3740 & 3760 Togo Road

City of Orono, Hennepin County, Minnesota

Wetland Delineation Report

Prepared for

Daryl & Kristi Emery

by

Kjolhaug Environmental Services Company, Inc.
(KES Project No. 2024-073)

June 10, 2024

3740 & 3760 Togo Road

City of Orono, Hennepin County, Minnesota

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1. WETLAND DELINEATION SUMMARY

- The 3.74-acre site encompassing 3740 & 3760 Togo Rd was inspected on April 15th, 2024 for the presence and extent of wetland.
- The National Wetlands Inventory (NWI) map showed one PEM1C wetland in the northeast portion of the site and continuing offsite.
- The soil survey showed Muskego-Houghton complex as Hydric/Predominantly Hydric soil in the northeast portion of the site, corresponding to Wetland 1. Other soils mapped within the boundaries were Non-Hydric/Predominantly Non-Hydric.
- The DNR Public Waters Inventory showed Minnetonka-West Arm (27-133-14 P) approximately 530 ft north of the site, and Minnetonka-Crystal Bay (27-133-10 P) approximately 800 ft to the northeast of the site boundary. An unnamed Public Wetland (27-915 W) corresponding to Wetland 1was located within the site. No Public Watercourses were mapped within 1000 ft of the site boundary.
- The National Hydrography Dataset showed two Lake/Pond surface water features corresponding to DNR Public Waters to the north of the site. An artificial path and two hydro junctions are also seen running between the surface water features.
- One (1) wetlands was delineated onsite as summarized in **Table 1 below**.

Table 1. Wetlands delineated on the 3740 & 3760 Togo Rd site.

Wetland ID	Wetland Type			Dominant Vegetation	Area (ac)
	Circular 39	Cowardin	Eggers and Reed		
1	Type 3	PEM1C	Shallow Marsh	Narrowleaf cattail	1.03 onsite

2. OVERVIEW

The 3.74-acre site a encompassing 3740 & 3760 Togo Rd was inspected on April 15th, 2024 for the presence and extent of wetland. The property was located in Section 17, Township 117 North, Range 23 West, City of Orono, Hennepin County, Minnesota. The site was located approximately 230 ft south of Sunset Drive/CR 51, 570 ft west of Shadywood Road/CR 19, and adjacent to and north of Togo Road (**Figure 1**). The property corresponded to Hennepin County PIDs 1711723310023 (3740 Togo Road; 2.37 deed acres) and 1711723310022 (3760 Togo Road; 1.37 deed acres).

The site consisted of wetland, deciduous forest, and turf grass. Dominant species present within the wetland consisted of narrowleaf cattail, reed canary grass, and lake sedge. Dominant species in the forested areas of the property included cottonwood, black ash, pin oak, honeysuckle, and Virginia waterleaf. The site had mostly gentle sloping topography, with steeper slopes on the wetland's edge. Elevations peaked at 950-ft MSL in the southwest portion of the western property, and fell to 932-ft MSL at Wetland 1 in the eastern property. Surrounding land use consisted of residential properties.

One (1) wetland was delineated within the site boundaries. The delineated wetland boundaries and existing conditions are shown in **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 a wetland boundary and type determination from the Minnehaha Creek Watershed District under the Minnesota Wetland Conservation Act (WCA).

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 located with a sub-meter accuracy GPS unit. Figure 2 does not constitute an official survey product.

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 8.1, 2017).

Mapped soils are separated into five classes based on the composition of hydric components and the Hydric Rating by Map Unit color classes utilized on Web Soil Survey. The five classes include Hydric (100 percent hydric components), Predominantly Hydric (66 to 99 percent hydric components), Partially Hydric (33 to 65 percent hydric components), Predominantly Non-Hydric (1 to 32 percent hydric components), and Non-Hydric (less than one percent hydric components).

Plants were identified using standard regional plant keys. Taxonomy and indicator status of plant species was taken from the 2018 National Wetland Plant List (U.S. Army Corps of Engineers 2018. National Wetland Plant List, version 3.3, 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) one PEM1C wetland in the northeast portion of the site (**Figure 3**).

The Soil Survey (USDA NRCS 2015) showed Muskego-Houghton complex as Hydric/Predominantly Hydric soils in the northeast portion of the site, corresponding to Wetland 1. Other soils mapped within the boundaries were Non-Hydric/Predominantly Non-Hydric. Soil types mapped on the property are listed in **Table 2** and a map showing soil types is included in **Figure 4**.

