Appendix C
Wetland Delineation Report

November 15, 2024 Revised April 2, 2025

Western Minnesota Municipal Power Agency
3724 West Avera Drive
PO Box 88920
Sioux Falls, SD 57109-8920

Attn: Mr. Tyler Fogelson
P: (605) 338-4042
E: tyler.fogelson@mrenergy.com

Re: Wetland Delineation Report
192nd Street and 479th Avenue
Toronto, Deuel County, SD 57268
Terracon Project No. 05247286

Dear Mr. Fogelson:

Terracon is pleased to submit the wetland delineation report for the above-referenced project. Based on the results of the assessment, Terracon observed eight (8) confirmed wetlands, and various drainage features on the power plant site and route flexibility area. There are also several unconfirmed, but suspected wetlands along the project corridor based on an examination of aerial imagery, and a visual survey from public roads on parcels where right-of-entry was not provided.

A cover letter addressed to the U.S. Army Corps of Engineers (USACE) has been included with the enclosed report; however, a copy of this report has not been provided to USACE by Terracon. A copy of the wetland delineation report and attached letter should be submitted to USACE at the address below for review and concurrence:

SDRegulatoryMailbox@usace.army.mil

Terracon appreciates the opportunity to have worked for you on this project. If you have any questions regarding the content of this report, please contact Noah Oswald at (402) 330-2202 or via email at noah.oswald@terracon.com.

Sincerely,
Terracon Consultants, Inc.

Noah Oswald
Staff Scientist

Scott E. West
Group Manager

Wetland Delineation Report

WMMPA Toronto, SD

192nd Street and 479th Avenue

Toronto, Deuel County, SD 57268

November 15, 2024 Revised April 2, 2025 | Project Number: 05247286

Prepared for:
Western Minnesota Municipal Power Agency
Sioux Falls, SD

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November 15, 2024, Revised April 2, 2025

US Army Corps of Engineers
ATTN: Regulatory Branch
28563 Powerhouse Road
Pierre, South Dakota 57501

Re: Wetland Delineation Report
WMMPA Toronto, SD
192nd Street and 479th Avenue
Toronto, Deuel County, SD 57268
Terracon Project No. 05247286

Dear Regulatory Branch:

Terracon is pleased to submit the Wetland Delineation report prepared for Western Minnesota Municipal Power Agency for the above-mentioned project. This assessment describes the observations made during our site visit and other sources of information used to investigate the power plant site and route flexibility area for wetlands and other waterbodies.

Based on the results of the assessment, Terracon observed eight (8) confirmed wetlands. Several drainage features were also mapped on the power plant site and route flexibility area. Suspect wetlands were identified through aerial imagery, and a visual survey from public roads as the Terracon team did not have right-of-entry on the entire project. At this time, we are requesting that your office perform a review of the report in pursuit of a jurisdictional determination to determine if a permit will be required for any proposed activities.

If you have any questions concerning this report, please contact Noah Oswald at (402) 330-2202 or noah.oswald@terracon.com.

Sincerely,
Terracon Consultants, Inc.

Noah Oswald
Staff Scientist

Scott E. West
Group Manager

CC: Mr. Tyler Fogelson
Western Minnesota Municipal Power Agency
3724 West Avera Drive
PO Box 88920
Sioux Falls, SD 57109-8920

TABLE OF CONTENTS

WETLAND DELINEATION REPORT

WMMPA Toronto, SD
192nd Street and 479th Avenue
Toronto, Deuel County, SD 57268

Terracon Project No. 05247286
November 15, 2024 Revised April 2, 2025

1.0 INTRODUCTION

Terracon Consultants, Inc. (Terracon) was retained by Missouri River Energy Services (client) to perform a wetland delineation on behalf of Western Minnesota Municipal Power Agency (WMMPA) to determine if wetlands or other waters under the jurisdiction of the United States Army Corps of Engineers (USACE) or the South Dakota Game, Fish, and Parks (SDGF&P) and the South Dakota Department of Agriculture and Natural Resources (SDDA&NR) are present at the approximately 70-acre proposed power plant site, and the 500-foot-wide route flexibility area.

The power plant site and route flexibility area are located northeast of Toronto around 192nd Street and 479th Avenue in Deuel County, South Dakota. The power plant site and route flexibility area are located in the Brandt-Cobb Creek and Fish Lake subwatersheds (HUC 12: 070200030401 and 070200030104). The power plant site and route flexibility area locations are depicted on Exhibits 1 and 4, Appendix A.

The purpose of performing this wetland delineation of the power plant site and route flexibility area was to characterize the existing site conditions, observe the power plant site and route flexibility area for suspect waterbodies and wetlands and provide a recommendation regarding whether or not suspect waterbodies (if observed) would be considered jurisdictional with the USACE and/or the SDGF&P or SDDA&NR. It is important to note that the findings presented in this report represent Terracon's professional opinion, based upon field observations made during the site visit and our experience with current regulatory guidance under the Clean Water Act. In order to verify the delineation boundaries and jurisdictional classifications presented in this report, the USACE must review this report and make a jurisdictional determination.

Terracon evaluated online resources to identify potential wetlands and WOTUS within the new proposed revised route of the proposed transmission line entering the Astoria Substation on the southern end of the project. The revised transmission line route has not been field-delineated but were identified using publicly available aerial imagery dated May 3, 2023. The route revision is shown below and in the Appendix A Exhibits.

2.0 SCOPE OF SERVICES

Terracon performed the following scope of work:

2.1 Wetland Delineation

- Reviewed United States Geologic Survey (USGS) topographical maps, National Wetlands Inventory (NWI) maps, United States Department of Agriculture (USDA) National Resource Conservation Service (NRCS) Soil Survey Geographic Database (SSURGO) soil maps and surveys, Federal Emergency Management Agency (FEMA) Flood Hazard Zones (FHZ), and aerial imagery to assist with identifying suspect Waters of the United States (WOTUS) and wetland areas at the power plant site and route flexibility area.
- Mobilized to the power plant site and route flexibility area to conduct the preliminary site visit.
- Prepared a map showing approximate locations of suspect waterbodies or wetland areas observed during the site visit, if any.
- Completed a wetland delineation report that included site characterization information, a discussion of applicable data, and recommendations for the power plant site and route flexibility area.
- Reviewed aerial photographs and a visual assessment from public roads for possible wetlands on portions of the route flexibility area that the field team did not have right-of-entry to.

3.0 PRELIMINARY DATA GATHERING AND ANALYSIS

Prior to performing the delineation, several map and aerial photograph resources were reviewed to assist with identifying potential wetland areas at the power plant site and route flexibility area. Each source of data is described in detail below.

3.1 Topographic Map

The United States Geologic Survey (USGS) Astoria, SD 7.5-Minute Topographic Quadrangle was reviewed to identify drainages or potential wetlands within the power plant site and route flexibility area. The power plant site and route flexibility area appear to generally slope moderately from northwest to southeast contouring around two stream features. Cobb Creek was identified west and north of the power plant site, with an unnamed intermittent tributary to Cobb Creek traversing the transmission corridor on the eastern portion of the site from northwest to southeast. Two unnamed intermittent streams are shown traversing the eastern half of the route flexibility area from west to east. The power plant site and route flexibility area have an approximate elevation ranging from 1,950 to 1,800 feet above mean sea level (asl). The topographic map is included as Exhibit 1, Appendix A.

3.2 National Wetlands Inventory Map

The NWI map of the power plant site and route flexibility area was reviewed to identify potential wetland areas. The map for the power plant site and route flexibility area was published by the

U.S. Department of the Interior's Fish and Wildlife Service (USFWS) and depicts probable wetland areas based on stereoscopic analysis of high-altitude aerial photographs and analysis of infrared bands from remotely-sensed imagery. The map displays multiple Freshwater Emergent Wetlands in the northeast and southeast portions of the plant site, and other wetland and riverine features distributed along both sides of the transmission line route. The NWI map is included as Exhibit 2, Appendix A.

3.3 Soil Survey

Data from the USDA NRCS (https://websoilsurvey.nrcs.usda.gov/) was reviewed to identify soil types, including hydric soils. Hydric soils information was gathered from the 'National Hydric Soils List' (USDA NRCS, https://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/ use/hydric/).

The following soil types were identified within the power plant site and route flexibility area boundaries on the soil survey map:

- Barnes-Buse lomas, coteau, 2 to 6 percent slopes (BcB): This soil map unit is classified as non-hydric.
- Barnes-Buse-Svea loams, 2 to 15 percent slopes (BgD): This soil map unit is classified as non-hydric.
- Barnes-Svea-Buse loams, 2 to 9 percent slopes (BmC): This soil map unit is classified as non-hydric.
- Barnes-Svea loams, 1 to 6 percent slopes (BkB): This soil map unit is classified as non-hydric.
- Hamerly-Badger complex, 0 to 2 percent slopes (Hm): This soil map unit is classified as non-hydric.
- Lamoure-Rauville silty clay loams, channeled (Lr): This soil map unit is classified as hydric.
- Lowe loam (Lw): This soil map unit is classified as hydric.
- Poinsett-Waubay silty clay loams, 0 to 2 percent slopes (PwA): This soil map unit is classified as non-hydric.
- Parnell silty clay loam (Pa): This soil map unit is classified as hydric.
- Singsaas-Waubay silty clay loams, 1 to 6 percent slopes (ShB): This soil map unit is classified as non-hydric.
- Lamoure silty clay loam, coteau, 0 to 1 percent slopes, occasionally flooded (Z152A): This soil map unit is classified as non-hydric.
- Arvilla-Sioux complex, 6 to 15 percent slopes (AvD): This soil map unit is classified as non-hydric.
- Estelline silt loam, coteau, 2 to 6 percent slopes (EsB): This soil map unit is classified as non-hydric.
- Kranzburg-Brookings silty clay loams, 1 to 6 percent slopes (KrB): This soil map unit is classified as non-hydric.

- Mckranz-Badger silty clay loams, 0 to 2 percent slopes (Mk): This soil map unit is classified as non-hydric.
- Orthents, gravelly (Ok): This soil map unit is classified as non-hydric.
- Southam silty clay loam, 0 to 1 percent slopes (So): This soil map unit is classified as hydric.
- Renshaw-Fordville loams, coteau, 2 to 6 percent slopes (Z171B): This soil map unit is classified as non-hydric.

The soil survey map is included as Exhibit 3, Appendix A.

3.4 Aerial Image

Recent aerial images (2006, 2012, 2018, and 2022) of the power plant site and route flexibility area were reviewed to evaluate land use and vegetative cover. The power plant site and route flexibility area predominantly consist of apparent row crop agricultural fields. Pasture area is evident near the southeastern portions of the route flexibility area, containing an apparent pond. The aerial image is included as Exhibit 4, Appendix A.

3.5 FEMA Flood Hazard Zone Data

FEMA FHZ data was reviewed to identify areas that may have elevated likelihoods of containing WOTUS. The FEMA FHZ data indicated that the power plant site and route flexibility area is not depicted in a flood hazard zone. The FEMA FHZ data is included as Exhibit 5, Appendix A.

4.0 FIELD TECHNIQUES

Terracon personnel, Noah Oswald and Reece Allen, conducted a reconnaissance of the power plant site and route flexibility area on September 30th and October 1st, 2024, to characterize the existing site conditions and observe for the presence of wetlands and potential jurisdictional waters. Characteristics of jurisdictional waters and wetland areas, if present, were assessed utilizing the criteria detailed in sections 4.1 and 4.2 of this report. The evaluation methods generally followed the routine on-site determination method referenced in the 1987 USACE Wetland Delineation Manual and 2010 (version 2.0) Midwest Regional Supplement.

4.1 Wetland Observations

Wetlands generally have three essential characteristics: hydrophytic (wetland) vegetation, hydric soils, and wetland hydrology. Based on NWI data, aerial imagery and topographical data, on-site areas were investigated for potential wetland properties. Additional areas were investigated, based on observations made during the site reconnaissance. Data regarding the three essential characteristics was gathered within observed suspect wetland areas to further delineate boundaries.

4.1.1 Plant Community Assessment

Suspect areas were visually observed to determine the species, when possible, and absolute percentage of ground cover for four stratum of plant community types. Herbs were generally observed within a five-foot radius, shrubs/saplings within a fifteen-foot radius, and trees and vines within a thirty-foot radius of the observation location.

For each species of vegetation observed, their wetland indicator status was evaluated. Indicator status was determined using the NRCS Plants Database. Indicator categories for vegetation are presented below:

- Obligate Wetland (OBL) - occur almost always (estimated probability greater than 99%) under natural conditions in wetlands.
- Facultative Wetland (FACW) - usually occur in wetlands (estimated probability 67% - 99%) but occasionally found in non-wetlands.
- Facultative (FAC) - equally likely to occur in wetlands or non-wetlands (estimated probability 34% - 66%).
- Facultative Upland (FACU) - usually occur in non-wetlands (estimated probability 67% - 99%) but occasionally found in wetlands.
- Obligate Upland (UPL) - rarely occur in wetlands but occur almost always (estimated probability greater than 99%) under natural conditions in non-wetlands.

The percent cover of each stratum was determined, and dominance was evaluated. Dominant species were the most abundant species that accounted for more than 20 percent of the absolute percent coverage of the stratum. The number of dominant species with an indicator status of OBL, FACW, and/or FAC was compared to the total number of dominant species across all strata.

Typically, when more than 50 percent of the dominant species had an indicator status of OBL, FACW, and/or FAC, hydrophytic vegetation was present. If the percentage of dominant species with an indicator status of OBL, FACW, and/or FAC was less than 50 percent, prevalence index and morphological adaptations may have been evaluated to confirm if hydrophytic vegetation was present or absent.

4.1.2 Hydric Soils Assessment

After Terracon evaluated wetland vegetation, subsurface soil samples were collected using a soil probe or similar method. The samples were collected to a depth of approximately 24 inches below ground surface and were visually compared to Munsell Soil Color Charts (Munsell, 2009), which aided in the evaluation of hydric soil characteristics. In cultivated areas, soil was probed to 40 inches below the ground surface to examine soil characteristics below the influence of cultivation.

The soil samples were further examined for hydric soil indicators including, but not limited to, histosol, thick dark surface, sandy gleyed matrix, sandy redox, loamy gleyed matrix, redox dark surface, and/or redox depressions. If these or other hydric soil indicators were observed in the subsurface soil sample, the observation location was considered to have hydric soil.

4.1.3 Wetland Hydrology Assessment

Visual indicators of wetland hydrology were evaluated. Examples of primary wetland hydrology indicators include, but are not limited to, surface water, high water table, soil saturation, water marks, sediment deposits, drift deposits, iron deposits, inundation visible on aerial imagery, sparsely vegetated concave surface, and water-stained leaves. If at least one primary or two secondary indicators were observed, the observation location was considered to have wetland hydrology.

4.1.4 Classification of Wetlands

Upon completion of the review of the three wetland criteria at each area, a wetland determination was made. Under normal circumstances, if one or more of the wetland criteria were not identified, the area was not considered to be a wetland. If all three wetland indicators were identified, the area was classified as wetland. Additional observations were made throughout the wetland area to define the wetland/non-wetland boundary. Vegetation, soil and hydrology assessment data from at least one location within the wetland and one upland location outside of the wetland were recorded on a USACE Wetland Determination Form (Data Sheet).

4.2 Other Waters Observations

Terracon also made observations of site features that may be considered a jurisdictional waterbody. If a potential jurisdictional waterbody was identified, observations regarding its characteristics were recorded. Potential jurisdictional waterbodies were evaluated based on the observation of the following characteristics:

- Flow Characteristics:
  - Perennial: contains water at all times except during extreme drought.
  - Intermittent: carries water a considerable portion of the time but ceases to flow occasionally or seasonally.
  - Ephemeral: carries water only during and immediately after periods of rainfall or snowmelt.
- Ordinary High-Water Mark:
  - The limit line on the shore established by the fluctuation of the water surface. It is shown by such things as a clear line impressed on the bank, shelving, changes in soil character, destruction of terrestrial vegetation, the presence of litter and debris or other features influenced by the surrounding area.
- Bank Shape Descriptions:
  - Undercut: banks that overhang the stream channel.
  - Steep: bank slope of approximately greater than 30 degrees.
  - Gradual: bank slope of approximately 30 degrees or less.
- Aquatic Habitat Descriptions:
  - Pool: deeper portion of a stream where water flows slower than in neighboring, shallower portions, smooth surface, and finer substrate.

