

Minnesota Wetland Conservation Act

Notice of Application

Item 7G.
BCWMC 6-16-16

Local Government Unit (LGU) City of Plymouth	Address 3400 Plymouth Blvd. Plymouth, MN 55447
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1. PROJECT INFORMATION

Applicant Name Wayne Peterson St. Barnabas	Project Name St. Barnabas Lutheran Church	Date of Application 6/3/16	Application Number NA
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Type of Application (check all that apply):

<input checked="" type="checkbox"/> Wetland Boundary or Type	<input type="checkbox"/> No-Loss	<input type="checkbox"/> Exemption	<input type="checkbox"/> Sequencing
<input type="checkbox"/> Replacement Plan	<input type="checkbox"/> Banking Plan		

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

The St. Barnabas church is located in Section 16, T118N, R22W, PIDS 16-11-22-23-0117 and 16-118-22-23-0118, City of Plymouth. One wetland was delineated on-site. Wetland 1 is a Type 3, PEMC, shallow marsh wetland located in the western portion of the property dominated by cattail with a fringe of reed canary grass. Wetland 1 is adjacent to DNR Public Water 101P and may be within the jurisdiction of the MN DNR.

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 Derek Asche Water Resources Manager	Comments must be received by (minimum 15 business-day comment period): June 28, 2016
Address (if different than LGU) City of Plymouth 3400 Plymouth Blvd. Plymouth, MN 55447	Date, time, and location of decision: June 29, 2016 9am Plymouth City Hall
Phone Number and E-mail Address 763-509-5526 dasche@plymouthmn.gov	Decision-maker for this application: <input checked="" type="checkbox"/> Staff <input type="checkbox"/> Governing Board or Council

Signature:  Date: 6/6/16

3. LIST OF ADDRESSEES

- ☒ SWCD TEP member: **Ms. Stacey Lijewski, HCD, 701 Fourth Avenue South, Suite 700, Minneapolis, MN, 55415-1600 (sent electronically)**
- ☒ BWSR TEP member: **Ben Meyer, BWSR, 520 Lafayette Road North, St. Paul, MN, 55401-1397 (sent electronically)**
- ☐ LGU TEP member (if different than LGU Contact):
- ☒ DNR TEP member: **Leslie Parris, MN DNR, 1200 Warner Road, St. Paul, MN, 55106 (sent electronically)**
- ☒ DNR Regional Office (if different than DNR TEP member)
Kate Drewry, Area Hydrologist, MN DNR, 1200 Warner Road, St. Paul, MN, 55106 (sent electronically)
- ☒ WD or WMO (if applicable):
BCWMC, c/o Laura Jester, Keystone Waters LLC, 16145 Hillcrest Lane, Eden Prairie, MN, 553467 (sent electronically)
- ☒ Applicant (notice only) and Landowner (if different):
Mr. Wayne Peterson, St. Barnabas Lutheran Church, 15600 Old Rockford Road, Plymouth, MN, 55446 (sent electronically)
- ☒ Members of the public who requested notice (notice only):
Andrew Krinke, KES (sent electronically)
- ☒ Corps of Engineers Project Manager (notice only): **Melissa Jenny, Army Corps of Engineers, 180 5th Street East, Suite 700, St. Paul, MN, 55101-1678 (sent electronically)**
- ☐ BWSR Wetland Bank Coordinator (wetland bank plan applications only)

4. MAILING INFORMATION

- For a list of BWSR TEP representatives: www.bwsr.state.mn.us/contact/WCA_areas.pdf
- For a list of DNR TEP representatives: www.bwsr.state.mn.us/wetlands/wca/DNR_TEP_contacts.pdf
- Department of Natural Resources Regional Offices:

NW Region: Reg. Env. Assess. Ecol. Div. Ecol. Resources 2115 Birchmont Beach Rd. NE Bemidji, MN 56601	NE Region: Reg. Env. Assess. Ecol. Div. Ecol. Resources 1201 E. Hwy. 2 Grand Rapids, MN 55744	Central Region: Reg. Env. Assess. Ecol. Div. Ecol. Resources 1200 Warner Road St. Paul, MN 55106	Southern Region: Reg. Env. Assess. Ecol. Div. Ecol. Resources 261 Hwy. 15 South New Ulm, MN 56073
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For a map of DNR Administrative Regions, see: http://files.dnr.state.mn.us/aboutdnr/dnr_regions.pdf

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



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

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

5. ATTACHMENTS

In addition to the application, list any other attachments:

- ☒ **Wetland Delineation Report dated 12/2/15 for St. Barnabas Lutheran Church by KES**
- ☐

St. Barnabas Lutheran Church

Plymouth, Hennepin County, Minnesota

Wetland Delineation Report

Prepared for

St. Barnabas Church

by

Kjolhaug Environmental Services Company, Inc.