Table 2: Soil types mapped on the 3740 & 3760 Togo Rd site.

Symbol	Soil Name	Acres	% of Area	% Hydric	Hydric Category
L22D2	Lester loam, 10 to 16 percent slopes, moderately eroded	2.3	60.7%	0	Non-Hydric
L37B	Angus loam, 2 to 6 percent slopes	0.9	23.7%	5	Predominantly Non-Hydric
L50A	Muskego and Houghton soils, 0 to 1 percent slopes	0.6	15.6%	100	Hydric

The Minnesota DNR Public Waters Inventory (Minnesota Department of Natural Resources 2015) showed Minnetonka-West Arm (27-133-14 P) approximately 530 ft north of the site, and Minnetonka-Crystal Bay (27-133-10 P) approximately 800 ft to the northeast of the site boundary. An unnamed Public Wetland (27-915 W) corresponding to Wetland 1was located within the site. No Public Watercourses were mapped within 1000 ft of the site boundary (**Figure 5**).

The National Hydrography Dataset (U.S. Geological Survey 2015) showed two Lake/Pond surface water features corresponding to DNR Public Waters to the north of the site. An artificial path and two hydro junctions are also seen running between the surface water features (**Figure 6**).

4.2 Wetland Determinations and Delineations

Potential wetlands were evaluated during field observations on April 15, 2024. One wetland were identified and delineated on the property. Corresponding data forms are included in **Appendix B**. The following descriptions of the wetland and its adjacent upland reflects conditions observed at the time of the field visit. The field visit took place at the beginning of the growing season. Most vegetation was identifiable from the previous season. New cool season species were growing and leaf buds on shrubs were present. Precipitation conditions were atypical (dry) using the three-month antecedent precipitation data method for a date of April 1, and typical (normal) for a date of May 1. The 30-day rolling precipitation total was within the normal range (**Appendix C**). In the week leading up to the observation date, there was a 0.52 inch precipitation event on April 8th and a 0.11 inch precipitation event on April 9th.

Wetland 1 was a Type 3 (PEM1C) shallow marsh that was dominated by narrowleaf cattail with scattered reed canary grass and lake sedge along edges. Free water was observed at 6 inches below the soil surface in the sample borehole. Two secondary indicators of geomorphic position and the FAC neutral test were also present.

The adjacent upland at the sample point location was dominated by cottonwood, red maple, and black walnut trees. No primary or secondary indicators of hydrology were observed in the upland.

The wetland boundary corresponded to an abrupt change in topography, changes from hydrophytic vegetation to upland vegetation, and changes from hydric soils to upland soils. Wetland 1 corresponded to DNR Public Wetland (27-915 W) was identified on the NWI map as a PEM1C wetland and was mapped within Hydric soils (Muskego-Houghton complex) according to the soil survey. Wetland 1 extended offsite top the east and north.

4.3 Other Areas

There were no other depressional areas with hydrophytic vegetation 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 a wetland boundary and type determination from the Minnehaha Creek Watershed District under the Minnesota Wetland Conservation Act (WCA).

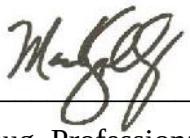
5. CERTIFICATION OF DELINEATION

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: Faith Holaday, Wetland/Soil Specialist
Minnesota Certified Wetland Professional In-Training No. 5526

Report prepared by: Faith Holaday, Wetland/Soil Specialist

Report reviewed by:  Date: June 10, 2024
Mark Kjolhaug, Professional Wetland Scientist No. 000845

