Assured Wetland Delineation Report

496 Koch Drive

Village of Marshall and Town of Medina, Dane County, Wisconsin

July 13, 2022

Project Number: 20220771

506 Springdale Street | Mount Horeb, WI 53572 | www.heartlandecological.com

496 Koch Drive

Village of Marshall and Town of Medina, Dane County, Wisconsin

July 13, 2022

Prepared for:

Mr. Chris Vandeberg

496 Koch Drive

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Prepared by:

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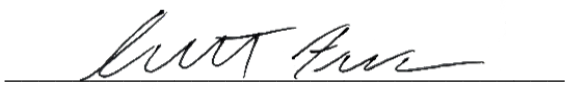
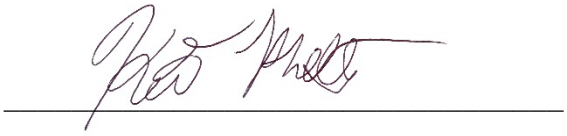


Prepared by: Scott Fuchs, Environmental Scientist



Reviewed by: Keith Phelps, Environmental Technician

Table of Contents

1.0 Introduction

Heartland Ecological Group, Inc. ("Heartland") completed an assured wetland determination and delineation on the 496 Koch Drive site on June 23, 2022 at the request of Chris Vandeberg. Fieldwork was completed by Scott Fuchs, Environmental Scientist, an assured delineator qualified via the Wisconsin Department of Natural Resources' (WDNR's) Wetland Delineation Assurance Program (Appendix E, Qualifications). The 0.85-acre site (the "Study Area") is northwest of the intersection of Koch Drive and State Trunk Highway 19, in the northwest ¼ of Section 14, T8N, R12E, Village of Marshall and Town of Medina, Dane County, WI (Figure 1, Appendix A). The purpose of the wetland delineation was to determine the location and extent of wetlands within the Study Area.

One (1) wetland area totaling approximately 0.14 acres was delineated and mapped within the Study Area (Figure 6, Appendix A). One (1) intermittent waterway, an unnamed tributary to the Maunesha River, and the ordinary high-water mark (OHWM) of the Maunesha River, were also identified and mapped within the Study Area. Wetlands, waterways, and water bodies discussed in this report may be subject to federal regulation under the jurisdiction of the U.S. Army Corps of Engineers (USACE), state regulation under the jurisdiction of the WDNR, and local zoning authorities. Heartland recommends this report be submitted to local authorities, the WDNR, and USACE for final jurisdictional review and concurrence.

2.0 Methods

2.1 Wetlands

Wetlands were determined and delineated using the criteria and methods described in the USACE Wetlands Delineation Manual, T.R. Y-87-1 ("1987 Corps Manual") and the applicable *Regional Supplement to the Corps of Engineers Wetland Delineation Manual*. In addition, the *Guidance for Submittal of Delineation Reports to the St. Paul District USACE and the WDNR* (WDNR, 2015) was followed in completing the wetland delineation and report.

Determinations and delineations utilized available resources including the U.S. Geological Survey's (USGS) *WI 7.5 Minute Series (Topographic) Map* (Figure 2, Appendix A), the Natural Resource Conservation Service's (NRCS) Soil Survey Geographic Database (SSURGO), U.S. Department of Agriculture's (USDA) *Web Soil Survey* (Figure 3, Appendix A), the WDNR's *Wetland Indicator* GIS data layer (Figure 4, Appendix A), the WDNR's *Wisconsin Wetland Inventory* GIS data layer (Figure 5, Appendix A), and aerial imagery available through the USDA Farm Service Agency's (FSA) National Agriculture Imagery Program (NAIP) and Dane County's Land Information Office. The USGS *National Hydrography Dataset* is included on Figures 2 and 5, Appendix A.

Wetland determinations were completed on-site at sample points, often along transects, using the three (3) criteria (vegetation, soil, and hydrology) approach per the 1987 Corps Manual and the Regional Supplement. Procedures in these sources were followed to demonstrate that, under normal circumstances, wetlands were present or not present based on a predominance of hydrophytic vegetation, hydric soils, and wetland hydrology.

Recent weather conditions influence the visibility or presence of certain wetland hydrology indicators. An assessment of recent precipitation patterns helps to determine if climatic/hydrologic conditions were typical when the field investigation was completed. Therefore, a review of antecedent precipitation in the 90 days leading up to the field investigation was completed. Using an Antecedent Precipitation Tool (APT) analysis developed by the USACE (Deters & Gutenson 2021), the amount of precipitation over these 90 days was compared to averages and standard deviation thresholds observed over the past 30 years to generally represent if conditions encountered during the investigation were normal, wet, or dry. Recent precipitation events in the weeks prior to the investigation were

also considered while interpreting wetland hydrology indicators. Additionally, the Palmer Drought Severity Index was checked for long-term drought or moist conditions (NOAA, 2018).

The uppermost wetland boundary and sample points were identified and marked with wetland flagging and located with a Global Navigation Satellite System (GNSS) receiver capable of sub-meter accuracy. In some cases, wetland flagging was not utilized to mark the boundary and the location was only recorded with a GNSS receiver, particularly in active agricultural areas. The GNSS data was then used to map the wetlands using ESRI ArcGIS Pro™ 2.9.3 software.

3.0 Results and Discussion

3.1 Desktop Review

Climatic Conditions

According to the APT analysis using the previous 90 days of precipitation data, conditions encountered at the time of the fieldwork were expected to be normal for the time of year (Appendix B). There was a large rain event of approximately 2.68 inches one week prior to the field investigation. The Palmer Drought Severity Index was checked as part of the APT analysis, and the long-term conditions at the time of the fieldwork were in the moderate drought range. Fieldwork was completed within the dry-season based on long-term regional hydrology data utilized in the WebWIMP Climatic Water Balance and computed as part of the APT analysis. Considering these factors as a whole, conditions were interpereted to be within the wetter portion of the normal range.

General Topography and Land Use

The topography within the Study Area was generally moderately sloping downhill towards an intermittent waterway within the northern third of the Study Area. A topographic high of approximately 850 feet above mean sea level (msl) is present in the southeastern corner of the Study Area, and a topographic low of approximately 837 feet above msl is present along the Maunesha River (Figures 2 and 6, Appendix A). Land uses within the Study Area consist of woodlands, wetlands, the unnamed tributary to the Maunesha River, the Maunesha River, a driveway for the 496 Koch Drive property, and an old shed. Surrounding areas are

woodland immediately adjacent to the Study Area and agricultural row cropping further away. General drainage is to the west towards the Maunesha River.

Soil Mapping

Soils mapped by the NRCS Soil Survey within the Study Area and their hydric status are summarized in Table 1. Wetlands identified during the field investigation are located primarily within areas mapped as hydric or partially hydric soils including wetland indicator soils (Figures 3 and 4, Appendix A).

Table 1. Summary of NRCS Mapped Soils within the Study Area

Soil symbol: Soil Unit Name	Soil Unit Component	Soil Unit Component Percentage	Landform	Hydric status
Co: Colwood silt loam, 0 to 2 percent slopes	Colwood	80-90	Lakebeds (relict)	Yes
	Pella	5-10	Drainageways	Yes
	Palms	5-10	Depressions	Yes
KdD2: Kidder loam, 12 to 20 percent slopes, eroded	Kidder-Eroded	90-100	Moraines	No
	Casco-Eroded	0-5	Moraines	No
	McHenry	0-5	Moraines	No
W: Water	Water greater than 40 acres	100	—	Unranked

Wetland Mapping

The Wisconsin Wetlands Inventory (WWI) mapping (Figure 5, Appendix A) depicts one (1) wetland area within the Study Area. One (1) broad-leaved deciduous forested wetland (T3K) is mapped within the western half of the Study Area adjacent to the Maunesha River.

Waterway Mapping

The National Hydrography Dataset 24k (NHD) mapping (Figure 5, Appendix A) depicts one (1) waterway within the Study Area. The waterway (Maunesha River) is mapped along the western boundary of the Study Area.

Aerial Photography

Available NAIP imagery of the Study Area from the period of 2004-2020 (Appendix F) was reviewed for evidence of wetland signatures and to gain insight into the site's recent history. Due to the woodland canopy cover present within the Study Area, no conclusions about the history of the Study Area or presence of wetlands could be discerned.

3.2 Field Review

One (1) wetland was identified and delineated within the Study Area. Wetland determination data sheets (Appendix C) were completed at four (4) sample points that were representative of the wetland and upland conditions near the boundary and where potential wetlands may be present based on the desktop review and field reconnaissance. Appendix D provides photographs, typically at the sample point locations of the wetlands and adjacent uplands. The wetland boundary and sample point locations are shown on Figure 6 (Appendix A) and the wetland is summarized in Table 2 and detailed in the following sections.

