Appendix L

Floodplains

NEBRASKA
Good Life. Great Journey.
DEPARTMENT OF TRANSPORTATION

Memorandum

DATE **April 22, 2024**

TO Anna Ondracek

FROM Isabella Fleege, Kyle Hall, P.E.

THRU Julie Ramirez, P.E. and Kirk Harvey, P.E.

SUBJECT PQS Floodplain Memorandum: Minatare - US-385, 26-1(172), CN 51521

The Minatare - US-385 project 26-1(172), CN 51521, has been reviewed for its impact to floodplains within the State of Nebraska.

FLOODPLAIN ENCROACHMENT REVIEW

Project is located within:

County(ies):	Scotts Bluff, Morrill
Floodplain Community(ies):	City of Minatare, County of Scotts Bluff, County of Morrill

Community(ies) are:

Mapped?:	Yes
Participating?:	Yes
State Minimum Standards for Mapping?:	Yes

Project Overlaps:

Mapped Base Floodplain?:	Yes	Floodplain Designations(s):	A, Potential Base Floodplain
Mapped Floodway?:	No		
State Minimum Standards Base Floodplain?	Yes		

Floodplain Statement:

Review of floodplain mapping shows that the project overlaps upon one or more mapped Base Floodplains. Certification(s) will be required from the Roadway Design Hydraulics Section and/or the Bridge Hydraulics Section confirming that the project conforms to floodplain regulations. Certifications will be forwarded to the Technical Resources Unit for inclusion in a Permit Application.

The project is also located in a non-participating community with no floodplain mapping; State Minimum Standards apply. Review of topographic and flood awareness mapping shows that the project overlaps upon one or more Potential Base Floodplains within the non-participating community. Certification(s) will be required from the Roadway Design Hydraulics Section and/or the Bridge Hydraulics Section confirming that the project conforms to floodplain regulations. Certifications will be forwarded to the Technical Resources Unit for record retention. A Permit is not required from a non-participating community; the certification(s) of compliance will be retain in its stead.

Certification Requirements:

Floodplain Permit required from:	County of Scotts Bluff
State Minimum Standards Community(ies):	County of Morrill

Floodplain Encroachments:

- Ninemile Creek, Sec. 4 T21N R53W
- Wildhorse Drain, Sec. 4/3 T21N R52W
- Wildhorse Creek, Sec. 2/1 T21N R52W
- West Water Creek, Sec. 4 T21N R51W
- Red Willow Creek, Sec. 3/2 T21N R51W

Will the Project cause a rise in the Base Flood Elevation (BFE):

More than one (1) foot in a Regulatory Base Floodplain?	No
Any rise in a Regulatory Floodway?	No
More than one (1) foot in a State Minimum Standards Floodplain?	No

Floodplain Statement:
It is anticipated that this project will be certified to meet floodplain regulations. It is not anticipated to cause greater than one foot of rise in the Base Flood Elevation within a Base Floodplain, any rise in the Base Flood Elevation within a Regulatory Floodway, nor increase the potential for property loss and hazard to life.

Functionally Dependent Use in Base Floodplain:
Project overlaps a floodplain at a location without a functionally dependent use? No

Floodplain Statement:
There are no locations along the project that possibly or potentially overlap a base floodplain outside of culverts and bridges, or other activities listed above. All overlapping areas are located at culverts or

Panel 3104730175A, Dated 06/18/1990
Panel 3104730200A, Dated 06/18/1990
State Minimum Standards

23 CFR SECTION 650.111 REVIEW

650.111(b)

Are there Base Floodplains located Longitudinal (parallel) to the project?	No
Is any of the project on Existing Alignment?	Yes
Does the Existing Alignment encroach upon a Longitudinal (parallel) Base Floodplain?	Not Applicable
Is any of the project on New Alignment?	Yes
Does the New Alignment encroach upon a Longitudinal (parallel) Base Floodplain?	Not Applicable

Floodplain Statement:
There are no locations where a base floodplain runs longitudinal (parallel) to the highway project.

650.111 (c) (1)
Project increases the potential for loss of life or property? No

Floodplain Statement:
This action would not increase the potential for loss of life or property.

650.111 (c) (2)
Project impacts the natural and beneficial floodplain values? No

Floodplain Statement:
There are no significant encroachments associated with this Project and this Project will not have an impact on the natural and beneficial floodplain values.

650.111 (c) (3)
Project supports probable incompatible floodplain development? No

Floodplain Statement:
The proposed improvements on this Project will maintain local and regional access to existing municipal, rural, and agricultural areas and will not create new access to undeveloped lands. Therefore, this highway improvement Project will not support probable incompatible floodplain development.

650.111 (c) (4)
Project results in a significant risk of impact to the base floodplain or environment? No

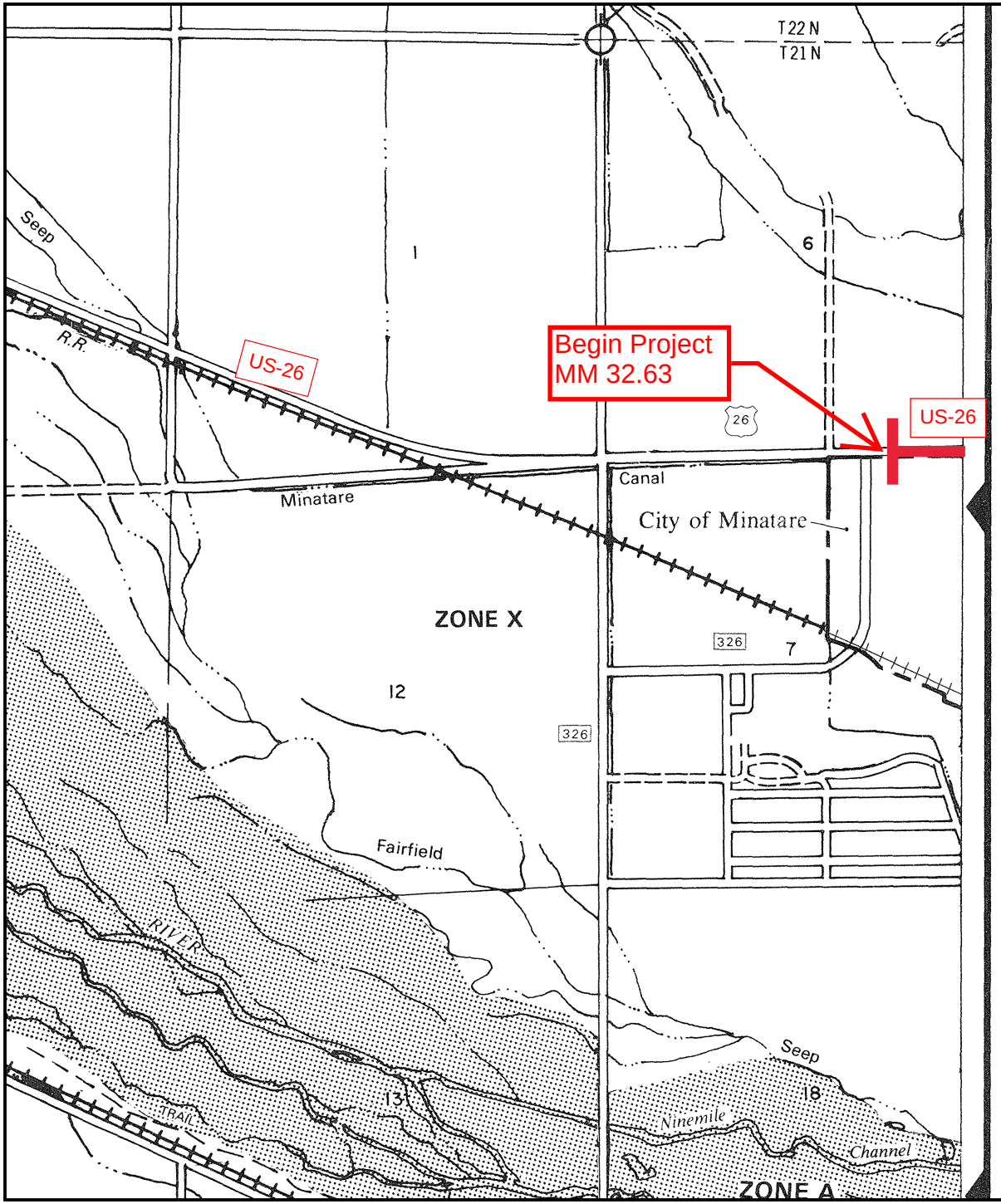
Floodplain Statement:
Based on assessment of the significance of the risk or environmental impact, no additional measures are necessary to minimize floodplain impacts associated with the action.

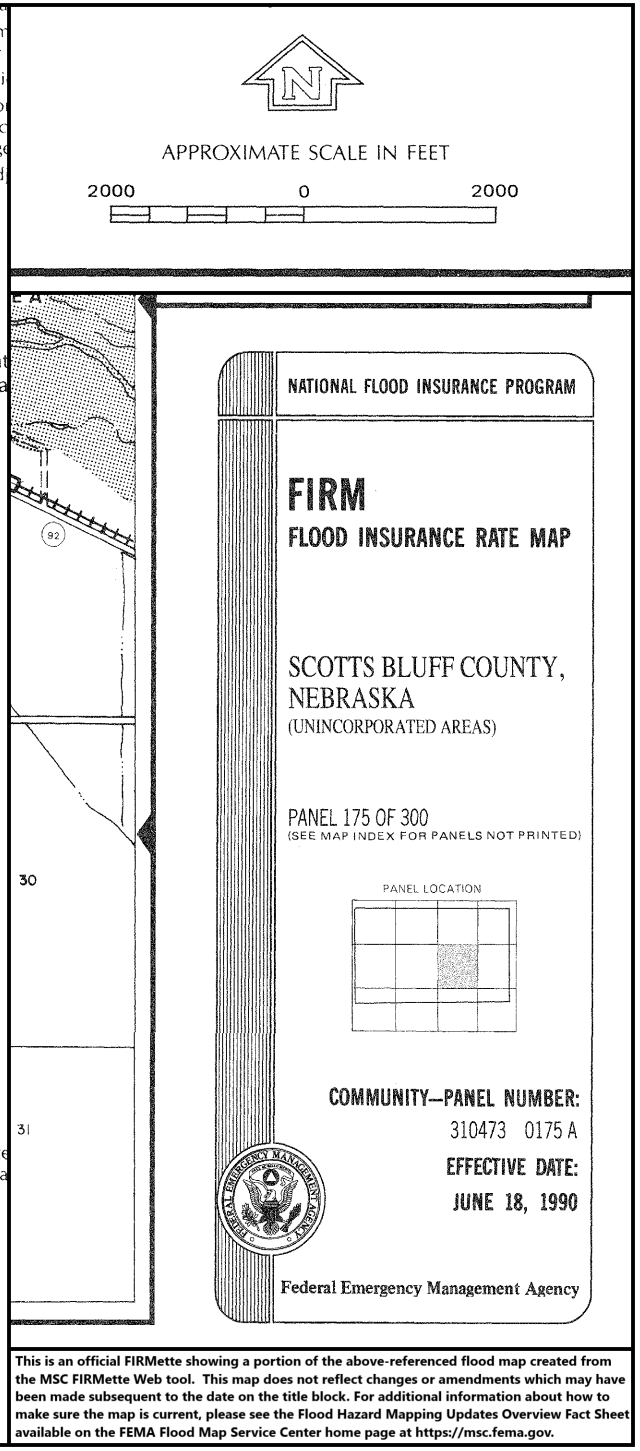
650.111 (c) (5)
Floodplain Statement:
There will be limited impacts to the natural and beneficial floodplain values of the floodplains along this Project. Since there will be temporary soil disturbance during construction activities, sediment and erosion control best management practices will be utilized during construction and disturbed areas will be seeded following construction.

650.111 (d)
Does a significant encroachment occur as a result of the project? No
Does the project support incompatible floodplain development? No

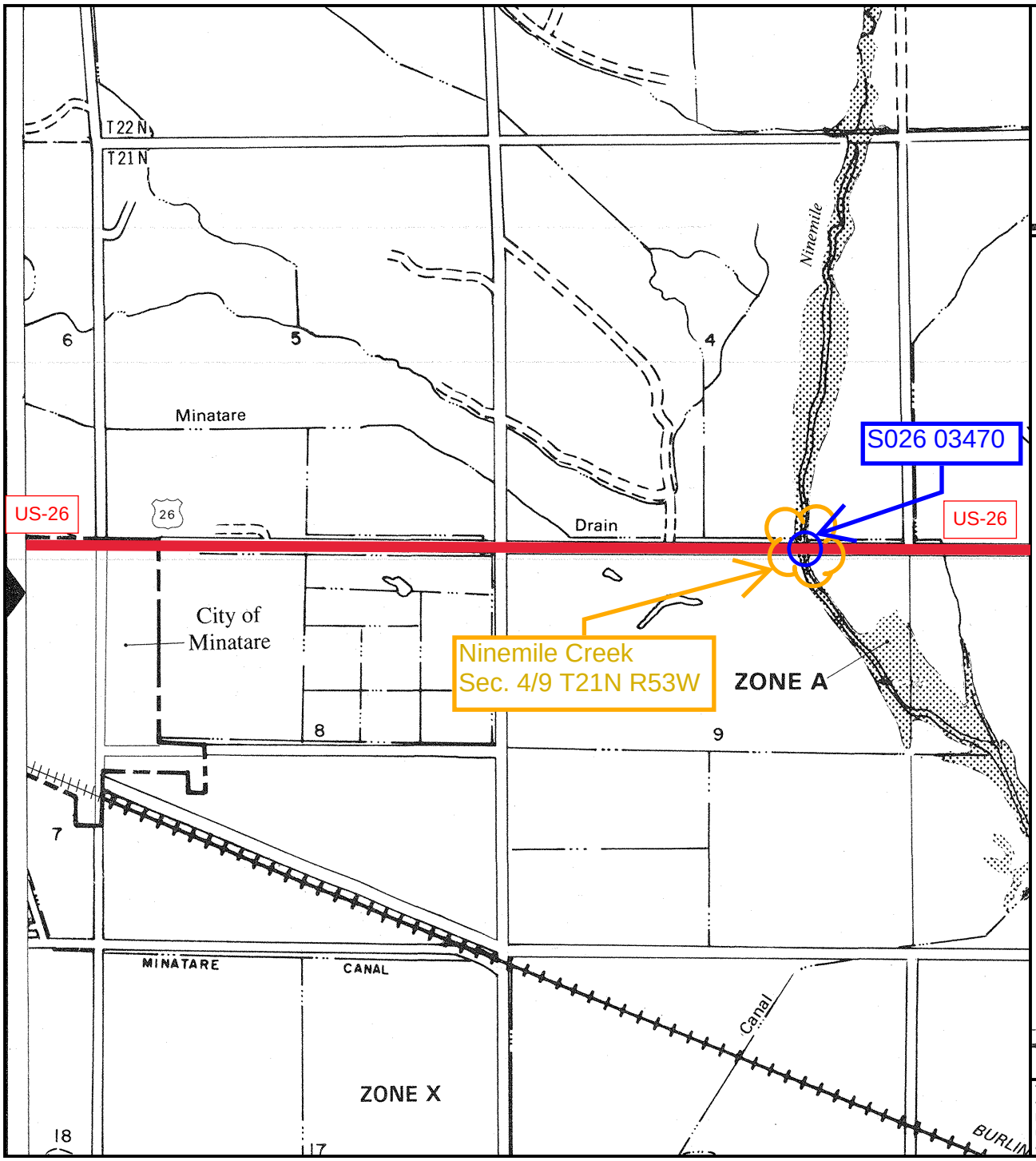
Floodplain Statement:
There is no significant encroachment in to a base floodplain. This project does not result in a base flood causing significant potential interruption or termination of this transportation facility, which is needed for emergency vehicles or a community's only evacuation route. It also does not result in a significant risk or potential for loss of life or property due to the base flood. This project also does not result in a substantial adverse impact on natural and beneficial floodplain values. An alternatives analysis related to the significance of encroachment in to a base floodplain is not warranted.

This highway improvement project will maintain existing local and regional access to municipal, rural, and agricultural areas, and does not support incompatible floodplain development. An alternatives analysis related to the incompatible floodplain development is not warranted.





This is an official FIRMette showing a portion of the above-referenced flood map created from the MSC FIRMette Web tool. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For additional information about how to make sure the map is current, please see the Flood Hazard Mapping Updates Overview Fact Sheet available on the FEMA Flood Map Service Center home page at https://msc.fema.gov.



APPROXIMATE SCALE IN FEET

2000 0 2000

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

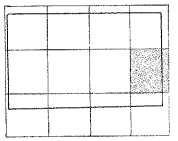
SCOTTS BLUFF COUNTY, NEBRASKA

(UNINCORPORATED AREAS)

PANEL 200 OF 300

(SEE MAP INDEX FOR PANELS NOT PRINTED)

PANEL LOCATION

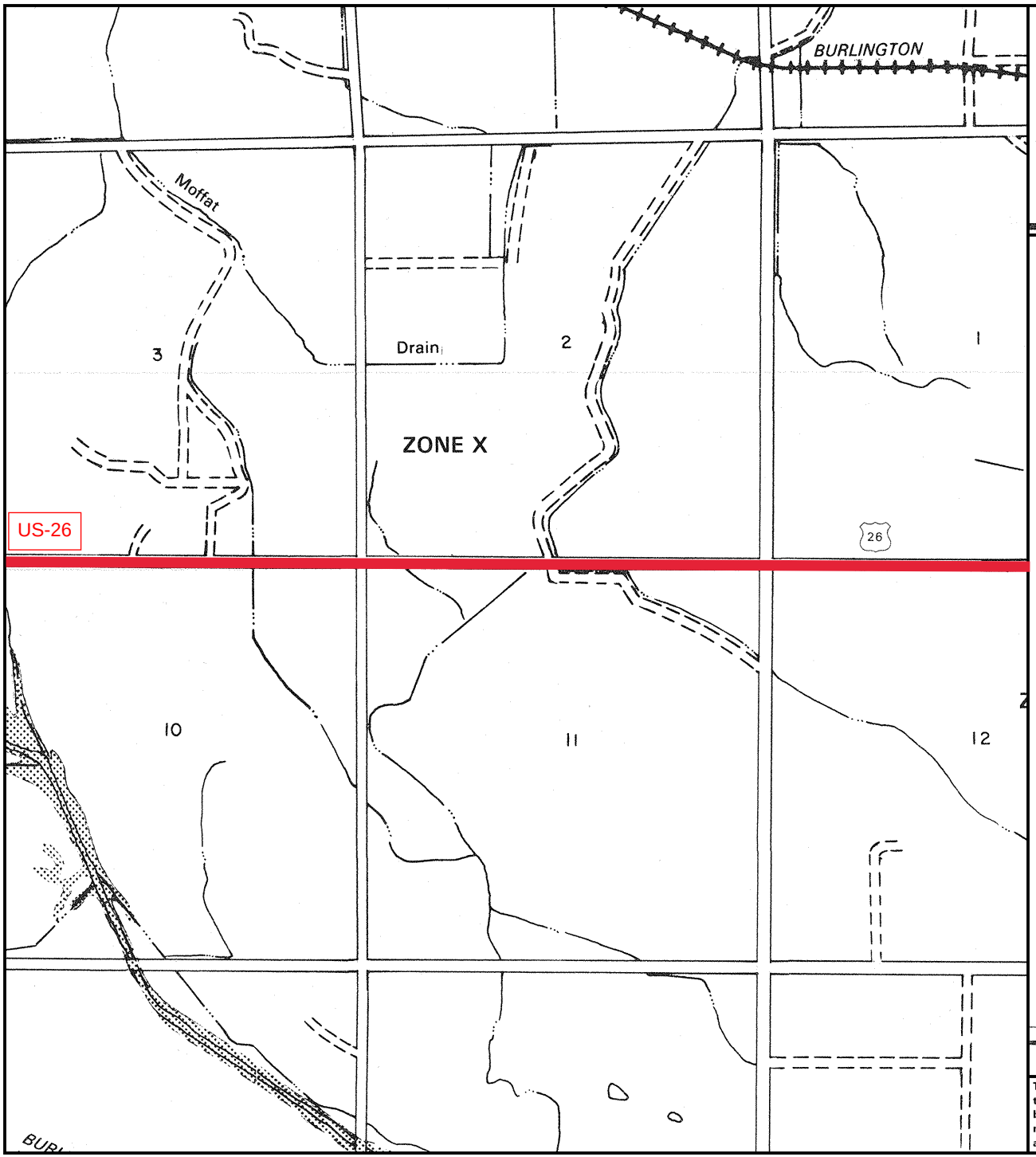


COMMUNITY–PANEL NUMBER:
310473 0200 A

EFFECTIVE DATE:
JUNE 18, 1990

Federal Emergency Management Agency

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the National Flood Insurance Program at (800) 638-6620.

APPROXIMATE SCALE IN FEET

2000 0 2000

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

SCOTTS BLUFF COUNTY, NEBRASKA

(UNINCORPORATED AREAS)

PANEL 200 OF 300

(SEE MAP INDEX FOR PANELS NOT PRINTED)

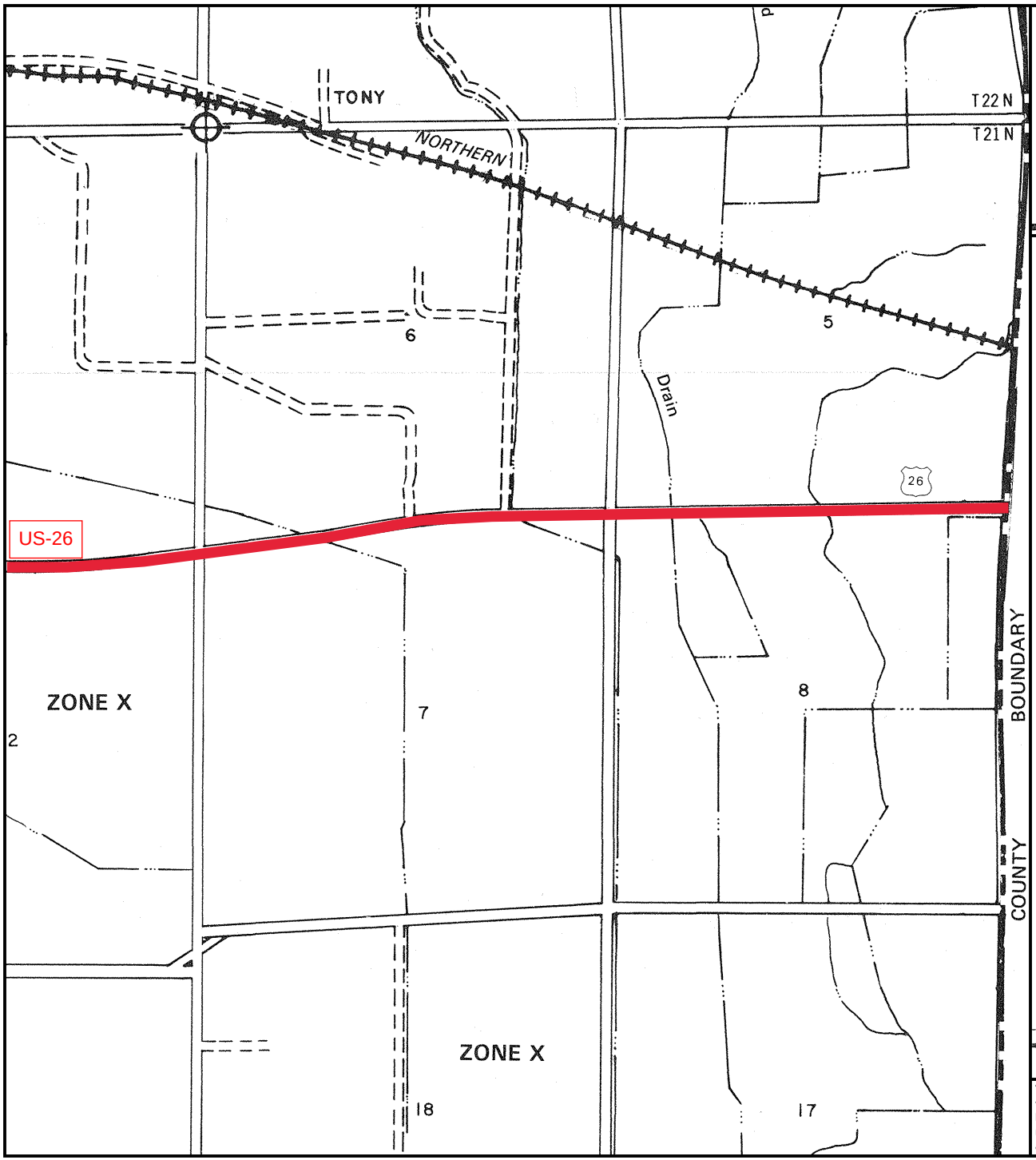
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the National Flood Insurance Program at (800) 638-6620.

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APPROXIMATE SCALE IN FEET

2000 0 2000

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

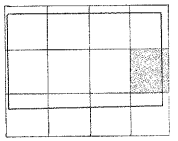
SCOTTS BLUFF COUNTY, NEBRASKA

(UNINCORPORATED AREAS)

PANEL 200 OF 300

(SEE MAP INDEX FOR PANELS NOT PRINTED)

PANEL LOCATION



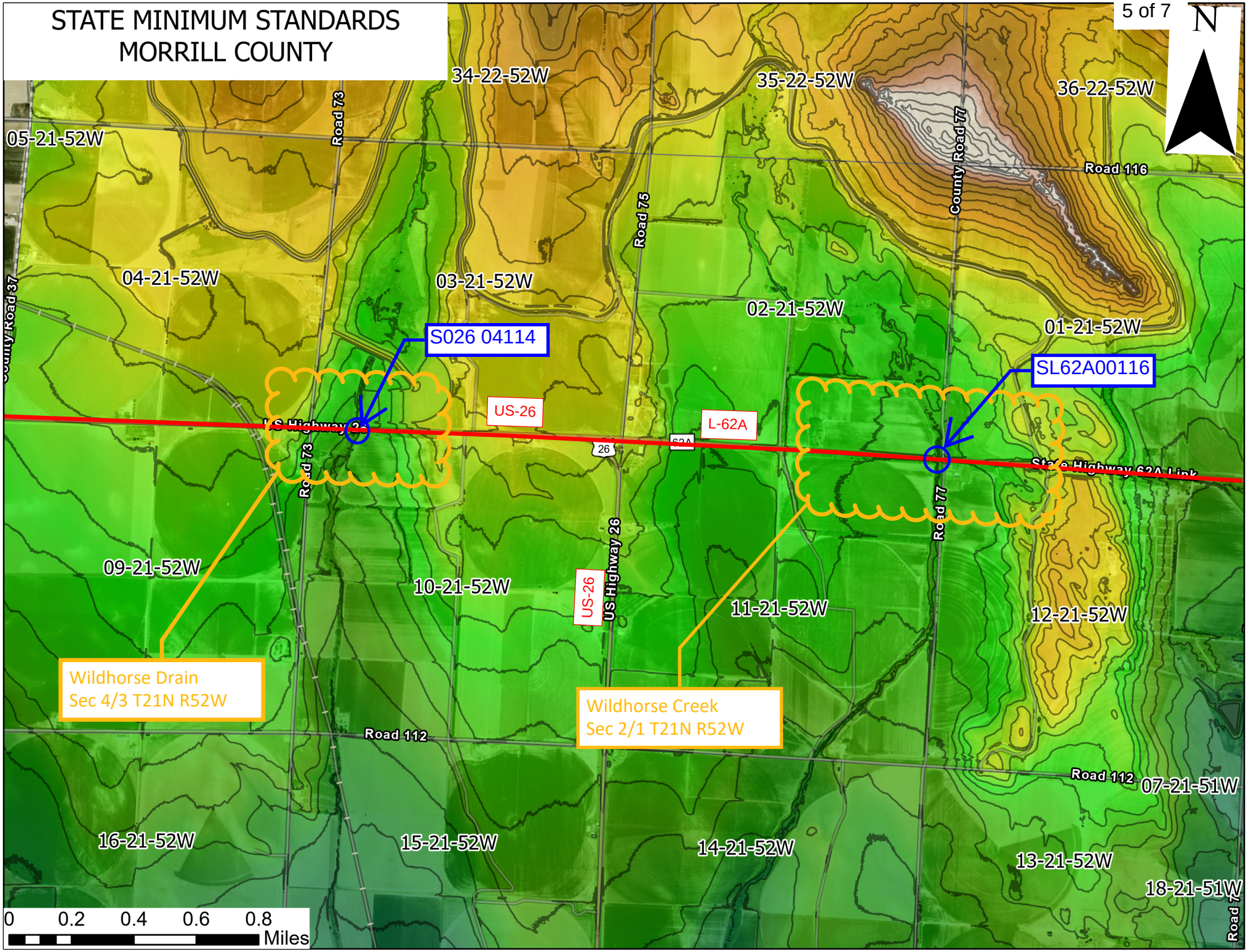
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310473 0200 A

EFFECTIVE DATE:
JUNE 18, 1990

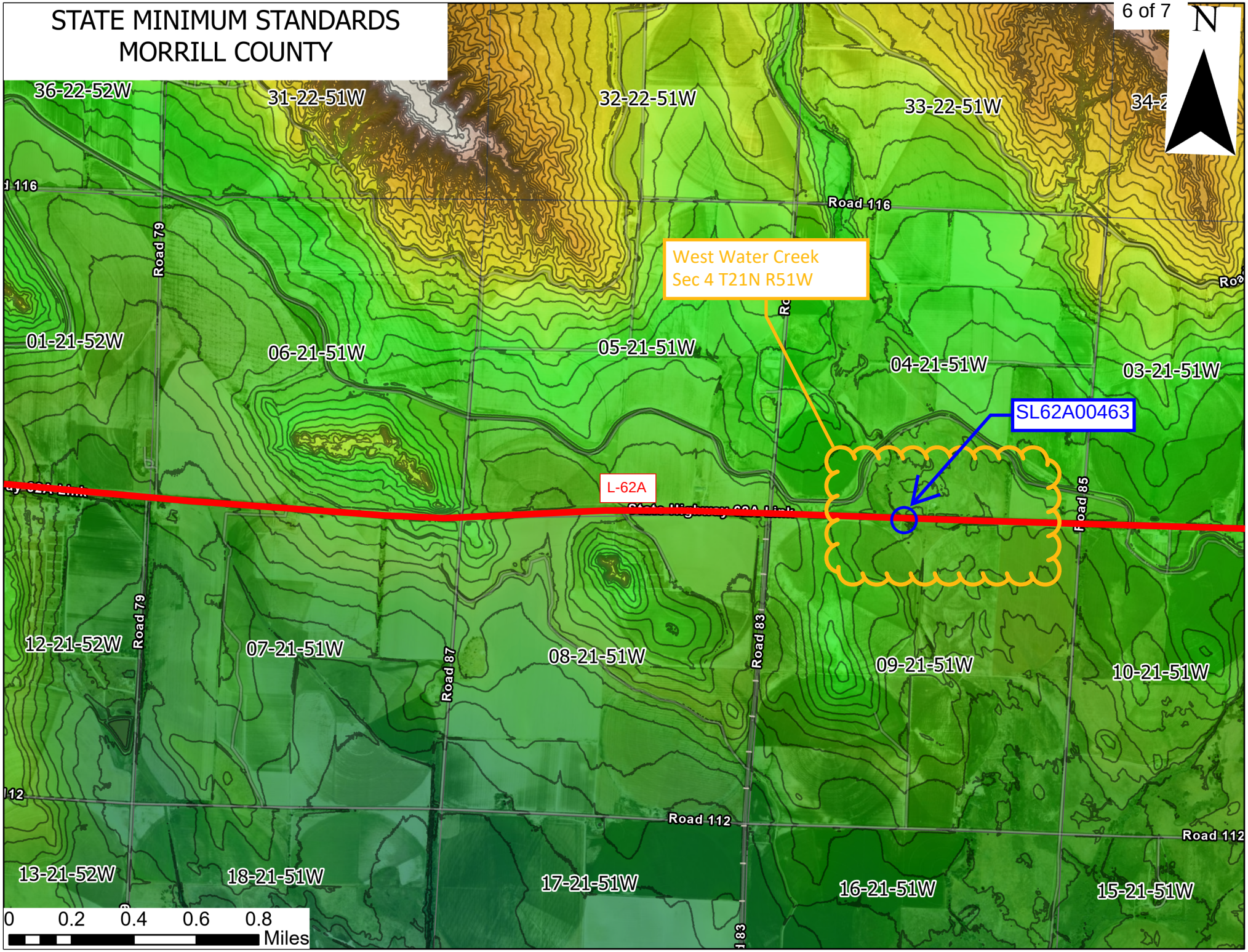
Federal Emergency Management Agency

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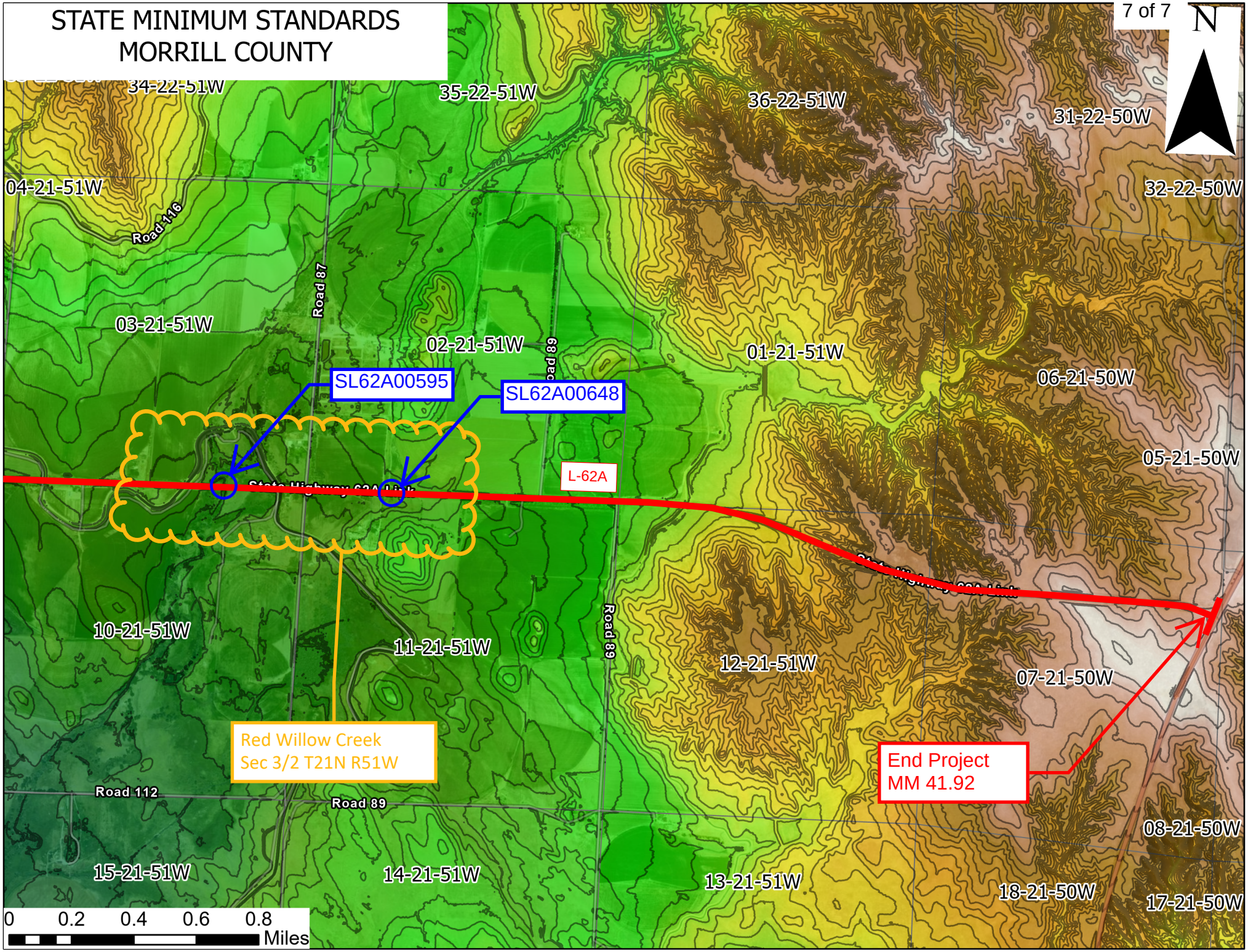
STATE MINIMUM STANDARDS
MORRILL COUNTY



STATE MINIMUM STANDARDS
MORRILL COUNTY



STATE MINIMUM STANDARDS
MORRILL COUNTY



Appendix M

Water Quality

NEBRASKA
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DEPARTMENT OF TRANSPORTATION

Water Quality PQS Memorandum

DATE June 28, 2024

TO Anna Ondracek, NDOT EDU

FROM Blayne Renner, NDOT RDCU

SUBJECT Water Quality PQS Memo
Project No: NH-26-1(172)
Control No: 51521
Project Name: Minatare – US-385

A desktop review was completed on 6/28/2024

Are there any 303(d) listed impaired waters within or adjacent to (0.5 mile) the project study area? (2022 Integrated Report)

☒ Yes ☐ No

Does the project occur within an MS4 community?

☐ Yes ☒ No

Community: N/A

Does the project require a NPDES construction storm water permit (qualifying ground disturbance of 1 acre or more)?

☒ Yes ☐ No

Describe resources, and <u>potential</u> impacts. (Include the name of the listed impaired waterbody, segment number, impaired uses, and cause of the impairment. If 303(d) listed impaired waters are identified, include a map of the locations as Attachment 1):
Ninemile Creek (NP3-11800): Category 5 stream, impaired for Recreation-Bacteria; Pollutant(s): E. coli
Wildhorse Drain (NP3-10920): Category 5 stream, impaired for Recreation-Bacteria; Pollutant(s): E. coli
Manure has not been specified for this project. This project will not negatively impact the impaired beneficial use of Recreation for the Ninemile Creek or Wildhorse Drain. No impacts are anticipated.

Describe any coordination conducted to date with officials/agencies (Include: Any coordination with NDEE or USEPA): N/A

Impaired Waters Commitments:

☐ Project specific commitments are not required to address impacts to 303(d) listed Impaired Waters

☒ The following project specific impaired waters commitments are required to address impacts to 303(d) listed Impaired Waters:

Manure has not been specified for this project, however, existing soil material from former feedlot pens may be encountered during grading operations. Stockpiled material from the locations identified in the Special Provision will be utilized on the project as prescribed by the Manure Topdressing Special Provision.

CWA Section 402 Commitments

☐ This project does not require a Construction Stormwater Permit or a Storm Water Pollution Prevention Plan (SWPPP). Temporary water pollution prevention practices (including sediment and erosion control measures) are still required by Nebraska State Title 119. The Contractor shall exercise every reasonable precaution throughout the life of the contract to prevent sedimentation within rivers, streams, impoundments (lakes, reservoirs, etc.), the project site, and adjacent property. (Contractor)

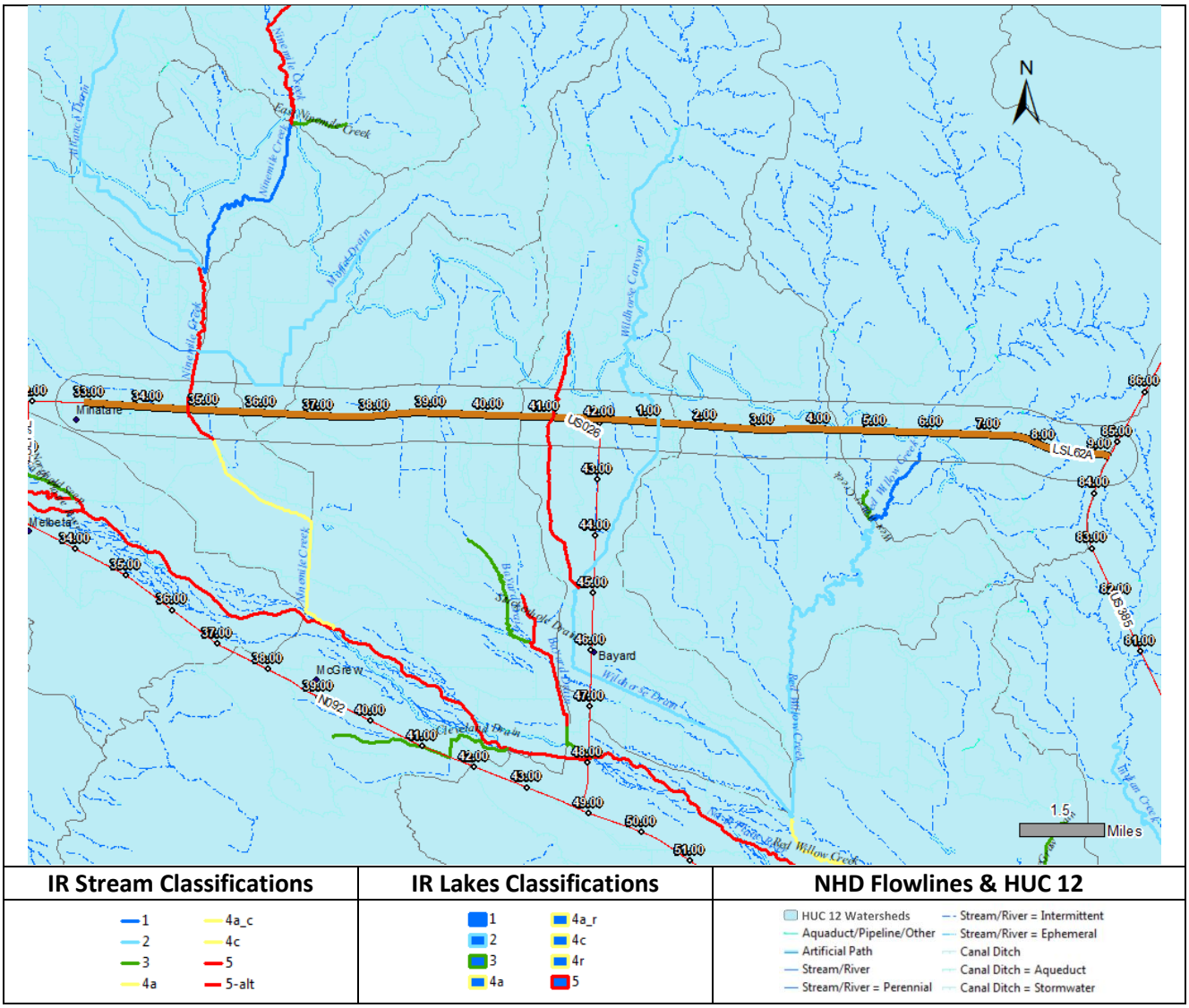
☒ This project requires a Construction Stormwater Permit and that a Storm Water Pollution Prevention Plan (SWPPP) be maintained for the project. The Contractor shall understand the terms and conditions of the general National Pollutant Discharge Elimination System (NPDES) permit that authorizes the storm water discharges associated with activity from the construction site. For reference, the general permit is posted on the Department's website. (Contractor)

☐ This project occurs within an MS4 community. The project will be evaluated for the potential need to incorporate Storm Water Treatment Facilities in compliance with NDOTs MS4 permit.

Project Description Revision Date:

09/28/2023

Attachment 1 – Impaired Waters Map



Waterbody Classification System (From *2022 water quality integrated report*.) ***Category 1*** – Waterbodies where all designated uses are met. ***Category 2*** – Waterbodies where some of the designated uses are met but there is insufficient information to determine if all uses are being met. ***Category 3*** – Waterbody where there is insufficient data to determine if any beneficial uses are being met. ***Category 4*** – Waterbody is impaired, but a TMDL is not needed. Sub-categories 4A, 4B, 4C and 4R outline the rationale for the waters not needing a TMDL: ***Category 4A*** – Waterbody assessment indicates the waterbody is impaired, but all of the required TMDLs have been completed. ***Category 4B*** – Waterbody is impaired, but "other pollution control requirements" are expected to address the water quality impairment(s) within a reasonable period of time. Other pollution control requirements include but are not limited to, National Pollutant Discharge Elimination System (NPDES) permits and best management practices. ***Category 4C*** – Waterbody is impaired but the impairment is not caused by a pollutant. This category also includes waters where natural causes/sources have been determined to be the cause of the impairment. In general, natural causes/sources shall refer to those pollutants that originate from landscape geology and climactic conditions. It should be noted, this general description can only be utilized when appropriate justification is provided. ***Category 4R*** – Waterbody data exceeds the impairment threshold, however a TMDL is not appropriate at this time. The category will only be used for nutrient assessments in new or renovated lakes and reservoirs. Newly filled reservoirs usually go through a period of trophic instability – a trophic upsurge followed by the trophic decline (Holdren, et. al. 2001). Erroneous or non-representative water quality assessments are likely to occur during this period. To account for this, all new or renovated reservoirs will be placed in this category for a period not to exceed eight years following the fill or re-fill process. After the eighth year monitoring data will be assessed and the waterbody will be appropriately placed into category 1, 2, or 5. ***Category 5*** – Waterbody where one or more beneficial uses are determined to be impaired by one or more pollutants and all of the TMDLs have not been developed. ***Category 5 waters constitute the Section 303(d) list subject to EPA approval/disapproval***. ***Category 5-Alt*** – Waterbody is impaired, but "other pollution control alternatives besides a TMDL" are expected to address the water quality impairment(s) within a reasonable period of time. Other pollution control alternatives include, but are not limited to, watershed management plan development, best management practice implementation and adaptive management strategies. ***Category 5-Alt waters are not approved or disapproved by EPA; however, EPA agrees to accept the alternative.***

Appendix N

Wetlands

NEBRASKA
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DEPARTMENT OF TRANSPORTATION

Wetlands PQS Memorandum

DATE 3/11/2024

TO Anna Ondracek, NDOT EDU

FROM Amy C. Utt, NDOT TRU

SUBJECT Wetlands PQS Memo
Project No: NH-26-1(172)
Control No: 51521
Project Name: Minatare – US-385

☒A wetland delineation was completed 7/29/2021
Or
☐A desktop review was completed on Click here to enter a date.
Or
☐A field review was completed on

Are there wetlands, stream channels, or other waters within the study area?
☒ Yes ☐ No

Will the action result in wetland impacts in accordance with Section 404 of the Clean Water Act and/or Nebraska State Title 117?
☒ Yes ☐ No ☐ Not Applicable

If the project is processed with a Nationwide Permit, is a Pre-construction Notification required?
☐ Yes ☐ No ☒ Not Applicable

Describe resources, potential impacts and anticipated permit type (*Include estimated permanent wetland impacts (acres). If known, also provide estimated temporary wetland impacts (acres), estimated channel impacts (linear feet/acres), special wetland areas, cause of impacts, and any Nationwide Permit information.*): Anticipated permanent impacts include 13.452 acres of wetlands and 1.571 acres/7253 linear feet of channel impacts. At this time there are no projected temporary impacts.

Cowardin Class Impacted (*Select all that apply*)
☒ Palustrine ☒ Riverine ☐ Lacustrine☐ Not Applicable

Describe any coordination conducted to date with officials/agencies (*Include: Any coordination with USACE)*: AJD received 2/7/2024 from USACE

Wetlands/Waters of the U.S. Mitigation
☐ On-Site/Permittee Responsible ☒ USACE Approved Mitigation Bank Site ☐ Not Applicable

Wetlands/Waters of the U.S. Commitments:

The Contractor shall not stage, store, waste or stockpile materials and equipment in undisturbed locations, or in known/potential wetlands and/or known/potential streams that exhibit a clear "bed and Bank" channel. Potential wetland areas consist of any area that is known to pond water, swampy areas or areas supporting known wetland vegetation or areas where there is a distinct difference in vegetation (at lower elevations) from the surrounding upland areas.

Check the box(s) that applies:

☐ No wetland/water resource impacts are anticipated for this project; however, if impacts are found during design, the required permits shall be obtained prior to letting. NDOT Environmental shall reevaluate the project for the change in impacts. If wetlands are identified within the project area they shall be marked on the project plan aerial sheets or listed on Attachment 1 of the Environmental Commitment for the Contractor as avoidance areas. (NDOT Design, NDOT Environmental)

☐ The project qualifies under Nationwide Permit # Non-notifying Nationwide Permit Number. The contractor shall adhere to the permit conditions, including regional and general conditions, during construction. All wetlands/waters within the project area that are not permitted for impacts shall be marked on the project plan aerial sheets for the contractor as avoidance areas. (NDOT Design, NDOT Environmental, Contractor)

☐ The project will require a notifying Nationwide Permit Nationwide Permit # for impacts to waters of the U.S. The contractor shall adhere to all permit conditions, including regional and general conditions, during construction. All wetlands/waters within the project area that are not permitted for impacts shall be marked on the project plan aerial sheets for the contractor as avoidance areas. (NDOT Design, NDOT Environmental, Contractor)

☒ The project will require an Individual Permit for impacts to waters of the U.S. The contractor shall adhere to all permit conditions, including regional and general conditions, during construction. All wetlands/waters within the project area that are not permitted for impacts shall be marked on the project plan aerial sheets for the contractor as avoidance areas. (NDOT Design, NDOT Environmental, Contractor)

☐ The project will require a Title 117 Letter of Opinion for impacts to waters of the State. All wetlands/waters within the project area that are not permitted for impacts shall be marked on the project plan aerial sheets for the contractor as avoidance areas. (NDOT Design, NDOT Environmental, Contractor)

Project Description:

This project is 18.47 miles in length and is located on Highways US-26 and L-62A in Scotts Bluff and Morrill Counties, starting 0.41 miles west of the west Minatare corporate limits at mile marker (MM) 32.63 and extending east to the junction of US-26 and L-62A at MM 41.92. The project continues east on L-62A from the junction with US-26 at MM 0+00 to the junction of US-385 and L-62A at MM 9.19.

Construction may begin and/or end approximately 1500 feet ahead of or beyond the actual project limits to accommodate transitioning the pavement.

The existing roadway on US-26 from MM 32.63 to MM 32.98 consists of a transition section from a 4-lane divided roadway with 12-foot-wide composite pavement lanes, a 14-foot flush median and 10-foot shoulders, of which 8 feet is paved with asphalt to a 3-lane roadway. The existing roadway from MM 32.98 to MM 33.45 consists of two 12-foot-wide composite pavement lanes and a 12-foot two-way center turn lane with shoulders varying from 6 feet with curb and gutter to 10 feet, of which 8 feet is paved with asphalt. The existing roadway on US-26 from MM 33.45 to MM 41.92 and on L-62A from MM 0+00 to MM 9.19 consists of two

12-foot-wide composite pavement lanes and 10-foot shoulders, of which 8 feet is paved with asphalt.

The improvements on this project consist of widening US-26 and L-62A from an existing 2-lane roadway to a 4-lane divided roadway with a depressed median using the strategy of constructing new lanes on the north side of the US-26/L-62A corridor and milling and resurfacing the exiting lanes which will remain in place. Improvements include new paving, milling and resurfacing, culvert and storm sewer work, new guardrail, removing and replacing guardrail, a new bridge, new intersections, improved intersections, access relocations (i.e. new frontage roads) and side road modifications.

Grading will be required for the entire length of this project.

The bridge over Ninemile Creek (Structure Number S026 03470) will be used in place and a new bridge will be built with the new set of lanes. A grade raise of the entire structure is not anticipated. Work will be required in the waterway. Guardrail will be built with the new bridge.

The following bridge-size box culverts will be extended: Structure Number S026 03505 (Minatare Drain - Canal), S026 03916 (Irrigation Conveyance), S026 04114 (Wildhorse Creek), SL62A 00116 (Wildhorse Canyon), SL62A 00537 (Tri-State Canal), SL62A 00582 (Tri-State Canal), and SL62A 00613 (Tri-State Canal). The following bridge-size box culverts will be replaced: SL62A 00152 (Irrigation Conveyance), SL62A 00463 (West Water Creek), SL62A 00595 (Red Willow Creek) and SL62A 00648 (Irrigation Conveyance).

This project will be constructed under traffic with lane closures controlled by appropriate traffic control devices and practices.

Additional property rights will be required to build this project.

Access to adjacent properties will be maintained during construction but may be limited at times due to phasing requirements.

NEBRASKA
Good Life. Great Journey.
DEPARTMENT OF TRANSPORTATION

Wetland Delineation Report

Minatare US-26 to L62A/US-385 Junction

Scotts Bluff and Morrill Counties, Nebraska
NDOT Control Number: 51521
NDOT Project Number: NH-26-1(172)
Corps Project Number: NWO 2021-01254-WEH
Report Date: December 2021



Prepared By:
Alfred Benesch & Company
16910 Marcy Street, Suite 102
Omaha, NE 68118

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Figure 3: Wetland Delineation Map
Appendix B: USACE Wetland Determination Data Forms
Appendix C: Site Picture Log

1.0 INTRODUCTION

Project Description:

The existing roadway on this segment of US-26 and L-62A consists of a two-lane highway with 12-foot-wide asphalt lanes and 10-foot-wide shoulders, of which 8-feet is paved with asphalt. The proposed project would construct a four-lane highway using the 2+2 concept. The improvements on this project would include the full reconstruction of the existing highway, bridges, bridge-sized culverts, and pipe culverts. The alignment of the new highway will be finalized by Roadway Design but is assumed to be within the limits of the investigation.

Results:

The delineation identified 115 wetland areas (totaling 19.542 acres) within the survey area and 10 stream channels (totaling 9,192 feet in length. The wetlands were primarily located in the roadside ditches and along streams and irrigation ditches. A majority of the wetlands were classified as Palustrine Emergent Temporarily/Seasonally Flooded (PEMA/PEMC), however, one (1) Palustrine Emergent Semipermanently Flooded (PEMF), two (2) Palustrine Scrub-shrub Temporarily Flooded (PSSA), and four (4) Palustrine Forested Temporarily Flooded (PFOA) wetlands were also present. Other features observed included five (5) irrigation reuse pits, 51 irrigation canals, and 11 irrigation drainage features.

2.0 WETLAND/WATER RESOURCE DELINEATION METHODS

Alfred Benesch & Company (Benesch) wetland biologists (Chase Jelden, Zach Timperley, Avery Dresser, and Ann Briggs) completed a wetland and water resource delineation within the Study Area from July 26 – July 29, 2021, in accordance with the *1987 Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987), the *Great Plains Regional Supplement to the Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, August 2010), and the *NDOT Wetland and Water Resource Procedure Document (March 2020).*

2.1 Pre-field Desktop Review

Existing background information for the Survey Area was reviewed prior to conducting the wetland delineation and included on the field delineation base map. Information reviewed included the following:

- U.S. Geological Survey (USGS) 7.5-minute topographic map (Minatare 1976, Bayard 1965, and Angroa 1965 Quadrangles)
- U.S. Fish & Wildlife Service (USFWS) National Wetland Inventory (NWI) map (Minatare 1976, Bayard 1965, and Angroa 1965 Quadrangles)
- National Hydrography Dataset (NHD)
- U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) 2020 Web Soil
- Soil Survey for Scotts Bluff County and Morrill County, Nebraska

- Digital data from the online Soil Survey Geographic Database (SSURGO)
- NRCS National hydric soils list (2020)
- National Agriculture Imagery Program (NAIP) aerial photography (2020)
- ESRI World Imagery Map Service aerial photography (2020)

2.2 Delineation Methods

The study area for the project was modified from the *NDOT Wetland and Water Resource Procedure Document (March 2020)* to accommodate the footprint of the proposed project. Along the project alignment (US-26 and L-62a), the study area extended 200 feet left and right of the highway centerline except in the locations described below:

- US-26: MM-4.91 to MM-5.21 (South leg of US-26/L-62A junction)-250 feet left and right of centerline.
- L-62A: MM 2.90 to MM 3.25 – 300 feet left and right of centerline
- L-62A: MM 7.90 to MM 8.20 – 250 feet left and right of centerline
- L-62A: MM 8.60 to MM 8.85 – 250 feet left and right of centerline
- All county road intersections, 500 feet along the county road alignment and 100 feet left and right.
- US-385/L-62A intersection: The "off alignment" portion northwest of the intersection.

Sample points and wetland boundaries were mapped in the field using a global positioning system (GPS) technology capable of sub-meter accuracy and were classified according to Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al., December 1979) and associated Nebraska Wetland Subclasses. Vegetation was classified according to North American Digital Flora: National Wetland Plant List (Lichvar et al., 2016). Non-wetland water resources (streams/ponds/lakes) were also identified and are summarized in this report. A "Wetland Determination Data Form – Great Plains Region" was completed for each sample point, including uplands. These forms are presented in Appendix B. Lastly, photographic documentation of observed wetlands and water resources is included in Appendix C.

3.0 RESULTS

Wetland and other water resource delineation results are detailed in Tables 1 and 2, and Figure 3-Sheets 1-39. A summary of results is as follows:

- A total of one hundred twenty-four (124) sample locations were analyzed for wetland criteria.
- Forty-three (43) of the 124 sample locations met wetland criteria and account for 115 representative wetland areas.
- One hundred-nine (109) Palustrine Emergent (PEM), two (2) Palustrine Scrub-shrub (PSS), and four (4) Palustrine Forested (PFO) wetlands were identified.
- Ten (10) sample sites contained a channel with a defined bed and bank, including four named waterways.

- Fifty-one (51) irrigation canals, eleven (11) irrigation drainage features, and five (5) irrigation reuse pits were identified.