(KES Project No. 2015-216)

December 2, 2015

PD
6/3/16
DA

St. Barnabas Lutheran Church

Plymouth, Hennepin County, Minnesota

Wetland Delineation Report

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St. Barnabas Lutheran Church

Plymouth, Hennepin County, Minnesota

Wetland Delineation Report

1. WETLAND DELINEATION SUMMARY

- The 5.2-acre St. Barnabas Lutheran Church site was inspected on November 19, 2015 for the presence and extent of wetland.
- The National Wetlands Inventory (NWI) map showed one PFO1/EM1Ad/EM1A/EM1C/ABG wetland complex within the site boundary.
- The soil survey showed the hydric and partially hydric soil types on the property included Houghton and Muskego complex and Hamel soils.
- The DNR Public Waters Inventory showed Turtle Lake (DNR Public Water 27-101P) located within the property. No other DNR Public Waters, Wetlands or Watercourses were mapped within 1,000 feet of the site boundary.
- The National Hydrography Dataset showed one water body located approximately 260 feet northwest of the property and one water body located approximately 20 feet east of the property boundary.
- One (1) Type 3 (PEMC) shallow marsh wetland was identified and delineated within the property boundary.

2. OVERVIEW

The 5.2-acre St. Barnabas Lutheran Church site was inspected on November 19, 2015 for the presence and extent of wetland. The property was located in the Section 16, Township 118 North, Range 22 West, City of Plymouth, Hennepin County, Minnesota. The site was situated north of Old Rockford Road (**Figure 1**) and corresponded to Hennepin County PID 16-118-22-23-0117 and 16-118-22-23-0118.

The review area consisted only of the eastern portion of the St. Barnabas Lutheran Church property. This portion of the property was dominated by mowed Kentucky bluegrass and a steeply sloped wooded berm along the eastern property boundary. The berm was dominated with a canopy of quaking aspen, boxelder, and green ash trees and an understory of common buckthorn and elderberry shrubs. An ornamental pond was located to the west of the berm and appeared to discharge water into Wetland 1 through a pipe. The topography sloped from an elevation of 986 feet msl in the eastern portion of the site down to a low of 966 feet msl along the eastern property boundary.

The property was bordered on the south by Old Rockford Road and the remainder of the site was surrounded by Turtle Lake (DNR Public Water 27-101P).

One (1) wetland was identified and delineated within the site boundary. 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 and type determination under the Minnesota Wetland Conservation Act (WCA), and (2) delineation concurrence and a Preliminary Jurisdictional Determination (PJD) under Section 404 of the Federal Clean Water Act.

3. METHODS

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

Wetland boundaries were identified as the upper-most extent of wetland that met criteria for hydric soils, hydrophytic vegetation, and wetland hydrology. Wetland-upland boundaries were marked with pin flags that were GPS-located by Kjolhaug Environmental Services.

Soils, vegetation, and hydrology were documented at a representative location along the wetland-upland boundary. Plant species dominance was estimated based on the percent aerial or basal

coverage visually estimated within a 30-foot radius for trees and vines, a 15-foot radius for the shrub layer, and a 5-foot radius for the herbaceous layer within the community type sampled.

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

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

4. RESULTS

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

The [National Wetlands Inventory \(NWI\)](#) (Minnesota Geospatial Commons 2009-2014 and [U.S. Fish and Wildlife Service](#)) showed one PFO1/EM1Ad/EM1A/EM1C/ABG wetland complex within the site boundary (**Figure 3**).

The [Soil Survey](#) (USDA NRCS 2015) showed the hydric and partially hydric soil types on the property included Houghton and Muskego complex and Hamel soils. Soil types mapped on the property are listed in **Table 1** and a map showing soil types is included in **Figure 4**.

Table 1. Soil types mapped on the St. Barnabas Lutheran Church Site

Symbol	Soil Name	Acres	% of Area	% Hydric	Hydric Category
L36A	Hamel, overwash-Hamel complex, 1 to 4 percent slopes	2.9	55.8	45	Partially Hydric
L37B	Angus loam, 2 to 6 percent slopes	1.4	26.9	5	Predominantly Non-hydric
L50A	Houghton and Muskego soils, depressional, 0 to 1 percent slopes	0.5	9.6	100	Hydric
L61C2	Lester-Metea complex, 6 to 12 percent slopes	0.4	7.7	3	Predominantly Non-hydric

The [Minnesota DNR Public Waters Inventory](#) (Minnesota Department of Natural Resources 2015) showed Turtle Lake (DNR Public Water 27-101P) located within the property. No other DNR Public Waters, Wetlands or Watercourses were mapped within 1,000 feet of the site boundary (**Figure 5**).

The [National Hydrography Dataset](#) (U.S. Geological Survey 2015) showed one water body located approximately 260 feet northwest of the property and one water body located approximately 20 feet east of the property boundary (**Figure 6**).

