

WETLAND DELINEATION REPORT

06/22/2025

2025-102
1701 Gervais Avenue
Maplewood, MN

Jacobson Environmental, PLLC
jacobsonenv@msn.com

Table of Contents

1.0 SUMMARY2

2.0 METHODS3

 2.1 EXISTING INFORMATION REVIEW3

 2.1.1 Antecedent Precipitation3

 2.1.2 National Wetlands Inventory3

 2.1.3 Web Soil Survey3

 2.1.4 Public Waters Inventory3

 2.1.5 Topographic Map3

 2.2 FIELD DELINEATION4

 2.2.1 Vegetation4

 2.2.2 Hydric Soils5

 2.2.3 Cautions Used in Applying the Field Indicators of Hydric Soils5

3.0 RESULTS6

 3.1 WETLAND BASIN DESCRIPTIONS6

4.0 CONFIRMATION OF JURISDICTIONAL STATUS6

5.0 CERTIFICATION7

Appendices

- Appendix A Antecedent Precipitation Data
- Appendix B Sample Data Sheets
- Appendix C Site Photographs
- Appendix D Wetland Type and Boundary Approval Forms
- Appendix E Historical Aerial Photos
- Appendix F City Detention Pond Designation
- Appendix G MNRAM Analysis

Figures

- Figure 1 Site Location Map
- Figure 2 National Wetland Inventory Map
- Figure 3 Soils Map
- Figure 4 Public Waters Inventory Map
- Figure 5 Delineation Map
- Figure 6 Topographic Map
- Figure 7 Hydric Soil Rating Map

1.0 SUMMARY

Jacobson Environmental, PLLC (JE) visited the project site at 1701 Gervais Avenue on 06/20/2025. The site was approximately 1.43 acres in size, and was located at Section 10, T29N, R22W, Maplewood, Minnesota. See Figure 1 for a Site Location Map.

The purpose of the investigation was to identify areas within the project boundary meeting the technical criteria for wetlands, delineate the jurisdictional extent of the wetland basins, and classify the wetland habitat according to the 1987 U.S. Army Corps of Engineers Wetland Delineation Manual and the 2012 Regional Supplement to the Corps of Engineers Wetland Delineation: Northcentral and Northeast Region.

Wetlands are areas that are saturated or inundated with surface and or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in hydric soil conditions. Examples of wetlands include seasonally flooded basins, floodplain forests, wet meadows, shallow and deep marshes, shrub swamps, wooded swamps, fens, and bogs.

Wetland boundaries were determined through a routine analysis of the vegetation, soils and hydrology which must all show wetland characteristics for an area to be delineated as a wetland.

One basin was delineated within the project area, which is summarized below and shown on Figure 5.

Basin ID	HGM Class	Cowardin	Eggers & Reed	Dominant Vegetation	Size (acres)
1	Depressional	PUBH	Open water pond	Lesser duckweed	0.077

All figures and appendices referenced by this report are presented at the end of the text.

This wetland delineation was performed by Jacobson Environmental, PLLC under the direction of Wayne Jacobson, Minnesota Professional Soil Scientist #30611, Society of Wetland Scientists – Professional Wetland Scientist #1000, University of Minnesota / BWSR Wetland Delineator, Certified #1019, American Fisheries Society – Associate Fisheries Scientist #A-171.

2.0 METHODS

2.1 EXISTING INFORMATION REVIEW

Prior to field delineation, Jacobson Environmental reviewed the following information:

2.1.1 Antecedent Precipitation

The previous three month's precipitation data obtained from the Minnesota State Climatology Office suggest that the sampling period occurred under normal conditions. Antecedent precipitation data can be found in Appendix A. The growing season in this area is approximately from mid-April to mid-October, when the air temperature averages above 28 degrees F. This delineation was completed during the growing season.

2.1.2 National Wetlands Inventory

The National Wetlands Inventory (NWI) identified one PABH wetland complex within the property boundary (Figure 2).

2.1.3 Web Soil Survey

The National Resource Conservation Service Web Soil Survey (Figure 7) identified the following soils:

Soil	Hydric Rating
Chetek sandy loam	0
Urban land – Chetek complex	0
Urban land	0

2.1.4 Public Waters Inventory

The Minnesota Department of Natural Resources Public Waters Inventory shows that no public waters exist on the property (Figure 4).

2.1.5 Topographic Map

A topographic map with aerial photo overlay was obtained from Ramsey County (Figure 6). This map was reviewed for suspected wetland areas based on topography and vegetative cover.

2.2 FIELD DELINEATION

The wetlands on the subject property were delineated using the routine determination methodology set forth in the 1987 U.S. Army Corps of Engineers *Wetlands Delineation Manual* and the 2012 Regional Supplement to the Corps of Engineers Wetland Delineation: Northcentral and Northeast Region as follows:

- 1) The vegetative community was sampled in all present strata to determine whether 50% of the dominant plant species were hydrophytic using the 50/20 method.
- 2) Soil pits were dug using a Dutch auger to depths of 18"-40", noting soil profiles and any hydric soil characteristics.
- 3) Signs of wetland hydrology were noted and were compared to field criteria such as depth to shallow water table and depth of soil saturation found in the soil pits.

Transects were established in representative areas of each wetland. Each transect consisted of one sample point within the wetland and one sample point in upland. Other areas which have one or more of the wetland vegetation, soils, or hydrologic characteristics present, or where questionable conditions exist may also have been sampled. Data sheets for each sample point are available in Appendix B.

Wetland classifications discussed in the text are set forth in *Wetlands and Deepwater Habitats of the United States* (FWS/OBS Publication 79/31, Cowardin et al. 1979) and *Wetlands of the United States* (USFWS Circular 39, Shaw and Fredine, 1971.) Additionally, plant community types as named by Eggers and Reed (1998) are given.

Wetland edges were marked with orange numbered pin flags. 4-foot wood lath marked with orange "wetland boundary" flagging tape or flagging tied on vegetation may be used if site conditions warrant. Sample points are marked with orange numbered pin flags.

Any wetlands or sample points were mapped using GPS.

2.2.1 Vegetation

The plant species within the parcel were cataloged and assigned a wetland indicator status according to: *The National Wetland Plant List: 2021 Wetland Ratings*, <http://wetland-plants.usace.army.mil/>

In the text of this report and on the enclosed data forms, the plant indicator status follows the plant's scientific name unless a status has not been assigned. The hydrophytic plant criterion is met when more than 50 percent of the dominant species by the 50/20 rule for each stratum (herb, shrub/sapling, tree, and

woody vine) were assigned an obligate (OBL)¹, facultative wet (FACW), and/or facultative (FAC) wetland status.

With the 50/20 rule, dominants are generally measured by absolute % cover in each stratum which individually or collectively account for more than 50% of total vegetative cover in the stratum, plus any other species which itself accounts for at least 20% of the total vegetative cover.

2.2.2 Hydric Soils

A hydric soil is a soil formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part. If a soil exhibits the indicators of a hydric soil or is identified as a hydric soil the hydric soil criterion is met.

The break between hydric and non-hydric soils was determined by excavating soil pits along transects crossing the wetland/upland eco-tone and evaluating the soil colors, textures, and presence or absence of redoximorphic indicators (i.e., mottles, gley or oxidized rhizospheres). Hydric Soil Indicators for the Northcentral and Northeast Region were noted as presented in the National Technical Committee for Hydric Soils *Field Indicators of Hydric Soils in the United States version 8.2* (USDA NRCS 2018) if present at each sample point. Upper soil profiles were also compared to the mapped or inclusionary soil series found in the sample area for soil identification purposes.

2.2.3 Cautions Used in Applying the Field Indicators of Hydric Soils

There are hydric soils with morphologies that are difficult to interpret. These include soils with black, gray, or red parent material; soils with high pH; soils high or low in content of organic matter; recently developed hydric soils, and soils high in iron inputs. In some cases, we do not currently have indicators to assist in the identification of hydric soils in these situations. If the soil meets the definition of a hydric soil, the lack of an indicator does not preclude the soil from being hydric. The indicators were developed mostly to identify the boundary of hydric soil areas and generally work best on the margins. Not all the obviously wetter hydric soils will be identified by the indicators. Redoximorphic features are most likely to occur in soils that cycle between anaerobic (reduced) and aerobic (oxidized) conditions.

Morphological features of hydric soils indicate that saturation and anaerobic conditions have existed under either contemporary or former hydrologic regimes. Where soil morphology seems inconsistent with the landscape, vegetation, or observable hydrology, it may be necessary to obtain the assistance of an experienced soil or wetland scientist to determine whether the soil is hydric.

To clarify, when investigating hydric soils in this area, one must consider the following:

¹ OBL=Obligate Wetland, occurs an estimated 99% in wetlands. FACW=Facultative Wetland, has an estimated 67%-99% probability of occurrence in wetlands. FAC=Facultative, is equally likely to occur in wetlands and non-wetlands, 34%-66% probability. FACU=Facultative Upland, occurs in wetlands only occasionally, 1%-23% probability. UPL=Upland, almost never occurs in wetlands, <1% probability. NI= No Indicator, insufficient information available to determine an indicator status. Positive or negative sign previously indicated a frequency toward higher (+) or lower (-) frequency of occurrence within a category.

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- Many of these soils have black or gray parent materials.
- Many of the soils have a high organic matter content.
- The hydric soil margin is typically higher than the wetland boundary margin on the site.
- Not all the obviously wetter soils will be identified by the indicators.
- Many of the hydric soils are Mollisols which are classic problem hydric soils in many cases.

3.0 RESULTS

3.1 WETLAND BASIN DESCRIPTIONS

Basin 1

Basin 1 was an approximately 0.077 acre, depressionnal, PUBH, open water pond. The basin was dominated by lesser duckweed.

Hydrology indicators included inundation and saturation.

Wetland soils met indicators F1, loamy mucky mineral.

Adjacent upland was typically dominated by common buckthorn and cottonwood. Primary hydrology indicators were not observed at the upland sample point, and no hydric soil indicators were found in the upland sample point soil.

The wetland boundary followed a change in vegetation from wetland to upland plant communities, as well as a distinct change in topography. The basin was shown as a PABH wetland on the NWI map (Figure 2) and was located within an area mapped as Urban land - Chetek (RATING=0) by the Web Soil Survey (Figure 7).

Sample data sheets 1-1UP, 1-1WET, 1-2UP and 1-2WET in Appendix B correspond to this basin.

We have determined that this is a constructed stormwater pond which has 3 culverts running into it.

4.0 CONFIRMATION OF JURISDICTIONAL STATUS

Jacobson Environmental is submitting this report to the client and regulatory agencies to request a wetland boundary and type determination. We have enclosed an official WCA Approval of Wetland Type and Boundary form in Appendix D along with a USCOE wetland delineation concurrence request.

Jacobson Environmental, PLLC

Environmental Consultants

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Wayne Jacobson, P.S.S., W.D.C., P.W.S., A.F.S.

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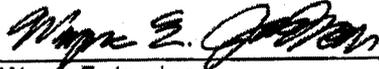
Email: jacobsonenv@msn.com

5.0 CERTIFICATION

I certify that this wetland delineation meets the standards and criteria described in the 1987 U.S. Army Corps of Engineers Wetland Delineation Manual and the 2012 Regional Supplement to the Corps of Engineers Wetland Delineation: Northcentral and Northeast Region. This was a Routine On-Site Determination and the results reflect the conditions present at the time of the delineation.