Table 1. Delineated Wetlands

Sample ID	Wetland ID	Fig. 3 Page #	Wetland Classification[1] (Cowardin | Nebraska Subclass)	Area (acres)	Federally Jurisdictional[2]
S-2	2	1	PEMA/C | Ditch	0.746	Likely Non-JD
S-6	6	1	PEMA/C | Ditch	0.022	Likely Non-JD
S-9	9	2	PEMA/C | Ditch	0.746	Likely Non-JD
S-10	10	2	PEMA/C | Ditch/Floodplain Depression	4.023	Likely Non-JD
S-12	12	2	PEMA/C | Ditch	0.228	Likely Non-JD
S-15	15	2	PEMA/C | Western Alkaline Floodplain Depression	0.080	Likely Non-JD
S-16	16	2/3	PEMA/C | Ditch	2.049	Likely Non-JD
S-17	17	3	PEMA/C | Ditch	0.403	Likely Non-JD
S-19	19	3/4	PEMA/C | Ditch	1.485	Likely Non-JD
S-21	21	4	PEMA/C | Ditch	1.077	Likely Non-JD
S-23	23	4	PEMA/C | Ditch	0.048	Likely Non-JD
S-24	24	4	PSSA | Ditch	0.045	Likely Non-JD
S-26	26	4	PEMA/C | Riverine Channel	0.096	Likely JD
S-28	28	4	PSSA | Riverine Channel	0.012	Likely JD
S-29	29	4	PEMA/C | Ditch	0.655	Likely Non-JD
S-31	31	4/5	PEMA/C | Ditch/Riverine Channel	0.382	Likely JD
S-33	33	5	PEMA/C | Riverine Channel	0.156	Likely JD
S-40	40	10	PEMA/C | Ditch	0.527	Likely Non-JD
S-42	42	10	PEMA/C | Ditch	0.166	Likely Non-JD
S-44	44	10/11	PEMA/C | Ditch	0.816	Likely Non-JD
S-47	47	11	PEMA/C | Ditch	0.022	Likely Non-JD
S-49	49	12	PEMA/C | Ditch	0.305	Likely Non-JD
S-52	52	12	PEMA/C | Ditch	0.371	Likely Non-JD
S-54	54	12	PEMA/C | Riverine Channel	0.145	Likely JD
S-61	61	14/15	PEMA/C | Ditch	0.393	Likely Non-JD
S-66	66	15	PEMA/C | Riverine Channel	0.233	Likely JD
S-70	70	17	PEMA/C | Ditch	0.028	Likely Non-JD
S-72	72	17	PEMA/C | Playa Depression	1.647	Likely Non-JD
S-76	76	19	PEMA/C | Riverine Channel	0.419	Likely JD
S-78	78	19	PEMA/C | Floodplain Depression	0.121	Likely Non-JD
S-81	81	20	PEMA/C | Ditch	0.090	Likely Non-JD
S-83	83	20/21	PEMA/C | Ditch	0.299	Likely Non-JD

Table 1. Delineated Wetlands (Continued)

Sample ID	Wetland ID	Fig. 3 Page #	Wetland Classification[1] (Cowardin | Nebraska Subclass)	Area (acres)	Federally Jurisdictional[2]
S-84	84	21	PEMA/C | Riverine Channel	0.120	Likely JD
S-86	86	21	PFOA | Riverine Channel	0.115	Likely JD
S-88	88	21	PEMA/C | Ditch	0.171	Likely Non-JD
S-89	89	21	PEMA/C | Ditch	0.025	Likely Non-JD
S-96	96	25	PEMA/C | Floodplain Depression	0.138	Likely JD
S-99	99	26	PEMA/C | Ditch	0.187	Likely Non-JD
S-102	102	27	PEMA/C | Riverine Channel	0.189	Likely JD
S-104	104	27	PFOA | Riverine Channel	0.059	Likely JD
S-105	105	27	PEMF| Floodplain Depression	1.065	Likely JD
S-107	107	27	PEMA/C | Floodplain Depression	0.511	Likely JD
S-111	111	29	PEMA/C | Unknown	0.139	Likely Non-JD
			TOTAL	**19.542**	

[1] PEMA/C= Palustrine Emergent Temporarily Flooded/Seasonally Flooded; PEMF= Palustrine Emergent Semipermanently Flooded; PFOA= Palustrine Forested Temporarily Flooded; Palustrine Scrub-shrub Temporarily Flooded (PSSA)· Nebraska Wetland Sub-class based on HGM functional assessment (Jasmer et al. 1997).

[2] Jurisdictional status of wetlands were assessed based on the pre-2015 regulatory regime. Any wetlands indicated as not Federally Jurisdictional are discussed in the Discussion section

Table 2. Other Water Resources

Sample ID	Fig. 3 Page #	Name	Type[1]	Length (ft)	Width (ft)	Federally Jurisdictional[2]
S-19, S-23 & S-29	¾	Minatare Drain	Canal	4,340	10	Likely Non-JD
S-23	4	Ephemeral Drain	Canal	209	2	Likely Non-JD
S-26	4	Ninemile Creek	Perennial	403	20	Likely JD
S-31	5	Unnamed Intermittent Channel	Intermittent	247	2	Likely JD
S-31.1	5	Minatare Drain/Unnamed Intermittent Channel	Perennial	417	10	Likely JD
S-33	5	Minatare Drain/ Unnamed Intermittent Channel	Perennial	184	10	Likely JD
S-36	7	Canal	Canal	595	6-8	Likely Non-JD
S-37	8	Concrete Canal	Canal	696	1	Likely Non-JD

Table 2. Other Water Resources (Continued)

Sample ID	Fig. 3 Page #	Name	Type[1]	Length (ft)	Width (ft)	Federally Jurisdictional[2]
S-40	10	Concrete Canal	Canal	421	1	Likely Non-JD
S-42	10	Canal	Canal	657	3-4	Likely Non-JD
S-44	10/11	Ephemeral/ Irrigation Overflow	Ephemeral	1,846	2	Likely Non-JD
S-43/46	10/11	Ephemeral/ Irrigation Overflow	Ephemeral	2,630	2	Likely Non-JD
S-48	11	Canal	Canal	746	6	Likely Non-JD
S-49	12	Unnamed Ephemeral Channel (Irrigation Runoff)	Ephemeral	83	2	Likely Non-JD
S-52	12	Unnamed Ephemeral Channel (Irrigation Runoff)	Ephemeral	1,103	2	Likely Non-JD
S-54	12	Byard Drain (Canal)	Intermittent/ Canal	320	6	Likely JD
S-57	13	Irrigation Canal	Canal	173	6	Likely Non-JD
S-58	13	Irrigation/ Roadside ditch	Ditch/Canal	780	1	Likely Non-JD
S-58.1	13	Reuse Pit	Reuse Pit	-	-	Likely Non-JD
S-59	14	Irrigation Canal	Canal	3,689	1	Likely Non-JD
S-60	14	Several Representative Irrigation Canals	Canal	1,044	2	Likely Non-JD
S-62	14	Reuse Pit	Reuse Pit	-	-	Likely Non-JD
S-66	15/16	Wildhorse Creek	Perennial	407	10	Likely JD
S-69	16	Concrete Irrigation Canal	Canal	539	2	Likely Non-JD
S-76	19	Unnamed Perennial Channel	Perennial	812	10	Likely JD
S-79	19	Canal	Canal	328	15-20	Likely Non-JD
S-85	20	Unnamed Ephemeral Channel	Ephemeral	432	2	Likely JD
S-86	20/21	Unnamed Intermittent Channel	Intermittent	970	5-10	Likely JD
S-88	22	Canal	Canal	2,164	10-15	Likely Non-JD
S-88	22	Concrete Canal	Canal	2,051	2	Likely Non-JD
S-90	23	Concrete Canal	Canal	136	2	Likely Non-JD
S-94	25	West Water Creek	Intermittent	678	4-6	Likely JD

Table 2. Other Water Resources (Continued)

Sample ID	Fig. 3 Page #	Name	Type[1]	Length (ft)	Width (ft)	Federally Jurisdictional[2]
S-98	26 & 27	Concrete Canal	Canal	1,426	2	Likely Non-JD
S-98.1	26	Reuse Pit	Reuse Pit		-	Likely Non-JD
S-99	26	Irrigation Runoff	Canal	139	2	Likely Non-JD
S-99.1	26	Reuse Pit	Reuse Pit	-	-	Likely Non-JD
S-100 & S-101	26 & 27	Tri-State Canal	Canal	1,678	40	Likely Non-JD
S-102	27	Red Willow Creek	Intermittent	754	15-18	Likely JD
S-113	30	Lowline Canal	Canal	403	15	Likely Non-JD
S-118	35	Unnamed Ephemeral Channel	Ephemeral Channel	517	2	Likely JD

[1] Other water resources are non-wetland water resources such as channels, ponds, and canals.

[2] Jurisdictional status of wetlands were assessed based on the pre-2015 regulatory regime. Any wetlands indicated as not Federally Jurisdictional are discussed in the Discussion section.

3.1 Vegetation

The vegetation in the PEMA/C communities generally consisted of non-native herbaceous species within the ROW and extended to the limits of the investigation. The dominant vegetation in the herbaceous layer consisted of reed canary grass *(Phalaris arundinacea),* narrowleaf cattail *(Typha latifolia),* and prairie cordgrass *(Spartina pectinata).* All PEMA/C wetlands met the Rapid Test or Dominance Test for hydrophytic vegetation.

Dominant vegetation within the PFOA wetlands consisted of black willow *(Salix nigra)* within the tree or shrub stratum and the herbaceous layer was dominated by reed canary grass *(Phalaris arundinacea)* and Emory's sedge *(Carex emoryi).* All PFOA wetlands met the Rapid Test or Dominance Test for hydrophytic vegetation.

The PSSA wetland was dominated by sandbar willow *(Salix interior),* and cottonwood shrubs *(Populus deltoides)* in the shrub stratum. The herbaceous layer was dominated by reed canary grass *(Phalaris arundinacea).* The PSSA wetland met the Dominance Test for hydrophytic vegetation.

A majority of the study area included upland prairie grass that consisted of native and non-native vegetation, such as, smooth brome *(Bromus inermis),* cheatgrass *(Bromus tectorum),* intermediate wheatgrass *(Thinopyrum intermedium),* and kochia *(Brassica kochia).* No hydrophytic vegetation indicators were observed at the upland outpoints.

3.2 Soils

Typical soils within the PEMA/C or PFOA wetlands had a texture of silty loam, silty clay loam, or fine sandy loam. Most of the soil colors on-site included 10YR 3/2, 10YR 3/1, 10YR 2/1, and

a 10YR 2/2. Areas of wetlands near the channels had a depleted color of 10YR 4/2, 10YR 5/1, or 10YR 5/2. Redox features within the soil profile were typically a soil color of 10YR 4/6 and were present as 5-10% concentrations located within the matrix of the soil. Hydric soil indicators of Redox Dark Surface (F6), Depleted Matrix (F3), or Depleted below Dark Surface (A11) were common.

All upland soils in the study area were a fine sandy loam or fine silty loam in texture with a soil matrix color of 10YR 3/2, 10YR 4/3, 10YR 5/3 top layer of the soil profile. The second soil layer was typically a fine silty loam texture with soil matrix colors of a 10YR 4/2 to a 10YR 4/3. No hydric soil indicators were observed in the non-wetland areas.

3.3 Hydrology

Wetland hydrology throughout the study area was primarily driven by irrigation runoff, occasional out-of-bank flooding from the intermittent channels, perennial channels, or drainage features identified during the delineation. Surface water runoff from the highway may also contribute to wetland located in the road ditches. Indicators of wetland hydrology observed during the delineation included drift deposits, water-stained leaves, drainage patterns, geomorphic position, and a positive FAC-neutral test.

4.0 DISCUSSION

4.1 Wetlands & Water Resources

The Minatare US-26 to L62A/US-385 project study area occurs along US-26 and L62A to the US-385 junction. The adjacent land use includes agricultural row crops, pasture/rangeland, feedlots, and rural residential properties. Four named waterways, four named irrigation drains, five unnamed channels, and an extensive canal system were present within the study area. These waterways supply a majority of the water for the wetlands. A majority of the wetlands were identified within the roadside ditch or in excavated features used to drain water from the agricultural fields. These ditch wetlands were identified as PEMA/C wetland (S-2, S-6, S-9, S-12, S-16, S-17, S-21, S-40, S-42, S-44, S-47, S-49, S-52, S-61, S-70, S-81, S-83, S-88, S-89, S-99, and S-111) and were typically isolated and surrounded by upland vegetation.

Named waterways within the study area include Ninemile Creek (S-26), Wildhorse Creek (S-66), West Water Creek (S-94), and Red Willow Creek (S-102). These waterways are associated with PEMA/C (S-26, S-66, S-102), PSSA wetlands (S-28), and PFOA wetlands (S-104) that extend into the floodplain of the waterways, many of which are excavated and channelized into the landscape. The PEMF wetland (S-105) and PEMA/C wetland (S-108) are located within the naturalized floodplain of Red Willow Creek on the north side of the highway.

The study area also includes channels that have been modified for the use of returning irrigation runoff, which includes the Minatare Drain (S-19, S-23, S-29), and the Bayard Drain (S-54). Both of these channels are excavated ditches with siphons to convey water below naturalized features.

The drains return irrigation water back to the downstream waters during the growing season. PEMA/C wetlands were observed along these features and occasionally extended into the low-lying floodplain surrounding these drains (S-19, S-24, S-29, and S-54). A small fringe PSSA wetland (S-23) was located on the west side of Ninemile Creek, just before the siphon that directs the flow of the Minatare Drain below the natural channel.

Two unnamed perennial channels were identified within the study area. One is identified by the NHD as an intermittent channel but as a result of the Minatare Drain flowing into the channel, it is now perennial. This channel connects to the Minatare Drain within the ROW and flows through a large box culvert to the south of the study area where it becomes channelized with fringe PEMA wetlands (S-31, and S-33). The unnamed perennial channel is located east of the US-26 junction, flowing north to south and having fringe PEMA wetlands (S-76).

Furthermore, there were several unnamed, intermittent, and ephemeral channels (S-31, S-43, S-44, S-46, S-49, S-52, S-85, S-86, S-118) were identified within the study area of which several appear to convey irrigation runoff from the surrounding agricultural fields. These features were excavated and surrounded by upland vegetation. Occasionally the ephemeral channels would have small PEMA wetlands (S-42, S-43, S-49, and S-52) within the ditch or would be present along the fringe of the channels. A PFOA wetland (S-86) was observed along the intermittent channel along the east side of County Road 79.

Thirty-eight (38) canals and canal laterals (S-36, S-37, S-40, S-42, S-48, S-57, S-58, S-59, S-60, S-69, S-79, S-88.5, S-90, S-98, S-99, S-100, S-101, S-113) were identified within the study area. Many of these canals have multiple canals represented by one sample point. The canals observed range from 1-foot wide to 40-feet-wide and either parallel the highway or pass underneath. Occasionally the same canal would pass underneath the highway several times. Notable canals that exemplify this include the Tri-State Canal and Lowline Canal.

Four (4) irrigation reuse pits (S-58.1, S-62, S-98.1, and S-99.1) were identified within the investigation area and were actively storing water at the time of the investigation. The reuse pits collect water from the canal system or from irrigation runoff to store water near the ag field for later use.

4.2 Precipitation and Weather

The USACE Antecedent Precipitation Tool reports that the precipitation values 90 days before the site visit were overall wetter than normal. Precipitation values were recorded at the Scottsbluff Heling AP weather station, located 6.9 miles from the Investigation Area. Average precipitation from May 30 to July 29, 2021, was recorded as being within the normal range of precipitation. Wetland boundaries appear to represent normal conditions based on location, aerial imagery, past delineation data and are consistent with the visual topography within the Investigation Area.

4.3 Non-Federally Jurisdictional Wetlands & Water Resources

Canals and irrigation ditches were considered "Not Likely Jurisdictional" because they are artificially created within historically upland areas that are regulated by dams, siphons, and drains. Furthermore, canals and irrigation ditches convey water that may not be returned to the source at which it originated and also lacks a consistent flow, which is regulated for irrigation purposes. Similarly, wetlands and channels created by irrigation runoff from the canal systems were also considered "Not Likely Jurisdictional". These features have been created in upland areas and are supplied water from an artificial source that is irregular from seasonal irrigation use.

Wetlands that are located within a road ditch or created drainage ditch used to remove water from agricultural fields were also considered "Not Likely Jurisdictional". These features have been excavated in an historically upland area and have no direct or permanent connection to downstream waters. In situations where a ditch wetland connects to a canal or irrigation drainage, these features are not considered to be permanent as the flow of water is regulated by the irrigation demand and the water source may or may not be returned to the original water source.

Wetlands that are directly abutting intermittent or perennial channels (RPW's) are considered to be regulated by the USACE as they have a permanent connection to a TNW, which for this project would be the Platte River. All wetlands and waters that have a permanent connection to or are adjacent to an RPW are considered jurisdictional by the USACE.

The above text regarding the jurisdictional status of these features is the opinion of Benesch based on the interpretation of the 2008 WOTUS ruling. The most recent Navigable Waters Protection Rule was suspended on August 30th, 2021, by the USACE and EPA with guidance to interpret "waters of the United States" consistent with the pre-2015 regulatory regime until further notice. The USACE would need to concur before this opinion could be considered valid. This can be accomplished by submitting this report to the USACE along with a request to concur with these findings or submitting a request for a Jurisdictional Determination (JD).

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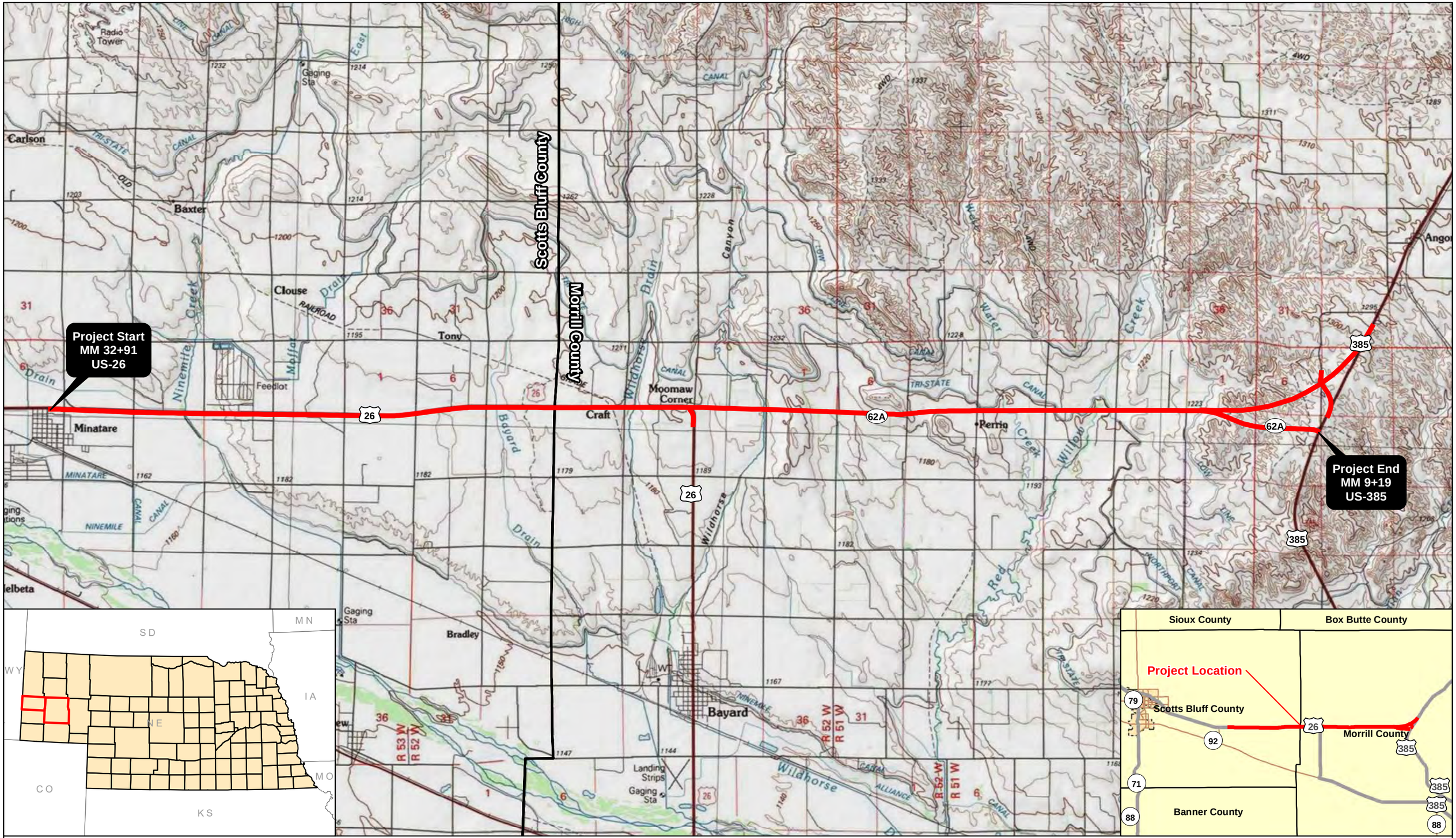
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USGS Topographic 7.5-minute Map, USGS Quads: Minatare 1976, Bayard SW 1965, Bayard 1965, and Angora 1965. Website: http://topozone.com/map

Appendix A:
Figures



USGS Topographic Imagery

Nebraska Department of Transportation
Project Number: S-26-1(1071)
CN: 51521
Corps Number: NWO-2021-01254-WEH

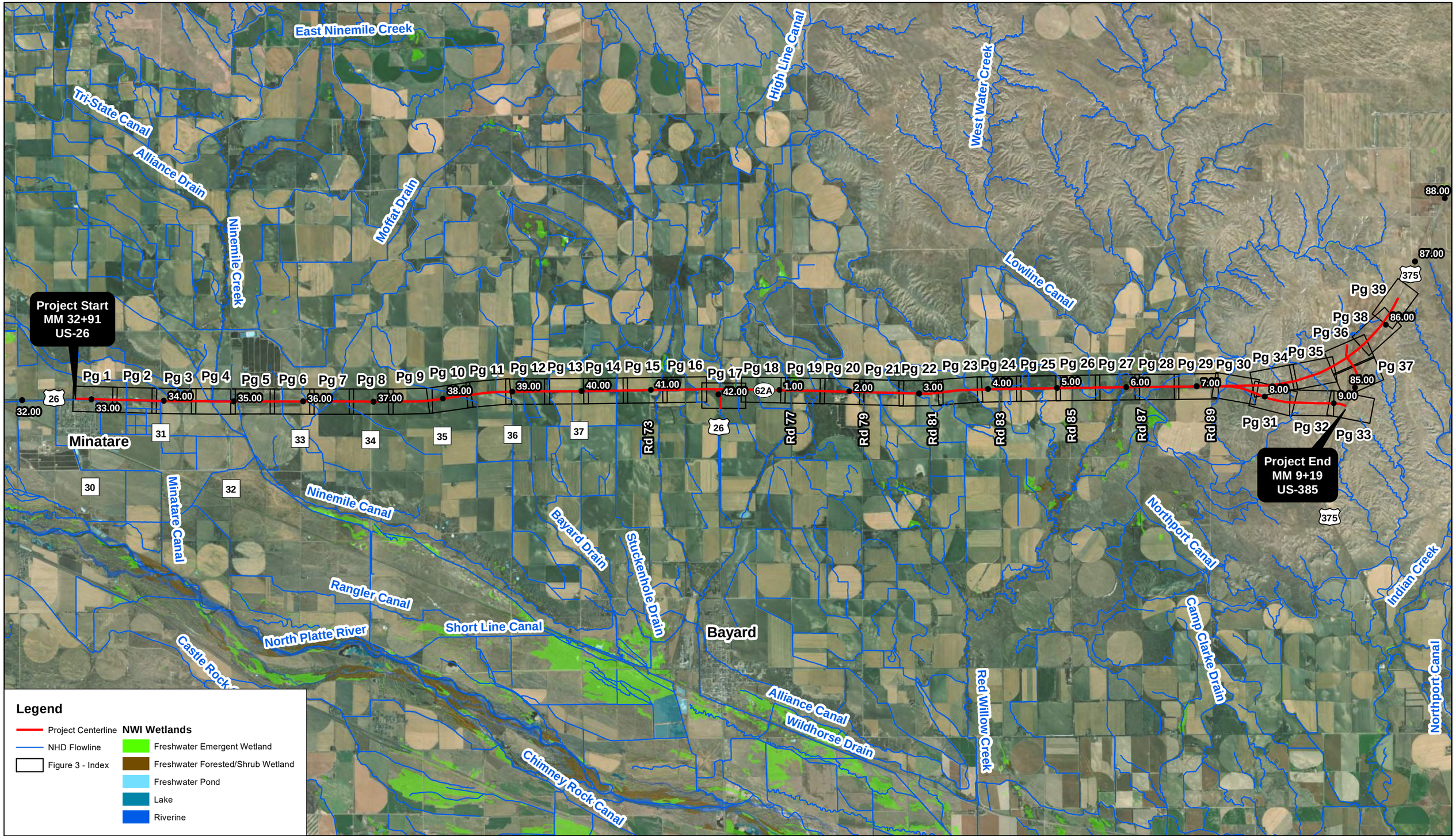
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0 0.75 1.5 Miles

Absolute Scale 1:79,200

PROJECT LOCATION MAP - FIGURE 1

Minatare US-26 to L-62A/US-385 Junction
Scotts Bluff & Morrill County, Nebraska



ESRI Basemap Aerial Imagery

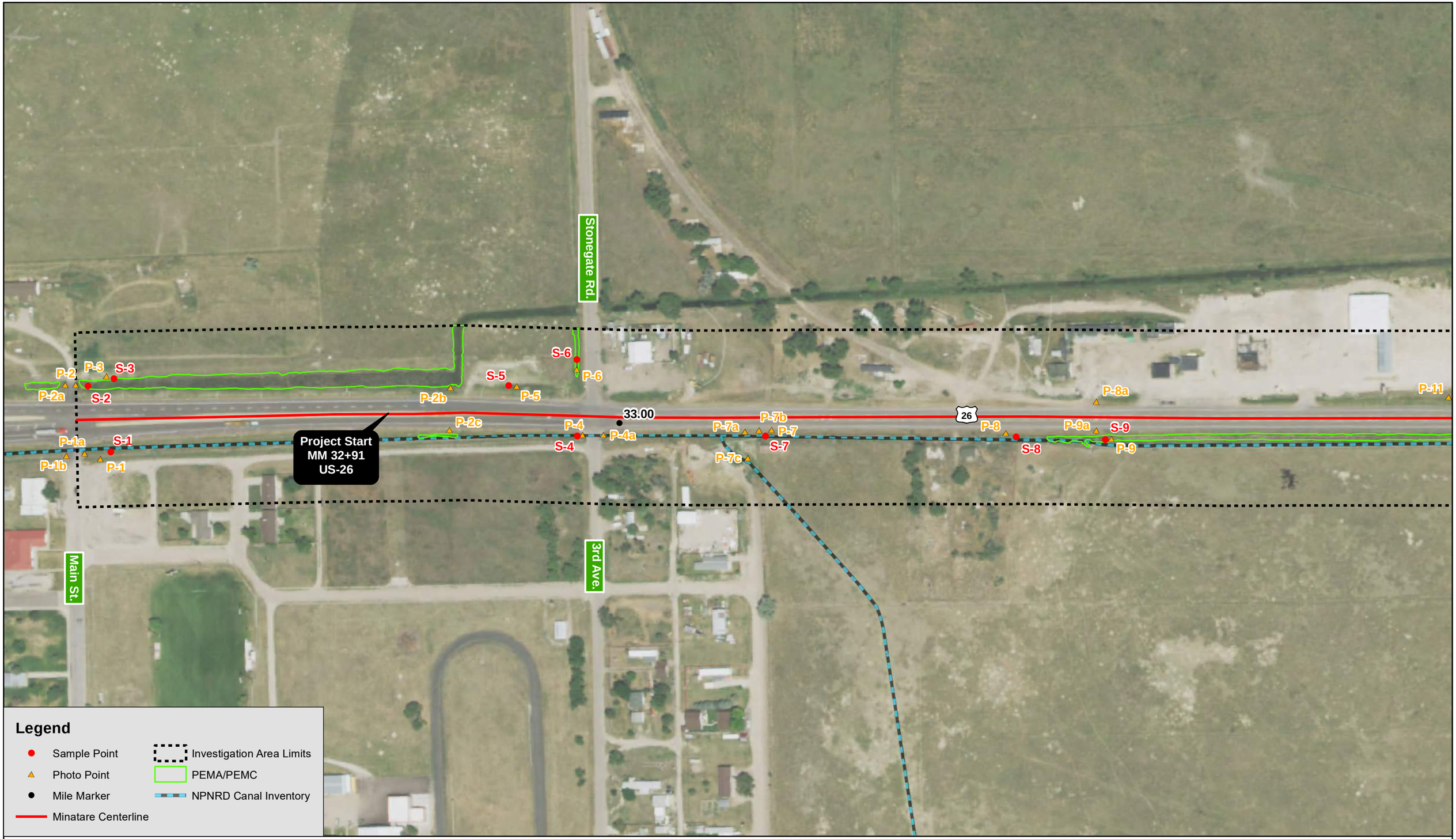
Nebraska Department of Transportation
Project Number: S-26-1(1071)
CN: 51521
Corps Number: NWO-2021-01254-WEH

N

0 0.75 1.5 Miles
Absolute Scale 1:79,200

WETLAND DELINEATION INDEX MAP - FIGURE 2

Minatare US-26 to L-62A/US-385 Junction
Scotts Bluff & Morrill County, Nebraska



NAIP 2020 Scotts Bluff & Morrill County Aerial Imagery

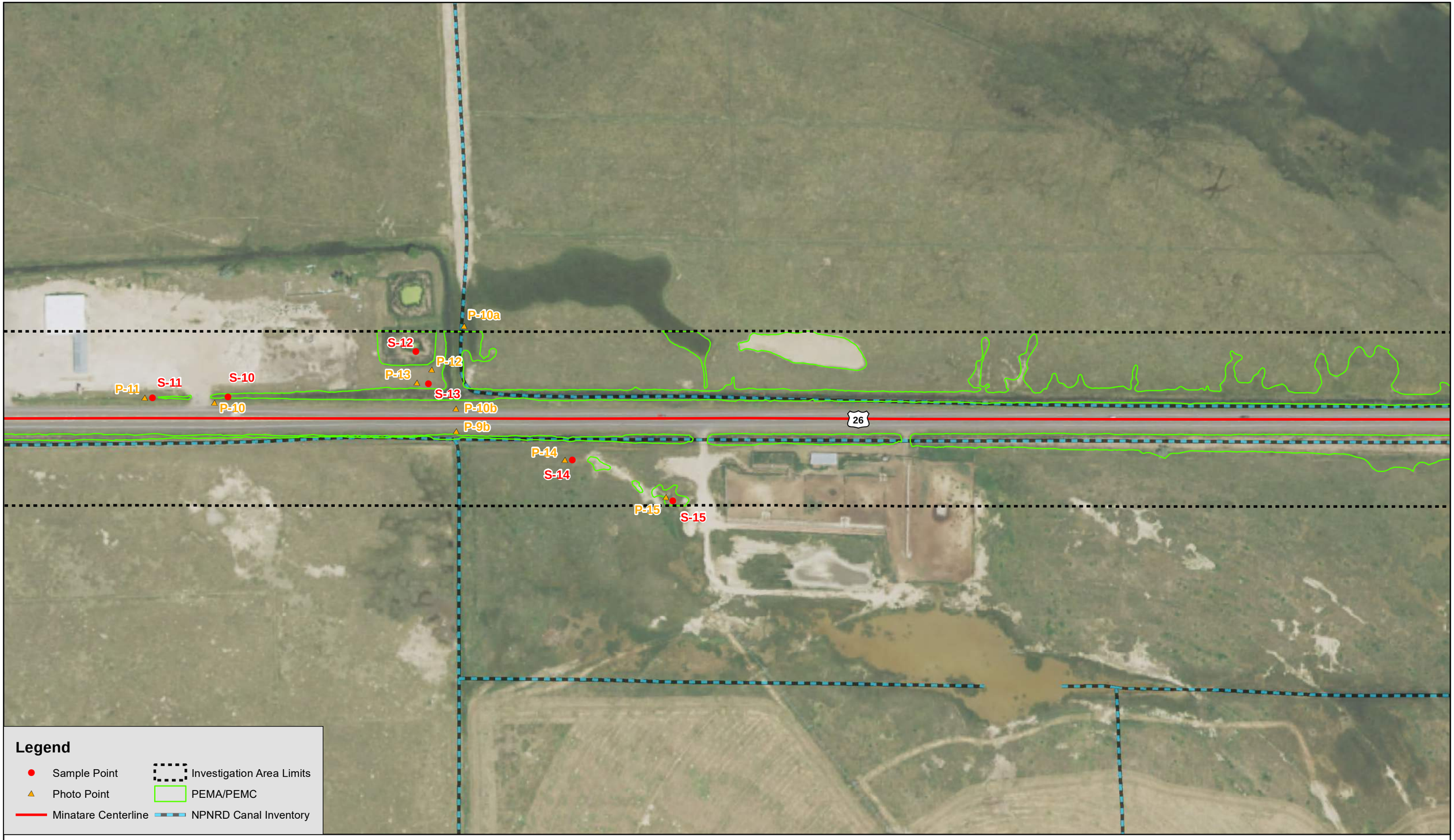
Nebraska Department of Transportation
Project Number: S-26-1(1071)
CN: 51521
Corps Number: NWO-2021-01254-WEH

N

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Feet
Absolute Scale 1:2,400

WETLAND DELINEATION MAP - FIGURE 3

Minatare US-26 to L-62A/US-385 Junction
Scotts Bluff & Morrill County, Nebraska



NAIP 2020 Scotts Bluff & Morrill County Aerial Imagery

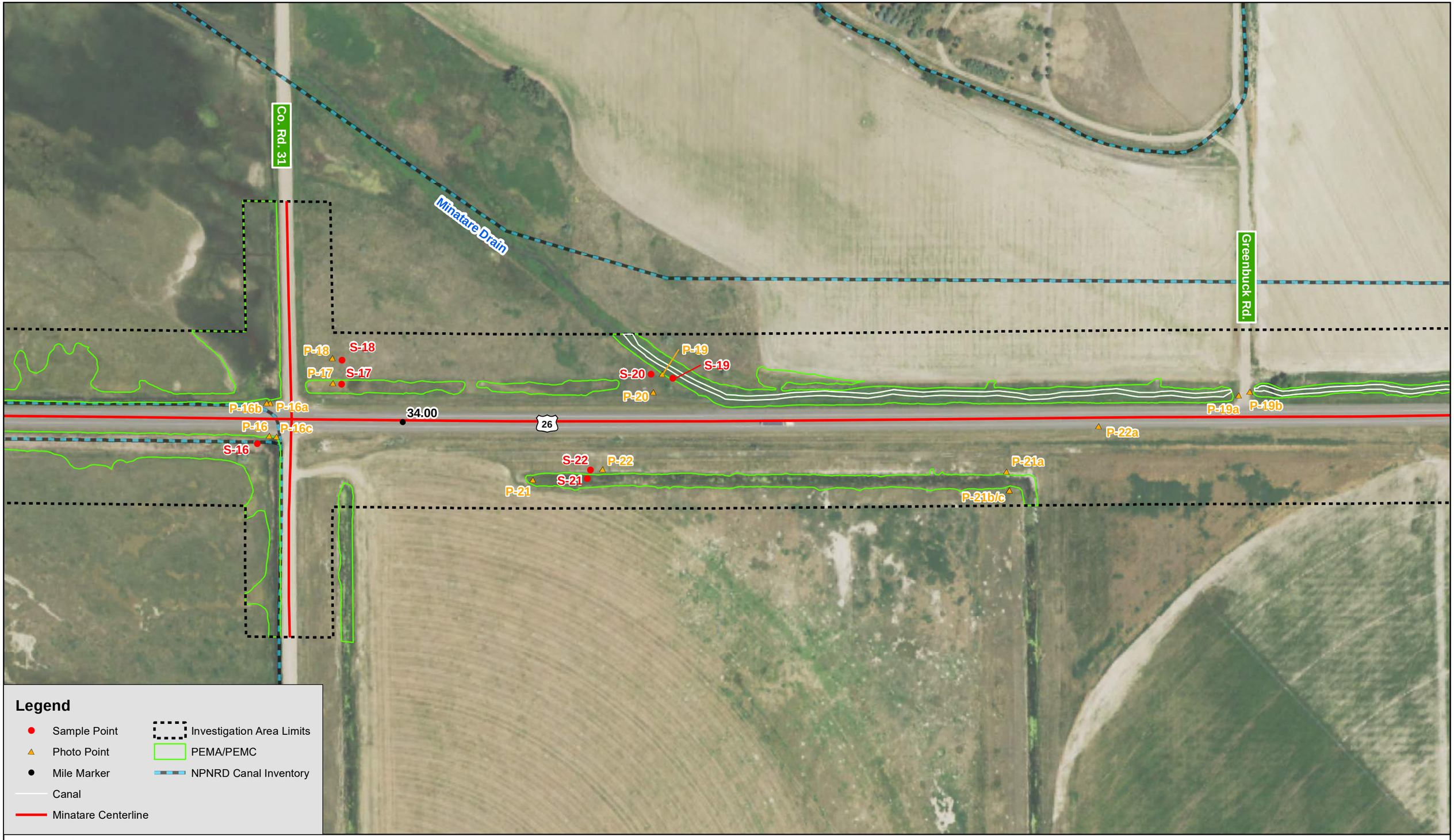
Nebraska Department of Transportation
Project Number: S-26-1(1071)
CN: 51521
Corps Number: NWO-2021-01254-WEH

N

0 100 200 Feet
Absolute Scale 1:2,400

WETLAND DELINEATION MAP - FIGURE 3

Minatare US-26 to L-62A/US-385 Junction
Scotts Bluff & Morrill County, Nebraska



Legend

- Sample Point
- Photo Point
- Mile Marker
- Canal
- Minatare Centerline
- Investigation Area Limits
- PEMA/PEMC
- NPNRD Canal Inventory

NAIP 2020 Scotts Bluff & Morrill County Aerial Imagery

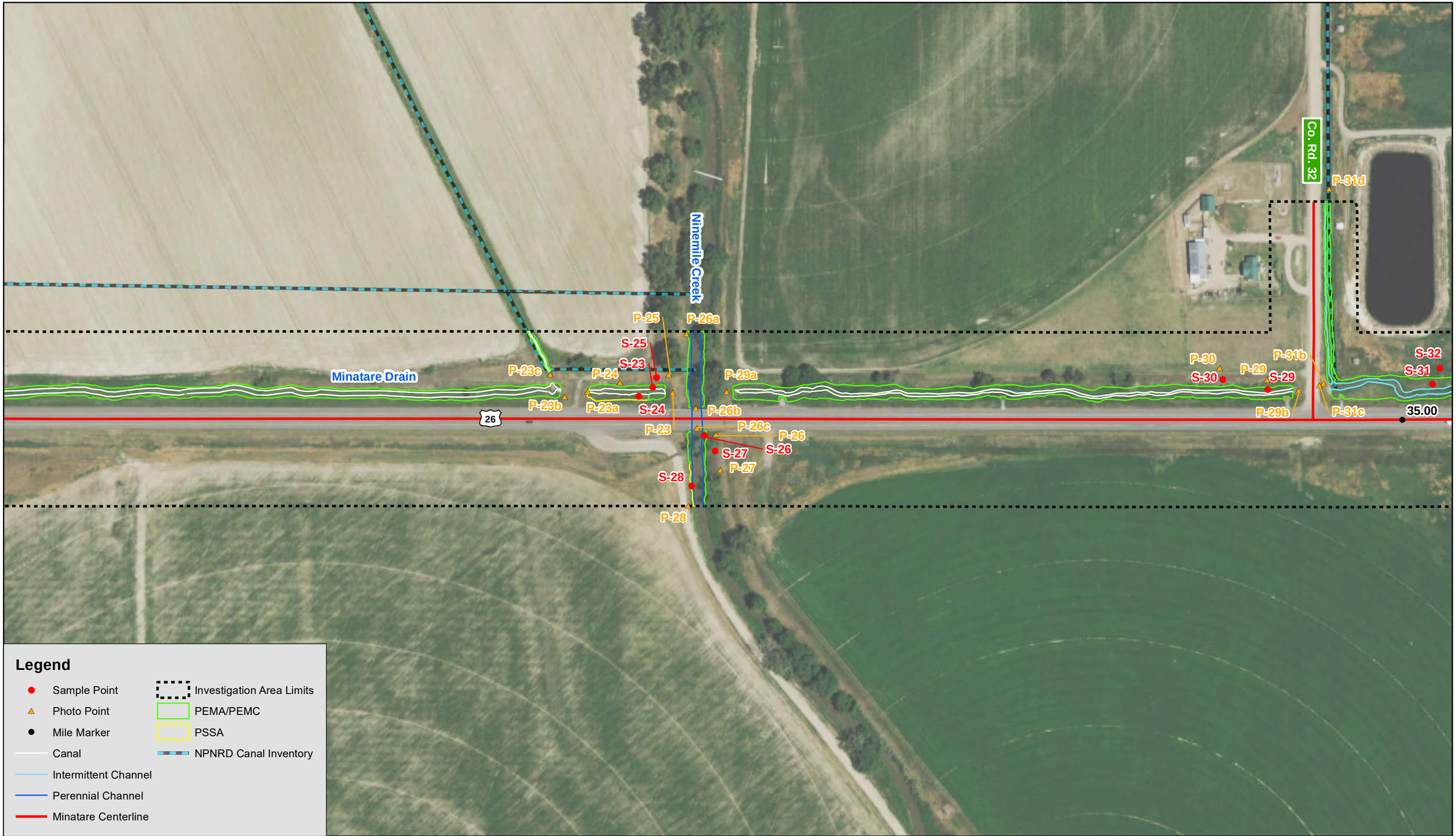
Nebraska Department of Transportation
Project Number: S-26-1(1071)
CN: 51521
Corps Number: NWO-2021-01254-WEH

N

0 100 200 Feet
Absolute Scale 1:2,400

WETLAND DELINEATION MAP - FIGURE 3

Minatare US-26 to L-62A/US-385 Junction
Scotts Bluff & Morrill County, Nebraska



NAIP 2020 Scotts Bluff & Morrill County Aerial Imagery

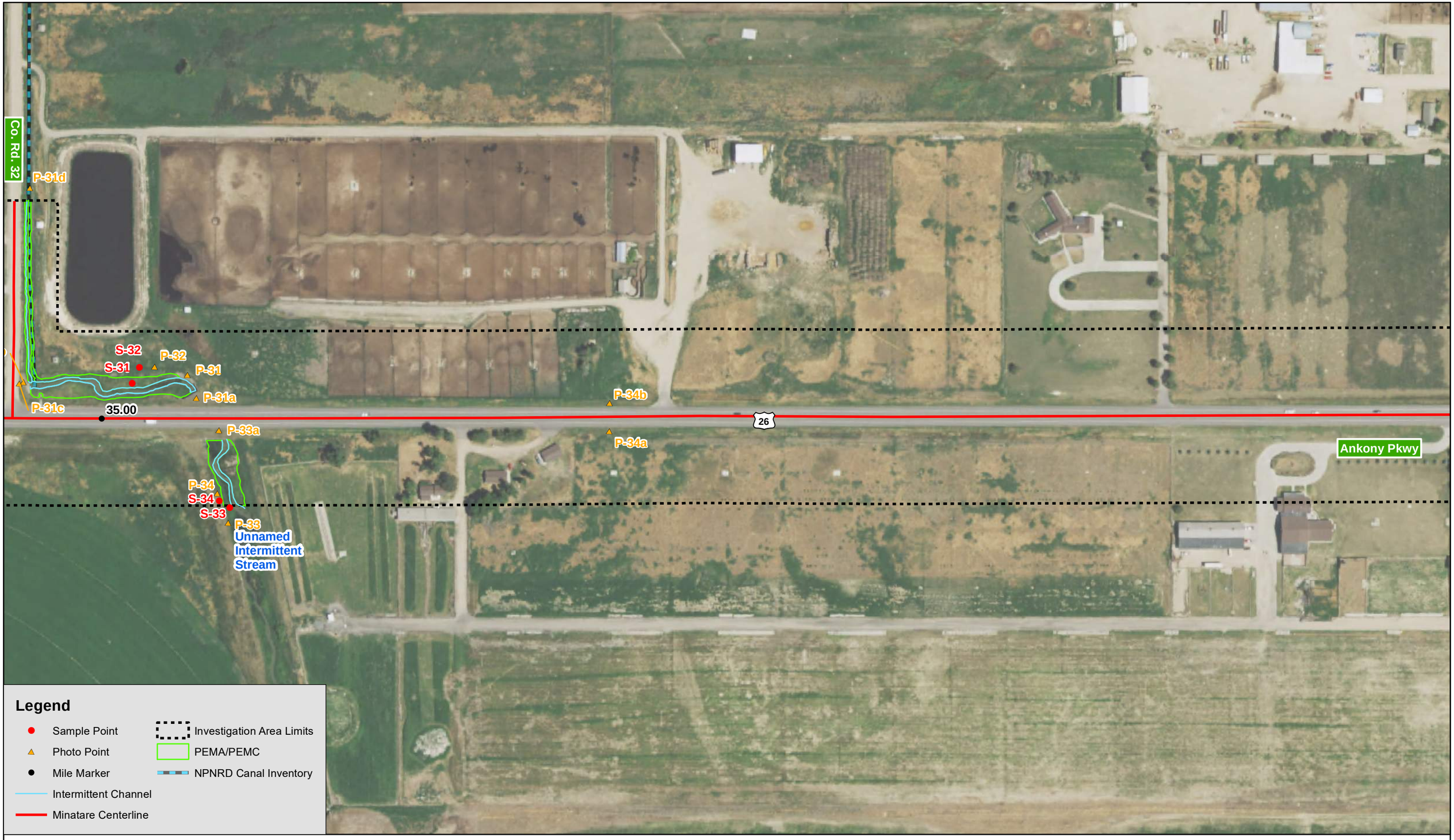
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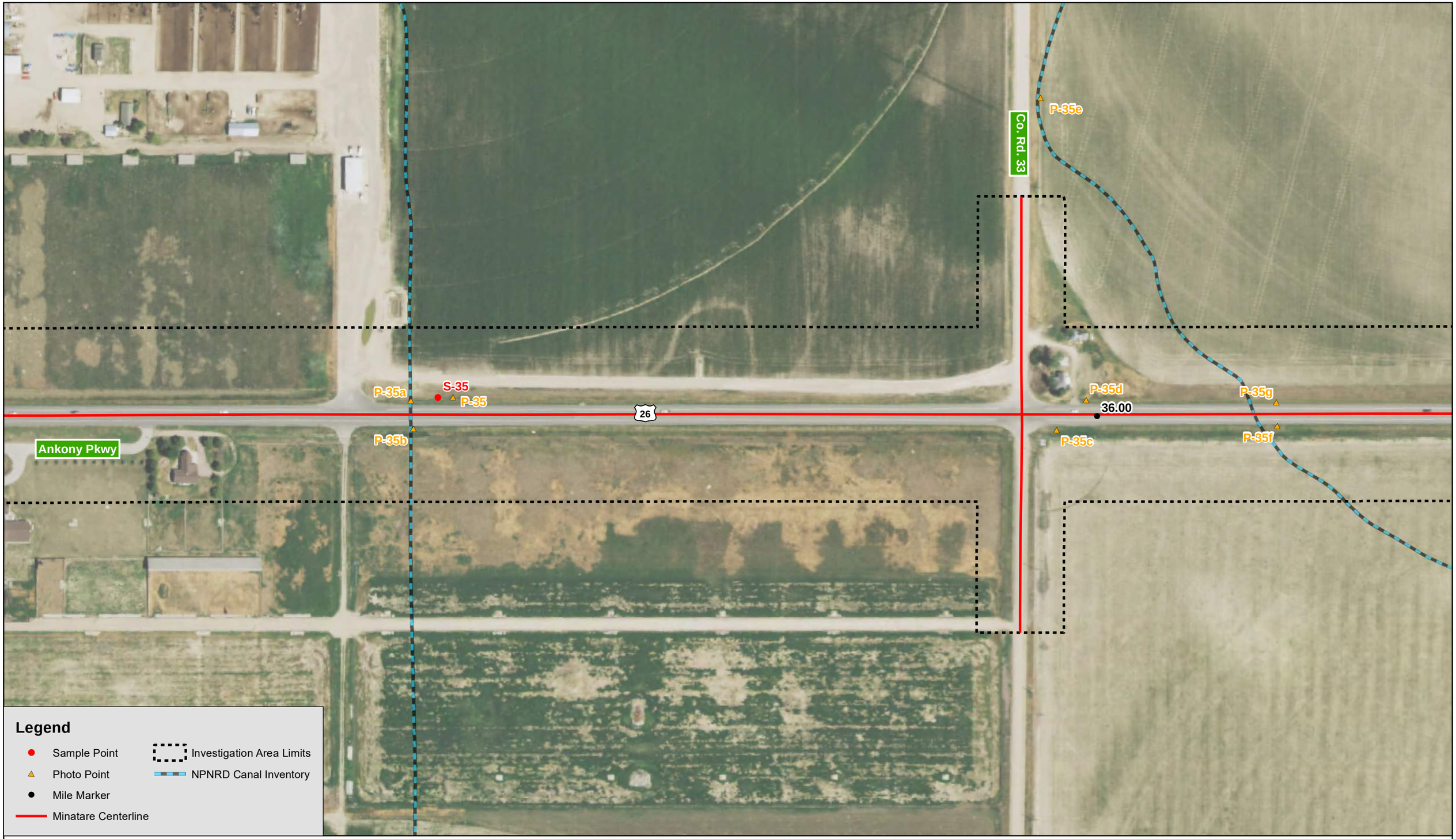
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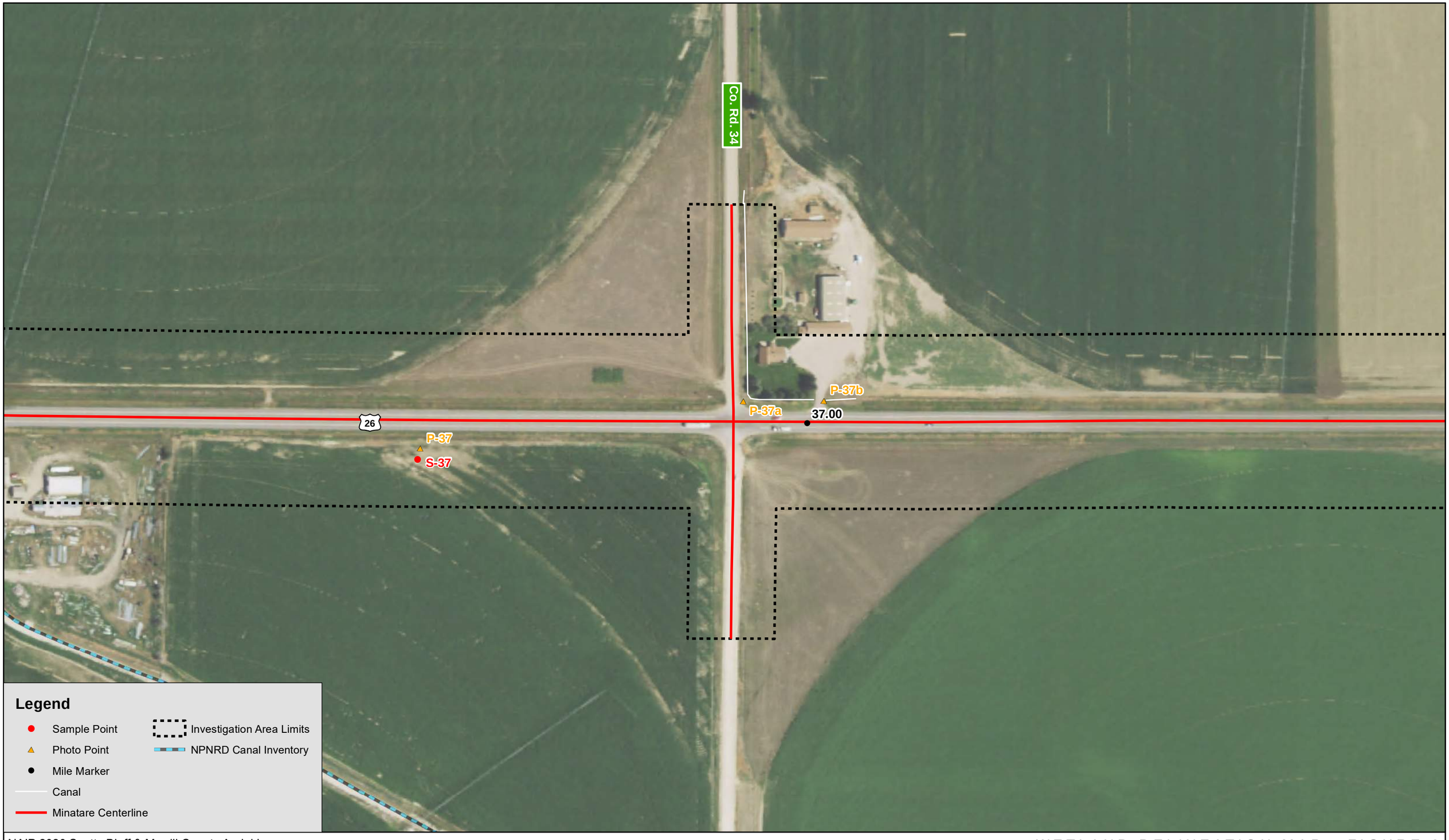
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WETLAND DELINEATION MAP - FIGURE 3