4.2 Wetland Determinations and Delineations

Potential wetlands were evaluated during field observations on November 19, 2015. One (1) wetland was identified and delineated on the property (**Figure 2**). Corresponding data forms are included in **Appendix B**. The following description of the wetland and adjacent upland reflects conditions observed at the time of the field visit. Herbaceous vegetation was not actively growing at that time. Precipitation conditions were wetter than the normal range based on available 30-day rolling total precipitation and three-month antecedent precipitation data (**Appendix C**) and field observations.

Wetland 1 was a Type 3 (PEMC) shallow marsh wetland located in western portion of the property. The wetland plant community was dominated by narrowleaf cattail with a slight fringe of reed canary grass and bittersweet nightshade. The wetland was inundated with approximately 4 to 6 inches of standing water. This wetland covered 457 square feet within the property boundary.

Adjacent upland consisted of a wooded berm dominated by a canopy of quaking aspen, boxelder, and green ash trees and an understory of common buckthorn and elderberry shrubs. Primary and secondary hydrology indicators were not observed outside the wetland.

The wetland boundary corresponded to a topographic rise and change in vegetation. The wetland was shown as a PFO1/EM1Ad/EM1A/EM1C/ABG wetland complex on the NWI map and was located in an area mapped as hydric soil (Houghton and Muskego) on the soil survey. No constructed or natural outlets were observed within the delineated portion of the property. Wetland 1 was adjacent to the DNR Public Water Turtle Lake (27-101P).

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. These areas are shown on **Figure 2** and described below.

An ornamental pond dominated by a narrow fringe of cattail and reed canary grass was located to the west of Wetland 1. Based on a review of aerial photography, the pond appeared to be created sometime between 2005 and 2006. A pipe was located on the eastern side of the pond and appeared to discharge water into Wetland to the east.

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

4.4 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 and type determination under the Minnesota Wetland Conservation Act (WCA), and (2) delineation concurrence and a Preliminary Jurisdictional Determination (PJD) 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: Andrew Krinke, Ecologist/GIS Specialist

Report prepared by: Andrew Krinke, Ecologist/GIS Specialist

Report reviewed by:  Date: December 2, 2015
Mark Kjolhaug, Professional Wetland Scientist No. 000845

St. Barnabas Lutheran Church

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

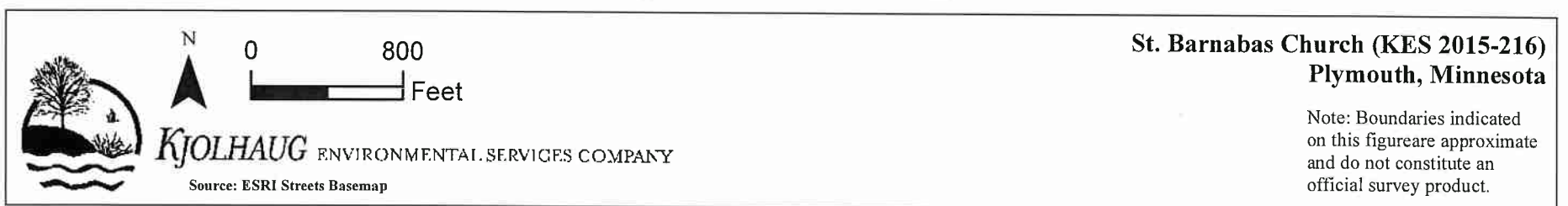




Figure 2 - Existing Conditions

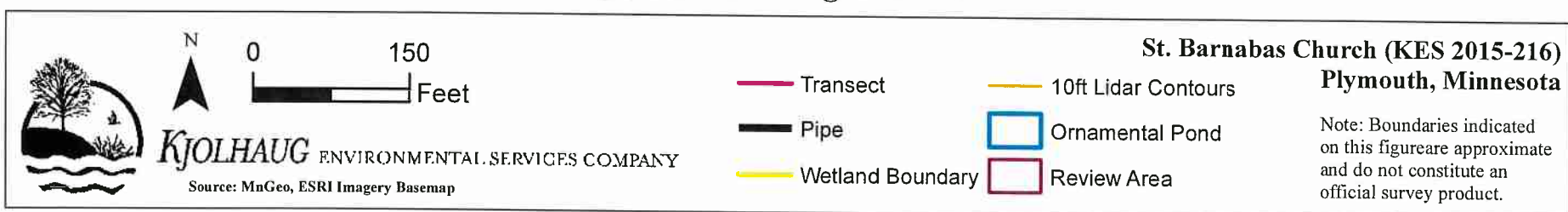
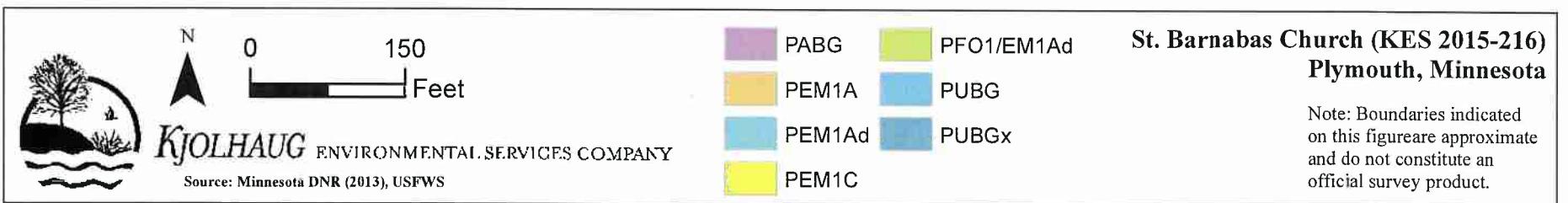