Table 2. Summary of Wetlands Identified within the Study Area

Wetland ID	Wetland Description	*Surface Water Connections	*NR151 Protective Area	Acreage (on-site)
W-1	Forested Wetland	Contiguous to the Maunesha River	Moderately susceptible, 50 feet	0.14
*Classification based on Heartland's professional opinion. Jurisdictional authority of wetland and waterway protective areas under NR 151 lies with the WDNR. Local zoning authorities may have additional restrictions. USACE has authority for determining federal jurisdiction of wetlands and waterways.				**0.14**

Wetland 1 (W-1)

Wetland 1 (W-1) is a 0.14-acre forested wetland present along the margins of an unnamed tributary to the Maunesha River and the Maunesha River proper.

Dominant vegetation observed in W-1 included creeping Jenny (*Lysimachia nummularia*, FACW), buckthorn (*Rhamnus cathartica,* FAC), American elm (*Ulmus americana,* FACW), box elder (*Acer negundo,* FAC), and green ash (*Fraxinus pennsylvanica*, FACW). Therefore the wetland vegetation parameter was met.

The Redox Dark Surface (F6) and Depleted Matrix (F3) hydric soil indicators were noted in W-1. Thus, the hydric soil parameter was met.

The primary wetland hydrology indicators of Saturation (A3) and Sediment Deposits (B2) were noted within W-1, while secondary indicators included Drainage Patterns (B10), Dry-Season Water Table (C2), Geomorphic Position (D2), and a positive FAC-Neutral Test (D5). Therefore the wetland hydrology parameter was met.

Wetland W-1 is contiguous with the Maunesha River, which lies along the western boundary of the Study Area. The boundary of W-1 generally followed a moderately-defined topographic break.

Waterways

Two (2) waterways were observed within the Study Area. One of these waterways was intermittent in nature and flows to the west within the northern third of the Study Area. The other waterway is the Maunesha River, which is present along the western boundary of the Study Area. The intermittent waterway was generally one to two feet wide and contained three inches of water (see Appendix D, Site Photographs). The centerline of the intermittent waterway and the OHWM of the Maunesha River were recorded in the field and are mapped on Figure 6, Appendix A.

3.3 Other Considerations

This report is limited to the identification and delineation of wetlands within the Study Area. Other regulated environmental resources that result in land use restrictions may be present within the Study Area that were not evaluated by Heartland (e.g. navigable waterways, floodplains, cultural resources, and threatened or endangered species).

Wisconsin Act 183 provides exemptions to permitting requirements for certain nonfederal wetlands. Nonfederal wetlands are wetlands that are not subject to federal jurisdiction. Exemptions apply to projects in urban areas with wetland impacts up to 1-acre per parcel. An urban area is defined as an incorporated area; an area within ½ mile of an incorporated area; or an area served by a sewerage system. Exemptions for nonfederal wetlands also apply to projects in rural areas with wetland impacts up to three (3) acres per parcel. Exemptions in rural areas only apply to structures with an agricultural purpose such as buildings, roads, and driveways. The determination of federal and nonfederal wetlands MUST be made by the USACE through an Approved Jurisdictional Determination (AJD). This report may be submitted to the USACE to assist with their determination.

Wis. Adm. Code NR 151 ("NR 151") requires that a "protective area" (buffer) be determined from the Ordinary High-Water Mark (OHWM) of lakes, streams and rivers, or at the delineated boundary of wetlands. Per NR 151.12, the protective area width for "less susceptible" wetlands is determined by using 10% of the average wetland width, no less than 10 feet or more than 30 feet. "Moderately susceptible" wetlands, lakes, and perennial and intermittent streams identified on recent mapping require a protective area width of 50 feet; while "highly susceptible wetlands" are associated with outstanding or exceptional resource waters in areas of special natural resource interest and require protective area width of 75 feet. Table 2 above lists the potential wetland buffers per NR 151 for each wetland identified based on Heartland's professional opinion. Please note that jurisdictional authority on wetland and waterway protective areas under NR 151 lies with the WDNR. Local zoning authorities and regional planning organizations may have additional land use restrictions within or adjacent to wetlands.

4.0 Conclusion

Heartland completed an assured wetland determination and delineation within the 496 Koch Drive site on June 23, 2022 at the request of Chris Vandeberg. Fieldwork was completed by Scott Fuchs, Environmental Scientist, an assured delineator qualified via the WDNR Wetland Delineation Assurance Program (Appendix E). The Study Area lies in Section 14, T8N, R12E, Village of Marshall and Town of Medina, Dane County, WI (Figure 1, Appendix A).

One (1) wetland area was delineated and mapped within the 0.85-acre Study Area (Figure 6, Appendix A). The wetland, which may be classified as a forested wetland present along the margins of an intermittent waterway and the Maunesha River, totals approximately 0.14 acres within the Study Area. The centerline of the unnamed tributary to the Maunesha River and the OHWM of the Maunesha River were mapped within the Study Area.

Wetlands, waterways, and water bodies discussed in this report may be subject to federal regulation under the jurisdiction of the USACE, state regulation under the jurisdiction of the WDNR, and the local zoning authority. Heartland recommends this report be submitted to the USACE for final jurisdictional review and concurrence. Review by local authorities may be necessary for determination of any applicable zoning and setback restrictions.

Heartland recommends that all applicable regulatory agency reviews and permits are obtained prior to beginning work within the Study Area or within or adjacent to wetlands or waterways. Heartland can assist with evaluating the need for additional environmental reviews, surveys, or regulatory agency coordination in consideration of the proposed activity and land use as requested but is outside of the scope of the wetland delineation.

Experienced and qualified professionals completed the wetland determination and delineation using standard practices and professional judgment. Wetland boundaries may be affected by conditions present within the Study Area at the time of the fieldwork. All final decisions on wetlands and their boundaries are made by the USACE, the WDNR, and/or sometimes a local unit of government. Wetland determination and boundary reviews by regulatory agencies may result in modifications to the findings presented to the Client. These modifications may result from varying conditions between the time the wetland delineation was completed and the time of the review. Factors that may influence the findings may include but not limited to precipitation patterns, drainage modifications, changes or modification to vegetation, and the time of year.

5.0 References

Deters, J. & Gutenson, J. (2021). Antecedent Precipitation Tool (APT) [Electronic Source: python source code]. See: GitHub - jDeters-USACE/Antecedent-Precipitation-Tool:

Eggers, S. D., & D. M. Reed. (2014). *Wetland Plants and Plant Communities of Minnesota and Wisconsin* (V. 3.1). U.S. Army Corps of Engineers, Regulatory Branch, St. Paul, MN District. See: http://www.mvp.usace.army.mil/.

Environmental Laboratory (1987). *Corps of Engineers Wetlands Delineation Manual*, Tech. Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.

Lichvar, R.W., D. L. Banks, W. N. Kirchner, and N.C. Melvin. (2016). *The National Wetland Plant List:* 2016 wetland ratings. Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X. See: http://www.phytoneuron.net/.

Midwestern Regional Climate Center. (2014). *cli-MATE* [climate data access tool]. See: http://mrcc.isws.illinois.edu/CLIMATE/.

National Oceanic and Atmospheric Administration (NOAA). (2015) Regional Climate Centers Applied Climate Information System. *WETS table*. See: http://agacis.rcc-acis.org.

NOAA National Center for Environmental Information. (2018) *Historic Palmer Drought Indices*. See: https://www.ncdc.noaa.gov/temp-and-precip/drought/historical-palmers/psi/201512-201601.

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture (USDA). (2018). *Soil Survey Geographic (SSURGO) Database*. See: http://websoilsurvey.nrcs.usda.gov/ or http://datagateway.nrcs.usda.gov/.

Soil Survey Staff, Natural Resources Conservation Service, USDA. (2018). *Web Soil Survey*. See: http://websoilsurvey.nrcs.usda.gov/.

U.S. Army Corps of Engineers (USACE) and Wisconsin Department of Natural Resources (WDNR). (March 2015). *"Guidance for Submittal of Delineation Reports to the St. Paul District Army Corps of Engineers and the Wisconsin Department of Natural Resources"*. See: http://dnr.wi.gov/topic/wetlands/documents/FinalWisconsinDelineationGuidance.pdf.

USACE. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0*). (2011). ed. J.S. Wakely, R.W. Lichvar,

C.V. Nobel, and J. F. Berkowitz. ERDC/EL TR-12-1. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

USACE St. Paul District & Minnesota Board of Water & Soil Resources. (July 2016). *Guidance for Offsite Hydrology/Wetland Determinations*. See: http://www.mvp.usace.army.mil/Missions/Regulatory/Delineation/.

United States Department of Agriculture (USDA), Farm Service Agency (FSA). (2004, 2005, 2006, 2008, 2010, 2013, 2015, 2017, 2018, 2020) [Dane County, Wisconsin aerial photographs]. National Agriculture Imagery Program (NAIP). Salt Lake City, UT: Aerial Photography Field Office.

USDA, Natural Resource Conservation Service (NRCS). (2010). *Field Indicators of Hydric Soils in the United States*, Version 8.2. L.M. Vasilas, G.W. Hurt, and C.V. Noble (eds.). USDA, NRCS in cooperation with the National Technical Committee for Hydric Soils.