I certify that this report has been prepared in accordance with regulatory standards. Thank you for the opportunity to provide wetland services on this important project.

If any wetland impacts are planned for this project, permits would be necessary from the LGU and other agencies.



Wayne E. Jacobson
Professional Soil Scientist #30611
Professional Wetland Scientist #1000
Wetland Delineator, Certified #1019
Associate Fisheries Scientist #A-171
Jacobson Environmental, PLLC.

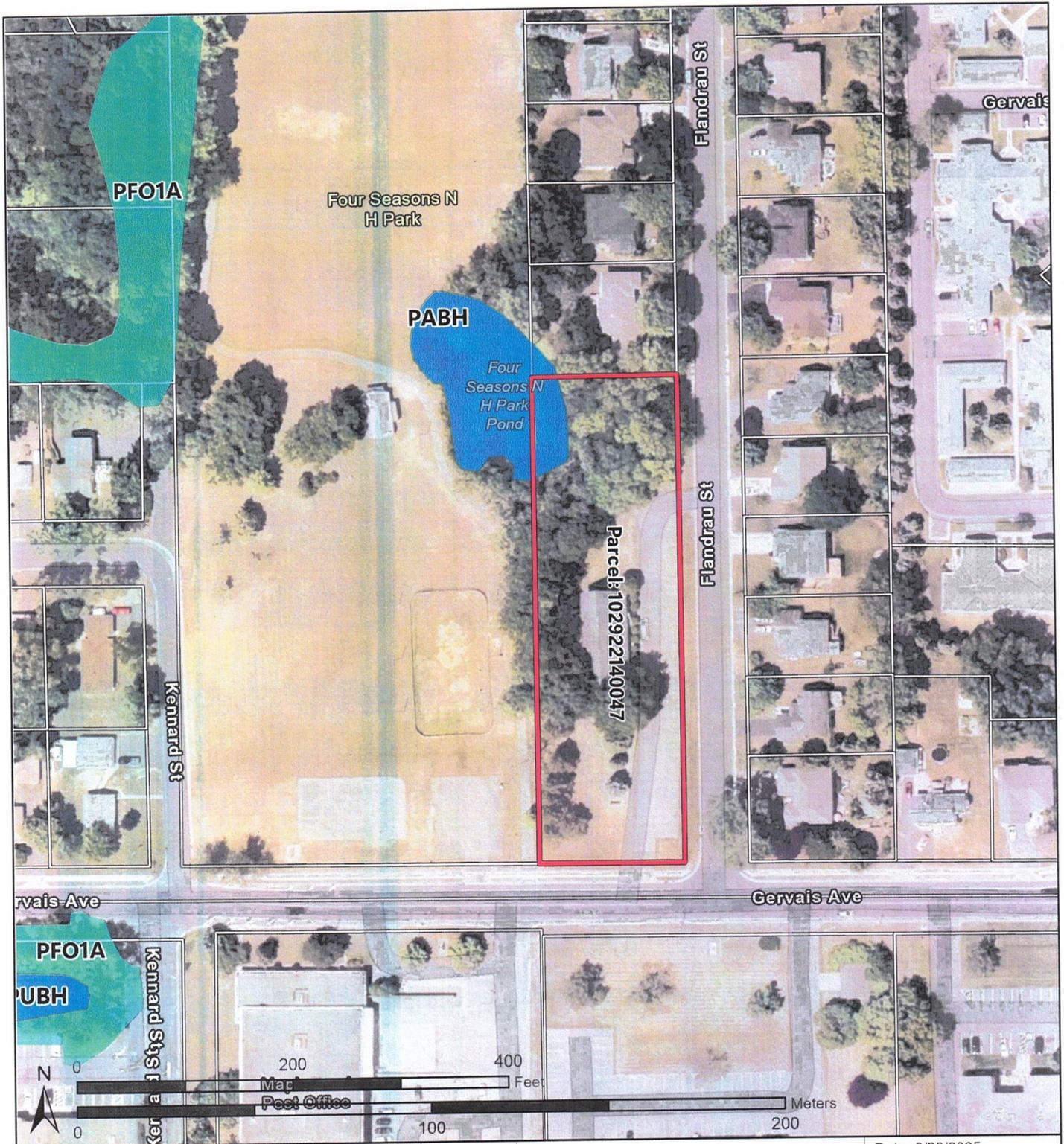
06/22/2025

Date

FIGURES

Figure 1 Site Location Map





Legend

- Subject Property
- Ramsey County Parcels
- National Wetland Inventory**
- Freshwater Forested/Shrub Wetland
- Freshwater Pond

Scale: 1:1,500



Project Name: 1701 Gervais Ave
 MDX Name: 2025-102. 1701 Gervais Ave

Date: 6/20/2025
 Project Number: 2025-102

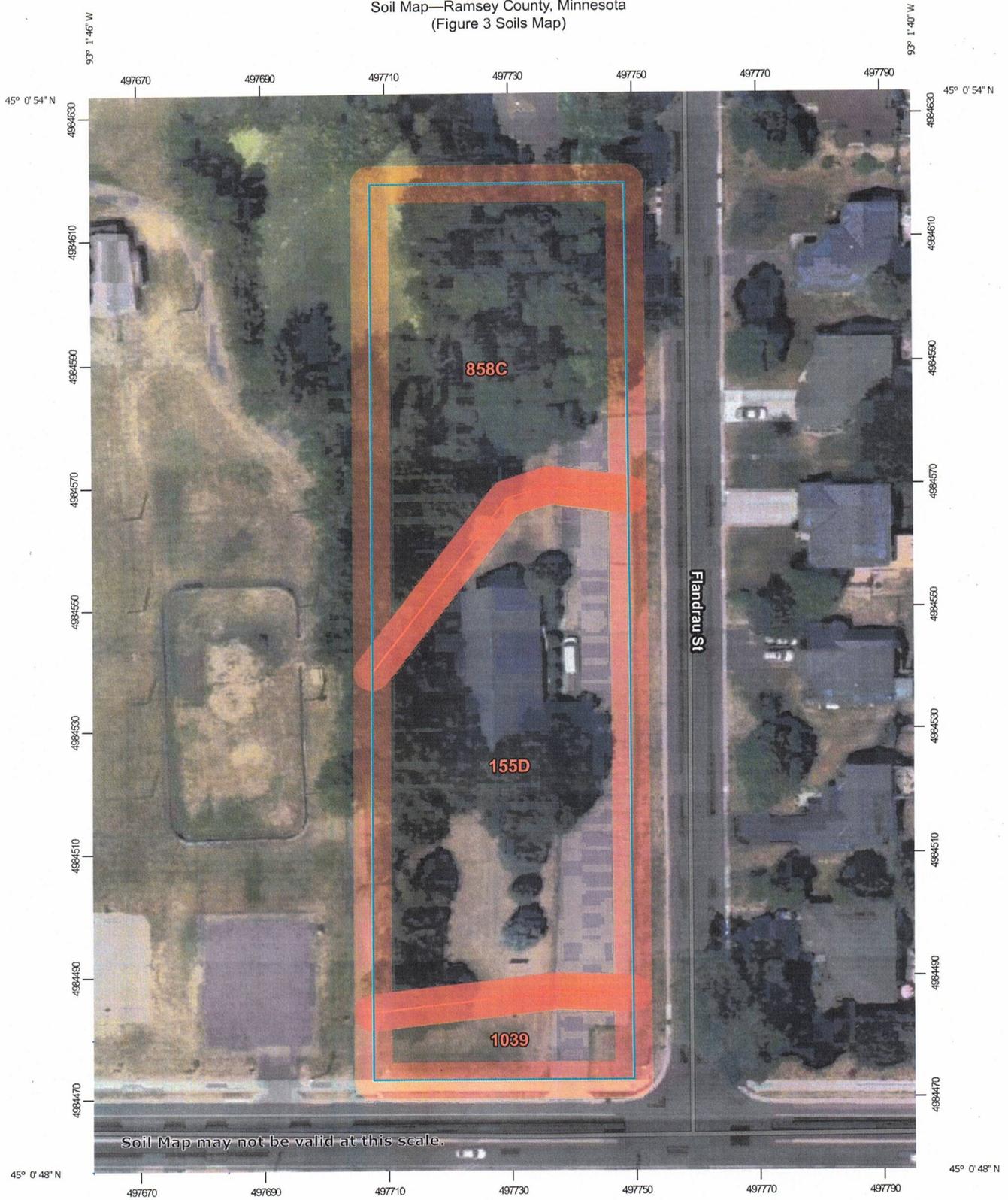
Figure 2:
 National Wetland Inventory (NWI)



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Source: Esri, USDA FSA, Airbus, USGS, NGA, NASA, CGIAR, NCEAS, NLS, OS, NMA, Geodatasystem, GSA, GSI and the GIS User Community, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Soil Map—Ramsey County, Minnesota
(Figure 3 Soils Map)



Map Scale: 1:855 if printed on A portrait (8.5" x 11") sheet.

0 10 20 40 60 Meters

0 40 80 160 240 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge ticks: UTM Zone 15N WGS84



Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

6/5/2025
Page 1 of 3

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
155D	Chetek sandy loam, 12 to 25 percent slopes	0.8	51.4%
858C	Urban land-Chetek complex, 3 to 15 percent slopes	0.6	39.4%
1039	Urban land	0.1	9.2%
Totals for Area of Interest		1.5	100.0%