3740 & 3760 Togo Road

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

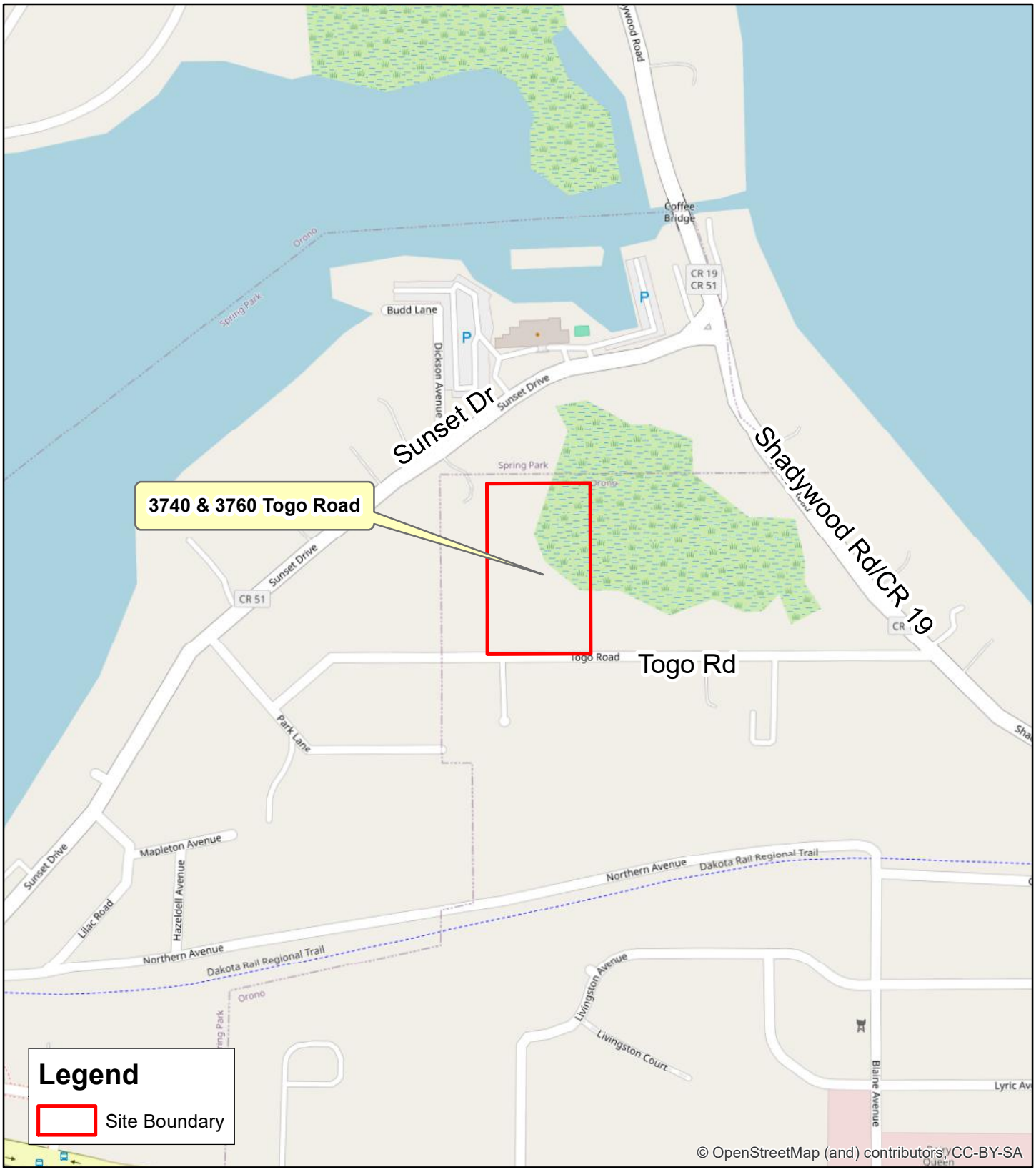


Figure 1 - Site Location

N

0 500 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: OpenStreets Map