United States Department of the Interior (USDI), U.S. Geological Survey (USGS). *Wisconsin 7.5 Minute Series (Topographic) Maps.* 1:24,000. Reston, VA.

USDI, USGS. National Hydrography Dataset (NHD) 24K scale data. See: https://nhd.usgs.gov/.

Wetland Training Institute, Inc (WTI). (2010*). Pocket guide to hydric soil field indicators.* (Robert J. Pierce, Ed.). (7th ed.). Glenwood, NM: Wetland Training Institute, Inc.

Willmott, C.J. and K. Matsuura. (2016). *Web-Based Water-Budget Interactive Modeling Program (WebWIMP).* University of Delaware Department of Geography. Newark, DE. See: climate.geog.udel.edu/~wimp/.

WDNR, Surface Water Data Viewer Interactive Web-mapping Tool. (2018). See: https://dnr.wi.gov/topic/surfacewater/swdv/.

WDNR, Division of Water. (2010). [24k hydrography geospatial data layer]. See: ftp://dnrftp01.wi.gov/geodata/hydro_24k/.

WDNR, WiDNR Open Data. (2019). [Wisconsin Wetland Inventory Geodatabase]. See: https://www.arcgis.com/home/item.html?id=16119ac2100c4286ab8219bf03377ebf.

Woodward, D.E. ed. (1997). *Hydrology Tools for Wetland Determination*, WETS Analysis, Chapter 19. Engineering Field Handbook. USDA, NRCS, Fort Worth, TX.

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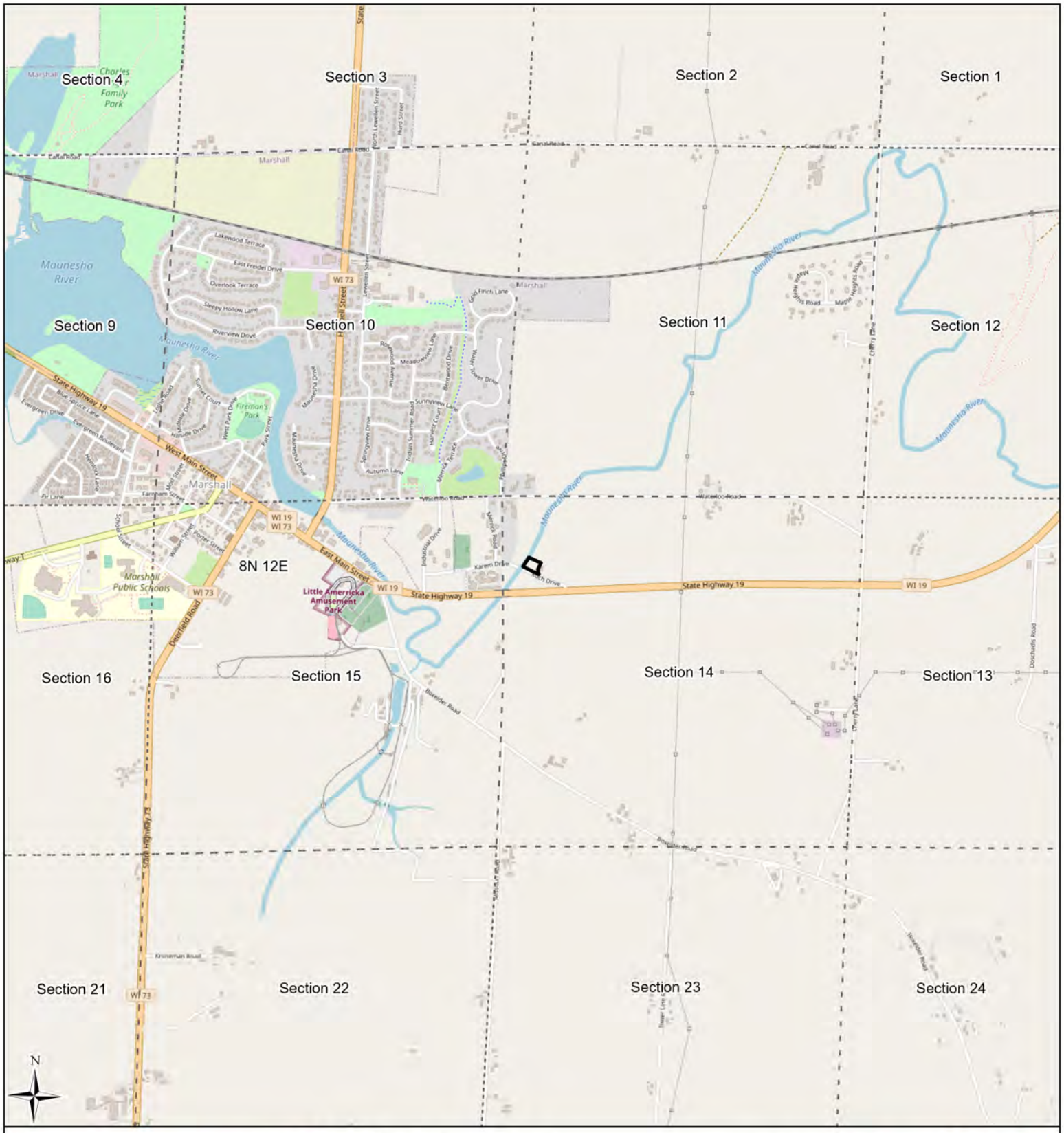
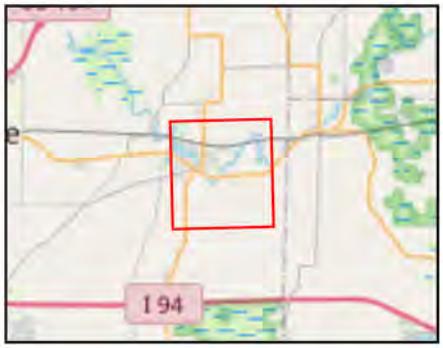
Appendix A | Figures





Study Area (0.85 ac)

