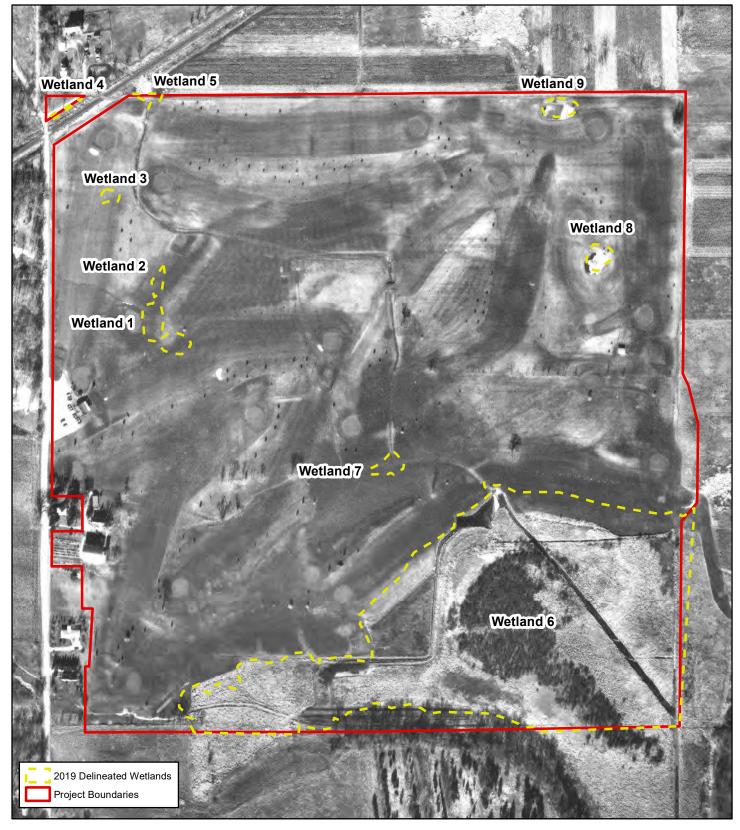
Hollydale Golf Course (KES 2019-113) Plymouth, Minnesota



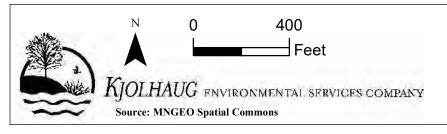
Historic Aerial Photos (1967 MNGEO Photo)