Figure 3 - National Wetlands Inventory



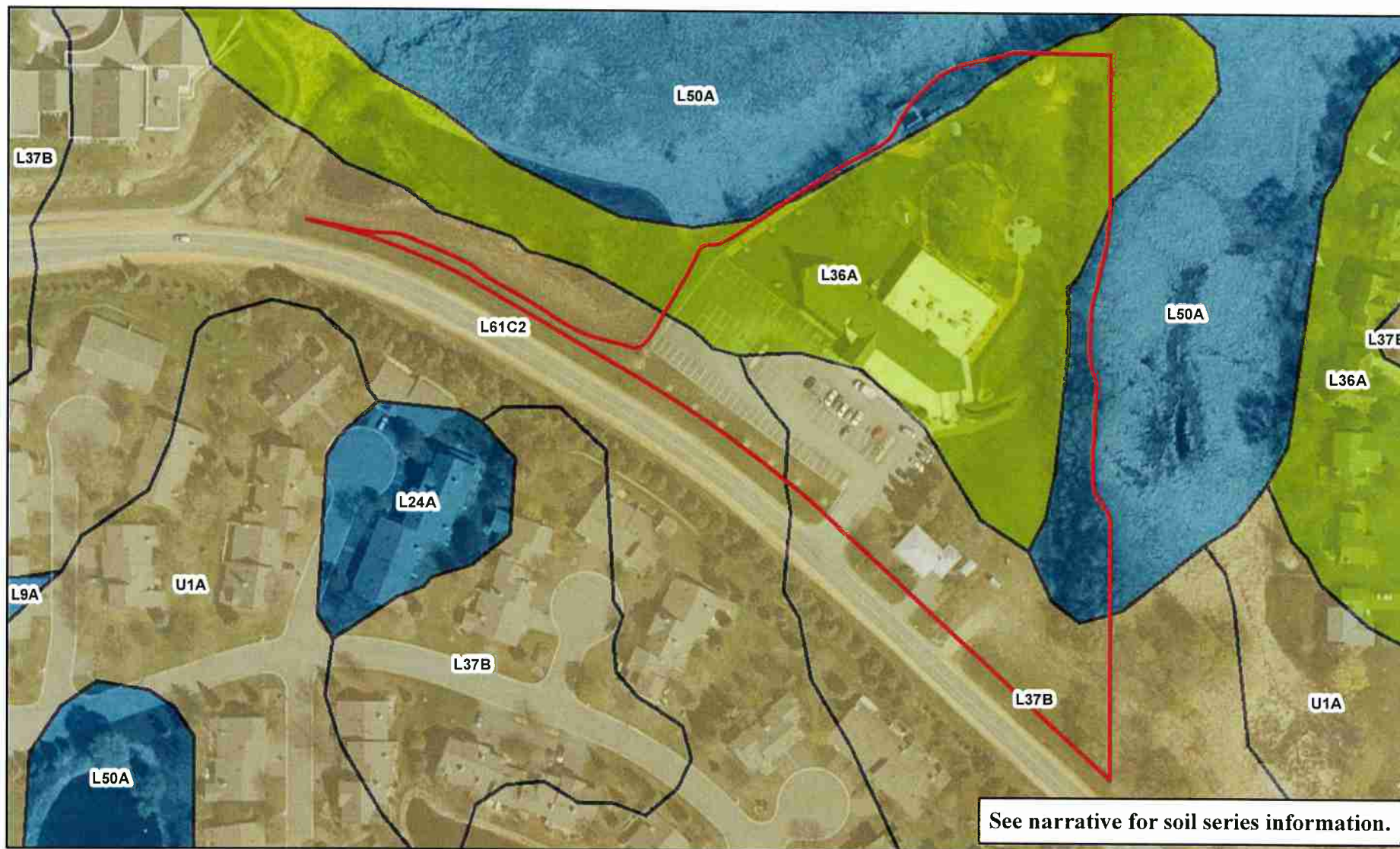


Figure 4 - Soil Survey

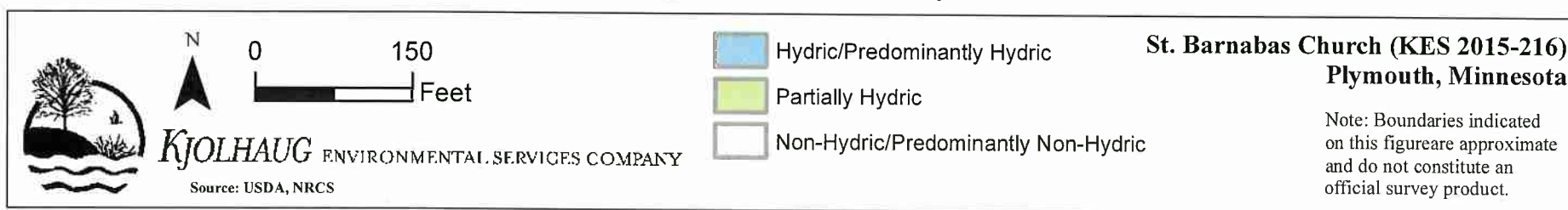




Figure 5 - DNR Public Waters Inventory

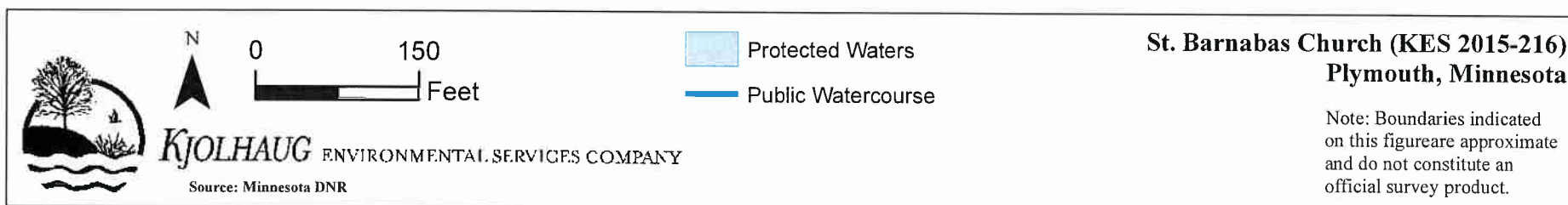
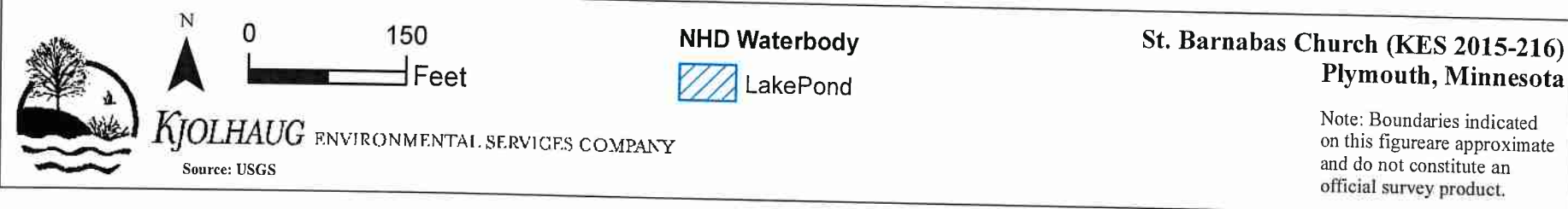




Figure 6 - National Hydrography Dataset



St. Barnabas Lutheran Church

Wetland Delineation Report

APPENDIX A

Joint Application Form for Activities Affecting Water Resources in Minnesota

PART ONE: Applicant Information

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

Applicant/Landowner Name: Wayne Peterson - St. Barnabas Lutheran Church

Mailing Address: 15600 Old Rockford Road Plymouth, MN 55446

Phone: (763)-553-1239

E-mail Address: wpeterson@stbarnabaslutheran.org

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

Mailing Address:

Phone:

E-mail Address:

Agent Name: Andrew Krinke

Mailing Address: 26105 Wild Rose Lane Shorewood, MN 55331

Phone: (952)-401-8757

E-mail Address: Andrew@kjolhaugenv.com

PART TWO: Site Location Information

County: Hennepin

City/Township: Plymouth

Parcel ID and/or Address: 1611822230117 & 1611822230118

Legal Description (Section, Township, Range): S16 T118N R22W

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): 5.2 acres

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

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

PART THREE: General Project/Site Information

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

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

PART FOUR: Aquatic Resource Impact¹ Summary

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

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

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

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

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

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

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

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

PART FIVE: Applicant Signature

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

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

Signature:



WAYNE B. PETERSON

Date:

12/31/2015

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

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

Attachment A

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

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

☒ **Wetland Type Confirmation**

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

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

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

In order for the Corps and LGU to process your request, the wetland delineation must be prepared in accordance with the 1987 Corps of Engineers Wetland Delineation Manual, any approved Regional Supplements to the 1987 Manual, and the *Guidelines for Submitting Wetland Delineations in Minnesota* (2013).