- Legend**
- Subject Property
 - Public Water Wetland

Scale: 1:4,489



Project Name: 1701 Gervais Ave
 MDX Name: 2025-102. 1701 Gervais Ave

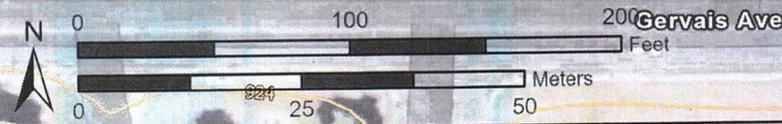
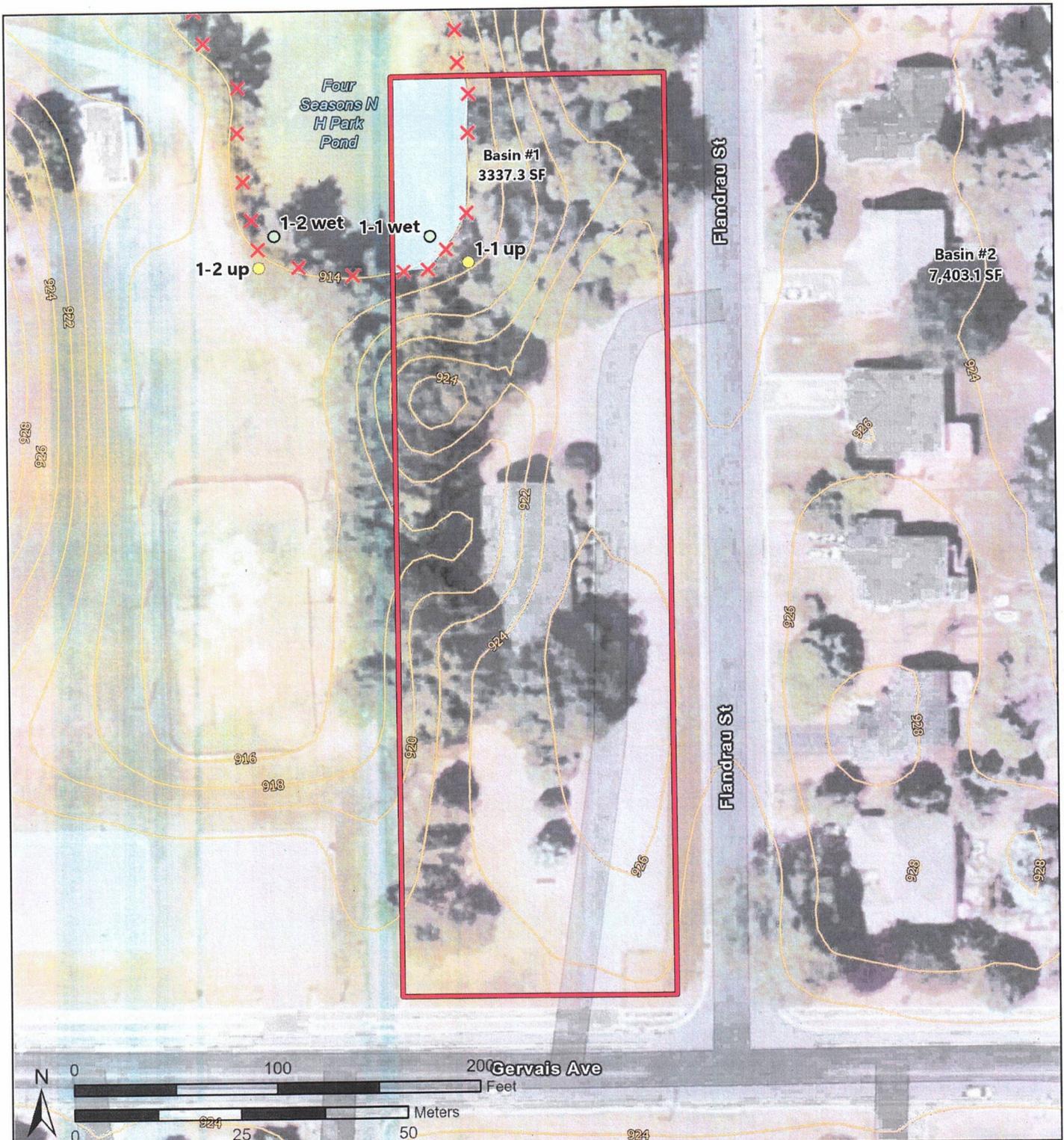
Date: 6/20/2025
 Project Number: 2025-102

Figure 4:
 Public Waters Inventory (PWI)



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Source: Esri, USDA FSA, Airbus,USGS,NGA,NASA,CGIAR,NCEAS,NLS,OS,NMA,Geodastystrelsen,GSA,GSI and the GIS User Community. Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community



Legend Wetland Delineation Points Upland Sample Point Wetland Sample Point 2' Contour Lines Wetland Boundary (On Site) Subject Property	Scale: 1:800 	Project Name: 1701 Gervais Ave MDX Name: 2025-102. 1701 Gervais Ave	Date: 6/20/2025 Project Number: 2025-102
		Figure 5: Jurisdictional Delineation Map	
		Jacobson Environmental, PLLC. Phone: (612)-802-8618 E-mail: jacobsonenv@msn.com	

Source: Esri, USDA FSA, Airbus, USGS, NGA, NASA, CGIAR, NCEAS, NLS, OS, NMA, Geodatastyrelsen, GSA, GSI and the GIS User Community. Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

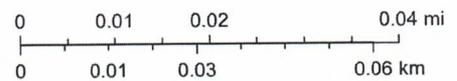
Figure 6 Site Map



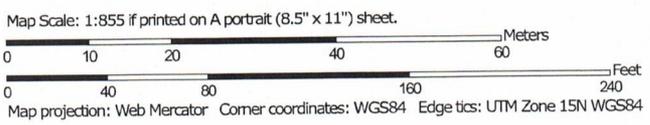
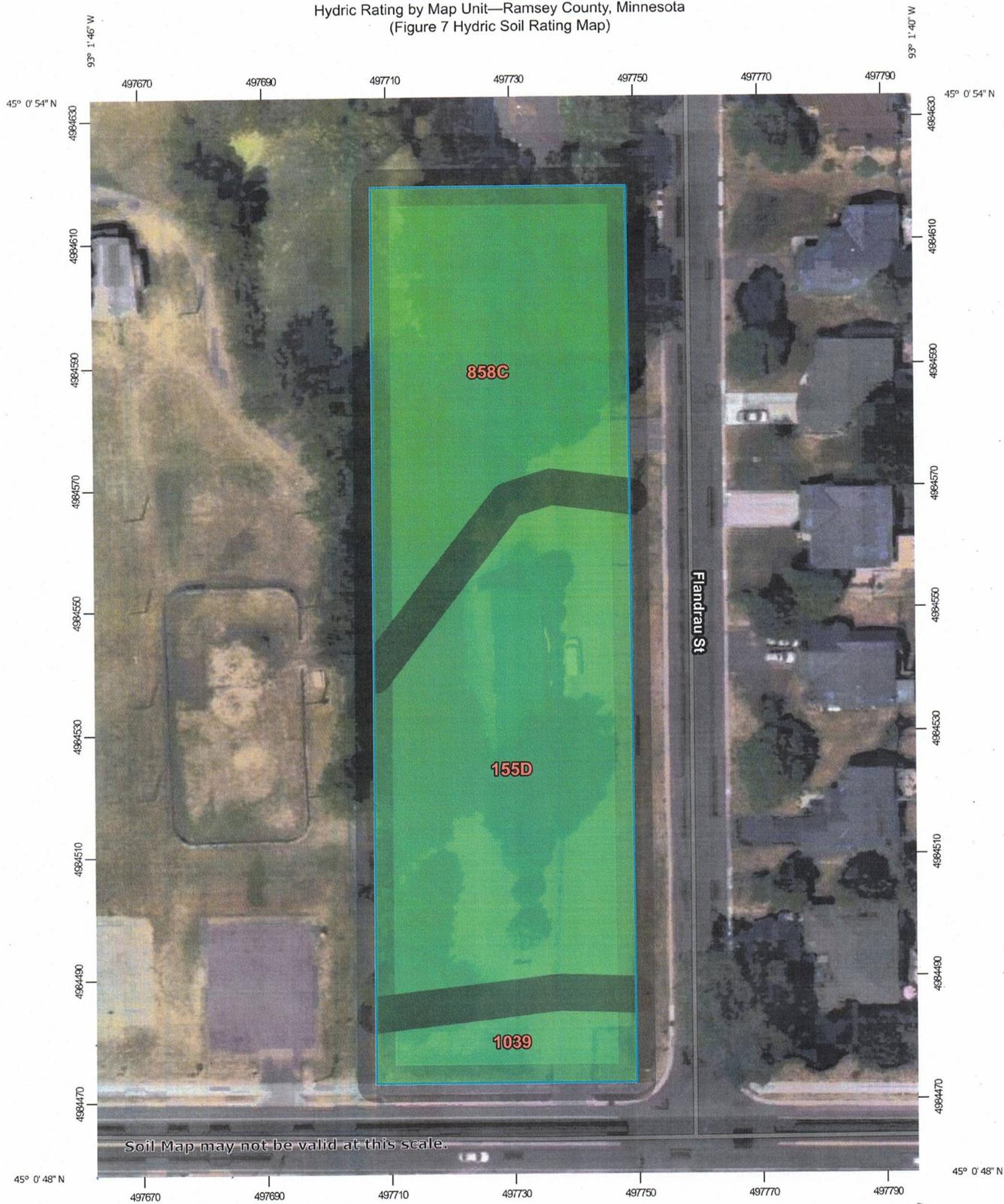
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1:1,200

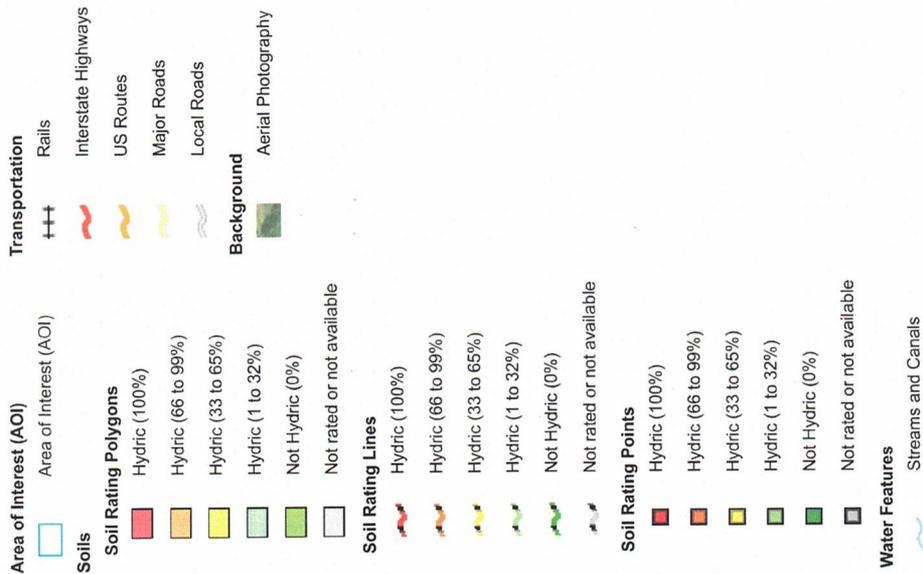
-  Personal Property
-  County Offices
-  Tax Parcels
-  Contours
-  Cities



Hydric Rating by Map Unit—Ramsey County, Minnesota
(Figure 7 Hydric Soil Rating Map)



MAP LEGEND



MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Ramsey County, Minnesota
Survey Area Data: Version 19, Sep 7, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 29, 2023—Sep 13, 2023

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
155D	Chetek sandy loam, 12 to 25 percent slopes	0	0.8	51.4%
858C	Urban land-Chetek complex, 3 to 15 percent slopes	0	0.6	39.4%
1039	Urban land	0	0.1	9.2%
Totals for Area of Interest			1.5	100.0%

Rating Options

Aggregation Method: Percent Present

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

APPENDIX A

Precipitation Data

Minnesota State Climatology Office

State Climatology Office - DNR Division of Ecological and Water Resources

[home](#) | [current conditions](#) | [journal](#) | [past data](#) | [summaries](#) | [agriculture](#) | [other sites](#) | [about us](#) 

Precipitation Worksheet Using Gridded Database

Precipitation data for target wetland location:

county: **Ramsey** township number: **29N**
township name: **unnamed** range number: **22W**
nearest community: **Gladstone** section number: **10**

Aerial photograph or site visit date:

Friday, June 20, 2025

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: May 2025	second prior month: April 2025	third prior month: March 2025
estimated precipitation total for this location:	4.16R	2.54	2.81
there is a 30% chance this location will have less than:	3.22	2.42	1.39
there is a 30% chance this location will have more than:	5.06	3.52	2.12
type of month: dry normal wet	normal	normal	wet
monthly score	3 * 2 = 6	2 * 2 = 4	1 * 3 = 3
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	13 (Normal)		

Other Resources:

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

APPENDIX B

Sample Data Sheets

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
 See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
 Requirement Control Symbol EXEMPT:
 (Authority: AR 335-15, paragraph 5-2a)

Project/Site: 1701 Gervais Avenue City/County: Maplewood Sampling Date: 06/20/2025
 Applicant/Owner: Joseph Rief State: MN Sampling Point: 1-1UP
 Investigator(s): WEJ Section, Township, Range: Section 10, T29N, R22W
 Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): convex Slope %: 2
 Subregion (LRR or MLRA): LRR K Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Urban land - Chetek NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> _____ Surface Water (A1) _____ Water-Stained Leaves (B9) _____ High Water Table (A2) _____ Aquatic Fauna (B13) _____ Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) _____ Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: soil saturation >24 inches	

VEGETATION – Use scientific names of plants.