Township

Section

0 1,000 2,000 Ft

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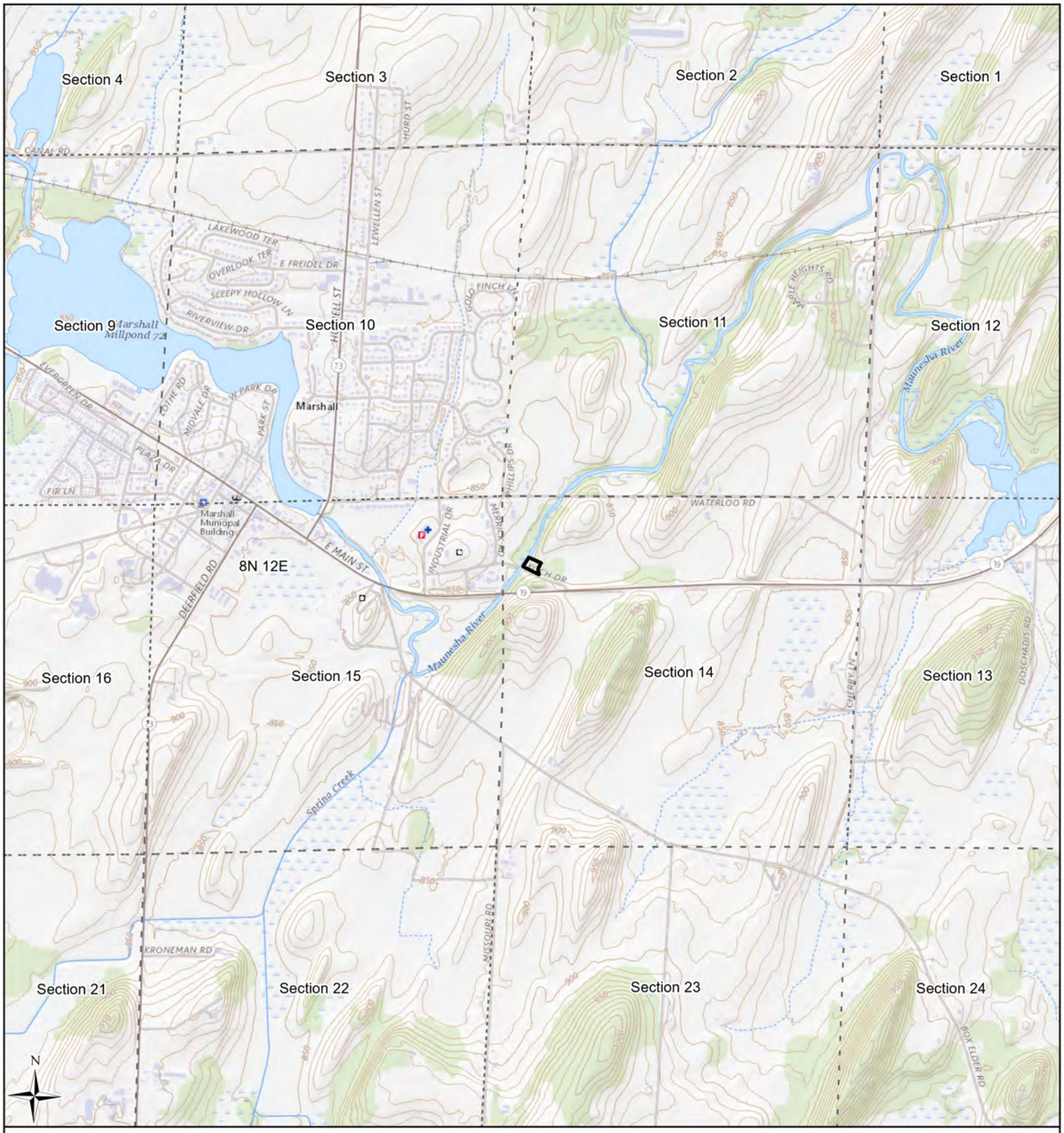
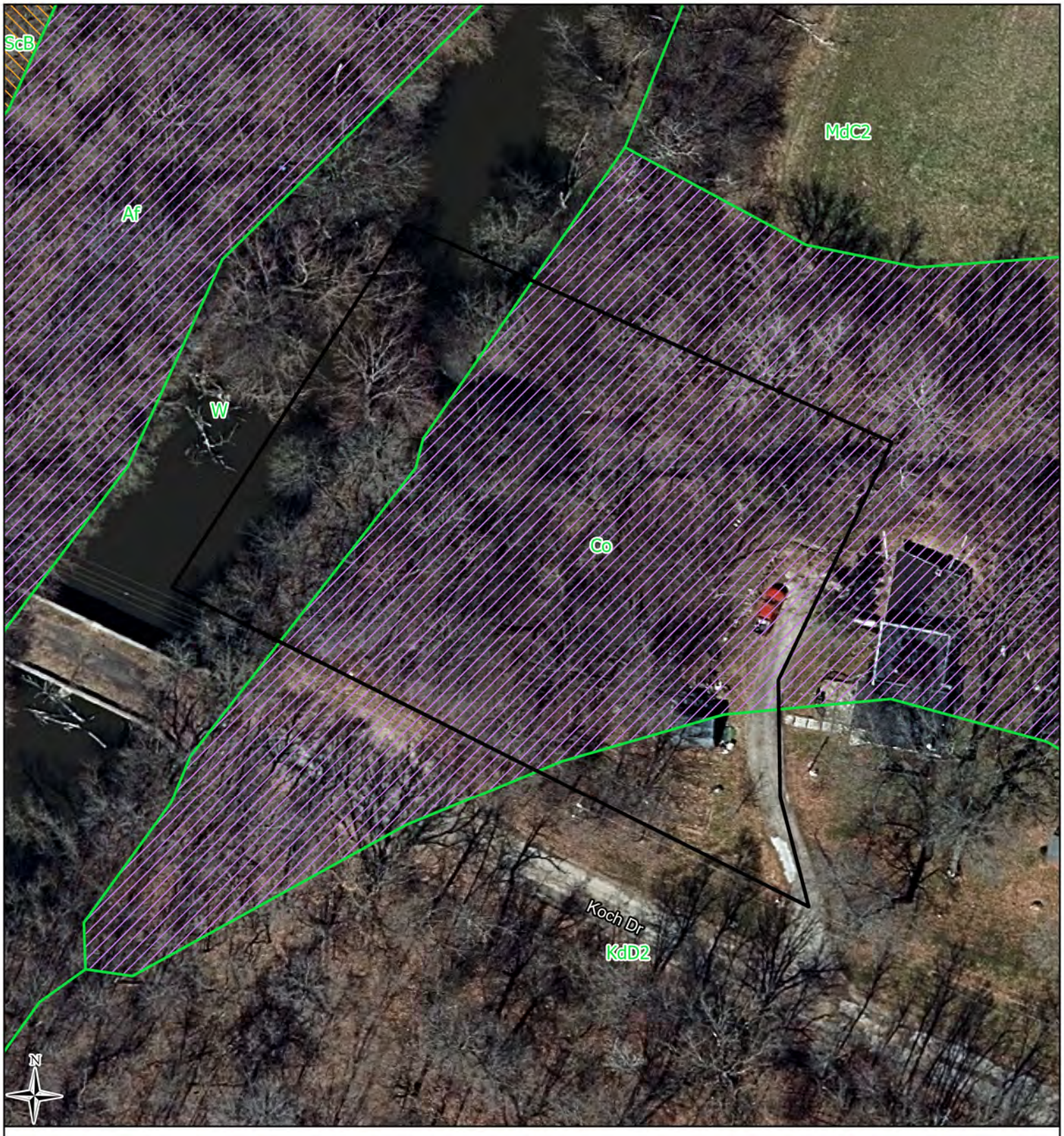
Figure 1. Project Location

496 Koch Drive
Project #20220771
T8N, R12E, S14
V Marshall T Medina, Dane Co

OpenStreetMap
ESRI

LRR: NCNE


Section 4
Section 3
Section 2
Section 1
CANAL RD
LAKEWOOD TER
OVERLOOK TER
E FREIDEL DR
SLEEPY HOLLOW LN
RIVERVIEW DR
HURD ST
LEWELLEN ST
HILDELL ST
GOLD FINCH LN
MAPLE HEIGHTS RD
Section 9
Marshall Millpond 72
Section 10
Section 11
Section 12
Maunesha River
EVERGREEN DR
TOTHE RD
MIDVALE DR
W PARK DR
PARK ST
Marshall
PLAZA DR
FIR LN
Marshall Municipal Building
E MAIN ST
8N 12E
DEERFIELD RD
INDUSTRIAL DR
MERRICK RD
SOUTHFIELD DR
WATERLOO RD
H DR
19
Maunesha River
Section 16
Section 15
Section 14
Section 13
CHERRY LN
DOSCHADIS RD
Spring Creek
KRONEMAN RD
MISSOURI RD
Section 21
Section 22
Section 23
Section 24
BOX ELDER RD
N
I 94
Study Area (0.85 ac)
Township
Section
0
1,000
2,000
Ft
Heartland
ECOLOGICAL GROUP INC
Figure 2. USGS Topography
496 Koch Drive
Project #20220771
T8N, R12E, S14
V Marshall T Medina, Dane Co
USGSTopo
USGS
LRR: NCNE



Study Area (0.85 ac)

NRCS Soil Survey Data

- Hydric (100%)
- Predominantly Hydric (85-99%)
- Partially Hydric (16-84%)
- Predominantly Non-Hydric (1-15%)
- Non-Hydric (0%)

0 50 Ft

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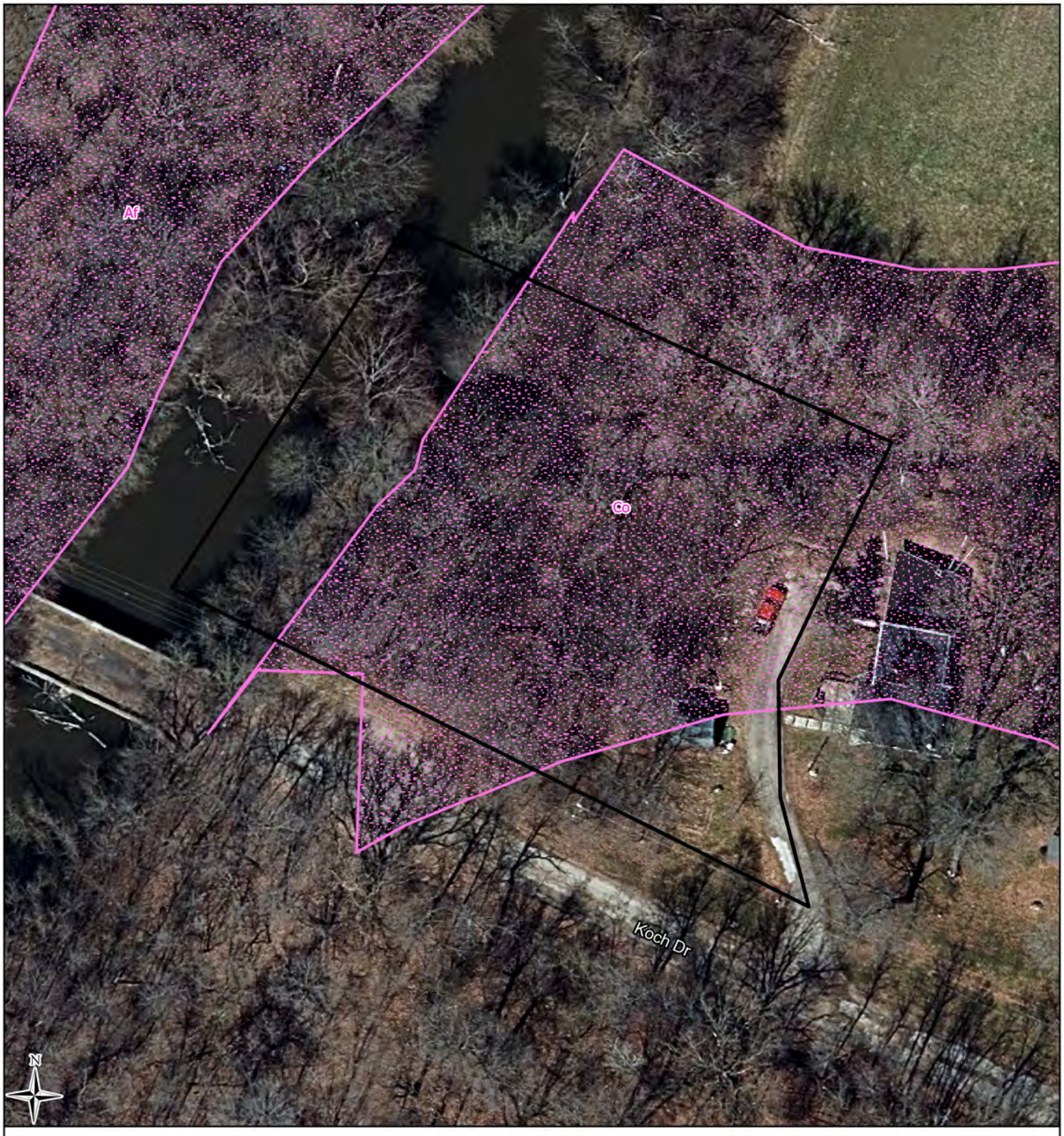
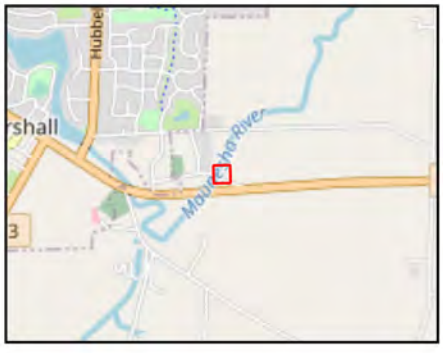
Figure 3. NRCS Hydric Soils