- Riffle: shallow area in a stream where water flows swiftly over gravel and rock or other coarse substrate resulting in a rough flow and a turbulent surface.
- Run: section of a stream with a low or high velocity and with little or no turbulence on the surface of the water.

5.0 FIELD OBSERVATIONS RESULTS

On September 30th and October 1st, 2024, Terracon personnel, Noah Oswald and Reece Allen performed field observations at the power plant site and route flexibility area. The power plant site and route flexibility area predominantly consisted of agricultural row crop fields. Pasture was located in the southeastern portion of the route flexibility area. Additionally, eight confirmed wetlands with multiple suspect wetlands, and multiple drainage features were observed on the power plant site and route flexibility area.

Ground photographs, included in Appendix B, provide an indication of the physical characteristics observed during the site visit. Descriptions of the observed areas are listed in the following sections.

5.1 Plant Communities Found at Power Plant Site and Route Flexibility Area

5.1.1 Row Crop Agricultural Fields

The dominant plant species observed in the row crop agricultural fields were corn (*Zea mays*) and soybean (*Glycine max*).

5.1.2 Pasture

The dominant plant species observed in the pasture areas were smooth bromegrass (*Bromus inermis)* and reed canary grass (*Phalaris arundinacea*).

5.1.3 Emergent Wetlands

The dominant plant species observed in the emergent wetlands were reed canary grass and cattails (*Typha latifolia*).

5.1.4 Road Right-of-Way

The dominant plant species in the sections of the transmission corridor that were located near roadside ditches were reed canary grass, smooth brome and water sedge *(Carex aquatils).*

5.2 Water Features Found at Power Plant Site and Route Flexibility Area

5.2.1 Wetlands

The following table describes the wetlands that were observed at the power plant site and route flexibility area during the site reconnaissance.

Wetland	Location	Size (acres)	Cowardin Classification	Hydrology Sources	Potential WOTUS Jurisdictional Status
W1	Power Plant Site	2.31	PEMf	Precipitation, Overland Flow	No
W2	Power Plant Site	0.23	PEMf	Precipitation, Overland Flow	No
W3	Power Plant Site	0.49	PEMf	Precipitation, Overland Flow	No
W4	Power Plant Site	3.18	PEMf	Precipitation, Overland Flow	No
W5	Route Flexibility Area	0.31	PEMf	Precipitation, Overland Flow	Yes
W6	Route Flexibility Area	0.14	PEMA	Precipitation, Overland Flow	Yes
W7	Route Flexibility Area	1.06	PEMf	Precipitation, Overland Flow	No
W8	Route Flexibility Area	0.02	PEMA	Precipitation, Overland Flow	Yes

Jurisdictional Total	0.47
Non- Jurisdictional Total	7.27
Total Acres	7.74

Table 1. Wetland identification, acreage, Cowardin classification (PEM – Palustrine Emergent Wetland, PSS – Palustrine Shrub-Scrub Wetland, PFO – Palustrine Forest Wetland, PAB – Palustrine Aquatic Bed Wetland), hydrology sources, and potential WOTUS jurisdictional status.

W1: W1 is a farmed emergent wetland. W1 is located in Section 7 Township 113N Range 48W. Terracon considers W1 non-jurisdictional due to a lack of a continuous surface connection to another jurisdictional wetland or other aquatic feature.

W2: W2 is a farmed emergent wetland. W2 is located in Section 7 Township 113N Range 48W. Terracon considers W2 non-jurisdictional due to a lack of a continuous surface connection to another jurisdictional wetland or other aquatic feature.

W3: W3 is a farmed emergent wetland. W3 is located in Section 7 Township 113N Range 48W. Terracon considers W3 non-jurisdictional due to a lack of a continuous surface connection to another jurisdictional wetland or other aquatic feature.

W4: W4 is a farmed emergent wetland. W4 is located in Section 7 Township 113N Range 48W. Terracon considers W4 non-jurisdictional due to a lack of a continuous surface connection to another jurisdictional wetland or other aquatic feature.

W5: W5 is a farmed emergent wetland located in Section 8 Township 113N Range 48W. Terracon considers W5 jurisdictional due to an apparent continuous surface connection to an unnamed tributary to Cobb Creek south of the project boundary.

W6: W6 is a palustrine emergent wetland located in Section 16 Township 113N Range 48W. Terracon considers W6 jurisdictional due to a continuous surface connection to unnamed tributaries to Cobb Creek east and southwest of the proposed project boundary.

W7: W7 is a farmed emergent wetland located in Section 22 Township 113N Range 48W. Terracon considers W7 non-jurisdictional due to a lack of a continuous surface connection to another jurisdictional wetland or other aquatic feature.

W8: W8 is a palustrine emergent wetland located in Section 22 Township 113N Range 48W. Terracon considers W8 jurisdictional due to a continuous surface connection to unnamed tributaries to Cobb Creek east and west of the proposed project boundary.

5.2.2 Other Waters

An unnamed tributary was identified via online resources near the southern portion of the route flexibility corridor near 481st Avenue near the Astoria substation. The tributary has a continuous surface connection to Cobb Creek northeast of the project boundary.

5.2.3 Suspect Wetlands

Terracon evaluated online resources to identify potential wetlands and WOTUS within the Route Flexibility Area and conducted a visual survey from public roads as the Terracon team did not have right-of-entry on the entire project. The suspect wetlands are shown in the Appendix A Exhibits.

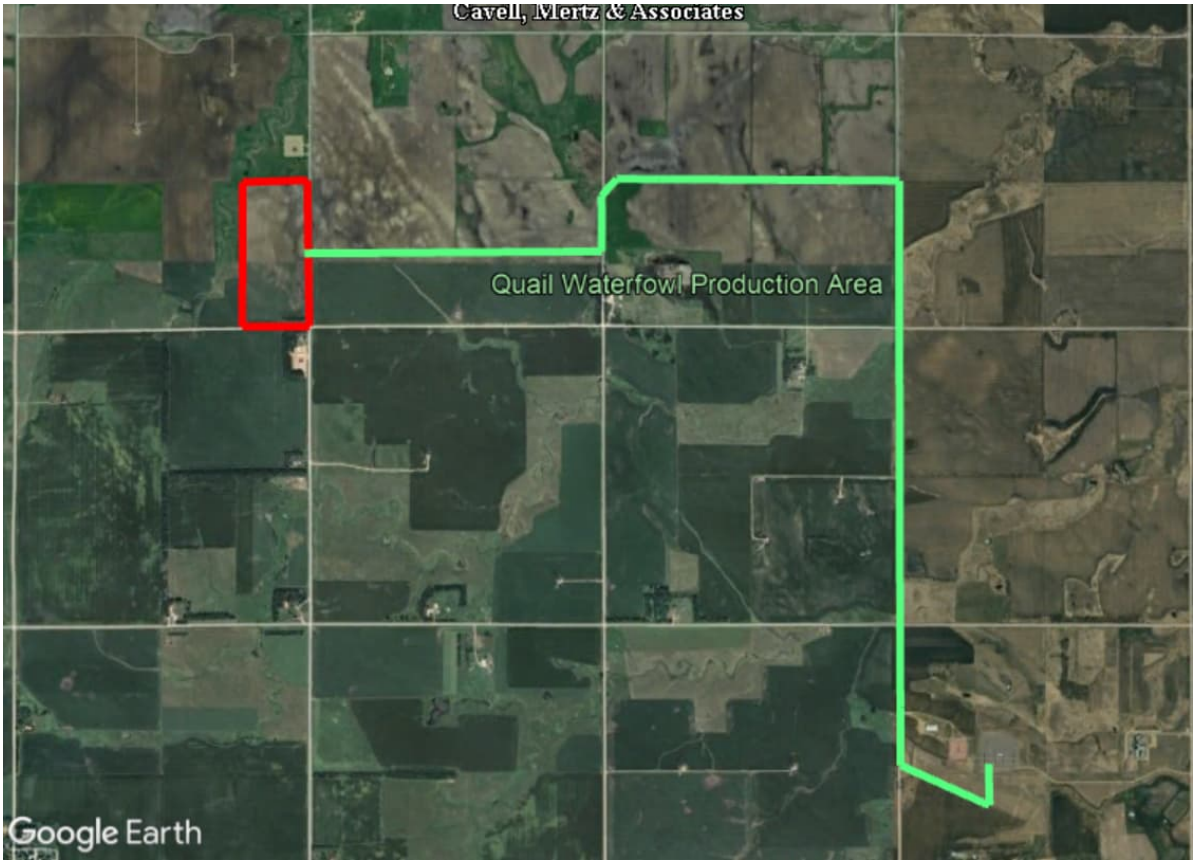


Figure 1. Power Plant Site (red) and Route Flexibility Area (green).

6.0 SUMMARY AND CONCLUSIONS OF FIELD OBSERVATIONS

A wetland delineation was conducted at an approximately 70-acre proposed power plant site, and the 500-foot-wide corridor along the proposed transmission line located near Toronto, Deuel County, South Dakota on September 30th and October 1st, 2024. A review of the power plant site and route flexibility area was conducted utilizing readily available information including, but not limited to, topographical, aerial, soils, floodplain, and wetland data.

In addition, a preliminary site visit was performed to characterize the existing site conditions and observe the power plant site and route flexibility area for suspect waterbodies and wetlands (if any). A summary of field observations and conclusions concerning jurisdictional status is outlined in the following sections.

6.1 Wetlands

Eight wetlands (W1, W2, W3, W4, W5, W6, W7, and W8) totaling 7.74 acres, were observed. W1, W2, W3, and W4 were observed on the power plant site, and W5, W6, W7, and W8 were observed

in the route flexibility area. Terracon considers W1, W2, W3, W4, and W7 non-jurisdictional and W5 jurisdictional due to its connection to an unnamed tributary to Cobb Creek to the south. Terracon considers W6 jurisdictional due to its connection to unnamed tributaries to Cobb Creek east and southwest. Terracon considers W8 jurisdictional due to its continuous surface connection to unnamed tributaries to Cobb Creek east and west.

6.2 Other Waters

No other waters were observed within the power plant site or the route flexibility area.

6.3 Suspect Wetlands

Terracon evaluated online resources to identify potential wetlands and WOTUS within the route flexibility area and conducted a visual survey from public roads as the Terracon team did not have right-of-entry on the entire project. The suspect wetlands are shown in the Appendix A Exhibits.

7.0 RECOMMENDATIONS

Wetlands/WOTUS
According to our preliminary site investigation, potential jurisdictional waters are present on the power plant site and route flexibility area. However, for all on-site areas, the USACE and EPA make the final determination on the jurisdictional status of waterbodies, and on the need for permit processing and compensatory mitigation. Additionally, non-jurisdictional wetlands, ponds, and streams may also be considered Waters of the State and could potentially be regulated by SDGF&P/SDDA&NR.

It is recommended that additional field data be obtained along the revised route during the growing season to map the boundaries of the aquatic features visible in the aerial imagery.

If MRES anticipates having to impact wetlands in order to construct the project, Terracon recommends a copy of this report be submitted to the USACE well in advance (at least 9 months) of construction for an approved jurisdictional determination of the findings of this delineation on the site. The USACE can be contacted at the following address:

US Army Corps of Engineers
ATTN: Regulatory Branch
28563 Powerhouse Road
Pierre, South Dakota 57501
Email: SDRegulatoryMailbox@usace.army.mil

8.0 GENERAL COMMENTS

This wetland delineation was conducted using the 1987 USACE Wetland Delineation Manual and the 2010 Midwest Supplement. The manuals provide assistance for delineating wetlands based on the three criteria discussed for sites that have natural conditions and other methods for sites

where the landscape is disturbed. However, the manual alone may not have provided enough information to document whether or not the three criteria were met. Various physical properties or other visual signs used to evaluate whether the three wetland criteria areas were satisfied may not be straightforward, especially in disturbed or problem areas. The manual also allows the user to visually estimate certain indicators such as the percentage of area covered by dominant species for the entire community. Terracon did not attempt to identify every possible plant species and did not classify soil type by laboratory methods. Due to seasonal changes and or site disturbances, Terracon cannot guarantee the area to exhibit or not to exhibit wetland characteristics at all times of the year. The limitations of this wetland delineation should be recognized.

Jurisdictional Determinations

On March 12. 2025, the U.S. Environmental Protection Agency and the USACE distributed a Memorandum to the Field concerning the proper implementation of “continuous surface connection” under the definition of Water of the United States under the Clean Water Act (Memorandum). Terracon used its best professional judgement in interpreting the Memorandum in the context of this project. The definition of what constitutes a jurisdictional wetland has been subject to several different interpretations over the past several years, and we have incorporated what we see as an accurate interpretation of the Memorandum in rendering our opinions on the jurisdictional status of each of the delineated wetlands discussed in this report. However, the USEPA and USACE are the final authorities on what aquatic resources are or are not subject to regulatory jurisdiction under the Clean Water Act. If authorization is to be sought for this project, Terracon recommends requesting the appropriate jurisdictional determinations and authorization (if applicable) from the USACE/USEPA prior to conducting any work that might result in disturbance to any of the aquatic areas described in this report.

This report has been prepared in accordance with generally accepted scientific and engineering evaluation practices. This report is for the exclusive use of the client for the project being discussed. No warranties, either express or implied, are intended or made.

APPENDIX A

EXHIBITS

Exhibit 1: Topographic Map

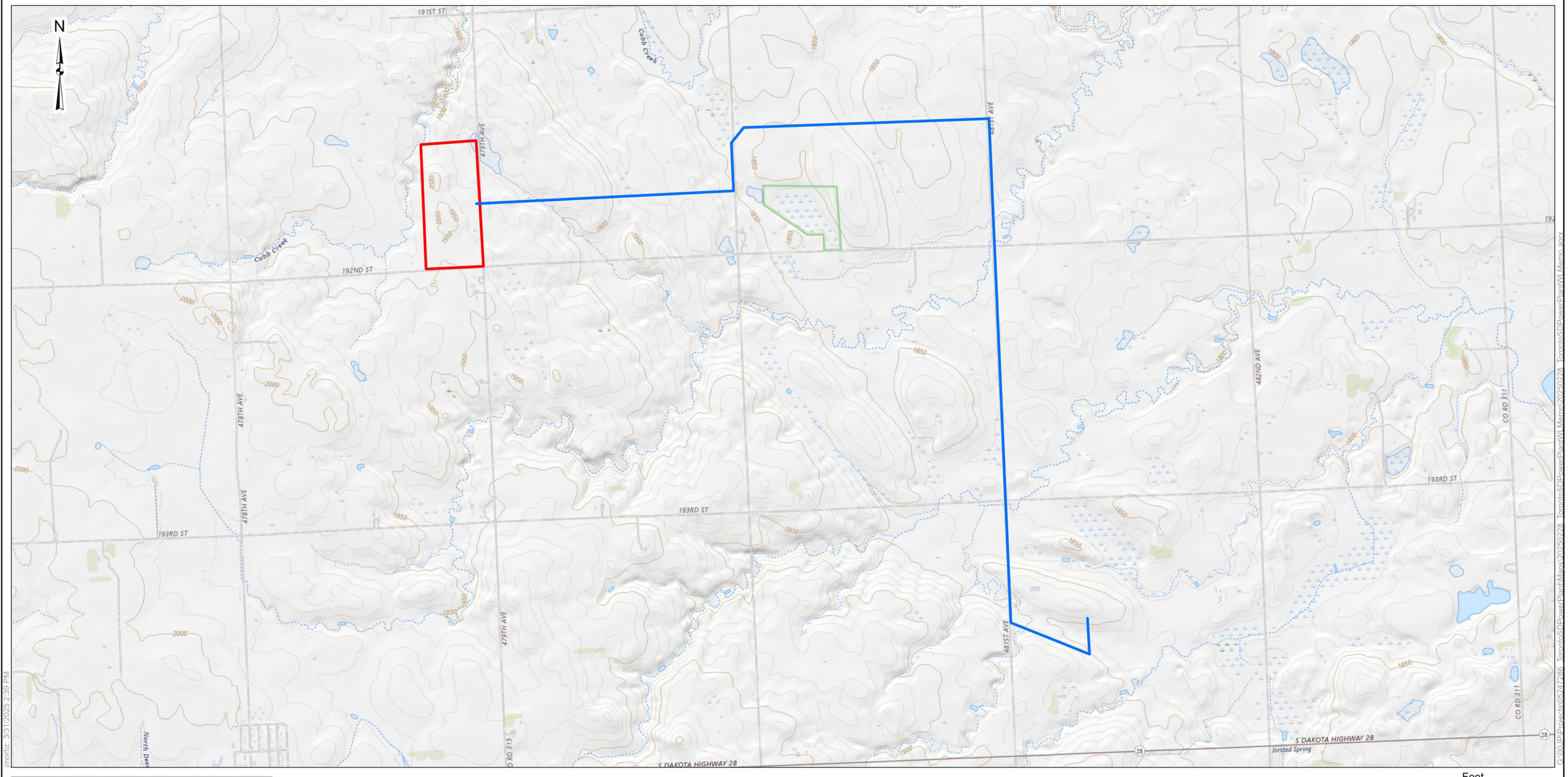
Exhibit 2: NWI Map

Exhibit 3: Soil Map

Exhibit 4A-4D: Aerial Images (2006, 2012, 2018, 2022)