Sampling Point: 1-1UP

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>30</u>)																				
1. <u>Populus deltoides</u>	40	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</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>71.4%</u> (A/B)																
2. <u>Juglans nigra</u>	30	Yes	FACU																	
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
	70	=Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)																				
1. <u>Rhamnus cathartica</u>	10	Yes	FAC	Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="text-align:right">Total % Cover of:</td> <td style="text-align:center">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>15</u></td> <td>x 2 = <u>30</u></td> </tr> <tr> <td>FAC species <u>105</u></td> <td>x 3 = <u>315</u></td> </tr> <tr> <td>FACU species <u>70</u></td> <td>x 4 = <u>280</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>190</u> (A)</td> <td><u>625</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center">Prevalence Index = B/A = <u>3.29</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>15</u>	x 2 = <u>30</u>	FAC species <u>105</u>	x 3 = <u>315</u>	FACU species <u>70</u>	x 4 = <u>280</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>190</u> (A)	<u>625</u> (B)	Prevalence Index = B/A = <u>3.29</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>15</u>	x 2 = <u>30</u>																			
FAC species <u>105</u>	x 3 = <u>315</u>																			
FACU species <u>70</u>	x 4 = <u>280</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>190</u> (A)	<u>625</u> (B)																			
Prevalence Index = B/A = <u>3.29</u>																				
2. <u>Fraxinus pennsylvanica</u>	10	Yes	FACW																	
3. <u>Acer saccharinum</u>	5	Yes	FACW																	
4. _____																				
5. _____																				
6. _____																				
7. _____																				
	25	=Total Cover																		
Herb Stratum (Plot size: <u>5</u>)																				
1. <u>Solanum dulcamara</u>	40	Yes	FAC	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u>Sambucus racemosa</u>	20	Yes	FACU																	
3. <u>Maianthemum racemosum</u>	15	No	FACU																	
4. <u>Geum canadense</u>	10	No	FAC																	
5. <u>Galium boreale</u>	5	No	FAC																	
6. <u>Parthenocissus quinquefolia</u>	5	No	FACU																	
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
12. _____																				
	95	=Total Cover																		
Woody Vine Stratum (Plot size: <u>30</u>)																				
1. _____				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.																
2. _____																				
3. _____																				
4. _____																				
				Hydrophytic Vegetation Present? Yes <u>X</u> No _____																

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

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
 See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
 Requirement Control Symbol EXEMPT:
 (Authority: AR 335-15, paragraph 5-2a)

Project/Site: 1701 Gervais Avenue City/County: Maplewood Sampling Date: 06/20/2025
 Applicant/Owner: Joseph Rief State: MN Sampling Point: 1-1WET
 Investigator(s): WEJ Section, Township, Range: Section 10, T29N, R22W
 Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): concave Slope %: 1
 Subregion (LRR or MLRA): LRR K Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Urban land - Chetek NWI classification: PUBH
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) _____ Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) _____ Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) _____ Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>5</u> Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>5</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>5</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: 1-1WET

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status																									
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																								
2. _____	_____	_____	_____																									
3. _____	_____	_____	_____																									
4. _____	_____	_____	_____																									
5. _____	_____	_____	_____																									
6. _____	_____	_____	_____																									
7. _____	_____	_____	_____																									
	=Total Cover																											
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:30%;"></td> <td style="width:30%; text-align: center;">Total % Cover of:</td> <td style="width:30%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td style="text-align: center;"><u>70</u></td> <td style="text-align: center;">x 1 = <u>70</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>10</u></td> <td style="text-align: center;">x 2 = <u>20</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 3 = <u>0</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 4 = <u>0</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>80</u> (A)</td> <td style="text-align: center;"><u>90</u> (B)</td> </tr> <tr> <td colspan="3" style="text-align: center;">Prevalence Index = B/A = <u>1.13</u></td> </tr> </table>		Total % Cover of:	Multiply by:	OBL species	<u>70</u>	x 1 = <u>70</u>	FACW species	<u>10</u>	x 2 = <u>20</u>	FAC species	<u>0</u>	x 3 = <u>0</u>	FACU species	<u>0</u>	x 4 = <u>0</u>	UPL species	<u>0</u>	x 5 = <u>0</u>	Column Totals:	<u>80</u> (A)	<u>90</u> (B)	Prevalence Index = B/A = <u>1.13</u>		
	Total % Cover of:	Multiply by:																										
OBL species	<u>70</u>	x 1 = <u>70</u>																										
FACW species	<u>10</u>	x 2 = <u>20</u>																										
FAC species	<u>0</u>	x 3 = <u>0</u>																										
FACU species	<u>0</u>	x 4 = <u>0</u>																										
UPL species	<u>0</u>	x 5 = <u>0</u>																										
Column Totals:	<u>80</u> (A)	<u>90</u> (B)																										
Prevalence Index = B/A = <u>1.13</u>																												
1. _____	_____	_____	_____																									
2. _____	_____	_____	_____																									
3. _____	_____	_____	_____																									
4. _____	_____	_____	_____																									
5. _____	_____	_____	_____																									
6. _____	_____	_____	_____																									
7. _____	_____	_____	_____																									
	=Total Cover																											
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																								
1. <u>Lemna minor</u>	70	Yes	OBL																									
2. <u>Phalaris arundinacea</u>	10	No	FACW																									
3. _____	_____	_____	_____																									
4. _____	_____	_____	_____																									
5. _____	_____	_____	_____																									
6. _____	_____	_____	_____																									
7. _____	_____	_____	_____																									
8. _____	_____	_____	_____																									
9. _____	_____	_____	_____																									
10. _____	_____	_____	_____																									
11. _____	_____	_____	_____																									
12. _____	_____	_____	_____																									
	80 =Total Cover																											
Woody Vine Stratum (Plot size: <u>30</u>)				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.																								
1. _____	_____	_____	_____																									
2. _____	_____	_____	_____																									
3. _____	_____	_____	_____																									
4. _____	_____	_____	_____																									
	=Total Cover																											
Remarks: (Include photo numbers here or on a separate sheet.) There was 15% open water at this point				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																								

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
 See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
 Requirement Control Symbol EXEMPT:
 (Authority: AR 335-15, paragraph 5-2a)

Project/Site: 1701 Gervais Avenue City/County: Maplewood Sampling Date: 06/20/2025
 Applicant/Owner: Joseph Rief State: MN Sampling Point: 1-2UP
 Investigator(s): WEJ Section, Township, Range: Section 10, T29N, R22W
 Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): convex Slope %: 2
 Subregion (LRR or MLRA): LRR K Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Urban land - Chetek NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> _____ Surface Water (A1) _____ Water-Stained Leaves (B9) _____ High Water Table (A2) _____ Aquatic Fauna (B13) _____ Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) _____ Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: soil saturation >24 inches	

VEGETATION – Use scientific names of plants.

Sampling Point: 1-2UP

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Populus deltoides</u>	<u>15</u>	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40.0%</u> (A/B) Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:center;">Total % Cover of:</td> <td style="width:50%; text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>30</u></td> <td>x 3 = <u>90</u></td> </tr> <tr> <td>FACU species <u>65</u></td> <td>x 4 = <u>260</u></td> </tr> <tr> <td>UPL species <u>30</u></td> <td>x 5 = <u>150</u></td> </tr> <tr> <td>Column Totals: <u>125</u> (A)</td> <td><u>500</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u>4.00</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>30</u>	x 3 = <u>90</u>	FACU species <u>65</u>	x 4 = <u>260</u>	UPL species <u>30</u>	x 5 = <u>150</u>	Column Totals: <u>125</u> (A)	<u>500</u> (B)	Prevalence Index = B/A = <u>4.00</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
FAC species <u>30</u>	x 3 = <u>90</u>																			
FACU species <u>65</u>	x 4 = <u>260</u>																			
UPL species <u>30</u>	x 5 = <u>150</u>																			
Column Totals: <u>125</u> (A)	<u>500</u> (B)																			
Prevalence Index = B/A = <u>4.00</u>																				
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
	<u>15</u>	=Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)																				
1. <u>Rhamnus cathartica</u>	<u>15</u>	Yes	FAC	Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 ¹ <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
	<u>15</u>	=Total Cover																		
Herb Stratum (Plot size: <u>5</u>)																				
1. <u>Poa pratensis</u>	<u>45</u>	Yes	FACU	Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>																
2. <u>Carex pensylvanica</u>	<u>30</u>	Yes	UPL																	
3. <u>Oxalis stricta</u>	<u>20</u>	Yes	FACU																	
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
12. _____																				
	<u>95</u>	=Total Cover																		
Woody Vine Stratum (Plot size: <u>30</u>)																				
1. _____																				
2. _____																				
3. _____																				
4. _____																				
		=Total Cover																		

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

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
 See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
 Requirement Control Symbol EXEMPT:
 (Authority: AR 335-15, paragraph 5-2a)

Project/Site: 1701 Gervais Avenue City/County: Maplewood Sampling Date: 06/20/2025
 Applicant/Owner: Joseph Rief State: MN Sampling Point: 1-2WET
 Investigator(s): WEJ Section, Township, Range: Section 10, T29N, R22W
 Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): concave Slope %: 1
 Subregion (LRR or MLRA): LRR K Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Urban land - Chetek NWI classification: PUBH
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) 	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators</u> (minimum of one is required; check all that apply)	<u>Secondary Indicators</u> (minimum of two required)
<input checked="" type="checkbox"/> Surface Water (A1) _____ Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) _____ Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)	_____ Surface Soil Cracks (B6) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) _____ Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>6</u> Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>6</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>6</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: 1-2WET

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
		=Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
		=Total Cover		
Herb Stratum (Plot size: <u>5</u>)				
1.	<u>Lemna minor</u>	80	Yes	OBL
2.	<u>Phalaris arundinacea</u>	10	No	FACW
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
		90	=Total Cover	
Woody Vine Stratum (Plot size: <u>30</u>)				
1.				
2.				
3.				
4.				
			=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	<u>80</u>		x 1 =	<u>80</u>
FACW species	<u>10</u>		x 2 =	<u>20</u>
FAC species	<u>0</u>		x 3 =	<u>0</u>
FACU species	<u>0</u>		x 4 =	<u>0</u>
UPL species	<u>0</u>		x 5 =	<u>0</u>
Column Totals:	<u>90</u>	(A)		<u>100</u> (B)
Prevalence Index = B/A =				<u>1.11</u>