Minatare US-26 to L-62A/US-385 Junction
Scotts Bluff & Morrill County, Nebraska



Legend

- Sample Point
- Photo Point
- Minatare Centerline
- Investigation Area Limits

NAIP 2020 Scotts Bluff & Morrill County Aerial Imagery

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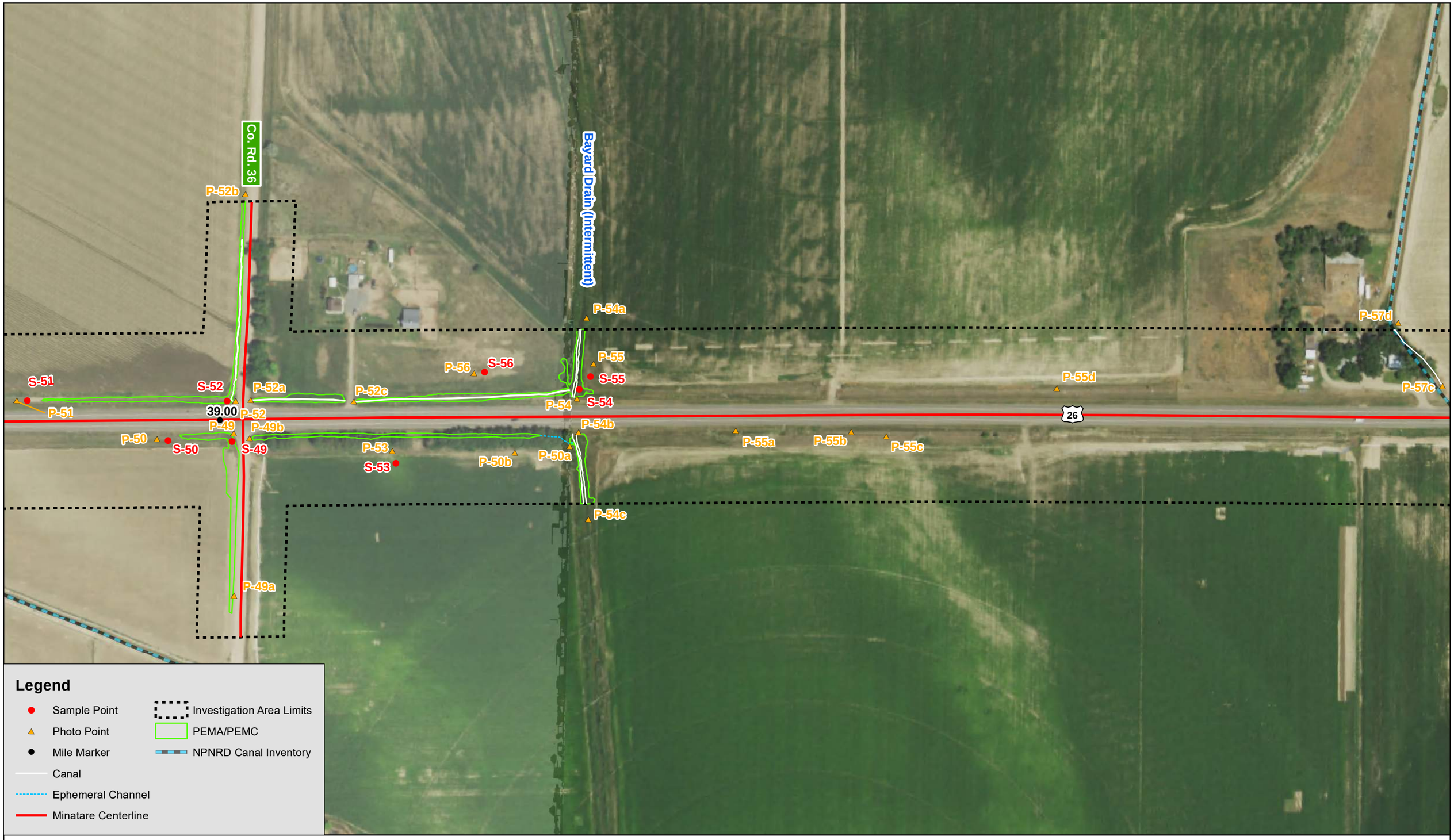
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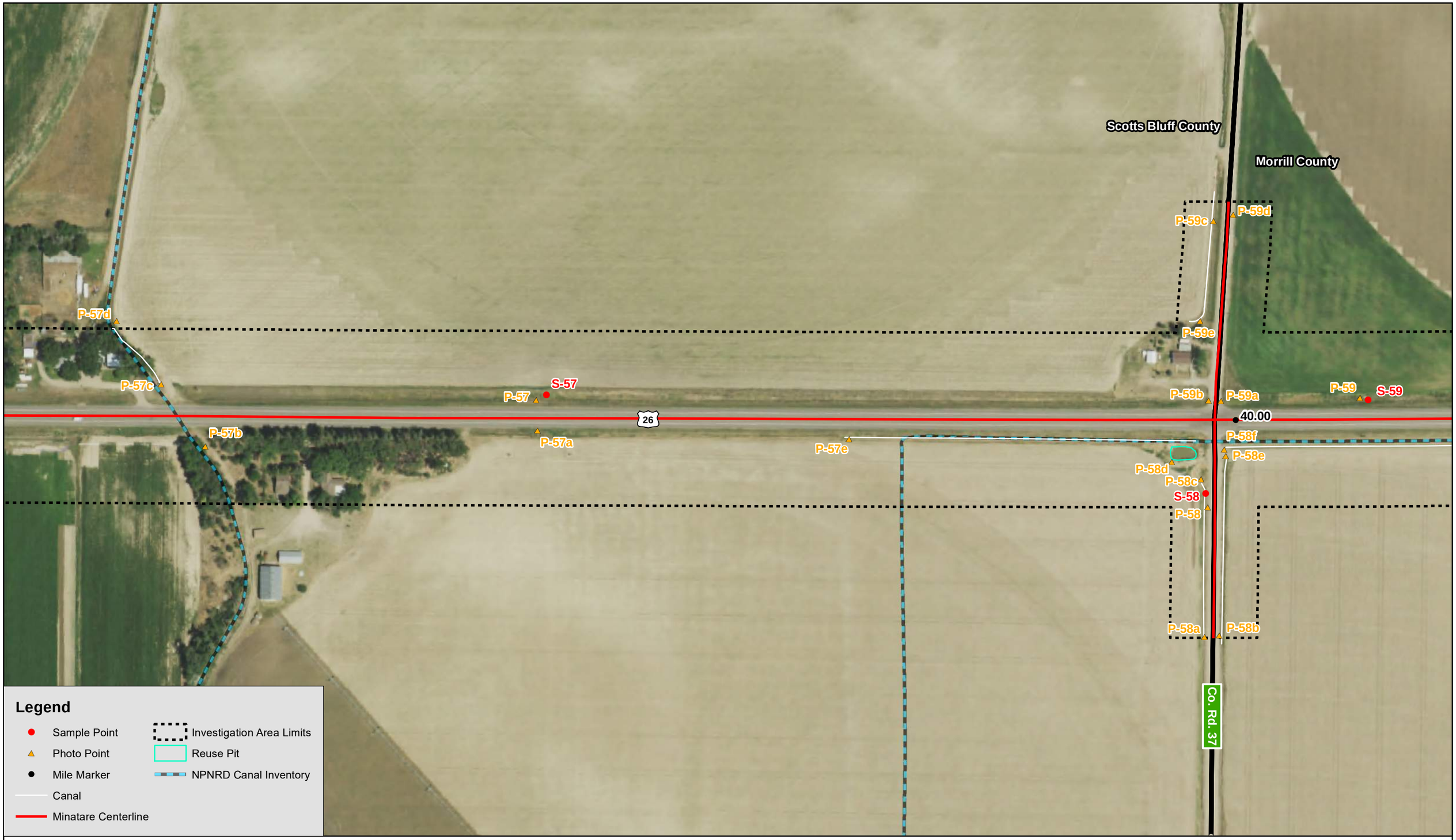
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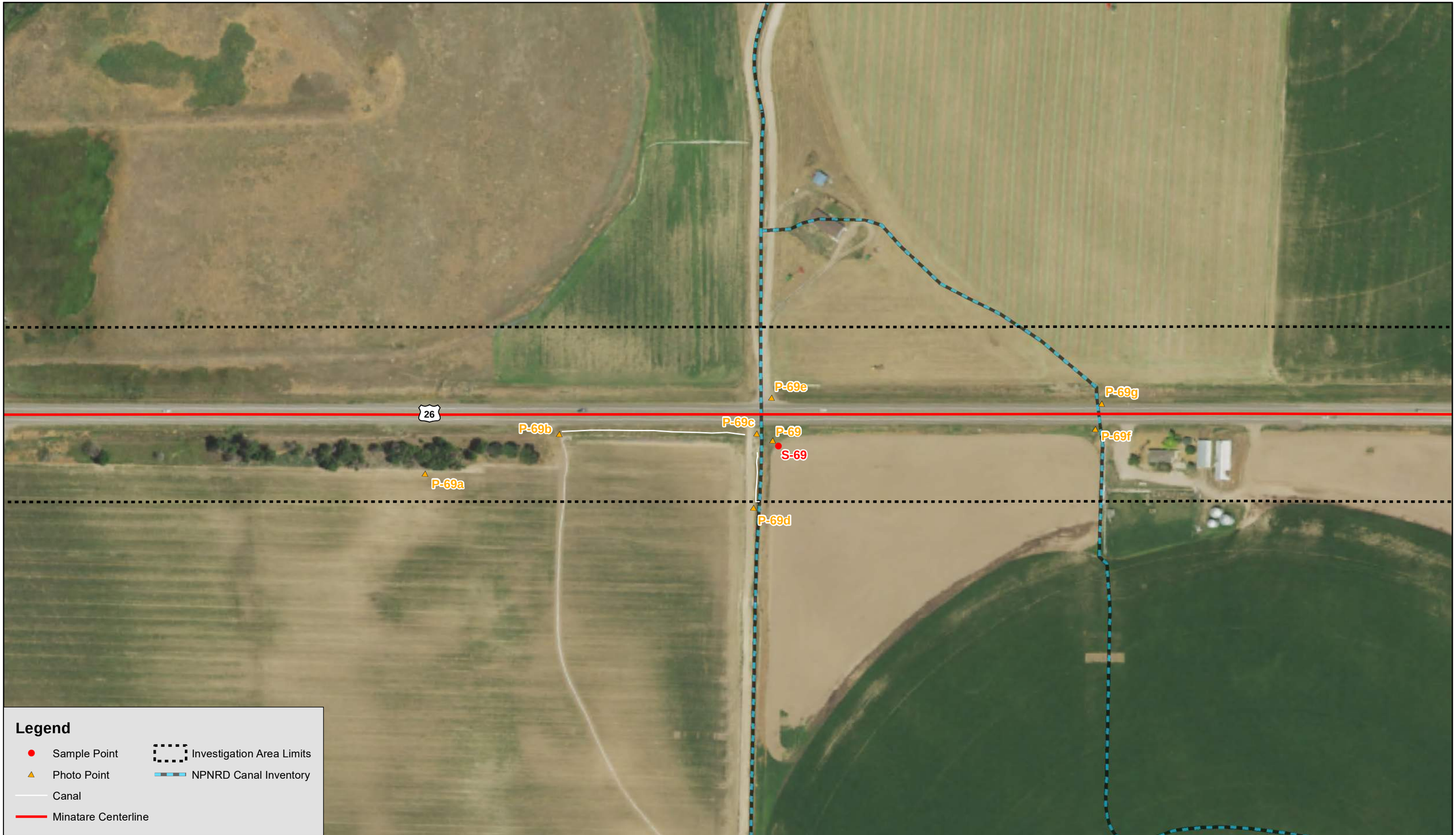
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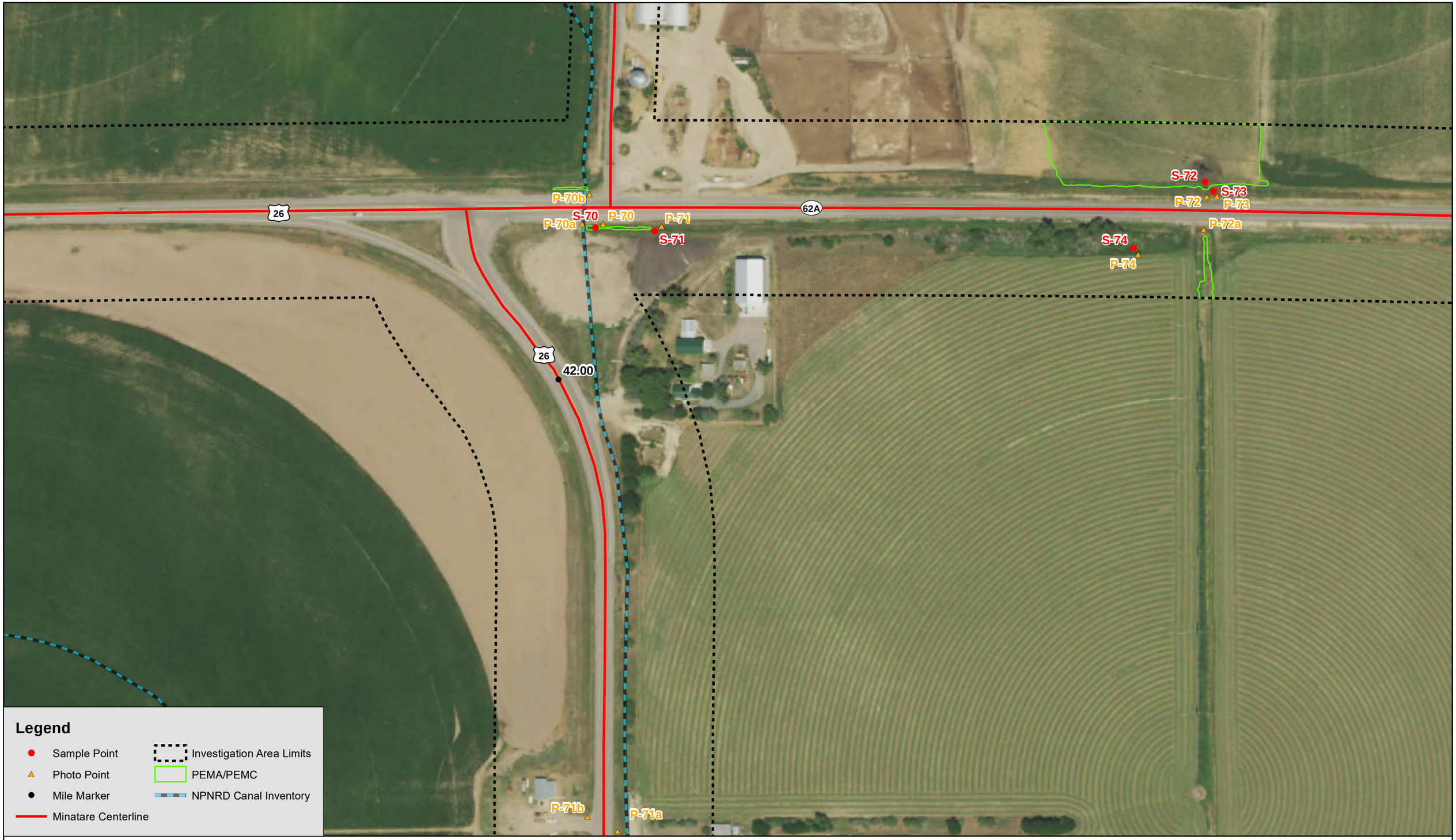
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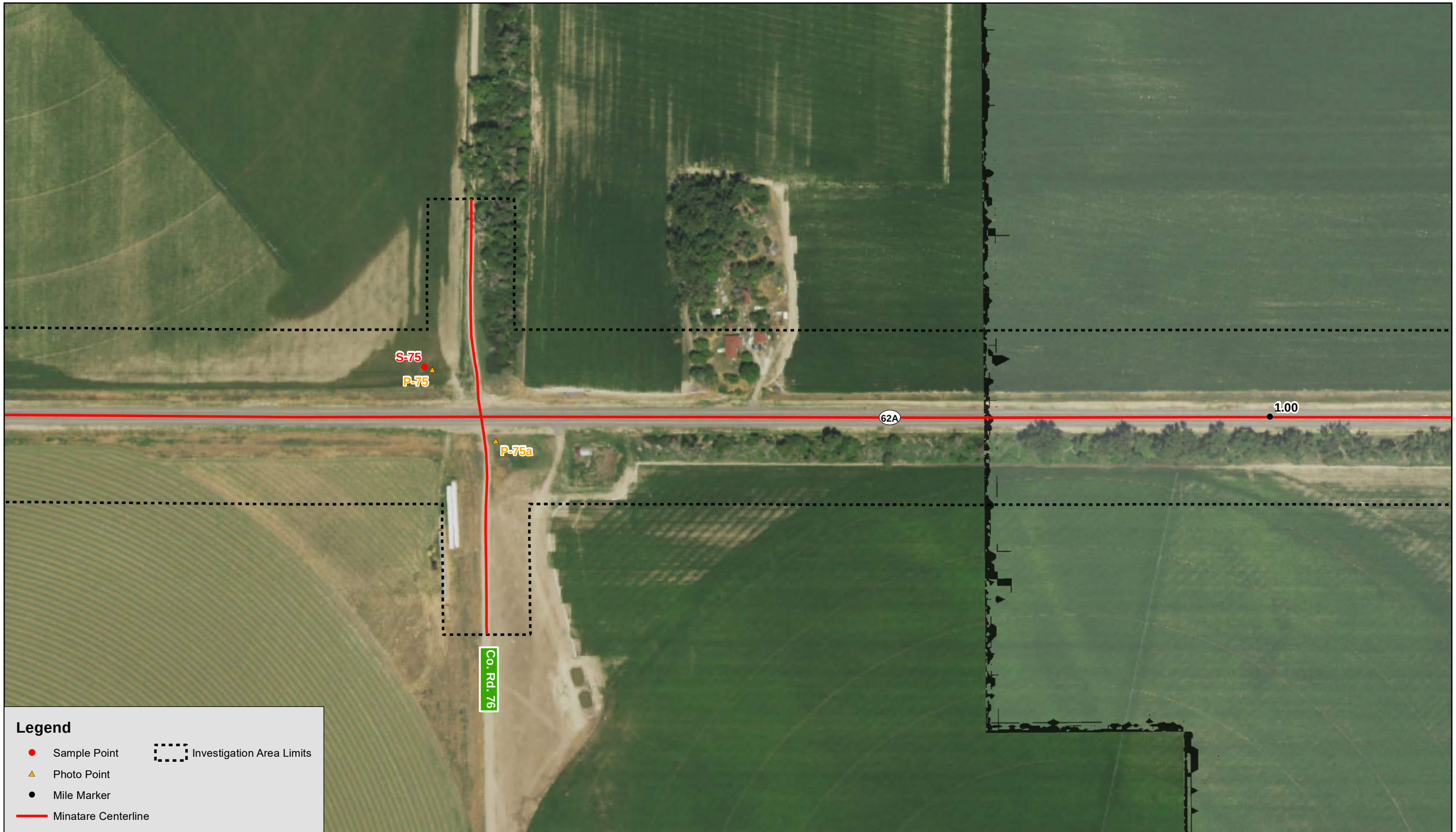
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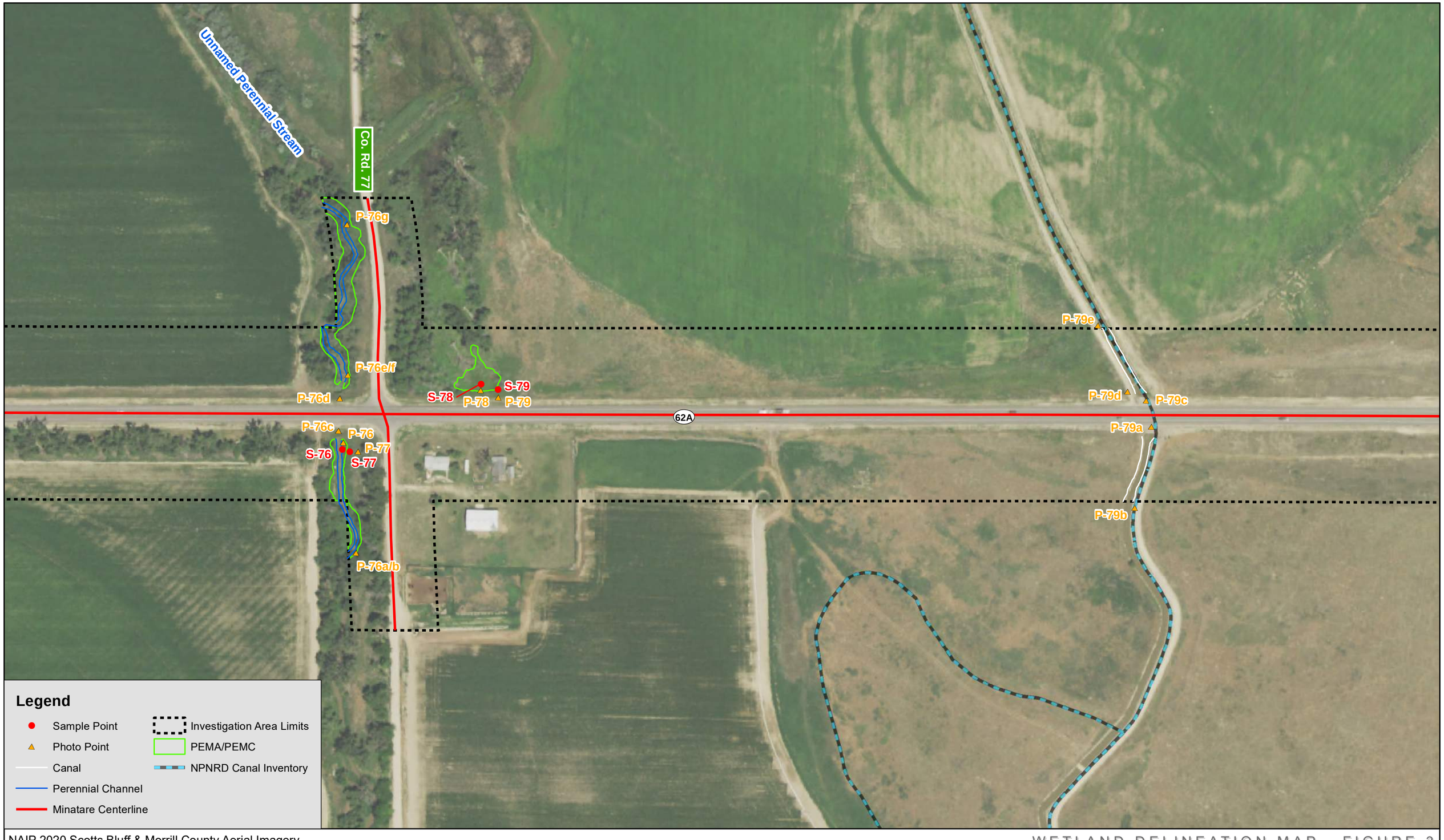
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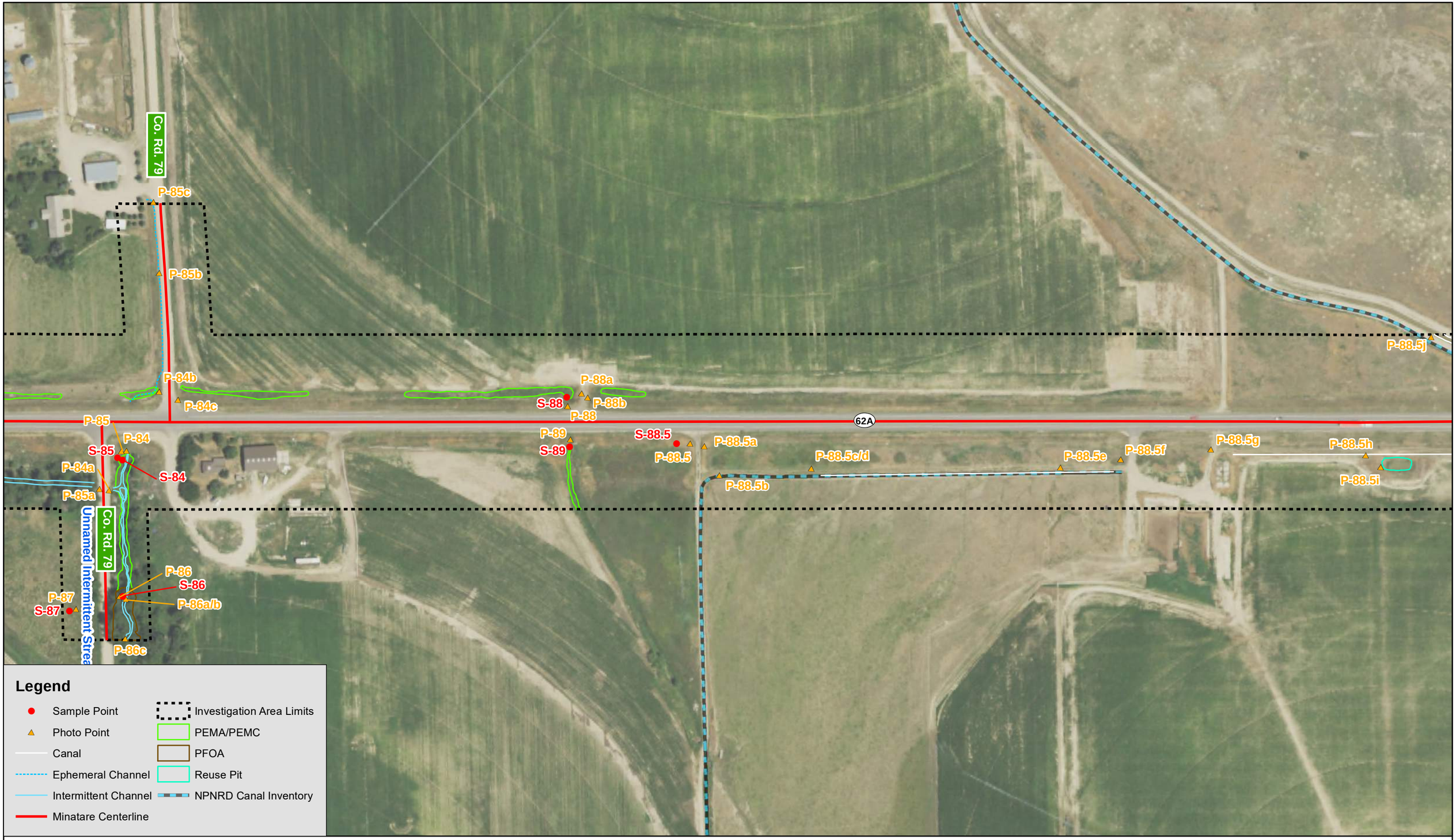
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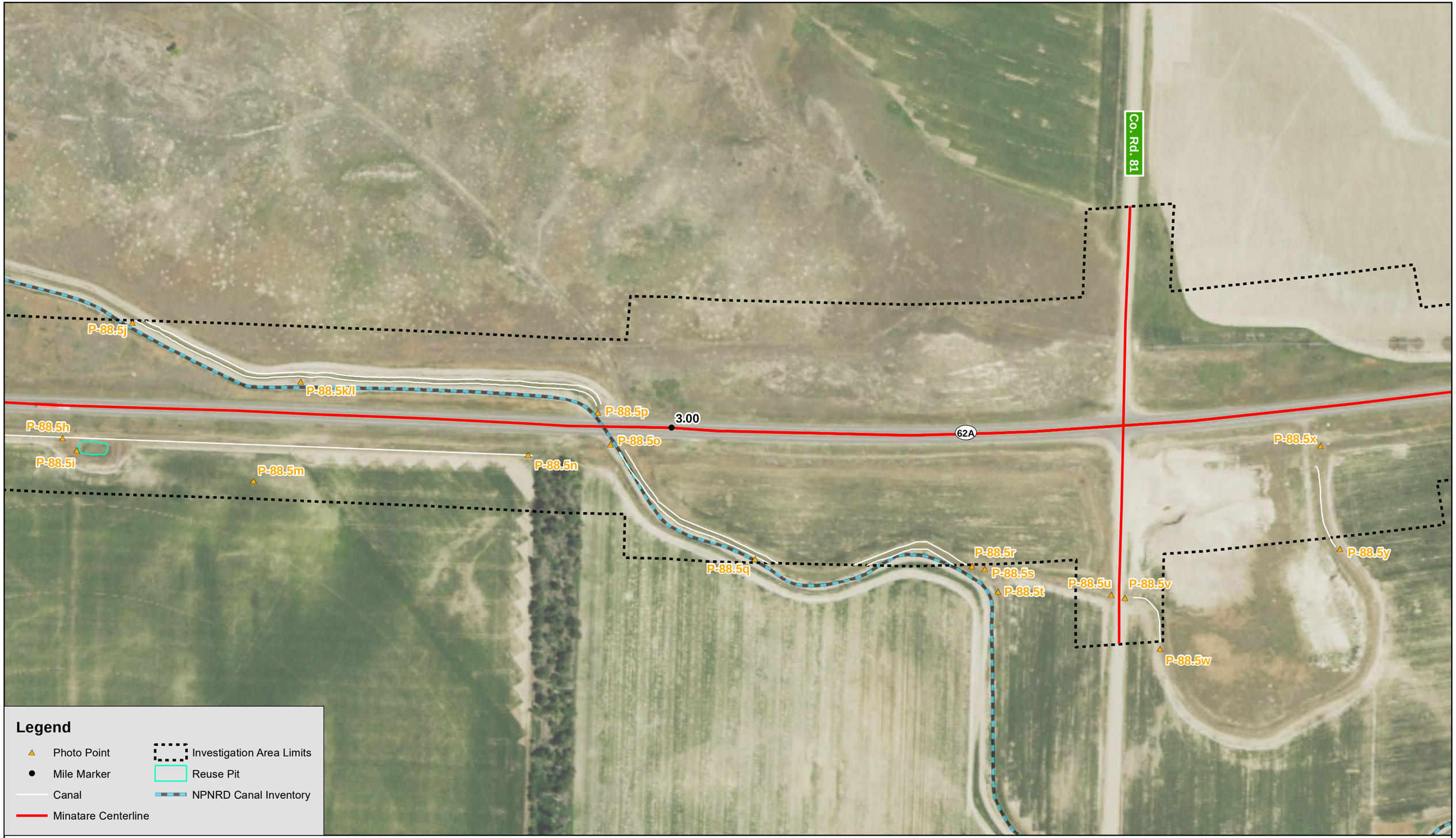
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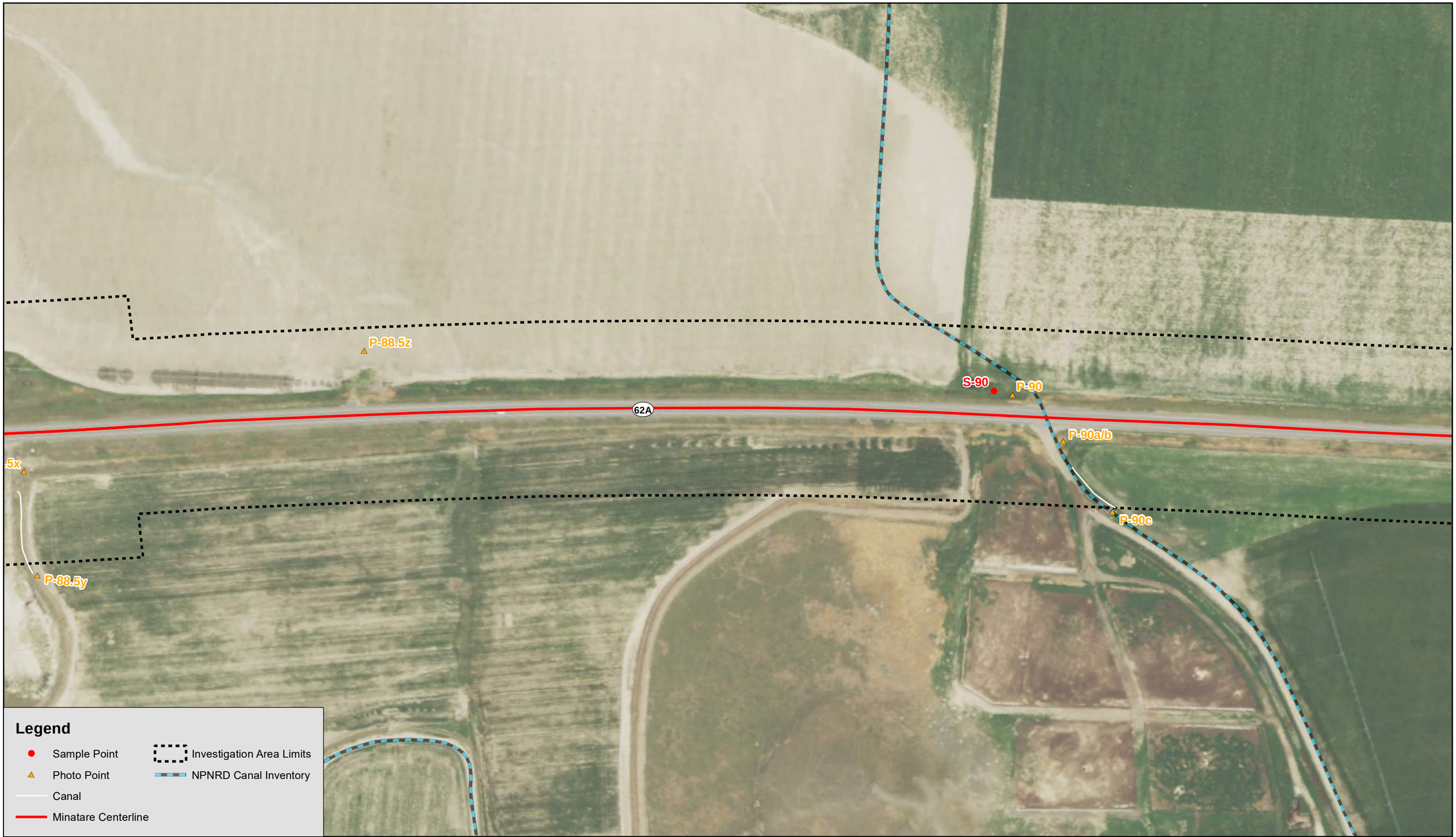
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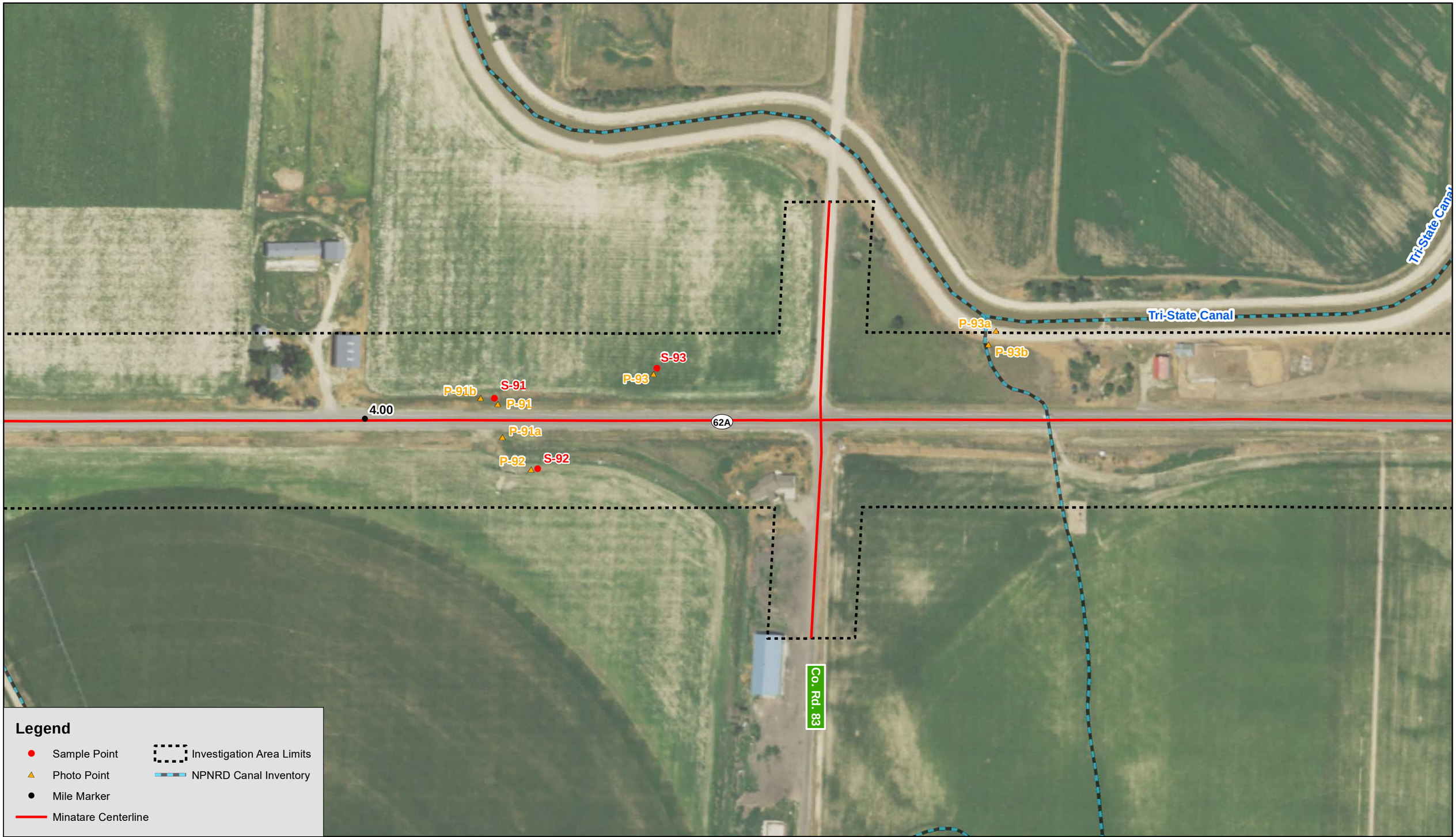
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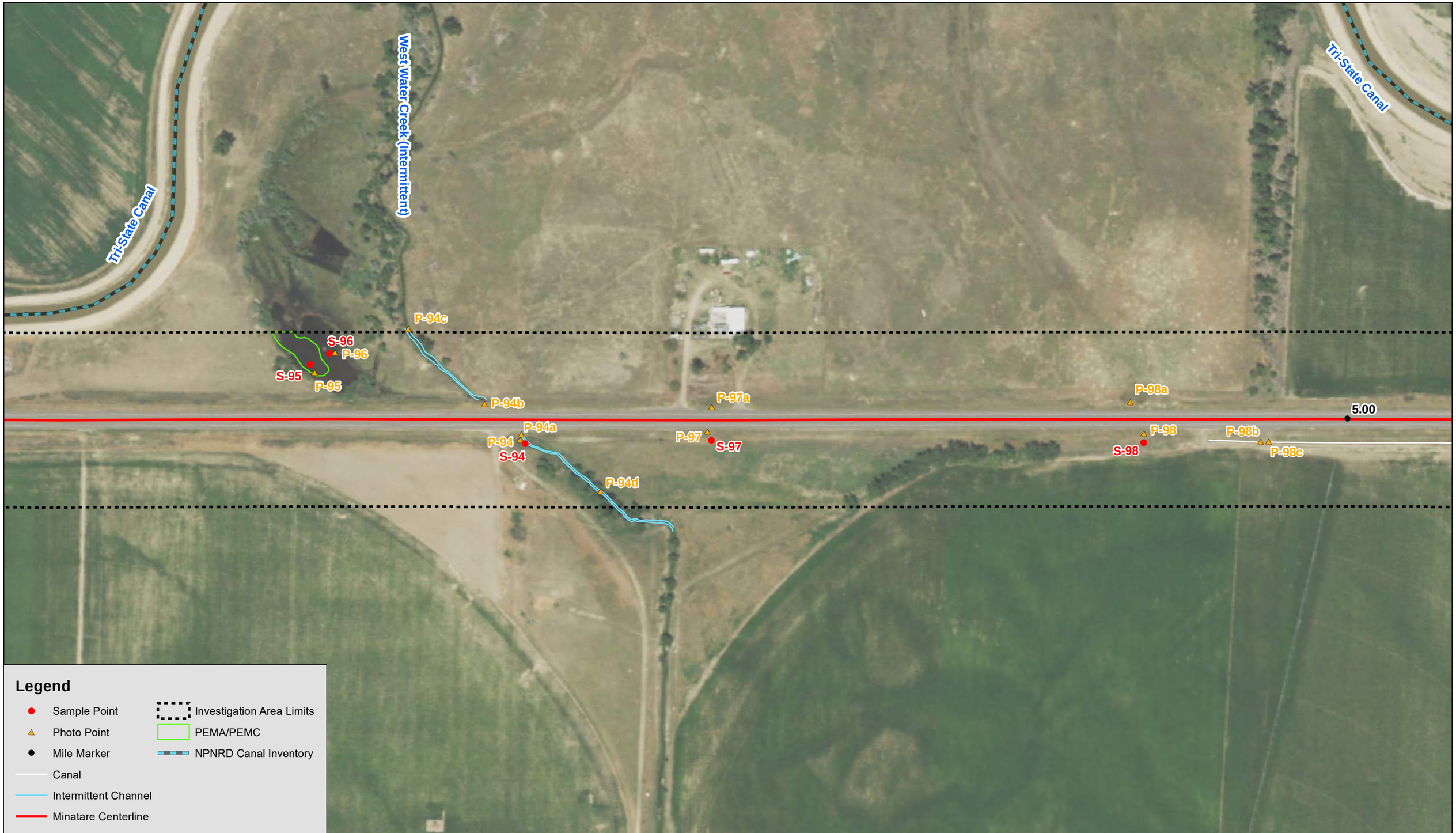
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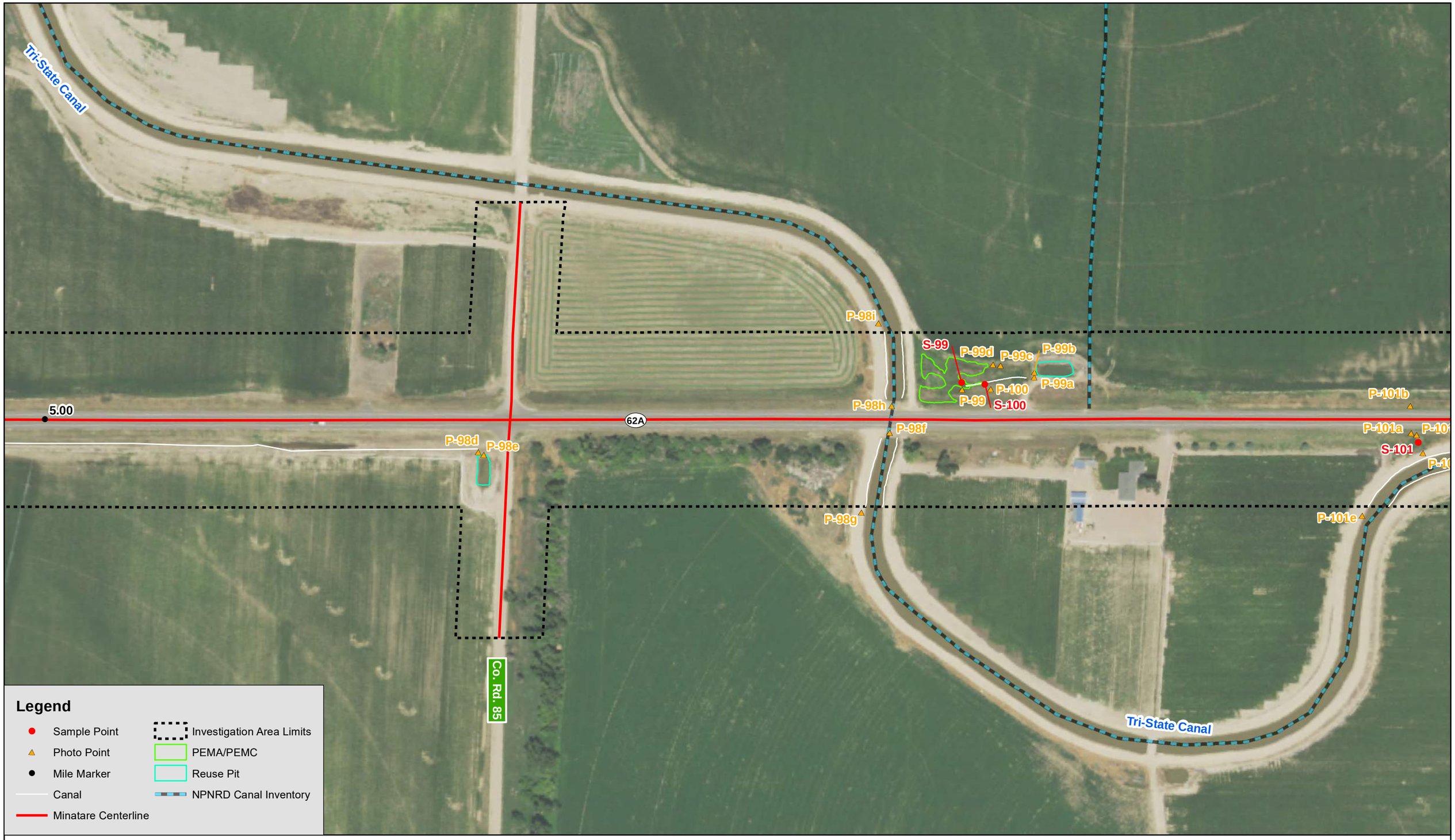
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WETLAND DELINEATION MAP - FIGURE 3

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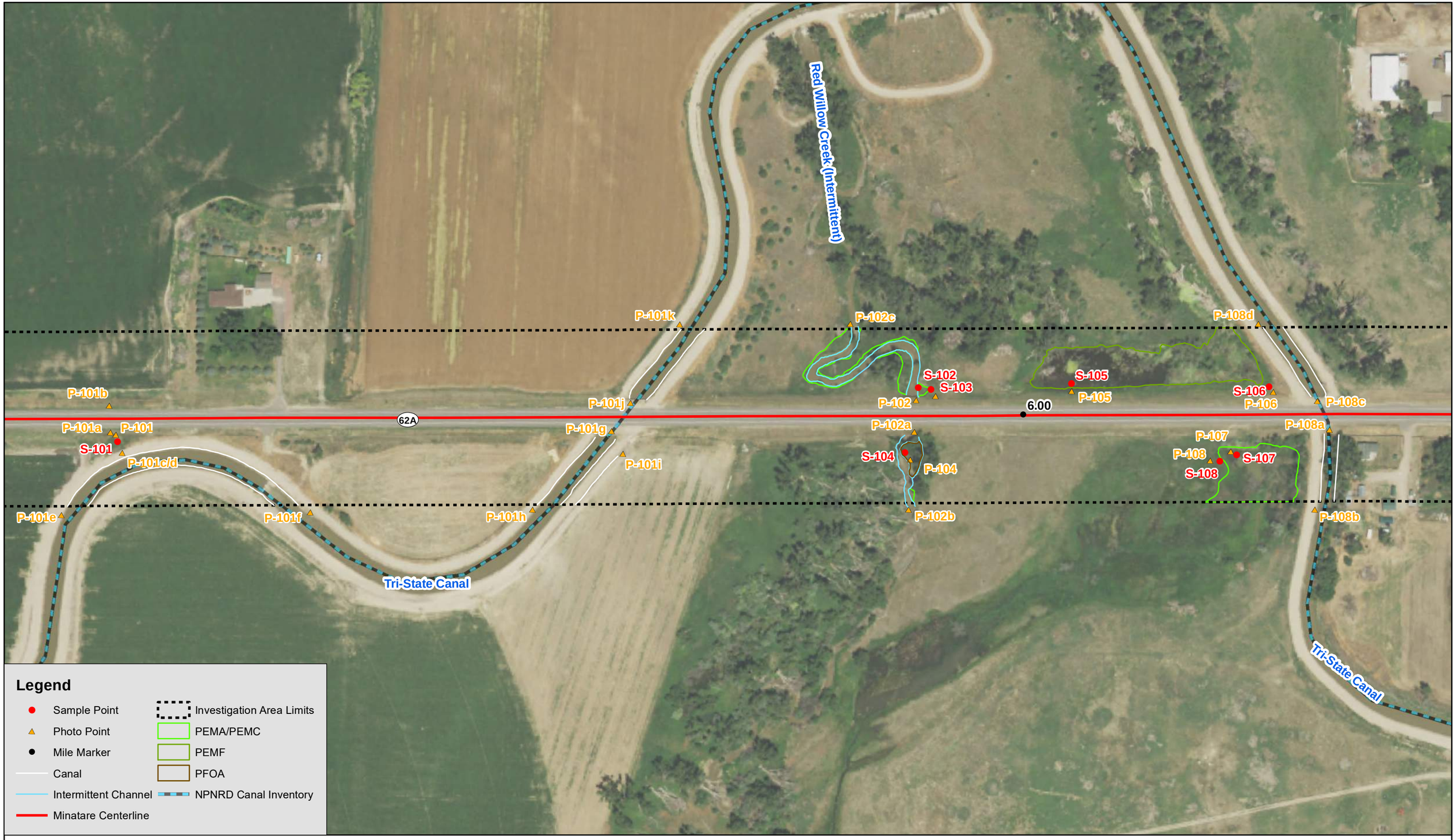
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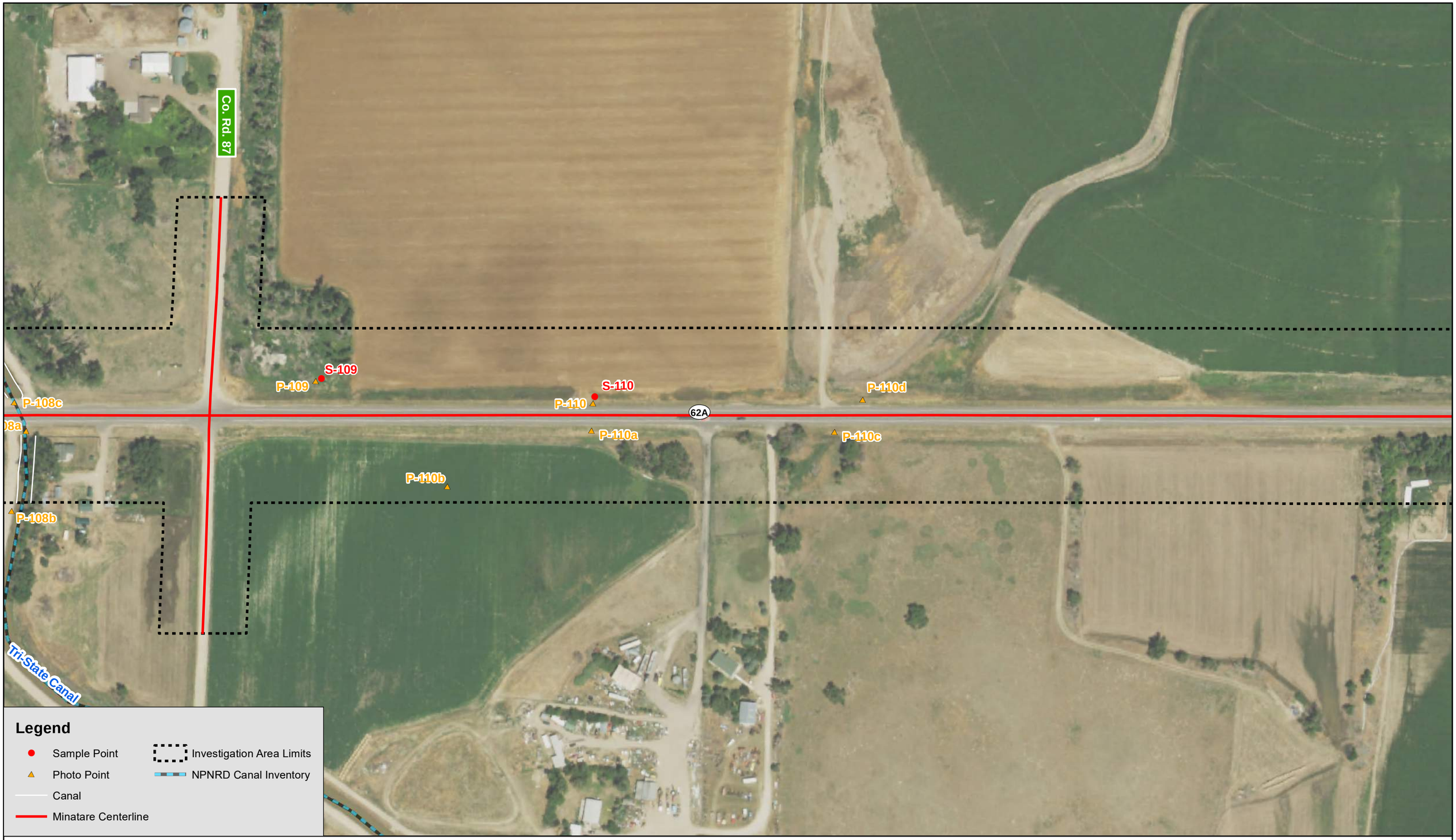
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WETLAND DELINEATION MAP - FIGURE 3

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WETLAND DELINEATION MAP - FIGURE 3