Exhibit 5: FEMA Map

Exhibit 6-6.2: Delineation Maps



Legend

- Toronto Power Plant Site
- Primary Transmission Route

DATA SOURCE(S):
ESRI 2025a - OpenStreetMap
USGS 2021 - Astoria, SD Topographic Quadrangle

Feet
0 1,000 2,000 4,000

Project No.:	05247286
Date:	March 2025
Drawn By:	NDB
Reviewed By:	JR

Terracon
15080 A Cir Omaha, NE
PH. (402) 330-2202 terracon.com

Topographic Map

Wetland Delineation
Toronto, SD

Exhibit

1

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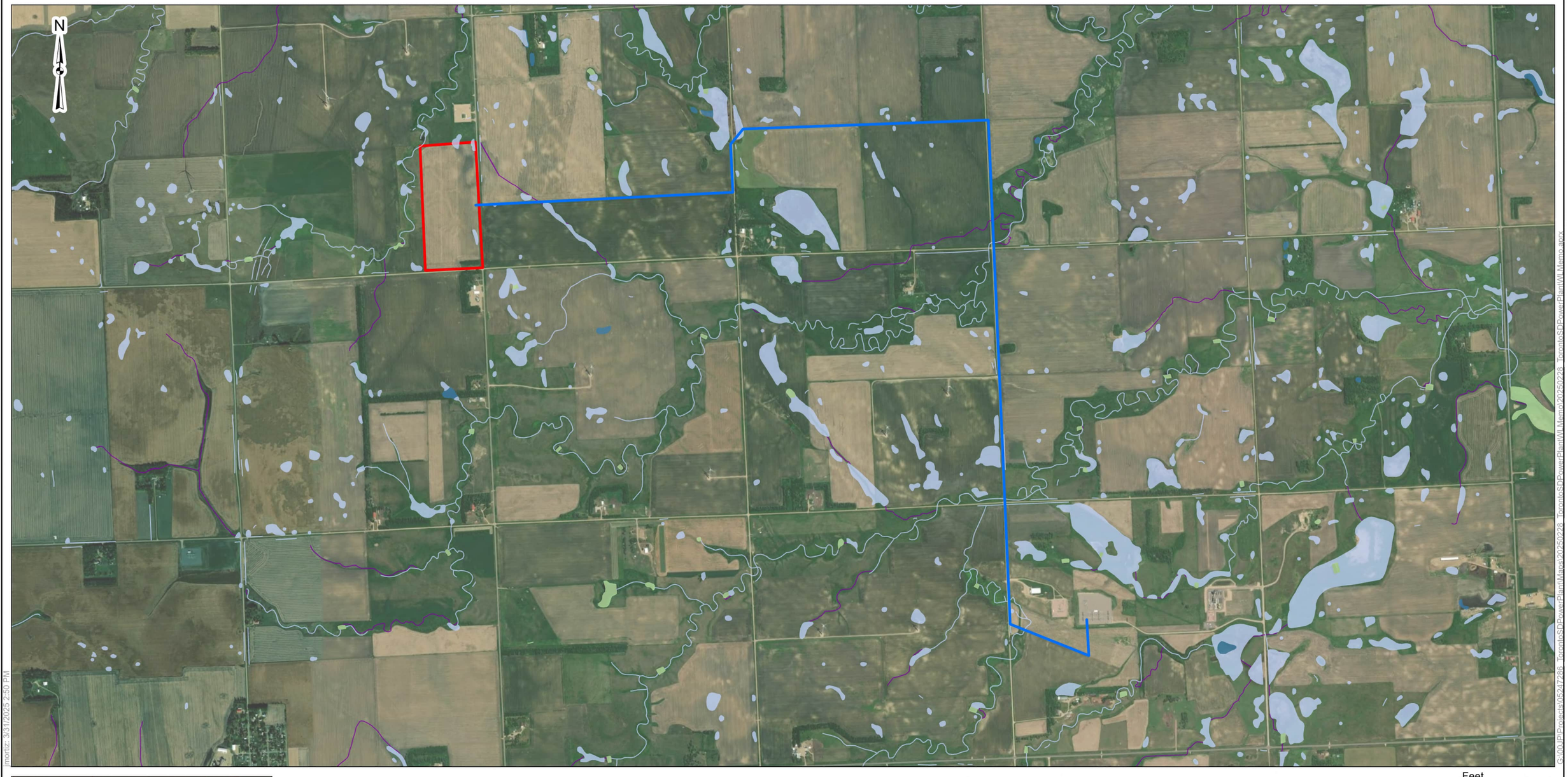

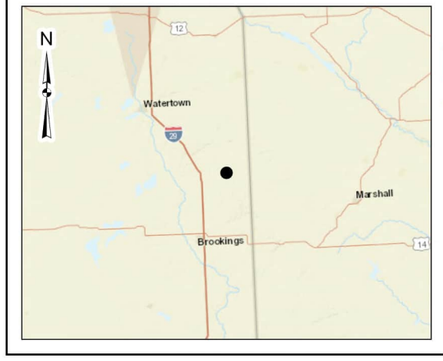

Legend

- Toronto Power Plant Site
- Primary Transmission Route
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine

DATA SOURCE(S):
ESRI 2025a - OpenStreetMap
ESRI 2025b - World Hillshade
ESRI 2025c - World Imagery
USFWS 2024 - National Wetlands Inventory

Feet
0 1,000 2,000 4,000

Project No.:	05247286
Date:	March 2025
Drawn By:	NDB
Reviewed By:	JR

Terracon
15080 A Cir Omaha, NE
PH. (402) 330-2202 terracon.com

NWI Map

Wetland Delineation
Toronto, SD

Exhibit

2

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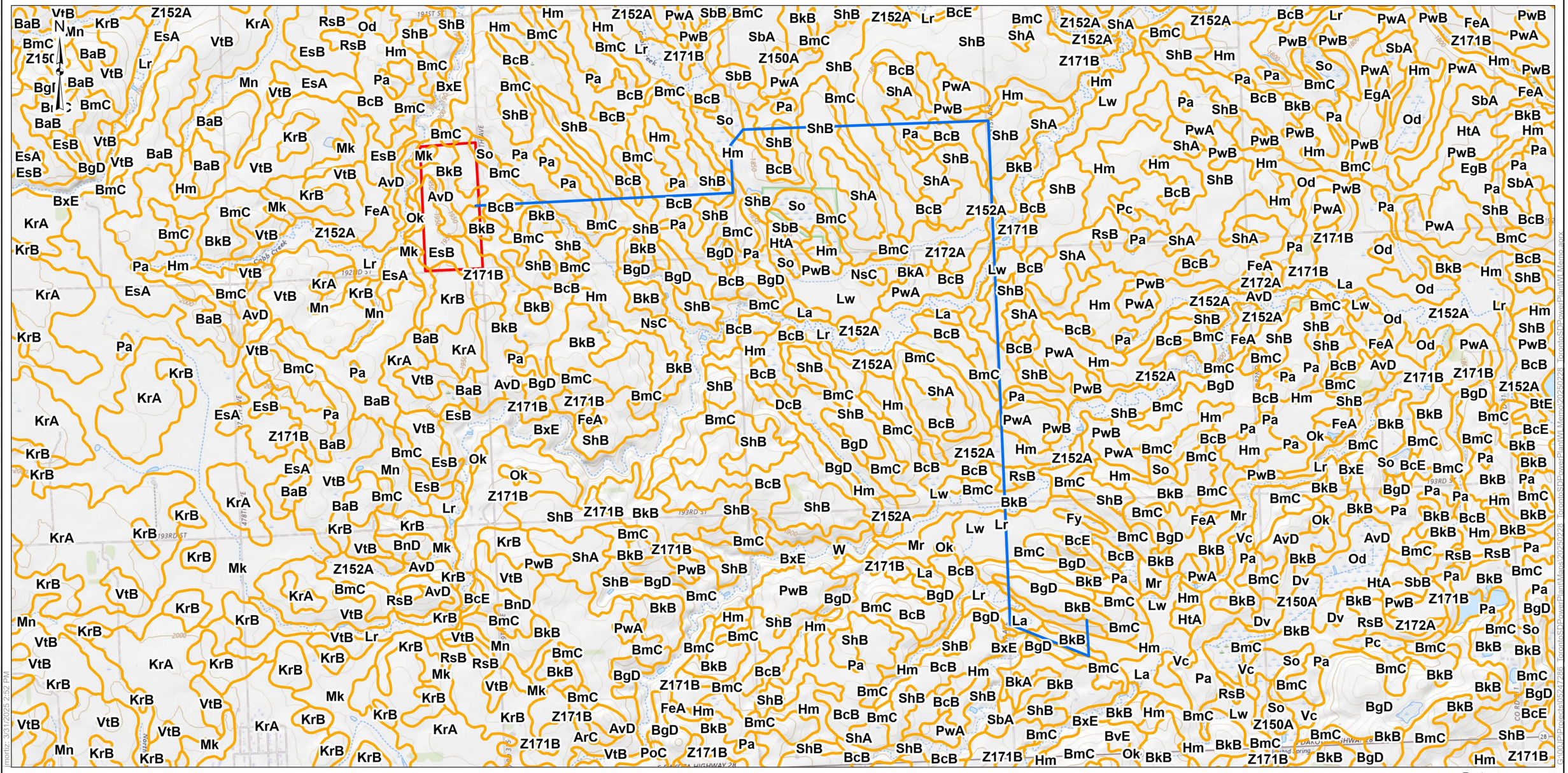

Legend

- Toronto Power Plant Site
- Primary Transmission Route
- SSURGO Line

DATA SOURCE(S):
ESRI 2025a - OpenStreetMap
USGS 2021 - Astoria, SD Topographic Quadrangle
USDA NRCS 2024 - Web Soil Survey

Project No.:	05247286
Date:	March 2025
Drawn By:	NDB
Reviewed By:	JR

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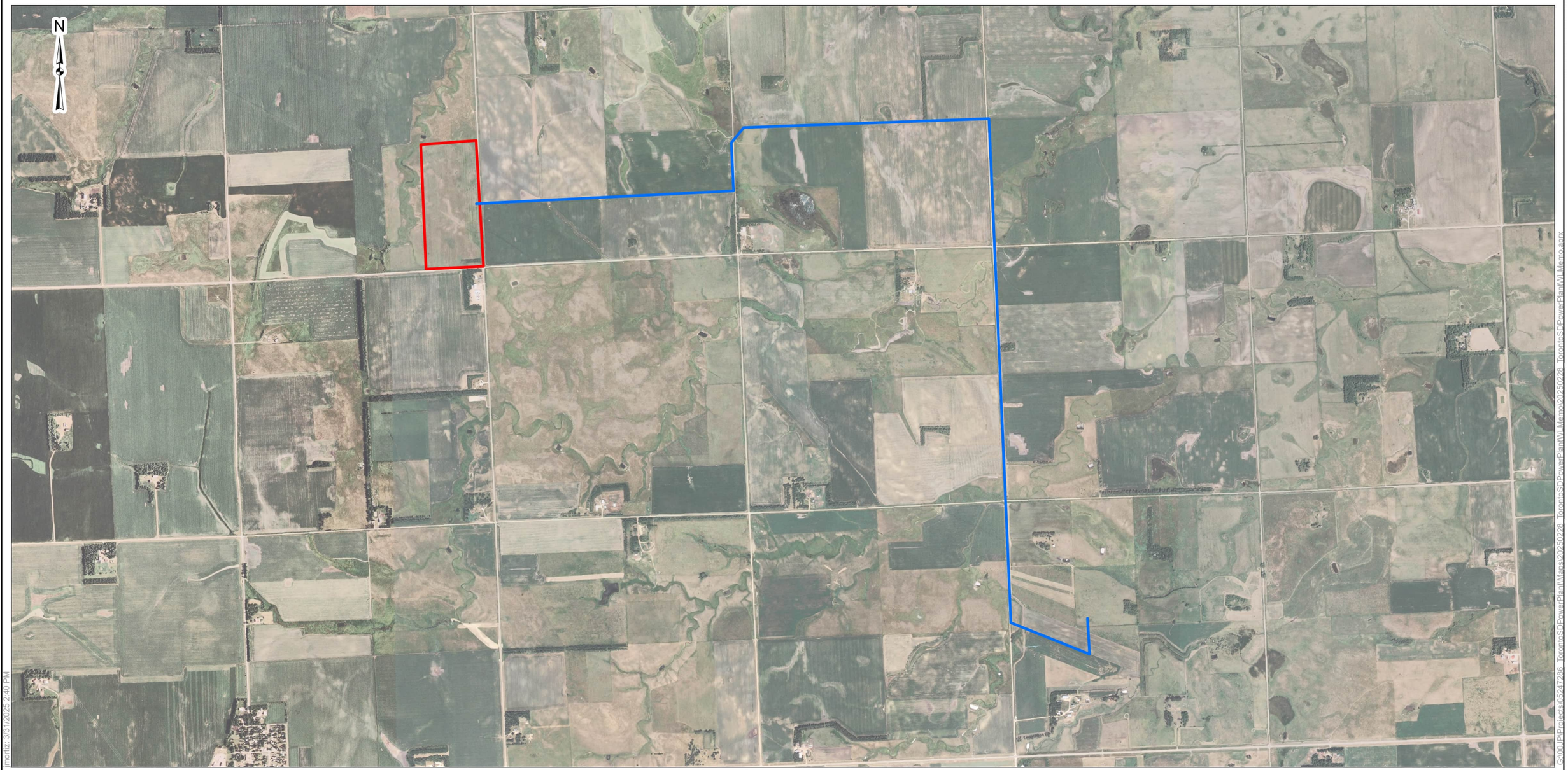
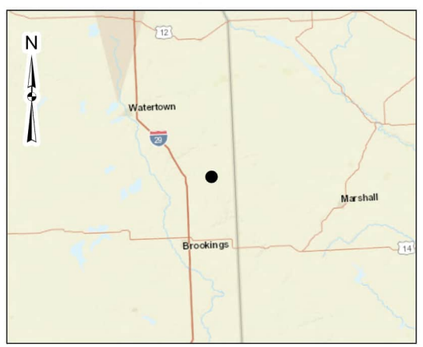
Soils Map	Exhibit
Wetland Delineation Toronto, SD	3





Legend

- Toronto Power Plant Site
- Primary Transmission Route

DATA SOURCE(S):
ESRI 2025a - OpenStreetMap
ESRI 2025b - World Hillshade
USDA NAIP 2006 - National Agriculture Imagery Program