<http://www.mvp.usace.army.mil/Missions/Regulatory/DelineationJDGuidance.aspx>

St. Barnabas Lutheran Church

Wetland Delineation Report

APPENDIX B

Wetland Delineation Data Forms

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site St. Barnabas Church City/County: Plymouth Sampling Date: 11/19/2015
 Applicant/Owner: St. Barnabas Church State: MN Sampling Point: SP1-1U
 Investigator(s): A. Krinke Section, Township, Range: S16 T118N R22W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None
 Slope (%): 5 to 7 Lat: Long: Datum:
 Soil Map Unit Name Houghton and Muskego soils, depressional NWI Classification: None

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

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

Are vegetation , soil , or hydrology naturally problematic? present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

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

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

Hydrologic conditions not typical (wet) based on gridded database method (3-month antecedent conditions); above the normal range (30-70%) based on 30-day rolling precipitation total.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: <u>30-ft radius</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>6</u> (A) Total Number of Dominant Species Across all Strata: <u>7</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>85.71%</u> (A/B)
1 <u>Populus tremuloides</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
2 <u>Salix nigra</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
3 <u>Fraxinus pennsylvanica</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
4 <u></u>	<u></u>	<u></u>	<u></u>	
5 <u></u>	<u></u>	<u></u>	<u></u>	Prevalence Index Worksheet Total % Cover of: OBL species <u>20</u> x 1 = <u>20</u> FACW species <u>20</u> x 2 = <u>40</u> FAC species <u>70</u> x 3 = <u>210</u> FACU species <u>15</u> x 4 = <u>60</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>125</u> (A) <u>330</u> (B) Prevalence Index = B/A = <u>2.64</u>
<u>60</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15-ft radius</u>)				
1 <u>Lonicera tatarica</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
2 <u>Fraxinus pennsylvanica</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
3 <u>Acer negundo</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
4 <u>Rhamnus cathartica</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
5 <u></u>	<u></u>	<u></u>	<u></u>	
<u>45</u> = Total Cover				
Herb stratum (Plot size: <u>5-ft radius</u>)				
1 <u>Rhamnus cathartica</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	Hydrophytic vegetation present? <u>Y</u>
2 <u></u>	<u></u>	<u></u>	<u></u>	
3 <u></u>	<u></u>	<u></u>	<u></u>	
4 <u></u>	<u></u>	<u></u>	<u></u>	
5 <u></u>	<u></u>	<u></u>	<u></u>	
6 <u></u>	<u></u>	<u></u>	<u></u>	Woody vine stratum (Plot size: <u>30-ft radius</u>)
7 <u></u>	<u></u>	<u></u>	<u></u>	
8 <u></u>	<u></u>	<u></u>	<u></u>	
9 <u></u>	<u></u>	<u></u>	<u></u>	
10 <u></u>	<u></u>	<u></u>	<u></u>	
<u>20</u> = Total Cover				Hydrophytic vegetation present? <u>Y</u>
Woody vine stratum (Plot size: <u>30-ft radius</u>)				
1 <u></u>	<u></u>	<u></u>	<u></u>	
2 <u></u>	<u></u>	<u></u>	<u></u>	
<u>0</u> = Total Cover				

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

SOIL

 Sampling Point: SP1-1U
Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-6	10YR 3/2	100					CL	
6-14	10YR 4/3	80	10YR 4/6	10	C	M	CL	
			10YR 5/1	10	D	M		
14-26	10YR 3/2	70	10YR 4/6	5	C	M	CL	
	10YR 4/3	25						

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils:

- | |
|--|
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (explain in remarks) |

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

Restrictive Layer (if observed):

 Type: -
 Depth (inches):

 Hydric soil present? Y

Remarks:

HYDROLOGY
Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- | | |
|---|--|
| <input type="checkbox"/> Aquatic Fauna (B13) | <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> True Aquatic Plants (B14) | <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Hydrogen Sulfide Odor (C1) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Presence of Reduced Iron (C4) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input type="checkbox"/> Thin Muck Surface (C7) | <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Gauge or Well Data (D9) | <input checked="" type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Other (Explain in Remarks) | |

Field Observations:

Surface water present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): <u> </u>
Water table present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): <u> </u>
Saturation present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): <u> </u>

 (includes capillary fringe)

 Indicators of wetland hydrology present? N

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

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site St. Barnabas Church City/County: Plymouth Sampling Date: 11/19/2015
 Applicant/Owner: St. Barnabas Church State: MN Sampling Point: SP1-1W
 Investigator(s): A. Krinke Section, Township, Range: S16 T118N R22W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 0 to 2 Lat: Long: Datum:
 Soil Map Unit Name Houghton and Muskego soils, depressional NWI Classification: PFO1/EM1Ad

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

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

Are vegetation , soil , or hydrology naturally problematic? present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

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

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

Hydrologic conditions not typical (wet) based on gridded database method (3-month antecedent conditions); above the normal range (30-70%) based on 30-day rolling precipitation total.