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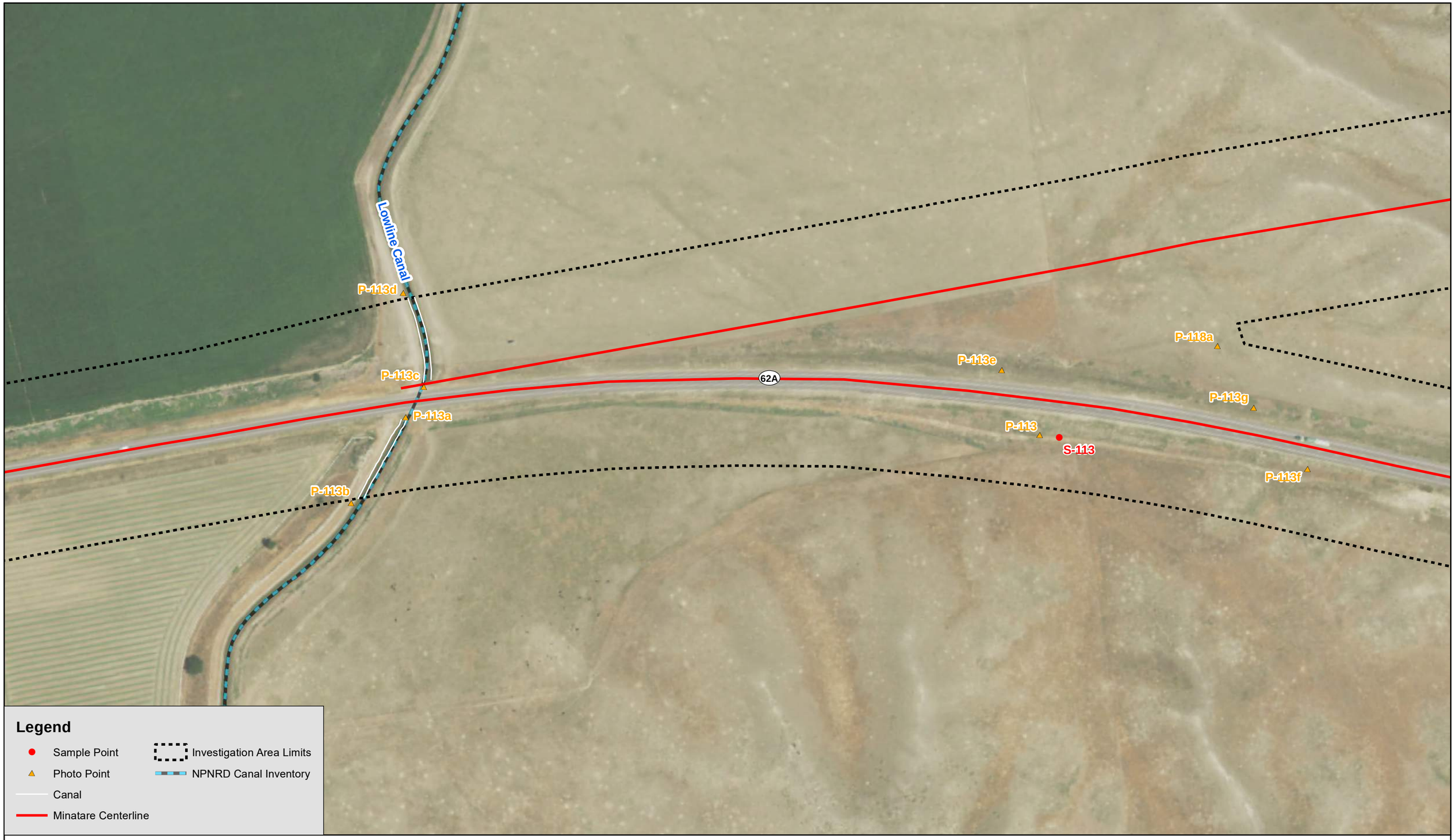
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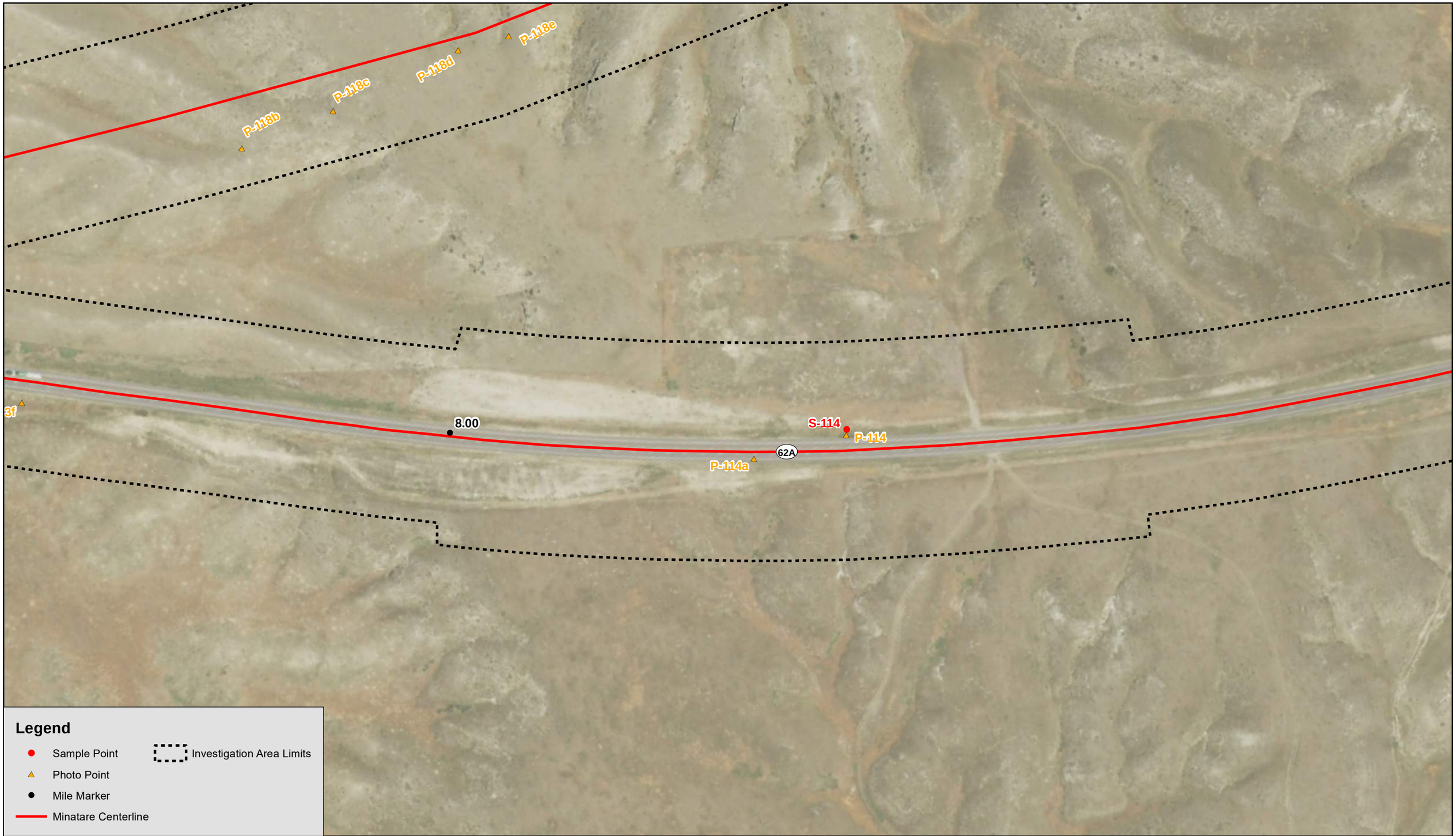
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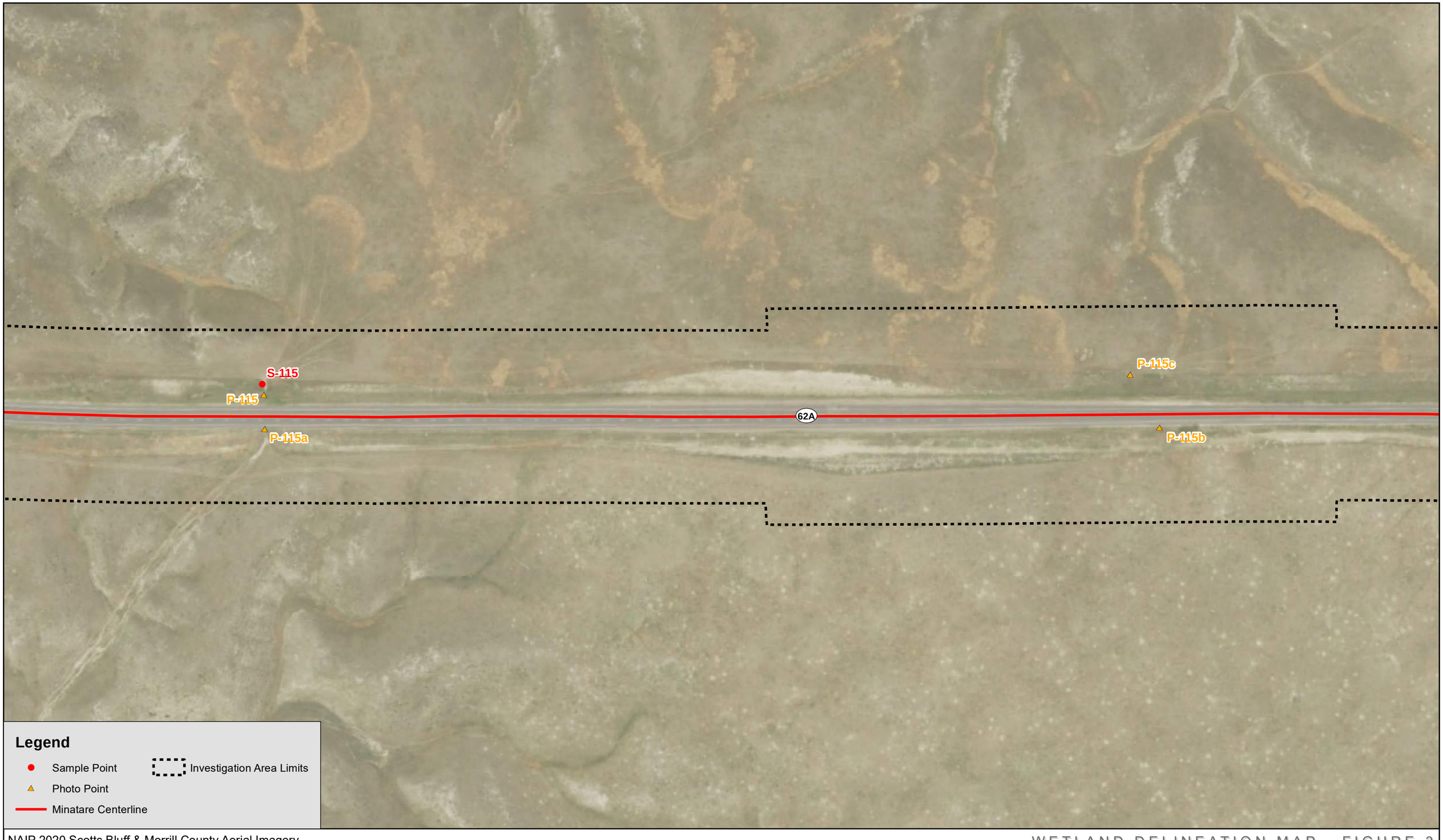
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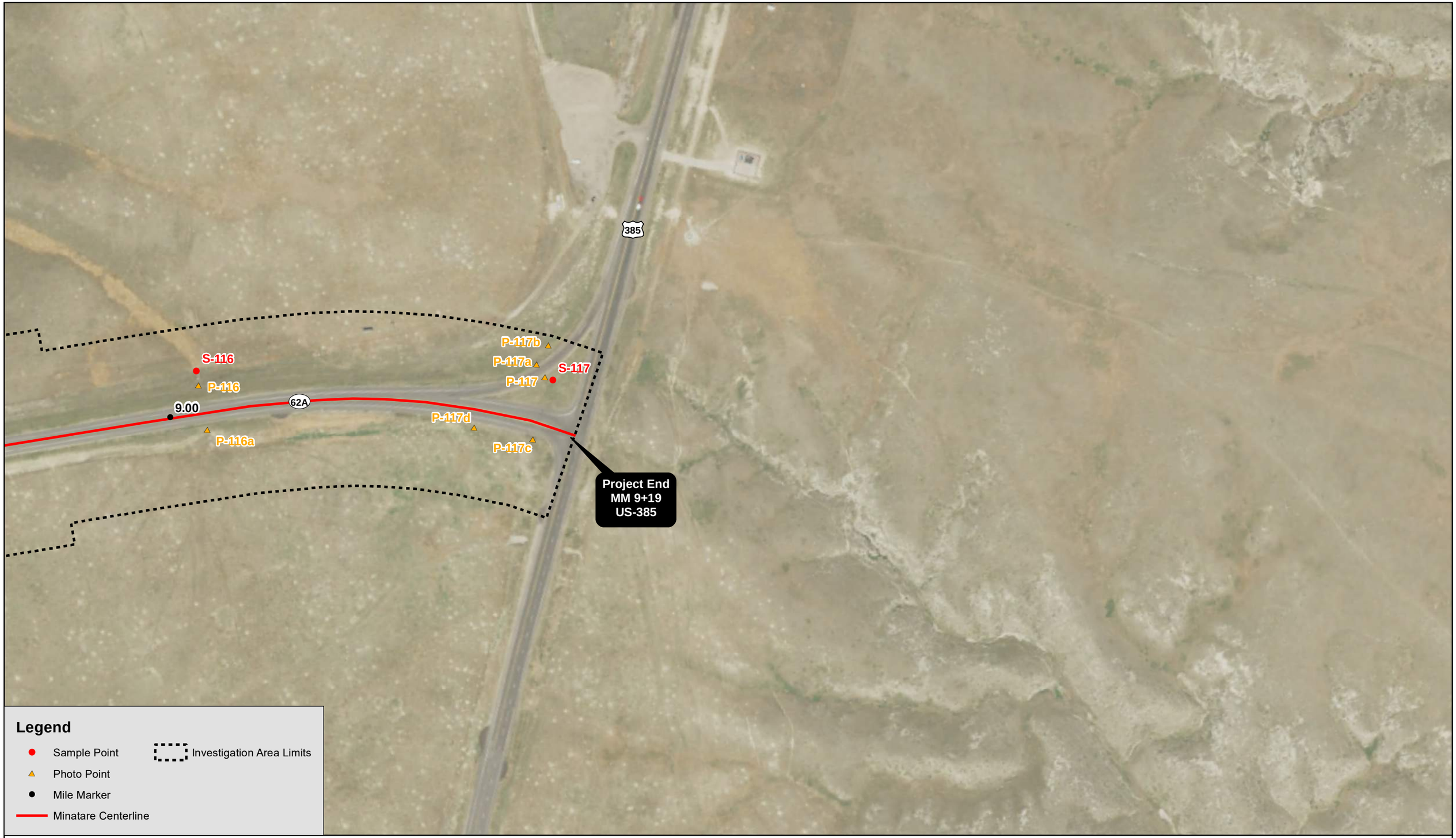
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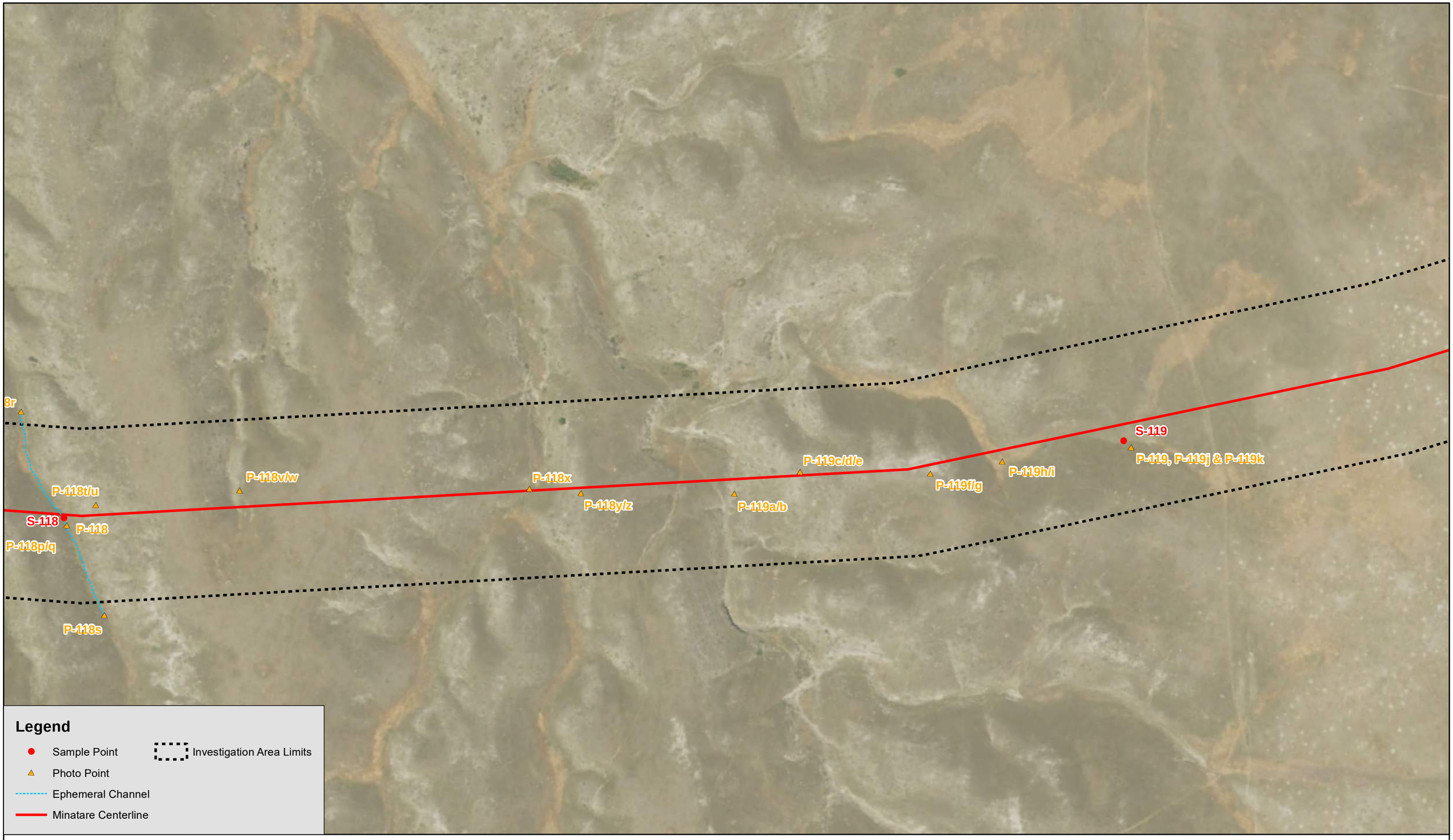
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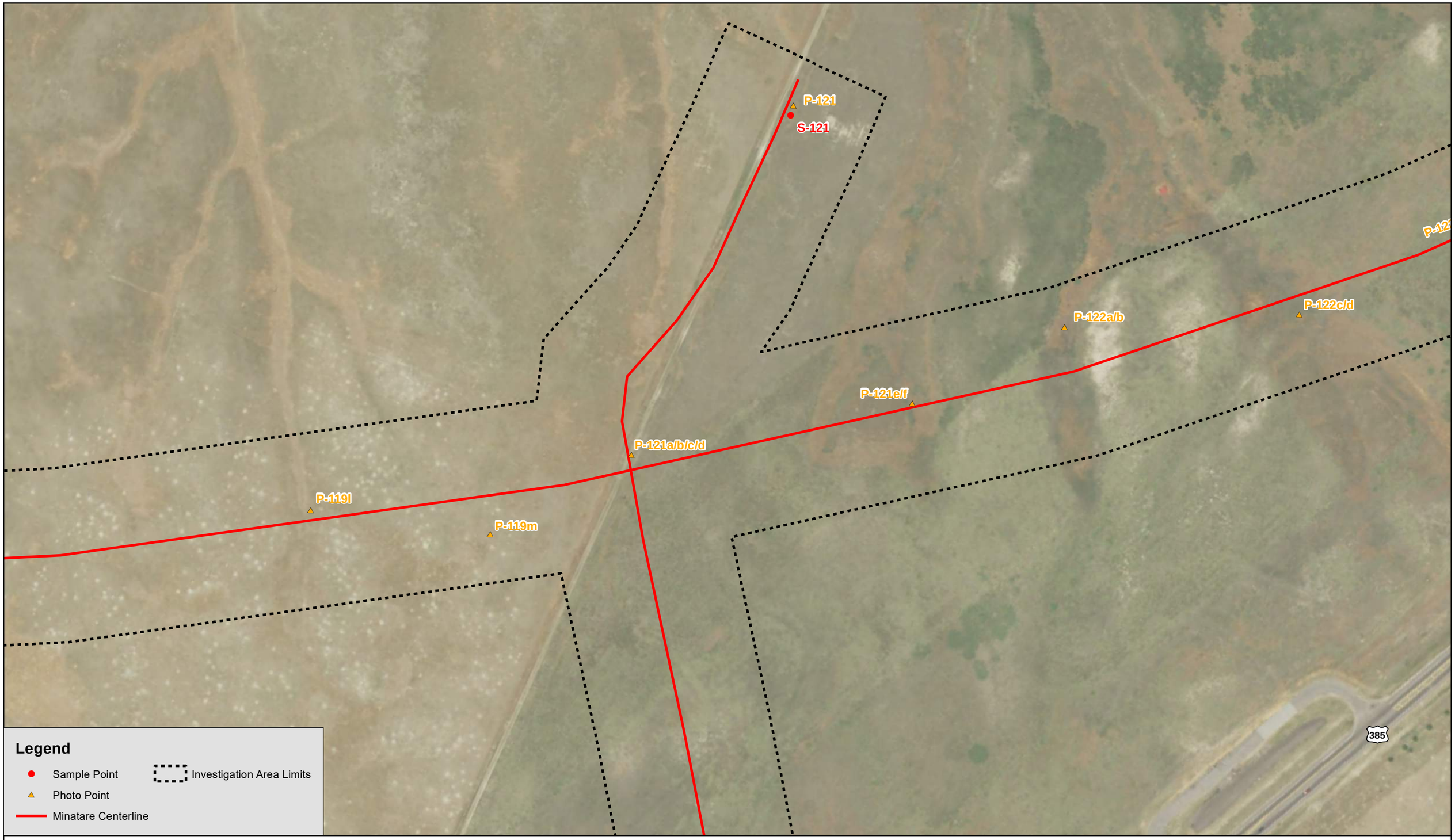
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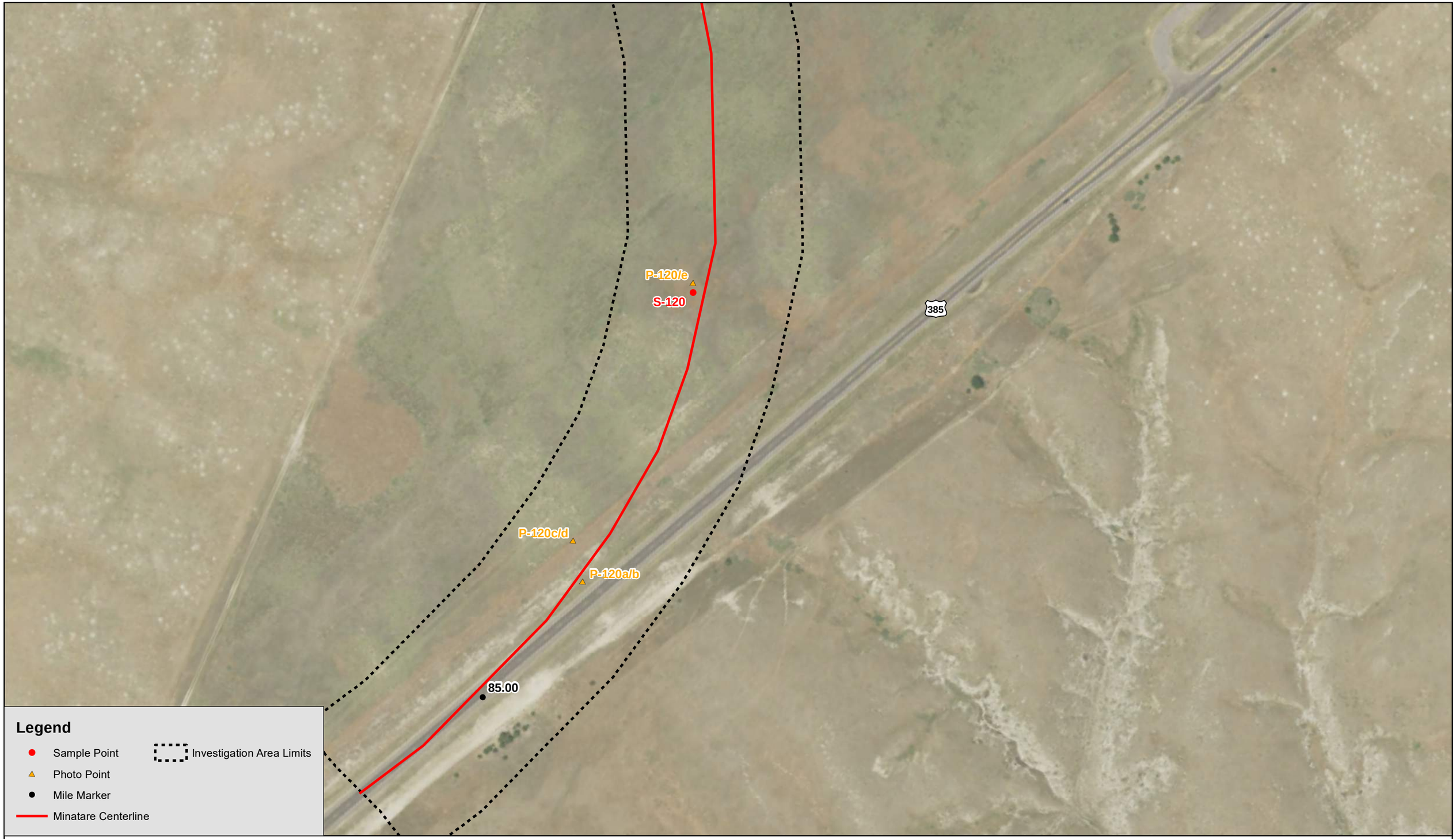
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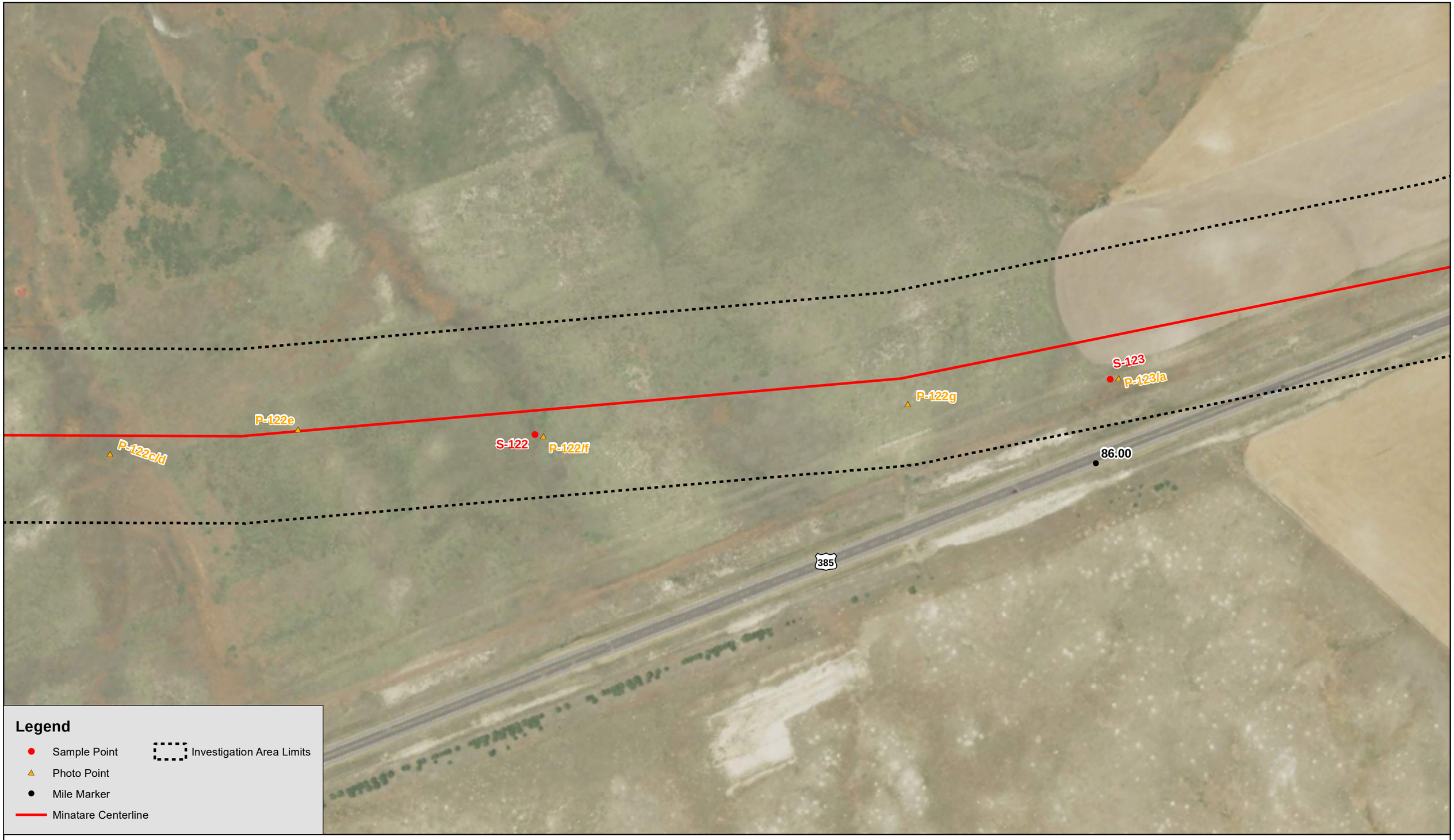
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- Minatare Centerline
- Investigation Area Limits

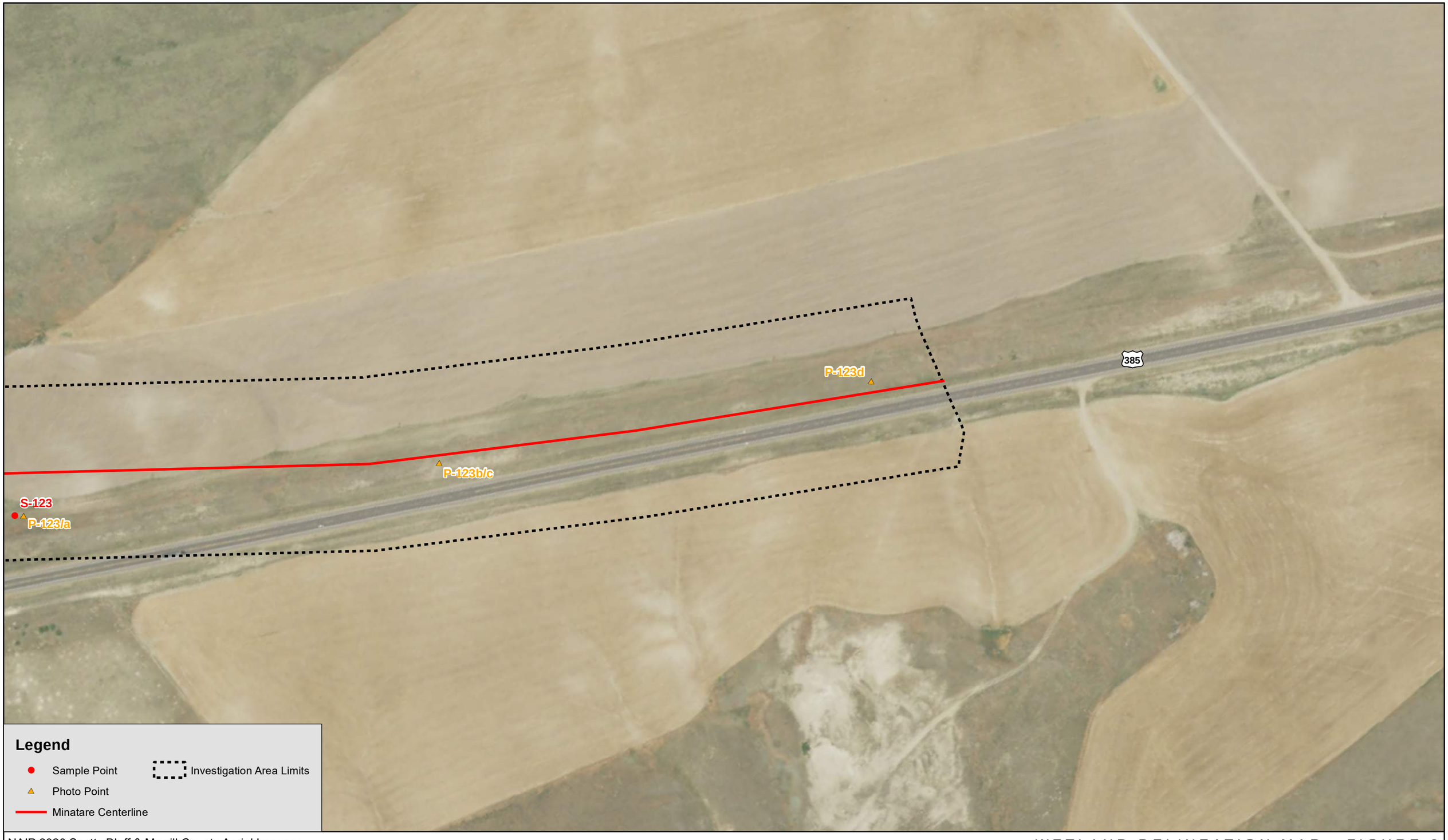
NAIP 2020 Scotts Bluff & Morrill County Aerial Imagery

Nebraska Department of Transportation
Project Number: S-26-1(1071)
CN: 51521
Corps Number: NWO-2021-01254-WEH

0 100 200 Feet
Absolute Scale 1:2,400

WETLAND DELINEATION MAP - FIGURE 3

Minatare US-26 to L-62A/US-385 Junction
Scotts Bluff & Morrill County, Nebraska



NAIP 2020 Scotts Bluff & Morrill County Aerial Imagery

Nebraska Department of Transportation
Project Number: S-26-1(1071)
CN: 51521
Corps Number: NWO-2021-01254-WEH

0 100 200
Feet
Absolute Scale 1:2,400

WETLAND DELINEATION MAP - FIGURE 3

Minatare US-26 to L-62A/US-385 Junction
Scotts Bluff & Morrill County, Nebraska

Appendix B:

USACE Wetland Determination Data Forms

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-1**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 7 T. 21N R. 53W**

Landform *(hillslope, terrace, etc.)*: **Ditch** Local Relief *(concave, convex, none)*: **Concave, Linear** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815471°** Long: **-103.504116°** Datum: **NAD83**

Soil Map Unit Name: **5665 - Minatare-Janise complex, rarely flooded** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Upland sample point positioned in an area with mixed vegetation in the roadside ditch. No wetland indicators were observed.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Phalaris arundinacea*	30	X	FACW
2. *Bromus inermis*	30	X	UPL
3. *Thinopyrum intermedium*	10		NI
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	70	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	30	x 2 =	60
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	40	x 5 =	200
Column Totals:	70 (A)		260 (B)

Prevalence Index = B/A = 3.714285714

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 (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.)*

No hydrophytic vegetation indicators were observed. Species with no indicator (NI) are considered UPL species.

SOIL

Sampling Point: **S-1**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-8	10YR 3/2	100	-	-	-	-	SIL	
8-16	10YR 3/2	100	-	-	-	-	SIL	
16-20	10YR 5/2	100	-	-	-	-	SIC	Calcium carbonate intermixed

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks: One secondary indicator of wetland hydrology was observed, which does not meet the minimum requirements for the overall wetland hydrology indicator.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-2**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S.6 T. 21N R. 53W**

Landform *(hillslope, terrace, etc.)*: **Ditch** Local Relief *(concave, convex, none)*: **concave linear** Slope (%): **2-5**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815766°** Long: **-103.503108°** Datum: **NAD83**

Soil Map Unit Name: **5665 - Minatare-Janise complex, rarely flooded** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____ Is the Sampled Area within a Wetland? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Remarks:

PEMA wetland in roadside ditch extending east of sample location, positioned near culvert parallel with road. The wetland drains along the ditch and turns north beyond the investigation area.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Typha latifolia*	40	X	OBL
2. *Schoenoplectus americanus*	25	X	OBL
3. *Eleocharis palustris*	20	X	OBL
4. *Atriplex prostrata*	5		FACW
5. *Spartina pectinata*	4		FACW
6. *Lactuca serriola*	2		FAC
7. *Hordeum jubatum*	4		FACW
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	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

X 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 (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Meets the Dominance Test for hydrophytic vegetation. OBL vegetation dominant, however residual vegetation was mixed and sample point was not considered for Rapid Test.

SOIL Sampling Point: **S-2**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-10	10YR 5/2	95	10YR 5/8	5	C	M	GRSIL	Disturbed from highway runoff
10-16	10YR 4/1	98	10YR 5/8	2	C	M	GRSIL	
16-20	10YR 4/1	95	10YR 5/8	5	C	M	GRSIL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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:

Gravely Silty Loam, Fill material/disturbed soils in the roadside ditch. Disturbed gravelly soils are considered normal condition due to the purpose of the ditch to convey water off of the highway, which include collecting highway debris from runoff.

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks:

Two secondary wetland hydrology indicators were observed, which meets the minimum requirement for the overall wetland hydrology indicator.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-3**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 6 T. 21N R. 53W**

Landform *(hillslope, terrace, etc.)*: **Top of Ditch** Local Relief *(concave, convex, none)*: **Convex, Linear** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815806°** Long: **-103.502885°** Datum: **NAD83**

Soil Map Unit Name: **5665 - Minatare-Janise complex, rarely flooded** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Upland outpoint for S-2 positioned on the top of the ditch on the north side of the wetland alongside the roadside ditch. No wetland indicators were observed.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)		Absolute % Cover	Dominant Species?	Indicator Status
1.				
2.				
3.				
4.				
5.				
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)				
1.				
2.				
3.				
4.				
5.				
		0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)				
1.	*Lolium perenne*	70	X	FACU
2.	*Calamovifa longifolia*	15		NI
3.	*Bromus tectorum*	5		UPL
4.	*Agropyron cristatum*	5		UPL
5.	*Bassia kochia*	5		FACU
6.				
7.				
8.				
9.				
10.				
		100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)				
1.				
2.				
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (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	75	x 4 =	300
UPL species	25	x 5 =	125
Column Totals:	100 (A)		425 (B)

Prevalence Index = B/A = 4.25

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 (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.)*

No hydrophytic vegetation indicators were observed. Species with no indicator (NI) are considered UPL species.

SOIL

Sampling Point: **S-3**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR 3/2	100	-	-	-	-	SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks: No wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-4**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 7 T. 21N R. 53W**

Landform *(hillslope, terrace, etc.)*: **Ditch** Local Relief *(concave, convex, none)*: **Concave, Linear** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815335°** Long: **-103.499007°** Datum: **NAD83**

Soil Map Unit Name: **5665 - Minatare-Janise complex, rarely flooded** NWI Classification: **R5UBFx**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Upland sample point positioned in an area with mixed vegetation in the roadside ditch. No wetland indicators were observed.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Phalaris arundinacea*	60	X	FACW
2. *Bromus inermis*	30	X	UPL
3. *Agropyron cristatum*	8		UPL
4. *Lactuca serriola*	2		FAC
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	60	x 2 =	120
FAC species	2	x 3 =	6
FACU species	0	x 4 =	0
UPL species	38	x 5 =	190
Column Totals:	100 (A)		316 (B)

Prevalence Index = B/A = 3.16

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 (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.)*

No hydrophytic vegetation indicators were observed.

SOIL Sampling Point: **S-4**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-8	10YR 4/6	100	-	-	-	-	L	
8-14	10YR 3/2	100	-	-	-	-	L	
14-20	10YR 3/2	100	-	-	-	-	SIL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks: One secondary indicator of wetland hydrology was observed, which does not meet the minimum requirements for the overall wetland hydrology indicator.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-5**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 6 T. 21N R. 53W**

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

Subregion (LRR): **G-Western Great Plains** Lat. **41.815835°** Long: **-103.498988°** Datum: **NAD83**

Soil Map Unit Name: **5665 - Minatare-Janise complex, rarely flooded** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Upland point in a slight depression in the roadside ditch. The area was previously delineated as a PEMA wetland in 2017, however, no wetland indicators were observed. Upland outpoint for S-6.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Schoenoplectus americanus*	20	X	OBL
2. *Hordeum jubatum*	20	X	FACW
3. *Thinopyrum intermedium*	20	X	NI
4. *Poa pratensis*	20	X	FACU
5. *Cirsium arvense*	10		FACU
6. *Atriplex prostrata*	5		FACW
7. *Rumex crispus*	5		FAC
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: *(excluding FAC-)*: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	25	x 2 =	50
FAC species	5	x 3 =	15
FACU species	30	x 4 =	120
UPL species	20	x 5 =	100
Column Totals:	100 (A)		305 (B)

Prevalence Index = B/A = 3.05

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 (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

50% of dominant vegetation is hydrophytic, which doesn't meet the Dominance Test. The Prevelance index is slightly above 3.0 which in order to meet the PI test it needs to be < 3.0, which it does not. Vegetation with no indicator (NI) is considered an UPL species.

SOIL

Sampling Point: **S-5**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-10	10YR 5/3	100	-	-	-	-	FSL	Dry
10-20	10YR 4/2	100	-	-	-	-	SIL	Dry

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks:

Low lying depression in the roadside ditch meets the secondary wetland hydrology indicator. Overall two secondary indicators are requried to meet the overall wetland hydrology indicator.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-6**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 6 T. 21N R. 53W**

Landform *(hillslope, terrace, etc.)*: **Ditch** Local Relief *(concave, convex, none)*: **concave linear** Slope (%): **2-5**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815835°** Long: **-103.498988°** Datum: **NAD83**

Soil Map Unit Name: **5665 - Minatare-Janise complex, rarely flooded** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____ Is the Sampled Area within a Wetland? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Remarks:

PEMA wetland in the roadside ditch. The wetland drains to the north and connects to a wetland represented by S-2 located north and beyond the investigation area.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Spartina pectinata*	95		FACW
2. *Poa pratensis*	5		FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	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

X 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 (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Meets the Dominance Test for hydrophytic vegetation.

SOIL Sampling Point: **S-6**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-12	10YR 3/2	95	10YR 4/6	5	C	M	SL	
12-20	10YR 5/1	98	10YR 4/4	2	C	M	SCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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:

Meets Sandy Redox (S5) in 0-12" layer.

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks:

Only two secondary wetland hydrology indicators were observed, which meets the minimum requirement for the overall wetland hydrology indicator.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-7**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 8 T. 21N R. 53W**

Landform *(hillslope, terrace, etc.)*: **Ditch** Local Relief *(concave, convex, none)*: **Concave, Linear** Slope (%): **2-5**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815318°** Long: **-103.497425°** Datum: **NAD83**

Soil Map Unit Name: **5665 - Minatare-Janise complex, rarely flooded** NWI Classification: **R5UBFx**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Upland point positioned in area of mixed vegetation in the roadside ditch near a parallel culvert.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Phalaris arundinacea*	70	X	FACW
2. *Bromus inermis*	25	X	UPL
3. *Bassia kochia*	5		FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	70	x 2 =	140
FAC species	0	x 3 =	0
FACU species	5	x 4 =	20
UPL species	25	x 5 =	125
Column Totals:	100 (A)		285 (B)

Prevalence Index = B/A = 2.85

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 (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.)*

No hydrophytic vegetation indicators were observed. Does not meet the Prevalence Index due to lack of hydric soil and wetland hydrology indicators.

SOIL

Sampling Point: **S-7**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-11	10YR 3/2	100	-	-	-	-	GRL	Gravel/fill
11-20	10YR 4/3	100	-	-	-	-	FSL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks: One secondary indicator of wetland hydrology was observed, which does not meet the minimum requirements for the overall wetland hydrology indicator.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-8**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 8 T. 21N R. 53W**

Landform *(hillslope, terrace, etc.)*: **Ditch** Local Relief *(concave, convex, none)*: **concave linear** Slope (%): **2-5**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815262°** Long: **-103.495318°** Datum: **NAD83**

Soil Map Unit Name: **5665 - Minatare-Janise complex, rarely flooded** NWI Classification: **R5UBFx**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Mixed vegetation in roadside ditch. Sample point is the outpoint boundary for the PEMA at sample point S-9.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Phalaris arundinacea*	80	X	FACW
2. *Bromus arvensis*	20	X	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	80	x 2 =	160
FAC species	0	x 3 =	0
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	100 (A)		240 (B)

Prevalence Index = B/A = 2.4

Hydrophytic Vegetation Indicators:

____ 1. Rapid Test for Hydrophytic Vegetation

____ 2. Dominance Test is >50%.

____ 3. Prevalence Index is ≤3.0[1]

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

____ Problematic Hydrophytic Vegetation (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

Mixed vegetation in the roadside ditch. 50% hydrophytic dominance does meet the Dominance Test for hydrophytic vegetation. The Prevelance Index (PI) is below 3.0, but does not meet PI due to lack of hydrology and lack of hydric soil.

SOIL Sampling Point: **S-8**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR 3/2	100	-	-	-	-	FSL	Dry

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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:

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks:

Only one secondary wetland hydrology indicator was observed, which does not meet the requirement for the overall hydrology indicator.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-9**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 8 T. 21N R. 53W**

Landform *(hillslope, terrace, etc.)*: **Ditch** Local Relief *(concave, convex, none)*: **concave linear** Slope (%): **2-5**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815228°** Long: **-103.494568°** Datum: **NAD83**

Soil Map Unit Name: **5665 - Minatare-Janise complex, rarely flooded** NWI Classification: **R5UBFx**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____ Is the Sampled Area within a Wetland? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Remarks:

Linear PEMA wetland in the roadside ditch that conects to the wetland at S-10 via culvert connection below the highway and also connects to the wetland at S-16 via access drive culverts in the ditch.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Typha latifolia*	40	X	OBL
2. *Spartina pectinata*	30	X	FACW
3. *Phalaris arundinacea*	20	X	FACW
4. *Kochia scoparia*	5		NI
5. *Lactuca serriola*	5		FAC
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	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

X 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 (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Meets the Dominance Test for hydrophytic vegetation. Vegetation with no indicator (NI) is considered an UPL species.

SOIL Sampling Point: **S-9**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-6	10YR 2/2	100	-	-	-	-	GRSIC	Disturbed from highway runoff
6-12	10YR 4/2	95	1OYR 5/4	5	D	M	SIC	
12-20	10YR 5/2	98	10YR 5/4	2	C	M	SCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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:

Gravelly soils from highway runoff are considered normal conditions in the ditch.

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- X Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks:

Three secondary wetland hydrology indicators were observed, which exceeds the minimum requirement for the overall wetland hydrology indicator.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-10**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 5 T. 21N R. 53W**

Landform *(hillslope, terrace, etc.)*: **Ditch** Local Relief *(concave, convex, none)*: **concave linear** Slope (%): **2-3**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815416°** Long: **-103.490972°** Datum: **NAD83**

Soil Map Unit Name: **5665 - Minatare-Janise complex, rarely flooded** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____ Is the Sampled Area within a Wetland? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Remarks:

PEMA wetland in the roadside ditch that extends in and out of the ROW and eventually extends to the north, beyond the invesigation area. Eventually connects to the Minatare Drain. Hydrology to the wetland appears partially supplied by the Minatare Drain.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Typha latifolia*	85	X	OBL
2. *Sisymbrium officinale*	5		NI
3. *Lactuca serriola*	5		FAC
4. *Rumex altissimus*	5		FAC
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	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 = #DIV/0!

Hydrophytic Vegetation Indicators:

X 1. Rapid Test for Hydrophytic Vegetation

X 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 (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Initial view of wetlands appears to be a monoculture of *Typha latifolia.* Dominant OBL vegetation meets the Rapid Test for hydrophytic vegetation. Vegetation with no indicator (NI) is considered an UPL species.

SOIL Sampling Point: **S-10**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-6	10YR 2/2	100	-	-	-	-	SCL	
6-20	10YR 4/2	80	10YR 7/2	10	D	M	SCL	
			10YR 4/6	10	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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:

Saturation at 6 inches.

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)
- X Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No X	Depth *(inches)*	___	**Wetland Hydrology Present?**	
Water Table Present?	Yes X	No ___	Depth *(inches)*	8		
Saturation Present? *(includes capillary fringe)*	Yes X	No ___	Depth *(inches)*	6	X **Yes**	___ **No**

Remarks:

Several primary and secondary wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-11**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 5 T. 21N R. 53W**

Landform *(hillslope, terrace, etc.)*: **Ditch** Local Relief *(concave, convex, none)*: **concave linear** Slope (%): **2-5**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815425°** Long: **-103.491608°** Datum: **NAD83**

Soil Map Unit Name: **5665 - Minatare-Janise complex, rarely flooded** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Upland outpoint for S-10, in line with the PEMA at the inlet of the culvert and located in the roadside ditch.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Schoenoplectus americanus*	30	X	OBL
2. *Lolium perenne*	30	X	FACU
3. *Thinopyrum intermedium*	10		NI
4. *Poa pratensis*	10		FACU
5. *Lactuca serriola*	5		FAC
6. *Eleocharis plaustris*	5		OBL
7. *Phleum pratense*	5		FACU
8. *Kochia scoparia*	1		FACU
9.			
10.			
	96	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 4

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	35	x 1 =	35
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	46	x 4 =	184
UPL species	10	x 5 =	50
Column Totals:	96 (A)		284 (B)

Prevalence Index = B/A = 2.958333333

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 (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

Mixed vegetation on wetland boundary does not meet the Dominance Test. The Prevalence Idex is below 3.0; however, does not meet due to lack of wetland hydrology indicators and lack of hydric soil indicators. Vegetation with no indicator (NI) is considered an UPL species.

SOIL Sampling Point: **S-11**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-6	10YR 4/2	100	-	-	-	-	FSL	Dry
6-20	10YR 4/2	90	-	-	-	-	SCL	
	10YR 4/3	10						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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:

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks:

Only one secondary wetland hydrology indicator was observed, which does not meet the minimum requirement for the overall wetland hydrology indicator.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-12**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 5 T. 21N R. 53W**

Landform *(hillslope, terrace, etc.)*: **Artificial Lagoon** Local Relief *(concave, convex, none)*: **concave, concave** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815663°** Long: **-103.489377°** Datum: **NAD83**

Soil Map Unit Name: **5665 - Minatare-Janise complex, rarely flooded** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____ Is the Sampled Area within a Wetland? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Remarks:

PEMC/PEMF abandonded sewage lagoon located outside of the ROW. This feature is artifically created and contains two cells located just beyond the ROW. Large UPL berms surround each wetland and the areas are considered isolated.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Typha latifolia*	100		OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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:

X 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 (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Meets the Rapid Test for hydrophytic vegetation.

SOIL Sampling Point: **S-12**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- X Other (Explain in Remarks)

[3]Indicators of hydrophylic 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: All dominant species have an indicator status of OBL & wetland hydrology is present. Hydric soils area assumed to be present (COE 1987 Manual)

HYDROLOGY

Wetland Hydrology Indicators:

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

- X 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes X	No ___	Depth *(inches)*	6	**Wetland Hydrology Present?**	
Water Table Present?	Yes ___	No ___	Depth *(inches)*	___		
Saturation Present? *(includes capillary fringe)*	Yes ___	No ___	Depth *(inches)*	___	X **Yes**	___ **No**

Remarks:

6" of standing water in the isolated wetland.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-13**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 5 T. 21N R. 53W**

Landform *(hillslope, terrace, etc.)*: **Terrace/Top of Ditch** Local Relief *(concave, convex, none)*: **Convex, Linear** Slope (%): **3-5**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815458°** Long: **-103.489280°** Datum: **NAD83**

Soil Map Unit Name: **5665 - Minatare-Janise complex, rarely flooded** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Upland outpoint positioned between two wetland features. Sample point is placed on top of the ditch and near the ROW boundary. Upland point is representative of the pasture land (non-wetland areas) located east of the sample point.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Lolium perenne*	40	X	FACU
2. *Thinopyrum intermedium*	40	X	NI
3. *Bouteloua dactyloides*	20	X	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (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	60	x 4 =	240
UPL species	40	x 5 =	200
Column Totals:	100 (A)		440 (B)

Prevalence Index = B/A = 4.4

Hydrophytic Vegetation Indicators:

____ 1. Rapid Test for Hydrophytic Vegetation

____ 2. Dominance Test is >50%.

____ 3. Prevalence Index is ≤3.0[1]

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

____ Problematic Hydrophytic Vegetation (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

No hydrophytic vegetation indicators were observed. Vegetation with no indicator (NI) is considered an UPL species.

SOIL Sampling Point: **S-13**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR 5/3	100					FSL	Dry soils

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks:

No wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-14**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 8 T. 21N R. 53W**

Landform *(hillslope, terrace, etc.)*: **Plain** Local Relief *(concave, convex, none)*: **None, Linear** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.814949°** Long: **-103.488089°** Datum: **NAD83**

Soil Map Unit Name: **5665 - Minatare-Janise complex, rarely flooded** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks: Upland point in the pasture land surrounding three depressional wetlands. The entire area was marked as an agricultural wetland. The area south of the sample point appears to be irrigated cropland on aerials, but in the field this was just an irrigated hay meadow. This is the upland outpoint for S-15 PEMA.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Bouteloua dactyloides*	100	X	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (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	100	x 4 =	400
UPL species	0	x 5 =	0
Column Totals:	100 (A)		400 (B)

Prevalence Index = B/A = 4

Hydrophytic Vegetation Indicators:

____ 1. Rapid Test for Hydrophytic Vegetation

____ 2. Dominance Test is >50%.

____ 3. Prevalence Index is ≤3.0[1]

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

____ Problematic Hydrophytic Vegetation (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

No hydrophytic vegetation indicators were observed.

SOIL Sampling Point: **S-14**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-10	10YR 3/2	100	-	-	-	-	FSL	Dry
10-20	10YR 5/3	100	-	-	-	-	FSL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No X	Depth *(inches)*	_____	**Wetland Hydrology Present?**
Water Table Present?	Yes ___	No X	Depth *(inches)*	_____	
Saturation Present? *(includes capillary fringe)*	Yes ___	No X	Depth *(inches)*	_____	___ **Yes** X **No**

Remarks:

No wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-15**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 8 T. 21N R. 53W**

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

Subregion (LRR): **G-Western Great Plains** Lat. **41.814674°** Long: **-103.487253°** Datum: **NAD83**

Soil Map Unit Name: **5665 - Minatare-Janise complex, rarely flooded** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____ Is the Sampled Area within a Wetland? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Remarks:

PEMA wetland located in slight depression in field, bowl shaped with salt crust and soil cracks. Sample point is representative of two other isolated wetlands in the vicinity of the sample point.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Hordeum jubatum*	50	X	FACW
2. *Distichlis spicata*	20	X	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	70	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 30

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A) *(excluding FAC-)*:

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

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

Prevalence Index Worksheet:

Total % Cover of:	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

X 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 (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Meets the Dominance Test for hydrophytic vegetation.

SOIL Sampling Point: **S-15**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-6	10YR 5/2	100	-	-	D		FSL	
6-10	10YR 4/2	95	10YR4/6	2	D		SICL	
10-20	10YR 4/4	80	10YR6/1	20	D		SICL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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:

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)
- ___ Water-Stained Leaves (B9)
- X Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- X Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks:

Primary and seconday hydrology indicators meet the overal wetland hydrology indicator.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-16**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 8 T. 21N R. 53W**

Landform *(hillslope, terrace, etc.)*: **Ditch** Local Relief *(concave, convex, none)*: **concave linear** Slope (%): **2-5**

Subregion (LRR): **G-Western Great Plains** Lat. **41.814853°** Long: **-103.479782°** Datum: **NAD83**

Soil Map Unit Name: **5665 - Minatare-Janise complex, rarely flooded** NWI Classification: **R5UBFx**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____ Is the Sampled Area within a Wetland? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Remarks:

PEMC wetland in ditch by culvert with standing water. The wetland area drains to the north through a culvert and then to a large wetland in the pasture which connects to the Minatare Drain. The wetland appear to receive hydrology from overflow water from the Minatare Drain.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Typha latifolia*	100	X	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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:

X 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 (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Meets Rapid Test for hydrophytic vegetation.

SOIL Sampling Point: **S-16**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- X Other (Explain in Remarks)

[3]Indicators of hydrophylic 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:

If dominant species have an indicator status of OBL & wetland hydrology is present hydric soils are assumed to be present (COE 1987 Manual).

HYDROLOGY

Wetland Hydrology Indicators:

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

- X 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes X	No ___	Depth *(inches)*	3	**Wetland Hydrology Present?**	
Water Table Present?	Yes ___	No ___	Depth *(inches)*	___		
Saturation Present? *(includes capillary fringe)*	Yes ___	No ___	Depth *(inches)*	___	X **Yes**	___ **No**

Remarks:

Standing water observed in the roadside ditch.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-17**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 4 T. 21N R. 53W**

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

Subregion (LRR): **G-Western Great Plains** Lat. **41.815218°** Long: **-103.479061°** Datum: **NAD83**

Soil Map Unit Name: **5665 - Minatare-Janise complex, rarely flooded** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____ Is the Sampled Area within a Wetland? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Remarks:

Isolated PEMA wetland located in the roadside ditch located along the ROW boundary. The sample point is representative of two PEMA wetlands in the vicinity of the point.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Schoenoplectus americanus*	40	X	OBL
2. *Hordeum jubatum*	40	X	FACW
3. *Atriplex prostrata*	10		FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	90	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 10

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A) *(excluding FAC-)*:

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

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

Prevalence Index Worksheet:

Total % Cover of:	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

X 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 (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Meets the Dominance Test for hydrophytic vegetation.

SOIL Sampling Point: **S-17**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-2	10YR 4/2	100	-	-	-	-	SICL	
2-20	10YR 5/1	95	10YR 4/6	5	C	M	SICL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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:

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)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- X Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- X Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks:

Several primary and secondary wetland hydrology indicators were obsereved, which meets the overal wetland hydrology indicator.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-18**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 4 T. 21N R. 53W**

Landform *(hillslope, terrace, etc.)*: **Rise** Local Relief *(concave, convex, none)*: **Convex, Linear** Slope (%): **5-7**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815369°** Long: **-103.479056°** Datum: **NAD83**

Soil Map Unit Name: **5665 - Minatare-Janise complex, rarely flooded** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Upland outpoint for the PEMA wetland at S-17. Sample Point S-18 is positioned in an area that was previously delienated as a PEMA wetland. This area had no wetland indicators at the time of the investigation and is representative of the surrounding area.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Thinopyrum intermedium*	40	X	NI
2. *Bromus arvensis*	20	X	FACU
3. *Bromus tectorum*	20	X	NI
4. *Poa pratensis*	20	X	FACU
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (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	40	x 4 =	160
UPL species	60	x 5 =	300
Column Totals:	100 (A)		460 (B)

Prevalence Index = B/A = 4.6

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 (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

Vegetation with no indicator (NI) is considered an UPL species.

SOIL Sampling Point: **S-18**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR 5/3	100	-	-	-	-	FSL	dry

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks:

No wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-19**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 4 T. 21N R. 53W**

Landform *(hillslope, terrace, etc.)*: **Terrace/side slope** Local Relief *(concave, convex, none)*: **none** Slope (%): **15-20**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815210°** Long: **-103.476271°** Datum: **NAD83**

Soil Map Unit Name: **Minatare-Janise complex, rarely flooded** NWI Classification: **R4SBCx**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____ Is the Sampled Area within a Wetland? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Remarks:

PEMA fringe wetland along the Minatare Drain. The wetland sample point is representative of each side of the drain and extends to the east. Sample point is representative of the PEMA on the east side of the intersection at Greenbuck Rd. Canal was 10-15 deep wide and up to 3 feet deep.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5ft radius)			
1. *Phalaris arundinacea*	100		FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	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

X 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 (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Monoculture meets the Dominance Test for hydrophytic vegetation.

SOIL Sampling Point: **S-19**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-6	10YR 3/2	100	-	-	-	-	SICL	
6-20	10YR 4/2	95	10YR6/2	5	D	M	SICL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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:

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No X	Depth *(inches)*	___	**Wetland Hydrology Present?**	
Water Table Present?	Yes X	No ___	Depth *(inches)*	8		
Saturation Present? *(includes capillary fringe)*	Yes X	No ___	Depth *(inches)*	6	X **Yes**	___ **No**

Remarks:

Primary and secondary wetland hydrology indicators were observed, which meets the overall wetland hydrology indicator.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-20**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 4 T. 21N R. 53W**

Landform *(hillslope, terrace, etc.)*: **Top of Bank** Local Relief *(concave, convex, none)*: **Convex** Slope (%): **10-15**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815240°** Long: **-103.476454°** Datum: **NAD83**

Soil Map Unit Name: **5665 - Minatare-Janise complex, rarely flooded** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Upland outpoint on top of the channelized bank of the Minatare Drain. The boundary between the wetland and the PEMA sample point is abrupt and the upland point S-20 is representative of the surrounding area and back slope of the channel bank.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Bromus arvensis*	40	X	FACU
2. *Sporobolus cryptandrus*	20	X	FACU
3. *Bouteloua dactyloides*	20	X	FACU
4. *Thinopyrum intermedium*	20	X	NI
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (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	80	x 4 =	320
UPL species	20	x 5 =	100
Column Totals:	100 (A)		420 (B)

Prevalence Index = B/A = 4.2

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 (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

No hydrophytic vegetation. Vegetation with no indicator (NI) is considered to be an UPL species.

SOIL Sampling Point: **S-20**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR 5/2	100	-	-	-	-	FSL	dry

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks:

No wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-21**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 9 T. 21N R. 53W**

Landform *(hillslope, terrace, etc.)*: **ditch** Local Relief *(concave, convex, none)*: **concave linear** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.814588°** Long: **-103.477010°** Datum: **NAD83**

Soil Map Unit Name: **5665 - Minatare-Janise complex, rarely flooded** NWI Classification: **R4SBCx**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____ Is the Sampled Area within a Wetland? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Remarks:

PEMC wetland located in a linear depression that appears to be an excavated drainage that is located beyond the ROW. The wetland drains to the east and eventually turns 90 degrees to the south at the property line. This drainage is 5-6' deep from the surrounding area.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Typha latifolia*	100	X	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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:

X 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 (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Meets the Rapid Test for hydrophytic vegetation.

SOIL Sampling Point: **S-21**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-6	10YR 2/1	100	-	-	-	-	SICL	
6-20	10YR 2/1	95	10YR 6/6	5	C	M	SICL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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:

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)
- X Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- X Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- X Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No X	Depth *(inches)*	___	**Wetland Hydrology Present?**	
Water Table Present?	Yes X	No ___	Depth *(inches)*	6		
Saturation Present? *(includes capillary fringe)*	Yes X	No ___	Depth *(inches)*	0	X **Yes**	___ **No**

Remarks:

Several primary and secondary wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-22**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 9 T. 21N R. 53W**

Landform *(hillslope, terrace, etc.)*: **Top of Bank** Local Relief *(concave, convex, none)*: **Linear** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.814644°** Long: **-103.476981°** Datum: **NAD83**

Soil Map Unit Name: **5665 - Minatare-Janise complex, rarely flooded** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks: Upland outpoint positioned on top of the bank at the same elevation of the surrounding landscape. Sample point is representative of the surrounding area. South of the excavated wetland is an irrigated alfalfa field with a large prairie dog community within the pivot corner. No wetland indicators were observed.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Bromus tectorum*	40	X	NI
2. *Thinopyrum intermedium*	30	X	NI
3. *Sporobolus cryptandrus*	30	X	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (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	40	x 4 =	160
UPL species	60	x 5 =	300
Column Totals:	100 (A)		460 (B)

Prevalence Index = B/A = 4.6

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 (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

No hydrophytic vegetation. Vegetation with no indicator (NI) is considered to be an UPL species.

SOIL Sampling Point: **S-22**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR 4/3	100	-	-	-	-	FSL	dry

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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:

Fine sandy loam down to 20" does not meet any of the hydric soil indicators.

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

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** X **No**

Remarks:

No wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-23**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 4 T. 21N R. 53W**

Landform *(hillslope, terrace, etc.)*: **Terrace** Local Relief *(concave, convex, none)*: **Convex, Linear** Slope (%): **10-20**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815034°** Long: **-103.465522°** Datum: **NAD83**

Soil Map Unit Name: **5674 - Yockey fine sandy loam, occasionally flooded** NWI Classification: **R4SBCx**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____ Is the Sampled Area within a Wetland? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Remarks:

PEMA fringe wetland on terrace next to canal. Canal is approximately 10 feet wide, 3 feet deep and drains under Nine Mile Creek through a siphon tube. The PEMA is representative of the wetlands along Minatare Drain to the west, which is similar to S-19.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Phalaris arundinacea*	100		FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	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
X 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 (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Meets the Dominance Test for hydrophytic vegetation.

SOIL Sampling Point: **S-23**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-6	10YR 3/2	98	10YR 5/2	2	C	M	SICL	
6-20	10YR 3/2	95	10YR 5/2	5	C	M	SICL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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:

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- X Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No X	Depth *(inches)*		**Wetland Hydrology Present?**	
Water Table Present?	Yes X	No ___	Depth *(inches)*	6		
Saturation Present? *(includes capillary fringe)*	Yes X	No ___	Depth *(inches)*	6	X **Yes**	___ **No**

Remarks:

Several primary and secondary wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-24**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 4 T. 21N R. 53W**

Landform *(hillslope, terrace, etc.)*: **Side Slope** Local Relief *(concave, convex, none)*: **Convex, Linear** Slope (%): **50-70**

Subregion (LRR): **G-Western Great Plains** Lat. **41.814977°** Long: **-103.465643°** Datum: **NAD83**

Soil Map Unit Name: **5674 - Yockey fine sandy loam, occasionally flooded** NWI Classification: **R4SBCx**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____ Is the Sampled Area within a Wetland? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Remarks:

PSSA wetland on the banks of the Minatare Drain.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1. *Salix interior*	40	X	FACW
2.			
3.			
4.			
5.			
	40	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Phalaris arundinacea*	100	X	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
(excluding FAC-):

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

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

Prevalence Index Worksheet:

Total % Cover of:	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
X 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 (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Meets the Dominance Test for hydrophytic vegetation.