3740 and 3760 Togo Road (KES 2024-073)
Orono, Minnesota

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

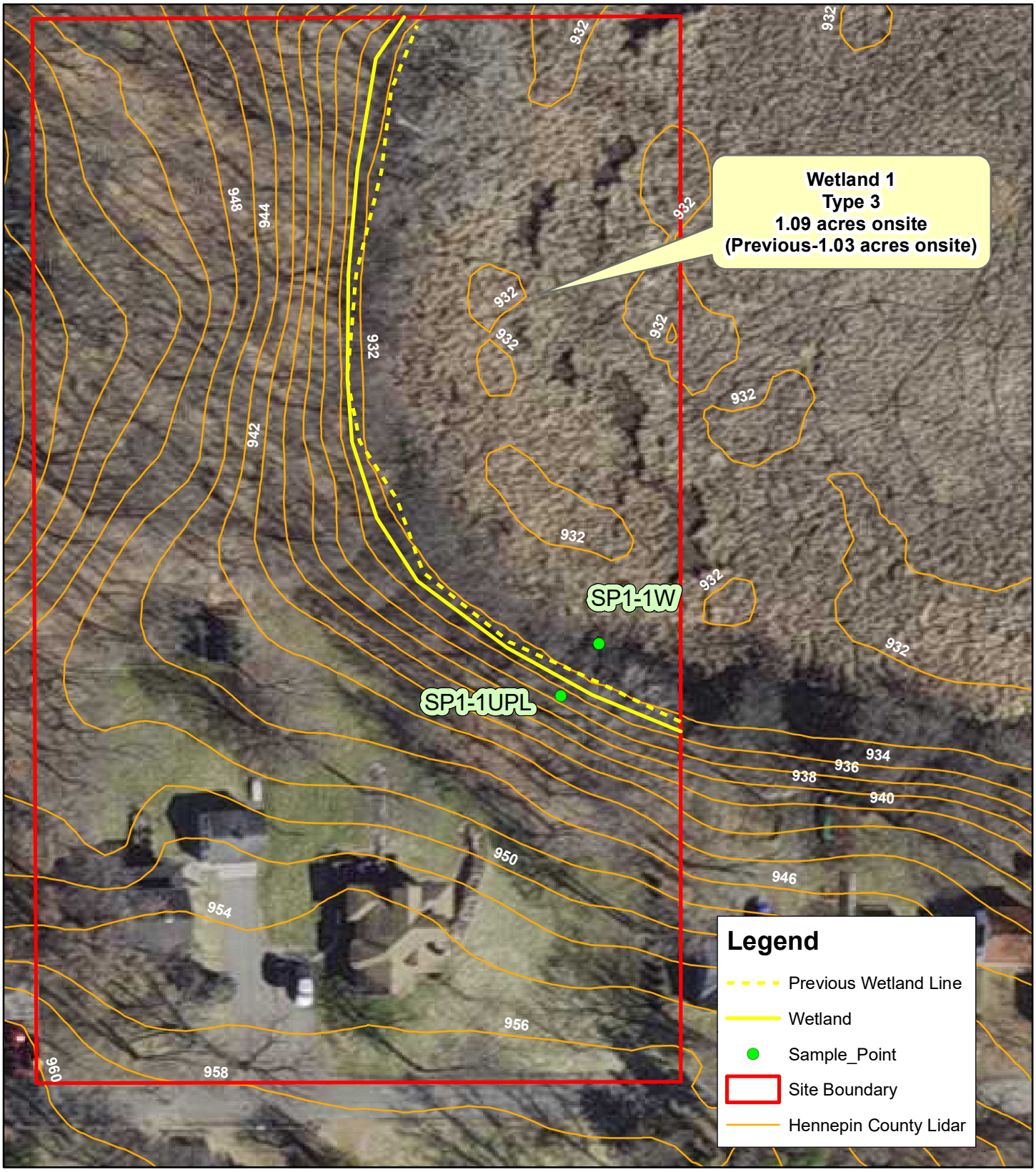


Figure 2 - Existing Conditions - Revised (2020 Metro Photo)