Feet
0 1,000 2,000 4,000

Project No.:	05247286
Date:	March 2025
Drawn By:	NDB
Reviewed By:	JR

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2006 Aerial Image

Wetland Delineation
Toronto, SD

Exhibit

4A

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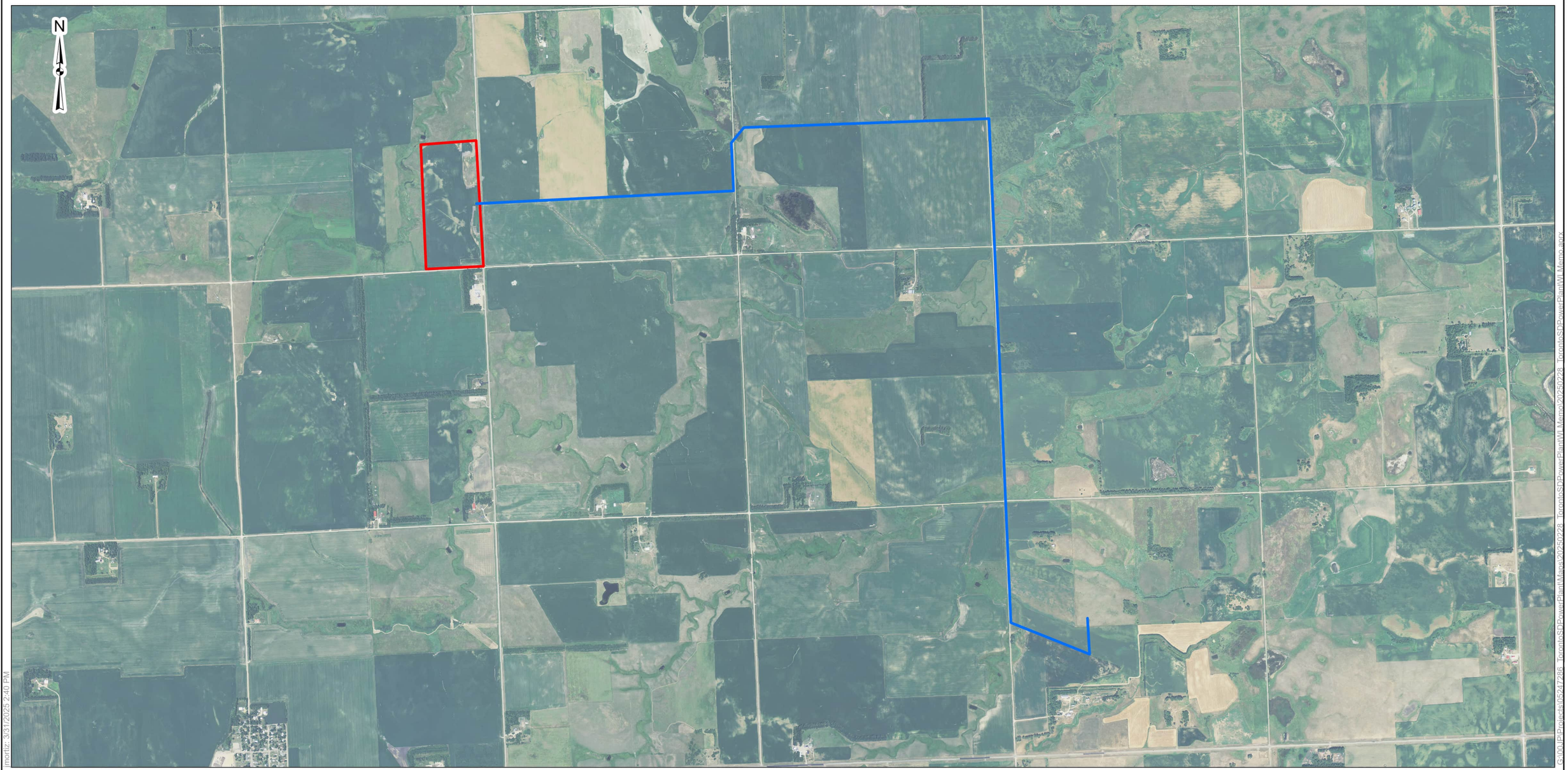

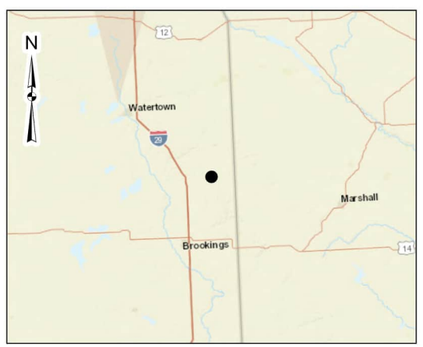

Legend

- Toronto Power Plant Site
- Primary Transmission Route

DATA SOURCE(S):
ESRI 2025a - OpenStreetMap
ESRI 2025b - World Hillshade
USDA NAIP 2012 - National Agriculture Imagery Program

Feet
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Project No.:	05247286
Date:	March 2025
Drawn By:	NDB
Reviewed By:	JR

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2012 Aerial Image

Wetland Delineation
Toronto, SD

Exhibit

4B

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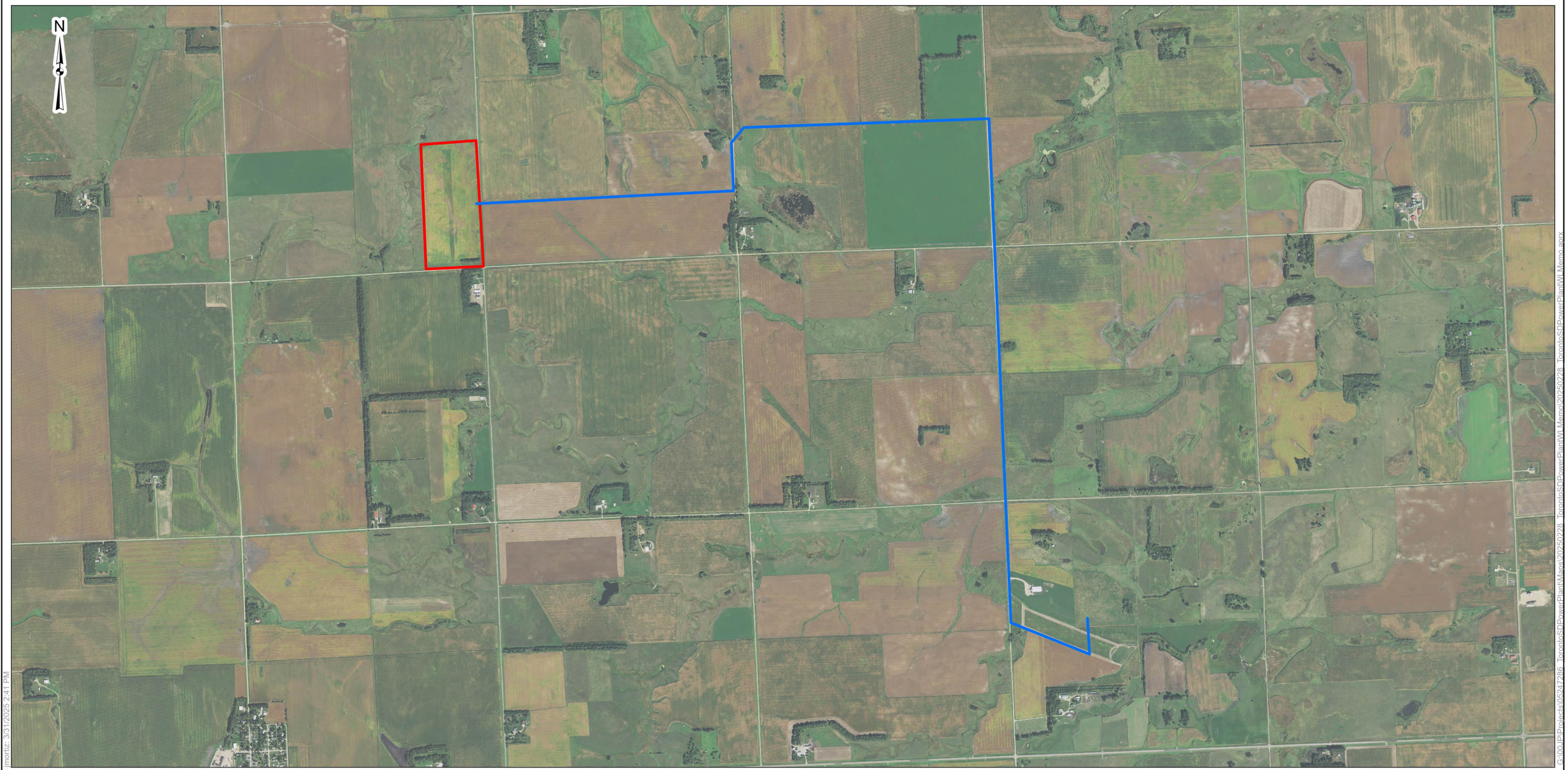

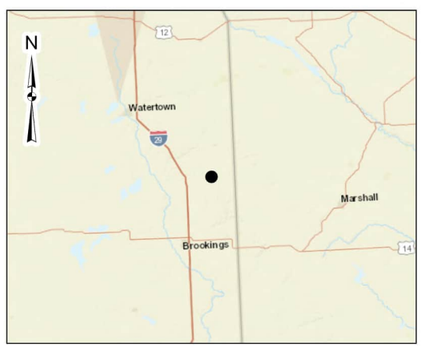

Legend

- Toronto Power Plant Site
- Primary Transmission Route

DATA SOURCE(S):
ESRI 2025a - OpenStreetMap
ESRI 2025ab - World Hillshade
USDA NAIP 2018 - National Agriculture Imagery Program

Feet
0 1,000 2,000 4,000

Project No.:	05247286
Date:	March 2025
Drawn By:	NDB
Reviewed By:	JR

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2018 Aerial Image

Wetland Delineation
Toronto, SD

Exhibit

4C

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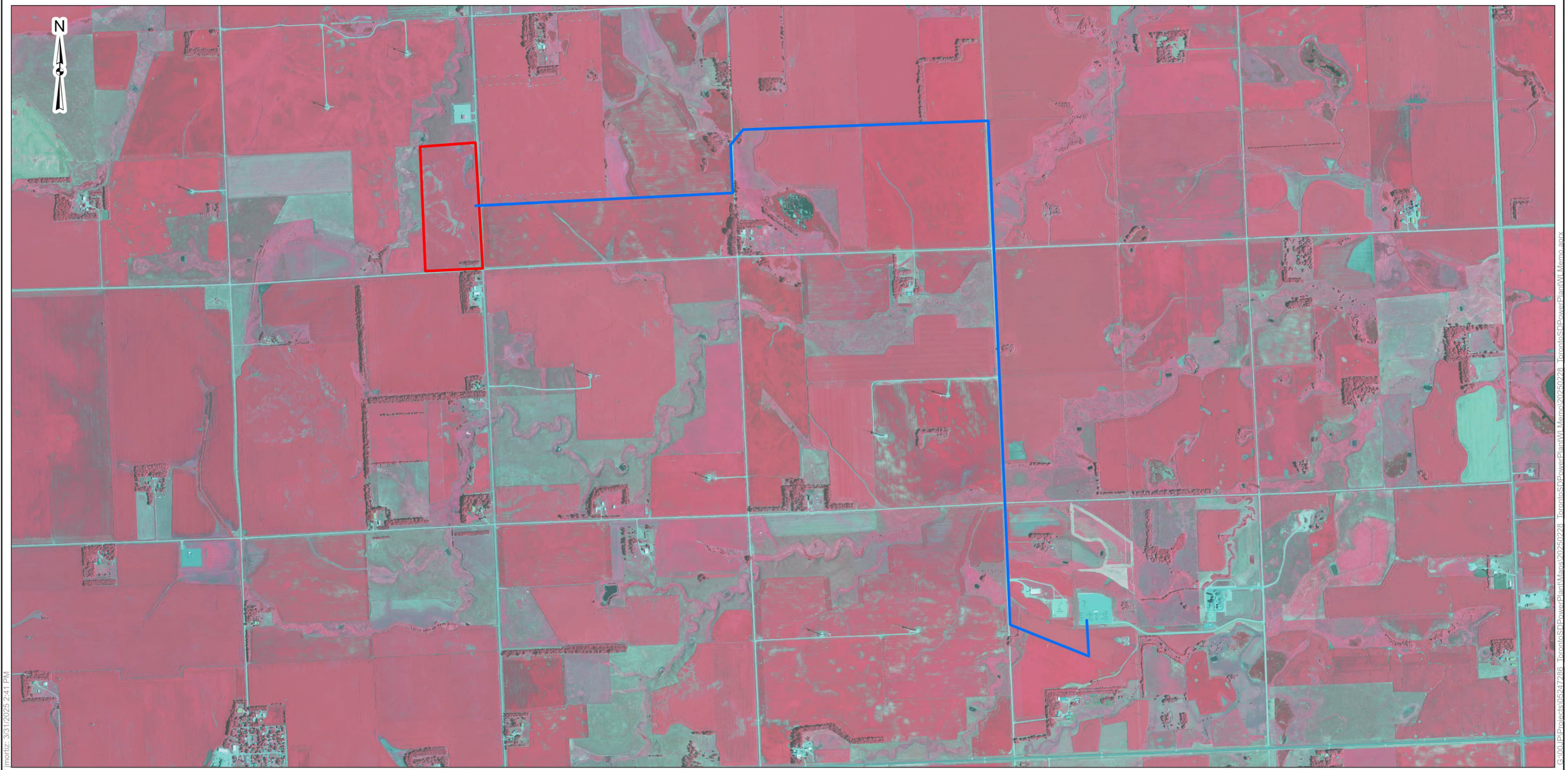

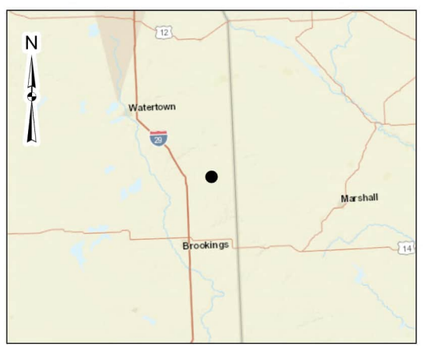

Legend

- Toronto Power Plant Site
- Primary Transmission Route

DATA SOURCE(S):
ESRI 2025a - OpenStreetMap
ESRI 2025b - World Hillshade
USDA NAIP 2022 - National Agriculture Imagery Program