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30-ft radius</u>)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	

Sapling/Shrub stratum	(Plot size: <u>15-ft radius</u>)	Absolute % Cover	Dominant Species	Indicator Status
1	<u>Rhamnus cathartica</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>
2				
3				
4				
5				
		<u>10</u>	= Total Cover	

Herb stratum	(Plot size: <u>5-ft radius</u>)	Absolute % Cover	Dominant Species	Indicator Status
1	<u>Phalaris arundinacea</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>
2	<u>Typha angustifolia</u>	<u>15</u>	<u>Y</u>	<u>OBL</u>
3	<u>Solanum dulcamara</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>
4				
5				
6				
7				
8				
9				
10				
		<u>50</u>	= Total Cover	

Woody vine stratum	(Plot size: <u>30-ft radius</u>)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
		<u>0</u>	= Total Cover	

Dominance Test Worksheet

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

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

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

Prevalence Index Worksheet

Total % Cover of:

OBL species	<u>15</u>	x 1 =	<u>15</u>
FACW species	<u>20</u>	x 2 =	<u>40</u>
FAC species	<u>25</u>	x 3 =	<u>75</u>
FACU species	<u>0</u>	x 4 =	<u>0</u>
UPL species	<u>0</u>	x 5 =	<u>0</u>
Column totals	<u>60</u> (A)		<u>130</u> (B)

Prevalence Index = B/A = 2.17

Hydrophytic Vegetation Indicators:

Rapid test for hydrophytic vegetation

☒ Dominance test is >50%

☒ Prevalence index is ≤3.0*

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

Problematic hydrophytic vegetation* (explain)

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

Hydrophytic vegetation present?

Y

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

SOIL

 Sampling Point: SP1-1W
Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-5	10YR 3/2	100					CL	
5-24	10YR 4/1	90	10YR 4/6	5	C	M	CL	
			10YR 5/1	5	D	M		

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils:

- | |
|--|
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (explain in remarks) |

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

Restrictive Layer (if observed):

 Type: -
 Depth (inches):

 Hydric soil present? Y

Remarks:

HYDROLOGY
Wetland Hydrology Indicators:

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

- | |
|--|
| <input type="checkbox"/> Surface Water (A1) |
| <input checked="" type="checkbox"/> High Water Table (A2) |
| <input checked="" type="checkbox"/> Saturation (A3) |
| <input type="checkbox"/> Water Marks (B1) |
| <input type="checkbox"/> Sediment Deposits (B2) |
| <input type="checkbox"/> Drift Deposits (B3) |
| <input type="checkbox"/> Algal Mat or Crust (B4) |
| <input type="checkbox"/> Iron Deposits (B5) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Water-Stained Leaves (B9) |

Secondary Indicators (minimum of two required)

- | | |
|---|---|
| <input type="checkbox"/> Aquatic Fauna (B13) | <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> True Aquatic Plants (B14) | <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Hydrogen Sulfide Odor (C1) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Presence of Reduced Iron (C4) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input checked="" type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input type="checkbox"/> Thin Muck Surface (C7) | <input checked="" type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Gauge or Well Data (D9) | <input checked="" type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Other (Explain in Remarks) | |

Field Observations:

Surface water present?	Yes <u> </u> No <u>X</u>	Depth (inches): <u> </u>
Water table present?	Yes <u>X</u> No <u> </u>	Depth (inches): <u>Surface</u>
Saturation present?	Yes <u>X</u> No <u> </u>	Depth (inches): <u>Surface</u>

 (includes capillary fringe)

 Indicators of wetland hydrology present? Y

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

Remarks:

St. Barnabas Lutheran Church

Wetland Delineation Report

APPENDIX C

Precipitation Data

St. Barnabas Church, Plymouth: Precipitation Summary **Source: Minnesota Climatology Working Group**

Monthly Totals: 2015

Target: T118N R22W S16, Lat: 45.02925 Lon: 93.47164

mon	year	cc	tttN	rrW	ss	nnnn	oooooooo	pre
Jan	2015	27	119N	22W	33	SWCD		.37
Feb	2015	27	119N	22W	33	SWCD		.30
Mar	2015	27	119N	22W	33	SWCD		.53
Apr	2015	27	118N	22W	13	MOSQ	HANSMANN	1.18
May	2015	27	118N	22W	13	MOSQ	HANSMANN	3.79
Jun	2015	27	118N	22W	13	MOSQ	HANSMANN	3.43
Jul	2015	27	118N	22W	13	MOSQ	HANSMANN	6.73
Aug	2015	27	118N	22W	13	MOSQ	HANSMANN	2.96
Sep	2015	27	119N	22W	33	SWCD		3.81
Oct	2015	27	119N	22W	33	SWCD		3.10