N

0 100 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons

3740 and 3760 Togo Road (KES 2024-073)
Orono, Minnesota

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

Figure 3 - National Wetlands Inventory

N

0 100 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons, USFWS

3740 and 3760 Togo Road (KES 2024-073)
Orono, Minnesota

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

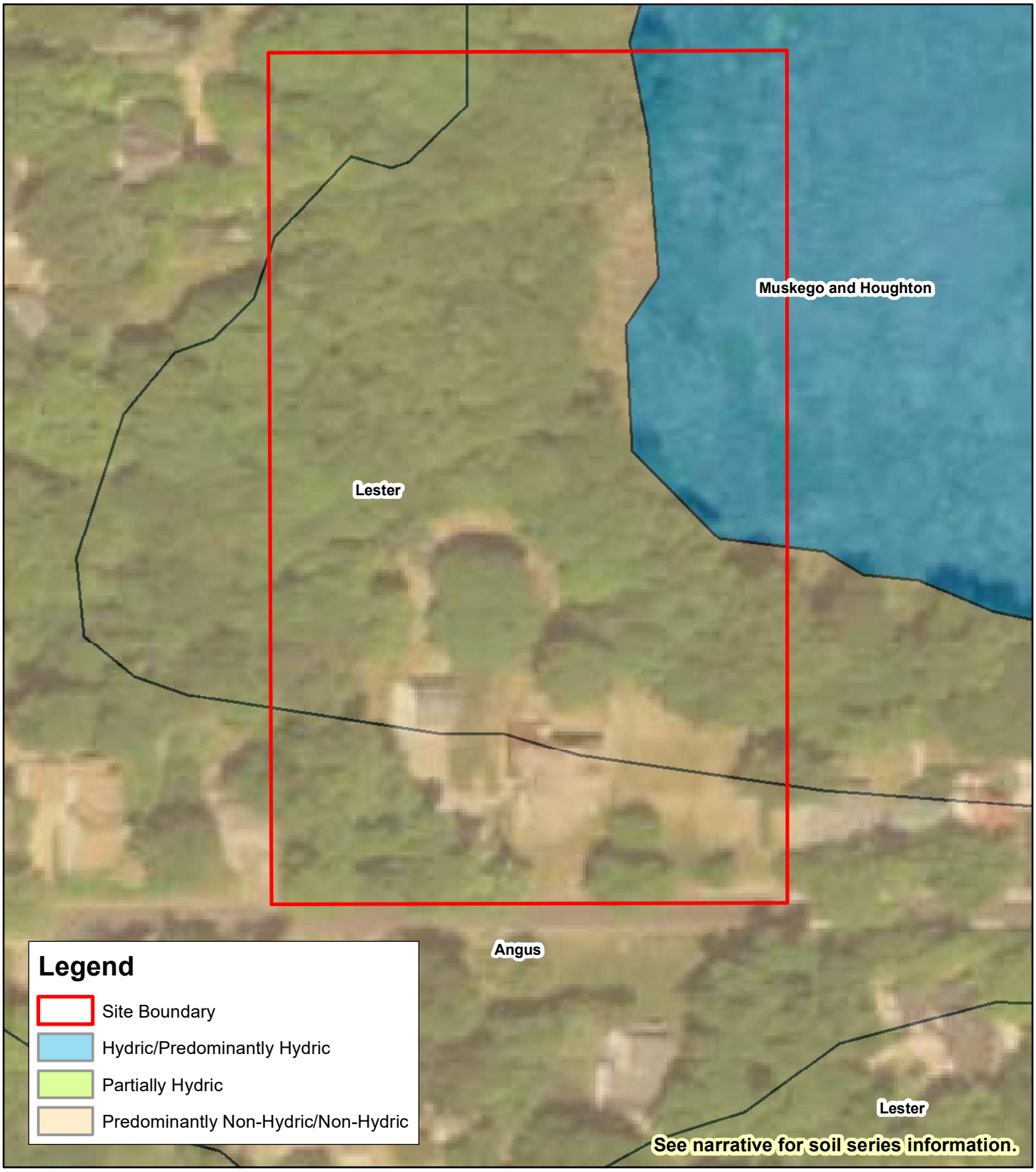


Figure 4 - Soil Survey

N

0 100 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons, USDA, NRCS

3740 and 3760 Togo Rd (KES 2024-073)
Orono, Minnesota

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

Figure 5 - DNR Public Waters Inventory

N

0 1,000 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons, MN DNR

3740 and 3760 Togo Rd (KES 2024-073)
Orono, Minnesota

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

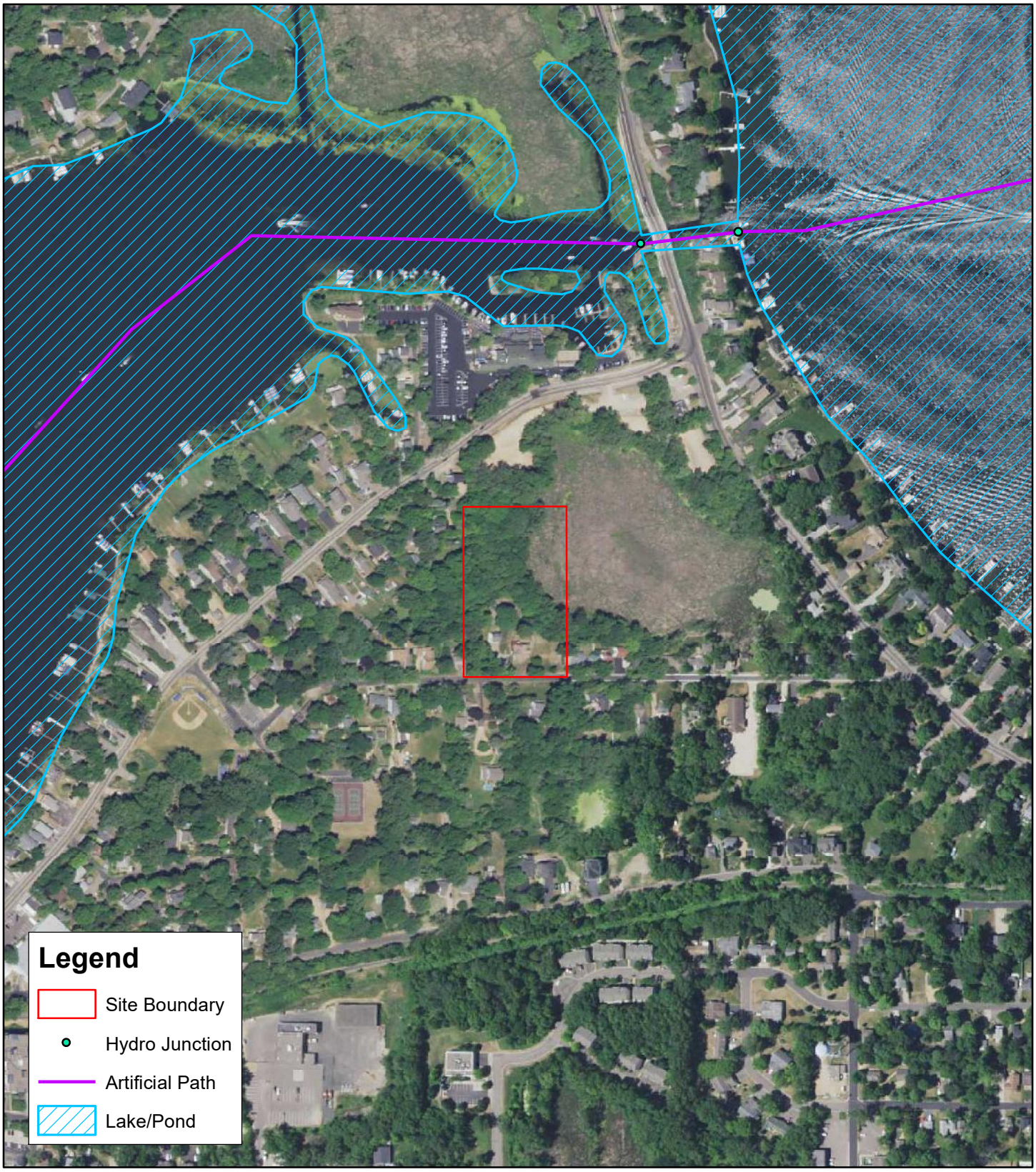


Figure 6 - National Hydrography Dataset

N

0 1,000 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons, USGS

3740 and 3760 Togo Rd (KES 2024-073)
Orono, Minnesota

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

3740 & 3760 Togo Road

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: DARYL & KRISTI EMERY
Mailing Address: 3740 TOGO ROAD WAYZATA, MN 55391
Phone: 612-310-5244
E-mail Address: demery@straubdesign.com

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

Agent Name: Kjolhaug Environmental Services; c/o Faith Holaday
Mailing Address: 2500 Shadywood Road Excelsior, MN 55331
Phone: (608) 852-2337
E-mail Address: faith@kjolhuagenv.com

PART TWO: Site Location Information

County: Hennepin **City/Township: Wayzata**
Parcel ID and/or Address: 3760 Togo Rd, Wayzata, MN 55391 (PID: 1711723310023)
Legal Description (Section, Township, Range): SEC 17, TWP 117N, RNG 23W
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): 3.73 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.

Wetland delineation concurrence/approval.

PART FOUR: Aquatic Resource Impact[1] Summary

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

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

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

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

PART FIVE: Applicant Signature

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

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

Signature: Daryl & Kristi Emery Date: 6/4/2024

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

3740 & 3760 Togo Road

Wetland Delineation Report

APPENDIX B

Wetland Delineation Data Forms

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: 3740 and 3760 Togo Rd | City/County: Orono/Hennepin | Sampling Date: 4/15/2024

Applicant/Owner: Daryl Emery | State: MN | Sampling Point: SP1-1W

Investigator(s): Faith H. | Section, Township, Range: 17, 117N, 23W

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

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

Soil Map Unit Name: Muskego and Houghton soils, 0 to 1 percent slopes | NWI Classification: PEM1C

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? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

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

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

Climatic conditions are atypical (dry) per Gridded Database

VEGETATION -- Use scientific names of plants.