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

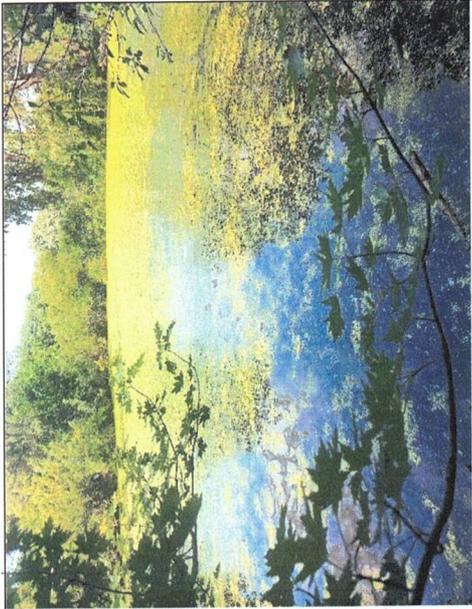
Hydrophytic Vegetation Present? Yes No

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

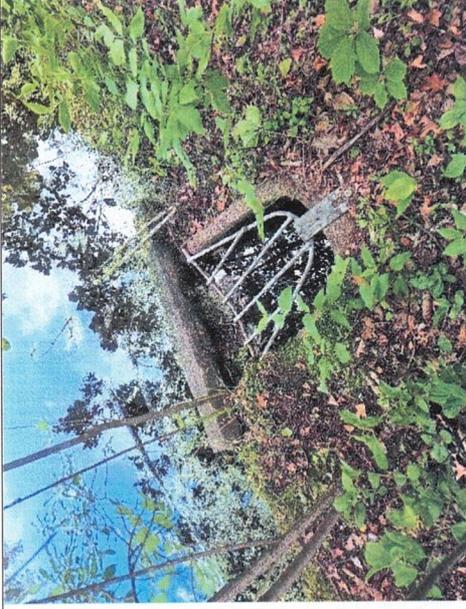
There was 5% open water at this point

APPENDIX C

Site Photos



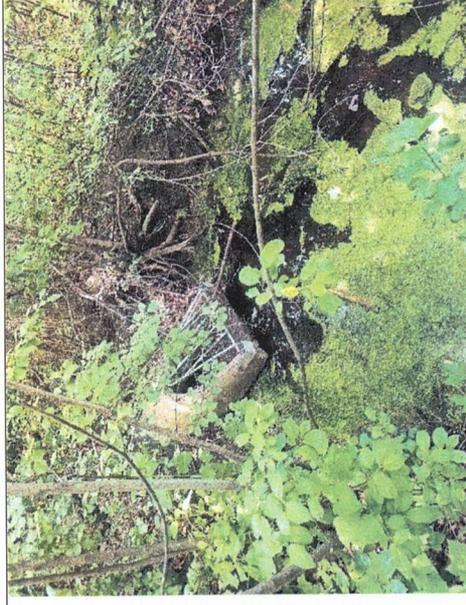
WETLAND 1



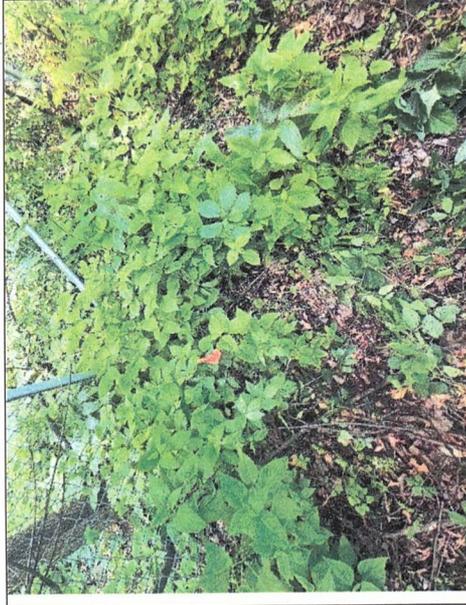
CULVERT



1-1WET



CULVERT



1-1UP



1-2UP

APPENDIX D

Wetland Delineation Approval Forms

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: Joseph Rief

Mailing Address: 5000 Glenwood Avenue, Golden Valley, MN 55422

Phone: 612-709-5301

E-mail Address: jrief@civilsitegroup.com

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

Mailing Address:

Phone:

E-mail Address:

Agent Name: Wayne Jacobson, PSS, WDC Jacobson Environmental, PLLC

Mailing Address: 2109 Joplin Street, Mora, MN 55051

Phone: 612-802-6619

E-mail Address: jacobsonenv@msn.com

PART TWO: Site Location Information

County: Ramsey

City/Township: Maplewood

Parcel ID and/or Address: 1701 Gervais Avenue

Legal Description (Section, Township, Range): Section 10, T29N, 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): 1.43 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 and exemption approval

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:

M.R. 8420.0415 Subpart A: an activity that will not impact the wetland since the wetland is not under WCA 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:

The area defined as Wetland 1 is an incidental wetland as defined in M.R. 8420.0105 Subpart 2. This area is known to be a constructed stormwater pond. An examination of historical aerial photographs in Appendix E shows that the pond was dug between 1966 and 1974. Prior to that there is no evidence of a wetland within the marked area and the area is underlain by Urban land – Chetek soils which are non-hydric. Additionally, in the field you can see that the pond edges have been dug down to hold the pond's area, as evidenced in the enclosed pictures. We have also included in Appendix F a Figure from the City of Maplewood which designates the pond as a detention pond.

Since the pond is exempt from WCA, we would like to have an engineered buffer that is less than 20' wide. We think that this engineered buffer will provide water quality protection from surface water impacts well.

We have attached in Appendix G a MNRAM Analysis of the wetland which shows that it is low in quality. We do not think that this pond should be classified as a preserve habitat.

Attach a map of the existing aquatic resources, associated delineation report, and any documentation of regulatory review or approval. Discuss as necessary:

NA

For actions involving construction activities, attach construction plans and specifications with all relevant details. Discuss and provide documentation of a hydrologic and hydraulic analysis of the site to define existing conditions, predict project outcomes, identify specific project performance standards and avoid adverse offsite impacts. Plans and specifications should be prepared by a licensed engineer following standard engineering practices. Discuss anticipated construction sequence and timing:

NA

For projects involving vegetation restoration, provide a vegetation establishment plan that includes information on site preparation, seed mixes and plant materials, seeding/planting plan (attach seeding/planting zone map), planting/seeding methods, vegetation maintenance, and an anticipated schedule of activities:

NA

For projects involving construction or vegetation restoration, identify and discuss goals and specific outcomes that can be determined for credit allocation. Provide a proposed credit allocation table tied to outcomes:

NA

Provide a five-year monitoring plan to address project outcomes and credit allocation:

NA

Discuss and provide evidence of ownership or rights to conduct wetland replacement/mitigation on each site:

NA

Quantify all proposed wetland credits and compare to wetland impacts to identify a proposed wetland replacement ratio. Discuss how this replacement ratio is consistent with Corps and WCA requirements:

NA

By signature below, the applicant attests to the following (only required if application involves project-specific/permittee responsible replacement):

- All proposed replacement wetlands were not:
 - Previously restored or created under a prior approved replacement plan or permit
 - Drained or filled under an exemption during the previous 10 years
 - Restored with financial assistance from public conservation programs
 - Restored using private funds, other than landowner funds, unless the funds are paid back with interest to the individual or organization that funded the restoration and the individual or organization notifies the local government unit in writing that the restored wetland may be considered for replacement.
- The wetland will be replaced before or concurrent with the actual draining or filling of a wetland.
- An irrevocable bank letter of credit, performance bond, or other acceptable security will be provided to guarantee successful completion of the wetland replacement.
- Within 30 days of either receiving approval of this application or beginning work on the project, I will record the Declaration of Restrictions and Covenants on the deed for the property on which the replacement wetland(s) will be located and submit proof of such recording to the LGU and the Corps.

Applicant or Representative: Wayne Jacobson, PSS, WDC Title: President

Signature:  Date: 06/22/2025

APPENDIX E

Historical Aerial Photos

2025-102 1701 Gurnee Ave



Aerial Photo Data

HIG Project 2091515

Year	Date	Source
2023	2023-07-03	FSA
2019	2019-07-31	FSA
2015	2015-07-27	FSA
2012	2012	MET
2009	2009	MET
2004	2004	MET
2000	2000	MET
1994	1994-10-10	MN DNR
1991	1991-04-10	Ramsey County
1985	1985-04-29	Ramsey County
1980	1980-04-22	Ramsey County
1974	1974-04-18	MN DNR
1966	1966-11-28	USGS
1958	1958-Spring	MH
1953	1953-11-03	FSA
1947	1947-05-08	USGS
1940	1940-06-11	FSA