September/October/November Daily Records

Date	Precip.	Date	Precip.	Date	Precip.
Sep 1, 2015	0	Oct 1, 2015	0	Nov 1, 2015	.06
Sep 2, 2015	.66	Oct 2, 2015	0	Nov 2, 2015	0
Sep 3, 2015	0	Oct 3, 2015	0	Nov 3, 2015	0
Sep 4, 2015	0	Oct 4, 2015	0	Nov 4, 2015	0
Sep 5, 2015	T	Oct 5, 2015	0	Nov 5, 2015	0
Sep 6, 2015	.63	Oct 6, 2015	0	Nov 6, 2015	0
Sep 7, 2015	.08	Oct 7, 2015	0	Nov 7, 2015	0
Sep 8, 2015	.12	Oct 8, 2015	.51	Nov 8, 2015	0
Sep 9, 2015	0	Oct 9, 2015	-	Nov 9, 2015	0
Sep 10, 2015	.58	Oct 10, 2015	-	Nov 10, 2015	0
Sep 11, 2015	0	Oct 11, 2015	-	Nov 11, 2015	0
Sep 12, 2015	0	Oct 12, 2015	-	Nov 12, 2015	1.42
Sep 13, 2015	0	Oct 13, 2015	T	Nov 13, 2015	0
Sep 14, 2015	0	Oct 14, 2015	0	Nov 14, 2015	0
Sep 15, 2015	0	Oct 15, 2015	0	Nov 15, 2015	0
Sep 16, 2015	T	Oct 16, 2015	0	Nov 16, 2015	0
Sep 17, 2015	.47	Oct 17, 2015	0	Nov 17, 2015	.71
Sep 18, 2015	.57	Oct 18, 2015	0	Nov 18, 2015	1.30
Sep 19, 2015	.04	Oct 19, 2015	0	Nov 19, 2015	.15 site visit
Sep 20, 2015	0	Oct 20, 2015	T	Nov 20, 2015	0
Sep 21, 2015	.13	Oct 21, 2015	0	Nov 21, 2015	0
Sep 22, 2015	T	Oct 22, 2015	0	Nov 22, 2015	0
Sep 23, 2015	0	Oct 23, 2015	.22	Nov 23, 2015	0
Sep 24, 2015	.36	Oct 24, 2015	.87		
Sep 25, 2015	.05	Oct 25, 2015	0		
Sep 26, 2015	T	Oct 26, 2015	-		
Sep 27, 2015	0	Oct 27, 2015	.05		
Sep 28, 2015	0	Oct 28, 2015	.95		
Sep 29, 2015	.12	Oct 29, 2015	.20		
Sep 30, 2015	0	Oct 30, 2015	.01		
		Oct 31, 2015	.29		

1981-2010 Summary Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	WARM	ANN	WAT
30%	0.51	0.41	1.28	1.99	2.71	3.41	2.52	3.17	2.14	1.30	1.06	0.67	17.05	28.22	27.30
70%	1.02	0.91	1.95	2.90	4.19	5.61	4.56	5.10	3.69	3.33	2.04	1.44	21.52	33.98	34.44
mean	0.81	0.78	1.79	2.69	3.57	4.46	4.13	4.15	3.37	2.46	1.70	1.16	19.68	31.06	30.86

Minnesota Climatology Working Group

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

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Precipitation Worksheet Using Gridded Database

Precipitation data for target wetland location:

county: **Hennepin** township number: **118N**
 township name: **Plymouth** range number: **22W**
 nearest community: **Plymouth** section number: **16**

Aerial photograph or site visit date:

Sunday, November 01, 2015

Score using 1971-2000 normal period

(values are in inches)	first prior month: October 2015	second prior month: September 2015	third prior month: August 2015
estimated precipitation total for this location:	missing	missing	missing
there is a 30% chance this location will have less than: *	1.18	2.08	3.19
there is a 30% chance this location will have more than: *	2.67	3.44	4.75
type of month: dry normal wet	missing	missing	missing
monthly score	missing	missing	missing
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)			
missing			

Score using 1981-2010 normal period

(values are in inches)	first prior month: October 2015	second prior month: September 2015	third prior month: August 2015
estimated precipitation total for this location:	3.10	3.81	2.96
there is a 30% chance this location will have less than: *	1.44	2.30	2.93
there is a 30% chance this location will have more than: *	2.99	4.03	4.92
type of month: dry normal wet	wet	normal	normal
monthly score	3 * 3 = 9	2 * 2 = 4	1 * 2 = 2
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)			
wet (15)			