Feet
0 1,000 2,000 4,000

Project No.:	05247286
Date:	March 2025
Drawn By:	NDB
Reviewed By:	JR

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2022 Aerial Image

Wetland Delineation
Toronto, SD

Exhibit

4D

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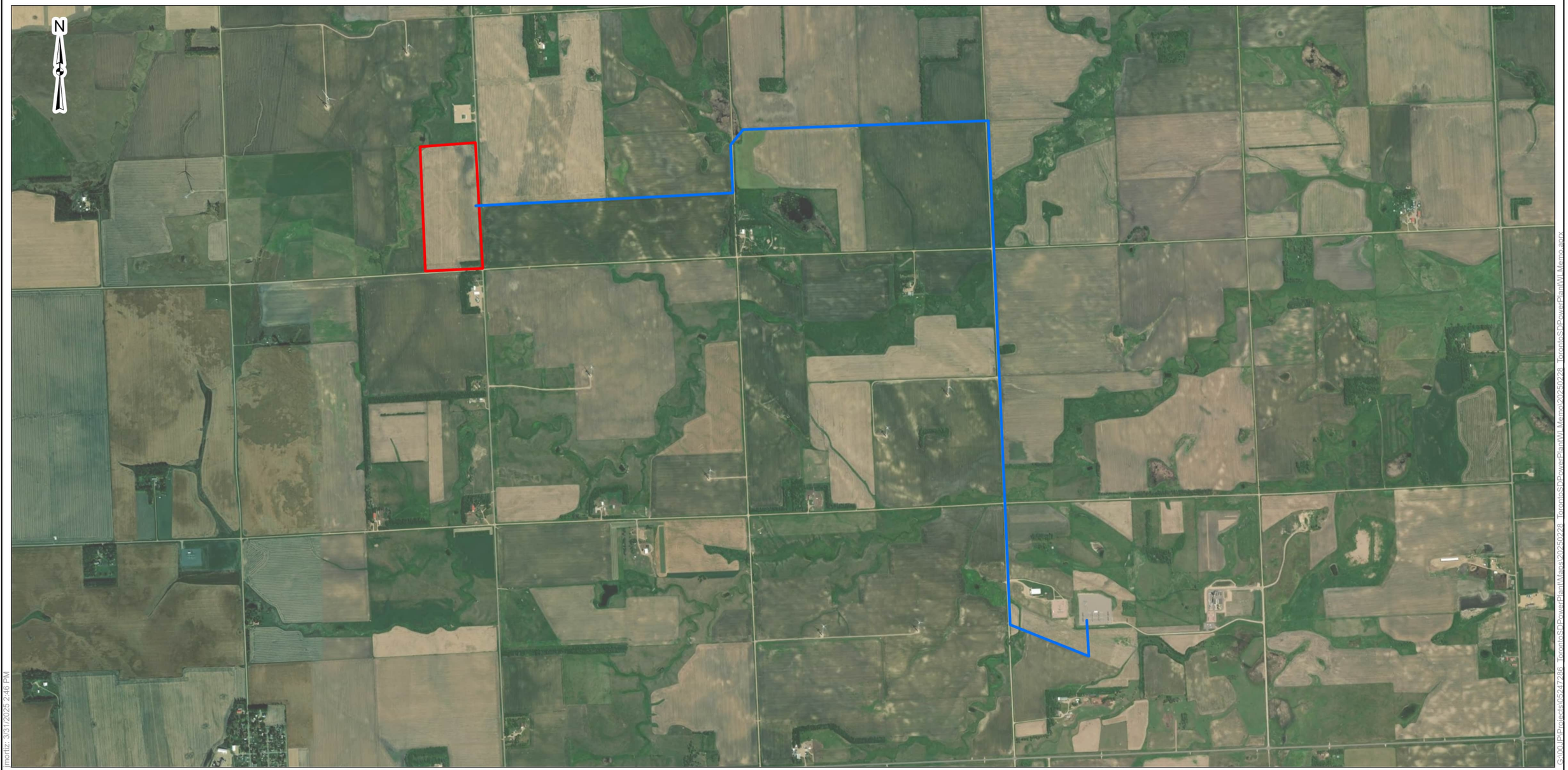

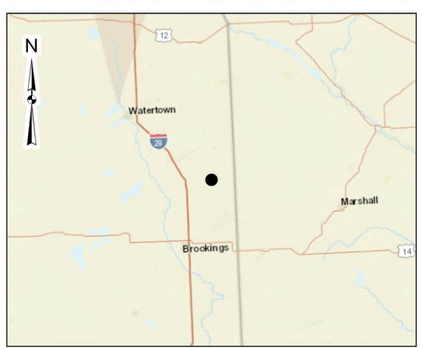

Legend

- Toronto Power Plant Site
- Primary Transmission Route
- Flood Zone X

DATA SOURCE(S):
ESRI 2025a - OpenStreetMap
ESRI 2025b - World Hillshade
ESRI 2025c - World Imagery
FEMA 2024 - National Flood Hazard Layer

Feet
0 1,000 2,000 4,000

Project No.:	05247286
Date:	March 2025
Drawn By:	NDB
Reviewed By:	JR

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FEMA Map

Wetland Delineation
Toronto, SD

Exhibit

5

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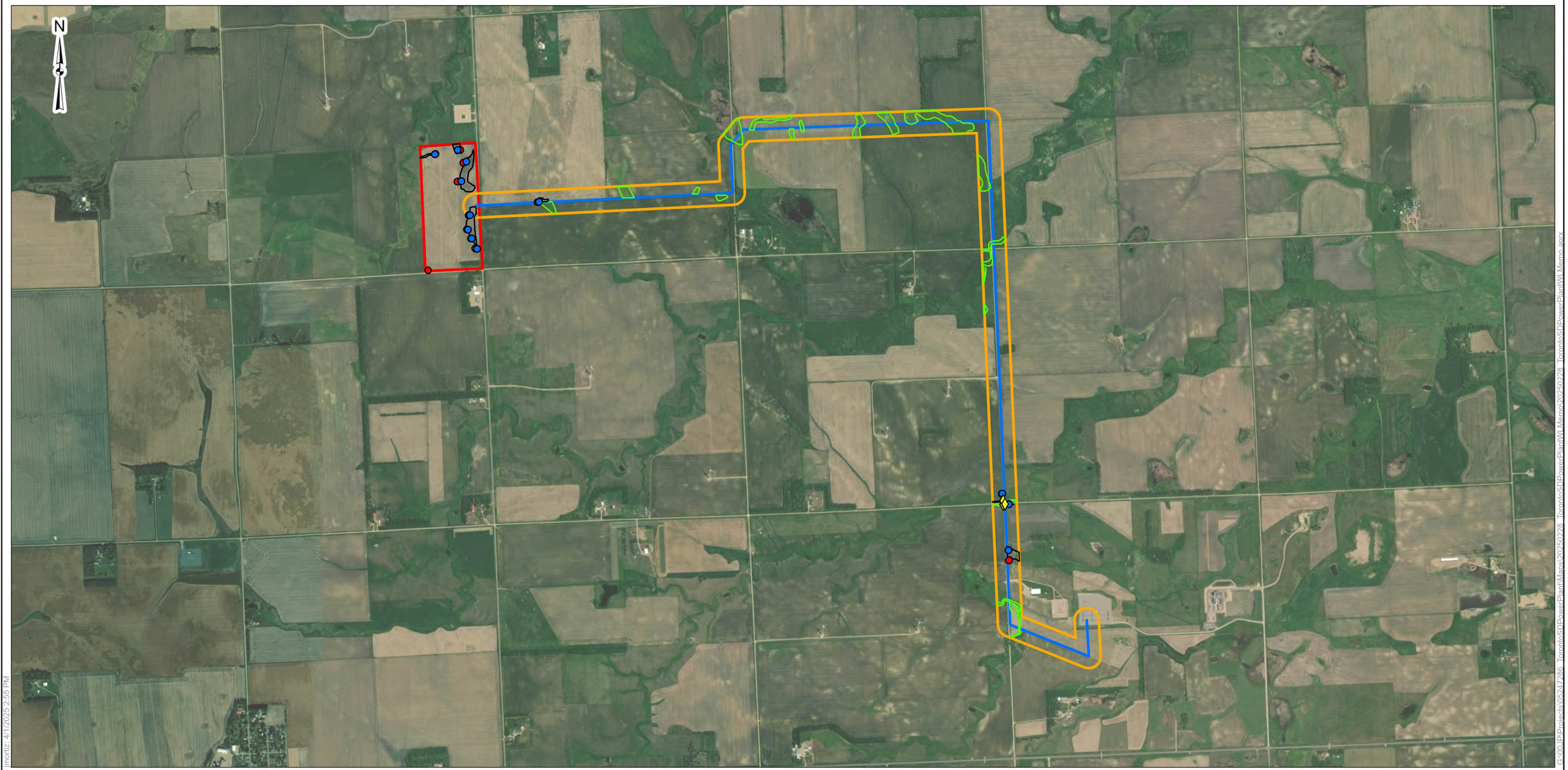

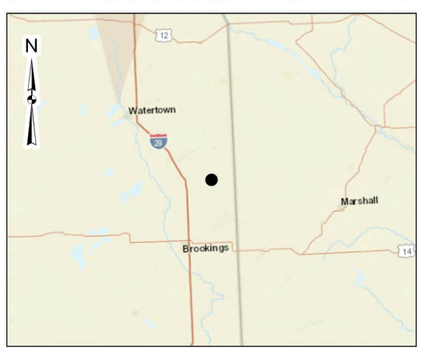

Legend

- Toronto Power Plant Site
- Wetland
- Suspect Wetland
- Buffer 500-ft
- Primary Transmission Route
- Upland
- Wetland
- Culvert

DATA SOURCE(S):
ESRI 2025a - OpenStreetMap
ESRI 2025b - World Hillshade
ESRI 2025c - World Imagery

Feet
0 1,000 2,000 4,000

Project No.:	05247286
Date:	April 2025
Drawn By:	JMO
Reviewed By:	NDB

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Delineation Map

Wetland Delineation
Toronto, SD

Exhibit

6.0

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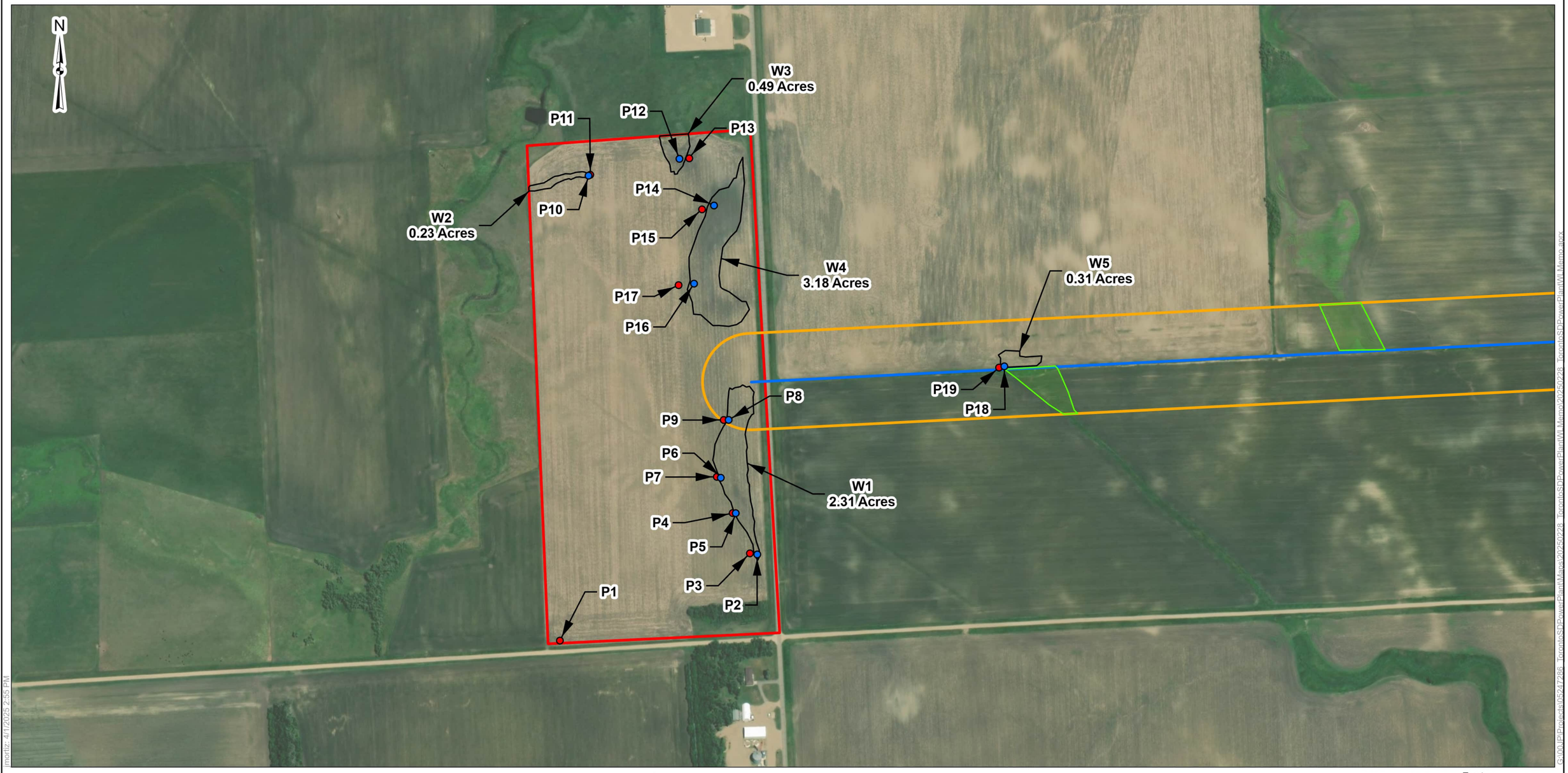

Legend

- Toronto Power Plant Site
- Wetland
- Suspect Wetland
- Buffer 500-ft
- Primary Transmission Route
- Upland
- Wetland

DATA SOURCE(S):
ESRI 2025a - OpenStreetMap
ESRI 2025b - World Hillshade
ESRI 2025c - World Imagery

Feet
0 250 500 1,000

Project No.:	05247286
Date:	April 2025
Drawn By:	JMO
Reviewed By:	NDB

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Delineation Map

Wetland Delineation
Toronto, SD

Exhibit

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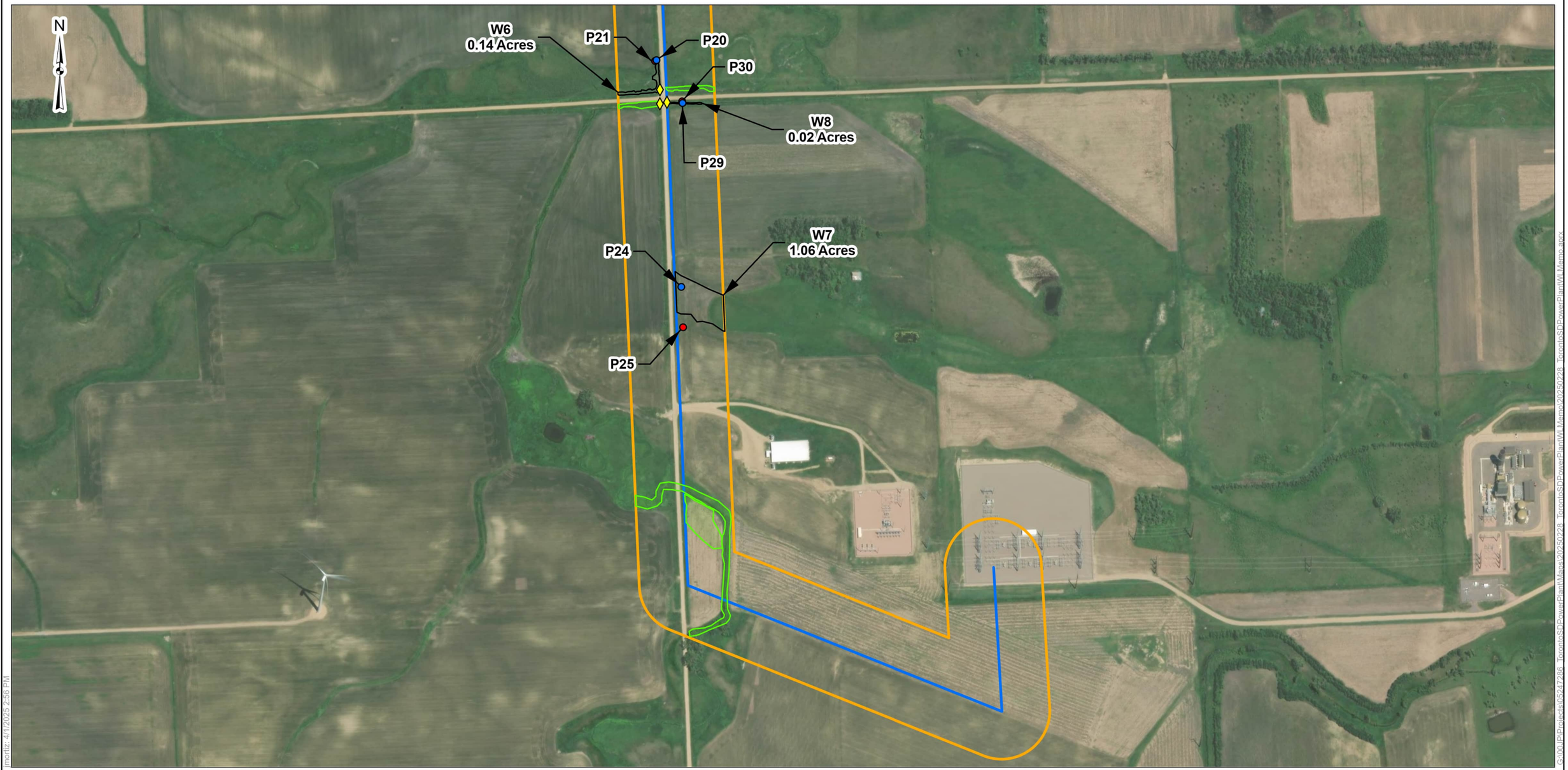

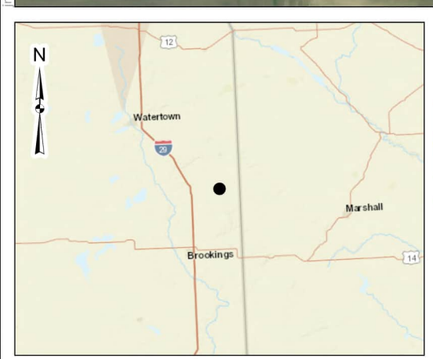

Legend

- Wetland
- Suspect Wetland
- Buffer 500-ft
- Primary Transmission Route
- Upland
- Wetland
- Culvert

DATA SOURCE(S):
ESRI 2025a - OpenStreetMap
ESRI 2025b - World Hillshade
ESRI 2025c - World Imagery

Feet
0 250 500 1,000

Project No.:	05247286
Date:	April 2025
Drawn By:	JMO
Reviewed By:	NDB

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Delineation Map

Wetland Delineation
Toronto, SD

Exhibit

6.2

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APPENDIX B

GROUND PHOTOGRAPHS

Project Name: MRES Wetland Delineation
Terracon Project Number: 05247286
Date Photos Taken: September 30 and October 1, 2024

Photo #1 View of upland P1 on the southwest corner of the power plant site.