496 Koch Drive
Project #20220771
T8N, R12E, S14
V Marshall T Medina, Dane Co

2020 Dane Co Orthophoto
NRCS LRR: NCNE





Study Area (0.85 ac)

SWDV Wetland Indicators

0 50 Ft

Heartland
ECOLOGICAL GROUP INC

Figure 4. SWDV Wetland Indicators

496 Koch Drive
Project #20220771
T8N, R12E, S14
V Marshall T Medina, Dane Co

2020 Dane Co Orthophoto
WDNR LRR: NCNE

Study Area (0.85 ac)
WWI Wetland Polygons
WWI Wetland Points (No Points in Map Extent)
NHD Waterway
NHD Waterbody

0 50 Ft

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Figure 5. Wisconsin Wetland Inventory

496 Koch Drive
Project #20220771
T8N, R12E, S14
V Marshall T Medina, Dane Co

2020 NAIP
WDNR, USGS
LRR: NCNE

Study Area (0.85 ac)
Dane Co 1' Contours
Maunesha River OHWM
Intermittent Waterway
75 ft Wetland Setback
Field Delineated Wetlands (0.14 ac)

Sample Points

Upland
Wetland

0 50 Ft

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Figure 6. Field Delineated Wetlands

496 Koch Drive
Project #20220771
T8N, R12E, S14
V Marshall T Medina, Dane Co

2020 Dane Co Orthophoto
Dane Co, HEG LRR: NCNE

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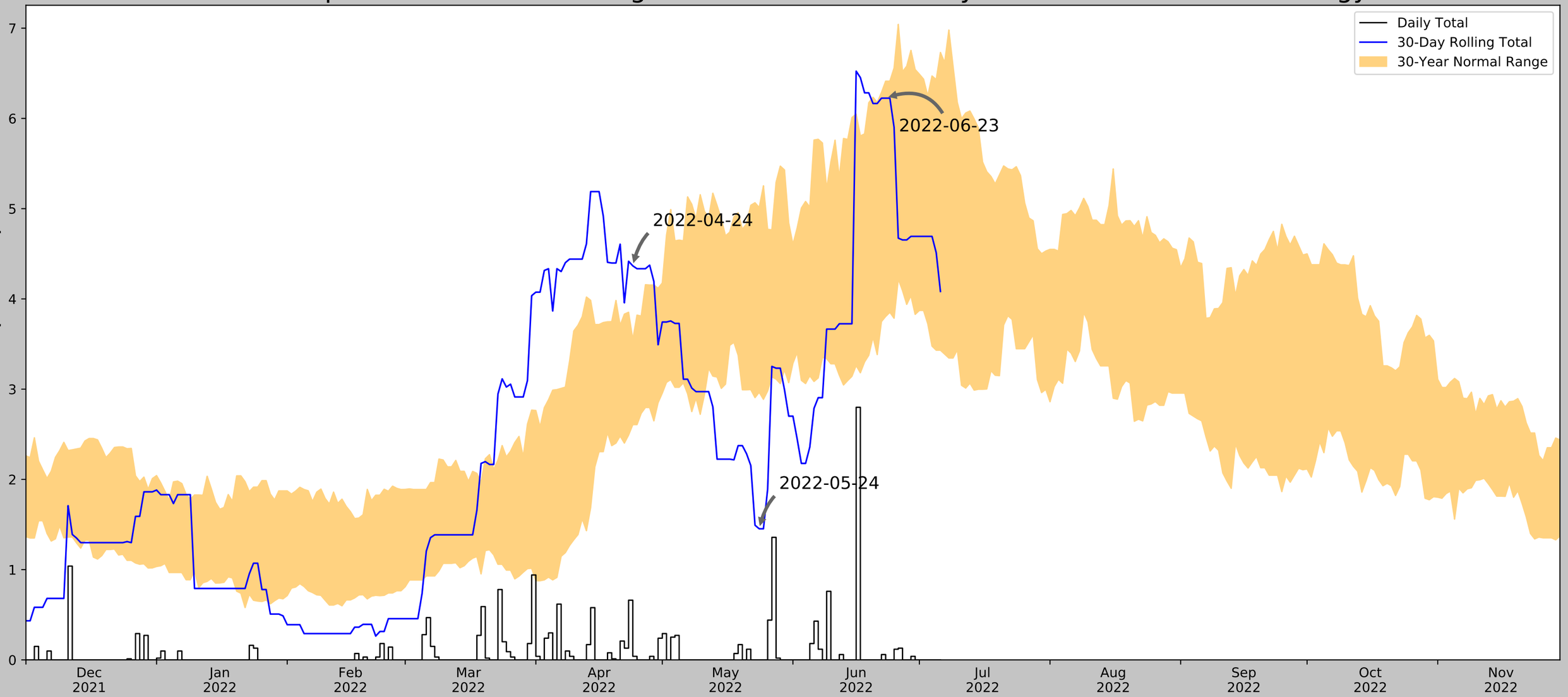
Appendix B | APT Analysis

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	43.16527, -89.04833
Observation Date	2022-06-23
Elevation (ft)	839.37
Drought Index (PDSI)	Moderate drought (2022-05)
WebWIMP H_2O Balance	Dry Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2022-06-23	3.805118	6.412992	6.22441	Normal	2	3	6
2022-05-24	2.965748	5.012599	1.452756	Dry	1	2	2
2022-04-24	2.606693	3.548425	4.366142	Wet	3	1	3
Result							Normal Conditions - 11

Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
LAKE MILLS WWTP	43.0803, -88.8967	811.024	9.641	28.346	4.612	10906	83
LAKE MILLS 3.6 WNW	43.0891, -88.9765	855.971	4.073	44.947	2.016	3	0
JOHNSON CREEK 3.2 NW	43.1156, -88.8128	884.843	4.885	73.819	2.559	1	7
JEFFERSON WWTP	42.9942, -88.8042	783.137	7.564	27.887	3.615	4	0
WATERTOWN WWTP	43.1742, -88.7364	825.131	10.365	14.107	4.81	438	0
FT ATKINSON	42.905, -88.8589	799.869	12.262	11.155	5.655	1	0

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Appendix C | Wetland Determination Data Sheets

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: 496 Koch Drive City/County: Dane County Sampling Date: 2022-06-23

Applicant/Owner: Chris Vandeberg State: Wisconsin Sampling Point: P01

Investigator(s): Scott Fuchs Section, Township, Range: sec 14 T008N R012E

Landform (hillslope, terrace, etc.): Depression/Stream Terrace Local relief (concave, convex, none): Concave Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.165332 Long: -89.048189 Datum: WGS84

Soil Map Unit Name: Colwood silt loam, 0 to 2 percent slopes NWI classification: N/A (WWI)

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

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ 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 ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	If yes, optional Wetland Site ID: _____

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

An analysis of antecedent precipitation was performed using the USACE APT tool, which indicates that conditions are normal for the time of year. However, there was a large rain event (2.68 inches) on 6/16, approximately one week prior to the field investigation. Conditions were interpreted to be within the wetter portion of the normal range. Sample point recorded in a depression located above the terrace of an intermittent waterway.