SOIL Sampling Point: **S-24**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-6	10YR 3/2	98	10YR 5/4	2	C	M	SICL	
6-20	10YR 3/2	95	10YR 5/2	5	D	M	SICL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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:

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- X Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No X	Depth *(inches)*		**Wetland Hydrology Present?**	
Water Table Present?	Yes X	No ___	Depth *(inches)*	6		
Saturation Present? *(includes capillary fringe)*	Yes X	No ___	Depth *(inches)*	6	X **Yes**	___ **No**

Remarks:

Several primary and secondary wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-25**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 4 T. 21N R. 53W**

Landform *(hillslope, terrace, etc.)*: **Top of Bank** Local Relief *(concave, convex, none)*: **Linear** Slope (%): **3-5**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815094°** Long: **-103.465489°** Datum: **NAD83**

Soil Map Unit Name: **5674 - Yockey fine sandy loam, occasionally flooded** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Upland outpoint positioned above the Minatare Drain, and positioned below the back slope of Nine Mile Creek. The area had no wetland indicators observed and is representative of the surrounding area.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Bromus tectorum*	95	X	NI
2. *Kochia scoparia*	5		NI
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (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	0	x 4 =	0
UPL species	100	x 5 =	500
Column Totals:	100 (A)		500 (B)

Prevalence Index = B/A = 5

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 (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

Vegetation with no indicator (NI) status are considered to be UPL species.

SOIL Sampling Point: **S-25**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR 4/3	100	-	-	-	-	FSL	Dry

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks:

No wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-26**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 9 T. 21N R. 53W**

Landform *(hillslope, terrace, etc.)*: **Terrace/Side Slope** Local Relief *(concave, convex, none)*: **Convex, Linear** Slope (%): **20-25**

Subregion (LRR): **G-Western Great Plains** Lat. **41.814729°** Long: **-103.465094°** Datum: **NAD83**

Soil Map Unit Name: **5674 - Yockey fine sandy loam, occasionally flooded** NWI Classification: **R2UBF**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____ Is the Sampled Area within a Wetland? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Remarks:

PEMA wetland on terrace on Ninemile Creek (18 feet wide, 3 feet deep). The PEMA wetland is representative of the wetlands on each side of the channel on the north and south side of the highway bridge.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix amygdaloides*	15	X	FACW
2.			
3.			
4.			
5.			
	15	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Phalaris arundinacea*	100	X	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
(excluding FAC-):

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

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

Prevalence Index Worksheet:

Total % Cover of:	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
X 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 (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Meets the Dominance Test for hydrophytic vegetation. 15% cover of Tree stratum observed in the wetland sample point. 30% cover is required for PFOA wetland designation.

SOIL Sampling Point: **S-26**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-2	10YR 3/2	100	-	-	-	-	Detritus	
2-20	10YR 3/2	90	10YR 4/6	10	C	m	SICL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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:

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)
- X Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- X Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks:

Primary and secondary wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-27**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 9 T. 21N R. 53W**

Landform *(hillslope, terrace, etc.)*: **Backslope/toeslope** Local Relief *(concave, convex, none)*: **concave** Slope (%): **3-5**

Subregion (LRR): **G-Western Great Plains** Lat. **41.814627°** Long: **-103.465008°** Datum: **NAD83**

Soil Map Unit Name: **5674 - Yockey fine sandy loam, occasionally flooded** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Upland outpoint on backslope of Nine Mile Creek dyke/bank near alfalfa field. The sample point is representative of the surrounding area and the tree area above the wetland terrace. Upland outpoint for S-26 and S-28.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus deltoides*	10	X	FAC
2. *Salix amygdaloides*	10	X	FACW
3.			
4.			
5.			
	20	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Bromus tectorum*	30	X	NI
2. *Calamovilfa longifolia*	30	X	NI
3. *Bromus inermis*	20	X	FACU
4. *Medicago sativa*	20	X	UPL
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
(excluding FAC-):

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

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

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	10	x 3 =	30
FACU species	20	x 4 =	80
UPL species	80	x 5 =	400
Column Totals:	120 (A)		530 (B)

Prevalence Index = B/A = 4.416666667

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 (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

No hydrophytic vegetation indicators were observed. Vegetation with no indicator (NI) status are considered to be UPL species.

SOIL Sampling Point: **S-27**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR 5/3	100	-	-	-	-	FSL	dry

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks:

No wetland hydrology indicators were obeserved.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-28**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 9 T. 21N R. 53W**

Landform *(hillslope, terrace, etc.)*: **Side slope** Local Relief *(concave, convex, none)*: **Convex, Linear** Slope (%): **90-100**

Subregion (LRR): **G-Western Great Plains** Lat. **41.814412°** Long: **-103.465208°** Datum: **NAD83**

Soil Map Unit Name: **5674 - Yockey fine sandy loam, occasionally flooded** NWI Classification: **R2UBF**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____

Wetland Hydrology Present? Yes X No ____

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

Remarks:

PSSA along Ninemile Creek on the steep banks of the access drive that parallels the creek channel. The roadway is at the top of the bank and hydrophytic vegetation is present to the hinge point of the road, within the channel embankments.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1. *Salix interior*	40	X	FACW
2.			
3.			
4.			
5.			
	40	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Phalaris arundinacea*	100	X	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: *(excluding FAC-)*: 2 (A)

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

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

Prevalence Index Worksheet:

Total % Cover of:	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

X 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 (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Meets the Dominance Test for hydrophytic vegetation.

SOIL Sampling Point: **S-28**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR 3/2	90	10YR 4/6	10	C	M	SICL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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:

Meets Redox Dark surface approximately 2' above channel line.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- X Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- X Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks:

Primary and secondary wetland hydrology indicators were observed, which meets the wetland hydrology indicator.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-29**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 4 T. 21N R. 53W**

Landform *(hillslope, terrace, etc.)*: **Terrace** Local Relief *(concave, convex, none)*: **Convex, Linear** Slope (%): **10-15**

Subregion (LRR): **G-Western Great Plains** Lat. **41.814972°** Long: **-103.460352°** Datum: **NAD83**

Soil Map Unit Name: **5674 - Yockey fine sandy loam, occasionally flooded** NWI Classification: **R4SBCx**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____ Is the Sampled Area within a Wetland? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Remarks:

PEMA wetland on terrace above the Minatare Drain. The wetland is present on both sides of the canal between Ninemile Creek, from the exit of the siphon drain to the intersection of County Road 32. The canal is approximately 10 feet wide and 3 feet deep.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Phalaris arundinacea*	100	X	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	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

X 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 (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Meets the Dominance Test for hydrophytic vegetation.

SOIL Sampling Point: **S-29**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-2	10YR 3/2	100	-	-	-	-	Detritus	
2 - 14	10YR 2/2	90	10YR 4/6	10	C	M	SICL	
14 - 20	10YR 4/2	80	7.5YR 4/6	10	C	M	SICL	
	10YR 2/1	10						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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:

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)
- X Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- X Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks:

Primary and secondary wetland hydrology indicators were observed. Which meets the overall hydrology indicator.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-30**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 3 T. 21N R. 53W**

Landform *(hillslope, terrace, etc.)*: **Top of Bank** Local Relief *(concave, convex, none)*: **Convex, Linear** Slope (%): **5-10**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815040°** Long: **-103.460728°** Datum: **NAD83**

Soil Map Unit Name: **5674 - Yockey fine sandy loam, occasionally flooded** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Upland outpoint for S-29 located on top of the bank of the Minatare Drain, located within the the ROW. The upland point represents similar conditions at the top of the bank of the channel.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Bromus inermis*	80	X	UPL
2. *Bromus tectorum*	20	X	NI
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (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	0	x 4 =	0
UPL species	100	x 5 =	500
Column Totals:	100 (A)		500 (B)

Prevalence Index = B/A = 5

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 (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

SOIL Sampling Point: **S-30**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-2	10YR 3/2	100	-	-	-	-	Detritus	
2 - 20	10YR 5/3	100	-	-	-	-	FSL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks:

No wetland hydrology was observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-31**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 4 T. 21N R. 53W**

Landform *(hillslope, terrace, etc.)*: **Terrace** Local Relief *(concave, convex, none)*: **concave linear** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.814995°** Long: **-103.458966°** Datum: **NAD83**

Soil Map Unit Name: **5666 - Minatare-Janise soils, rarely flooded** NWI Classification: **R4SBCx**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____ Is the Sampled Area within a Wetland? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Remarks: PEMA/C wetland in ditch and in the boundries of excavated canal. The Minatare Drain extends from west and an unnamed intermittent channel enters the channel near the intersection. The unnamed intermittent channel is 2' wide and 2" deep. The Minatare Drain is approximately 10 feet wide and 3 feet deep. Overall the channel drains to the south, below the highway through a CBC and extends south.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Phalaris arundinacea*	70	X	FACW
2. *Typha latifolia*	40	X	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	110	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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 = #DIV/0!

Hydrophytic Vegetation Indicators:

X 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 (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:
Meets the Rapid Test for hydrophytic vegetation.

SOIL Sampling Point: **S-31**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0 - 2	10YR3/2	100	-	-	-	-	Detritus	
2 - 6	10YR3/2	95	-	-	-	-	FSL	
6 - 12	10YR 3/2	80	10YR 5/4	10	C	M	FSL	
12 - 20	10YR 5/2	80	10YR 7/6	10	C	M	SCL	
	10YR 2/1	10						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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: Meets Redox Dark Surface in the 6-12 inch layer.

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)
- X Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- X Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No X	Depth *(inches)*		**Wetland Hydrology Present?**	
Water Table Present?	Yes X	No ___	Depth *(inches)*	6		
Saturation Present? *(includes capillary fringe)*	Yes X	No ___	Depth *(inches)*	6	X **Yes**	___ **No**

Remarks:

Several primary and secondary wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-32**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 3 T. 21N R. 53W**

Landform *(hillslope, terrace, etc.)*: **Top of Bank** Local Relief *(concave, convex, none)*: **Convex, Linear** Slope (%): **15-20**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815092°** Long: **-103.458904°** Datum: **NAD83**

Soil Map Unit Name: **5666 - Minatare-Janise soils, rarely flooded** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Upland outpoint positioned on top of the ditch above channel and PEMA/C wetlands. Area is slightly distorted from feed lot operation.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Bassia scoparia*	90	X	FACU
2. *Helianthus annuus*	5		FACU
3. *Rumex crispus*	5		FAC
4. *Bromus tectorum*	1		NI
5.			
6.			
7.			
8.			
9.			
10.			
	101	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	95	x 4 =	380
UPL species	1	x 5 =	5
Column Totals:	101 (A)		400 (B)

Prevalence Index = B/A = 3.96039604

Hydrophytic Vegetation Indicators:

____ 1. Rapid Test for Hydrophytic Vegetation

____ 2. Dominance Test is >50%.

____ 3. Prevalence Index is $\leq$3.0[1]

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

____ Problematic Hydrophytic Vegetation (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

No hydrophytic vegetation indicators were observed. Vegetation with no indicator (NI) status are considered to be UPL species.

SOIL Sampling Point: **S-32**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-12	10YR 5/3	100	-	-	-	-	FSL	Dry/Compacted
12 - 15	10YR 5/3	100	-	-	-	-	SL	Dry

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks:

No hydric soil indicators were observed, Top layer was compacted and dense.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-33**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 10 T. 21N R. 53W**

Landform *(hillslope, terrace, etc.)*: **Terrace** Local Relief *(concave, convex, none)*: **Convex Linear** Slope (%): **2-5**

Subregion (LRR): **G-Western Great Plains** Lat. **41.814205°** Long: **-103.458151°** Datum: **NAD83**

Soil Map Unit Name: **5666 - Minatare-Janise soils, rarely flooded** NWI Classification: **R4SBCx**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____ Is the Sampled Area within a Wetland? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Remarks:

PEMA wetland along the channel/Minatare Drain on both sides of the channel. The wetland begins at the concrete box culvert and extends south, beyond the investigation area and contained within the excavated channel.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Phalaris arundinacea*	90	X	FACW
2. *Typha latifolia*	10	X	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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:

X 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 (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Meets the Rapid Test for hydrophytic vegetation.

SOIL Sampling Point: **S-33**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-1	10YR 3/2	95	-	-	-	-	Detritus	
1 - 6	10YR 3/2	95	10YR 4/6	5	C	M	FSL	
6 - 20	10YR 4/2	90	10YR 4/6	10	C	M	SICL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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:

Several wetland hydrology indicators were observed.

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)
- X Water Marks (B1)
- ___ Sediment Deposits (B2)
- X Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- X Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No X	Depth *(inches)*		**Wetland Hydrology Present?**	
Water Table Present?	Yes X	No ___	Depth *(inches)*	8		
Saturation Present? *(includes capillary fringe)*	Yes X	No ___	Depth *(inches)*	6	X **Yes**	___ **No**

Remarks:

Several primary and secondary wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-34**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 10 T. 21N R. 53W**

Landform *(hillslope, terrace, etc.)*: **Top of bank** Local Relief *(concave, convex, none)*: **Convex Linear** Slope (%): **3-5**

Subregion (LRR): **G-Western Great Plains** Lat. **41.814249°** Long: **-103.458238°** Datum: **NAD83**

Soil Map Unit Name: **5666 - Minatare-Janise soils, rarely flooded** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks: Upland outpoint on top of the bank above the PEMA wetland and the Minatare Drain channel
The upland point is representative of the surrounding landscape. Disturbed ground on aerial photographs at pivot corner was being used to store bales at the time of the investigation and had UPL vegetation surrounding the bale storage area.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Lolium perenne*	70	X	FACU
2. *Bromus tectorum*	10		NI
3. *Kochia scoparia*	10		NI
4. *Sporobolus cryptandrus*	10		FACU
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (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	80	x 4 =	320
UPL species	20	x 5 =	100
Column Totals:	100 (A)		420 (B)

Prevalence Index = B/A = 4.2

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 (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:
No hydrophytic vegetation indicators were observed. Vegetation with no indicator (NI) status are considered to be UPL species.

SOIL Sampling Point: **S-34**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR 5/3	100	-	-	-	-	FSL	Dry

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks:

No hydric soil indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-35**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 3 T. 21N R. 53W**

Landform *(hillslope, terrace, etc.)*: **Ditch** Local Relief *(concave, convex, none)*: **concave linear** Slope (%): **2-5**

Subregion (LRR): **G-Western Great Plains** Lat. **41.814833°** Long: **-103.445431°** Datum: **NAD83**

Soil Map Unit Name: **5901 - Alice fine sandy loam, 0 to 3 percent slopes** NWI Classification: **R5UBFx**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Upland point in roadside ditch near limits of NWI canal/artificial drainage. No channel was present on either side of the highway. A metal vent pipe was present on the south side of the highway. The canal is likely buried in the area.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Bromus inermis*	90	X	UPL
2. *Malva neglecta*	5		NI
3. *Hypericum perforatum*	5		UPL
4. *Kochia scoparia*	1		FACU
5.			
6.			
7.			
8.			
9.			
10.			
	101	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (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	1	x 4 =	4
UPL species	100	x 5 =	500
Column Totals:	101 (A)		504 (B)

Prevalence Index = B/A = 4.99009901

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 (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

No hydrophytic vegetation indicators were observed.

SOIL Sampling Point: **S-35**

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

Depth (inches)	Matrix		Redox Features					
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
-	-	-	-	-	-	-	-	-

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soils due to lack of hydrology and presence of upland vegetation.

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No X	Depth *(inches)*	_____	**Wetland Hydrology Present?**
Water Table Present?	Yes ___	No X	Depth *(inches)*	_____	
Saturation Present? *(includes capillary fringe)*	Yes ___	No X	Depth *(inches)*	_____	___ **Yes** X **No**

Remarks:

No wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-36**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 11 T. 21N R. 53W**

Landform *(hillslope, terrace, etc.)*: **Toeslope** Local Relief *(concave, convex, none)*: **Convex, Linear** Slope (%): **10-15**

Subregion (LRR): **G-Western Great Plains** Lat. **41.814402°** Long: **-103.432691°** Datum: **NAD83**

Soil Map Unit Name: **5901 - Alice fine sandy loam, 0 to 3 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks: Upland area positioned at the toeslope of a canal. The area was highlighted as a potential ag wetland due to disturbance in "normal" precipitation years that required additional investigation. The area did not appear to be irrigated and the corner has stunted crops and upland vegetation. Possibe that the soil in the area is not viable for growing crops.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Cenchrus longispinus*	20	X	UPL
2. *Polygonum aviculare*	20	X	FACU
3. *Amaranthus retroflexus*	5		FACU
4. *Bromus tectorum*	5		NI
5. *Setaria pumila*	5		FACU
6.			
7.			
8.			
9.			
10.			
	55	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 45

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (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	30	x 4 =	120
UPL species	25	x 5 =	125
Column Totals:	55 (A)		245 (B)

Prevalence Index = B/A = 4.454545455

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 (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

No hydrophytic vegetation indicators were observed. Vegetation with no indicator (NI) status are considered to be UPL species.

SOIL Sampling Point: **S-36**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-18	10YR 4/3	100	-	-	-	-	FSL	Dry
18-30	10YR 5/3	100	-	-	-	-	FSL	Dry
30-40	10YR 5/4	100	-	-	-	-	SC	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators observed. Soil sample collected down to 40 inches to ensure representation below the possible plow line of agricultural equipment.

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks:

No wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-37**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 11 T. 21N R. 53W**

Landform *(hillslope, terrace, etc.)*: **Plain** Local Relief *(concave, convex, none)*: **Linear** Slope (%): **2-5**

Subregion (LRR): **G-Western Great Plains** Lat. **41.814311°** Long: **-103.423663°** Datum: **NAD83**

Soil Map Unit Name: **5873 - Tripp very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Area indicated as ag wet signature review for potential wetlands during 'normal' precipitation conditions. No wetland indicators observed. Point positioned on pivot corner. The area appears to be a part of a seasonal rotational crop on the pivot corner.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 100

Dominance Test Worksheet:

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

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (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	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A = 0

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 (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

Bare gound, plowed, soft soil, scatter residual corn crops.

SOIL Sampling Point: **S-37**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-12	10YR 4/3	100					FSL	Dry
12-30	10YR 4/4	100					FSL	Dry
30-40	10YR 6/3	100					FSL	Dry

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators were observed. Soil sample was down to 40" to get a sample below the plow line of agricultural equipment.

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks:

No wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-38**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 1 T. 21N R. 53W**

Landform *(hillslope, terrace, etc.)*: **Ditch** Local Relief *(concave, convex, none)*: **Concave Linear** Slope (%): **2-4**

Subregion (LRR): **G-Western Great Plains** Lat. **41.814383°** Long: **-103.406681°** Datum: **NAD83**

Soil Map Unit Name: **5834 - Mitchell silt loam, 0 to 1 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks: Upland point in area previously delineated as an ephemeral channel with PEMA. No wetland indicators were observed. The ephemeral channel previously mapped consisted of an excavated/straight 1' wide ditch that was vegetated with UPL and FAC speices. No OHWM or bed and bank was observed.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)		Absolute % Cover	Dominant Species?	Indicator Status
1.				
2.				
3.				
4.				
5.				
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)				
1.				
2.				
3.				
4.				
5.				
		0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)				
1.	*Bromus inermis*	70	X	UPL
2.	*Lactuca serriola*	20	X	FAC
3.	*Spartina pectinata*	10		FACW
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)				
1.				
2.				
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	20	x 3 =	60
FACU species	0	x 4 =	0
UPL species	70	x 5 =	350
Column Totals:	100 (A)		430 (B)

Prevalence Index = B/A = 4.3

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 (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

Mixed vegetation does not meet Dominance Test or the Prevalance Index for hydrophytic vegetation.

SOIL

Sampling Point: **S-38**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-12	10YR 3/3	100	-	-	-	-	SICL	
12-20	10YR 5/4	99	10YR 5/8	1	C	M	FSL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks:

No wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-39**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 1 T. 21N R. 53W**

Landform *(hillslope, terrace, etc.)*: **Ditch** Local Relief *(concave, convex, none)*: **Concave, Linear** Slope (%): **2-4**

Subregion (LRR): **G - Western Great Plains** Lat. **41.814789°** Long: **-103.401567°** Datum: **NAD83**

Soil Map Unit Name: **5873 - Tripp very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Outpoint in roadside ditch with mixed vegetation. Sample point is in an area that was previously delineated as a PEMA wetland. The upland outpoint is positioned next to an excavated ditch used to convey irrigation overflow to the east, below county road 35.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Phalaris arundinacea*	30	X	FACW
2. *Lactuca serriola*	30	X	FAC
3. *Chenopodium album*	30	X	FACU
4. *Helianthus annuus*	5		FACU
5. *Salix interior*	5		FACW
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A) *(excluding FAC-)*:

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.67% (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

X 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 (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Meets Dominance Test for Hydrophytic vegetation.

SOIL Sampling Point: **S-39**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-14	10YR3/2	100					SICL	
14-20	10YR2/2	98	7.5YR3/3	2	C	M	SICL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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:

Redox too deep and too low in concentration to meet indicator. No hydric soil indicator was 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks:

Only one secondary wetland hydrology indicator was observed, which does not meet the overall wetland hydrology indicator.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-40**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 1 T. 21N R. 53W**

Landform *(hillslope, terrace, etc.)*: **Ditch** Local Relief *(concave, convex, none)*: **Concave, Linear** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.814683°** Long: **-103.401432°** Datum: **NAD83**

Soil Map Unit Name: **5873 - Tripp very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____ Is the Sampled Area within a Wetland? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Remarks:

PEMA wetland in the roadside ditch that drains along County Road 35 and crosses below CR35 through a culvert and continues to the east in the road side ditch. The source of hydrology to the wetland is irrigation runoff/canal overflow.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Phalaris arundinacea*	40	X	FACW
2. *Spartina pectinata*	40	X	FACW
3. *Polygonum coccineum*	5		OBL
4. *Lactuca serriola*	5		FAC
5. *Conyza canadensis*	1		FACU
6. *Salix interior*	1		FACW
7.			
8.			
9.			
10.			
	92	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A) *(excluding FAC-)*:

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

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

Prevalence Index Worksheet:

Total % Cover of:	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

X 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 (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Meets the Dominance Test for hydrophytic vegetation.

SOIL Sampling Point: **S-40**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-6	10YR5/2	95	10YR4/6	5	C	M	SiCL	
6-20	10YR5/3	95	10YR4/6	5	C	M	FSL	DRY

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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:

HYDROLOGY

Wetland Hydrology Indicators:

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

- X 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- X Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes X	No ___	Depth *(inches)*	3	**Wetland Hydrology Present?**
Water Table Present?	Yes ___	No ___	Depth *(inches)*	___	
Saturation Present? *(includes capillary fringe)*	Yes ___	No ___	Depth *(inches)*	___	X **Yes** ___ **No**

Remarks:

Surface Water was observed, Photo point 40b irrigation runoff from concrete canal outletting into ditch which is the source of primary hydrology. Three secondary wetland hydrology indicators were observed, which meets the overall wetland hydrology indicator.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-41**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 6 T. 21N R. 52W**

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

Subregion (LRR): **G-Western Great Plains** Lat. **41.815558°** Long: **-103.398248°** Datum: **NAD83**

Soil Map Unit Name: **5873 - Tripp very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Non wetland area previously delineated as a PSSA wetland. No wetland indicators were observed.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1. *Salix exigua*	40	X	FAC
2.			
3.			
4.			
5.			
	40	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Bassia kochia*	30	X	FACU
2. *Helianthus annuus*	10		FACU
3. *Bromus inermis*	10		UPL
4. *Bromus tectorum*	5		NI
5. *Lactuca serriola*	5		FAC
6. *Tragopogon dubius*	1		UPL
7.			
8.			
9.			
10.			
	61	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 29

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	45	x 3 =	135
FACU species	40	x 4 =	160
UPL species	16	x 5 =	80
Column Totals:	101 (A)		375 (B)

Prevalence Index = B/A = 3.712871287

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 (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

No hydrophytic vegetation indicators were observed. Vegetation with no indicator (NI) is considered to be an UPL species.

SOIL Sampling Point: **S-41**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR5/3	100	-	-	-	-	Very fine SL	Dry

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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:

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks:

Only one secondary wetland hydrology indicator was observed, which does not meet the requirements for wetland hydrology.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-42**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 6 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **Terrace/canal ditch** Local Relief *(concave, convex, none)*: **Convex, Linear** Slope (%): **45**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815363°** Long: **-103.395992°** Datum: **NAD83**

Soil Map Unit Name: **5873 - Tripp very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **R4SBCx**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____ Is the Sampled Area within a Wetland? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Remarks:

PEMA fringe on each side of canal and representative of opposite side of the highway that passes through a box culvert. Canal was 2-3' wide and a few inches deep at the time of the investigation.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Phalaris arundinacea*	40	X	FACW
2. *Spartina pectinata*	40	X	FACW
3. *Polygonum amphibum*	20	X	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	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

X 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 (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Meets the Dominance Test for hydrophytic vegetation.

SOIL Sampling Point: **S-42**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR3/2	95	10YR4/6	5	C	M	SICL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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:

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- X Water Marks (B1)
- ___ Sediment Deposits (B2)
- X Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- X Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes X	No ___	Depth *(inches)*	6	**Wetland Hydrology Present?**	
Water Table Present?	Yes ___	No X	Depth *(inches)*	___		
Saturation Present? *(includes capillary fringe)*	Yes ___	No X	Depth *(inches)*	___	X **Yes**	___ **No**

Remarks:

Several primary and secondary wetland hydrology indicators were osberved.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-43**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 6 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **ditch** Local Relief *(concave, convex, none)*: **concave, Linear** Slope (%): **5-6**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815391°** Long: **-103.395805°** Datum: **NAD83**

Soil Map Unit Name: **5873 - Tripp very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Upland outpoint along canal embankment and excavated ditch. No OHWM and no vegetation 3 feet below sample point. Bottom of ditch is dominated by upland vegetation. Area was mapped as a canal/erosional feature that extends from the concrete irrigation source to the east.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Bromus inermis*	90	X	UPL
2. *Lactuca serriola*	5		FAC
3. *Bassia kochia*	5		FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	5	x 4 =	20
UPL species	90	x 5 =	450
Column Totals:	100 (A)		485 (B)

Prevalence Index = B/A = 4.85

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 (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

No hydrophytic vegetation indicators were observed.

SOIL Sampling Point: **S-43**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-8	10YR4/3	100	-	-	-	-	FSL	Dry
8-20	10YR5/3	100	-	-	-	-	FSL	Dry

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks:

Only one secondary wetland hydrology indicator was observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-44**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 6 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **Ditch** Local Relief *(concave, convex, none)*: **Concave, Linear** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815624°** Long: **-103.396129°** Datum: **NAD83**

Soil Map Unit Name: **5873 - Tripp very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____ Is the Sampled Area within a Wetland? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Remarks:

PEMA in roadside ditch. The PEMA is positioned in the ditch and extends to the east and west. The ditch had a 1-2' wide channel that is sourced from irrigation runoff. The irrigation runoff drains into the canal represented by S-42.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Phalaris arundinacea*	100	X	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	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

X 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 (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Monocuture of hydrophytic vegetation meets the Dominance Test for hydrophytic vegetation.

SOIL Sampling Point: **S-44**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-8	10YR 3/2	95	10YR 4/3	5	C	M	SCL	
8-20	10YR 4/2	90	10YR 4/6	10	C	M	SCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- X Other (Explain in Remarks)

[3]Indicators of hydrophylic 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: Soils likely disturbed by siltation due to runoff. Does not meet F6 due redox concentrations being too faint in the 0-8 inch layer. Does not meet F7 due to redox depletions needing to be a value of 5 or more and a chroma of 2 or less and with a 10YR 3/2 20% concentrations are required. A11 does not meet due to 0-8 inch SCL layer not meeting a value of 3 or less and a chroma of 1 or less.

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)
- X Water Marks (B1)
- ___ Sediment Deposits (B2)
- X Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No X	Depth *(inches)*	___	**Wetland Hydrology Present?**	
Water Table Present?	Yes X	No ___	Depth *(inches)*	8		
Saturation Present? *(includes capillary fringe)*	Yes X	No ___	Depth *(inches)*	0	X **Yes**	___ **No**

Remarks:

Several primary and secondary wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-45**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 6 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **Ditch/terrace** Local Relief *(concave, convex, none)*: **Convex, Linear** Slope (%): **5-10**

Subregion (LRR): **G-Western Great Plains** Lat. **41.816204°** Long: **-103.390162°** Datum: **NAD83**

Soil Map Unit Name: **5873 - Tripp very fine sandy loam, 1 to 3 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Upland outpoint along ag runoff channel 1-2 feet wide. Upland vegetation in excavated portion of ditch. No wetland indicators were observed. Photo point of irrigation runoff into the ditch.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Bromus inermis*	50	X	UPL
2. *Lolium perenne*	20	X	FACU
3. *Spartina pectinata*	10		FACW
4. *Phalaris arundinacea*	5		FACW
5. *Ambrosia trifida*	5		FAC
6. *Helianthus annuus*	5		FACU
7. *Salix interior*	1		FACW
8.			
9.			
10.			
	96	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 4

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	16	x 2 =	32
FAC species	5	x 3 =	15
FACU species	25	x 4 =	100
UPL species	50	x 5 =	250
Column Totals:	96 (A)		397 (B)

Prevalence Index = B/A = 4.135416667

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 (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

No hydrophytic vegetation indicators were observed.

SOIL Sampling Point: **S-45**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-2	10YR3/2	100	-	-	-	-	FSL	
2-20	10YR4/3	100	-	-	-	-	FSL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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:

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks:

No wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-46**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 6 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **Top of artificial ditch** Local Relief *(concave, convex, none)*: **Convex, Linear** Slope (%): **10-15**

Subregion (LRR): **G-Western Great Plains** Lat. **41.81572°** Long: **-103.392525°** Datum: **NAD83**

Soil Map Unit Name: **5874 - Tripp very fine sandy loam, 1 to 3 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Vegetation in the excavated ditch used to carry reuse irrigation water. Channel mapped as artificial drain. Mixed vegetation meets the Dominance Test for hydrophytic vegetation.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Phalaris arundinacea*	30	X	FACW
2. *Spartina pectinata*	30	X	FACW
3. *Bromus inermis*	30	X	UPL
4. *Helianthus annuus*	10		FACU
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A) *(excluding FAC-)*:

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.67% (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	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A = #DIV/0!

Hydrophytic Vegetation Indicators:

____ 1. Rapid Test for Hydrophytic Vegetation

X 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 (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Mixed vegetation meets the Dominance Test for hydrophytic vegetation.

SOIL Sampling Point: **S-46**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-10	10YR3/2	100	-	-	-	-	FSL	Moist
10-20	10YR5/3	100	-	-	-	-	FSL	Dry

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks:

Only one secondary wetland hydrology indicator was observed, which is due to the mixed vegetation in the ditch.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-47**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 6 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **Ditch** Local Relief *(concave, convex, none)*: **Concave, Concave** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.816379°** Long: **-103.386994°** Datum: **NAD83**

Soil Map Unit Name: **5873 - Tripp very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____ Is the Sampled Area within a Wetland? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Remarks:

Small PEMA wetland in the the roadside ditch at the end of the gravity irrigation soybean field. The area is entirely surrounded by Upl vegetation and hydrology is artifically sourced from irrigation.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Phalaris arundinacea*	90	X	FACW
2. *Rumex crispus*	5		FAC
3. *Bromus inermis*	5		UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	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

X 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 (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks :

Mixed vegetation in the roadside ditch meets the Dominance Test for hydrophytic vegetation.

SOIL Sampling Point: **S-47**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-12	10YR3/2	95	10YR4/6	5	C	M	SICL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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:

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- X Water Marks (B1)
- ___ Sediment Deposits (B2)
- X Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- X Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes X	No ___	Depth *(inches)*	2	**Wetland Hydrology Present?**
Water Table Present?	Yes ___	No X	Depth *(inches)*	___	
Saturation Present? *(includes capillary fringe)*	Yes ___	No X	Depth *(inches)*	___	X **Yes** ___ **No**

Remarks:

Several primary and secondary wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-48**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 6 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **Ditch** Local Relief *(concave, convex, none)*: **Concave, Linear** Slope (%): **3-5**

Subregion (LRR): **G-Western Great Plains** Lat. **41.816379°** Long: **-103.387465°** Datum: **NAD83**

Soil Map Unit Name: **5873 - Tripp very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes X No ____

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

Remarks:

Upland point in roadside ditch down slope of irrigation outflow where water settled in a flat area. No wetland hydrology indicators were observed and the point is representative of the surrounding ditch area.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Bromus inermis*	70	X	UPL
2. *Lolium perenne*	5		FACU
3. *Spartina pectinata*	5		FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	80	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 20

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	0	x 3 =	0
FACU species	5	x 4 =	20
UPL species	70	x 5 =	350
Column Totals:	80 (A)		380 (B)

Prevalence Index = B/A = 4.75

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 (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

No hydrophytic vegetation indicators were osberved.

SOIL Sampling Point: **S-48**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-3	10YR3/2	98	10YR4/6	2	C	M	SCL	
3-20	10YR5/3	100					FSL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- X Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks:

Only one secondary wetland hydrology indcator was observed, which does not meet the overall wetland hydrology indicator.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/29/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-49**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 7 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **ditch** Local Relief *(concave, convex, none)*: **concave linear** Slope (%): **2-5**

Subregion (LRR): **G-Western Great Plains** Lat. **41.816221°** Long: **-103.381773°** Datum: **NAD83**

Soil Map Unit Name: **Tripp very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____ Is the Sampled Area within a Wetland? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Remarks:

PEMA wetland in roadside ditch connected to ag run off with mixed vegetation and standing water.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Phalaris arundinacea*	30	X	FACW
2. *Polygonum amphibium*	20	X	OBL
3. *Ambrosia trifida*	20	X	FAC
4. *Lolium perenne*	10		FAC
5. *Rumex crispus*	10		FACU
6. *Bromus tectorum*	5		NI
7. *Thlaspi arvense*	5		FACU
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	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

X 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 (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Meets the Dominance Test for hydrophytic vegetation.

SOIL Sampling Point: **S-49**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR3/2	95	10YR 4/6	5	C	M	SICL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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:

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- X Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- X Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes X	No ___	Depth *(inches)*	4	**Wetland Hydrology Present?**
Water Table Present?	Yes ___	No X	Depth *(inches)*	___	
Saturation Present? *(includes capillary fringe)*	Yes ___	No X	Depth *(inches)*	___	X **Yes** ___ **No**

Remarks:

Several primary and secondary wetland hydrology indicators were obserevd.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/29/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-50**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 7 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **ditch** Local Relief *(concave, convex, none)*: **concave linear** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.816219°** Long: **-103.382285°** Datum: **NAD83**

Soil Map Unit Name: **5873 - Tripp very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Upland outpoint in the roadside ditch.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Bromus inermis*	100	X	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (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	0	x 4 =	0
UPL species	100	x 5 =	500
Column Totals:	100 (A)		500 (B)

Prevalence Index = B/A = 5

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 (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

No hydrophytic vegetation indicators were observed.

SOIL

Sampling Point: **S-50**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0 - 10	10YR2/1	100	-	-	-	-	SICL	
10-20	10YR 5/3	100	-	-	-	-	FSL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators were obesrved.

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No ___	Depth *(inches)*	_____	**Wetland Hydrology Present?**
Water Table Present?	Yes ___	No ___	Depth *(inches)*	_____	
Saturation Present? *(includes capillary fringe)*	Yes ___	No ___	Depth *(inches)*	_____	___ **Yes** X **No**

Remarks:

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/29/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-51**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 6 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **ditch** Local Relief *(concave, convex, none)*: **concave linear** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.816468°** Long: **-41.816468°** Datum: **NAD83**

Soil Map Unit Name: **5873 - Tripp very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Upland outpoint in excavated ditch, in line with the PEMA wetland.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Bromus inermis*	50	X	UPL
2. *Lactuca serriola*	20	X	FAC
3. *Ambrosia trifida*	10		FAC
4. *Bassica kochia*	10		FACU
5. *Melilotus officinalis*	10		FACU
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	30	x 3 =	90
FACU species	20	x 4 =	80
UPL species	50	x 5 =	250
Column Totals:	100 (A)		420 (B)

Prevalence Index = B/A = 4.2

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 (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

No hydrophytic vegetation indicators observed.

SOIL Sampling Point: **S-51**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR4/3	100	-	-	-	-	FSL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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:

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

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** X **No**

Remarks:

No wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/29/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-52**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 6 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **ditch** Local Relief *(concave, convex, none)*: **concave linear** Slope (%): **2-5**

Subregion (LRR): **G-Western Great Plains** Lat. **41.816467°** Long: **-103.381787°** Datum: **NAD83**

Soil Map Unit Name: **5873 - Tripp very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____ Is the Sampled Area within a Wetland? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Remarks:

PEMA wetland beside ag drain flowing north to south receiving ag drainage. Ag drain is 1-2' wide and crosses below CR36 at northeast intersection of Co. Rd. 26 and US-26 where it continues to the east, eventually draining into the Bayard Drain.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Phalaris arundinacea*	40	X	FACW
2. *Echinochla crus-galli*	40	X	FAC
3. *Lactuca serriola*	10		FAC
4. *Ambrosia trifida*	10		FAC
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A) *(excluding FAC-)*:

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

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

Prevalence Index Worksheet:

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

Prevalence Index = B/A = #DIV/0!

Hydrophytic Vegetation Indicators:

____ 1. Rapid Test for Hydrophytic Vegetation

X 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 (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Meets the Dominance Test for hydrophytic vegetation.

SOIL Sampling Point: **S-52**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR3/2	90	10YR 4/6	10	C	M	SICL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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:

HYDROLOGY

Wetland Hydrology Indicators:

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

- X 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- X Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes X	No ___	Depth *(inches)*	4	**Wetland Hydrology Present?**	
Water Table Present?	Yes ___	No X	Depth *(inches)*	___		
Saturation Present? *(includes capillary fringe)*	Yes ___	No X	Depth *(inches)*	___	X **Yes**	___ **No**

Remarks:

Irrigation runoff is the source for surface water. Secondary wetland hydrology indicators meet the minimum requiremetn for the overall wetland hydrology indicator.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/29/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-53**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 8 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **hillslope/dome** Local Relief *(concave, convex, none)*: **Convex, Convex** Slope (%): **3-5**

Subregion (LRR): **G-Western Great Plains** Lat. **41.816079°** Long: **-103.380366°** Datum: **NAD83**

Soil Map Unit Name: **5873 - Tripp very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Sample point in wet signature area within crop field that had stunted, approximately 4 feet tall vs 6-7 feet tall corn. Very sandy soil is likely source of stunted crops as no wetland indicators were present.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Polygonum convolvulus*	15	X	FACU
2. *Cenchrus spinifex*	10	X	UPL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	25	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 75

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (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	15	x 4 =	60
UPL species	10	x 5 =	50
Column Totals:	25 (A)		110 (B)

Prevalence Index = B/A = 4.4

Hydrophytic Vegetation Indicators:

____ 1. Rapid Test for Hydrophytic Vegetation

____ 2. Dominance Test is >50%.

____ 3. Prevalence Index is ≤3.0[1]

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

____ Problematic Hydrophytic Vegetation (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

No hydrophitc vegetation indicators were observed.

SOIL

Sampling Point: **S-53**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR5/3	100	-	-	-	-	SL	
20-30	10YR5/4	100	-	-	-	-	FSL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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:

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks:

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/29/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-54**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 5 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **Terrace** Local Relief *(concave, convex, none)*: **Convex, Linear** Slope (%): **10-20**

Subregion (LRR): **G-Western Great Plains** Lat. **41.816547°** Long: **-103.378821°** Datum: **NAD83**

Soil Map Unit Name: **5873 - Tripp very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **R4SBCx**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____ Is the Sampled Area within a Wetland? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Remarks:

PEMA wetland on terrace above Bayard Drain Canal. The wetland is present on both sides of the channel and is representative of the wetlands on the south side of the highway. The Canal was 5-6' wide and 3' deep at the time of the investigation.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Phalaris arundinacea*	70	X	FACW
2. *Typha latifolia*	30	X	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: *(excluding FAC-)*: 2 (A)

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

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

Prevalence Index Worksheet:

Total % Cover of:	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

X 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 (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Meets the Dominance Test for hydrophytic vegetation.

SOIL Sampling Point: **S-54**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-6	10YR 3/2	100	10YR 4/6	5	C	M	SICL	
6-20	10YR4/2	95	10YR4/6	5	C	M	SICL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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:

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)
- X Sediment Deposits (B2)
- X Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- X Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks:

Several primary and secondary wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/29/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-55**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 5 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **Top of Bank/Toeslope** Local Relief *(concave, convex, none)*: **Linear** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.816626°** Long: **-103.378728°** Datum: **NAD83**

Soil Map Unit Name: **5873 - Tripp very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **R4SBCx**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Upland outpoint on terrace above channel

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Bromus inermis*	100	X	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (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	0	x 4 =	0
UPL species	100	x 5 =	500
Column Totals:	100 (A)		500 (B)

Prevalence Index = B/A = 5

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 (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

No hydrophytic vegetation indicators were observed.

SOIL Sampling Point: **S-55**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR5/3	100	-	-	-	-	FSL	dry

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

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** X **No**

Remarks:

No wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/29/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-56**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 5 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **Toeslope** Local Relief *(concave, convex, none)*: **Concave, Linear** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.816653°** Long: **-103.379619°** Datum: **NAD83**

Soil Map Unit Name: **5873 - Tripp very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Sample point in wet signature located within a heavily grazed pasture. No wetland indicators observed.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Bromus inermis*	50	X	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	50	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 50

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (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	0	x 4 =	0
UPL species	50	x 5 =	250
Column Totals:	50 (A)		250 (B)

Prevalence Index = B/A = 5

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 (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

50% bare ground/heavily grazed.

SOIL Sampling Point: **S-56**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0 - 20	10YR 4/3	100	-	-	-	-	FSL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators.

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks:

No wetland hydrology indicators observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/29/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-57**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 5 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **Ditch** Local Relief *(concave, convex, none)*: **concave linear** Slope (%): **2-5**

Subregion (LRR): **G-Western Great Plains** Lat. **41.816512°** Long: **-130.368313°** Datum: **NAD83**

Soil Map Unit Name: **5834 - Mitchell silt loam, 0 to 1 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Upland point in low lying ditch by culvert with mixed vegetation. Sample point is representative of the surrounding non-wetland area.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Phalaris arundinacea*	30	X	FACW
2. *Lactuca serriola*	20	X	FAC
3. *Ambrosia trifida*	20	X	FAC
4. *Helianthus annuus*	20	X	FACU
5. *Chenopodium album*	5		FACU
6. *Bromus inermis*	5		UPL
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.00% (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

X 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 (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

Mixed vegetation meets the Dominance Test for hydrophytic vegetation.

SOIL Sampling Point: **S-57**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR5/3	100	-	-	-	-	FSL	Dry

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

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** X **No**

Remarks:

No wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Scotts Bluff County** Sampling Date: **7/29/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-58**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 8 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **Ditch** Local Relief *(concave, convex, none)*: **Concave, Linear** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815887°** Long: **-103.362771°** Datum: **NAD83**

Soil Map Unit Name: **Tripp very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes X No ____

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

Remarks:

Upland sample point along irrigation drainage having 2 of 3 wetland criteria. No hydric soils. Drainage is coming from the reuse pit. Representative of the opposite side of the ditch. The roadside ditch appears to be routinely shaped by road maintenance.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Rumex crispus*	30	X	FAC
2. *Bromus inermis*	30	X	UPL
3. *Phalaris arundinacea*	25	X	FACW
4. *Helianthus annuus*	5		FACU
5.			
6.			
7.			
8.			
9.			
10.			
	90	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 10

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A) *(excluding FAC-)*:

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.67% (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

X 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 (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Meets the Dominance Test for hydrophytic vegetation.

SOIL Sampling Point: **S-58**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR 3/2	100	-	-	-	-	SICL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators were observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- X 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes X	No ___	Depth *(inches)*	2	**Wetland Hydrology Present?**	
Water Table Present?	Yes ___	No X	Depth *(inches)*	___		
Saturation Present? *(includes capillary fringe)*	Yes X	No X	Depth *(inches)*	___	X **Yes**	___ **No**

Remarks:

Surface water from irrigation runoff along the ditch.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/29/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-59**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 4 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **Ditch** Local Relief *(concave, convex, none)*: **Concave Linear** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.816476°** Long: **-103.361402°** Datum: **NAD83**

Soil Map Unit Name: **5873 - Tripp very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Upland point in ditch previously mapped as PEMA. The area is representative of the surrounding road ditch non-wetland landscape.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Poa pratensis*	50	X	FACU
2. *Bromus inermis*	30	X	UPL
3. *Lactuca serriola*	10		FAC
4. *Thlaspi arvense*	5		FACU
5.			
6.			
7.			
8.			
9.			
10.			
	95	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 5

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	55	x 4 =	220
UPL species	30	x 5 =	150
Column Totals:	95 (A)		400 (B)

Prevalence Index = B/A = 4.210526316

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 (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

No hydrophytic vegetation indicators were observed.

SOIL Sampling Point: **S-59**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR5/3	100	-	-	-	-	FSL	dry

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks:

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/29/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-60**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 4 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **Ditch** Local Relief *(concave, convex, none)*: **Concave, Linear** Slope (%): **2-5**

Subregion (LRR): **G-Western Great Plains** Lat. **41.816493°** Long: **-103.358131°** Datum: **NAD83**

Soil Map Unit Name: **5873 - Tripp very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Upland point in ditch with mixed hydrophytic and non-hydrophytic vegetation, sloping east to west. No wetland indicators were observed. The area is representative of the surrounding non-wetland landscape in the ROW.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Phalaris arundinacea*	70	X	FACW
2. *Bromus inermis*	30	X	UPL
3. *Lactuca serriola*	1		FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	101	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	70	x 2 =	140
FAC species	1	x 3 =	3
FACU species	0	x 4 =	0
UPL species	30	x 5 =	150
Column Totals:	101 (A)		293 (B)

Prevalence Index = B/A = 2.900990099

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 (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

The Prevalence Index is below 3.0, however, the sample point did not have hydric soils or wetland hydrology so it does not meet the indicator for hydrophytic vegetation.

SOIL

Sampling Point: **S-60**

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

Depth (inches)	Matrix		Redox Features					
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 2	10YR 3/2	100	-	-	-	-	Detritus	
2 - 10	10YR 3/2	100	-	-	-	-	SL	
10 - 20	10YR 5/3	100	-	-	-	-	FSL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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:

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks:

No wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/29/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-61**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 4 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **Ditch** Local Relief *(concave, convex, none)*: **Concave Linear** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.816557°** Long: **-103.349165°** Datum: **NAD83**

Soil Map Unit Name: **5873 - Tripp very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____ Is the Sampled Area within a Wetland? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Remarks:

Isolated PEMA wetland in roadside ditch.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Eleocharis acicularis*	40	X	OBL
2. *Lactuca serriola*	40	X	FAC
3. *Helianthus annuus*	10		FACU
4. *Hordeum jubatum*	10		FACW
5. *Rorippa sylvestris*	5		FACW
6. *Bassia kochia*	1		FACU
7.			
8.			
9.			
10.			
	106	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
(excluding FAC-):

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

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

Prevalence Index Worksheet:

Total % Cover of:	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 = #DIV/0!

Hydrophytic Vegetation Indicators:

____ 1. Rapid Test for Hydrophytic Vegetation

X 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 (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Mixed vegetation but dominant vegetetation meets the Dominance Test for hydrophytic vegetation.

SOIL

Sampling Point: **S-61**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-6	10YR3/2	100	-	-	-	-	SICL	
6-20	10YR3/2	95	10YR4/4	5	C	M	SICL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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:

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks:

Two secondary wetland hydrology indicators were observed, which meets the minimum requirement for the overall wetland hydrology indicator.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/29/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-62**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 4 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **Ditch** Local Relief *(concave, convex, none)*: **Concave Linear** Slope (%): **5-8**

Subregion (LRR): **G-Western Great Plains** Lat. **41.816559°** Long: **-103.349618°** Datum: **NAD83**

Soil Map Unit Name: **5873 - Tripp very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Upland outpoint in roadside ditch.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Bromus inermis*	75	X	UPL
2. *Bassia kochia*	15		FACU
3. *Chenopodium album*	5		FACU
4. *Phleum pratense*	5		FACU
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (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	25	x 4 =	100
UPL species	75	x 5 =	375
Column Totals:	100 (A)		475 (B)

Prevalence Index = B/A = 4.75

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 (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

No hydrophytic vegetation indicators were observed.

SOIL

Sampling Point: **S-62**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR4/3	100	-	-	-	-	FSL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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:

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks:

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/29/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-63**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 9 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **Slope** Local Relief *(concave, convex, none)*: **convex, Linear** Slope (%): **2-5**

Subregion (LRR): **G-Western Great Plains** Lat. **41.816062°** Long: **-103.347780°** Datum: **NAD83**

Soil Map Unit Name: **5873 - Tripp very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Area that was marked for disturbance on aerials during "Normal" precip. years. No wetland indicators were observed.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Bassia kochia*	30	X	FACU
2. *Amaranthus retroflexus*	30	X	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	60	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 40

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (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	60	x 4 =	240
UPL species	0	x 5 =	0
Column Totals:	60 (A)		240 (B)

Prevalence Index = B/A = 4

Hydrophytic Vegetation Indicators:

____ 1. Rapid Test for Hydrophytic Vegetation

____ 2. Dominance Test is >50%.

____ 3. Prevalence Index is ≤3.0[1]

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

____ Problematic Hydrophytic Vegetation (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

Healthy corn crop present in the area.

SOIL

Sampling Point: **S-63**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR 5/3	100	-	-	-	-	FSL	
20-40	10YR 4/2	100	-	-	-	-	FSL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No X	Depth *(inches)*	_____	**Wetland Hydrology Present?**
Water Table Present?	Yes ___	No X	Depth *(inches)*	_____	
Saturation Present? *(includes capillary fringe)*	Yes ___	No X	Depth *(inches)*	_____	___ **Yes** X **No**

Remarks:

No wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/29/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-64**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 4 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **Side Slope** Local Relief *(concave, convex, none)*: **Linear, Linear** Slope (%): **10-15**

Subregion (LRR): **G-Western Great Plains** Lat. **41.816839°** Long: **-103.347502°** Datum: **NAD83**

Soil Map Unit Name: **Tripp very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Area that was marked for disturbance on aerials during "Normal" precip years. No wetland indicators were observed.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Bassia kochia*	30	X	FACU
2. *Xanthium strumarium*	5		FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	35	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 65

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals:	35 (A)		135 (B)

Prevalence Index = B/A = 3.857142857

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 (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

Healthy beet crop in the field at the sample point. This area has more residual vegetation than other spots. Residual vegetation does not meet indicators for hydrophytic vegetation. Possible area of herbicide resistance.

SOIL

Sampling Point: **S-64**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-25	10YR 3/2	100	-	-	-	-	FSL	Rocky
25-40	10YR 4/3	100	-	-	-	-	FSL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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:

Dry rocky soil Top layer has 1-4" pieces of river rock.

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks:

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/29/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-65**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 4 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **Top of Slope** Local Relief *(concave, convex, none)*: **Convex, Convex** Slope (%): **10-15**

Subregion (LRR): **G-Western Great Plains** Lat. **41.817583°** Long: **-103.343650°** Datum: **NAD83**

Soil Map Unit Name: **5903 - Alice fine sandy loam, 6 to 9 percent slopes, eroded** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Area that was marked for disturbance on aerials during "Normal" precip years. No wetland indicators were observed. Dry pivot corner

VEGETATION - Use scientific names of plants.

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

Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

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

Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 100

Dominance Test Worksheet:

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

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 = #DIV/0!

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 (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

Dry pivot corner, No residual vegetation. Beet crops growth is stunted and dry.

SOIL

Sampling Point: **S-65**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-30	10YR 5/3	100	-	-	-	-	FSL	Dry

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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:

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks:

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/29/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-66**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 3 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **terrace/hillslope** Local Relief *(concave, convex, none)*: **Convex, Linear** Slope (%): **2-5**

Subregion (LRR): **G-Western Great Plains** Lat. **41.816664°** Long: **-103.34047°** Datum: **NAD83**

Soil Map Unit Name: **5671 - Yockey silt loam, occasionally flooded** NWI Classification: **PFOA**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____ Is the Sampled Area within a Wetland? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Remarks:

PEMA wetland on the banks of Wild Horse Creek. Sample point is representative of both sides of the channel and both sides of the concrete box culvert. The channel is 10' wide and 3' deep with transparent cool water.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Phalaris arundinacea*	70	X	FACW
2. *Typha latifolia*	20	X	OBL
3. *Ambrosia trifida*	10		FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: *(excluding FAC-)*: 2 (A)

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

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

Prevalence Index Worksheet:

Total % Cover of:	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

X 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 (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Woody vegetation above the elevation of the wetland.

SOIL

Sampling Point: **S-66**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-5	10YR4/3	100	-	-	-	-	SL	
5-20	10YR4/2	98	10YR3/6	5	C		L	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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:

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- X Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- X Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes X	No ___	Depth *(inches)*	6	**Wetland Hydrology Present?**
Water Table Present?	Yes ___	No X	Depth *(inches)*	___	
Saturation Present? *(includes capillary fringe)*	Yes ___	No X	Depth *(inches)*	___	X **Yes** ___ **No**

Remarks:

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/29/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-67**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 3 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **Side Slope** Local Relief *(concave, convex, none)*: **Convex Linear** Slope (%): **100**

Subregion (LRR): **G-Western Great Plains** Lat. **41.816739°** Long: **-103.340688°** Datum: **NAD83**

Soil Map Unit Name: **5671 - Yockey silt loam, occasionally flooded** NWI Classification: **PFOA**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Upland outpoint positioned on slope of bank, above the wetland boundary.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus deltoides*	20	X	FAC
2. *Salix amygdaloides*	10	X	FACW
3.			
4.			
5.			
	30	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1. *Salix exigua*	20	X	FACW
2.			
3.			
4.			
5.			
	20	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Bromus inermis*	60	X	UPL
2. *Bassia kochia*	20	X	FACU
3. *Sisymbrium officinale*	10		NI
4. *Lolium perenne*	10		FACU
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60.00% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	30	x 2 =	60
FAC species	20	x 3 =	60
FACU species	30	x 4 =	120
UPL species	70	x 5 =	350
Column Totals:	150 (A)		590 (B)

Prevalence Index = B/A = 3.933333333

Hydrophytic Vegetation Indicators:

____ 1. Rapid Test for Hydrophytic Vegetation

X 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 (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Meets Dominance Test due to tree stratum and shrub stratum. Herbaceous stratum is dominanted by UPL vegetation.

SOIL Sampling Point: **S-67**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-10	10YR 3/3	100	-	-	-	-	loam	rocky
10-20	10YR 5/3	100	-	-	-	-	FSL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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:

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks:

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/29/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-68**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 3 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **Depression** Local Relief *(concave, convex, none)*: **Concave, Concave** Slope (%): **2-5**

Subregion (LRR): **G-Western Great Plains** Lat. **41.816844°** Long: **-103.340852°** Datum: **NAD83**

Soil Map Unit Name: **5671 - Yockey silt loam, occasionally flooded** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Upland point in previously mapped wetland. No wetland indicators were observed.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1. *Salix exigua*	50	X	FACW
2.			
3.			
4.			
5.			
	50	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Bromus inermis*	70	X	UPL
2. *Lactuca serriola*	10		FAC
3. *Bassia kochia*	10		FACU
4. *Chenopodium album*	10		FACU
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	50	x 2 =	100
FAC species	10	x 3 =	30
FACU species	20	x 4 =	80
UPL species	70	x 5 =	350
Column Totals:	150 (A)		560 (B)

Prevalence Index = B/A = 3.733333333

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 (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

Mixed vegetation does not meet Dominance Test for Hydrophytic vegetation. The Prevalence Index is also above 3.0, which would not meet.

SOIL

Sampling Point: **S-68**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR5/3	100	-	-	-	-	FSL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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:

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks:

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521/ Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/29/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-69**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 10 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **Toeslope** Local Relief *(concave, convex, none)*: **Convex Linear** Slope (%): **2-5**

Subregion (LRR): **G-Western Great Plains** Lat. **41.816318°** Long: **-103.333565°** Datum: **NAD83**

Soil Map Unit Name: **5965 - Jayem fine sandy loam, 0 to 3 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Upland point between ag boundary and canal. Located at the toeslope of the roadside ditch and the toeslope of the canal. Representative of the surrounding landscape.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Bromus inermis*	40	X	UPL
2. *Bassia kochia*	30	X	FACU
3. *Amaranthus retroflexus*	20	X	FACU
4. *Helianthus annuus*	10		FACU
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (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	60	x 4 =	240
UPL species	40	x 5 =	200
Column Totals:	100 (A)		440 (B)

Prevalence Index = B/A = 4.4

Hydrophytic Vegetation Indicators:

____ 1. Rapid Test for Hydrophytic Vegetation

____ 2. Dominance Test is >50%.

____ 3. Prevalence Index is ≤3.0[1]

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

____ Problematic Hydrophytic Vegetation (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

No hydrophytic vegetation indicators were observed.