Photo #2 View of wetland P2 on the east side of the power plant site.

Photo #3 View of upland P3 on the east side of the power plant site.

Photo #4 View of upland P4 on the east side of the power plant site.

Photo #5 View of wetland P5 on the east side of the power plant site.

Photo #6 View of wetland P6 on the east side of the power plant site.

Photo #7 View of upland P7 on the east side of the power plant site.

Photo #8 View of wetland P8 on the east side of the power plant site.

Photo #9 View of upland P9 on the east side of the power plant site.

Photo #10 View of wetland P10 on the northwest side of the power plant site.

Photo #11 View of upland P11 on the northwest side of the power plant site.

Photo #12 View of wetland P12 on the north side of the power plant site.

Photo #13 View of upland P15 on the east side of the power plant site.

Photo #14 View of wetland P16 on the east side of the power plant site.

Photo #15 View of upland P17 on the east side of the power plant site.

Photo #16 View of mature trees in southeast corner of power plant site looking south.

Photo #17 View of mature trees in southeast corner of power plant site looking east.

Photo #18 View of upland area off south side of W Saltillo Road looking east from culvert and pond area.

Photo #19 View of treed area along the east side of 480th Avenue looking east.

Photo #20 View of treed area along east side of 480th Avenue looking northeast.

Photo #21 View of possible wetland area on the east side of 480th Avenue looking northeast.

Photo #22 View of possible wetland area on west side of 480th Avenue looking northwest.

Photo #23 View of mature grove of trees on west side of 480th Avenue looking northwest.

Photo #24 View of mature grove of trees on west side of 480th Avenue looking northwest.

Photo #25 View of possible wetland area on east side of 480th Avenue looking northeast.

Photo #26 View of mature grove of trees west of 480th Avenue looking west.

Photo #27 View of USFWS parcel with possible wetland west of 480th Avenue looking northwest.

Photo #28 View of possible wetland area east of 481st Avenue looking east.

Photo #29 View of proposed transmission line west of 481st Avenue looking south.

Photo #30 View of prairie area on west side of 481st Avenue looking southeast.

Photo #31 View of possible wetland area east of 481st Avenue looking east.

Photo #32 View of possible wetland and culvert on west side of 481st Avenue looking south.

Photo #33 View of possible wetland area on east side of 481st Avenue looking southeast.

Photo #34 View of possible wetland area west of 481st Avenue looking west.

Photo #35 View of possible wetland area west of 481st Avenue looking south.

Photo #36 View of possible wetland area and pastureland west of 481st Avenue looking west.

Photo #37 View of mature trees on east side of 481st Avenue looking southeast.

Photo #38 View of mature trees on east side of 481st Avenue looking east.

Photo #39 View of possible wetland area on west side of 481st Avenue looking northwest.

Photo #40 View of possible wetland area on east side of 481st Avenue looking east.

Photo #41 View of mature trees and possible wetland area on north side of 193rd Street looking north.

Photo #42 View of mature trees and possible wetland area on north side of 193rd Street looking north.

Photo #43 View of mature trees near proposed transmission line north of 193rd Street looking north.

Photo #44 View of proposed transmission line looking north from 193rd Street.

Photo #45 View of tree line east of proposed transmission line looking northeast from 193rd Street.

Photo #46 View of proposed transmission line looking north from 192nd Street.

Photo #47 View of trees just east of proposed transmission line looking northeast from 192nd Street.

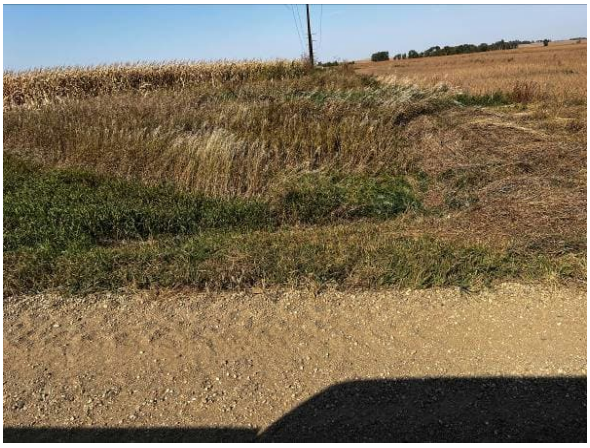

Photo #48 View of possible wetland area north of 192nd Street looking north.

Photo #49 View of possible wetland area near transmission line just south of 192nd Street.

Photo #50 View of proposed transmission line looking south from 192nd Street.

Photo #51 View of wetland P18 looking north.

Photo #52 View of upland P19 looking north.

Photo #53 View of wetland P20 looking east.

Photo #54 View of upland P21 looking east.

Photo #55 View of culvert area west of 481st Avenue and north of 193rd Street.

Photo #56 View of culvert area east of 481st Avenue and north of 193rd Street.

Photo #57 View of culvert area east of 481st Avenue and north of 193rd Street.

Photo #58 View of culvert area west of 481st Avenue and south of 193rd Street.

Photo #59 View of wetland area west of 481st Avenue and south of 193rd Street.

Photo #60 View of culvert areas on intersection of 193rd Street and 481st Avenue looking northeast.

Project Name: MRES Wetland Delineation
Terracon Project Number: 05247286
Date Photos Taken: September 30 and October 1, 2024

Photo #61 View of culvert area south of 193rd Street and east of 481st Avenue looking east.

Photo #62 View of wetland P22 looking east.

Photo #63 View of natural gas pipeline running through project area looking west towards 481st Avenue.

Photo #64 View of possible wetland area with pipeline running through center.

Photo #65 View of possible wetland area with pipeline running through center.

Photo #66 View of possible wetland area with pipeline running through center.

Photo #67 View of wetland P24 looking south.

Photo #68 View of upland P25 looking north towards wetland area.

Photo #69 View of wetland P26 looking west.

Photo #70 View of wetland P27 looking east.

Photo #71 View of wetland and pond area looking east.

Photo #72 View of wetland area looking west from pond area.

Photo #73 View of wetland P28 looking west towards pond area.

Photo #74 View of wetland P29 looking southwest.

Photo #75 View of upland P30 looking south towards drainage feature.

Photo #76 View of wetland P31 looking west with cut down cattails.

Photo #77 View of upland P32 looking west.

Photo #78 View of wetland P33 looking southwest.

Project Name: MRES Wetland Delineation
Terracon Project Number: 05247286
Date Photos Taken: September 30 and October 1, 2024

Photo #79 View of upland P34 looking west.

APPENDIX C

DATA SHEETS

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Toronto, SD MRES Wetland City/County: Toronto/Deuel Sampling Date: 9/30/2024

Applicant/Owner: Missouri River Energy Services State: SD Sampling Point: P1

Investigator(s): N. Oswald Section, Township, Range: S7 T113N R48W

Landform (hillside, terrace, etc.): Ag Field Local relief (concave, convex, none): Concave

Slope (%): 2-4 Lat: 44.601934 Long: 96.626774 Datum: 1984

Soil Map Unit Name: MK NWI classification: NA

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

Are Vegetation Y , Soil Y , or Hydrology Y 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 ____	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Point taken in low area of soy bean field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: 10)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 3)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	____ =Total Cover		
Woody Vine Stratum (Plot size: 3)			
1.			
2.			
	____ =Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species ____	x 1 =	____
FACW species ____	x 2 =	____
FAC species ____	x 3 =	____
FACU species ____	x 4 =	____
UPL species ____	x 5 =	____
Column Totals: ____ (A)		____ (B)

Prevalence Index = B/A = ____

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.

Hydrophytic Vegetation Present? **Yes** * **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
Vegetation not considered due to farming practices.

SOIL

Sampling Point: P1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/2	100					Loamy/Clayey	
16-18	10YR 2/2	80					Loamy/Clayey	10YR 4/4 20%
18-22	10YR 4/4	90					Loamy/Clayey	10YR 2/2 10%
22-40	10YR 4/4	100					Loamy/Clayey	

[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)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ 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** X

Remarks:
Hydric soils not observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

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

Remarks:
One secondary indicator observed. Doesn't meet wetland hydrology.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Toronto, SD MRES Wetland City/County: Toronto/Deuel Sampling Date: 9/30/2024

Applicant/Owner: Missouri River Energy Services State: SD Sampling Point: P2

Investigator(s): N. Oswald Section, Township, Range: S7 T113N R48W

Landform (hillside, terrace, etc.): Ag Field Local relief (concave, convex, none): Concave

Slope (%): 4-6 Lat: 44.603041 Long: 96.622781 Datum: 1984

Soil Map Unit Name: Hm NWI classification: PEMA f

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

Are Vegetation Y , Soil Y , or Hydrology Y 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 ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Point taken in low area of soy bean field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: 10)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 3)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	____ =Total Cover		
Woody Vine Stratum (Plot size: 3)			
1.			
2.			
	____ =Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species ____	x 1 =	____
FACW species ____	x 2 =	____
FAC species ____	x 3 =	____
FACU species ____	x 4 =	____
UPL species ____	x 5 =	____
Column Totals: ____ (A)		____ (B)

Prevalence Index = B/A = ____

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.

Hydrophytic Vegetation Present? **Yes** * **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
Vegetation not considered due to farming practices.

SOIL

Sampling Point: P2

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 2/2	95	5YR 4/6	5	C	PL/M	Loamy/Clayey	Prominent redox concentrations
6-15	10YR 2/2	90					Loamy/Clayey	10YR 4/310%
15-20	10YR 4/3	80	5YR 4/6	5	C	PL/M	Loamy/Clayey	10YR 2/2 15%
20-24	10YR 4/4	90	5YR 4/6	10	C	PL/M	Loamy/Clayey	Prominent redox concentrations
24-30	10YR 4/4	80	5YR 4/6	5	C	PL/M	Loamy/Clayey	5/10Y 15%
30-40	10YR 4/4	70	5YR 4/6	15	C	PL/M	Loamy/Clayey	5/10Y 15%

[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)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ 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** X **No** ___

Remarks:
Hydric soils observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:
Wetland hydrology observed.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Toronto, SD MRES Wetland | City/County: Toronto/Deuel | Sampling Date: 9/30/2024

Applicant/Owner: Missouri River Energy Services | State: SD | Sampling Point: P3

Investigator(s): N. Oswald | Section, Township, Range: S7 T113N R48W

Landform (hillside, terrace, etc.): Ag field | Local relief (concave, convex, none): Concave

Slope (%): 5-7 | Lat: 44.603060 | Long: 96.622927 | Datum: 1984

Soil Map Unit Name: Z171B | NWI classification: NA

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

Are Vegetation Y , Soil Y , or Hydrology Y 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** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Upland point for P2.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: 10)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 3)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	____ =Total Cover		
Woody Vine Stratum (Plot size: 3)			
1.			
2.			
	____ =Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species ____	x 1 =	____
FACW species ____	x 2 =	____
FAC species ____	x 3 =	____
FACU species ____	x 4 =	____
UPL species ____	x 5 =	____
Column Totals: ____ (A)		____ (B)

Prevalence Index = B/A = ____

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.

Hydrophytic Vegetation Present? **Yes** * **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
Vegetation not considered due to farming practices.

SOIL

Sampling Point: P3

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 2/2	100					Loamy/Clayey	
5-12	10YR 2/2	60					Loamy/Clayey	10YR 4/3 40%
12-30	10YR 4/3	90					Loamy/Clayey	10YR 2/2 10%

[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)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ 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** X

Remarks:

Hole terminated at 30" due to rock layer. Soils too light with no redox to be hydric.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

No hydrology observed.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Toronto, SD MRES Wetland | City/County: Toronto/Deuel | Sampling Date: 9/30/2024

Applicant/Owner: Missouri River Energy Services | State: SD | Sampling Point: P4

Investigator(s): N. Oswald | Section, Township, Range: S7 T113N R48W

Landform (hillside, terrace, etc.): Ag field | Local relief (concave, convex, none): Concave

Slope (%): 2-4 | Lat: 44.603642 | Long: 96.623236 | Datum: 1984

Soil Map Unit Name: AvD | NWI classification: NA

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

Are Vegetation Y , Soil Y , or Hydrology Y 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 ____	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Upland point for P5

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: 10)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 3)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	____ =Total Cover		
Woody Vine Stratum (Plot size: 3)			
1.			
2.			
	____ =Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species ____	x 1 =	____
FACW species ____	x 2 =	____
FAC species ____	x 3 =	____
FACU species ____	x 4 =	____
UPL species ____	x 5 =	____
Column Totals: ____ (A)		____ (B)

Prevalence Index = B/A = ____

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.

Hydrophytic Vegetation Present? **Yes** * **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
Vegetation not considered due to farming practices.

SOIL

Sampling Point: P4

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 2/1	100					Loamy/Clayey	
20-24	10YR 2/1	70					Loamy/Clayey	10YR 3/4 30%
24-30	10YR 3/4	60					Loamy/Clayey	10YR 2/1 40%
30-40	10YR 3/4	80					Loamy/Clayey	10YR 2/1 20%

[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)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ 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** X

Remarks:
Hydric soils not observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:
Wetland hydrology not observed.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Toronto, SD MRES Wetland | City/County: Toronto/Deuel | Sampling Date: 9/30/2024

Applicant/Owner: Missouri River Energy Services | State: SD | Sampling Point: P5

Investigator(s): N. Oswald | Section, Township, Range: S7 T113N R48W

Landform (hillside, terrace, etc.): Ag field | Local relief (concave, convex, none): Concave

Slope (%): 1-3 | Lat: 44.603640 | Long: 96.623175 | Datum: 1984

Soil Map Unit Name: Hm | NWI classification: PEMA f

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

Are Vegetation Y , Soil Y , or Hydrology Y 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 ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Point taken in low area of soy bean field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: 10)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 3)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	____ =Total Cover		
Woody Vine Stratum (Plot size: 3)			
1.			
2.			
	____ =Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species ____	x 1 =	____
FACW species ____	x 2 =	____
FAC species ____	x 3 =	____
FACU species ____	x 4 =	____
UPL species ____	x 5 =	____
Column Totals: ____ (A)		____ (B)

Prevalence Index = B/A = ____

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.

Hydrophytic Vegetation Present? **Yes** * **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
Vegetation not considered due to farming practices.