1966 - No Pond

1974 - Pond Present

1940



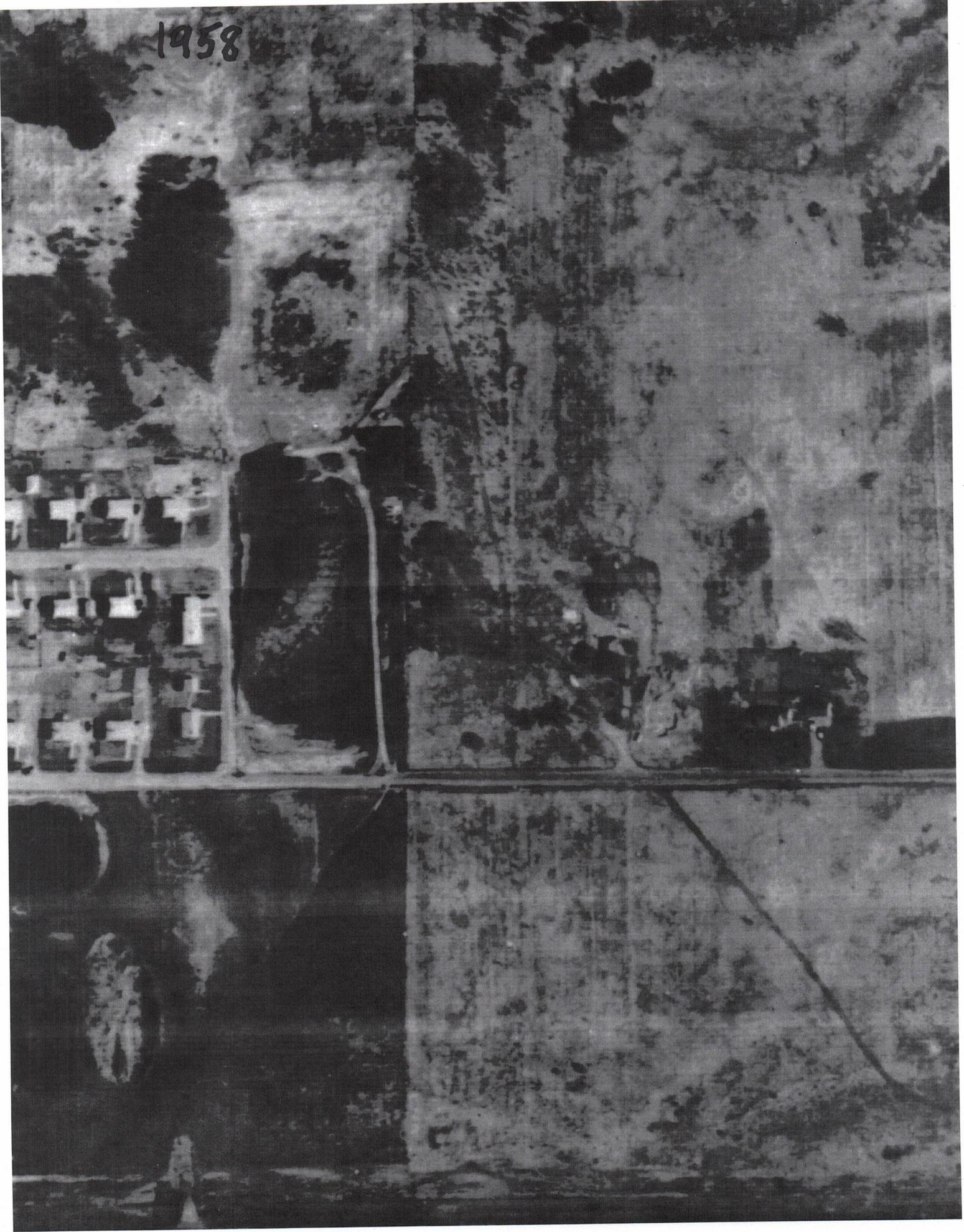
1947



1953



1958



1966



1974



1980





1985

1991



1994



2000



2004



2009



2012



2015



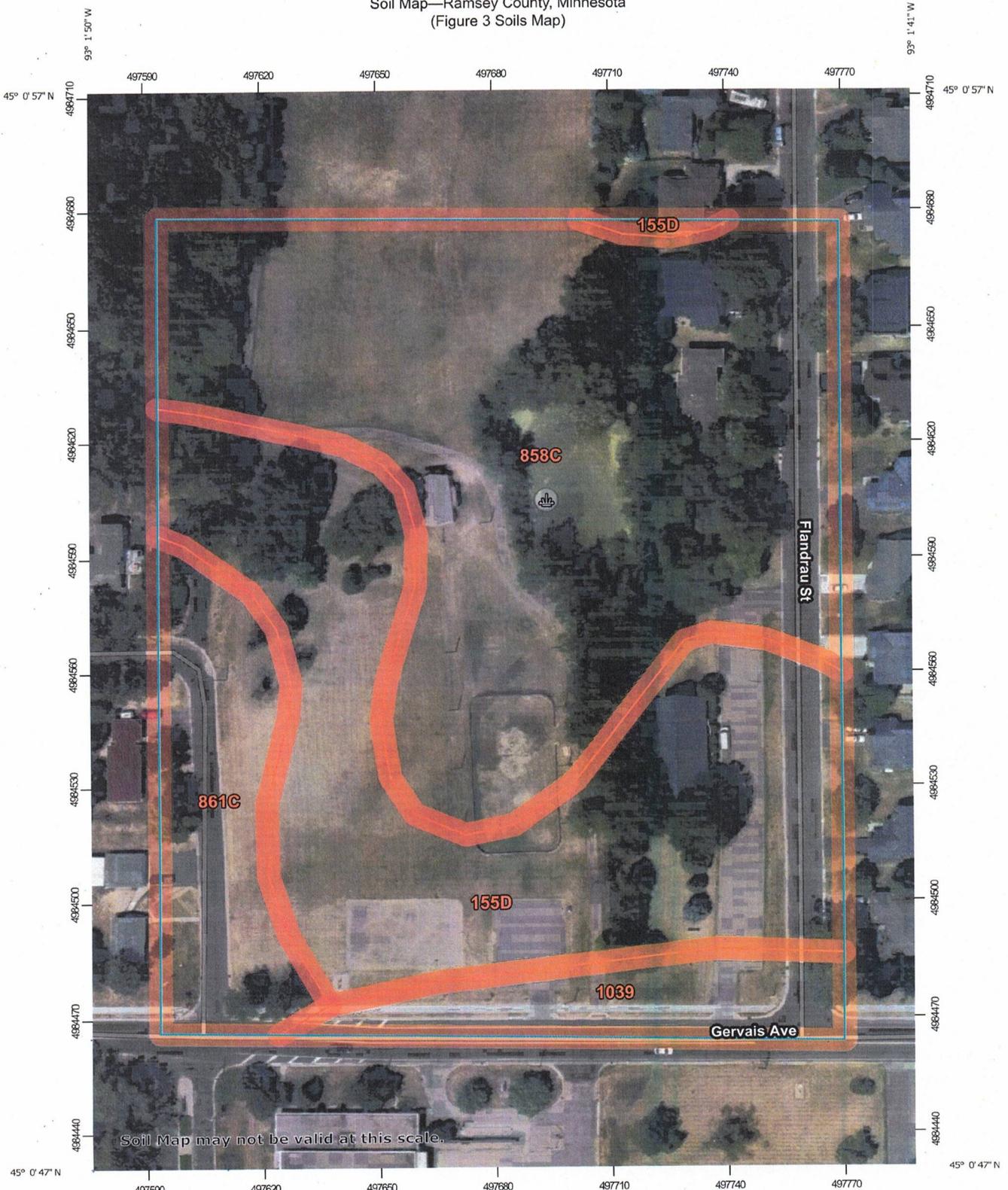
2019



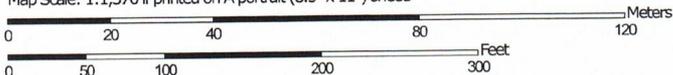
2023



Soil Map—Ramsey County, Minnesota
(Figure 3 Soils Map)



Map Scale: 1:1,370 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84



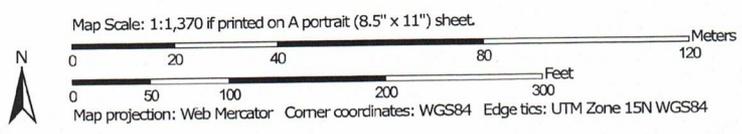
Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
155D	Chetek sandy loam, 12 to 25 percent slopes	3.1	33.8%
858C	Urban land-Chetek complex, 3 to 15 percent slopes	4.6	49.3%
861C	Urban land-Kingsley complex, 3 to 15 percent slopes	1.0	10.3%
1039	Urban land	0.6	6.6%
Totals for Area of Interest		9.3	100.0%

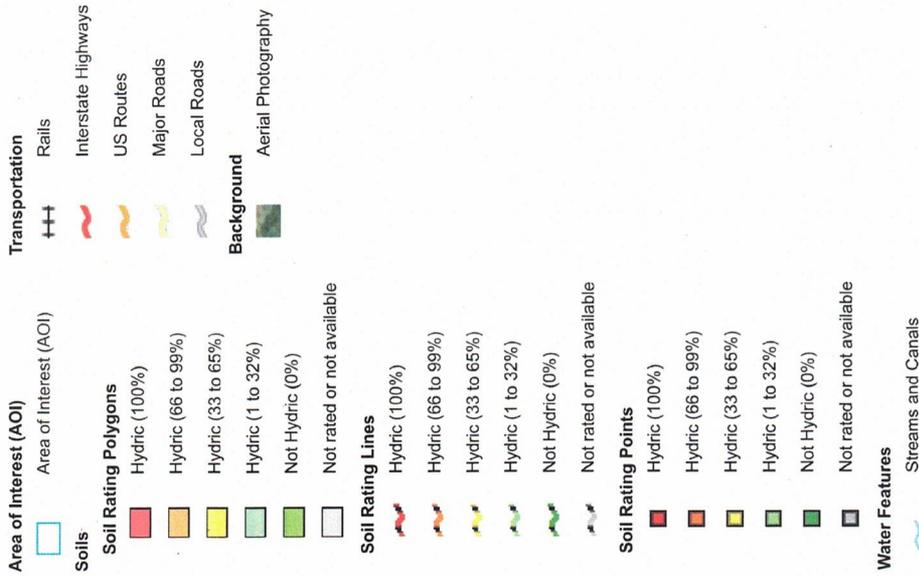
Hydric Rating by Map Unit—Ramsey County, Minnesota
(Figure 7 Hydric Soil Rating Map)



Soil Map may not be valid at this scale.



MAP LEGEND



MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL: <http://websoilsurvey.sc.egov.usda.gov>
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Ramsey County, Minnesota
 Survey Area Data: Version 19, Sep 7, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 29, 2023—Sep 13, 2023

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
155D	Chetek sandy loam, 12 to 25 percent slopes	0	3.1	33.8%
858C	Urban land-Chetek complex, 3 to 15 percent slopes	0	4.6	49.3%
861C	Urban land-Kingsley complex, 3 to 15 percent slopes	1	1.0	10.3%
1039	Urban land	0	0.6	6.6%
Totals for Area of Interest			9.3	100.0%

Rating Options

Aggregation Method: Percent Present

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Established Series
Rev. DEJ-HFG-JJJ
06/2006

CHETEK SERIES

The Chetek series consists of very deep, somewhat excessively drained soils which are shallow to sandy outwash. They formed mostly in loamy alluvium and in the underlying sandy and gravelly outwash. Typically, they are on outwash plains and stream terraces but some are on moraines or kame terraces. Permeability is moderate or moderately rapid in the loamy mantle and rapid or very rapid in the sandy outwash. Slopes range from 0 to 45 percent. Mean annual precipitation is about 30 inches. Mean annual temperature is about 42 degrees F.

TAXONOMIC CLASS: Coarse-loamy, mixed, superactive, frigid Inceptic Hapludalfs

TYPICAL PEDON: Chetek sandy loam - on a plane 3 percent slope in a cultivated field at an elevation of about 1,070 feet. (Colors are for moist soil unless otherwise stated.)

Ap--0 to 10 inches; dark brown (10YR 3/3) sandy loam, pale brown (10YR 6/3) dry; weak medium granular structure; friable; common fine roots; about 10 percent gravel; slightly acid; abrupt smooth boundary. (6 to 10 inches thick)

Bt1--10 to 16 inches; brown (7.5YR 4/4) sandy loam; moderate medium subangular blocky structure; friable; few fine roots; common distinct reddish brown (5YR 4/4) clay films on faces of peds and clay bridging of sand grains; about 10 percent gravel; moderately acid; clear smooth boundary. (4 to 10 inches thick)

2Bt2--16 to 20 inches; reddish brown (5YR 4/4) gravelly loamy sand; weak medium subangular blocky structure; very friable; clay bridging between sand grains; about 20 percent gravel; strongly acid; clear smooth boundary. (0 to 6 inches thick)

2C--20 to 60 inches; yellowish brown (10YR 5/6) stratified gravelly sand and sand; single grain; loose; about 20 percent gravel as an average; strongly acid.

TYPE LOCATION: Barron County, Wisconsin; about 5 miles east and 1 mile south of Chetek; 650 feet west and 100 feet south of the northeast corner, sec. 36, T. 33 N., R. 10 W.