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)
- ___ Marl Deposits (B15)
- ___ 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)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ 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 ✓	Depth (inches): _____
Water Table Present?	Yes ✓	No _____	Depth (inches): 26
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 24

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No primary wetland hydrology indicators observed.

VEGETATION – Use scientific names of plants. Sampling Point: P01

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus americana*	20	Y	FACW
2. *Morus alba*	10	Y	FACU
3.			
4.			
5.			
6.			
7.			
	30 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Acer saccharum*	80	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	80 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Alliaria petiolata*	15	Y	FACU
2. *Viola sororia*	15	Y	FAC
3. *Maianthemum racemosum*	10	Y	FACU
4. *Circaea canadensis*	5	N	FACU
5. *Geum canadense*	5	N	FAC
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	50 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1. *Parthenocissus quinquefolia*	5	Y	FACU
2.			
3.			
4.			
	5 = 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: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 28.57 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0.00	x 1 =	0.00
FACW species	20.00	x 2 =	40.00
FAC species	20.00	x 3 =	60.00
FACU species	125.00	x 4 =	500.00
UPL species	0.00	x 5 =	0.00
Column Totals:	165.00 (A)		600.00 (B)

Prevalence Index = B/A = 3.64

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

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.)

Mesic woodland vegetation present.

SOIL

Sampling Point: P01

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 2/1	100					SIL	
10-20	10YR 3/2	90	10YR 4/4	10	C	M	SIL	
20-26	2.5Y 5/2	80	10YR 3/6	20	C	M	SC	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** ✓

Remarks:

No hydric soil indicators observed.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: 496 Koch Drive City/County: Dane County Sampling Date: 2022-06-23

Applicant/Owner: Chris Vandeberg State: Wisconsin Sampling Point: P02

Investigator(s): Scott Fuchs Section, Township, Range: sec 14 T008N R012E

Landform (hillslope, terrace, etc.): Stream Terrace Local relief (concave, convex, none): Concave Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.165418 Long: -89.048203 Datum: WGS84

Soil Map Unit Name: Colwood silt loam, 0 to 2 percent slopes NWI classification: N/A (WWI)

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

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ 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 _____	**Is the Sampled Area within a Wetland?** **Yes ✓ No _____**
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	If yes, optional Wetland Site ID: _____

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

An analysis of antecedent precipitation was performed using the USACE APT tool, which indicates that conditions are normal for the time of year. However, there was a large rain event (2.68 inches) on 6/16, approximately one week prior to the field investigation. Conditions were interpreted to be within the wetter portion of the normal range. Sample point recorded adjacent to an intermittent waterway.

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)
- ___ Marl Deposits (B15)
- ___ 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)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ 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 ✓	Depth (inches): _____
Water Table Present?	Yes ✓	No _____	Depth (inches): 14
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 12

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Sample point recorded on the creek terrace, ~4 feet from an intermittent waterway. Surface water present within the waterway.

VEGETATION – Use scientific names of plants. Sampling Point: P02

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus americana*	50	Y	FACW
2. *Prunus serotina*	15	N	FACU
3. *Acer saccharinum*	15	N	FACW
4.			
5.			
6.			
7.			
	80	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rhamnus cathartica*	25	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	25	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Lysimachia nummularia*	70	Y	FACW
2. *Geum canadense*	7	N	FAC
3. *Impatiens capensis*	5	N	FACW
4. *Circaea canadensis*	5	N	FACU
5. *Symphyotrichum lanceolatum*	3	N	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	90	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0.00	x 1 =	0.00
FACW species	143.00	x 2 =	286.00
FAC species	32.00	x 3 =	96.00
FACU species	20.00	x 4 =	80.00
UPL species	0.00	x 5 =	0.00
Column Totals:	195.00 (A)		462.00 (B)

Prevalence Index = B/A = 2.37

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ✓ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

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.)

Hydrophytic vegetation present on the intermittent waterway terrace.

SOIL

Sampling Point: P02

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR 2/1	85	10YR 3/6	5	C	PL	SIL	
0-9			10YR 4/2	10	D	M		
9-20	2.5Y 5/2	95	10YR 4/6	5	C	M	SC	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ✓ **No** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: 496 Koch Drive City/County: Dane County Sampling Date: 2022-06-23

Applicant/Owner: Chris Vandeberg State: Wisconsin Sampling Point: P03

Investigator(s): Scott Fuchs Section, Township, Range: sec 14 T008N R012E

Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): None Slope (%): 3-7

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.165265 Long: -89.048517 Datum: WGS84

Soil Map Unit Name: Colwood silt loam, 0 to 2 percent slopes NWI classification: T3K (WWI)

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

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ 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 ✓	**Is the Sampled Area within a Wetland?** **Yes** _____ **No** ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	If yes, optional Wetland Site ID: _____

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

An analysis of antecedent precipitation was performed using the USACE APT tool, which indicates that conditions are normal for the time of year. However, there was a large rain event (2.68 inches) on 6/16, approximately one week prior to the field investigation. Conditions were interpreted to be within the wetter portion of the normal range. Sample point recorded on side slope approx. 50 feet from intermittent waterway channel.

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)
- ___ Marl Deposits (B15)
- ___ 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)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ 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 ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✓	Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No wetland hydrology indicators observed.

VEGETATION – Use scientific names of plants. Sampling Point: P03

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Prunus serotina*	60	Y	FACU
2. *Acer negundo*	15	N	FAC
3. *Ulmus americana*	15	N	FACW
4.			
5.			
6.			
7.			
	90	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Acer saccharum*	5	Y	FACU
2. *Rhamnus cathartica*	5	Y	FAC
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Maianthemum racemosum*	60	Y	FACU
2. *Lysimachia nummularia*	50	Y	FACW
3. *Parthenocissus quinquefolia*	30	Y	FACU
4. *Circaea canadensis*	5	N	FACU
5. *Ribes cynosbati*	5	N	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	150	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		= 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: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.33 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0.00	x 1 =	0.00
FACW species	65.00	x 2 =	130.00
FAC species	20.00	x 3 =	60.00
FACU species	165.00	x 4 =	660.00
UPL species	0.00	x 5 =	0.00
Column Totals:	250.00 (A)		850.00 (B)

Prevalence Index = B/A = 3.4

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

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.)

Upland hardwoods / mesic woodland vegetation present.

SOIL

Sampling Point: P03

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/3	100					SL	
12-24	10YR 4/3	100					SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** ✓

Remarks:

No hydric soil indicators observed.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: 496 Koch Drive City/County: Dane County Sampling Date: 2022-06-23

Applicant/Owner: Chris Vandeberg State: Wisconsin Sampling Point: P04

Investigator(s): Scott Fuchs Section, Township, Range: sec 14 T008N R012E

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.165407 Long: -89.048518 Datum: WGS84

Soil Map Unit Name: Colwood silt loam, 0 to 2 percent slopes NWI classification: T3K (WWI)

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

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ 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 _____	**Is the Sampled Area within a Wetland?** **Yes ✓ No _____**
Hydric Soil Present?	Yes ✓	No _____	If yes, optional Wetland Site ID: _____
Wetland Hydrology Present?	Yes ✓	No _____	

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

An analysis of antecedent precipitation was performed using the USACE APT tool, which indicates that conditions are normal for the time of year. However, there was a large rain event (2.68 inches) on 6/16, approximately one week prior to the field investigation. Conditions were interpreted to be within the wetter portion of the normal range. Small wetland depression adjacent to Maunesha River.

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)
- ___ Marl Deposits (B15)
- ___ 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)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ 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 ✓	Depth (inches): _____	
Water Table Present?	Yes ✓	No _____	Depth (inches): 20	
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 18	**Wetland Hydrology Present? Yes ✓ No _____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: P04

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus americana*	60	Y	FACW
2. *Acer negundo*	20	Y	FAC
3. *Prunus serotina*	5	N	FACU
4.			
5.			
6.			
7.			
	85	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15)			
1. *Ulmus americana*	10	Y	FACW
2. *Rhamnus cathartica*	5	Y	FAC
3. *Fraxinus pennsylvanica*	5	Y	FACW
4.			
5.			
6.			
7.			
	20	= Total Cover	

Herb Stratum (Plot size: 5)			
1. *Lysimachia nummularia*	90	Y	FACW
2. *Parthenocissus quinquefolia*	5	N	FACU
3. *Geum canadense*	5	N	FAC
4. *Rhamnus cathartica*	5	N	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	105	= Total Cover	

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0.00	x 1 =	0.00
FACW species	165.00	x 2 =	330.00
FAC species	35.00	x 3 =	105.00
FACU species	10.00	x 4 =	40.00
UPL species	0.00	x 5 =	0.00
Column Totals:	210.00 (A)		475.00 (B)

Prevalence Index = B/A = 2.26

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

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.)