SOIL

Sampling Point: P5

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 2/2	95	5YR 4/6	5	C	PL/M		Prominent redox concentrations
4-20	10YR 2/1	95	5YR 4/6	5	C	PL/M		
20-25	10YR 2/2	90						10YR 3/4 10%
25-32	10YR 2/2	85	5YR 4/6	5	C	PL/M		10YR 3/4 10%
32-40	10YR 3/2	80	5YR 4/6	5	C	PL/M		10YR 2/1 15%

[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)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ 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** X **No** ___

Remarks:
Hydric soils observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:
Wetland hydrology observed.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Toronto, SD MRES Wetland City/County: Toronto/Deuel Sampling Date: 9/30/2024

Applicant/Owner: Missouri River Energy Services State: SD Sampling Point: P6

Investigator(s): N. Oswald Section, Township, Range: S7 T113N R48W

Landform (hillside, terrace, etc.): Ag field Local relief (concave, convex, none): Concave

Slope (%): 2-4 Lat: 44.604151 Long: 96.623443 Datum: 1984

Soil Map Unit Name: Hm NWI classification: PEMAf

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

Are Vegetation Y , Soil Y , or Hydrology Y 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 ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Point taken in low area of soy bean field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: 10)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 3)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	____ =Total Cover		
Woody Vine Stratum (Plot size: 3)			
1.			
2.			
	____ =Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species ____	x 1 =	____
FACW species ____	x 2 =	____
FAC species ____	x 3 =	____
FACU species ____	x 4 =	____
UPL species ____	x 5 =	____
Column Totals: ____ (A)		____ (B)

Prevalence Index = B/A = ____

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.

Hydrophytic Vegetation Present? **Yes** * **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
Vegetation not considered due to farming practices.

SOIL

Sampling Point: P6

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/2	95	5YR 4/6	5	C	PL/M	Loamy/Clayey	Prominent redox concentrations
8-28	10YR 2/1	95	5YR 4/6	5	C	PL/M	Loamy/Clayey	
28-40	10YR 2/1	85	5YR 4/6	5	C	PL/M	Loamy/Clayey	10YR 3/4 10%

[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)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ 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** X **No** ___

Remarks:
Hydric soils observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:
Wetland hydrology observed.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Toronto, SD MRES Wetland | City/County: Toronto/Deuel | Sampling Date: 9/30/2024

Applicant/Owner: Missouri River Energy Services | State: SD | Sampling Point: P7

Investigator(s): N. Oswald | Section, Township, Range: S7 T113N R48W

Landform (hillside, terrace, etc.): Ag Field | Local relief (concave, convex, none): Concave

Slope (%): 3-6 | Lat: 44.604166 | Long: 96.623521 | Datum: 1984

Soil Map Unit Name: Hm | NWI classification: NA

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

Are Vegetation Y , Soil Y , or Hydrology Y 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 ____	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Upland point for P6.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: 10)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 3)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	____ =Total Cover		
Woody Vine Stratum (Plot size: 3)			
1.			
2.			
	____ =Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species ____	x 1 =	____
FACW species ____	x 2 =	____
FAC species ____	x 3 =	____
FACU species ____	x 4 =	____
UPL species ____	x 5 =	____
Column Totals: ____ (A)		____ (B)

Prevalence Index = B/A = ____

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.

Hydrophytic Vegetation Present? **Yes** * **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
Vegetation not considered due to farming practices.

SOIL

Sampling Point: P7

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/2	100					Loamy/Clayey	
12-16	10YR 3/1	100					Loamy/Clayey	
16-20	10YR 3/1	95	5YR 4/6	5	C	PL/M	Loamy/Clayey	
20-26	10YR 2/2	100					Loamy/Clayey	
26-30	10YR 2/2	95	5YR 4/6	5	C	PL/M	Loamy/Clayey	Prominent redox concentrations
30-40	10YR 3/2	100						

[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)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ 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** X

Remarks:
No hydric soils observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:
No wetland hydrology observed.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Toronto, SD MRES Wetland | City/County: Toronto/Deuel | Sampling Date: 9/30/2024

Applicant/Owner: Missouri River Energy Services | State: SD | Sampling Point: P8

Investigator(s): N. Oswald | Section, Township, Range: S7 T113N R48W

Landform (hillside, terrace, etc.): Ag field | Local relief (concave, convex, none): Concave

Slope (%): 3-5 | Lat: 44.604968 | Long: 96.623239 | Datum: 1984

Soil Map Unit Name: Hm | NWI classification: PEMAf

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

Are Vegetation Y , Soil Y , or Hydrology Y 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 ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Point taken in low area of soy bean field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: 10)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 3)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	____ =Total Cover		
Woody Vine Stratum (Plot size: 3)			
1.			
2.			
	____ =Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species ____	x 1 =	____
FACW species ____	x 2 =	____
FAC species ____	x 3 =	____
FACU species ____	x 4 =	____
UPL species ____	x 5 =	____
Column Totals: ____ (A)		____ (B)

Prevalence Index = B/A = ____

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.

Hydrophytic Vegetation Present? **Yes** * **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
Vegetation not considered due to farming practices.

SOIL

Sampling Point: P8

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/2	95	5YR 4/6	5	C	PL/M	Loamy/Clayey	Prominent redox concentrations
8-14	10YR 3/2	80						10YR 4/3 20%
14-20	10YR 4/3	85						10YR 3/2 15%
20-32	10YR 4/3	95	5YR 4/6	5	C	PL/M		Prominent redox concentrations
32-40	10YR 4/3	80	5YR 4/6	10	C	PL/M		5/10Y 10%

[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)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ 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** X **No** ___

Remarks:
Hydric soils observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:
Wetland hydrology observed.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Toronto, SD MRES Wetland | City/County: Toronto/Deuel | Sampling Date: 9/30/2024

Applicant/Owner: Missouri River Energy Services | State: SD | Sampling Point: P9

Investigator(s): N. Oswald | Section, Township, Range: S7 T113N R48W

Landform (hillside, terrace, etc.): Ag field | Local relief (concave, convex, none): Concave

Slope (%): 2-4 | Lat: 44.604970 | Long: 96.623336 | Datum: 1984

Soil Map Unit Name: Hm | NWI classification: NA

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

Are Vegetation Y , Soil Y , or Hydrology Y 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 ____	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Upland point for P8.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: 10)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 3)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	____ =Total Cover		
Woody Vine Stratum (Plot size: 3)			
1.			
2.			
	____ =Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species ____	x 1 =	____
FACW species ____	x 2 =	____
FAC species ____	x 3 =	____
FACU species ____	x 4 =	____
UPL species ____	x 5 =	____
Column Totals: ____ (A)		____ (B)

Prevalence Index = B/A = ____

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.

Hydrophytic Vegetation Present? **Yes** * **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
Vegetation not considered due to farming practices.

SOIL

Sampling Point: P9

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 2/2	100					Loamy/Clayey	
10-18	10YR 2/2	60					Loamy/Clayey	10YR 4/4 40%
18-40	10YR 4/4	60	5YR 4/6	10	C	PL/M	Loamy/Clayey	10YR 2/2 40%

[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)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ 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** X

Remarks:

No hydric soils observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

No wetland hydrology observed.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Toronto, SD MRES Wetland | City/County: Toronto/Deuel | Sampling Date: 9/30/2024

Applicant/Owner: Missouri River Energy Services | State: SD | Sampling Point: P10

Investigator(s): N. Oswald | Section, Township, Range: S7 T113N R48W

Landform (hillside, terrace, etc.): Ag field | Local relief (concave, convex, none): Concave

Slope (%): 2-4 | Lat: 44.608520 | Long: 96.625819 | Datum: 1984

Soil Map Unit Name: MK | NWI classification: PEMAf

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

Are Vegetation Y , Soil Y , or Hydrology Y 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 ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Point taken in low area of soy bean field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: 10)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 3)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	____ =Total Cover		
Woody Vine Stratum (Plot size: 3)			
1.			
2.			
	____ =Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species ____	x 1 =	____
FACW species ____	x 2 =	____
FAC species ____	x 3 =	____
FACU species ____	x 4 =	____
UPL species ____	x 5 =	____
Column Totals: ____ (A)		____ (B)

Prevalence Index = B/A = ____

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.

Hydrophytic Vegetation Present? **Yes** * **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
Vegetation not considered due to farming practices.

SOIL

Sampling Point: P10

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 2/2	95	5YR 4/6	5	C	PL/M	Loamy/Clayey	Prominent redox concentrations
12-14	10YR 2/1	100					Loamy/Clayey	
14-24	10YR 3/2	90					Loamy/Clayey	10YR 4/2 10%
24-40	10YR 4/2	85					Loamy/Clayey	10YR 3/2 15%

[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)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ 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** X **No** ___

Remarks:
Hydric soils observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:
Wetland hydrology observed.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Toronto, SD MRES Wetland | City/County: Toronto/Deuel | Sampling Date: 9/30/2024

Applicant/Owner: Missouri River Energy Services | State: SD | Sampling Point: P11

Investigator(s): N. Oswald | Section, Township, Range: S7 T113N R48W

Landform (hillside, terrace, etc.): Ag field | Local relief (concave, convex, none): Concave

Slope (%): 2-4 | Lat: 44.608531 | Long: 96.625786 | Datum: 1984

Soil Map Unit Name: MK | NWI classification: NA

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

Are Vegetation Y , Soil Y , or Hydrology Y 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 ____	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Upland point for P10

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: 10)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 3)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	____ =Total Cover		
Woody Vine Stratum (Plot size: 3)			
1.			
2.			
	____ =Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species ____	x 1 =	____
FACW species ____	x 2 =	____
FAC species ____	x 3 =	____
FACU species ____	x 4 =	____
UPL species ____	x 5 =	____
Column Totals: ____ (A)		____ (B)

Prevalence Index = B/A = ____

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.

Hydrophytic Vegetation Present? **Yes** * **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
Vegetation not considered due to farming practices.

SOIL

Sampling Point: P11

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 3/1	100					Loamy/Clayey	
18-24	10YR 3/1	90					Loamy/Clayey	10YR 4/2 10%
24-28	10YR 3/2	80					Loamy/Clayey	10YR 4/2 20%
28-36	10YR 4/3	85					Loamy/Clayey	10YR 3/2 15%
36-40	10YR 4/3	95	5YR 4/6	5	C	PL/M	Loamy/Clayey	Prominent redox concentrations

[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)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ 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** X

Remarks:
No hydric soils observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:
One secondary indicator. No wetland hydrology.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Toronto, SD MRES Wetland | City/County: Toronto/Deuel | Sampling Date: 9/30/2024

Applicant/Owner: Missouri River Energy Services | State: SD | Sampling Point: P12

Investigator(s): N. Oswald | Section, Township, Range: S7 T113N R48W

Landform (hillside, terrace, etc.): Ag field | Local relief (concave, convex, none): Concave

Slope (%): 2-4 | Lat: 44.608705 | Long: 96.623999 | Datum: 1984

Soil Map Unit Name: Hm | NWI classification: PEMAf

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

Are Vegetation Y , Soil Y , or Hydrology Y 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 ____	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Point taken in low area of soy bean field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: 10)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 3)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	____ =Total Cover		
Woody Vine Stratum (Plot size: 3)			
1.			
2.			
	____ =Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species ____	x 1 =	____
FACW species ____	x 2 =	____
FAC species ____	x 3 =	____
FACU species ____	x 4 =	____
UPL species ____	x 5 =	____
Column Totals: ____ (A)		____ (B)

Prevalence Index = B/A = ____

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.

Hydrophytic Vegetation Present? **Yes** * **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
Vegetation not considered due to farming practices.

SOIL

Sampling Point: P12

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 2/2	95	5YR 4/6	5	C	PL/M	Loamy/Clayey	Prominent redox concentrations
10-24	10YR 2/1	100					Loamy/Clayey	
24-40	10YR 3/1	95					Loamy/Clayey	10YR 4/2 5%

[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)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ 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** X **No** ___

Remarks:

Hydric soils observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

Wetland hydrology observed.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Toronto, SD MRES Wetland | City/County: Toronto/Deuel | Sampling Date: 9/30/2024

Applicant/Owner: Missouri River Energy Services | State: SD | Sampling Point: P13

Investigator(s): N. Oswald | Section, Township, Range: S7 T113N R48W

Landform (hillside, terrace, etc.): Ag field | Local relief (concave, convex, none): Concave

Slope (%): 2-4 | Lat: 44.608706 | Long: 96.623803 | Datum: 1984

Soil Map Unit Name: Hm | NWI classification: NA

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

Are Vegetation Y , Soil Y , or Hydrology Y 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 ____	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Upland point for P12.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: 10)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 3)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	____ =Total Cover		
Woody Vine Stratum (Plot size: 3)			
1.			
2.			
	____ =Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species ____	x 1 =	____
FACW species ____	x 2 =	____
FAC species ____	x 3 =	____
FACU species ____	x 4 =	____
UPL species ____	x 5 =	____
Column Totals: ____ (A)		____ (B)

Prevalence Index = B/A = ____

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.

Hydrophytic Vegetation Present? **Yes** * **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
Vegetation not considered due to farming practices.

SOIL

Sampling Point: P13

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/1	100					Loamy/Clayey	
12-18	10YR 3/1	85					Loamy/Clayey	10YR 4/3 15%
18-24	10YR 4/3	75					Loamy/Clayey	10YR 3/1 25%
24-40	10YR 4/3	100					Loamy/Clayey	

[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)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ 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** X

Remarks:
No hydric soils observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:
No wetland hydrology observed.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Toronto, SD MRES Wetland | City/County: Toronto/Deuel | Sampling Date: 9/30/2024

Applicant/Owner: Missouri River Energy Services | State: SD | Sampling Point: P14

Investigator(s): N. Oswald | Section, Township, Range: S7 T113N R48W

Landform (hillside, terrace, etc.): Ag field | Local relief (concave, convex, none): Concave

Slope (%): 1-3 | Lat: 44.608021 | Long: 96.623351 | Datum: 1984

Soil Map Unit Name: Hm | NWI classification: PEMAf

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

Are Vegetation Y , Soil Y , or Hydrology Y 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** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Point taken in low area of soy bean field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: 10)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 3)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	____ =Total Cover		
Woody Vine Stratum (Plot size: 3)			
1.			
2.			
	____ =Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species ____	x 1 =	____
FACW species ____	x 2 =	____
FAC species ____	x 3 =	____
FACU species ____	x 4 =	____
UPL species ____	x 5 =	____
Column Totals: ____ (A)		____ (B)

Prevalence Index = B/A = ____

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.

Hydrophytic Vegetation Present? **Yes** * **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
Vegetation not considered due to farming practices.

SOIL

Sampling Point: P14

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/1	95	5YR 4/6	5	C	PL/M	Loamy/Clayey	Prominent redox concentrations
12-24	10YR 2/1	100					Loamy/Clayey	
24-40	10YR 2/1	90					Loamy/Clayey	10YR 4/2 10%

[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)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ 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** X **No** ___

Remarks:
Hydric soils observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:
Wetland hydrology observed.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Toronto, SD MRES Wetland | City/County: Toronto/Deuel | Sampling Date: 9/30/2024

Applicant/Owner: Missouri River Energy Services | State: SD | Sampling Point: P15

Investigator(s): N. Oswald | Section, Township, Range: S7 T113N R48W

Landform (hillside, terrace, etc.): Ag field | Local relief (concave, convex, none): Concave

Slope (%): 4-5 | Lat: 44.607974 | Long: 96.623593 | Datum: 1984

Soil Map Unit Name: Hm | NWI classification: NA

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

Are Vegetation Y , Soil Y , or Hydrology Y 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 ____	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Upland point for P14.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: 10)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 3)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	____ =Total Cover		
Woody Vine Stratum (Plot size: 3)			
1.			
2.			
	____ =Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species ____	x 1 =	____
FACW species ____	x 2 =	____
FAC species ____	x 3 =	____
FACU species ____	x 4 =	____
UPL species ____	x 5 =	____
Column Totals: ____ (A)		____ (B)

Prevalence Index = B/A = ____

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.

Hydrophytic Vegetation Present? **Yes** * **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
Vegetation not considered due to farming practices.