RANGE IN CHARACTERISTICS: Depth to the base of the argillic horizon ranges from 12 to 24 inches. Thickness of the loamy deposits ranges from 12 to 20 inches. The clay content of the particle-size control section ranges from 10 to 17 percent and the content of fine sand or coarser ranges from 50 to 70 percent as a weighted average. Volume of gravel ranges from 0 to 35 percent in the loamy mantle but typically is less than 15 percent. Volume of gravel ranges from 3 to 45 percent in the sandy outwash as a weighted average but ranges from 0 to 60 percent in individual strata. Volume of cobbles ranges from 0 to 10 percent throughout the pedon. Volume of stones ranges from 0 to 3 percent throughout the pedon. Reaction typically ranges from very strongly acid to moderately acid in the solum but ranges to neutral in the upper part, where the soil is limed. Reaction ranges from strongly acid to slightly acid in the substratum.

The Ap horizon has hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 2 or 3. Dry color value is 6 or more. Uncultivated pedons have an A horizon, 1 to 5 inches thick with hue of 7.5YR or 10YR, value of 2 to 4, and chroma of 1 to 3. The Ap or A horizon is loam or sandy loam.

Some pedons have an E horizon with hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 2 or 3. It is loam, sandy loam or the gravelly analogs.

The Bt horizon has hue of 5YR, 7.5YR or 10YR; value of 3 to 5; and chroma of 3 or 4. Value and chroma of 3 do not occur together. It is loam or sandy loam or the gravelly analogs.

The 2Bt horizon has hue of 5YR, 7.5YR, or 10YR and value and chroma of 4 to 6. It typically is gravelly loamy sand but in some pedons it is gravelly loamy coarse sand, gravelly sand, gravelly coarse sand, or the very gravelly or non-gravelly analogs.

The 2C horizon has hue of 5YR, 7.5YR, or 10YR; value of 4 or 5; and chroma of 4 to 6. It is stratified layers of sand or coarse sand or the gravelly or very gravelly analogs.

COMPETING SERIES: These are the [Anoka](#), [Hayriver](#), and [Hodenpyl](#) series. Similar soils in other families are the [Cress](#), [Cromwell](#), [Pence](#), and [Rosholt](#) series. Anoka soils also have less than 5 percent gravel and less than 40 percent fine sand or coarser in the argillic horizon and have E and Bt horizons in the lower part of the argillic. Hayriver soils have a paralithic contact within the series control section at a depth of 20 to 40 inches. Hodenpyl soils have a loamy mantle 25 to 45 inches thick over a sandy E and Bt horizon. Cress and Cromwell soils do not have argillic horizons. Rosholt soils have a glossic horizon and have a loamy mantle 20 to 40 inches thick over sand and gravel outwash. Pence soils have a spodic horizon and do not have an argillic horizon.

GEOGRAPHIC SETTING: Chetek soils typically are on outwash plains (either smooth or pitted), stream terraces, and valley benches but some are in outwash areas on moraines. Slopes range from 0 to 45 percent. Chetek soils formed in loamy deposits 12 to 20 inches thick and the underlying sandy and gravelly outwash. Mean annual precipitation ranges from about 28 to 33 inches. Mean annual air temperature ranges from 39 to 45 degrees F. The frost free period ranges from about 120 to 135 days. Elevation ranges from 800 to 1950 feet.

GEOGRAPHICALLY ASSOCIATED SOILS: These are the [Mahtomedi](#), [Menahga](#), and [Rosholt](#) soils. The excessively drained Mahtomedi and Menahga soils are nearby on landscape positions similar to those of Chetek soils where the soil is sandy throughout. The well drained Rosholt soils are in similar landscape positions where the loamy mantle is 20 to 40 inches thick over the sandy outwash.

DRAINAGE AND PERMEABILITY: Somewhat excessively drained. Surface runoff is slow to very rapid. Permeability is moderate or moderately rapid in the loamy mantle and rapid or very rapid in the sandy outwash.

USE AND VEGETATION: Many areas are cleared and are used for cropland or pastureland. Common crops are corn, small grains, and hay. Many areas remain in woodland particularly where slopes are irregular and exceed 5 percent. The native vegetation is mixed deciduous and coniferous forest.

DISTRIBUTION AND EXTENT: Northwestern Wisconsin and central and northeastern Minnesota. The Chetek series is of large extent.

MLRA SOIL SURVEY REGIONAL OFFICE (MO) RESPONSIBLE: St. Paul, Minnesota

SERIES ESTABLISHED: Langlade County, Wisconsin, 1947.

REMARKS: Diagnostic horizons and features recognized in this pedon: ochric epipedon - 0 to 10 inches (Ap); argillic horizon - 10 to 20 inches (Bt1, 2Bt2).

ADDITIONAL DATA: Soil Interpretation Record - WI0120.

APPENDIX F

City Detention Pond Designation

APPENDIX G

MNRAM Analysis

Jacobson Environmental, PLLC

Environmental Consultants

Wayne Jacobson, P.S.S., W.D.C., P.W.S., A.F.S.

2109 Joplin Street, Mora, MN 55051
Email: jacobsonenv@msn.com

(612) 802-6619 Cell
www.jacobsonenvironmental.com

June 22, 2025

Joseph Rief
Civil Site Group
5000 Glenwood Avenue
Golden Valley, MN 55422

RE: 2025-102 1701 Gervais Avenue Delineation MNRAM

Dear Joseph:

The property located in Section 10, T29N, R22W in Ramsey County, Minnesota as shown in the prior submitted wetland drawing has one wetland basin. We have performed a MNRAM 3.4 analysis on Wetland 1 according to BWSR procedures at the request of the City of Maplewood.

This basin was delineated by the methodology outlined in the 1987 U. S. Army Corps of Engineers Wetland Delineation Manual along with the 2012 Northeast/North Central Regional Supplement procedures.

A review of the National Wetland Inventory Map, aerial photographs, and the NRCS Web Soil Survey data provided additional data for the MNRAM beyond the field inspection.

The MNRAM attached rates the Wetland 1 as a low quality wetland based on the data attached. It is classed as a Manage 3 wetland.

Thank you for the opportunity to serve you. Please contact me at 612-802-6619 if I can answer any questions on this MNRAM.

Sincerely,

Wayne E. Jacobson

Wayne E. Jacobson, P.S.S., W.D.C., P.W.S., A.F.S.
Senior Scientist

cc: Shawn Finwall, City of Maplewood
Ben Meyer, BWSR

Wetland Delineation-Mitigation-Permitting-Monitoring-Banking-Functional Analysis
Phase I Environmental Assessments-EAW's-Hydric Soil Delineation-Referrals
Pond & Lake Weed Removal-Tree Surveys-Management Plans

	Date	Wetland name / ID Gervais 1	Wetland name / ID	Wetland name / ID	Wetland name / ID														
	Special Features (from list, p.2--enter letter/s)	-	-	-	-														
#1	Community Number (circle each community which represents at least 10% of the wetland)	3A, 3B, 4A, 4B, 7A, 7B, 8A, 8B, 10A, 13A, 13B, 12B, 14A, 15A, 15B, 16A, 16B	3A, 3B, 4A, 4B, 7A, 7B, 8A, 8B, 10A, 13A, 13B, 12B, 14A, 15A, 15B, 16A, 16B	3A, 3B, 4A, 4B, 7A, 7B, 8A, 8B, 10A, 13A, 13B, 12B, 14A, 15A, 15B, 16A, 16B	3A, 3B, 4A, 4B, 7A, 7B, 8A, 8B, 10A, 13A, 13B, 12B, 14A, 15A, 15B, 16A, 16B														
#2 & #3	~ Describe each community type individually below ~		~ Describe each community type individually below ~																
Plant Community #1	Community Type (wet meadow, marsh)	- Shallow Open Water	-	-	-														
	Community Proportion (% of total)	100%																	
	Dominant Vegetation / Cover Class	Lesser Duckweed -6 Reed Canarygrass - 2																	
	Invasive/exotic Vegetation / Cover Class																		
	Community Quality (E, H, M, L)	L	0	0	0														
Plant Community #2	Community Type (wet meadow, marsh)	-	-	-	-														
	Community Proportion (% of total)																		
	Dominant Vegetation / Cover Class																		
	Invasive/exotic Vegetation / Cover Class																		
	Community Quality (E, H, M, L)	0	0	0	0														
Plant Community #3	Community Type (wet meadow, marsh)	-	-	-	-														
	Community Proportion (% of total)																		
	Dominant Vegetation / Cover Class																		
	Invasive/exotic Vegetation / Cover Class																		
	Community Quality (E, H, M, L)	0	0	0	0														
Plant Community #4*	Community Type (wet meadow, marsh)	-	-	-	-														
	Community Proportion (% of total)																		
	Dominant Vegetation / Cover Class																		
	Invasive/exotic Vegetation / Cover Class																		
	Community Quality (E, H, M, L)	0	0	0	0														
	Circular 39 Types (primary <TAB> others)																		
	Cowardin Types																		
	Photo ID																		
	Highest rated community veg. div./integ:	0.0	0	0	0														
	Average vegetative diversity/integrity:	-	-	-	-														
	Weighted Average veg. diversity/integrity:	###	#VALUE!	0.00	0.00														
#4	Listed, rare, special plant species?	n	Y N	Y N	Y N														
#5	Rare community or habitat?	n	Y N	Y N	Y N														
#6	Pre-European-settlement conditions?	n	Y N	Y N	Y N														
Floodplain Forest [1A, 2A, 3A] * Hardwood Swamp [3B] * Coniferous Bog [2A, 4B] * Coniferous Swamp [4B] * Open Bog [1B, 5A, 5B, 6A, 7A, 9A, 10A] * Calcareous Fen [7B, 11B, 14A] * Shrub Swamp [6B] * Alder Thicket [8A] * Shrub-carr [8B] * Sedge Meadow [10B, 11A, 12A, 13A] * Shallow Marsh [13B] * Deep Marsh [12B] * Wet to Wet-Mesic Prairie [14B, 15A] * Fresh (Wet) Meadow [15B] * Shallow, Open Water [9B, 16A] * Seasonally Flooded Basin [16B]																			
<table border="1"> <thead> <tr> <th>Cover Class</th> <th>Class Range</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0 - 3%</td> </tr> <tr> <td>2</td> <td>3 - 10%</td> </tr> <tr> <td>3</td> <td>10 - 25%</td> </tr> <tr> <td>4</td> <td>25 - 50%</td> </tr> <tr> <td>5</td> <td>50 - 75%</td> </tr> <tr> <td>6</td> <td>75 - 100%</td> </tr> </tbody> </table>						Cover Class	Class Range	1	0 - 3%	2	3 - 10%	3	10 - 25%	4	25 - 50%	5	50 - 75%	6	75 - 100%
Cover Class	Class Range																		
1	0 - 3%																		
2	3 - 10%																		
3	10 - 25%																		
4	25 - 50%																		
5	50 - 75%																		
6	75 - 100%																		
*If there are more than four plant community types, use the next column over to enter the rest and do not rely on the automatic average calculations.																			