SOIL

Sampling Point: **S-69**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR 5/3	100	-	-	-	-	FSL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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:

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks:

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-70**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 10 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **Ditch** Local Relief *(concave, convex, none)*: **Concave, Linear** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.816398°** Long: **-103.324198°** Datum: **NAD83**

Soil Map Unit Name: **5901 - Alice fine sandy loam, 0 to 3 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____ Is the Sampled Area within a Wetland? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Remarks: PEMA/C wetland with mixed vegetation in the roadside ditch positioned at the outlet of a culvert that drains beneath L-62A. This connects to a representative wetland on the north side of the highway. The sample point is positioned east of a mis-mapped NWI R5UBFx feature.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Phalaris arundinacea*	84	X	FACW
2. *Bromus inermis*	15		UPL
3. *Helianthus annuus*	1		FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	84	x 2 =	168
FAC species	0	x 3 =	0
FACU species	1	x 4 =	4
UPL species	15	x 5 =	75
Column Totals:	100 (A)		247 (B)

Prevalence Index = B/A = 2.47

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 (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.)*

The Dominance Test and Prevalence Index are met.

SOIL Sampling Point: **S-70**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-8	10YR 3/1	98	10YR 4/6	2	C	M	FSL	
8-16	10YR 3/1	100					FSL	
16-20	10YR 3/2	100					FSL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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: Meets the hydric soil indicator for Redox Dark Surface in the 0-8 inch layer.

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks: Two secondary indicators of wetland hydrology were observed, which meets the minimum requirements for the overall wetland hydrology indicator.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-71**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 11 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **Ditch** Local Relief *(concave, convex, none)*: **Concave, Linear** Slope (%): **2-5**

Subregion (LRR): **G-Western Great Plains** Lat. **41.816385°** Long: **-103.323676°** Datum: **NAD83**

Soil Map Unit Name: **5901 - Alice fine sandy loam, 0 to 3 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Upland outpoint S-70 positioned east of the wetland boundary in the roadside ditch.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Bromus inermis*	98	X	UPL
2. *Helianthus annuus*	1		FACU
3. *Asclepias syriaca*	1		UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (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	1	x 4 =	4
UPL species	99	x 5 =	495
Column Totals:	100 (A)		499 (B)

Prevalence Index = B/A = 4.99

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 (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.)*

No hydrophytic vegetation indicators were observed.

SOIL Sampling Point: **S-71**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR 3/3	100	-	-	-	-	FSL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks: One secondary indicator of wetland hydrology was observed, which does not meet the requirements for the overall wetland hydrology indicator.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-72**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 2 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **Ditch/drainage** Local Relief *(concave, convex, none)*: **Concave, Linear** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.816595°** Long: **-103.319061°** Datum: **NAD83**

Soil Map Unit Name: **1714 - Otero variant very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____ Is the Sampled Area within a Wetland? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Remarks: PEMA/C wetland positioned in ditch/drainage that connects to a larger floodplain wetland feature to the north. The wetland drains to a a representative wetland south of highway through a culvert beneath L-62A. The sample point is positioned east of a mis-mapped NWI R5UBH feature.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Persicaria amphibia*	80	X	OBL
2. *Phalaris arundinacea*	15		FACW
3. *Hordeum jubatum*	5		FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	80	x 1 =	80
FACW species	20	x 2 =	40
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		120 (B)

Prevalence Index = B/A = 1.2

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 (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.)*

The Dominance Test and Prevalence Index are met.

SOIL Sampling Point: **S-72**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-10	10YR 2/1	100	-	-	-	-	SiCL	
10-20	10YR 3/2	100		-	-	-	FSL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- X Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 were determined to be present after completing the Problematic Hydric Soil Procedure (form attached). Hydric soil indicators likely did not form due to continuous saturation and deposition of alluvial sediments in the drainage bottom.

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No X	Depth *(inches)*		**Wetland Hydrology Present?**	
Water Table Present?	Yes X	No ___	Depth *(inches)*	2		
Saturation Present? *(includes capillary fringe)*	Yes X	No ___	Depth *(inches)*	0	X **Yes**	___ **No**

Remarks: Two primary and two secondary indicators of wetland hydrology were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-73**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 2 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **Top of Bank** Local Relief *(concave, convex, none)*: **Convex, Linear** Slope (%): **3-5**

Subregion (LRR): **G-Western Great Plains** Lat. **41.816603°** Long: **-103.319021°** Datum: **NAD83**

Soil Map Unit Name: **1714 - Otero variant very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Upland outpoint for S-72 positioned on the side slope of the roadside ditch. No wetland indicators were observed.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Bromus inermis*	90	X	UPL
2. *Phalaris arundinacea*	10		FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	90	x 5 =	450
Column Totals:	100 (A)		470 (B)

Prevalence Index = B/A = 4.7

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 (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.)*

No hydrophytic vegetation indicators were observed. Mixed vegetation in the roadside ditch.

SOIL

Sampling Point: **S-73**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-16	10YR 3/3	100	-	-	-	-	FSL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

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

Restrictive Layer: *(if observed)*

Type: Dry/compact

Depth *(inches)*: 16

Hydric Soil Present? Yes ___ No X

Remarks: No hydric soil indicators were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks: No wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-74**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 11 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **Ditch/depression** Local Relief *(concave, convex, none)*: **Concave, Linear** Slope (%): **2-4**

Subregion (LRR): **G-Western Great Plains** Lat. **41.816227°** Long: **-103.319674°** Datum: **NAD83**

Soil Map Unit Name: **1714 - Otero variant very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Upland point positioned in ditch/linear depression between the road ditch embankment and the agricultural field with mixed vegetation. No wetland indicators were observed.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1. *Ulmus pumila*	5	X	UPL
2.			
3.			
4.			
5.			
	5 = Total Cover		
Herb Stratum (Plot size: 5ft radius)			
1. *Phalaris arundinacea*	85	X	FACW
2. *Bromus inermis*	10		UPL
3. *Lactuca serriola*	3		FAC
4. *Asclepias syriaca*	2		UPL
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	85	x 2 =	170
FAC species	3	x 3 =	9
FACU species	0	x 4 =	0
UPL species	12	x 5 =	60
Column Totals:	100 (A)		239 (B)

Prevalence Index = B/A = 2.39

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 (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.)*

No hydrophytic vegetation indicators were observed. The Prevalence Index is below 3.0 but was not met due to the lack of hydric soil and wetland hydrology indicators.

SOIL Sampling Point: **S-74**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR 4/3	100	-	-	-	-	FSL	Dry

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks: No wetland hydrology indicators were observed. The sampled area falls within a slight linear depression that drains east toward the drainageway PEMA/C wetland.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-75**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 2 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **Plain** Local Relief *(concave, convex, none)*: **None** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.816671°** Long: **-103.314669°** Datum: **NAD83**

Soil Map Unit Name: **5844 - Mitchell very fine sandy loam, 1 to 3 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No ____

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Upland point positioned in area identified as distubed during a historical aerial photograph review for normal precipitation years. No additional wetland hydrology or hydric soil indicators were observed. Sample point is on the pivot corner.

VEGETATION - Use scientific names of plants.

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

Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

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

Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 100

Dominance Test Worksheet:

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

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 (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.)*

Healthy corn crop is planted in the area. No naturally occuring species were present. No hydrophytic vegetation indicators were observed.

SOIL Sampling Point: **S-75**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0 - 12	10YR 4/3	100	-	-	-	-	FSL	Plow layer
12 - 30	10YR 4/2	100	-	-	-	-	FSL	Compacted Layer
30 - 40	10YR 5/3	100	-	-	-	-	FSL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks:

No wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-76**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 2 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **Stream terrace** Local Relief *(concave, convex, none)*: **Linear, linear** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815918°** Long: **-103.304395°** Datum: **NAD83**

Soil Map Unit Name: **5674 - Yockey fine sandy loam, occasionally flooded** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____ Is the Sampled Area within a Wetland? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Remarks:

PEMA/C wetland on the fringe of an unnamed perennial stream. Sample point is positioned east of a mis-mapped NWI PFOAx feature.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix amygdaloides*	2		FACW
2.			
3.			
4.			
5.			
	2	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1. *Salix exigua*	7	X	FACW
2.			
3.			
4.			
5.			
	7	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Phalaris arundinacea*	80	X	FACW
2. *Glyceria grandis*	10		OBL
3. *Typha latifolia*	10		OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
(excluding FAC-):

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

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

Prevalence Index Worksheet:

Total % Cover of:	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
X 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 (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.)*

The Dominance Test is met.

SOIL

Sampling Point: **S-76**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-14	10YR 4/2	90	10YR 5/6	5	C	M	SiL	
	2.5/N	5						
14-20	10YR 3/2	50	-	-	-	-	SiL	
	2.5/N	50						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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: Meets the hydric soil indicator for Depleted Matrix in the 0-14 inch layer.

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- X Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No X	Depth *(inches)*		**Wetland Hydrology Present?**	
Water Table Present?	Yes X	No ___	Depth *(inches)*	8		
Saturation Present? *(includes capillary fringe)*	Yes X	No ___	Depth *(inches)*	0	X **Yes**	___ **No**

Remarks: Two primary and three secondary indicators of wetland hydrology were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-77**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 2 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **Slope** Local Relief *(concave, convex, none)*: **Convex, Linear** Slope (%): **45-50**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815902°** Long: **-103.304334°** Datum: **NAD83**

Soil Map Unit Name: **5674 - Yockey fine sandy loam, occasionally flooded** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Upland outpoint for S-76 positioned on the bank slope above the fringe wetland. No wetland indicators were observed.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1. *Ribes aureum*	5	X	FACU
2. *Salix exigua*	5	X	FACW
3. *Ulmus americana*	2		FAC
4.			
5.			
	12	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Bromus inermis*	87	X	UPL
2. *Phalaris arundinacea*	8		FACW
3. *Asclepias syriaca*	5		UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1. *Parthenocissus quinquefolia*	5	X	FACU
2.			
	5	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	13	x 2 =	26
FAC species	2	x 3 =	6
FACU species	5	x 4 =	20
UPL species	92	x 5 =	460
Column Totals:	112 (A)		512 (B)

Prevalence Index = B/A = 4.571428571

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 (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.)*

No hydrophytic vegetation indicators were observed.

SOIL Sampling Point: **S-77**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR 4/3	100	-	-	-	-	FSL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks: No wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-78**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 1 T. 21N R. 52W**

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

Subregion (LRR): **G-Western Great Plains** Lat. **41.816312°** Long: **-103.303204°** Datum: **NAD83**

Soil Map Unit Name: **Yockey silt loam, occasionally flooded** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____ Is the Sampled Area within a Wetland? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Remarks:

PEMA/C wetland positioned in depressional area surrounded by lightly wooded floodplain.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5ft radius)			
1. *Persicaria maculosa*	60	X	FACW
2. *Hordeum jubatum*	25	X	FACW
3. *Rumex crispus*	10		FAC
4. *Schoenoplectus tabernaemontani*	5		OBL
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A) *(excluding FAC-)*:

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

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

Prevalence Index Worksheet:

Total % Cover of:	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

X 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 (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.)*

The Dominance Test is met.

SOIL Sampling Point: **S-78**

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
0-2	10YR 2/1	-	-	-	-	-	Detritus	
2-20	10YR 5/1	98	7.5YR 4/6	2	C	PL	SICL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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: Meets the hydric soil indicator for Depleted Matrix in the 2-20 inch layer.

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No X	Depth *(inches)*	___	**Wetland Hydrology Present?**
Water Table Present?	Yes ___	No X	Depth *(inches)*	___	
Saturation Present? *(includes capillary fringe)*	Yes X	No ___	Depth *(inches)*	4	X **Yes** ___ **No**

Remarks: Two secondary indicators of wetland hydrology were observed, which meets the minimum requirements for the overall wetland hydrology indicator. The Saturation (A3) indicator not met due to the lack of an observed water table within 20 inches of the soil surface.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-79**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 1 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **Ditch** Local Relief *(concave, convex, none)*: **Concave, Linear** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.816272°** Long: **-103.303060°** Datum: **NAD83**

Soil Map Unit Name: **5671 - Yockey silt loam, occasionally flooded** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Upland outpoint for S-78 postioned within a ditch to the southeast of the wetland boundary.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Salix exigua*	30	X	FAC
2. *Bromus inermis*	20	X	UPL
3. *Elymus canadensis*	20	X	FACU
4. *Sparina pectinata*	15		FACW
5. *Rumex crispus*	10		FACW
6. *Asclepias syriaca*	5		UPL
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:	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 (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.)*

The Dominance Test is met.

SOIL

Sampling Point: **S-79**

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

Depth (inches)	Matrix		Redox Features					
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 3/2	90					SiL	
	10YR 5/3	10						
5-15	10YR 3/2	85					SiCL	
	10YR 5/3	15						
15-20	10YR 4/2	100					SiCL	Saturated

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No X	Depth *(inches)*		**Wetland Hydrology Present?**	
Water Table Present?	Yes ___	No X	Depth *(inches)*			
Saturation Present? *(includes capillary fringe)*	Yes X	No ___	Depth *(inches)*	15	**Yes** ___	**No** X

Remarks: One secondary indicator of wetland hydrology was observed, which does not meet the minimum requirements for the overall wetland hydrology indicator. The Saturation (A3) indicator is not met due to the lack of an observed water table within 20 inches of the soil surface.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-80**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 1 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **Ditch** Local Relief *(concave, convex, none)*: **Concave, Linear** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815941°** Long: **-103.289898°** Datum: **NAD83**

Soil Map Unit Name: **5844 - Mitchell very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes X No ____

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

Remarks: Upland outpoint for S-81 positioned in an area of the roadside ditch with upland vegetation. The entire roadside ditch was inundated by runoff from the gravity-irrigated row-crop field to the north.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Thinopyrum intermedium*	70	X	NI
2. *Bromus inermis*	10		UPL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	80	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 20

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (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	0	x 4 =	0
UPL species	80	x 5 =	400
Column Totals:	80 (A)		400 (B)

Prevalence Index = B/A = 5

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 (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.)*

No hydrophytic vegetation indicators were observed. Vegetation with no indicator (NI) is considered UPL species.

SOIL Sampling Point: **S-80**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-9	10YR 3/2	100					FSL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

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

Restrictive Layer: *(if observed)*

Type: Compacted Soil

Depth *(inches)*: 9

Hydric Soil Present? Yes ___ No X

Remarks: No hydric soil indicators met.

HYDROLOGY

Wetland Hydrology Indicators:

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

- X 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes	X	No ___	Depth *(inches)*	7	**Wetland Hydrology Present?**
Water Table Present?	Yes	___	No X	Depth *(inches)*	___	
Saturation Present? *(includes capillary fringe)*	Yes	___	No X	Depth *(inches)*	___	X **Yes** ___ **No**

Remarks: Approximately 7 inches of surface water was present in the roadside ditch. The surface water was observed flowing into the ditch from the gravity-irrigated field to the north. Water table and saturation unable to be determined due to surface water.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-81**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 1 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **Ditch** Local Relief *(concave, convex, none)*: **Concave, Linear** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815937°** Long: **-103.289429°** Datum: **NAD83**

Soil Map Unit Name: **5844 - Mitchell very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____ Is the Sampled Area within a Wetland? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Remarks: PEMA/C wetland positioned in the roadside ditch. The entire roadside ditch was inundated by runoff from the gravity-irrigated row-crop field to the north.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1. *Ulmus americana*	1		FAC
2.			
3.			
4.			
5.			
	1	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Phalaris arundinacea*	60	X	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	60	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 39

Dominance Test Worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	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

X 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 (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.)*

The Dominance Test is met.

SOIL Sampling Point: **S-81**

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
0-3	10YR 3/2						FSL	
3-10	10YR 4/2	95	10YR 4/6	5	C	M	SIL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

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

Restrictive Layer: *(if observed)*

Type: Compacted

Depth *(inches)*: 10

Hydric Soil Present? Yes X No ___

Remarks: Meets the indicator for Depleted Matrix in the 2-10 inch layer.

HYDROLOGY

Wetland Hydrology Indicators:

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

- X 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes X	No ___	Depth *(inches)*	10	**Wetland Hydrology Present?**
Water Table Present?	Yes ___	No X	Depth *(inches)*	___	
Saturation Present? *(includes capillary fringe)*	Yes ___	No X	Depth *(inches)*	___	X **Yes** ___ **No**

Remarks: Approximately 10 inches of surface water was present in the roadside ditch. The surface water was observed flowing into the ditch from the gravity-irrigated field to the north. Water table and saturation unable to be determined due to surface water.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-82**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 1 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **Ditch** Local Relief *(concave, convex, none)*: **Concave, Linear** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815895°** Long: **-103.286166°** Datum: **NAD83**

Soil Map Unit Name: **1708 - Otero variant very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes X No ____

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

Remarks: Upland outpoint for S-83 positioned in an area of the roadside ditch with upland vegetation. The entire roadside ditch was inundated by runoff from the gravity-irrigated row-crop field to the northwest. Area is not frequently inundated to the degree observed at the time of the investigation as indicated by the dominance of upland vegetation. A soil sample could not be collected due to the inundated condition.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Thinopyrum intermedium*	95	X	NI
2. *Phalaris arundinacea*	5		FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	95	x 5 =	475
Column Totals:	100 (A)		485 (B)

Prevalence Index = B/A = 4.85

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 (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.)*

No hydrophytic vegetation indicators were observed.

SOIL Sampling Point: **S-82**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR 3/2	100					FSL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators were observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- X 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes X	No ___	Depth *(inches)*	3	**Wetland Hydrology Present?**	
Water Table Present?	Yes ___	No X	Depth *(inches)*	___		
Saturation Present? *(includes capillary fringe)*	Yes ___	No X	Depth *(inches)*	___	X **Yes**	___ **No**

Remarks: Approximately 3 inches of surface water was present in the roadside ditch. The surface water was observed flowing into the ditch from the gravity-irrigated field to the northwest. Water table and saturation unable to be determined due to surface water.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-83**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 1 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **Ditch** Local Relief *(concave, convex, none)*: **Concave, Linear** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815924°** Long: **-103.287089°** Datum: **NAD83**

Soil Map Unit Name: **1708 - Otero variant very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____ Is the Sampled Area within a Wetland? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Remarks: PEMA/C wetland positioned in the roadside ditch. The entire roadside ditch was inundated by runoff from the gravity-irrigated row-crop field to the northwest. Sample point is positioned east of a mis-mapped NWI R4SBC feature.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Typha latifolia*	70	X	OBL
2. *Spartina pectinata*	10		FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	80	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 20

Dominance Test Worksheet:

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

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:

X 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 (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.)*

Meets the Rapid Test for hydrophytic vegetation.

SOIL Sampling Point: **S-83**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-6	10YR 3/2						FSL	
6-14	10YR 4/2	97	10YR 4/6	3	C	M	SIL	
14-20	10YR 4/2	100					SIL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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: Meets the indicator for Depleted Matrix in the 6-14 inch layer. A soil sample was not be collected, soils were assumed hydric due to the dominance of obligate vegetation and the presence of surface water.

HYDROLOGY

Wetland Hydrology Indicators:

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

- X 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes X	No ___	Depth *(inches)*	3	**Wetland Hydrology Present?**	
Water Table Present?	Yes ___	No X	Depth *(inches)*	___		
Saturation Present? *(includes capillary fringe)*	Yes ___	No X	Depth *(inches)*	___	X **Yes**	___ **No**

Remarks: Approximately 3 inches of surface water was present in the roadside ditch. The surface water was observed flowing into the ditch from the gravity-irrigated field to the northwest. Water table and saturation unable to be determined due to surface water.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-84**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 7 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **Terrace** Local Relief *(concave, convex, none)*: **None** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815419°** Long: **-103.284399°** Datum: **NAD83**

Soil Map Unit Name: **Otero variant very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____ Is the Sampled Area within a Wetland? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Remarks: PEMA/C wetland positioned on terrace alongside small, unnamed intermittent channel. The stream is fed by irrigation water that drains through an ephemeral irrigation ditch and roadside ditches alongside the roads to the north and northeast before draining south into the stream through a culvert beneath L-62A. Representative PEMA wetlands are present in the roadside ditch to the north on either side of County Road 79.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Phalaris arundinacea*	100	X	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	100	x 2 =	200
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		200 (B)

Prevalence Index = B/A = 2

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 (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.)*

The Dominance Test and Prevalence Index are met.

SOIL Sampling Point: **S-84**

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 %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-20	10YR 4/2	95					Silt Loam	
	2.5/N	5						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- X Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 are considered present after applying the Problematic Hydric Soil Procedure (form attached). Concentrations likely did not develop due to persistent inundation of the soils during the growing season, therefore the soil did not meet the standard Depleted M\atrix (F3) indicator.

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- X Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No X	Depth *(inches)*		**Wetland Hydrology Present?**	
Water Table Present?	Yes X	No ___	Depth *(inches)*	8		
Saturation Present? *(includes capillary fringe)*	Yes X	No ___	Depth *(inches)*	0	X **Yes**	___ **No**

Remarks: Two primary and two secondary indicators of wetland hydrology were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-85**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 7 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **Bank slope** Local Relief *(concave, convex, none)*: **Convex, Linear** Slope (%): **35-45**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815438°** Long: **-103.284439°** Datum: **NAD83**

Soil Map Unit Name: **1708 - Otero variant very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Upland outpoint for S-84 positioned on the bank slope above the fringe PEMA/C wetland. No wetland indicators were observed.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Lolium perenne*	30	X	FACU
2. *Cirsium arvense*	15	X	FACU
3. *Asclepias syriaca*	5		UPL
4. *Chenopodium album*	5		FACU
5. *Helianthus annuus*	2		FACU
6.			
7.			
8.			
9.			
10.			
	57	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 43

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (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	52	x 4 =	208
UPL species	5	x 5 =	25
Column Totals:	57 (A)		233 (B)

Prevalence Index = B/A = 4.087719298

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 (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.)*

No hydrophytic vegetation indicators were observed.

SOIL

Sampling Point: **S-85**

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

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

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

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

Restrictive Layer: *(if observed)*

Type: Dry/compact

Depth *(inches)*: 10

Hydric Soil Present? Yes ___ No X

Remarks: No hydric soil indicators were observed. A restrictive dry/compact layer was encountered at 10 inches.

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks: No wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-86**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 7 T. 21N R. 52W**

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

Subregion (LRR): **G-Western Great Plains** Lat. **41.814562°** Long: **-103.284435°** Datum: **NAD83**

Soil Map Unit Name: **1708 - Otero variant very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____ Is the Sampled Area within a Wetland? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Remarks:

PFOA wetland on stream terrace alongside incised channel. The PFOA wetland is positioned along the same drainage feature as the PEMA/C wetland representative of S-84. The channel was more defined through the PFOA wetland.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix nigra*	60	X	FACW
2.			
3.			
4.			
5.			
	60	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Phalaris arundinacea*	100	X	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1. *Parthenocissus quinquefolia*	1		FACU
2.			
	1	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
(excluding FAC-):

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

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

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	160	x 2 =	320
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	160 (A)		320 (B)

Prevalence Index = B/A = 2

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 (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.)*

The Dominance Test and Prevalence Index are met.

SOIL

Sampling Point: **S-86**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR 4/2	95	-	-	-	-	Silt Loam	
	10G 2.5/1	5						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- X Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 are considered present after applying the Problematic Hydric Soil Procedure (form attached). Concentrations likely did not develop due to persistent inundation of the soils during the growing season, therefore the soil did not meet the standard Depleted M\atrix (F3) indicator.

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)
- X Water Marks (B1)
- X Sediment Deposits (B2)
- X Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- X Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No X	Depth *(inches)*		**Wetland Hydrology Present?**	
Water Table Present?	Yes X	No ___	Depth *(inches)*	6		
Saturation Present? *(includes capillary fringe)*	Yes X	No ___	Depth *(inches)*	0	X **Yes**	___ **No**

Remarks: Five primary and three secondary indicators of wetland hydrology were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-87**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 12 T. 21N R. 52W**

Landform *(hillslope, terrace, etc.)*: **Field/flat** Local Relief *(concave, convex, none)*: **None** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.814482°** Long: **-103.284888°** Datum: **NAD83**

Soil Map Unit Name: **1708 - Otero variant very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Upland point positioned in area of meadow dominated by hydrophytic vegetation. The overall wetland hydrology indicator was not met.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Phalaris arundinacea*	100	X	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	100	x 2 =	200
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		200 (B)

Prevalence Index = B/A = 2

Hydrophytic Vegetation Indicators:

____ 1. Rapid Test for Hydrophytic Vegetation

X 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 (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.)*

The Dominance Test is met. The Prevalence Index is not met due to not meeting the overall wetland hydrology indicator.

SOIL

Sampling Point: **S-87**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-12	10YR 4/3	100					FSL	
12-20	10YR 4/2	95	5YR 3/4	5	C	M	SIL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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: Possible relic soil from out of bank flooding, redox present in 12-20 inch layer, no hydric soil indicator met.

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks: One secondary indicator of wetland hydrology was observed, which does not meet the minimum requirements for the overall wetland hydrology indicator.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-88**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 6 T. 21N R. 51W**

Landform *(hillslope, terrace, etc.)*: **Ditch/drainage** Local Relief *(concave, convex, none)*: **Concave** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815716°** Long: **-103.280645°** Datum: **NAD83**

Soil Map Unit Name: **1708 - Otero variant very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____ Is the Sampled Area within a Wetland? Yes ____ No X

Wetland Hydrology Present? Yes X No ____

Remarks:

PEMA/C wetland positioned in a ditch/drainage that continues south through a culvert beneath L-62A.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Phalaris arundinacea*	85	X	FACW
2. *Cirsium arvense*	10		FACU
3. *Rumex crispus*	5		FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	85	x 2 =	170
FAC species	5	x 3 =	15
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	100 (A)		225 (B)

Prevalence Index = B/A = 2.25

Hydrophytic Vegetation Indicators:

____ 1. Rapid Test for Hydrophytic Vegetation

X 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 (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.)*

The Dominance Test is met. The Prevalence Index is not met due to the lack of a hydric soil indicator.

SOIL

Sampling Point: **S-88**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-8	10YR 3/2	100					FSL	
8-20	10YR 4/3	100					FSL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- X Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 are considered present after applying the Problematic Hydric Soil Procedure (form attached). Redoximorphic characteristics sufficient to meet standard indicators likely did not develop due to an unspecified reason unable to be determined in the field. Section 4b was marked as 'other'.

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)
- X Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks: One primary and two secondary indicators of wetland hydrology were observed, which meets the minimum requirements for the overall wetland hydrology indicator.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-88.5**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 7 T. 21N R. 51W**

Landform *(hillslope, terrace, etc.)*: **Ditch** Local Relief *(concave, convex, none)*: **Concave** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815399°** Long: **-103.279737°** Datum: **NAD83**

Soil Map Unit Name: **1708 - Otero variant very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes X No ____

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

Remarks:

Upland outpoint for S-88 and S-89 positioned in a ditch near a culvert outlet that drains to the west.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Bassia kochia*	60	X	FACU
2. *Bromus tectorum*	15		NI
3. *Helianthus annuus*	7		FACU
4. *Rumex crispus*	7		FAC
5. *Cirsium arvense*	5		FACU
6.			
7.			
8.			
9.			
10.			
	94	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 6

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	7	x 3 =	21
FACU species	72	x 4 =	288
UPL species	15	x 5 =	75
Column Totals:	94 (A)		384 (B)

Prevalence Index = B/A = 4.085106383

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 (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.)*

No hydrophytic vegetation indicators were observed.

SOIL

Sampling Point: **S-88.5**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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:

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No X	Depth *(inches)*	_____	**Wetland Hydrology Present?**
Water Table Present?	Yes ___	No X	Depth *(inches)*	_____	
Saturation Present? *(includes capillary fringe)*	Yes ___	No X	Depth *(inches)*	_____	___ **Yes** ___ **No**

Remarks: No wetland hydrology indicators at sample point.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/27/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-89**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 7 T. 21N R. 51W**

Landform *(hillslope, terrace, etc.)*: **Ditch/drainage** Local Relief *(concave, convex, none)*: **Concave, Linear** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815401°** Long: **-103.280637°** Datum: **NAD83**

Soil Map Unit Name: **1708 - Otero variant very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____ Is the Sampled Area within a Wetland? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Remarks:

PEMA/C wetland positioned in a ditch/drainage extending south from a culvert beneath L-62A. The PEMA/C wetland receives drainage from the north through the culvert.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Persicaria amphibia*	60	X	OBL
2. *Phalaris arundinacea*	10		FACW
3. *Ambrosia trifida*	5		FAC
4. *Acer saccharinum*	2		FAC
5.			
6.			
7.			
8.			
9.			
10.			
	77	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 33

Dominance Test Worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	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

X 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 (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.)*

The Dominance Test is met.

SOIL Sampling Point: **S-89**

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 %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-8	10YR 3/2	80	-	-	-	-	Silt Loam	
	10Y 2.5/1	20						
8-20	10YR 3/2	95	-	-	-	-	Silt Loam	
	10Y 2.5/1	5						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- X Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 are considered present after applying the Problematic Hydric Soil Procedure (form attached). Redoximorphic characteristics sufficient to meet standard indicators likely did not develop due to an unspecified reason unable to be determined in the field. Section 4b was marked as 'other'.

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)
- X Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- X Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks: One primary and three secondary indicators of wetland hydrology were observed, which meets the requirements for the overall wetland hydrology indicator.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-90**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 5 T. 21N R. 51W**

Landform *(hillslope, terrace, etc.)*: **Ditch** Local Relief *(concave, convex, none)*: **Concave** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.816055°** Long: **-103.255262°** Datum: **NAD83**

Soil Map Unit Name: **Mitchell very fine sandy loam, 1 to 3 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Upland point positioned in an area previously delineated as wetland. The point was positioned in the lowest area of the roadside ditch that had mixed vegetation. No wetland indicators were observed. The sample point is positioned west of a mis-mapped NWI R5UBFx feature.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1. *Salix amygdaloides*	5	X	FACW
2.			
3.			
4.			
5.			
	5	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Bromus inermis*	75	X	UPL
2. *Phalaris arundinacea*	15		FACW
3. *Salix exigua*	1		FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	91	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 8

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	17	x 2 =	34
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	75	x 5 =	375
Column Totals:	92 (A)		409 (B)

Prevalence Index = B/A = 4.445652174

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 (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.)*

No hydrophytic vegetation indicators were observed.

SOIL

Sampling Point: **S-90**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR 4/3	95	-	-	-	-	FSL	
	10YR 3/2	5						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks: One secondary indicator of wetland hydrology was observed, which does not meet the minimum requirements for the overall wetland hydrology indicator.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-91**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 5 T. 21N R. 51W**

Landform *(hillslope, terrace, etc.)*: **Ditch** Local Relief *(concave, convex, none)*: **Concave, Linear** Slope (%): **10-15**

Subregion (LRR): **G-Western Great Plains** Lat. **41.816125°** Long: **-103.248590°** Datum: **NAD83**

Soil Map Unit Name: **5844 - Mitchell very fine sandy loam, 1 to 3 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Upland point positioned in the roadside ditch north of a culvert that runs beneath L-62A.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Phalaris arundinacea*	25	X	FACW
2. *Bassia kochia*	25	X	FACU
3. *Bromus inermis*	15		UPL
4. *Oenothera biennis*	15		FACU
5. *Lactuca serriola*	7		FAC
6. *Thinopyrum intermedium*	6		UPL
7. *Ambrosia trifida*	3		FAC
8. *Hordeum jubatum*	3		FACW
9. *Helianthus annuus*	1		FACU
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	28	x 2 =	56
FAC species	10	x 3 =	30
FACU species	41	x 4 =	164
UPL species	21	x 5 =	105
Column Totals:	100 (A)		355 (B)

Prevalence Index = B/A = 3.55

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 (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.)*

No hydrophytic vegetation indicators were observed.

SOIL Sampling Point: **S-91**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR 4/3	60	-	-	-	-	FSL	
	10YR 3/2	40						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks: No wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-92**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 8 T. 21N R. 51W**

Landform *(hillslope, terrace, etc.)*: **Plain** Local Relief *(concave, convex, none)*: **None** Slope (%): **0-1**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815684°** Long: **-103.248218°** Datum: **NAD83**

Soil Map Unit Name: **1708 - Otero variant very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes X No ____

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

Remarks:

Upland point positioned in an area identified as being a wet signature in the aerial photograph review. Hydric soils and hydrophytic vegetation were not observed. The field was slightly disturbed by ag practices with a small amount of planted beets and weedy species.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Bassia kochia*	15	X	FACU
2. *Chamaecrista fasciculata*	15	X	FACU
3. *Chenopodium album*	10		FACU
4. *Amaranthus retroflexus*	5		FACU
5.			
6.			
7.			
8.			
9.			
10.			
	45	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 40

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (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	45	x 4 =	180
UPL species		x 5 =	0
Column Totals:	45 (A)		180 (B)

Prevalence Index = B/A = 4

Hydrophytic Vegetation Indicators:

____ 1. Rapid Test for Hydrophytic Vegetation

____ 2. Dominance Test is >50%.

____ 3. Prevalence Index is ≤3.0[1]

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

____ Problematic Hydrophytic Vegetation (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.)*

No hydrophytic vegetation indicators were observed. Beta vulgaris was planted in the surrounding field and present within the sample plot at approximately 15% cover.

SOIL Sampling Point: **S-92**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-18	10YR 3/3	100	-	-	-	-	FSL	
18-40	10YR 4/4	99	10YR 3/6	1	C	M	FSL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks: No hydrolgy indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-93**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 5 T. 21N R. 51W**

Landform *(hillslope, terrace, etc.)*: **Plain** Local Relief *(concave, convex, none)*: **None** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.816238°** Long: **-103.247227°** Datum: **NAD83**

Soil Map Unit Name: **1708 - Otero variant very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks: Upland point positioned in an area identified as a wet signature in the aerial photograph review. Hydric soils, additional wetland hydrology indicators, and hydrophytic vegetation indicators were not observed. The field was recently tilled and planted with only a small amount of vegetation present that consisted of weedy species.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Chenopodium album*	2		FACU
2. *Lolium perenne*	2		FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	4	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	
% Bare Ground in Herb Stratum 96			

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (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	4	x 4 =	16
UPL species	0	x 5 =	0
Column Totals:	4 (A)		16 (B)

Prevalence Index = B/A = 4

Hydrophytic Vegetation Indicators:

____ 1. Rapid Test for Hydrophytic Vegetation

____ 2. Dominance Test is >50%.

____ 3. Prevalence Index is ≤3.0[1]

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

____ Problematic Hydrophytic Vegetation (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.)*

No hydrophytic vegetation indicators were observed.

SOIL Sampling Point: **S-93**

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

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

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

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

Restrictive Layer: *(if observed)*

Type: Compaction

Depth *(inches)*: 3

Hydric Soil Present? Yes ___ No X

Remarks: No hydric soil indicators were observed. Compacted soil layer in ag. field likely due to tillage.

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks:

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-94**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 9 T. 21N R. 51W**

Landform *(hillslope, terrace, etc.)*: **Channel bank/terrace** Local Relief *(concave, convex, none)*: **Concave** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815920°** Long: **-103.237400°** Datum: **NAD83**

Soil Map Unit Name: **1034 - Glenberg very fine sandy loam, 0 to 2 percent slopes** NWI Classification: **PSSA**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

Upland point positioned on the bank/terrace alongside West Water Creek. Sample point is positioned within a mis-mapped NWI PSSA feature.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Phalaris arundinacea*	60	X	FACW
2. *Bromus inermis*	20	X	UPL
3. *Salix exigua*	10		FAC
4. *Cirsium arvense*	1		FACU
5. *Helianthus annuus*	1		FACU
6.			
7.			
8.			
9.			
10.			
	92	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 8

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	60	x 2 =	120
FAC species	10	x 3 =	30
FACU species	2	x 4 =	8
UPL species	20	x 5 =	100
Column Totals:	92 (A)		258 (B)

Prevalence Index = B/A = 2.804347826

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 (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.)*

The prevalence index was under 3.0, but was not met due to a lack of hydric soil indicator.

SOIL Sampling Point: **S-94**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR 3/2	100	-	-	-	-	GRSiL	Rocks/gravel intermixed

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators were observed. Soil did not react with alpha alpha dipyridyl.

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

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

Remarks: Only one secondary wetland hydrology indicator was observed, which does not meet the overall wetland hydrology indicator.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-95**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 4 T. 21N R. 51W**

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

Subregion (LRR): **G-Western Great Plains** Lat. **41.816414°** Long: **-103.239213°** Datum: **NAD83**

Soil Map Unit Name: **1034 - Glenberg very fine sandy loam, 0 to 2 percent slopes** NWI Classification: **None**

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____ Is the Sampled Area within a Wetland? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Remarks: PEMA/C wetland positioned in slight depression within cattle pasture. Vegetation was largely grazed down leaving much of the soil surface bare. A small amount of surface water was present pooled in the lowest area of the depression. The delineated wetland overlaps NWI PEM1C and PFOA features. Sample point is positioned west of the mis-mapped NWI PEM1C feature.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Persicaria amphibia*	25	X	OBL
2. *Polygonum aviculare*	5		FACU
3. *Hordeum jubatum*	5		FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	35	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 67

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: *(excluding FAC-)*: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	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

X 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 (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.)*

The Dominance Test is met. Bare ground in sample plot due to overgrazing and trampling by cattle, as well as periodic innundation.

SOIL Sampling Point: **S-95**

Profile Description: *(Describe to the depth needed to document the indicator or confirm the absence of indicators.)*

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-14	10YR 3/2	100					SiL	
14-30	10YR 4/2	90					SIL	
	10YR 3/2	10						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- X Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil is considered present after applying the Problematic Hydric Soil Procedure (form attached). Redoximorphic characteristics sufficient to meet standard indicators did not form due to persistent saturation during the growing season in most years.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators *(minimum of one is required; check all that apply)*

- X 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes X	No ___	Depth *(inches)*	0.5	**Wetland Hydrology Present?**
Water Table Present?	Yes ___	No X	Depth *(inches)*	___	
Saturation Present? *(includes capillary fringe)*	Yes ___	No X	Depth *(inches)*	___	X **Yes** ___ **No**

Remarks: One primary and two secondary indicators of wetland hydrology were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-96**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 4 T. 21N R. 51W**

Landform *(hillslope, terrace, etc.)*: **Hillslope** Local Relief *(concave, convex, none)*: **Convex Linear** Slope (%): **10-20**

Subregion (LRR): **G-Western Great Plains** Lat. **41.816483°** Long: **-103.239050°** Datum: **NAD83**

Soil Map Unit Name: **1034 - Glenberg very fine sandy loam, 0 to 2 percent slopes** NWI Classification: **PFOA**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No ____ *(If no, explain in Remarks)*

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks: Upland outpoint for S-95 positioned on slight hillslope east of the wetland boundary. The mixed vegetation met the Dominance Test. Hydric soil and wetland hydrology indicators were not observed. Sample points is positioned within a mis-mapped NWI PFOA feature.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Echinochloa crus-galli*	20	X	FAC
2. *Melilotus officinalis*	4		FACU
3. *Ambrosia artemisiifolia*	2		FACU
4. *Chenopodium album*	2		FACU
5.			
6.			
7.			
8.			
9.			
10.			
	28	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 72

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
(excluding FAC-):

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	20	x 3 =	60
FACU species	8	x 4 =	32
UPL species	0	x 5 =	0
Column Totals:	28 (A)		92 (B)

Prevalence Index = B/A = 3.285714286

Hydrophytic Vegetation Indicators:

____ 1. Rapid Test for Hydrophytic Vegetation
X 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 (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.)*

The Dominance Test is met. Bare ground in sample plot due to overgrazing and trampling by cattle, as well as periodic innundation.

SOIL Sampling Point: **S-96**

Profile Description: *(Describe to the depth needed to document the indicator or confirm the absence of indicators.)*

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-12	10YR 3/2	100					SiL	
12-20	10YR 4/3	100					SiCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No X	Depth *(inches)*	___	**Wetland Hydrology Present?**
Water Table Present?	Yes ___	No X	Depth *(inches)*	___	
Saturation Present? *(includes capillary fringe)*	Yes ___	No X	Depth *(inches)*	___	___ **Yes** X **No**

Remarks: No wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-97**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 9 T. 21N R. 51W**

Landform *(hillslope, terrace, etc.)*: **Ditch** Local Relief *(concave, convex, none)*: **Concave, Linear** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815946°** Long: **-103.235834°** Datum: **NAD83**

Soil Map Unit Name: **1034 - Otero very fine sandy loam, 0 to 3 percent slopes** NWI Classification: **None**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No ____ *(If no, explain in Remarks)*

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks:

Upland sample point positioned in the roadside ditch at the outlet of a culvert. No wetland indicators were observed.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Bromus tectorum*	85	X	UPL
2. *Lolium perenne*	5		FACU
3. *Festuca perennis*	5		UPL
4. *Oenothera biennis*	3		FACU
5. *Physalis longifolia*	3		UPL
6. *Chenopodium album*	2		FACU
7. *Helianthus annuus*	1		FACU
8.			
9.			
10.			
	104	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: *(excluding FAC-)*: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (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	11	x 4 =	44
UPL species	93	x 5 =	465
Column Totals:	104 (A)		509 (B)

Prevalence Index = B/A = 4.89

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 (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.)*

No hydrophytic vegetation indicators were observed.

SOIL

Sampling Point: **S-97**

Profile Description: *(Describe to the depth needed to document the indicator or confirm the absence of indicators.)*

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-7	10YR 4/3	100	-	-	-	-	FSL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer: *(if observed)*

Type: Rock

Depth *(inches)*: 7

Hydric Soil Present? Yes X No ___

Remarks: No hydric soil indicators were observed. A restrictive rock layer was encountered at 7 inches.

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No X	Depth *(inches)*	___	**Wetland Hydrology Present?**
Water Table Present?	Yes ___	No X	Depth *(inches)*	___	
Saturation Present? *(includes capillary fringe)*	Yes ___	No X	Depth *(inches)*	___	___ **Yes** X **No**

Remarks: No wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-98**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 9 T. 21N R. 51W**

Landform *(hillslope, terrace, etc.)*: **Ditch** Local Relief *(concave, convex, none)*: **Concave, Linear** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815944°** Long: **-103.232199°** Datum: **NAD83**

Soil Map Unit Name: **1708 - Otero variant very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **None**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No ____ *(If no, explain in Remarks)*

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks:

Upland point positioned near a culvert inlet in the roadside ditch. The area receives drainage from the nearby intermittent irrigation ditch.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Phalaris arundinacea*	40	X	FACW
2. *Bromus inermis*	40	X	UPL
3. *Helianthus annuus*	8		FACU
4. *Asclepias syriaca*	6		UPL
5. *Bassia kochia*	6		FACU
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: *(excluding FAC-)*: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	40	x 2 =	80
FAC species	0	x 3 =	0
FACU species	14	x 4 =	56
UPL species	46	x 5 =	230
Column Totals:	100 (A)		366 (B)

Prevalence Index = B/A = 3.66

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 (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.)*

No hydrophytic vegetation indicators were observed.

SOIL

Sampling Point: **S-98**

Profile Description: *(Describe to the depth needed to document the indicator or confirm the absence of indicators.)*

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR 3/2	100	-	-	-	-	FSL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No X	Depth *(inches)*		**Wetland Hydrology Present?**
Water Table Present?	Yes ___	No X	Depth *(inches)*		
Saturation Present? *(includes capillary fringe)*	Yes ___	No X	Depth *(inches)*		___ **Yes** X **No**

Remarks: One secondary hydrology indicator does not meet the overall hydrology indicator.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-99**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 3 T. 21N R. 51W**

Landform *(hillslope, terrace, etc.)*: **Ditch/depression** Local Relief *(concave, convex, none)*: **Concave, Concave** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.816356°** Long: **-103.222767°** Datum: **NAD83**

Soil Map Unit Name: **1361 - Bridget very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **None**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No ____ *(If no, explain in Remarks)*

Are Vegetation ____, Soil ____, or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

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 X No ____

Hydric Soil Present? Yes X No ____ Is the Sampled Area within a Wetland? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Remarks:

PEMA/C wetland positioned between the Tri-State Canal and an irrigation reuse pit. The wetland receives drainage from overflow sourced from the irrigation reuse pit to the east. The wetland was inundated with 3-8 inches of standing/slow-flowing surface water.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Typha latifolia*	40	X	OBL
2. *Eleocharis acicularis*	40	X	OBL
3. *Cirsium arvense*	10		FACU
4. *Persicaria amphibia*	7		OBL
5. *Helianthus annuus*	3		FACU
6. *Rumex crispus*	1		FAC
7. *Bromus inermis*	1		UPL
8. *Hordeum jubatum*	1		FACW
9.			
10.			
	103	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: ____ (A)
(excluding FAC-):

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:

X 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 (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.)*

The Rapid Test for hydrophytic vegetation is met due to the dominance of OBL/FACW vegetation.

SOIL Sampling Point: **S-99**

Profile Description: *(Describe to the depth needed to document the indicator or confirm the absence of indicators.)*

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-6	10YR 3/2	100					FSL	
6-12	10YR 5/1	100					SIL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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: Meets Depleted Matrix in the 6-12 inch layer.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators *(minimum of one is required; check all that apply)*

- X 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes X	No ___	Depth *(inches)*	3-8	**Wetland Hydrology Present?**
Water Table Present?	Yes ___	No X	Depth *(inches)*	___	
Saturation Present? *(includes capillary fringe)*	Yes ___	No X	Depth *(inches)*	___	X **Yes** ___ **No**

Remarks: One primary and two secondary indicators of wetland hydrology were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-100**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 3 T. 21N R. 51W**

Landform *(hillslope, terrace, etc.)*: **Ditch slope** Local Relief *(concave, convex, none)*: **Convex Linear** Slope (%): **3-5**

Subregion (LRR): **G-Western Great Plains** Lat. **41.816347°** Long: **-103.222571°** Datum: **NAD83**

Soil Map Unit Name: **5844 - Mitchell very fine sandy loam, 1 to 3 percent slopes** NWI Classification: **None**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No ____ *(If no, explain in Remarks)*

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks:

Upland outpoint for S-99 positioned on a slight side slope alongside the ephemeral irrigation ditch that flows into the wetland. No wetland indicators were observed.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Bromus inermis*	90	X	UPL
2. *Asclepias syriaca*	5		UPL
3. *Cirsium arvense*	5		FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: *(excluding FAC-)*: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (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	5	x 4 =	20
UPL species	95	x 5 =	475
Column Totals:	100 (A)		495 (B)

Prevalence Index = B/A = 4.95

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 (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.)*

No hydrophytic vegetation indicators were observed.

SOIL

Sampling Point: **S-100**

Profile Description: *(Describe to the depth needed to document the indicator or confirm the absence of indicators.)*

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR 3/2	100	-	-	-	-	FSL	Moist

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No X	Depth *(inches)*	___	**Wetland Hydrology Present?**
Water Table Present?	Yes ___	No X	Depth *(inches)*	___	
Saturation Present? *(includes capillary fringe)*	Yes ___	No X	Depth *(inches)*	___	___ **Yes** X **No**

Remarks: No wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-101**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 10 T. 21N R. 51W**

Landform *(hillslope, terrace, etc.)*: **Ditch** Local Relief *(concave, convex, none)*: **Concave** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815992°** Long: **-103.218919°** Datum: **NAD83**

Soil Map Unit Name: **1361 - Bridget very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **None**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No ____ *(If no, explain in Remarks)*

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks:

Upland sample point positioned near culvert outlet in roadside ditch. No wetland indicators were observed.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Bromus inermis*	85	X	UPL
2. *Helianthus annuus*	10		FACU
3. *Physalis longifolia*	5		UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
(excluding FAC-):

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (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	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A = #DIV/0!

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 (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.)*

No hydrophytic vegetation indicators were observed.

SOIL Sampling Point: **S-101**

Profile Description: *(Describe to the depth needed to document the indicator or confirm the absence of indicators.)*

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-8	10YR 2/2	100	-	-	-	-	FSL	
8-20	10YR 3/2	100	-	-	-	-	FSL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No X	Depth *(inches)*		**Wetland Hydrology Present?**
Water Table Present?	Yes ___	No X	Depth *(inches)*		
Saturation Present? *(includes capillary fringe)*	Yes ___	No X	Depth *(inches)*		___ **Yes** X **No**

Remarks:

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-102**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 3 T. 21N R. 51W**

Landform *(hillslope, terrace, etc.)*: **Terrace/bank** Local Relief *(concave, convex, none)*: **Concave, Linear** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.816336°** Long: **-103.212178°** Datum: **NAD83**

Soil Map Unit Name: **5673 - Yockey very fine sandy loam, channeled, occasionally flooded** NWI Classification: **None**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No ____ *(If no, explain in Remarks)*

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____ Is the Sampled Area within a Wetland? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Remarks:

PEMA/C wetland upstream from concrete box culvert on stream terrace alongside Red Willow Creek. Sample point is positioned east of the NWI R4SBC feature that aligns with Red Willow Creek.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Phalaris arundinacea*	60	X	FACW
2. *Schoenoplectus tabernaemontani*	40	X	OBL
3. *Salix amygdaloides*	2		FACW
4. *Solidago gigantea*	1		FACW
5.			
6.			
7.			
8.			
9.			
10.			
	103	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
(excluding FAC-):

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index Worksheet:

Total % Cover of:	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
X 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 (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.)*

The Dominance Test is met.

SOIL Sampling Point: **S-102**

Profile Description: *(Describe to the depth needed to document the indicator or confirm the absence of indicators.)*

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-9	10YR 4/2	98	10YR 4/6	2	C	PL	SiCL	Moist
9-20	10YR 4/2	98	10YR 4/6	2	C	PL	SiCL	Saturated

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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: Meets the hydric soil indicator for Depleted Matrix.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators *(minimum of one is required; check all that apply)*

- ___ Surface Water (A1)
- ___ 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No X	Depth *(inches)*		**Wetland Hydrology Present?**	
Water Table Present?	Yes X	No ___	Depth *(inches)*	15		
Saturation Present? *(includes capillary fringe)*	Yes X	No ___	Depth *(inches)*	9	X **Yes**	___ **No**

Remarks: One primary and two secondary indicators of wetland hydrology were observed, which meets the overall indicator.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-103**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 3 T. 21N R. 51W**

Landform *(hillslope, terrace, etc.)*: **Bank/slope** Local Relief *(concave, convex, none)*: **Convex, linear** Slope (%): **5-7**

Subregion (LRR): **G-Western Great Plains** Lat. **41.816324°** Long: **-103.212071°** Datum: **NAD83**

Soil Map Unit Name: **1001 - Bankard fine sand, channeled, frequently flooded** NWI Classification: **None**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No ____ *(If no, explain in Remarks)*

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks:

Upland outpoint for S-102 positioned east of the wetland boundary on the bank slope. No wetland indicators were observed.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Bromus inermis*	60	X	UPL
2. *Spartina pectinata*	30	X	FACW
3. *Asclepias syriaca*	5		UPL
4. *Salix exigua*	1		FACW
5.			
6.			
7.			
8.			
9.			
10.			
	96	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 4

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: *(excluding FAC-)*: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	31	x 2 =	62
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	61	x 5 =	305
Column Totals:	92 (A)		367 (B)

Prevalence Index = B/A = 3.989130435

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 (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.)*

No hydrophytic vegetation indicators were observed.

SOIL

Sampling Point: **S-103**

Profile Description: *(Describe to the depth needed to document the indicator or confirm the absence of indicators.)*

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR 4/3	100	-	-	-	-	FSL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No X	Depth *(inches)*	___	**Wetland Hydrology Present?**
Water Table Present?	Yes ___	No X	Depth *(inches)*	___	
Saturation Present? *(includes capillary fringe)*	Yes ___	No X	Depth *(inches)*	___	___ **Yes** X **No**

Remarks: No wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-104**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 10 T. 21N R. 51W**

Landform *(hillslope, terrace, etc.)*: **Terrace** Local Relief *(concave, convex, none)*: **Convex, Linear** Slope (%): **5-7**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815927°** Long: **-103.212290°** Datum: **NAD83**

Soil Map Unit Name: **5873 - Yockey very fine sandy loam, channeled, occasionally flooded** NWI Classification: **None**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No ____ *(If no, explain in Remarks)*

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____ Is the Sampled Area within a Wetland? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Remarks:

PFOA wetland situated between Red Willow Creek and a small loop off the main channel. Sample point is positioned west of the mis-mapped NWI R4SBC feature representative of Red Willow Creek.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix nigra*	50	X	FACW
2.			
3.			
4.			
5.			
	50	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Carex emoryi*	50	X	OBL
2. *Populus deltoides*	5		FAC
3. *Hordeum jubatum*	3		FACW
4. *Salix nigra*	2		FACW
5.			
6.			
7.			
8.			
9.			
10.			
	60	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 40

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
(excluding FAC-):

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index Worksheet:

Total % Cover of:	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
X 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 (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.)*

SOIL Sampling Point: **S-104**

Profile Description: *(Describe to the depth needed to document the indicator or confirm the absence of indicators.)*

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-6	10YR 4/2	100	-	-	-	-	FSL	
6-20	10YR 4/2	93	10YR 5/6	7	C	M	FSL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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: Meets the hydric soil indicator for Depleted Matrix in the 6-20 inch layer.

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)
- X Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- X Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No X	Depth *(inches)*		**Wetland Hydrology Present?**
Water Table Present?	Yes ___	No X	Depth *(inches)*		
Saturation Present? *(includes capillary fringe)*	Yes ___	No X	Depth *(inches)*		X **Yes** ___ **No**

Remarks: One primary and three secondary indicators of wetland hydrology were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-105**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 3 T. 21N R. 51W**

Landform *(hillslope, terrace, etc.)*: **Depression** Local Relief *(concave, convex, none)*: **Concave, Concave** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.816338°** Long: **-103.210891°** Datum: **NAD83**

Soil Map Unit Name: **1001 - Bankard fine sand, channeled, frequently flooded** NWI Classification: **None**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No ____ *(If no, explain in Remarks)*

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____ Is the Sampled Area within a Wetland? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Remarks:

PEMF wetland dominated by cattails (Typha latifolia) in a depression with approximately 6 inches - 1 foot of standing water. Sample point is located near a NWI PEM1F feature that falls within the boundary of the delineated wetland.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Typha latifolia*	70	X	OBL
2. *Phalaris arundinacea*	20	X	FACW
3. *Persicaria amphibia*	10		OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: ____ (A)
(excluding FAC-):

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:

X 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 (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.)*

The Rapid Test is met.

SOIL Sampling Point: **S-105**

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

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- X Other (Explain in Remarks)

[3]Indicators of hydrophylic 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:

If all dominant species have an indicator status of OBL & wetland hydrology is present hydric soils are assumed to be present (COE 1987 Manual).

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators *(minimum of one is required; check all that apply)*

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes X	No ___	Depth *(inches)*	7	**Wetland Hydrology Present?**	
Water Table Present?	Yes X	No ___	Depth *(inches)*	0		
Saturation Present? *(includes capillary fringe)*	Yes X	No ___	Depth *(inches)*	0	X **Yes**	___ **No**

Remarks:

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-106**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 3 T. 21N R. 51W**

Landform *(hillslope, terrace, etc.)*: **Hillslope** Local Relief *(concave, convex, none)*: **Convex, linear** Slope (%): **10-15**

Subregion (LRR): **G-Western Great Plains** Lat. **41.816343°** Long: **-103.209227°** Datum: **NAD83**

Soil Map Unit Name: **5673 - Yockey very fine sandy loam, channeled, occasionally flooded** NWI Classification: **None**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No ____ *(If no, explain in Remarks)*

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks:

Upland outpoint for S-105 positioned on the hillslope east of the wetland boundary. No wetland indicators were observed.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Thinopyrum intermedium*	60	X	NI
2. *Phalaris arundinacea*	25	X	FACW
3. *Urtica dioica*	7		FAC
4. *Nepeta cataria*	7		FACU
5. *Bassia scoparia*	1		FACU
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1. *Parthenocissus quinquefolia*	15	X	FACU
2.			
	15	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: *(excluding FAC-)*: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.33% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	25	x 2 =	50
FAC species	7	x 3 =	21
FACU species	8	x 4 =	32
UPL species	60	x 5 =	300
Column Totals:	100 (A)		403 (B)

Prevalence Index = B/A = 4.03

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 (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.)*

No hydrophytic vegetation indicators were observed. Vegetation with no indicator (NI) is considered an UPL species.

SOIL

Sampling Point: **S-106**

Profile Description: *(Describe to the depth needed to document the indicator or confirm the absence of indicators.)*

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR 4/6	100	-	-	-	-	GRFSL	Rocks intermixed

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No X	Depth *(inches)*	___	**Wetland Hydrology Present?**
Water Table Present?	Yes ___	No X	Depth *(inches)*	___	
Saturation Present? *(includes capillary fringe)*	Yes ___	No X	Depth *(inches)*	___	___ **Yes** X **No**

Remarks: No wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-107**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 10 T. 21N R. 51W**

Landform *(hillslope, terrace, etc.)*: **Depression** Local Relief *(concave, convex, none)*: **Concave, Concave** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815912°** Long: **-103.209499°** Datum: **NAD83**

Soil Map Unit Name: **5673 - Yockey very fine sandy loam, channeled, occasionally flooded** NWI Classification: **None**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No ____ *(If no, explain in Remarks)*

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____ Is the Sampled Area within a Wetland? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Remarks:

PEMA/C wetland situated in depression. Some areas of the depression contained 1 - 2' of standing water.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Typha latifolia*	60	X	OBL
2. *Schoenoplectus pungens*	40	X	OBL
3. *Salix amygdaloides*	3		FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	103	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: ____ (A) *(excluding FAC-)*:

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:

X 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 (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.)*

The Rapid Test is met.