Hydrophytic vegetation present near the margins of the Maunesha River.

SOIL Sampling Point: P04

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/1	100					SIL	
8-16	10YR 2/1	95	10YR 4/6	5	C	M/PL	SIL	
16-24	10YR 2/1	80	10YR 3/6	20	C	M	SIL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ✓ **No** _____

Remarks:

Chris Vandeberg
496 Koch Drive
Project #: 20220771
July 13, 2022

Appendix D | Site Photographs

Photo #1 Sample point P1

Photo #2 Sample point P1

Photo #3 Sample point P1

Photo #4 Sample point P1

Photo #5 Sample point P2

Photo #6 Sample point P2

Photo #7 Sample point P2

Photo #8 Sample point P2

Photo #9 Sample point P3

Photo #10 Sample point P3

Photo #11 Sample point P3

Photo #12 Sample point P3

Photo #13 Sample point P4

Photo #14 Sample point P4

Photo #15 Sample point P4

Photo #16 Sample point P4

Photo #17 Intermittent Waterway

Photo #18 Intermittent Waterway

Photo #19 Intermittent Waterway

Photo #20 Intermittent Waterway Pool

Photo #21 Intermittent Waterway Outlet to Maunesha River

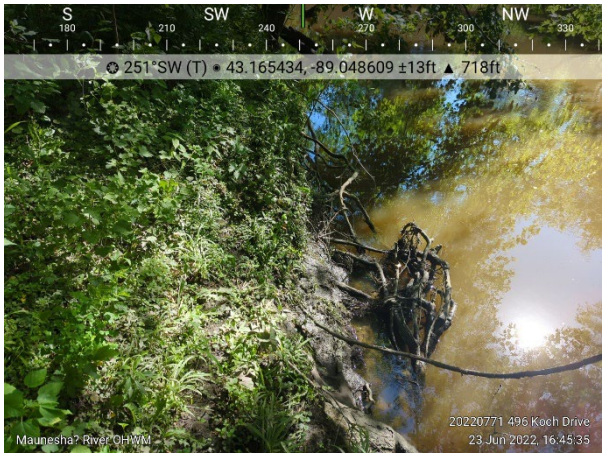

Photo #22 Maunesha River OHWM

Chris Vandeberg
496 Koch Drive
Project #: 20220771
July 13, 2022

Appendix E | Delineator Qualifications

Scott Fuchs

Environmental Scientist
506 Springdale Street
Mount Horeb, WI 53572
scott@heartlandecological.com
(608) 490-2450

Scott is a WDNR-assured wetland delineator and environmental scientist with expertise in botany, wetland assessment and delineation, natural plant communities of Wisconsin, geographic information systems (GIS), and state/federal wetland regulations and permitting. Scott has been involved in the field of ecological restoration and conservation for over seven years working as a field restoration ecologist and crew leader, ecology research assistant, wetland delineator, environmental consultant, and GIS administrator. Since joining Heartland, Scott has provided support for completion of hundreds of wetland delineations and determinations, served as lead delineator on numerous delineations that were subsequently confirmed by WDNR wetland regulatory staff, prepared wetland and waterway permit applications submitted to the DNR and USACE, and performed vegetation and hydrology monitoring and reporting for wetland mitigation projects. Scott also provides technical support by assisting with natural area restoration planning, monitoring and management, developing GIS-based project mapping, collecting and interpreting historic aerial imagery, and performing analysis of GIS data sets. Scott implemented Heartland's current GIS workflow, which utilizes ArcGIS Pro, ArcGIS Online, sub-foot EOS Arrow GNSS receivers, and tablet devices to accurately record and view environmental data in the field. Scott achieved his professionally assured wetland delineator certification from the DNR in February 2022.

His experience includes: wetland determination and delineation, long-term vegetation and wildlife monitoring and reporting, collecting and processing monitoring well hydrology data, wetland mitigation bank viability analysis and planning, preparing state artificial and non-federal wetland exemption requests, preparing wetland and waterway permit applications, writing wetland delineation reports, rare species surveys, invasive species control, conducting prescribed burns, and invasive herbaceous, shrub, and tree removal.

Education

BS, Biology (Emphasis in Ecology), University of Wisconsin – Whitewater, Whitewater, WI, 2015

Basic Wetland Delineation Training, Continuing Education and Extension, UW-La Crosse, La Crosse WI, 2019

Advanced Wetland Delineation Training, Continuing Education and Extension, UW-La Crosse, La Crosse WI, 2019

Critical Methods in Wetland Delineation, Continuing Education and Extension, UW-La Crosse, Madison WI, 2019, 2020, 2021

Certifications and Training

Professionally Assured Wetland Delineator, Wisconsin Department of Natural Resources (2022)

Wildland Fire Fighter Type 2, National Wildfire Coordinating Group, Incident Management Specialists, LLC, Madison WI, 2017

Level One Chainsaw Safety Training, Forest Industry Safety & Training Alliance, Eau Claire WI, 2016

Certified Pesticide Applicator (Category 6), Wisconsin Department of Trade and Consumer Protection, Madison WI, 2016

Project Experience

Wetland Determinations and Delineations

Morey Solar Field Wetland Delineation and Restoration, Dane Co., WI
Assisted in the delineation of wetlands present on a 104-acre airport property, which was a proposed site for a solar field on the west side of Madison, WI. Following construction of the solar field, assisted in creating a native species planting and management plan.

Mallard Ridge and Glacier Ridge Landfill Pipelines: Walworth Co. and Dodge Co., WI
Performed wetland delineation along separate 1.5-mile and 3.6-mile corridors passing through savanna, upland prairie, wet prairie, hardwood swamps, agricultural fields, stream crossings, and highway right-of-way. Wetland delineation was necessary for construction of methane pipelines linking to nearby regional pipelines.

Nuemann Development: Port Washington Road Subdivision, Ozaukee Co., WI
Performed a wetland determination and delineation within a 50-acre agricultural field. Compiled historic information to support an approved WI Act 183 artificial wetland exemption for wetlands located on site.

1520 LLC: Port Washington Road Commercial Development, Ozaukee Co., WI
Performed a wetland determination and delineation within a highly disturbed 3-acre parcel containing clayey soils that was subsequently confirmed by WI DNR wetland regulatory staff. Compiled historic information to support an approved WI Act 183 artificial wetland exemption for wetlands located on site.

Private Landowner: Bear Creek Wetland Delineation and Driveway Crossing Permitting, Monroe Co., WI
Performed a wetland determination and delineation along a section of Bear Creek with several old oxbows to support culvert installation and minor wetland disturbance permitting for the purposes of installation of a rural driveway. This wetland delineation was subsequently confirmed by WI DNR wetland regulatory staff and was utilized in obtaining necessary state and federal permits. Prepared and obtained culvert installation and general wetland disturbance permits from the WI DNR and USACE.

Wetland and Waterway Permitting

KL Engineering/Dane County Parks: Phase 2 Lower Yahara River Trail, Dane County, WI
Assisted senior Heartland staff in performing a wetland delineation along an unimproved recreational trail on the northern shore of Lake Kegonsa. Supported KL Engineering in their design of a boardwalk built on the footprint of the unimproved trail by recommending efforts to reduce impacts to wetlands. Drafted an individual wetland disturbance permit application for temporary and minor permanent impacts involved with the project. Facilitated the purchase of mitigation credits required by the permit approval to offset wetland impacts.

D'Onofrio, Kottke & Associates: Creek Crossing Development, Dane County, WI
Assisted residential developer and engineering firm by writing an application for, and obtaining, an individual permit needed for road crossings, culvert placement, and pedestrian bridge associated with a 32-acre residential development.

Epic: Epic Campus Expansion, Dane County, WI
Assisted in writing application materials for, and obtaining and individual permit for impacts to wetlands associated with an expansion of the Epic campus. Developed practicable alternatives analysis to minimize wetland impacts to the greatest extent practicable.

Hydrology Monitoring Well Data Analysis

Wisconsin DNR: Soik ILF Mitigation Site, Portage County, WI
Performed collection and processing of data from 14 monitoring wells present on a 60-acre ILF mitigation site. Performed analysis of hydrology data to determine if the site's wetland hydrology standard was met.

Summarized results and created graphical representations of hydrology monitoring for end-of-year reporting to the WDNR and USACE.

Bear Development: Barnes Prairie Mitigation Bank Site, Kenosha Co., WI
Performed collection and processing of data from 46 hydrology monitoring wells located throughout a 230-acre agricultural field. Analyzed data to determine if wetland hydrology was present in the location of the sampling wells. Produced graphical representations of precipitation and ground water level data.

Wisconsin DNR: Evansville ILF Mitigation Bank Site, Rock Co., WI
Performed collection and processing of data from 9 hydrology monitoring wells within agricultural fields, disturbed wet meadow, and shrub-carr communities across a 40-acre site. Analyzed data to determine if wetland hydrology was present in the location of the sampling wells and to compile baseline information prior to wetland restoration work. Produced graphical representations of precipitation and ground water level data.