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

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

Herb stratum (Plot size: 5)			
1 *Phalaris arundinacea*	15	Y	FACW
2 *Carex lacustris*	10	Y	OBL
3 *Taraxacum officinale*	2	N	FACU
4 *Galium boreale*	2	N	FAC
5			
6			
7			
8			
9			
10			
	29	= Total Cover	

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

Dominance Test Worksheet

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

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

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

Prevalence Index Worksheet

Total % Cover of:

OBL species	10	x 1 =	10	
FACW species	15	x 2 =	30	
FAC species	2	x 3 =	6	
FACU species	2	x 4 =	8	
UPL species	0	x 5 =	0	
Column totals	29	(A)	54	(B)

Prevalence Index = B/A = 1.86

Hydrophytic Vegetation Indicators:

- ____ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X 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 Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-6	10YR 2/1	100					sandy loam	
6-18	10YR 2/1	70	10YR 5/8	10	C	M	sandy loam	
			10YR 5/1	20	D	M		

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface water present?	Yes		No	X	Depth (inches):	
Water table present?	Yes	X	No		Depth (inches):	6
Saturation present? (includes capillary fringe)	Yes	X	No		Depth (inches):	2

Indicators of wetland hydrology present? Y

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

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: 3740 and 3760 Togo Rd | City/County: Orono/Hennepin | Sampling Date: 4/15/2024

Applicant/Owner: Daryl Emery | State: MN | Sampling Point: SP1-1UPL

Investigator(s): Faith H. | Section, Township, Range: 17, 117N, 23W

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

Slope (%): 10-16 | Lat: | Long: | Datum:

Soil Map Unit Name: Lester loam, 10 to 16 percent slopes, moderately eroded | NWI Classification:

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? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

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

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

Climatic conditions are atypical (dry) per Gridded Database.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species	Indicator Status
1 *Populus deltoides*	10	Y	FAC
2 *Juglans nigra*	10	Y	FACU
3			
4			
5			
	20	= Total Cover	

Sapling/Shrub stratum (Plot size: 15)			
1 *Lonicera tatarica*	5	Y	FACU
2			
3			
4			
5			
	5	= Total Cover	

Herb stratum (Plot size: 5)			
1 *Hydrophyllum virginianum*	2		FAC
2			
3			
4			
5			
6			
7			
8			
9			
10			
	2	= Total Cover	

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

Dominance Test Worksheet

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

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

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

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	12	x 3 =	36
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column totals	27 (A)		96 (B)

Prevalence Index = B/A = 3.56

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? N

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

SOIL

Sampling Point: SP1-1UPL

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-2	10YR 3/1	100					loamy sand	
2-14	10YR 3/2	100					loamy sand	
14-20	10YR 3/2	50					loamy sand	
	10YR 5/3	50						
20-24	10YR 5/3	100					loamy sand	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? N

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

Indicators of wetland hydrology present? N

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

Remarks:

No free water was observed within 24 inches of the soil surface.

3740 & 3760 Togo Road

Wetland Delineation Report

APPENDIX C

Precipitation Data

Minnesota State Climatology Office

State Climatology Office - DNR Division of Ecological and Water Resources

Precipitation Worksheet Using Gridded Database

Precipitation data for target wetland location:

county: **Hennepin** township number: **117N**
township name: **Excelsior** range number: **23W**
nearest community: **Spring Park** section number: **17**

Aerial photograph or site visit date:
Monday, April 15, 2024

Score using 1991-2020 normal period

values are in inches A 'R' following a monthly total indicates a provisional value derived from radar-based estimates.	first prior month: **March 2024**	second prior month: **February 2024**	third prior month: **January 2024**
estimated precipitation total for this location:	1.50	0.49	0.02
there is a 30% chance this location will have less than:	1.09	0.55	0.45
there is a 30% chance this location will have more than:	1.76	1.09	1.19
type of month: dry normal wet	**normal**	**dry**	**dry**
monthly score	**3*2=6**	**2*1=2**	**1*1=1**
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	**Dry (9)**		

Other Resources:

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

Minnesota State Climatology Office

State Climatology Office - DNR Division of Ecological and Water Resources

Precipitation Worksheet Using Gridded Database

Precipitation data for target wetland location:

county: **Hennepin** township number: **117N**
township name: **Excelsior** range number: **23W**
nearest community: **Spring Park** section number: **17**