SOIL

Sampling Point: **S-107**

Profile Description: *(Describe to the depth needed to document the indicator or confirm the absence of indicators.)*

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-3	10Y 2.5/1	100	-	-	-	-	OM	Organic material
3-20	10YR 2/1	96	10YR 3/6	4	C	M	SiCL	Gravel intermixed

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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: Meets the hydric soil indicator for Redox Dark Surface in the 3-20 inch layer.

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- X Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No X	Depth *(inches)*		**Wetland Hydrology Present?**
Water Table Present?	Yes ___	No X	Depth *(inches)*		
Saturation Present? *(includes capillary fringe)*	Yes ___	No X	Depth *(inches)*		X **Yes** ___ **No**

Remarks: Three secondary indicators of wetland hydrology were observed, which meets the requirements for the overall wetland hydrology indicator. Point positioned on the edge of the wetland, other areas of the wetland contained 1-2' of surface water.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-108**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 10 T. 21N R. 51W**

Landform *(hillslope, terrace, etc.)*: **Plain** Local Relief *(concave, convex, none)*: **None** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815874°** Long: **-103.209640°** Datum: **NAD83**

Soil Map Unit Name: **5673 - Yockey very fine sandy loam, channeled, occasionally flooded** NWI Classification: **None**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No ____ *(If no, explain in Remarks)*

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? Yes X No ____

Remarks:

Upland outpoint for S-107 positioned in a pasture with mixed vegetation west of the wetland boundary. No wetland indicators were observed.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)		Absolute % Cover	Dominant Species?	Indicator Status
1.				
2.				
3.				
4.				
5.				
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)				
1.				
2.				
3.				
4.				
5.				
		0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)				
1.	*Bromus inermis*	25	X	UPL
2.	*Hordeum jubatum*	20	X	FACW
3.	*Carex brevior*	15		FAC
4.	*Echinochloa crus-galli*	10		FAC
5.	*Agrostis gigantea*	10		FACW
6.	*Cirsium arvense*	3		FACU
7.	*Verbena hastata*	2		FACW
8.				
9.				
10.				
		85	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)				
1.				
2.				
		0	= Total Cover	

% Bare Ground in Herb Stratum 15

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	32	x 2 =	64
FAC species	25	x 3 =	75
FACU species	3	x 4 =	12
UPL species	25	x 5 =	125
Column Totals:	85 (A)		276 (B)

Prevalence Index = B/A = 3.247058824

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 (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.)*

No hydrophytic vegetation indicators were observed.

SOIL Sampling Point: **S-108**

Profile Description: *(Describe to the depth needed to document the indicator or confirm the absence of indicators.)*

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-5	10YR 2/1	100	-	-	-	-	GRFSL	Rocks/gravel intermixed

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer: *(if observed)*

Type: Restrictive rock

Depth *(inches)*: 5

Hydric Soil Present? Yes ___ No X

Remarks: No hydric soil indicators were observed. Soil could not be observed below 5 inches due to a restrictive rock layer.

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No X	Depth *(inches)*		**Wetland Hydrology Present?**
Water Table Present?	Yes ___	No X	Depth *(inches)*		
Saturation Present? *(includes capillary fringe)*	Yes ___	No X	Depth *(inches)*		___ **Yes** X **No**

Remarks: No wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-109**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 2 T. 21N R. 51W**

Landform *(hillslope, terrace, etc.)*: **Ditch** Local Relief *(concave, convex, none)*: **Concave** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.816392°** Long: **-103.206265°** Datum: **NAD83**

Soil Map Unit Name: **1078 - Otero variant very fine sandy loam, 0 to 1 percent slopes** NWI Classification: **None**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No ____ *(If no, explain in Remarks)*

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks:

Upland point positioned in an area of the roadside ditch previously delineated as wetland. No wetland indicators were observed.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Phalaris arundinacea*	80	X	FACW
2. *Cirsium arvense*	20	X	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: *(excluding FAC-)*: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	80	x 2 =	160
FAC species	0	x 3 =	0
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	100 (A)		240 (B)

Prevalence Index = B/A = 2.4

Hydrophytic Vegetation Indicators:

____ 1. Rapid Test for Hydrophytic Vegetation

____ 2. Dominance Test is >50%.

____ 3. Prevalence Index is ≤3.0[1]

____ 4. Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation (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.)*

No hydrophytic vegetation indicators were observed. The Prevalence Index is not met due to the lack of hydric soil and wetland hydrology indicators.

SOIL

Sampling Point: **S-109**

Profile Description: *(Describe to the depth needed to document the indicator or confirm the absence of indicators.)*

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-6	10YR 4/3	60	-	-	-	-	FSL	
	10YR 3/2	40						
6-20	10YR 4/3	100	-	-	-	-	FSL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No X	Depth *(inches)*	___	**Wetland Hydrology Present?**
Water Table Present?	Yes ___	No X	Depth *(inches)*	___	
Saturation Present? *(includes capillary fringe)*	Yes ___	No X	Depth *(inches)*	___	___ **Yes** X **No**

Remarks: No wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-110**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 2 T. 21N R. 51W**

Landform *(hillslope, terrace, etc.)*: **Ditch** Local Relief *(concave, convex, none)*: **Concave, Linear** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.816288°** Long: **-103.203936°** Datum: **NAD83**

Soil Map Unit Name: **5281 - Vetal fine sandy loam, 0 to 3 percent slopes** NWI Classification: **None**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No ____ *(If no, explain in Remarks)*

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks:

Upland point positioned near culvert in the roadside ditch. No wetland indicators were observed.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Cannabis sativa*	80	X	UPL
2. *Helianthus annuus*	15		FACU
3. *Hordeum jubatum*	2		FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	97	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 3

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
(excluding FAC-):

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	2	x 2 =	4
FAC species	0	x 3 =	0
FACU species	15	x 4 =	60
UPL species	80	x 5 =	400
Column Totals:	97 (A)		464 (B)

Prevalence Index = B/A = 4.783505155

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 (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.)*

No hydrophytic vegetation indicators were observed.

SOIL

Sampling Point: **S-110**

Profile Description: *(Describe to the depth needed to document the indicator or confirm the absence of indicators.)*

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-3	10YR 3/2	100	-	-	-	-	Detritus	
3-20	10YR 3/2	100	-	-	-	-	SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No X	Depth *(inches)*		**Wetland Hydrology Present?**
Water Table Present?	Yes ___	No X	Depth *(inches)*		
Saturation Present? *(includes capillary fringe)*	Yes ___	No X	Depth *(inches)*		___ **Yes** X **No**

Remarks:

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-111**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 11 T. 21N R. 51W**

Landform *(hillslope, terrace, etc.)*: **Field/flat** Local Relief *(concave, convex, none)*: **None** Slope (%): **0**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815694°** Long: **-103.195665°** Datum: **NAD83**

Soil Map Unit Name: **Otero very fine sandy loam, 0 to 3 percent slopes** NWI Classification: **PEM1A**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No ____ *(If no, explain in Remarks)*

Are Vegetation X, Soil X, or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

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 X

Hydric Soil Present? Yes X No ____ Is the Sampled Area within a Wetland? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Remarks: PEMA/C farmed wetland in area identified as being disturbed in the aerial photograph review. Standing water from irrigation runoff was observed in the wetland, as well as facultative volunteer vegetation. Vegetation is problematic due to agricultural management.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Echinochloa crus-galli*	7	X	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	7	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 93

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A) *(excluding FAC-)*:

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	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

X 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 (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.)*

Disturbed ag. ground and stunted corn, meets the Dominance Test. Bare ground possibly from ag. herbicide application

SOIL Sampling Point: **S-111**

Profile Description: *(Describe to the depth needed to document the indicator or confirm the absence of indicators.)*

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-5	10YR 3/2	100					FSL	
5-10	10YR 3/2	100					SCL	Compacted

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- X Other (Explain in Remarks)

[3]Indicators of hydrophylic 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: Disturbed ag. ground. Compacted soil contributes to ponding of water sourced from irrigation runoff.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators *(minimum of one is required; check all that apply)*

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- X Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes X	No ___	Depth *(inches)*	4	**Wetland Hydrology Present?**	
Water Table Present?	Yes ___	No X	Depth *(inches)*	___		
Saturation Present? *(includes capillary fringe)*	Yes ___	No X	Depth *(inches)*	___	X **Yes**	___ **No**

Remarks: The source of wetland hydrology is the irrigation water runoff that pools in the corner of the row-crop field. The area was identified as having a wet signature on at least 3 of the 5 aerial photographs that were reviewed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-112**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 11 T. 21N R. 51W**

Landform *(hillslope, terrace, etc.)*: **Plain** Local Relief *(concave, convex, none)*: **None** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815801°** Long: **-103.195727°** Datum: **NAD83**

Soil Map Unit Name: **1709 - Otero very fine sandy loam, 0 to 3 percent slopes** NWI Classification: **None**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No ____ *(If no, explain in Remarks)*

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks:

Upland outpoint for S-112 positioned on the edge of the agricultural field. No wetland indicators were observed.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Juniperus virginiana*	20	X	UPL
2.			
3.			
4.			
5.			
	20 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5ft radius)			
1. *Bassia kochia*	90	X	FACU
2. *Chenopodium album*	10		FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
(excluding FAC-):

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (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	100	x 4 =	400
UPL species	20	x 5 =	100
Column Totals:	120 (A)		500 (B)

Prevalence Index = B/A = 4.166666667

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 (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.)*

No hydrophytic vegetation indicators were observed.

SOIL

Sampling Point: **S-112**

Profile Description: *(Describe to the depth needed to document the indicator or confirm the absence of indicators.)*

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-3	10YR 3/2	100	-	-	-	-	FSL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer: *(if observed)*

Type: Hardpan

Depth *(inches)*: 3

Hydric Soil Present? Yes ___ No X

Remarks: No hydric soil indicators were observed. A hardpan was encountered at 3 inches.

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No X	Depth *(inches)*		**Wetland Hydrology Present?**
Water Table Present?	Yes ___	No X	Depth *(inches)*		
Saturation Present? *(includes capillary fringe)*	Yes ___	No X	Depth *(inches)*		___ **Yes** X **No**

Remarks: No wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-113**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 12 T. 21N R. 51W**

Landform *(hillslope, terrace, etc.)*: **Ditch** Local Relief *(concave, convex, none)*: **Concave Linear** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.815188°** Long: **-103.178272°** Datum: **NAD83**

Soil Map Unit Name: **1710 - Otero very fine sandy loam, 3 to 6 percent slopes** NWI Classification: **None**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No ____ *(If no, explain in Remarks)*

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks:

Upland point positioned near a NHD flowline/NWI R4SBC feature. No channel or wetland indicators were observed.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Bromus tectorum*	60	X	UPL
2. *Bassia kochia*	15		FACU
3. *Ambrosia trifida*	7		FAC
4. *Mentzelia multiflora*	4		UPL
5. *Polanisia dodecandra*	3		FACU
6. *Helianthus annuus*	2		FACU
7.			
8.			
9.			
10.			
	91	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 9

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
(excluding FAC-):

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	7	x 3 =	21
FACU species	20	x 4 =	80
UPL species	64	x 5 =	320
Column Totals:	91 (A)		421 (B)

Prevalence Index = B/A = 4.626373626

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 (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.)*

No hydrophytic vegetation indicators were observed.

SOIL

Sampling Point: **S-113**

Profile Description: *(Describe to the depth needed to document the indicator or confirm the absence of indicators.)*

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-6	10YR 6/3	100	-	-	-	-	GRFSL	Rocks intermixed

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer: *(if observed)*

Type: Dry/compacted, rock

Depth *(inches)*: 6

Hydric Soil Present? Yes ___ No X

Remarks: No hydric soil indicators were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No X	Depth *(inches)*	___	**Wetland Hydrology Present?**
Water Table Present?	Yes ___	No X	Depth *(inches)*	___	
Saturation Present? *(includes capillary fringe)*	Yes ___	No X	Depth *(inches)*	___	___ **Yes** X **No**

Remarks: No wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/28/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-114**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 12 T. 21N R. 51W**

Landform *(hillslope, terrace, etc.)*: **Ditch** Local Relief *(concave, convex, none)*: **None** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.813225°** Long: **-103.169611°** Datum: **NAD83**

Soil Map Unit Name: **5123 - Busher loamy very fine sand, 1 to 6 percent slopes** NWI Classification: **None**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No ____ *(If no, explain in Remarks)*

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks:

Upland point positioned near culvert inlet in the roadside ditch. No wetland indicators were observed.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Bromus tectorum*	55	X	UPL
2. *Lolium perenne*	10		FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	65	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 35

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A) *(excluding FAC-)*:

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (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	10	x 4 =	40
UPL species	55	x 5 =	275
Column Totals:	65 (A)		315 (B)

Prevalence Index = B/A = 4.846153846

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 (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.)*

No hydrophytic vegetation indicators were observed.

SOIL

Sampling Point: **S-114**

Profile Description: *(Describe to the depth needed to document the indicator or confirm the absence of indicators.)*

Depth (inches)	Matrix		Redox Features					
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 5/3	100					Loam	Rocks intermixed

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer: *(if observed)*

Type: Rock

Depth *(inches)*: 10

Hydric Soil Present? Yes ___ No X

Remarks: No hydric soil indicators were observed. A restrictive layer of rock was encountered at 10 inches.

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No X	Depth *(inches)*	___	**Wetland Hydrology Present?**
Water Table Present?	Yes ___	No X	Depth *(inches)*	___	
Saturation Present? *(includes capillary fringe)*	Yes ___	No X	Depth *(inches)*	___	___ **Yes** X **No**

Remarks: No wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/29/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-115**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 7 T. 21N R. 50W**

Landform *(hillslope, terrace, etc.)*: **Ditch/drainage** Local Relief *(concave, convex, none)*: **Concave, Linear** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.812787°** Long: **-103.163733°** Datum: **NAD83**

Soil Map Unit Name: **5123 - Busher loamy very fine sand, 1 to 6 percent slopes** NWI Classification: **None**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No ____ *(If no, explain in Remarks)*

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks:

Upland point positioned near culvert inlet in roadside ditch. No wetland indicators were observed.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Lolium perenne*	40	X	FACU
2. *Mentzelia multiflora*	3		UPL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	43	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 57

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: *(excluding FAC-)*: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (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	40	x 4 =	160
UPL species	3	x 5 =	15
Column Totals:	43 (A)		175 (B)

Prevalence Index = B/A = 4.069767442

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 (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.)*

No hydrophytic vegetation indicators were observed. Bare ground in the herbaceous plot consisted of a fine loam.

SOIL

Sampling Point: **S-115**

Profile Description: *(Describe to the depth needed to document the indicator or confirm the absence of indicators.)*

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-8	10YR 4/3	100	-	-	-	-	FSL	
8-20	10YR 5/3	100	-	-	-	-	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No X	Depth *(inches)*	___	**Wetland Hydrology Present?**
Water Table Present?	Yes ___	No X	Depth *(inches)*	___	
Saturation Present? *(includes capillary fringe)*	Yes ___	No X	Depth *(inches)*	___	___ **Yes** X **No**

Remarks: No wetland hydrology indicators were observed. The area would not impound surface water.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/29/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-116**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 7 T. 21N R. 50W**

Landform *(hillslope, terrace, etc.)*: **Ditch/drainage** Local Relief *(concave, convex, none)*: **Concave, Linear** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.812592°** Long: **-103.153367°** Datum: **NAD83**

Soil Map Unit Name: **5910 - Angora very fine sandy loam, 1 to 6 percent slopes** NWI Classification: **None**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No ____ *(If no, explain in Remarks)*

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks:

Upland point positioned at culvert inlet in the roadside ditch. No wetland indicators were observed.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Bromus tectorum*	40	X	UPL
2. *Thinopyrum intermedium*	35	X	UPL
3. *Agropyron cristatum*	15		UPL
4. *Oenothera curtiflora*	2		UPL
5.			
6.			
7.			
8.			
9.			
10.			
	92	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 8

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
(excluding FAC-):

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (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	0	x 4 =	0
UPL species	92	x 5 =	460
Column Totals:	92 (A)		460 (B)

Prevalence Index = B/A = 5

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 (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.)*

No hydrophytic vegetation indicators were observed.

SOIL

Sampling Point: **S-116**

Profile Description: *(Describe to the depth needed to document the indicator or confirm the absence of indicators.)*

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-10	10YR 3/2	100	-	-	-	-	FSL	
10-20	10YR 4/2	100	-	-	-	-	GRFSL	Intermixed rocks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No X	Depth *(inches)*	___	**Wetland Hydrology Present?**
Water Table Present?	Yes ___	No X	Depth *(inches)*	___	
Saturation Present? *(includes capillary fringe)*	Yes ___	No X	Depth *(inches)*	___	___ **Yes** X **No**

Remarks: No wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/29/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-117**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 7 T. 21N R. 50W**

Landform *(hillslope, terrace, etc.)*: **Median ditch** Local Relief *(concave, convex, none)*: **Concave, Linear** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.812084°** Long: **-103.150443°** Datum: **NAD83**

Soil Map Unit Name: **5913 - Busher very fine sandy loam, 1 to 6 percent slopes** NWI Classification: **None**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No ____ *(If no, explain in Remarks)*

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks:

Upland point positioned in the interchange median between L-62A and the L-62A/US-385 off-ramp. Sample point is positioned near a culvert inlet. The culvert drains north under the off-ramp.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Agropyron cristatum*	25	X	UPL
2. *Bromus tectorum*	15		NI
3. *Thinopyrum intermedium*	10		NI
4. *Calamovilfa longifolia*	10		UPL
5. *Psoralidium tenuiflorum*	5		UPL
6. *Croton capitatus*	2		UPL
7. *Grindelia squarrosa*	2		UPL
8.			
9.			
10.			
	69	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 31

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
(excluding FAC-):

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (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	0	x 4 =	0
UPL species	69	x 5 =	345
Column Totals:	69 (A)		345 (B)

Prevalence Index = B/A = 5

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 (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.)*

Vegetation with ni is considered to be UPL.

SOIL

Sampling Point: **S-117**

Profile Description: *(Describe to the depth needed to document the indicator or confirm the absence of indicators.)*

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-5	10YR 5/3	100	-	-	-	-	GRFSL	Rocks intermixed

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer: *(if observed)*

Type: Rock

Depth *(inches)*: 5

Hydric Soil Present? Yes ___ No X

Remarks: No hydric soil indicators were observed. A restrictive rock layer was encountered at 5 inches.

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No X	Depth *(inches)*		**Wetland Hydrology Present?**
Water Table Present?	Yes ___	No X	Depth *(inches)*		
Saturation Present? *(includes capillary fringe)*	Yes ___	No X	Depth *(inches)*		___ **Yes** X **No**

Remarks: One secondary indicator of wetland hydrology was observed, which does not meet the minimum requirements for the overall wetland hydrology indicator.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/29/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-118**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 6 T. 21N R. 50W**

Landform *(hillslope, terrace, etc.)*: **Ravine** Local Relief *(concave, convex, none)*: **Concave** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.817023°** Long: **-103.164546°** Datum: **NAD83**

Soil Map Unit Name: **6033 - Tassel-Busher loamy very fine sands, 3 to 30 percent slopes** NWI Classification: **None**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No ____ *(If no, explain in Remarks)*

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks: Upland point positioned alongside an ephemeral channel with a slight OHWM. No wetland indicators were observed. Sample point is near NWI R4SBC feature in the low area to the west that was not observed. Channel begins approx. 800 feet to the south and receives stormwater runoff from the surrouding hillslopes.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Bromus tectorum*	30	X	NI
2. *Hesperostipa spartea*	20	X	UPL
3. *Tripsacum dactyloides*	10		FAC
4. *Calamovilfa longifolia*	10		UPL
5. *Bouteloua curtipendula*	10		UPL
6. *Oenothera biennis*	5		FACU
7.			
8.			
9.			
10.			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 15

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
(excluding FAC-):

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	5	x 4 =	20
UPL species	70	x 5 =	350
Column Totals:	85 (A)		400 (B)

Prevalence Index = B/A = 4.705882353

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 (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.)*

NI is considered to be Upl.

SOIL

Sampling Point: **S-118**

Profile Description: *(Describe to the depth needed to document the indicator or confirm the absence of indicators.)*

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-5	10YR 3/3	100	-	-	-	-	FSL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer: *(if observed)*

Type: Hardpan/bedrock (limestone)

Depth *(inches)*: 5

Hydric Soil Present? Yes ___ No X

Remarks: No hydric soil indicators were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No X	Depth *(inches)*	___	**Wetland Hydrology Present?**
Water Table Present?	Yes ___	No X	Depth *(inches)*	___	
Saturation Present? *(includes capillary fringe)*	Yes ___	No X	Depth *(inches)*	___	___ **Yes** X **No**

Remarks: No wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/29/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-119**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 6 T. 21N R. 50W**

Landform *(hillslope, terrace, etc.)*: **Swale/drainage** Local Relief *(concave, convex, none)*: **Concave** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.819123°** Long: **-103.156041°** Datum: **NAD83**

Soil Map Unit Name: **5130 - Busher very fine sandy loam, 1 to 6 percent slopes** NWI Classification: **None**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No ____ *(If no, explain in Remarks)*

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks: Upland point positioned between two sandhills. No wetland indicators were observed.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Bromus tectorum*	85	X	NI
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 15

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
(excluding FAC-):

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (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	0	x 4 =	0
UPL species	85	x 5 =	425
Column Totals:	85 (A)		425 (B)

Prevalence Index = B/A = 5

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 (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.)*

No hydrophytic vegetation indicators were observed. NI is considered to be UPL

SOIL Sampling Point: **S-119**

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
0-0								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer: *(if observed)*

Type: Bedrock

Depth *(inches)*: 0

Hydric Soil Present? Yes ___ No X

Remarks: Could not collect soil sample. Surface consisted of bedrock.

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No X	Depth *(inches)*		**Wetland Hydrology Present?**
Water Table Present?	Yes ___	No X	Depth *(inches)*		
Saturation Present? *(includes capillary fringe)*	Yes ___	No X	Depth *(inches)*		___ **Yes** X **No**

Remarks: No wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/29/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-120**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 5 T. 21N R. 50W**

Landform *(hillslope, terrace, etc.)*: **Swale** Local Relief *(concave, convex, none)*: **Concave, Linear** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.818443°** Long: **-103.147422°** Datum: **NAD83**

Soil Map Unit Name: **5130 - Busher very fine sandy loam, 1 to 6 percent slopes** NWI Classification: **None**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No ____ *(If no, explain in Remarks)*

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks: Upland point positioned in low area / swale between two sandhills. No wetland indicators were observed.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Bromus tectorum*	90	X	NI
2. *Physalis longifolia*	10		UPL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: *(excluding FAC-)*: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (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	0	x 4 =	0
UPL species	100	x 5 =	500
Column Totals:	100 (A)		500 (B)

Prevalence Index = B/A = 5

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 (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.)*

No hydrophytic vegetation indicators were observed. NI is considered to be UPL

SOIL

Sampling Point: **S-120**

Profile Description: *(Describe to the depth needed to document the indicator or confirm the absence of indicators.)*

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR 3/3	100	-	-	-	-	FSL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No X	Depth *(inches)*	___	**Wetland Hydrology Present?**
Water Table Present?	Yes ___	No X	Depth *(inches)*	___	
Saturation Present? *(includes capillary fringe)*	Yes ___	No X	Depth *(inches)*	___	___ **Yes** X **No**

Remarks: No wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/29/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-121**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 5 T. 21N R. 50W**

Landform *(hillslope, terrace, etc.)*: **Pasture/sandhill** Local Relief *(concave, convex, none)*: **None** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.824319°** Long: **-103.149830°** Datum: **NAD83**

Soil Map Unit Name: **5130 - Busher very fine sandy loam, 1 to 6 percent slopes** NWI Classification: **None**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No ____ *(If no, explain in Remarks)*

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks: Upland point positioned in low area on off-road potential loop alignment for L-62A. No wetland indicators were observed.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Bromus tectorum*	50	X	NI
2. *Thinopyrum intermedium*	45	X	NI
3. *Lactuca serriola*	3		FAC
4. *Artemisia campestris*	1		UPL
5. *Ammophila breviligulata*	1		UPL
6. *Calamovilfa longifolia*	1		UPL
7. *Chenopodium album*	1		FACU
8.			
9.			
10.			
	102	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: *(excluding FAC-)*: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	3	x 3 =	9
FACU species	1	x 4 =	4
UPL species	98	x 5 =	490
Column Totals:	102 (A)		503 (B)

Prevalence Index = B/A = 4.931372549

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 (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.)*

No hydrophytic vegetation indicators were observed. NI is considered to be UPL.

SOIL

Sampling Point: **S-121**

Profile Description: *(Describe to the depth needed to document the indicator or confirm the absence of indicators.)*

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR 3/3	100					Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic 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 soil indicators were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No X	Depth *(inches)*	___	**Wetland Hydrology Present?**
Water Table Present?	Yes ___	No X	Depth *(inches)*	___	
Saturation Present? *(includes capillary fringe)*	Yes ___	No X	Depth *(inches)*	___	___ **Yes** X **No**

Remarks: No wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/29/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-122**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 5 T. 21N R. 50W**

Landform *(hillslope, terrace, etc.)*: **Depression** Local Relief *(concave, convex, none)*: **Concave** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.826303°** Long: **-103.142688°** Datum: **NAD83**

Soil Map Unit Name: **Busher-Tassel loamy very fine sands, 9 to 20 percent slopes** NWI Classification: **None**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No ____ *(If no, explain in Remarks)*

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks: Upland point positioned between hillslopes at the lowest point in a linear depression. No wetland indicators were observed.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Bromus inermis*	60	X	NI
2. *Thinopyrum intermedium*	40	X	NI
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
(excluding FAC-):

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (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	0	x 4 =	0
UPL species	100	x 5 =	500
Column Totals:	100 (A)		500 (B)

Prevalence Index = B/A = 5

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 (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.)*

No hydrophytic vegetation indicators were observed. NI is considered to be UPL

SOIL

Sampling Point: **S-122**

Profile Description: *(Describe to the depth needed to document the indicator or confirm the absence of indicators.)*

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-16	10YR 3/3	100	-	-	-	-	SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer: *(if observed)*

Type: Hardpan

Depth *(inches)*: 16

Hydric Soil Present? Yes ___ No X

Remarks: No hydric soil indicators were 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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No X	Depth *(inches)*	___	**Wetland Hydrology Present?**
Water Table Present?	Yes ___	No X	Depth *(inches)*	___	
Saturation Present? *(includes capillary fringe)*	Yes ___	No X	Depth *(inches)*	___	___ **Yes** X **No**

Remarks: No wetland hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: **CN 51521 / Minatare - US-385** City/County: **Morrill County** Sampling Date: **7/29/2021**

Applicant/Owner: **Nebraska Department of Transportation** State: **NE** Sampling Point: **S-123**

Investigator(s): **Chase Jelden, Zach Timperley, Avery Dresser, & Ann Briggs** Section, Township, Range: **S. 5 T. 21N R. 50W**

Landform *(hillslope, terrace, etc.)*: **Ditch** Local Relief *(concave, convex, none)*: **Concave** Slope (%): **0-2**

Subregion (LRR): **G-Western Great Plains** Lat. **41.829022°** Long: **-103.139390°** Datum: **NAD83**

Soil Map Unit Name: **6025 - Tassel loamy very fine sand, 20 to 50 percent slopes** NWI Classification: **None**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No ____ *(If no, explain in Remarks)*

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? *(If needed, explain any answers in Remarks.)*

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks: Upland point positioned in road ditch near US-385 right-of-way. No wetland indicators were observed.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft radius)			
1. *Lolium perenne*	40	X	FACU
2. *Verbena stricta*	15	X	UPL
3. *Bromus tectorum*	5		NI
4. *Helianthus annuus*	2		FACU
5. *Physalis longifolia*	2		UPL
6.			
7.			
8.			
9.			
10.			
	64	= Total Cover	
Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 36

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: *(excluding FAC-)*: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (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	42	x 4 =	168
UPL species	22	x 5 =	110
Column Totals:	64 (A)		278 (B)

Prevalence Index = B/A = 4.34375

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 (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.)*

No hydrophytic vegetation indicators were observed. NI is considered to be UPL

SOIL

Sampling Point: **S-123**

Profile Description: *(Describe to the depth needed to document the indicator or confirm the absence of indicators.)*

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-6	10YR 3/3	100	-	-	-	-	FSL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophylic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer: *(if observed)*

Type: Heavily compacted / hardpan

Depth *(inches)*: 6

Hydric Soil Present? Yes ___ No X

Remarks: No hydric soil indicators were observed. Could not dig beneath 6 inches due to a heavily compacted layer.

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)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Fauna (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators *(minimum of two required)*

- ___ Surface Soil Cracks (B6)
- ___ Sparsley Vegetated Concave Surf. (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes ___	No X	Depth *(inches)*		**Wetland Hydrology Present?**
Water Table Present?	Yes ___	No X	Depth *(inches)*		
Saturation Present? *(includes capillary fringe)*	Yes ___	No X	Depth *(inches)*		___ **Yes** X **No**

Remarks: No wetland hydrology indicators were observed.

Problematic Hydric Soil Procedure (S-44)

Corps of Engineers 2010 Midwest Regional Supplement, ERDC/EL TR-10-16

1.	Hydrophytic vegetation present	Yes
2.	Indicators of wetland hydrology Present	Yes
3.	Thoroughly describe soil profile and landscape setting. Verify landscape position likely collects or concentrates water (a. concave surface, b. active floodplain, c. level area, d. toe, e. fringe, f. restrictive layer, g. groundwater discharge, h. other	The soil profile consisted of a dark sandy loam layer above a lighter silty clay loam layer. The sample point is positioned in a ditch/drainage that would likely collect water from runoff over the surrounding landscape.
4a.	Indicators of problematic soils present? Coast Prairie Redox (A16), Dark Surface (S7), Iron-Manganese masses (F12), Very Shallow Dark Surface (TF12)).	No
4b.	Are problematic soil situations present? 1. Shallow soils over limestone, 2. Fluvial Sediments w/in floodplains, 3. Recently developed wetlands, 4.Seasonally ponded soils, 5. Soils with high chroma subsoils, 6. Other	Fluvial sediments and seasonally ponded soils from irrigation runoff.
4c.	Saturated soil becomes redder (>4" of soil w/in upper 12" w/ matrix value of >4 and chroma <2 becomes redder by one or more pages in hue and/or increases >1 in chroma when exposed to air within 30 min.	No
4d.	Reduced ferrous iron present? Conduct test w. alpha, alpha-dipyridyl	N/A, test not conducted.
4e.	Is soil ponded or flooded, or is water table within 12-inches of surface for 14 consecutive days or more during growing season in most years?	Yes, the soil was saturated at the time of the investigation with a high water table in mid/late summer, indicating the water table is likely within 12-inches of the surface for 14 consecutive days or more in the growing season in most years.

*Hydric soil is present if answer to 1-4 is Yes. Note only one of 4a-4e is required. Items 4a-4e are approaches that can be used to determine whether soil is hydric. Once complete document in remarks section of data form or in delineation report why it is believed that the soil lacks any of the NTCHS hydric soil indicators and why it is believed that soil meets the definition of a hydric soil.

Problematic Hydric Soil Procedure (S-72)

Corps of Engineers 2010 Midwest Regional Supplement, ERDC/EL TR-10-16

1.	Hydrophytic vegetation present	Yes
2.	Indicators of wetland hydrology Present	Yes
3.	Thoroughly describe soil profile and landscape setting. Verify landscape position likely collects or concentrates water (a. concave surface, b. active floodplain, c. level area, d. toe, e. fringe, f. restrictive layer, g. groundwater discharge, h. other	The soil profile consisted of a dark silt loam layer above a lighter silty clay loam layer. The sample point is positioned in a ditch/drainage that would likely collect water from runoff over the surrounding landscape.
4a.	Indicators of problematic soils present? Coast Prairie Redox (A16), Dark Surface (S7), Iron-Manganese masses (F12), Very Shallow Dark Surface (TF12)).	No
4b.	Are problematic soil situations present? 1. Shallow soils over limestone, 2. Fluvial Sediments w/in floodplains, 3. Recently developed wetlands, 4.Seasonally ponded soils, 5. Soils with high chroma subsoils, 6. Other	No
4c.	Saturated soil becomes redder (>4" of soil w/in upper 12" w/ matrix value of >4 and chroma <2 becomes redder by one or more pages in hue and/or increases >1 in chroma when exposed to air within 30 min.	No
4d.	Reduced ferrous iron present? Conduct test w. alpha, alpha-dipyridyl	N/A, test not conducted.
4e.	Is soil ponded or flooded, or is water table within 12-inches of surface for 14 consecutive days or more during growing season in most years?	Yes, the soil was saturated at the time of the investigation with a high water table in mid/late summer, indicating the water table is likely within 12-inches of the surface for 14 consecutive days or more in the growing season in most years.

*Hydric soil is present if answer to 1-4 is Yes. Note only one of 4a-4e is required. Items 4a-4e are approaches that can be used to determine whether soil is hydric. Once complete document in remarks section of data form or in delineation report why it is believed that the soil lacks any of the NTCHS hydric soil indicators and why it is believed that soil meets the definition of a hydric soil.

Problematic Hydric Soil Procedure (S-84)

Corps of Engineers 2010 Midwest Regional Supplement, ERDC/EL TR-10-16

1.	Hydrophytic vegetation present	Yes
2.	Indicators of wetland hydrology Present	Yes
3.	Thoroughly describe soil profile and landscape setting. Verify landscape position likely collects or concentrates water (a. concave surface, b. active floodplain, c. level area, d. toe, e. fringe, f. restrictive layer, g. groundwater discharge, h. other	The soil profile consisted of a silt loam with a light, depleted matrix color intermixed with a small amount of a dark, gley matrix color. The sample point is positioned in a drainageway alongside a braided intermittent stream.
4a.	Indicators of problematic soils present? Coast Prairie Redox (A16), Dark Surface (S7), Iron-Manganese masses (F12), Very Shallow Dark Surface (TF12)).	No
4b.	Are problematic soil situations present? 1. Shallow soils over limestone, 2. Fluvial Sediments w/in floodplains, 3. Recently developed wetlands, 4.Seasonally ponded soils, 5. Soils with high chroma subsoils, 6. Other	No
4c.	Saturated soil becomes redder (>4" of soil w/in upper 12" w/ matrix value of >4 and chroma <2 becomes redder by one or more pages in hue and/or increases >1 in chroma when exposed to air within 30 min.	No
4d.	Reduced ferrous iron present? Conduct test w. alpha, alpha-dipyridyl	N/A, test not conducted.
4e.	Is soil ponded or flooded, or is water table within 12-inches of surface for 14 consecutive days or more during growing season in most years?	Yes, the soil was saturated at the time of the investigation with a high water table in mid/late summer, indicating the water table is likely within 12-inches of the surface for 14 consecutive days or more in the growing season in most years.

*Hydric soil is present if answer to 1-4 is Yes. Note only one of 4a-4e is required. Items 4a-4e are approaches that can be used to determine whether soil is hydric. Once complete document in remarks section of data form or in delineation report why it is believed that the soil lacks any of the NTCHS hydric soil indicators and why it is believed that soil meets the definition of a hydric soil.

Problematic Hydric Soil Procedure (S-86)

Corps of Engineers 2010 Midwest Regional Supplement, ERDC/EL TR-10-16

1.	Hydrophytic vegetation present	Yes
2.	Indicators of wetland hydrology Present	Yes
3.	Thoroughly describe soil profile and landscape setting. Verify landscape position likely collects or concentrates water (a. concave surface, b. active floodplain, c. level area, d. toe, e. fringe, f. restrictive layer, g. groundwater discharge, h. other	The soil profile consisted of a silt loam with a light, depleted matrix color intermixed with a small amount of a dark, gley matrix color. The sample point is positioned in a drainageway on a terrace alongside an intermittent stream that would impound water from runoff over the surrounding landscape and occasional overbank flooding.
4a.	Indicators of problematic soils present? Coast Prairie Redox (A16), Dark Surface (S7), Iron-Manganese masses (F12), Very Shallow Dark Surface (TF12)).	No
4b.	Are problematic soil situations present? 1. Shallow soils over limestone, 2. Fluvial Sediments w/in floodplains, 3. Recently developed wetlands, 4.Seasonally ponded soils, 5. Soils with high chroma subsoils, 6. Other	No
4c.	Saturated soil becomes redder (>4" of soil w/in upper 12" w/ matrix value of >4 and chroma <2 becomes redder by one or more pages in hue and/or increases >1 in chroma when exposed to air within 30 min.	No
4d.	Reduced ferrous iron present? Conduct test w. alpha, alpha-dipyridyl	N/A, test not conducted.
4e.	Is soil ponded or flooded, or is water table within 12-inches of surface for 14 consecutive days or more during growing season in most years?	Yes, the soil was saturated at the time of the investigation with a high water table in mid/late summer, indicating the water table is likely within 12-inches of the surface for 14 consecutive days or more in the growing season in most years.

*Hydric soil is present if answer to 1-4 is Yes. Note only one of 4a-4e is required. Items 4a-4e are approaches that can be used to determine whether soil is hydric. Once complete document in remarks section of data form or in delineation report why it is believed that the soil lacks any of the NTCHS hydric soil indicators and why it is believed that soil meets the definition of a hydric soil.

Problematic Hydric Soil Procedure (S-89)

Corps of Engineers 2010 Midwest Regional Supplement, ERDC/EL TR-10-16

1.	Hydrophytic vegetation present	Yes
2.	Indicators of wetland hydrology Present	Yes
3.	Thoroughly describe soil profile and landscape setting. Verify landscape position likely collects or concentrates water (a. concave surface, b. active floodplain, c. level area, d. toe, e. fringe, f. restrictive layer, g. groundwater discharge, h. other	The soil profile consisted of a moderately dark silt loam intermixed with a lesser amount of a dark, gley matrix color that was more prevalent in the top 8 inches. The sample point is positioned in a drainageway near a culvert that likely collects water from runoff over the surrounding landscape and flow from the upstream drainage.
4a.	Indicators of problematic soils present? Coast Prairie Redox (A16), Dark Surface (S7), Iron-Manganese masses (F12), Very Shallow Dark Surface (TF12)).	No
4b.	Are problematic soil situations present? 1. Shallow soils over limestone, 2. Fluvial Sediments w/in floodplains, 3. Recently developed wetlands, 4.Seasonally ponded soils, 5. Soils with high chroma subsoils, 6. Other	Other, meeting 2/3 parameters with hydrophytic vegetation and hydrology.
4c.	Saturated soil becomes redder (>4" of soil w/in upper 12" w/ matrix value of >4 and chroma <2 becomes redder by one or more pages in hue and/or increases >1 in chroma when exposed to air within 30 min.	No
4d.	Reduced ferrous iron present? Conduct test w. alpha, alpha-dipyridyl	N/A, test not conducted.
4e.	Is soil ponded or flooded, or is water table within 12-inches of surface for 14 consecutive days or more during growing season in most years?	No

*Hydric soil is present if answer to 1-4 is Yes. Note only one of 4a-4e is required. Items 4a-4e are approaches that can be used to determine whether soil is hydric. Once complete document in remarks section of data form or in delineation report why it is believed that the soil lacks any of the NTCHS hydric soil indicators and why it is believed that soil meets the definition of a hydric soil.

Problematic Hydric Soil Procedure (S-95)

Corps of Engineers 2010 Midwest Regional Supplement, ERDC/EL TR-10-16

1.	Hydrophytic vegetation present	Yes
2.	Indicators of wetland hydrology Present	Yes
3.	Thoroughly describe soil profile and landscape setting. Verify landscape position likely collects or concentrates water (a. concave surface, b. active floodplain, c. level area, d. toe, e. fringe, f. restrictive layer, g. groundwater discharge, h. other	The soil profile consisted of a darker silt loam layer in the top 14 inches that overlaid a lighter silt loam layer with a depleted matrix color without any concentrations. The sample point is positioned in a moderate depression that contained surface water at the time of sampling. The depression collects water from surface runoff over the surrounding landscape.
4a.	Indicators of problematic soils present? Coast Prairie Redox (A16), Dark Surface (S7), Iron-Manganese masses (F12), Very Shallow Dark Surface (TF12)).	No
4b.	Are problematic soil situations present? 1. Shallow soils over limestone, 2. Fluvial Sediments w/in floodplains, 3. Recently developed wetlands, 4.Seasonally ponded soils, 5. Soils with high chroma subsoils, 6. Other	Yes (4) – Soils are seasonally ponded during the growing season.
4c.	Saturated soil becomes redder (>4" of soil w/in upper 12" w/ matrix value of >4 and chroma <2 becomes redder by one or more pages in hue and/or increases >1 in chroma when exposed to air within 30 min.	No
4d.	Reduced ferrous iron present? Conduct test w. alpha, alpha-dipyridyl	N/A, test not conducted.
4e.	Is soil ponded or flooded, or is water table within 12-inches of surface for 14 consecutive days or more during growing season in most years?	Yes, the soil was saturated at the time of the investigation with a high water table and surface water in mid/late summer, indicating the water table is likely within 12-inches of the surface for 14 consecutive days or more in the growing season in most years.

*Hydric soil is present if answer to 1-4 is Yes. Note only one of 4a-4e is required. Items 4a-4e are approaches that can be used to determine whether soil is hydric. Once complete document in remarks section of data form or in delineation report why it is believed that the soil lacks any of the NTCHS hydric soil indicators and why it is believed that soil meets the definition of a hydric soil.

NEBRASKA
DEPARTMENT OF TRANSPORTATION

Appendix C:

Site Photo Log



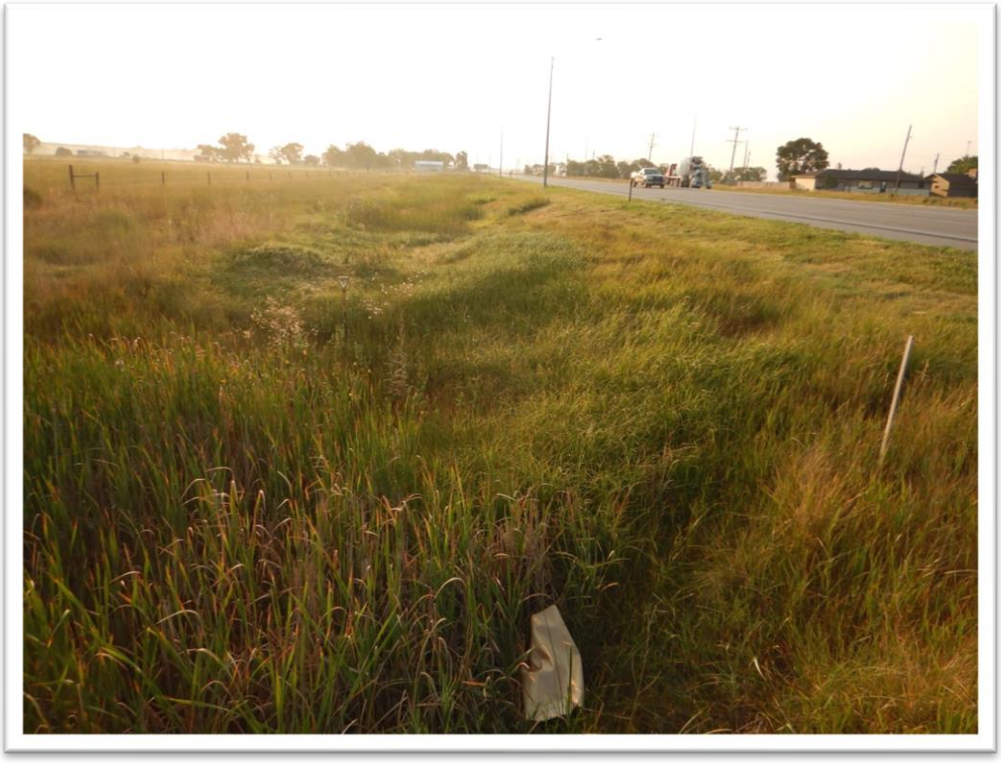
Photo Point (P-1): View facing northeast at upland point S-1 postioned in a roadside ditch south of US-26.



P-1a: View facing east at an upland roadside ditch from the top of a culvert parallel with US-26.



P-1b: View facing west at a represenative upland road ditch which drains east through a culvert.



P-2: View facing east at PEMA/C wetland and sample point S-2 positioned in the roadside ditch north of US-26.



P-2a: View facing west at representative PEMA/C wetland from the top of a drive with a culvert positioned parallel with US-26.



P-2b: View facing north at PEMA/C wetland in ditch draining north beyond the investigation area.



P-2c: View facing southwest at a representative PEMA wetland established around a culvert inlet that drains north below US-26.



P-3: View facing southeast at upland outpoint S-3 positioned on a flat bench alongside the roadside ditch north of the wetland boundary.



P-4: View facing west at upland point S-4 positioned in the roadside ditch south of US-26.



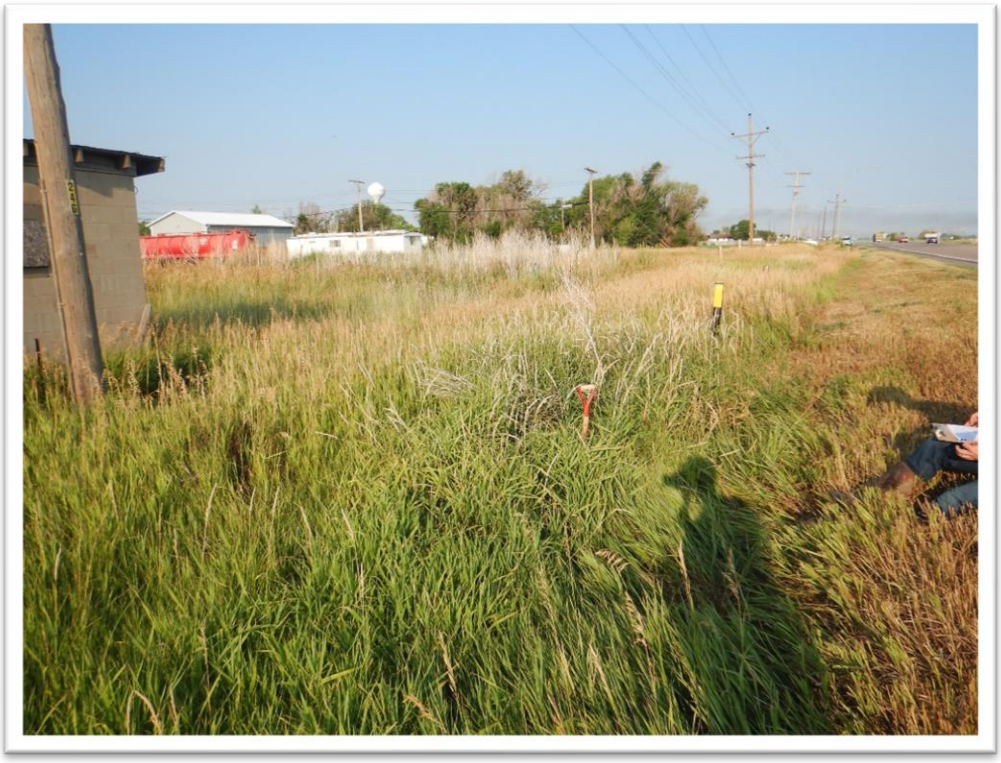
P-4a: View facing east at a representative upland roadside ditch connected by a culvert parallel with US-26.



P-5: View facing west at upland point S-5 postioned in a mixed vegetation roadside ditch north of US-26.



P-6: View facing north at PEMA/C wetland and sample point S-6 positioned in a roadside ditch extending north and south along Stonegate Road.



P-7: View facing southwest at upland point S-7 positioned in a roadside ditch south of US-26.



P-7a: View facing southeast at a representative upland area from the top of a culvert.



P-7b: View facing south at a representative upland area from the top of a culvert.



P-7c: View facing southeast at upland drainage extending south beyond the invesigation area limits.



P-8: View facing southeast at upland outpoint S-8 postioned in the roadside ditch west of the wetland boundary.



P-8a: View facing northeast at a representative upland ditch near a culvert on the north side of US-26. The culvert drains south beneath US-26 to a PEMA/C wetland.



P-9: View facing west at PEMA/C wetland and sample point S-9 positioned in a roadside ditch south of US-26. The wetland feature extends east within the ditch for approximately a ½ mile.



P-9a: View facing south at PEMA/C wetland S-9 from the top of a culvert south of US-26.



P-9b: View facing south at PEMA/C wetland within the roadside ditch that transitions to upland at the toe-slope. A NHD feature is depicted in this area but no channel or other water features were observed.



P-10: View facing northeast at PEMA/C wetland and sample point S-10 positioned in the roadside ditch north of US-26. A representative wetland feature is located west of this area connected by a culvert parallel to US-26.



P-10a: View facing south at PEMA/C wetland representative of S-10 positioned in a drainage near the north edge of the investigation area limits.



P-10b: View facing north at PEMA/C wetland representative of S-10 positioned in a drainage ditch from the top of a culvert north of US-26



P-11: View facing east at upland outpoint S-11 positioned in a roadside ditch west of the wetland boundary.



P-12: View facing north at PEMA/C wetland and sample point S-12 positioned in a lagoon adjacent to the S-10 PEMA/C wetland north of US-26.



P-13: View facing east at upland outpoint S-12 positioned on a terrace between two wetland features.



P-14: View facing east at upland outpoint S-14 positioned in a flat field west of a representative wetland boundary for S-15.



P-15: View facing east at PEMA/C wetland and sample point S-15 positioned in a small depression within a field. Two representative wetland features were observed to the northwest of this feature.



P-16: View facing west at a long, linear PEMA/C wetland and sample point S-16 positioned within a roadside ditch. The wetland extends west for approximately 0.30 miles and to the south beyond the investigation area limits.



P-16a: View facing north at PEMA/C wetland representative of S-16 extending north within the ROW ditch to the investigation area boundary.



P-16b: View facing west at PEMA/C wetland representative of S-16 and S-10 extending west within the ROW ditch north of US-26.



P-16c: View facing south at PEMA/C wetland representative of S-16 extending south within the ROW ditch to the investigation area boundary.



P-17: View facing east at PEMA/C wetland and sample point S-17 positioned within a field north of US-26. An additional representative wetland feature is located east of this wetland boundary.



P-18: View facing east at upland outpoint S-18 positioned in a field north of the wetland boundary.



P-19: View facing southeast at fringe PEMA/C wetland and sample point S-19 positioned along the bank of the Minatare Drain. Wetlands are present along the fringe of the canal as it drains to the east.



P-19a: View facing west at representative PEMA/C wetland and the Minatare Drain from the top of a culvert at the intersection of Greenbuck Road and US-26.



P-19b: View facing east at representative PEMA/C wetland and the Minatare Drain from the top of a culvert at the intersection of Greenbuck Road and US-26.



P-20: View facing north at upland outpoint S-20 positioned on a terrace west of the Minatare Drain and PEMA/C wetland.



P-21: View facing east at PEMA/C wetland and sample point S-21 positioned in a drainage ditch south of US-26. The wetland extends east 1/5 of a mile and sharply turns and continues to the south beyond the investigation area limits.



P-21a: View facing west at representative PEMA/C wetland within a drainage ditch south of US-26.



P-21b: View facing southwest at representative PEMA/C wetland and upland transition along the ditch slope.



P-21c: View facing southeast at representative PEMA/C wetland within a drainage ditch draining to the south.



P-22: View facing west of upland point S-22 positioned on a terrace between the wetland boundary and roadway.



P-22a: View facing south at an upland agricultural area depicted having multiple signatures from historic aerial image review. No wetland indicators were observed.



P-23: View facing west at fringe PEMA/C wetland representative of S-23 and the Minatare Drain from the top of a culvert and access drive. Minatare drain continues draining east into Ninemile Creek.



P-23a: View facing east at fringe PEMA/C wetland representative of S-23, PSSA wetland represented by S-24, and the Minatare Drain from the top of a culvert and access drive.



P-23b: View facing west at fringe PEMA/C wetland representative of S-23 and the Minatare Drain from the top of a culvert and access drive.



P-23c: View facing northwest at fringe PEMA/C wetland representative of S-23 and an unnamed canal drainage. The canal drains to the southeast through a culvert into the Minatare Drain.



P-24: View facing south at PSSA wetland and sample point S-24 positioned along the bank of Minatare Drain north of US-26.



P-25: View facing southwest at upland outpoint S-25 positioned at the top of a slope north of the wetland boundaries and Minatare Drain.



P-26: View facing west at PEMA/C wetland and sample point S-26 positioned on a terrace above Ninemile Creek, south of US-26.



P-26a: View facing south at Ninemile Creek from the northern edge of the investigation area limits.



P-26b: View facing north at Ninemile Creek and fringe PEMA/C wetlands from the north side of bridge.



P-26c: View facing south at Ninemile Creek and PEMA/C fringe wetlands from the south side of the US-26 bridge.



P-27: View facing north at upland outpoint S-27 positioned within a field above Ninemile Creek.



P-28: View facing north at PSSA wetland and sample point S-28 positioned on a terrace above Ninemile Creek south of US-26.



P-29: View facing south at PEMA/C wetland S-29 positioned on a terrace above the Minatare Drain canal, north of US-26.



P-29a: View facing east at the Minatare Drain and fringe PEMA/C wetland from a terrace north of US-26.



P-29b: View facing west at the Minatare Drain and fringe PEMA/C wetland from the top of a culvert on the west side of County Road 32.



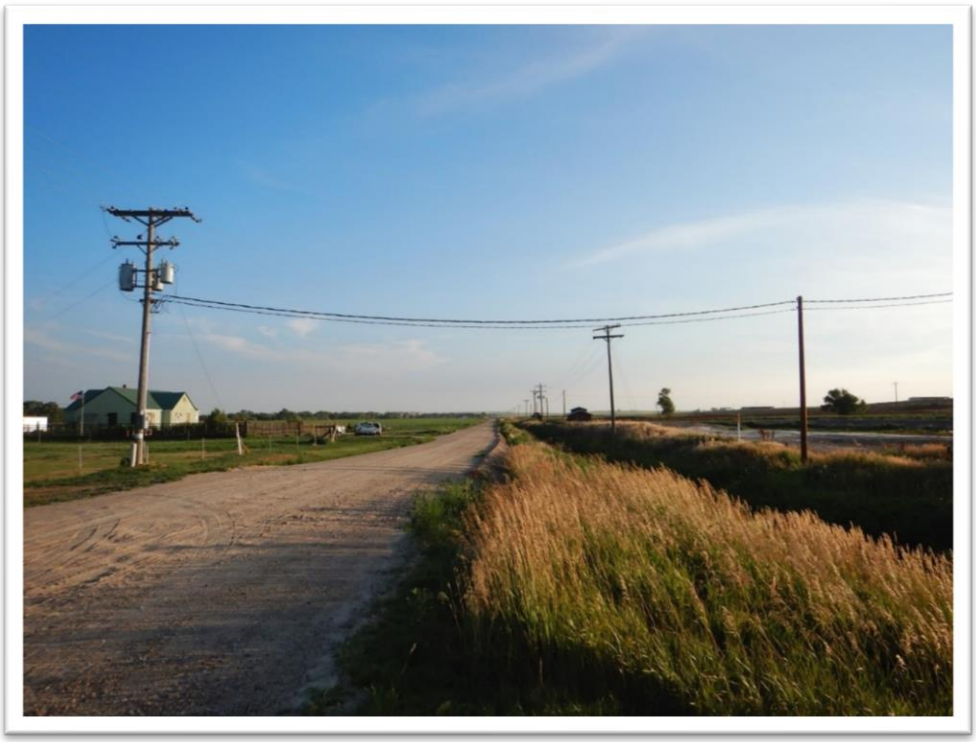
P-30: View facing southeast at upland outpoint S-30 positioned in a field north of the wetland boundary and Minatare Drain.



P-31: View facing west at PEMA/C wetland and sample point S-31 positioned on the north side of an excavated ditch with an unnamed intermittent channel.



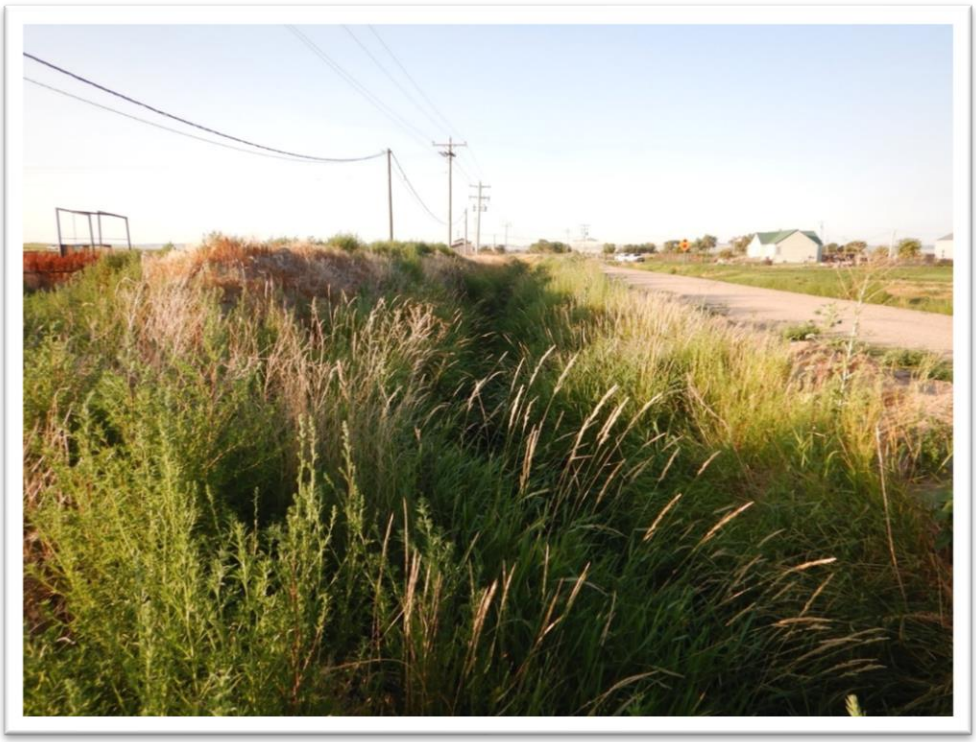
P-31a: View facing northwest at fringe PEMA/C along an unnamed intermittent channel from the top of a culvert north of US-26.