SOIL

Sampling Point: P15

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/2	95	5YR 4/6	5	C	PL/M	Loamy/Clayey	Prominent redox concentrations
8-16	10YR 3/2	100					Loamy/Clayey	
16-28	10YR 3/2	85					Loamy/Clayey	10YR 4/3 15%
28-40	10YR 4/3	80					Loamy/Clayey	10YR 3/2 20%

[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)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ 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** X **No** ___

Remarks:
Hydric soils observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:
No wetland hydrology obseved.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Toronto, SD MRES Wetland | City/County: Toronto/Deuel | Sampling Date: 9/30/2024

Applicant/Owner: Missouri River Energy Services | State: SD | Sampling Point: P16

Investigator(s): N. Oswald | Section, Township, Range: S7 T113N R48W

Landform (hillside, terrace, etc.): Ag field | Local relief (concave, convex, none): Concave

Slope (%): 0-2 | Lat: 44.606924 | Long: 96.623813 | Datum: 1984

Soil Map Unit Name: Hm | NWI classification: PEMAf

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

Are Vegetation Y , Soil Y , or Hydrology Y 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 ____
Hydric Soil Present?	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____

Is the Sampled Area within a Wetland? **Yes** X **No** ____

Remarks:
Point taken in low area of soy bean field.

VEGETATION – Use scientific names of plants.

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

Sapling/Shrub Stratum (Plot size: 10)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		

Herb Stratum (Plot size: 3)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	____ =Total Cover		

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

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species ____	x 1 =	____
FACW species ____	x 2 =	____
FAC species ____	x 3 =	____
FACU species ____	x 4 =	____
UPL species ____	x 5 =	____
Column Totals: ____ (A)		____ (B)

Prevalence Index = B/A = ____

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.

Hydrophytic Vegetation Present? **Yes** * **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
Vegetation not considered due to farming practices.

SOIL

Sampling Point: P16

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/1	95	5YR 4/6	5	C	PL/M	Loamy/Clayey	Prominent redox concentrations
6-18	10YR 2/1	95	5YR 4/6	5	C	PL/M	Loamy/Clayey	
18-24	10YR 2/1	100					Loamy/Clayey	
24-40	10YR 3/1	100					Loamy/Clayey	

[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)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ 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** X **No** ___

Remarks:
Hydric soils observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:
Wetland hydrology observed.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Toronto, SD MRES Wetland | City/County: Toronto/Deuel | Sampling Date: 9/30/2024

Applicant/Owner: Missouri River Energy Services | State: SD | Sampling Point: P17

Investigator(s): N. Oswald | Section, Township, Range: S7 T113N R48W

Landform (hillside, terrace, etc.): Ag field | Local relief (concave, convex, none): Concave

Slope (%): 3-5 | Lat: 44.606911 | Long: 96.624122 | Datum: 1984

Soil Map Unit Name: Hm | NWI classification: NA

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

Are Vegetation Y , Soil Y , or Hydrology Y 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 ____	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Upland point for P16.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: 10)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 3)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	____ =Total Cover		
Woody Vine Stratum (Plot size: 3)			
1.			
2.			
	____ =Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species ____	x 1 =	____
FACW species ____	x 2 =	____
FAC species ____	x 3 =	____
FACU species ____	x 4 =	____
UPL species ____	x 5 =	____
Column Totals: ____ (A)		____ (B)

Prevalence Index = B/A = ____

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.

Hydrophytic Vegetation Present? **Yes** * **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
Vegetation not considered due to farming practices.

SOIL

Sampling Point: P17

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-30	10YR 3/2	100						

[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)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ 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** X

Remarks:

Hole terminated at 30" due to rock layer. Hydric soils were not observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

No wetland hydrolohy observed.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Toronto, SD MRES Wetland | City/County: Toronto/Deuel | Sampling Date: 9/30/2024

Applicant/Owner: Missouri River Energy Services | State: SD | Sampling Point: P18

Investigator(s): N. Oswald | Section, Township, Range: S8 T113N R48W

Landform (hillside, terrace, etc.): Ag field | Local relief (concave, convex, none): Concave

Slope (%): 3-6 | Lat: 44.605565 | Long: 96.617708 | Datum: 1984

Soil Map Unit Name: Hm | NWI classification: PEMAf

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

Are Vegetation Y , Soil Y , or Hydrology Y 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 ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Point taken in low area of corn field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: 10)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 3)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	____ =Total Cover		
Woody Vine Stratum (Plot size: 3)			
1.			
2.			
	____ =Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species ____	x 1 =	____
FACW species ____	x 2 =	____
FAC species ____	x 3 =	____
FACU species ____	x 4 =	____
UPL species ____	x 5 =	____
Column Totals: ____ (A)		____ (B)

Prevalence Index = B/A = ____

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.

Hydrophytic Vegetation Present? **Yes** * **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
Vegetation not considered due to farming practices.

SOIL

Sampling Point: P18

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 2/2	95	5YR 4/6	5	C	PL/M	Loamy/Clayey	Prominent redox concentrations
12-16	10YR 2/2	90						10YR 3/4 10%
16-24	10YR 2/2	80	5YR 4/6	5	C	PL/M		10YR 3/4 15%
24-32	10YR 2/1	90						10YR 3/4 10%
32-40	10YR 2/1	85	5YR 4/6	5	C	PL/M		10YR 3/4 10%

[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)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ 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** X **No** ___

Remarks:
Hydric soils observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:
Wetland hydrology observed.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Toronto, SD MRES Wetland | City/County: Toronto/Deuel | Sampling Date: 9/30/2024

Applicant/Owner: Missouri River Energy Services | State: SD | Sampling Point: P19

Investigator(s): N. Oswald | Section, Township, Range: S8 T113N R48W

Landform (hillside, terrace, etc.): Ag field | Local relief (concave, convex, none): Concave

Slope (%): 5-6 | Lat: 44.605551 | Long: 96.617814 | Datum: 1984

Soil Map Unit Name: Hm | NWI classification: NA

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

Are Vegetation Y , Soil Y , or Hydrology Y 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 ____	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Upland point for P18.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: 10)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 3)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	____ =Total Cover		
Woody Vine Stratum (Plot size: 3)			
1.			
2.			
	____ =Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species ____	x 1 =	____
FACW species ____	x 2 =	____
FAC species ____	x 3 =	____
FACU species ____	x 4 =	____
UPL species ____	x 5 =	____
Column Totals: ____ (A)		____ (B)

Prevalence Index = B/A = ____

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.

Hydrophytic Vegetation Present? **Yes** * **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
Vegetation not considered due to farming practices.

SOIL

Sampling Point: P19

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/1	100					Loamy/Clayey	
6-9	10YR 3/1	98	5YR 4/6	2	C	PL/M	Loamy/Clayey	
9-20	10YR 2/2	100					Loamy/Clayey	
20-34	10YR 2/2	90					Loamy/Clayey	10YR 4/2 10%
34-40	10YR 4/3	80	5YR 4/6	5	C	PL/M	Loamy/Clayey	10YR 2/2 15%

[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)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ 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** X

Remarks:
No hydric soils observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:
No wetland hydrology observed.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Toronto, SD MRES Wetland | City/County: Toronto/Deuel | Sampling Date: 9/30/2024

Applicant/Owner: Missouri River Energy Services | State: SD | Sampling Point: P20

Investigator(s): N. Oswald | Section, Township, Range: S16 T113N R48W

Landform (hillside, terrace, etc.): Roadside Ditch | Local relief (concave, convex, none): Concave

Slope (%): 0-2 | Lat: 44.587878 | Long: 96.581838 | Datum: 1984

Soil Map Unit Name: Lr | NWI classification: PEMA

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

Are Vegetation N , Soil N , or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N , Soil N , or Hydrology N 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 X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Point taken in roadside ditch with hydrophytic vegetation.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 10)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 3)			
1. *Carex aquatilis*	90	Yes	OBL
2. *Phragmites australis*	10	No	FACW
3. *Asclepias syriaca*	5	No	FACU
4. *Cirsium vulgare*	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
	110 =Total Cover		
Woody Vine Stratum (Plot size: 3)			
1.			
2.			
	=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	90	x 1 =	90
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	110 (A)		150 (B)

Prevalence Index = B/A = 1.36

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 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.

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
Mixed vegetation hydrophytic dominant.

SOIL

Sampling Point: P20

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/1	100					Loamy/Clayey	
8-18	10YR 2/1	95	5YR 4/6	5	C	PL/M	Loamy/Clayey	
18-24	10YR 2/1	90	5YR 4/6	10	C	PL/M	Loamy/Clayey	

[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)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ 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** X **No** ___

Remarks:
Hydric soils observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:
Wetland hydrology observed.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Toronto, SD MRES Wetland | City/County: Toronto/Deuel | Sampling Date: 9/30/2024

Applicant/Owner: Missouri River Energy Services | State: SD | Sampling Point: P21

Investigator(s): N. Oswald | Section, Township, Range: S16 T113N R48W

Landform (hillside, terrace, etc.): Ditch hillside | Local relief (concave, convex, none): Concave

Slope (%): 6-8 | Lat: 44.587868 | Long: 96.581865 | Datum: 1984

Soil Map Unit Name: Lr | NWI classification: NA

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

Are Vegetation N , Soil N , or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N , Soil N , or Hydrology N 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 X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Upland point for P20.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 10)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 3)			
1. *Bromus inermis*	100	Yes	FACU
2. *Heliopsis helianthoides*	5	No	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	105 =Total Cover		
Woody Vine Stratum (Plot size: 3)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	105	x 4 =	420
UPL species	0	x 5 =	0
Column Totals:	105 (A)		420 (B)

Prevalence Index = B/A = 4.00

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.

Hydrophytic Vegetation Present? **Yes** ____ **No** X

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

SOIL

Sampling Point: P21

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/2	100					Loamy/Clayey	
12-16	10YR 2/2	100					Loamy/Clayey	
16-24	10YR 2/2	90					Loamy/Clayey	10YR 3/4 10%

[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)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ 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** X

Remarks:

No redox observed - not hydric.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

No wetland hydrology observed.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Toronto, SD MRES Wetland | City/County: Toronto/Deuel | Sampling Date: 10/01/2024

Applicant/Owner: Missouri River Energy Services | State: SD | Sampling Point: P24

Investigator(s): N. Oswald | Section, Township, Range: S22 T113N R48W

Landform (hillside, terrace, etc.): Ag field | Local relief (concave, convex, none): Concave

Slope (%): 0-3 | Lat: 44.584645 | Long: 96.581535 | Datum: 1984

Soil Map Unit Name: Lw | NWI classification: PEMAf

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

Are Vegetation Y , Soil Y , or Hydrology Y 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 ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Point taken in ag field (corn remnants)

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: 10)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 3)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	____ =Total Cover		
Woody Vine Stratum (Plot size: 3)			
1.			
2.			
	____ =Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species ____	x 1 =	____
FACW species ____	x 2 =	____
FAC species ____	x 3 =	____
FACU species ____	x 4 =	____
UPL species ____	x 5 =	____
Column Totals: ____ (A)		____ (B)

Prevalence Index = B/A = ____

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.

Hydrophytic Vegetation Present? **Yes** * **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
Vegetation not considered due to farming practices.

SOIL

Sampling Point: P24

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 2/2	95	5YR 4/6	5	C	PL/M	Loamy/Clayey	Prominent redox concentrations
10-14	10YR 2/2	80	5YR 4/6	5	C	PL/M		10YR 4/2 15%
14-20	10YR 4/2	80	5YR 4/6	5	C	PL/M		10YR 4/2 15%
20-36	10YR 4/2	100						
36-40	10YR 4/2	95	5YR 4/6	5	C	PL/M		Prominent redox concentrations

[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)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ 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** X **No** ___

Remarks:
Hydric soils observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:
Wetland hydrology observed.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Toronto, SD MRES Wetland City/County: Toronto/Deuel Sampling Date: 10/01/2024

Applicant/Owner: Missouri River Energy Services State: SD Sampling Point: P25

Investigator(s): N. Oswald Section, Township, Range: S22 T113N R48W

Landform (hillside, terrace, etc.): Ag field Local relief (concave, convex, none): Concave

Slope (%): 3-6 Lat: 44.5807- Long: 96.581533 Datum: 1984

Soil Map Unit Name: Lw NWI classification: NA

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

Are Vegetation Y , Soil Y , or Hydrology Y 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 ____	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Point taken in ag field (corn remnants).

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: 10)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 3)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	____ =Total Cover		
Woody Vine Stratum (Plot size: 3)			
1.			
2.			
	____ =Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species ____	x 1 =	____
FACW species ____	x 2 =	____
FAC species ____	x 3 =	____
FACU species ____	x 4 =	____
UPL species ____	x 5 =	____
Column Totals: ____ (A)		____ (B)

Prevalence Index = B/A = ____

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.

Hydrophytic Vegetation Present? **Yes** * **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
Vegetation not considered due to farming practices.

SOIL

Sampling Point: P25

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/2	100					Loamy/Clayey	
12-14	10YR 3/2	90					Loamy/Clayey	10YR 4/2 10%
14-24	10YR 2/2	100					Loamy/Clayey	
24-32	10YR 2/2	85					Loamy/Clayey	10YR 4/2 15%
32-40	10YR 2/2	55	5YR 4/6	5	C	PL/M	Loamy/Clayey	10YR 4/2 40%

[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)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ 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** X

Remarks:
No hyrdic soils observed. Redox too deep.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:
No wetland hydrology observed.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Toronto, SD MRES Wetland | City/County: Toronto/Deuel | Sampling Date: 10/01/2024

Applicant/Owner: Missouri River Energy Services | State: SD | Sampling Point: P29

Investigator(s): N. Oswald | Section, Township, Range: S22 T113N R48W

Landform (hillside, terrace, etc.): Roadside ditch | Local relief (concave, convex, none): Concave

Slope (%): 0-3 | Lat: 44.587254 | Long: 96.581356 | Datum: 1984

Soil Map Unit Name: Lr | NWI classification: NA

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

Are Vegetation N , Soil N , or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N , Soil N , or Hydrology N 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 X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Point taken in roadside ditch.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 10)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 3)			
1. *Phalaris arundinacea*	80	Yes	FACW
2. *Persicaria pensylvanica*	15	No	FACW
3. *Panicum virgatum*	5	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: 3)			
1.			
2.			
	=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	0	x 1 =	0
FACW species	95	x 2 =	190
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		205 (B)

Prevalence Index = B/A = 2.05

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 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.

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
Bareground 10%

SOIL

Sampling Point: P29

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 2/1	95	5YR 4/6	5	C	PL/M	Loamy/Clayey	Prominent redox concentrations

[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)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ 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** X **No** ___

Remarks:

Hole terminated at 14" due to water washout. Hydric soils observed before termination.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes X	No ___	Depth (inches): 2
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 1

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

Wetland hydrology observed.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Toronto, SD MRES Wetland | City/County: Toronto/Deuel | Sampling Date: 10/01/2024

Applicant/Owner: Missouri River Energy Services | State: SD | Sampling Point: P30

Investigator(s): N. Oswald | Section, Township, Range: S22 T113N R48W

Landform (hillside, terrace, etc.): Ditch hillside | Local relief (concave, convex, none): Concave

Slope (%): 8-10 | Lat: 44.587278 | Long: 96.581363 | Datum: 1984

Soil Map Unit Name: Lr | 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 N, Soil N, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology No 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 X	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes	No X	

Remarks:
Upland point for P29.

VEGETATION – Use scientific names of plants.

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

Sapling/Shrub Stratum (Plot size: 10)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		

Herb Stratum (Plot size: 3)			
1. *Bromus inermis*	75	Yes	FACU
2. *Carex aquatilis*	15	No	OBL
3. *Phalaris arundinacea*	15	No	FACW
4. *Persicaria pensylvanica*	5	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
	110	=Total Cover	

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	20	x 2 =	40
FAC species	0	x 3 =	0
FACU species	75	x 4 =	300
UPL species	0	x 5 =	0
Column Totals:	110 (A)		355 (B)
Prevalence Index = B/A =			3.23

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.

Hydrophytic Vegetation Present? **Yes** **No X**

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

SOIL

Sampling Point: P30

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

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

[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)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ 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** X

Remarks:
No hydric soils observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:
No hydrology observed.