Vegetation, Wildlife, and Rare Species Monitoring

Wisconsin DNR: Soik ILF Mitigation Site, Portage County, WI
Established quantitative vegetation monitoring plots and performed vegetation monitoring of a 60-acre wetland mitigation bank in Wisconsin's central sands region. Vegetation monitoring was completed to assess progression of the site towards meeting regulatory performance standards. Vegetation monitoring including sample plot surveys and timed meander surveys. The results were summarized to assess the various performance metrics across a variety of wetland vegetative community and compensation types.

Kreyer Creek Compensatory Wetland Mitigation Bank Site, Monroe County, WI
Conducted quantitative vegetation monitoring of this 200+ acre compensatory wetland mitigation site. Vegetation monitoring was completed to assess progression of the site towards meeting regulatory performance standards. Vegetation monitoring including sample plot surveys and timed meander surveys. The results were summarized to assess the various performance metrics including florist quality assessments and diversity, invasive and noninvasive species relative cover, and prevalence indices of hydrophytic vegetation. The vegetation data and results were incorporate into the annual monitoring report required by the U.S. Army Corps of Engineers and Interagency Review Team.

Nantucket Conservation Foundation: Head of the Plains, Nantucket County, MA
Conducted vegetation monitoring, small mammal live-trapping, and insect pitfall trapping to collect data that is being used in a longitudinal study exploring the viability of different ecological management and restoration techniques in sandplain grassland habitat, a globally rare ecological community.

Nantucket Conservation Foundation: Head of the Plains, Nantucket County, MA
Installed acoustic bat monitoring devices and regularly downloaded the recorded data to determine the presence of different bat species. Assisted in mist-netting and radio telemetry tracking of federally threatened northern long-eared bats. Performed emergence counts of bat roosting locations discovered via radio telemetry tracking.

Nantucket Conservation Foundation: Coatue, Nantucket County, MA
Conducted vegetation monitoring for a graduate level study investigating the effects of cormorant nesting on plant communities in remote sand dune/shoal habitats.

Ecological Restoration and Invasive Species Management

Big Hollow Compensatory Wetland Mitigation Bank, Sauk County, WI
Assisted with the development of a Compensation Site Plan (CSP) for a nearly 200-acre compensatory wetland mitigation bank site as part of the Mitigation Banking Instrument (MBI). Completed various technical components of the CSP including assessment of the overall site characteristics and history, vegetation restoration plan, development of regulatory performance standards, and monitoring and management plan. Completed all site mapping and plans utilizing GIS.

Good Oak Ecological Services, Numerous Locations Throughout Dane County and Surrounding Areas, WI
Performed invasive species management and ecological restoration activities in prairie, oak savanna, and oak woodland habitats throughout Dane County and surrounding areas. Activities included chemical and mechanical control of invasive species, invasive brush and tree removal with chainsaws and brush cutters, prescribed burns on small to medium (1-15 acres) sized prairies and oak woodlands, native vegetation seeding, and erosion control installation.

UW-Madison, UW-Madison Lakeshore Preserve, Dane County, WI
Performed invasive species management on thistle, garlic mustard, dame's rocket, and porcelain berry via chemical spraying and cut-and-treat methods.

Nantucket Conservation Foundation: Head of the Plains, Sanford Farm / Ram Pasture, Madequecham Valley, Nantucket County, MA
Performed cut-and-treat management of invasive Phragmites in salt marsh habitats.

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
1300 W Clairemont Avenue
Eau Claire, WI 54701

Tony Evers, Governor
Preston D. Cole, Secretary
Telephone 608-266-2621
Toll Free 1-888-936-7463
TTY Access via relay - 711

April 1, 2022

Scott Fuchs
Heartland Ecological Group, Inc.
506 Springdale Street
Mt. Horeb, WI 53572

Subject: 2022 Assured Wetland Delineator Confirmation

Dear Mr. Fuchs:

This letter provides Wisconsin Department of Natural Resources (WDNR) confirmation for the wetland delineations you conduct during the 2022 growing season. You and your clients will not need to wait for the WDNR to review your wetland delineations before moving forward with project planning. This will help expedite the review process for WDNR's wetland regulatory program. Your name and contact information will continue to be listed on our website at: http://dnr.wi.gov/topic/wetlands/assurance.html.

In the instance where a municipality may require a letter of confirmation for your work prior to moving forward in the local regulatory process, this letter shall serve as that confirmation. Although your wetland delineations do not require WDNR field review, inclusion of a Wetland Delineation Report is required for projects needing State authorized wetland, waterway and/or storm water permit approvals.

In order to comply with Chapter 23.321, State Statutes, please supply the department with a polygon shapefile of the wetland boundaries delineated within the project area. Please do not include data such as parcel boundaries, project limits, wetland graphic representation symbols, etc. If internal upland polygons are found within a wetland polygon, then please label as UPLAND. The shapefile should utilize a State Plane Projection and be overlain onto recent aerial photography. If a different projection system is used, please indicate in which system the data are projected. In the correspondence sent with the shapefile, please supply a brief description of each wetland's plant community (eg: wet meadow, floodplain forest, etc.). Please send these data to Calvin Lawrence (608-266-0756 or email at calvin.lawrence@wisconsin.gov).

If you or any client has a question regarding your status in the Wetland Delineation Professional Assurance Program, contact me by email at kara.brooks@wisconsin.gov or phone at 414-308-6780. Thank you for all your hard work and best wishes for the upcoming field season.

Sincerely,

Kara Brooks
Wetland Identification Coordinator
Bureau of Watershed Management

Chris Vandeberg
496 Koch Drive
Project #: 20220771
July 13, 2022

Appendix F | NAIP Imagery

Study Area (0.85 ac)

0 100 Ft

Heartland
ECOLOGICAL GROUP INC

Appendix: 2004-06-22
NAIP Aerial Imagery

496 Koch Drive
Project #20220771
T8N, R12E, S14
V Marshall T Medina, Dane Co

2004 NAIP
USDA

Study Area (0.85 ac)

0 100 Ft

Heartland
ECOLOGICAL GROUP INC

Appendix: 2005-06-23
NAIP Aerial Imagery

496 Koch Drive
Project #20220771
T8N, R12E, S14
V Marshall T Medina, Dane Co

2005 NAIP
USDA

Study Area (0.85 ac)

0 100 Ft

Heartland
ECOLOGICAL GROUP INC

Appendix: 2006-07-31
NAIP Aerial Imagery

496 Koch Drive
Project #20220771
T8N, R12E, S14
V Marshall T Medina, Dane Co

2006 NAIP
USDA

Study Area (0.85 ac)

0 100 Ft

Heartland
ECOLOGICAL GROUP INC

Appendix: 2008-07-23
NAIP Aerial Imagery

496 Koch Drive
Project #20220771
T8N, R12E, S14
V Marshall T Medina, Dane Co

2008 NAIP
USDA

Study Area (0.85 ac)

0 100 Ft

Heartland
ECOLOGICAL GROUP INC

Appendix: 2010-07-01
NAIP Aerial Imagery

496 Koch Drive
Project #20220771
T8N, R12E, S14
V Marshall T Medina, Dane Co

2010 NAIP
USDA

Study Area (0.85 ac)

0 100 Ft

Heartland
ECOLOGICAL GROUP INC

Appendix: 2013-06-19
NAIP Aerial Imagery

496 Koch Drive
Project #20220771
T8N, R12E, S14
V Marshall T Medina, Dane Co

2013 NAIP
USDA

Study Area (0.85 ac)

0 100 Ft

Heartland
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Appendix: 2015-10-07
NAIP Aerial Imagery

496 Koch Drive
Project #20220771
T8N, R12E, S14
V Marshall T Medina, Dane Co

2015 NAIP
USDA

Study Area (0.85 ac)

0 100 Ft

Heartland
ECOLOGICAL GROUP INC

Appendix: 2017-07-30
NAIP Aerial Imagery

496 Koch Drive
Project #20220771
T8N, R12E, S14
V Marshall T Medina, Dane Co

2017 NAIP
USDA

Study Area (0.85 ac)

0 100 Ft

Heartland
ECOLOGICAL GROUP INC

Appendix: 2018-07-02
Maxar Sat. Imagery

496 Koch Drive
Project #20220771
T8N, R12E, S14
V Marshall T Medina, Dane Co

2018 Sat. Imagery
Maxar

Study Area (0.85 ac)

0 100 Ft

Heartland
ECOLOGICAL GROUP INC

Appendix: 2018-10-04
NAIP Aerial Imagery

496 Koch Drive
Project #20220771
T8N, R12E, S14
V Marshall T Medina, Dane Co

2018 NAIP
USDA

Study Area (0.85 ac)

0 100 Ft

Heartland
ECOLOGICAL GROUP INC

Appendix: 2020-08-30
NAIP Aerial Imagery

496 Koch Drive
Project #20220771
T8N, R12E, S14
V Marshall T Medina, Dane Co

2020 NAIP
USDA