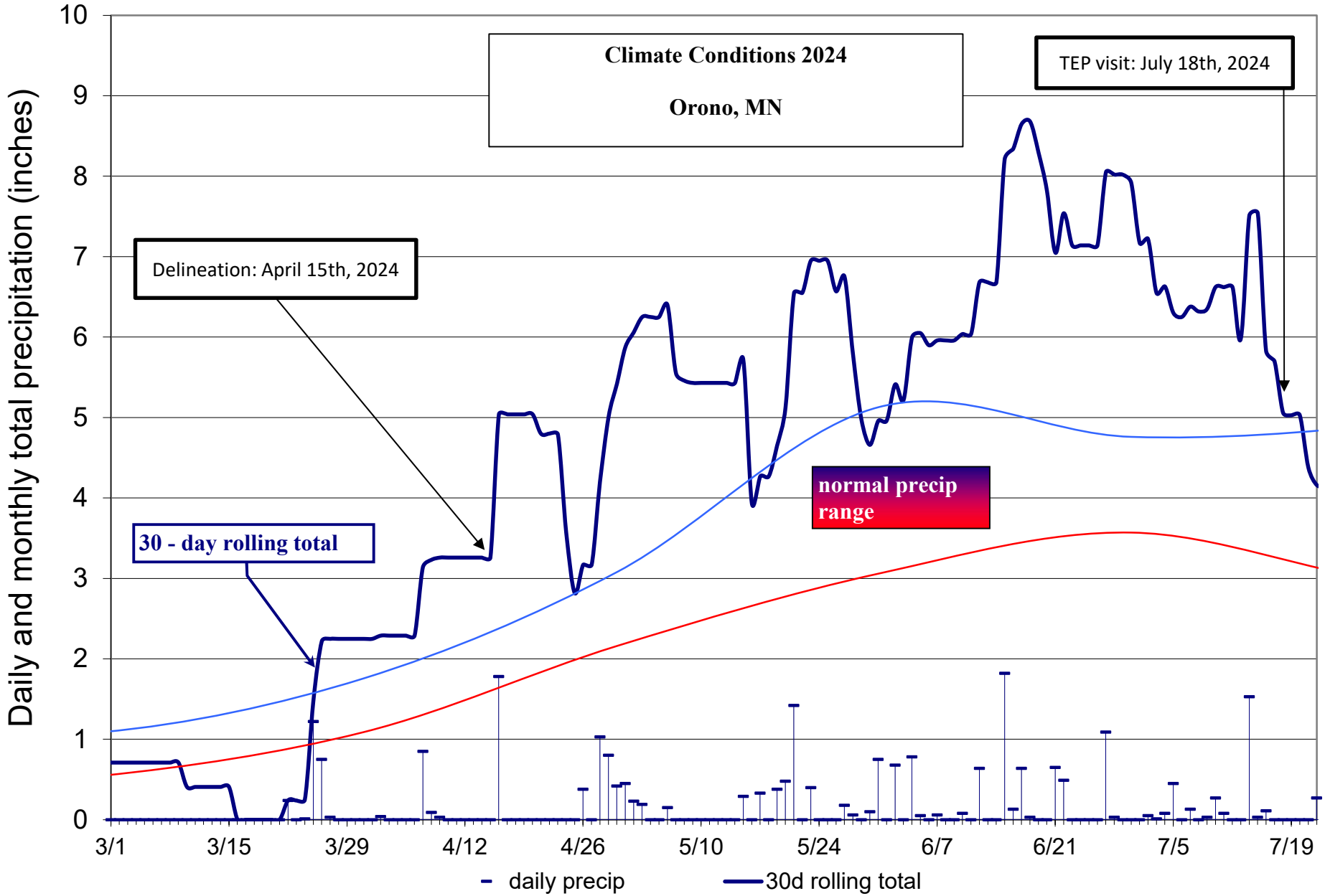
Aerial photograph or site visit date:
Wednesday, May 1, 2024

Score using 1991-2020 normal period

values are in inches A 'R' following a monthly total indicates a provisional value derived from radar-based estimates.	first prior month: **April 2024**	second prior month: **March 2024**	third prior month: **February 2024**
estimated precipitation total for this location:	**2.36**	**1.50**	**0.49**
there is a 30% chance this location will have less than:	2.16	1.09	0.55
there is a 30% chance this location will have more than:	3.08	1.76	1.09
type of month: dry normal wet	**normal**	**normal**	**dry**
monthly score	**3*2=6**	**2*2=4**	**1*1=1**
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	**11 (normal)**		

Other Resources:

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


Climate Conditions 2024
Orono, MN
TEP visit: July 18th, 2024
Delineation: April 15th, 2024
30 - day rolling total
normal precip range
Daily and monthly total precipitation (inches)
10
9
8
7
6
5
4
3
2
1
0
3/1
3/15
3/29
4/12
4/26
5/10
5/24
6/7
6/21
7/5
7/19
daily precip
30d rolling total