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P
1	MnRAM 3.2 Digital Worksheet, Side 2														
2	Gervais 1														
3			Question Description	User entry	Rating										
4															Highest-rated
5	1		Veg. Table 2, Option 4		0.10										0
6			TOTAL VEG Rating	0.1	L										
7	4		Listed, rare, special plant species?	n	next										
8	5		Rare community or habitat?	n	next										
9	6		Pre-European-settlement conditions?	n	next										
10	7		hydrogeo & topo		#N/A										
11	8		Water depth (inches)												
12			Water depth (% inundation)												
13	9		Local watershed/immedita drainage (acres)												
14	10		Existing wetland size	0.39											
15	11		SOILS: Up/Wetland (survey classification + site)												
16	12		Outlet characteristics for flood retention	b	0.5										
17	13		Outlet characteristics for hydrologic regime	b	0.5										
18	14		Dominant upland land use (within 500 ft)	b	0.5	0.5									
19	15		Soil condition (wetland)	b	0.5										
20	16		Vegetation (% cover)	80%	H	1									
21	17		Emerg. veg. flood resistance	c	0.1										
22	18		Sediment delivery	b	0.5										
23	19		Upland soils (based on soil group)	a	0.1										
24	20		Stormwater runoff pretreatment & detention	a	1	0.1									
25	21		Subwatershed wetland density	b	0.5										
26	22		Channels/sheet flow	b	0.5										
27	23		Adjacent naturalized buffer average width (feet)	30	L	WQ	0.1	L		0.1					
28	24		Adjacent Area Management: % Full	60%	0.6	2	0.8								
29			adjacent area mgmt: % Manicured	40%	0.2										
30			adjacent area mgmt: % Bare	0%	0										
31	25		Adjacent Area Diversity & Structure: % Native	60%	0.6	3	0.72								
32			adjacent area diversity: % Mixed	20%	0.1										
33			adjacent area diversity: % Sparse/Inv./Exotic	20%	0.02										
34	26		Adjacent Area Slope: % Gentle	100%	1	1	1								
35			adjacent area slope: % Moderate	0%	0										
36			adjacent area slope: % Steep	0%	0										
37															
38															
39	27		Downstream sensitivity/WQ protection	b	0.5										
40	28		Nutrient loading	b	0.5										
41	29		Shoreline wetland?	N	N										
42	30		Rooted shoreline vegetation (%cover)		Enter a percentage										
43	31		Wetland in-water width (in feet, average)		Enter a percentage										
44	32		Emergent vegetation erosion resistance		Enter valid choice										
45	33		Shoreline erosion potential		Enter valid chc										
46	34		Bank protection/upslope veg.		Enter valid choice										
47	35		Rare Wildlife	N	N										
48	36		Scarce/Rare/S1/S2 local community	N	N										
49	37		Vegetation interspersio cover (see diagram 1)	1	L	0.1									
50	38		Community interspersio (see diagram 2)	1	L	0.1						0			
51	39		Wetland detritus	c	0.1										
52	40		Wetland interspersio on landscape	b	0.5	0.1									
53	41		Wildlife barriers	c	0.1										
54	42		Amphibian breeding potential-hydroperiod	A	1										
55	43		Amphibian breeding potential--fish presence	a	1										
56	44		Amphibian & reptile overwintering habitat	a	1										
57	45		Wildlife species (list)												
58	46		Fish habitat quality	N/A	N/A										
59	47		Fish species (list)												
60	48		Unique/rare educ./cultural/rec.opportunity	N	N										
61	49		Wetland visibility	c	0.1										
62	50		Proximity to population	Y	1										
63	51		Public ownership	b	0.5										
64	52		Public access	c	0.1										
65	53		Human influence on wetland	c	0.1										
66	54		Human influence on viewshed	c	0.1										
67	55		Spatial buffer	c	0.1										
68	56		Recreational activity potential	c	0.1										
69	57		Commercial crop--hydrologic impact	c	0.1										
70															
71															

This comes in from Side 1 automatically using the weighted average. To use the highest rated veg. Community rating, please manually overwrite that value (shown to the right) into the field at E5.

Enter data starting here. Yellow boxes are used in calculations.

Scroll down to answer more questions and see formula calculations



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	
72																
73		58	GW - Wetland soils	R	R or D	0.1										
74		59	GW - Subwatershed land use	R	R or D	0.1										
75		60	GW - Wetland size and soil group	R	R or D	0.1										
76	Additional questions	61	GW - Wetland hydroperiod	R	R or D	0.1										
77		62	GW - Inlet/Outlet configuration	R	R or D	0.1										
78		63	GW - Surrounding upland topographic relief	D	R or D	1										
79		64	Restoration potential w/o flooding	N	Y or N	1.5										
80		65	Landowners affected by restoration		E a b c	Enter valid choice										
81		66A	Existing wetland size (acres) [from #10]	0.39	__ acres											
82		66B	Total wetland restoration size (acres)		__ acres	0.1										
83		66C	(Calculated) Potential New Wetland Area [B-A]	-0.39	__ acres	% effectively drained: ####										
84		67	Average width of naturalized upland buffer (poter	0	__ feet	0.1	value: ####									
85		68	Likelihood of restoration success		a b c	Enter valid choice										
86		69	Hydrologic alteration type		Outlet, Tile, Ditch, GW pump, Wtrshd div., Filling											
87		70	Potential wetland type (Circ. 39)		1, 2, 3, 4, 5, 6, 7, 8											
88	71	Wetland sensitivity to stormwater	b	E a b c												
89	72	Additional stormwater treatment needs	c	a b c												

	Function Name	Raw Score	Final Rating	Rating Category
95				
96	Vegetative Diversity/Integrity		0.10	L
97	Hydrology - Characteristic		0.40	Med
98	Flood Attenuation		0.52	Med
99	Water Quality--Downstream		0.60	Med
100	Water Quality--Wetland		0.35	Med
101	Shoreline Protection		N/A	N/A
102	Characteristic Wildlife Habitat Structure	0.22	0.22	Low
103	Maintenance of Characteristic Fish Habitat	#####	N/A	N/A
104	Maintenance of Characteristic Amphibian Habitat		0.32	Low
105	Aesthetics/Recreation/Education/Cultural	0.26	0.26	Low
106	Commercial use		0.10	Low
107	Special Features listing:		-	
108	Groundwater Interaction		recharge	
109	Groundwater Functional Index		no special indicators	
110	Restoration Potential (draft formula)		N/A	N/A
111	Stormwater Sensitivity (not active)			
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Formula shown to the right.

0.1

	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF
1																
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These are supplemental Lookup Tables and Intermediary formulas:

I	Depressional/Isolated
FT	Depress'l/Flow-through
Trib	Depress'l/Tributary
R	Riverine
Lac	Lacustrine
Peat	Peatland
Flood	Floodplain
S	Slope
O	Other

E49	0.00	"=IF(E49="n/a",1,0)"
E50	0.00	"=IF(E50="n/a",1.5,0)"
E51	0.00	"=IF(E51="n/a",2,0)"
Add	0.00	

CC	Rtg	Ltr
	1	0.1 L
	2	0.1 L
	3	0.5 M
	4	0.5 M
	5	1 H
	6	0.5 M
	7	1 H
	8	0.1 L
N/A	N/A	N/A
-	"Pick an example from the image"	

	1 L	0.1
	2 M	0.5
	3 H	1
	4 H	1
N/A	N/A	N/A
-	"Pick an example from the image"	

	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF
72				Vegetative formula												
73				"=C4", the Weighted Average Option 4 from Veg. Worksheet												
74																
75				Characteristic Hydrology formula												
76				"=(E17+E18+E19+F24)/4" F24 is the reverse rating												
77																
78				Flood Attenuation Formula breakout (not linked to D72) (E16 is reverse rated)												
79				n/a		formula is:										
80				none	0.516667	((E16+(F18+E23)/2+(E19+E22)/2+(E24+E25)/2+(F20+E21+E26)/3)/5)										
81				flood outlet	0.520833	((F18+E23)/2+(E19+E22)/2+(E24+E25)/2+(F20+E21+E26)/3)/4										
82				F-T	0.51	((E16+(F18+E23)/2+(E19+E22)/2+(E24+E25)/2+E26)/5)										
83				both	0.5125	((F18+E23)/2+(E19+E22)/2+(E24+E25)/2+E26)/4										
84																
85																
86																
87																
88																
89																
90																
91																
92																
93				Water Quality--Wetland												
94				"=(D6*2+E18+F24+(G27+G28+G34)/3+E22+E40)/7"												
95				Shoreline Protection												
96				"=IF(E41="y",((E42+E43+E44+E45+E46)/5),"N/A")"												
97																
98																
99				N/A	H38	=	Habitat formula breakout/lookup (E22 is RR) Special Features Bump is below.									
100				none	0	0.224	(D6*2+E51+F49+F50+E52+E53+(I27+G28+G31)/3+E17+F24)/10									
101				49	1	0.237778	(D6*2+E51+F50+E52+E53+(I27+G28+G31)/3+E17+F24)/9									
102				50	1.5	0.237778	(D6*2+E51+F49+E52+E53+(I27+G28+G31)/3+E17+F24)/9									
103				51	2	0.237778	(D6*2+F49+F50+E52+E53+(I27+G28+G31)/3+E17+F24)/9									
104				49&50	2.5	0.255	(D6*2+E51+E52+E53+(I27+G28+G31)/3+E17+F24)/8									
105				49&51	3	0.255	(D6*2+F50+E52+E53+(I27+G28+G31)/3+E17+F24)/8									
106				50&51	3.5	0.255	(D6*2+F49+E52+E53+(I27+G28+G31)/3+E17+F24)/8									
107				49&50&51	4.5	0.277143	(D6*2+E52+E53+(I27+G28+G31)/3+E17+F24)/7									
108				Characteristic Fish Habitat formula												
109				"=IF(D41="Y",((E58*2+G28+E22+F24+E40+E43+E42+F45)/9),((E58*2+G28+E22+F24+E40)/6))"												
110																
111				Characteristic Amphibian Habitat formula (see Lookup breakout below)												
112				E112=VLOOKUP(E54,T116:U117,2,FALSE)												
113																
114																
115				Amphibian Habitat Formula Breakout												
116				0	0.00 Amphibian breeding is controlling factor											
117				1	0.32 "=(E55)*(E56+(I27*2)+E53+E18+F24)/6"											
118																
119				Aesthetics/Rec/Ed/Cultural formula												
120				"IF(E65="1",((E62+E63+E64+2*E65+E66+E67+E68)/8),(E61+E62+E63+E64+E65+E66+E67+E68)/8)"												
121																
122																
123				"=E69" Commercial use reflects just the rating for the question.												
124																
125				Special Features Bump-up reference table												
126				a	Fish Habitat=E											
127				b	Veg=E											
128				c	Aesthetics=E											
129				d	n	AND #5=Y, then Wildlife=E										
130				g	Wildlife/Fish=E											
131				h	Aesthetics=E											
132				i	Veg=E											
133				j	N	AND #35 =Y, Wildlife=E										
134				q	recharge GW=recharge, GW=E											
135				r	recharge Y and GW=recharge, GW=E											
136				u	Aesthetics=E											
137																
138				Recharge/Discharge Tendency												
139				R	0.1											
140				D	1											
141				-	Enter "R" or "D"											

These are the formulas for the final functional ratings shown at the