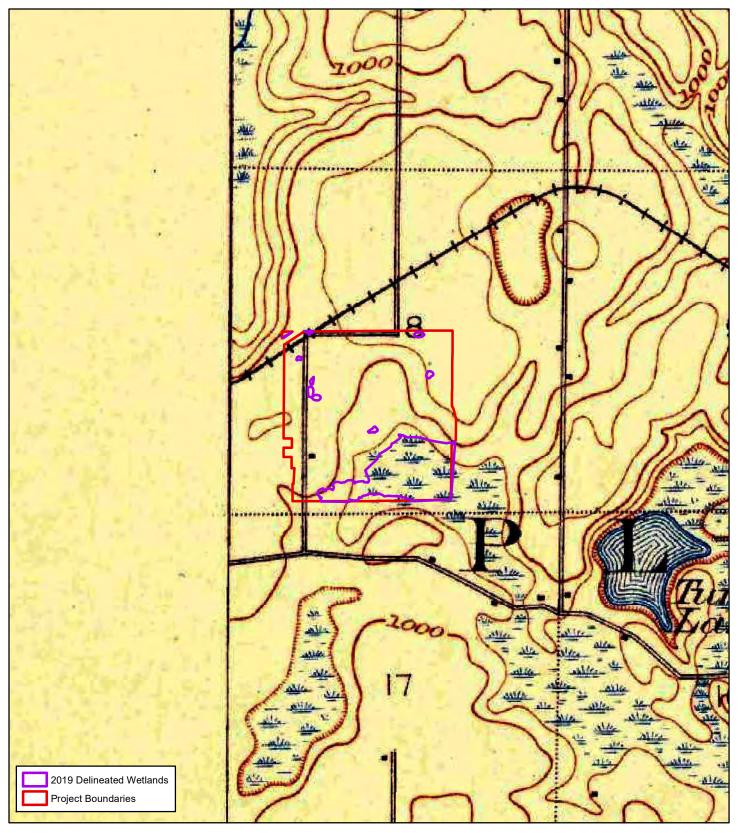


Hollydale Golf Course (KES 2019-113) Plymouth, Minnesota

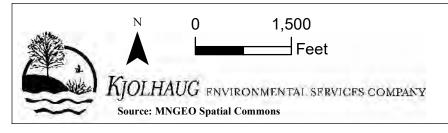


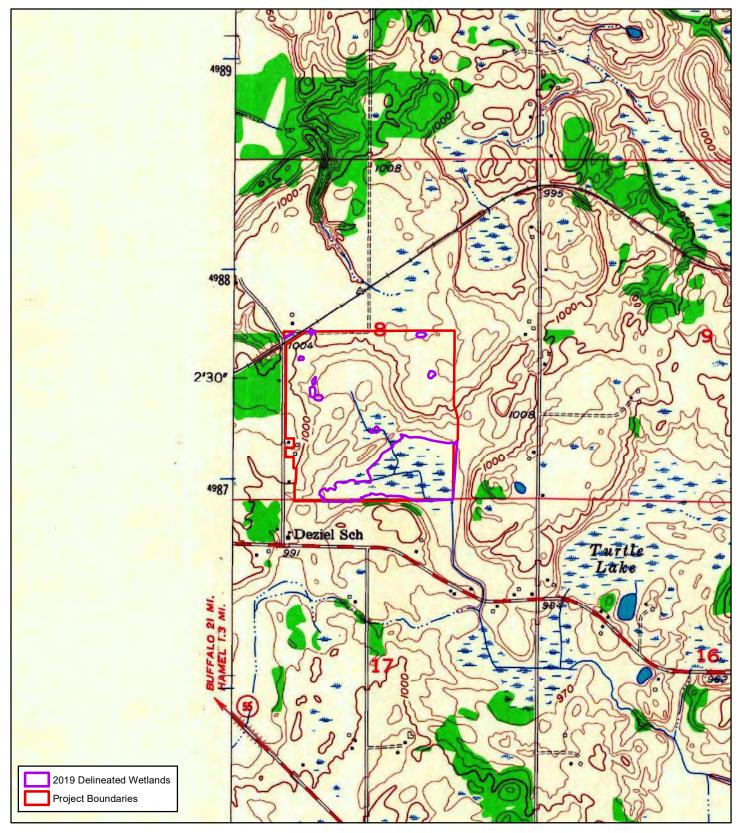
Historic Aerial Photos (1971 MNGEO Photo)



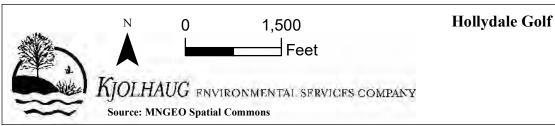


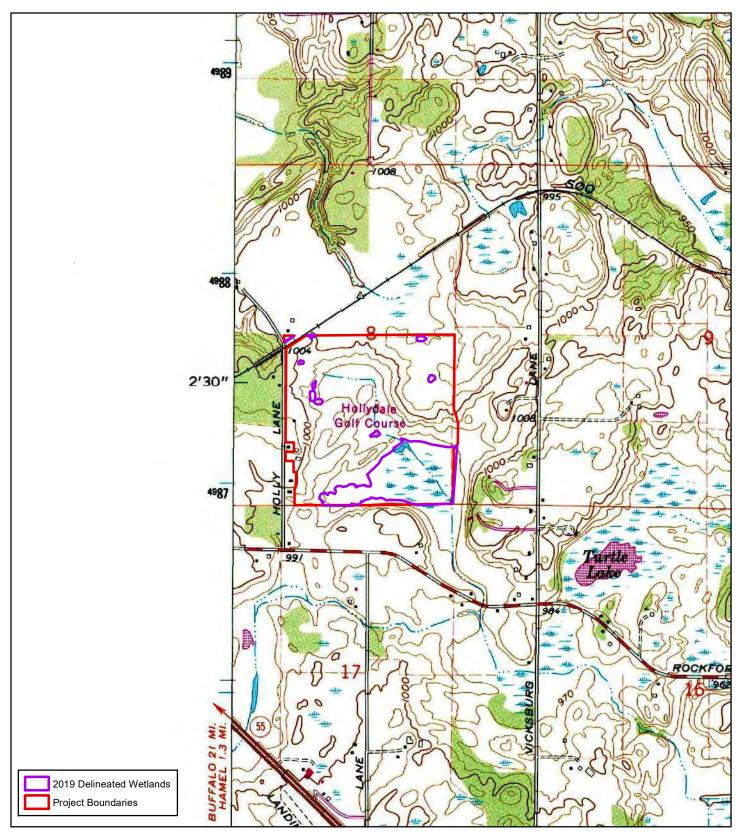
USGS Historic Topography Map - 1902





USGS Historic Topography Map - 1955





USGS Historic Topography Map - 1967