P-31b: View facing north at fringe PEMA/C wetland along an unnamed intermittent channel flowing north to south within a ditch east of County Road 32.



P-31c: View facing east from the top of a culvert below CR 32 at fringe PEMA/C wetland and an unnamed intermittent channel flowing east.



P-31d: View facing south at fringe PEMA/C wetland along an unnamed intermittent channel flowing south on the east side of CR 32.



P-32: View facing west at upland outpoint S-32 from the top of a ditch above the unnamed intermittent channel and PEMA/C wetlands.



P-33: View facing northeast at fringe PEMA/C wetland and sample point S-33 positioned on a terrace above an unnamed intermittent channel south of US-26.



P-33a: View facing south from top of culvert at PEMA/C wetland along an unnamed intermittent channel within a large drainage south of US-26.



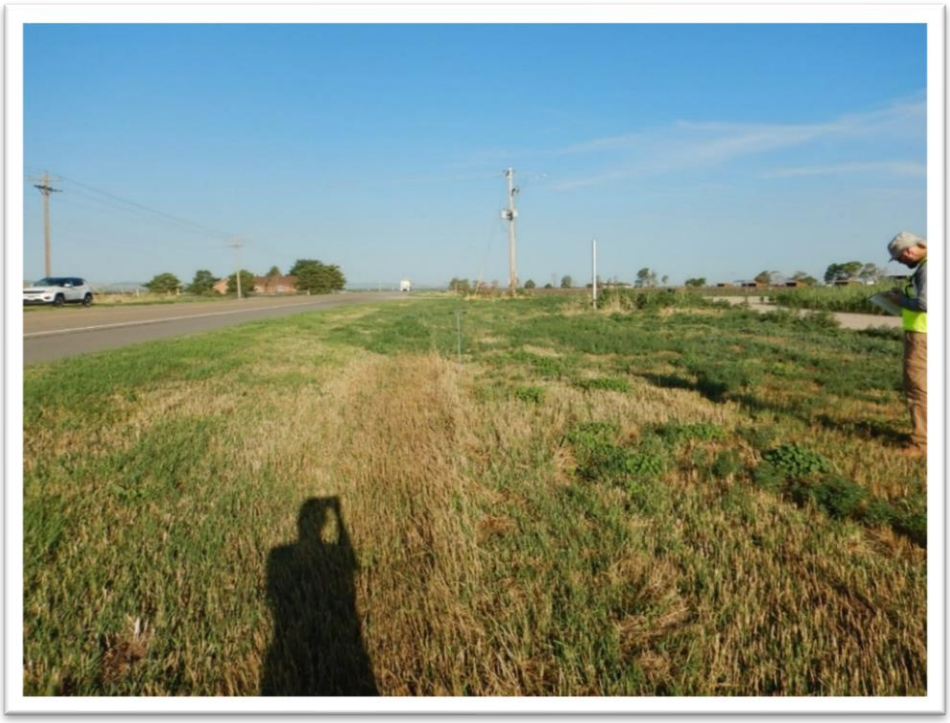
P-34: View facing south at upland outpoint S-34 positioned at the top of bank above the PEMA/C wetland and intermittent channel.



P-34a: View facing south at representative upland along US-26 from the top of a culvert.



P-34b: View facing north at upland area within a feedlot from the top of a culvert north of US-26.



P-35: View facing west at upland point S-35 positioned in a ditch near the limits of a mapped NWI feature. No surface channel or canal was observed within the investigation area limits. A concrete control structure was located to the north beyond the ROW.



P-35a: View facing north at representative upland and a control structure for an underground canal. The underground canal is mapped by the NHD and canal inventory database.



P-35b: View facing south at representative upland with an underground canal system on the south side of US-26. The underground canal is mapped by the NHD and canal inventory database.



P-35c: View facing south at upland road ditch near the intersection of County Road 33 and US-26.



P-35d: View facing north at upland area near the northeast intersection of County Road 33 and US-26.



P-35e: View facing south at a previously mapped channel area which was not observed during the delineation, located north of the investigation area limits on the east side of County Road 33.



P-35f: View facing south at representative upland within the roadside ditch and a canal siphon south of US-26.



P-35g: View facing north at upland road ditch and agricultural field.



P-36: View facing south at upland point S-36 positioned in a crop field to the south of US-26. The area was highlighted as potential wetland from an identified wet signature assessment.



P-36a: View facing northeast at Branch Canal from the southern edge of the investigation area limits.



P-36b: View facing southwest at Branch Canal and a water control structure south of US-26.



P-36c: View facing south at canal/water control structure south of US-26



P-36d: View facing north at Branch Canal and a canal/water control structure north of US-26.



P-36e: View facing south at Branch Canal north of the investigation area limits.



P-36f: View facing south at reuse pit located south of US-26 with a low water level.



P-36g: View facing southeast at a canal south of US-26.



P-36h: View facing north at a canal near the southern edge of the investigation area limits.



P-37: View facing south at upland point S-37 positioned at the edge of a crop field south of US-26. The area was highlighted as potential wetland from an average wet signature assessment.



P-37a: View facing east at an upland concrete drainage near the intersection of County Road 34 and US-26.



P-37b: View facing west at a concrete drainage bisected by a residential drive.



P-38: View facing east at upland point S-38 positioned in a ditch previously delineated as wetland.



P-38a: View facing northeast at representative upland along a drainage south of US-26.



P-38b: View facing west at representative upland along a ditch/ag boundary.



P-39: View facing east upland outpoint S-39 positioned in a roadside ditch west of the S-40 wetland boundary.



P-40: View facing north of PEMA/C wetland and sample point S-40 positioned in a roadside ditch on the west side of County Road 35.



P-40a: View facing south at a drainage ditch continuing south beyond the investigation area limits



P-40b: View facing west at a canal drainage south of the investigation area that drains north to the PEMA/C wetland represented by S-40.



P-41: View facing south at upland point S-41 positioned in a depression previously delineated as wetland north of US-26.



P-42: View facing southeast at fringe PEMA/C wetland and sample point S-42 positioned on a terrace adjacent to a canal south of US-26.



P-42a: View facing northwest at representative fringe PEMA/C wetland on the north side of US-26, along a canal from the top of a culvert.



P-42b: View facing southeast at fringe PEMA/C wetland and a canal from the northern edge of the investigation area limits.



P-42c: View facing southeast at fringe PEMA/C wetland on the south side of US-26, along a canal, from the top of a culvert.



P-42d: View facing northwest at fringe PEMA/C wetland and a canal from the southern edge of the investigation area limits.



P-43: View facing south at upland outpoint S-43 positioned in the roadside ditch.



P-43a: View facing west at an upland agricultural drainage on south side of US-26.



P-44: View facing west at PEMA/C wetland and sample point S-44 positioned in a roadside ditch that drains west.



P-45: View facing west at upland outpoint S-45 positioned along a roadside ditch slope near an agricultural runoff channel that drains west.



P-45a: View facing north at flowing water from agricultural runoff.



P-46: View facing east at upland point S-46 positioned in an excavated ditch on the south side of US-26. The excavated ditch carries reuse irrigation water to the west, a canal line was mapped.



P-47: View facing east at PEMA/C wetland and sample point S-47 positioned in a roadside ditch near the end of a gravity irrigation system north of US-26.



P-48: View facing west at upland outpoint S-48 positioned in a roadside ditch downslope of an irrigation outflow area and west of the wetland boundary.



P-48a: View facing southeast at a canal from the top of a culvert south of US-26.



P-48b: View facing southeast at two canals extending northwest to southeast on both sides of the canal drive.



P-48c: View facing northwest at a culvert and canal from the canal drive.



P-48d: View facing north at culvert and canal from the roadside ditch north of US-26



P-48e: View facing south at a culvert and canal from the northern edge of the investigation area limits.



P-48f: View facing northwest at canals from the southern edge of the investigation area limits.



P-49: View facing south at PEMA/C wetland and sample point S-49 positioned in a roadside ditch connected to an agricultural runoff feature on the west side of County Road 36 south of US-26. The wetland feature extends south within the ditch.



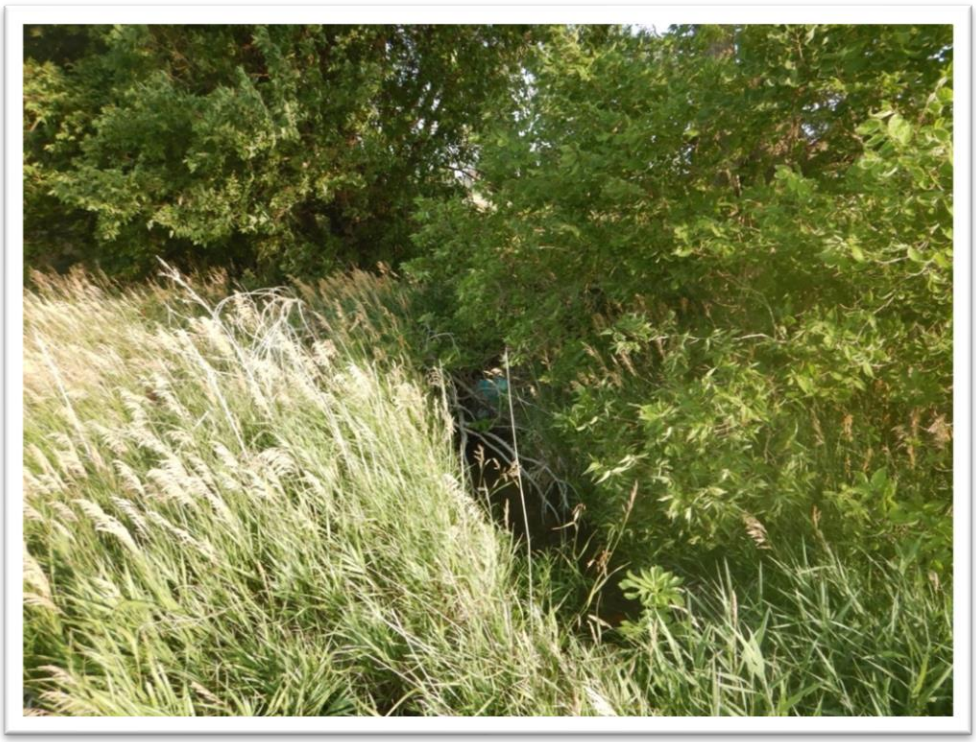
P-49a: View facing north at PEMA/C wetland within an agricultural drainage ditch west of County Road 36.



P-49b: View facing east at representative PEMA/C wetland within a roadside ditch connected by a culvert under CR 36.



P-50: View facing east at upland outpoint S-50 positioned in the roadside ditch west of the wetland boundary.



P-50a: View facing northwest at agricultural runoff channel draining to the east through upland south of US-26.



P-50b: View facing west at representative upland along a row crop field and shelterbelt south of US-26.



P-51: View facing east at upland outpoint S-51 positioned within an excavated ditch west of the wetland boundary represented by S-52.



P-52: View facing west at PEMA/C wetland and sample point S-52 positioned in a roadside ditch north of US-26.



P-52a: View facing east at PEMA/C wetland and an agricultural runoff channel within the road ditch east of County Road 36.



P-52b: View facing south at PEMA/C wetland and agricultural runoff channel within the road ditch near the northern edge of the investigation area limits.



P-52c: View facing east at representative PEMA/C wetland within the road ditch and an agricultural runoff channel from the top of a culvert. The culvert connects the feature to the west ditch.



P-53: View facing south at upland point S-53 positioned in a row crop field within a depicted wet signature that was observed as upland.



P-54: View facing north at fringe PEMA/C wetland and sample point S-54 positioned on a terrace above Bayard Drain Canal.



P-54a: View facing south at fringe PEMA/C wetland and Bayard Drain Canal from the northern edge of the investigation area limits.



P-54b: View facing south at fringe PEMA/C wetland and Bayard Drain Canal from the top of a culvert. The wetland and canal connected to the north side through a culvert beneath US-26.



P-54c: View facing north at representative fringe PEMA/C and Bayard Drain Canal from the south investigation area limit.



P-55: View facing southwest at upland outpoint S-55 positioned on a terrace east of the wetland along the Bayard Drain canal.



P-55a: View facing southwest at representative upland within a row crop field. The area was highlighted as potential wetland due to having a wet signature boundary.



P-55b: View facing east at representative upland near a depicted wet signature.



P-55c: View facing south at representative upland along a hill slope into a row crop field. The area was highlighted as potential wetland due to having a wet signature boundary.



P-55d: View facing north at an upland irrigation pivot corner north of US-26. The area was highlighted as potential wetland due to having a wet signature boundary.



P-56: View facing east at upland point S-56 positioned within a hayfield which had a depicted wet signature.



P-57: View facing northeast at upland point S-57 positioned in roadside ditch near a culvert inlet north of US-26.



P-57a: View facing south at representative upland ditch near a culvert outlet south of US-26.



P-57b: View facing south at a representative upland area and buried canal south of US-26.



P-57c: View facing northwest at a canal draining to the south.



P-57d: View facing southeast at a canal from the northern investigation area limit



P-57e: View facing east at a non-flowing irrigation ditch with vegetation growing at the bottom.



P-58: View facing northwest at upland point S-58 positioned near an irrigation ditch within the County Road 37 ROW.



P-58a: View facing north at an upland drain on the west side of County Road 37 at the southern investigation area limits.



P-58b: View facing north at an upland drain on the east side of County Road 37 at the southern investigation area limits.



P-58c: View facing south at an upland drain on the west side of County Road 37.



P-58d: View facing northeast at a reuse pit/pond.



P-58e: View facing south at an upland drain on the east side of County Road 37.



P-58f: View facing east at an upland concrete extending east within the ROW south of US-26.



P-59: View facing east at upland point S-59 positioned in the roadside ditch. This area was previously delineated as wetland.



P-59a: View facing east at an upland ditch from the top of a culvert under CR 37 and parallel to US-26.



P-59b: View facing west at a representative upland ditch from the top of a culvert under CR 37 and parallel to US-26.



P-59c: View facing south at an upland ditch and concrete canal on the west side of County Road 37 near the northern investigation area limits.



P-59d: View facing south at an upland ditch on the east side of County Road 37.



P-59e: View facing west at a concrete canal end, transitioning to irrigation pipe outside of the ROW west of County Road 37.



P-60: View facing west at upland point S-60 positioned within a roadside ditch north of US-26.



P-60a: View facing east at an upland concrete canal south of US-26.



P-60b: View facing west at an upland concrete canal south of US-26.



P-60c: View facing west at an upland ditch north of US-26.



P-60d: View facing north at a canal draining to the south from the top of a culvert, north of US-26.



P-60e: View facing south at a canal from the northern investigation area limits.



P-60f: View facing south at canal from the top of a culvert south of US-26.



P-60g: View facing north at a canal from the southern investigation area limits.



P-61: View facing west at PEMA/C wetland and sample point S-61 positioned in a roadside ditch north of US-26.



P-61a: View facing northeast at a representative PEMA/C wetland in a roadside ditch with standing water flowing to a culvert.



P-62: View facing northeast at upland outpoint S-62 positioned in the roadside ditch between two PEMA/C wetlands.



P-62a: View facing southwest of representative upland in a roadside ditch near a culvert.



P-62b: View facing north at an upland drain from the southern investigation area limits.



P-62c: View facing east at a reuse pit/pond south of US-26.



P-62d: View facing east at a concrete irrigation ditch within the ROW south of US-26.



P-62e: View facing west at a concrete irrigation ditch within the ROW south of US-26.



P-63: View facing south at upland point S-63 positioned in a depression within a row crop field. The area was highlighted as potential wetland due to having a wet signature boundary.



P-64: View facing north at upland point S-64 positioned in a depression within a row crop field. The area was highlighted as potential wetland due to having a wet signature boundary.



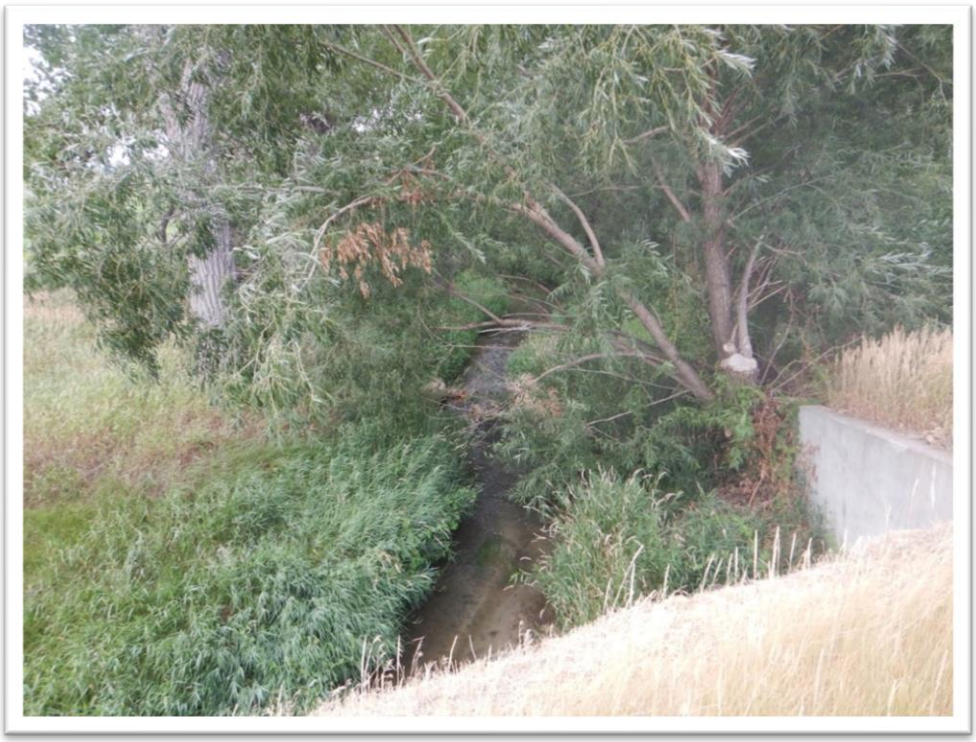
P-65: View facing west at upland point S-65 positioned in a depression at the edge of a row crop field. The area was highlighted as potential wetland due to having a wet signature boundary.



P-66: View facing north at fringe PEMA/C wetland, sample point S-66, and Wildhorse Creek, a perennial channel, from the top of a culvert north of US-26.



P-66a: View facing south at Wildhorse Creek and fringe PEMA/C wetland from the northern investigation area limits.



P-66b: View facing south at fringe PEMA/C wetland and Wildhorse Creek from the top of a culvert south of US-26



P-66c: View facing northwest at Wildhorse Creek and fringe PEMA/C wetland from the southern investigation area limits.



P-67: View facing east at upland outpoint S-67 from an upper terrace west of the wetland buffer.



P-68: View facing northwest at upland point S-68, which was previously mapped as wetland.



P-69: View facing southeast at upland point S-69 positioned between a row crop field and the roadside ditch south of US-26.



P-69a: View facing southwest at representative upland in a row crop field. The area was highlighted as potential wetland due to having a wet signature boundary.



P-69b: View facing east at a concrete irrigation ditch within the ROW south of US-26.



P-69c: View facing south at an irrigation ditch/canal and control structure that drains to another canal to the southeast.



P-69d: View facing north at a canal from the southern edge of the investigation area boundary.



P-69e: View facing northeast at representative upland in the roadside ditch north of US-26.



P-69f: View facing south at representative upland with no culvert, or channel from the depicted NHD line.



P-69g: View facing north and representative upland with no culvert, or channel from the depicted NHD line.

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P-70: View facing southwest at PEMA/C wetland and sample point S-70 positioned in the roadside ditch on the south side of L62A.



P-70a: View facing east at PEMA/C wetland S-70 from the top of a culvert. Wetland is positioned in the roadside ditch.



P-70b: View facing northwest at PEMA/C wetland representative of S-70 on the north side of L62A, connected by a culvert.



P-71: View facing southwest at upland outpoint S-71 positioned in the roadside ditch east of the wetland boundary.



P-71a: View facing north at representative upland on the east side of US-26, south of the US-26/L62A junction.



P-71b: View facing north at representative upland on the west side of US-26, south of the US-26/L62A junction.



P-72: View facing north at PEMA/C wetland and sample point S-72 positioned in a drainage ditch adjacent to a pasture on the north side of L62A.



P-72a: View facing south at PEMA/C wetland representative of S-72 extending south beyond the ROW, a drainage ditch, on the south side of L62A.



P-73: View facing northwest at upland outpoint S-73 positioned along the side slope of a road ditch south of the wetland boundary.



P-74: View facing northwest at upland point S-74 positioned in a roadside ditch on the south side of L62A. The sample location had mixed vegetation.



P-75: View facing west at upland point S-75 positioned in an agricultural field along a pivot corner currently planted with healthy row crop. This sample point was positioned in an identified average wet signature. No wetlands were observed at this location.



P-75a: View facing southeast at an upland area representative of S-75 on the southwest corner of County Road 76 and L62A. A NHD line was depicted on the map; however, no channel was observed.



P-76: View facing south at PEMA/C wetland and sample point S-76 positioned above the channel bank on the south side of L62A.



P-76a: View facing north at an unnamed perennial channel and fringe PEMA/C wetland representative of S-76.



P-76b: View facing southwest at an unnamed perennial channel and fringe PEMA/C wetlands representative of S-76. The channel drains to the northwest.



P-76c: View facing south at an unnamed perennial channel and fringe wetlands from the top of a culvert on the south side of L62A.



P-76d: View facing north at PEMA/C wetland representative of S-76 extending along the fringe of an unnamed perennial channel, from the top of a culvert on the north side of L62A.



P-76e: View facing south at PEMA/C wetland representative of S-76 from the bank of an unnamed perennial channel.



P-76f: View facing north at PEMA/C wetland representative of S-76 from the bank of an unnamed perennial channel.



P-76g: View facing north at PEMA/C wetland representative of S-76 from the bank of an unnamed perennial channel near the investigation area limits. The unnamed perennial channel continues northwest beyond the investigation area limits.



P-77: View facing west at upland outpoint S-77 positioned along the bank slope east of the wetland boundary.



P-78: View facing north at PEMA/C wetland and sample point S-78 positioned in a depression on the north side of L62A.



P-79: View facing north at upland outpoint S-79 positioned in low area of ditch east of the wetland boundary.



P-79a: View facing south at an irrigation canal from the top of a culvert on the south side of L62A.



P-79b: View facing north at an irrigation canal near the investigation area limits on the south side of L62A.



P-79c: View facing northwest at an irrigation canal from the top of a culvert on the north side of L62A.



P-79d: View facing northwest at an upland depression representative of S-79 adjacent to an irrigation canal on the north side of L62A.



P-79e: View facing south at an irrigation canal near the investigation area limits on the north side of L62A.



P-80: View facing northeast at upland outpoint S-80 positioned in the roadside ditch west of the wetland boundary, on the north side of L62A.



P-80a: View facing northeast at an upland drainage within the ditch and row crop field created by a gravity irrigation system for the agricultural field.



P-80b: View facing southwest at an irrigation drainageway that runs west to east along the row crop field.



P-80c: View facing east at ponded standing water created by the gravity irrigation system.



P-80d: View facing west at an upland area representative of S-80 positioned in a depressional ditch on the south side of L62A.



P-80e: View facing east at an upland area representative of S-80 positioned in a depressional ditch on the south side of L62A. This previously delineated wetland area was dominated by upland vegetation.



P-81: View facing northwest at PEMA/C wetland and sample point S-81 positioned in a roadside ditch on the north side of L62A.



P-82: View facing northeast at upland outpoint S-82 positioned in the road ditch west of the wetland boundary, on the north side of L62A.



P-82a: View facing southeast at an unnamed intermittent channel with upland banks, representative of S-82. The channel receives runoff from the north side of L62A, which drains through a culvert south, and continues east.



P-83: View facing northeast at PEMA/C wetland and sample point S-83 positioned in a roadside ditch on the north side of L62A.



P-83a: View facing northwest at a PEMA/C wetland represented by S-83 from the top of a culvert on the north side of L62A.



P-84: View facing south at a PEMA/C wetland and sample point S-84 positioned on a terrace above an intermittent channel on the south side of L62A. Fringe PEMA/C wetland extends along the intermittent channel south until transitioning to PFOA.



P-84a: View facing northeast at a PEMA/C wetland represented by S-84 from the top of a culvert on the east side of County Road 79 south of L62A. An intermittent channel from the west side of Co. Rd. 79 drains east through the culvert into a second intermittent channel.



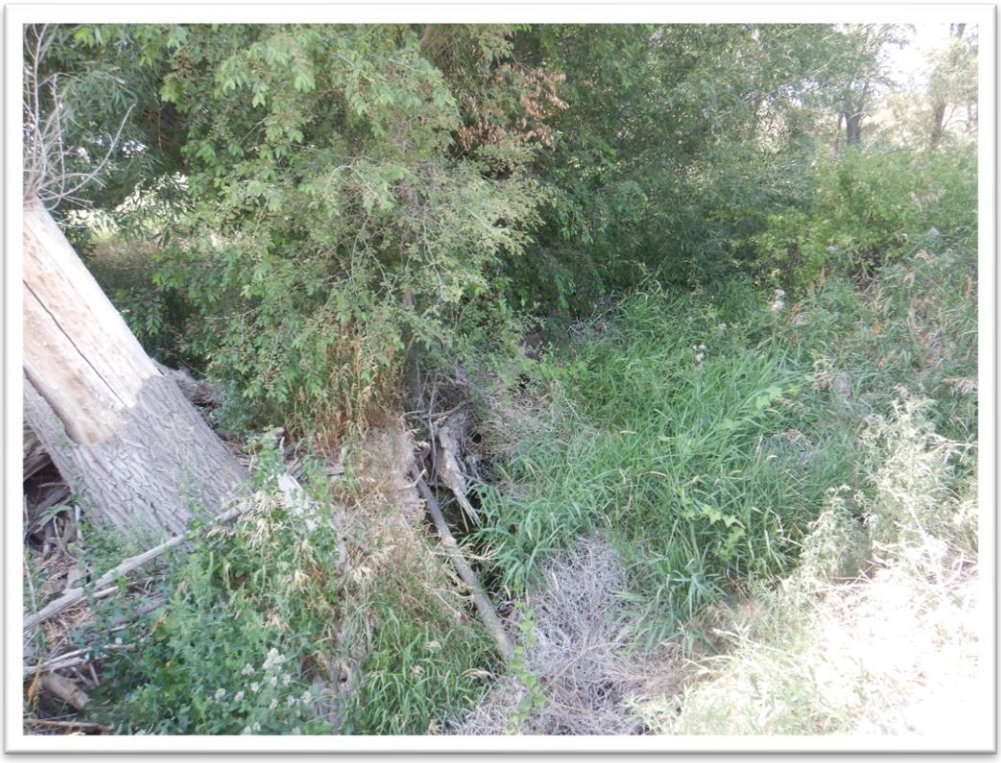
P-84b: View facing west at PEMA/C wetland representative of S-84 positioned in a drainage ditch on the north side of L62A. The wetland is connected to the south side by a culvert.



P-84c: View facing east at PEMA/C wetland representative of S-84 positioned in a roadside ditch on the east side of Co. Rd. 79. The wetland drains through a culvert parallel with L62A east to the wetland represented by P-84b.



P-85: View facing southwest at upland outpoint S-85 positioned along the side slope above the fringe PEMA/C wetland.



P-85a: View facing west at representative upland and intermittent channel positioned in a ditch west of Co. Rd. 79 from the top of a culvert.



P-85b: View facing south at an irrigation drainage flowing north to south along the Co. Rd. 79 shoulder.



P-85c: View facing northwest at a culvert and an irrigation drainage continuing from the north side of the private drive outside of the investigation area.



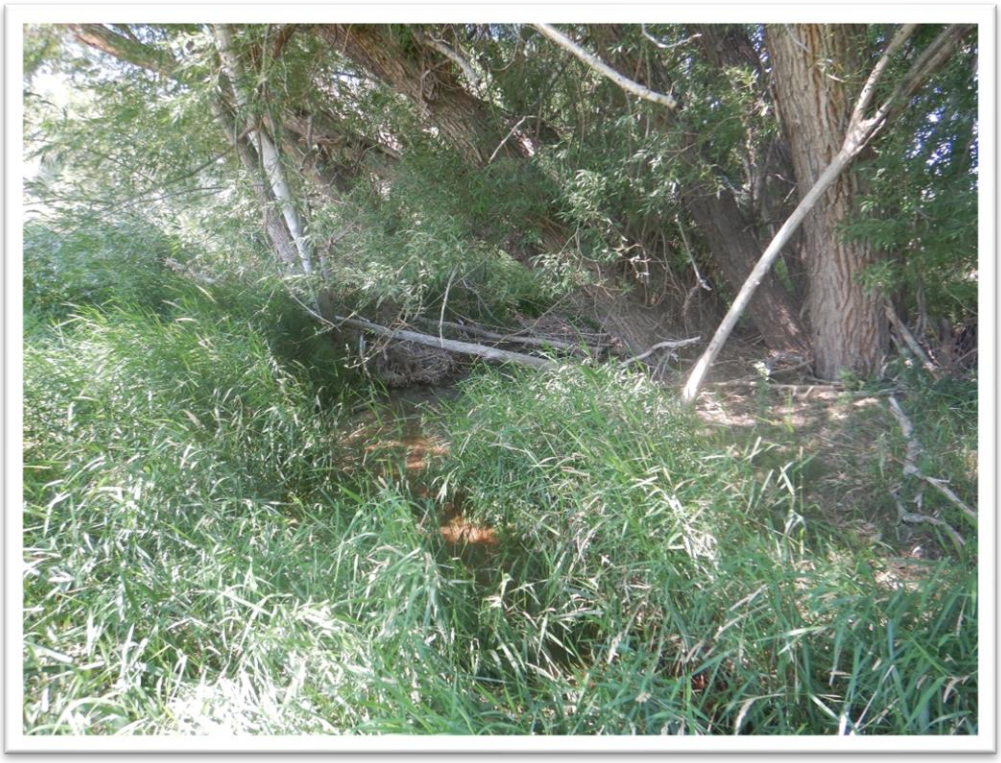
P-86: View facing southeast at PFOA wetland and sample point S-86 positioned on a stream terrace.



P-86a: View facing north at PFOA wetland representative of S-86 positioned along an unnamed intermittent channel.



P-86b: View facing south at PFOA wetland representative of S-86 positioned along an unnamed intermittent channel.



P-86c: View facing north at PFOA wetland representative of S-86 positioned along an unnamed intermittent channel near the investigation area limits on the south side of L62A.



P-87: View facing southwest at upland point S-87 positioned in a flat field on the west side of Co. Rd. 79 and south of L62A.



P-88: View facing north at PEMA wetland and sample point S-88 positioned in a drainage ditch that drains to the south through a culvert beneath L62A.



P-88a: View facing west at representative wetland extending west within the roadside ditch ROW on the north side of L62A.



P-88b: View facing east at representative wetland extending east within the roadside ditch ROW on the north side of L62A.



P-88.5: View facing west at upland outpoint S-88.5 within the roadside ditch on the south side of L62A.



P-88.5a: View facing east at representative upland within the roadside ditch on the south side of L62A.



P-88.5b: View facing southwest at an upland field representative of S-88 and an irrigation ditch that has been buried/filled in by sediment on the south side of L62A.



P-88.5c: View facing west at an irrigation ditch that is flowing out of its concrete pathway into the field south of L62A. Sediment fill within the concrete irrigation ditch is preventing the flow from continuing.



P-88.5d: View facing east at an irrigation ditch filled with sediment and established vegetation south of L62A.



P-88.5e: View facing southwest at a concrete irrigation ditch that has overtopped the structure and is draining south into the field, south of L62A.



P-88.5f: View facing southwest at a concrete irrigation ditch outlet structure draining to the west, south of L62A.



P-88.5g: View facing east at an irrigation ditch draining west to an inlet structure south of L62A.



P-88.5h: View facing southeast at an irrigation ditch and an irrigation reuse pit south of L62A.



P-88.5i: View facing southeast at an irrigation reuse pit south of L62A.



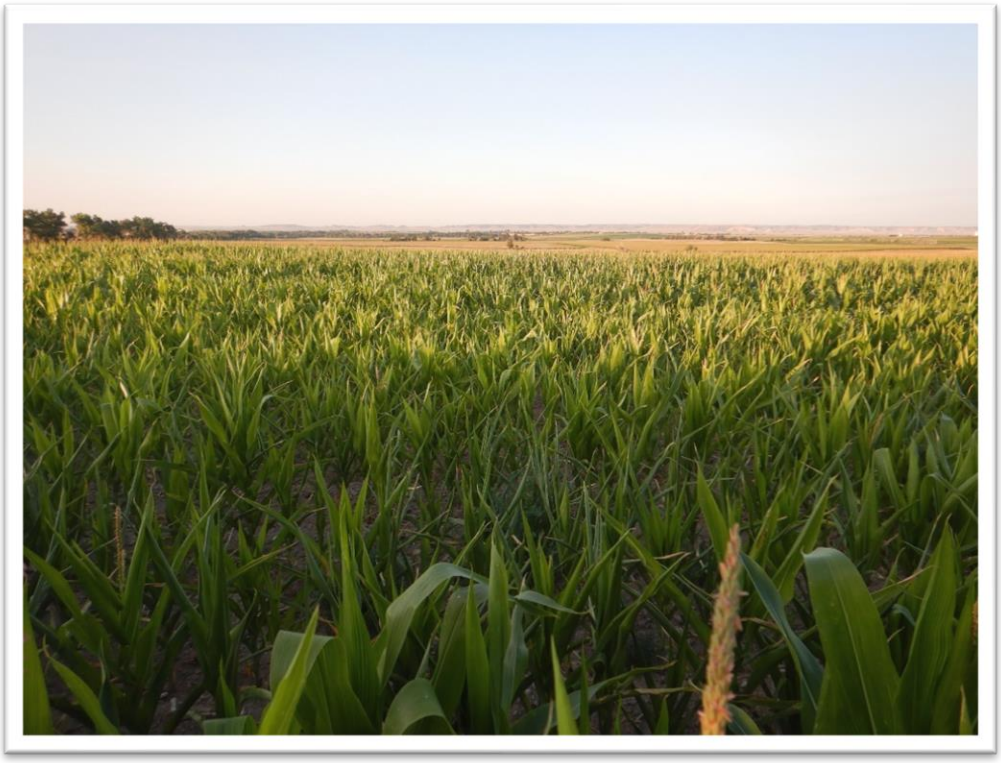
P-88.5j: View facing east at an intermittent irrigation canal near the investigation area limits north of L62A.



P-88.5k: View facing northwest at an intermittent irrigation canal from the canal roadway north of L62A.



P-88.5l: View facing east at an intermittent irrigation canal from the canal roadway north of L62A.



P-88m: View facing south at an upland area representative of S-88 postioned within a healthy row crop field. This area of the crop field was identified as a wet signature during initial desktop review.



P-88.5n: View facing west of an irrigation ditch with no present flow on the south side of L62A.



P-88.5o: View facing southeast at an intermittent irrigation canal from the top of a culvert south of L62A.



P-88.5p: View facing northwest at an intermittent irrigation canal from the top of a culvert north of L62A.



P-88.5q: View facing northwest at an intermittent irrigation canal near the investigation area limits south of L62A.



P-88.5r: View facing northwest at an intermittent irrigation canal near the investigation area limits south of L62A.



P-88.5s: View facing east at an irrigation ditch draining to the east on the south side of L62A.



P-88.5t: View facing northwest at an irrigation control structure draining to the south, south of L62A.



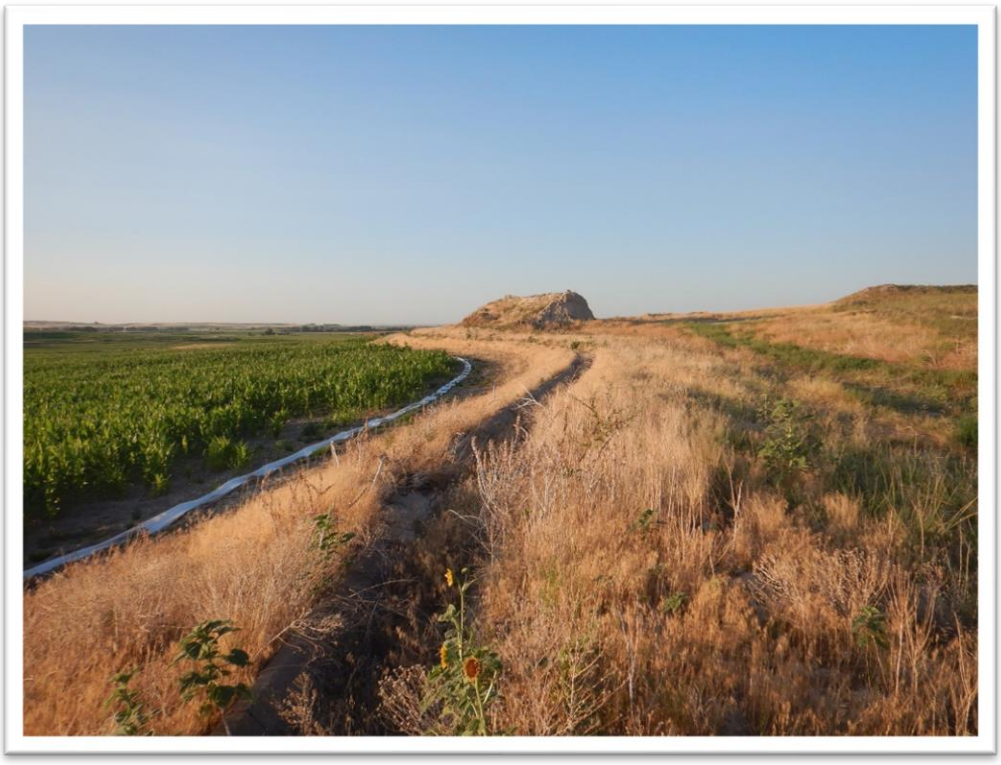
P-88.5u: View facing west at an irrigation pipe that drains west to east through a culvert below Co. Rd. 81.



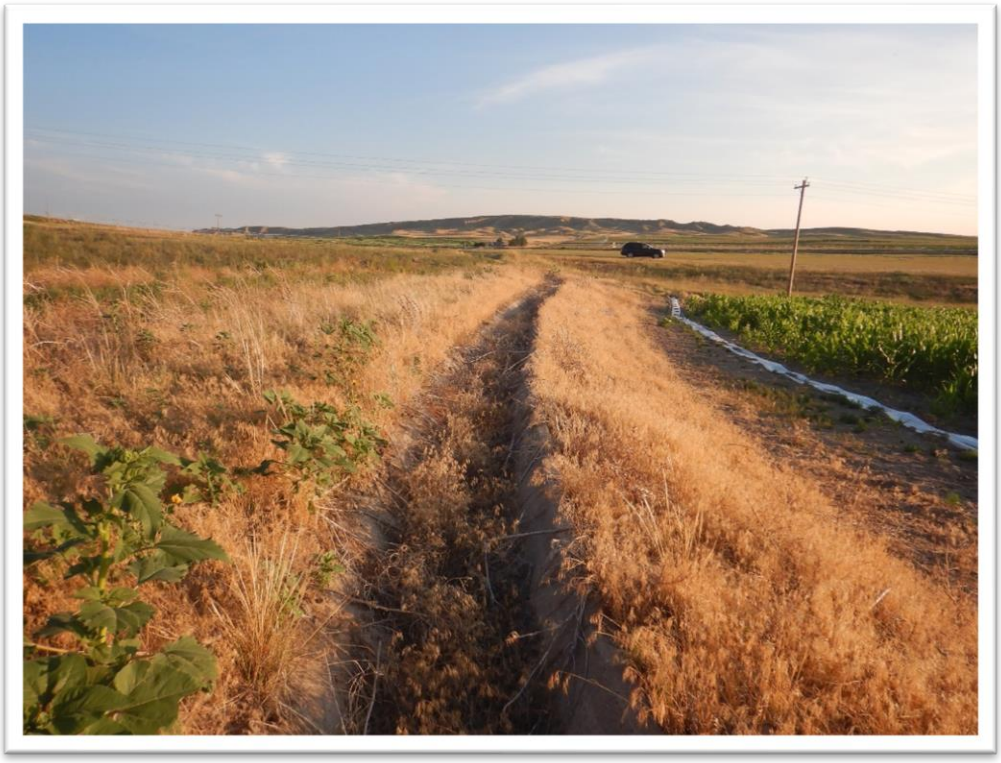
P-88.5v: View facing east at an irrigation ditch draining briefly east and then to the south on the east side of Co. Rd. 81.



P-88.5w: View facing north at an irrigation ditch near the investigation area limits east of Co. Rd. 81.



P-88.5x: View facing south at representative upland and a dry intermittent irrigation ditch.



P-88.5y: View facing north at a dry intermittent irrigation ditch. The ditch is concrete lined and contained vegetation growing in the silt/debris collected along the bottom.



P-88.5z: View facing north at an agricultural field within a wet signature. No wetlands were observed at this location. Planted row-crops (*Zea mays*) were healthy and no other indicators of wetland hydrology were observed.



P-89: View facing south at PEMA/C wetland and sample point S-89 positioned in a drainage ditch on the south side of L62A. The wetland extends to the south beyond the investigation area. The wetland receives drainage from the north through a culvert.



P-90: View facing west at upland point S-90 positioned in the roadside ditch north of L62A.



P-90a: View facing south at representative upland and a dry irrigation ditch alongside an access road.



P-90b: View facing east at a dry irrigation ditch that extends along the north side of an agricultural field.



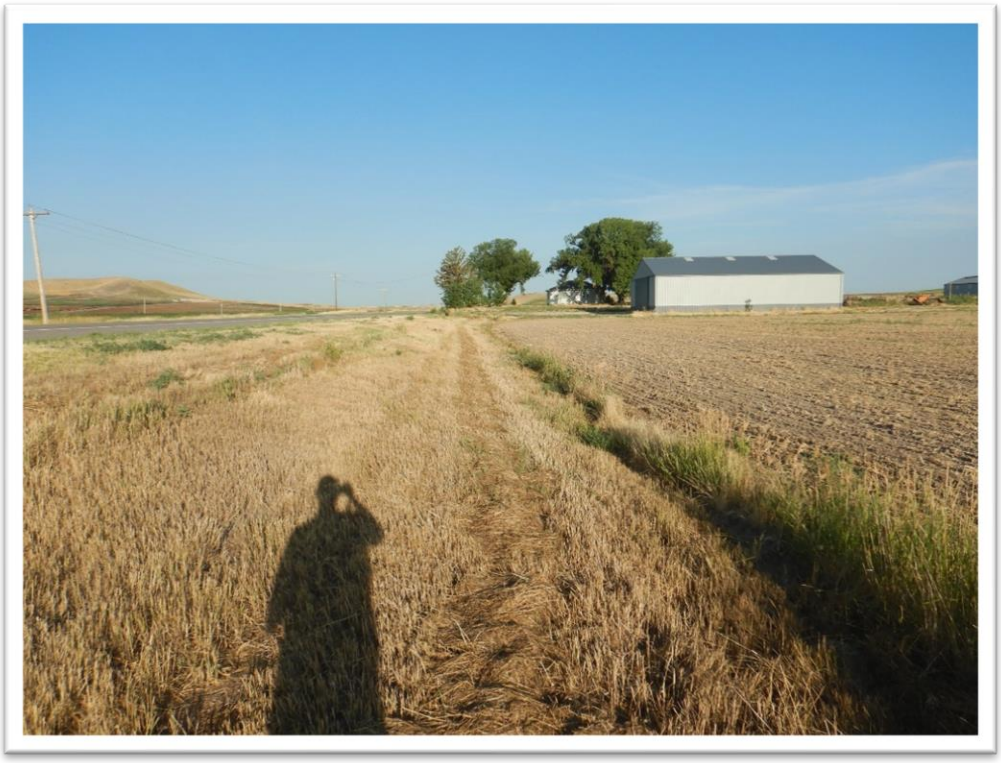
P-90c: View facing north at a dry intermittent irrigation canal. The concrete lined canal drains north toward the irrigation ditches alongside the agricultural field.



P-91: View facing north at upland sample point S-91 positioned in the roadside ditch north of L62A alongside a box culvert inlet.



P-91a: View facing southeast at a representative upland drainage ditch south of the box culvert beneath L62A.



P-91b: View facing west at the representative upland roadside ditch north of L62A.



P-92: View facing east at upland point S-92 positioned in a wet signature area within an agricultural field. The field was planted with beets that were co-dominant with weedy species in this area of the field. No wetland indicators were observed.



P-93: View facing north at upland point S-93 positioned in a wet signature area within an agricultural field. The field had been recently tilled. No wetland indicators were observed.



P-93a: View facing north at the Tri-State Canal from the northern boundary of the investigation area.



P-93b: View facing south toward the upland area near the Tri-State Canal from the northern boundary of the investigation area.



P-94: View facing southeast toward upland point S-94 and an intermittent channel (West Water Creek). The sample point is representative of the upland banks/terraces alongside the incised channel.



P-94a: View facing southeast at West Water Creek from the top of the culvert that extends beneath L62A.



P-94b: View facing northwest at West Water Creek from the top of the culvert that extends beneath L62A.



P-94c: View facing southeast at West Water Creek from the northern boundary of the investigation area. This section of the channel was trampled by cattle and was therefore disturbed/sediment rich.



P-94d: View facing northwest at West Water Creek near the southern boundary of the investigation area. This section of the channel was incised and full of branches with steep upland banks, the top of which were lined by trees.



P-95: View facing north at PEMA/C wetland and sample point S-95 positioned in a slight depression within a cow pasture.



P-96: View facing west at upland outpoint S-96 positioned on a higher elevated area east of the PEMA/C wetland boundary.



P-97: View facing southeast at upland point S-97 positioned by the culvert outlet in the roadside ditch south of L62A.



P-97a: View facing north at the representative upland roadside ditch alongside the culvert inlet north of L62A.



P-98: View facing south of upland point S-98 positioned by the culvert outlet in the roadside ditch south of L62A.



P-98a: View facing north at the representative upland roadside ditch alongside the culvert inlet north of L62A.



P-98b: View facing west at an intermittent irrigation canal. The canal is bisected by a small earthen field access drive.



P-98c: View facing east at an intermittent irrigation canal.



P-98d: View facing west at an intermittent irrigation canal near the confluence with an irrigation reuse pit (see P-98e).



P-98e: View facing south at an irrigation reuse pit.



P-98f: View facing south at the Tri-State Canal from top of the box culvert that extends beneath L62A.



P-98g: View facing north at the Tri-State Canal from the southern investigation area boundary.



P-98h: View facing north at the Tri-State Canal from top of the box culvert that extends beneath L62A.



P-98i: View facing southeast at the Tri-State Canal from the northern investigation area boundary.



P-99: View facing north at PEMA/C wetland and sample point S-99. The wetland contained standing water that appeared to originate from the irrigation reuse pit to the east.



P-99a: View facing north at seep/drainage alongside the irrigation reuse pit (see P-99b) that drained into the PEMA/C wetland through an ephemeral irrigation ditch.



P-99b: View facing east at irrigation reuse pit.



P-99c: View facing west at surface water draining over an upland area from the irrigation recharge pond toward the PEMA/C wetland.



P-99d: View facing west at ephemeral irrigation ditch draining into the PEMA/C wetland alongside a row-crop field.



P-100: View facing northwest at upland outpoint S-100 positioned on a slight slope alongside the ephemeral irrigation ditch that drains into the PEMA/C wetland.



P-101: View facing southeast at upland sample point S-101 positioned alongside a culvert outlet in the roadside ditch south of L62A.



P-101a: View facing south at representative upland area and the Tri-State Canal.



P-101b: View facing north at representative upland area alongside a culvert inlet in the roadside ditch north of L62A.



P-101c: View facing west at the Tri-State Canal.



P-101d: View facing east at the Tri-State Canal.



P-101e: View facing northeast at the Tri-State Canal from the southern boundary of the investigation area.



P-101f: View facing northwest at the Tri-State Canal from the southern boundary of the investigation area.



P-101g: View facing southwest at the Tri-State Canal from the top of the box culvert that conveys it beneath L62A.



P-101h: View facing northeast at the Tri-State Canal from the southern boundary of the investigation area.



P-101i: View facing southwest at ephemeral irrigation ditch alongside the Tri-State Canal.



P-101j: View facing northeast at the Tri-State Canal from the top of the box culvert that conveys it beneath L62A.



P-101k: View facing south at the Tri-State Canal from the northern boundary of the investigation area.



P-102: View facing north at PEMA/C wetland and sample point S-102 positioned on the terrace alongside an intermittent channel (Red Willow Creek).



P-102a: View facing southwest at Red Willow Creek from the top of the box culvert that conveys it beneath L62A. Two beaver dams were positioned on the creek directly downstream of the culvert. The creek was slow flowing upstream of the beaver dams.



P-102b: View facing north at Red Willow Creek and a fringe PEMA/C wetland from the southern boundary of the investigation area.



P-102c: View facing southeast at Red Willow Creek and a fringe PEMA/C wetland from the northern boundary of the investigation area.



P-103: View facing northwest at upland outpoint S-103 positioned on the bank slope east of the PEMA/C wetland boundary.



P-104: View facing northwest at PFOA wetland and sample point S-104 positioned between the main channel and a small branch of Red Willow Creek.



P-105: View facing north at PEMF wetland and sample point S-105. The PEMF wetland is positioned in a large depression that contained standing water and was dominated by obligate vegetation (*Typha latifolia*).



P-106: View facing northwest at upland outpoint S-106 positioned on the hillslope east of the wetland boundary.



P-107: View facing east at PEMA/C wetland and sample point S-107 positioned in a large depressional area south of L62A.



P-108: View facing east at upland outpoint S-108 positioned in an area of mixed vegetation west of the PEMA/C wetland boundary.



P-108a: View facing south at the Tri-State Canal from the top of a box culvert that conveys it beneath L62A.



P-108b: View facing northeast at the Tri-State canal from the southern investigation area boundary.



P-108c: View facing north at the Tri-State Canal from the top of a box culvert that conveys it beneath L62A.



P-108d: View facing southeast at the Tri-State canal from the northern investigation area boundary.



P-109: View facing east at upland sample point S-109 positioned in an area dominated by reed canary grass (*Phalaris arundinacea*) in the roadside ditch north of L62A. No wetland hydrology or hydric soil indicators were observed.



P-110: View facing north at upland sample point S-110 positioned alongside the culvert inlet in the roadside ditch north of L62A. No wetland indicators were observed.



P-110a: View facing south at representative upland alongside the culvert outlet in the roadside ditch south of L62A.



P-110b: View facing southeast at area of an agricultural field identified on the NWI as a Freshwater Pond. No pond or wetland indicators were observed.



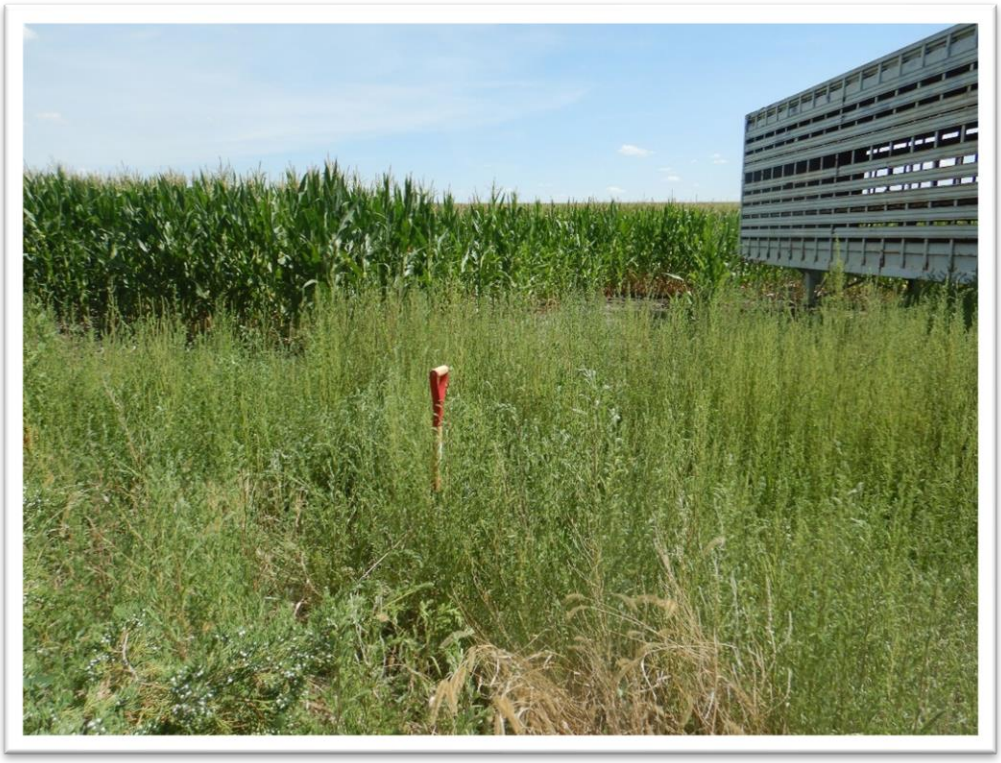
P-110c: View facing southwest at representative upland alongside a box culvert outlet in the roadside ditch south of L62A.



P-110d: View facing northeast at representative upland alongside a box culvert inlet in the roadside ditch north of L62A.



P-111: View facing southeast at farmed PEMA/C wetland and sample point S-111. The sample point is positioned in an area of the agricultural field identified as having a wet signature. Standing surface water and hydrophytic volunteer vegetation were observed.



P-112: View facing south at upland outpoint S-112 positioned in an area dominated by upland vegetation on the fringe of the farmed PEMA/C wetland.



P-113: View facing east at upland point S-113 positioned alongside a culvert outlet in the roadside ditch south of L62A. No wetland indicators were observed.



P-113a: View facing south at the Lowline Canal from the top of the culvert that conveys it beneath L62A.



P-113b: View facing northeast at the Lowline Canal from the southern investigation area boundary.



P-113c: View facing north at the Lowline Canal from the top of the culvert that conveys it beneath L62A.



P-113d: View facing southeast at the Lowline Canal from the northern investigation area boundary.



P-113e: View facing northeast at representative upland and a culvert inlet in the roadside ditch north of L62A. An NHD intermittent stream is depicted in this area but was not observed.



P-113f: View facing south at representative upland and a culvert outlet in the roadside ditch south of L62A.



P-113g: View facing northeast at representative upland and a culvert inlet in the roadside ditch north of L62A.



P-114: View facing north at upland sample point S-114 positioned alongside a culvert inlet in the roadside ditch north of L62A. No wetland indicators were observed.



P-114a: View facing south at representative upland and a culvert outlet in the roadside ditch south of L62A.



P-115: View facing north at upland sample point S-115 positioned alongside a culvert inlet in the roadside ditch north of L62A. No wetland indicators were observed.



P-115a: View facing south at representative upland and a culvert outlet in the roadside ditch south of L62A.



P-115b: View facing south at representative upland and a culvert outlet in the roadside ditch south of L62A.



P-115c: View facing north at representative upland and a culvert inlet in the roadside ditch north of L62A.



P-116: View facing north at upland sample point S-116 positioned alongside a culvert inlet in the roadside ditch north of L62A. No wetland indicators were observed.



P-116a: View facing south at representative upland and a culvert outlet in the roadside ditch south of L62A.



P-117: View facing southeast at upland sample point S-117 positioned alongside a culvert inlet in the interchange median for the L62A off-ramp from US-385. No wetland indicators were observed.



P-117a: View facing north at representative upland and a culvert outlet in the roadside ditch north of L62A.



P-117b: View facing west at the representative upland roadside ditch north of L62A from near the east end of the investigation area.



P-117c: View facing south at the representative upland roadside ditch south of L62A from near the east end of the investigation area.



P-117d: View facing west at the representative upland roadside ditch south of L62A from near the east end of the investigation area.



P-118: View facing northwest at upland point S-118 positioned in a low area between two hillslopes in the off-alignment investigation area. An ephemeral channel was observed alongside the sample point. No wetland indicators were observed.



P-118a: View facing east at representative upland from the west end of the off-alignment investigation area.



P-118b: View facing northwest at representative upland near the west end of the off-alignment investigation area. The area was fenced-in and being actively grazed by cattle.



P-118c: View facing northwest at representative upland along the low area between two hillslopes in the off-alignment investigation area. No wetland indicators or channel were observed.



P-118d: View facing north at representative upland along the low area between two hillslopes in the off-alignment investigation area.



P-118e: View facing northeast at representative upland along the low area between two hillslopes in the off-alignment investigation area.



P-118f: View facing south at representative upland along the low area between two hillslopes in the off-alignment investigation area. Soils in the area were dry and ranged from loam to sandy loam in texture. No hydric soil indicators were observed.



P-118g: View facing north at representative upland along the low area between two hillslopes in the off-alignment investigation area.



P-118h: View facing south at representative upland along the low area between two hillslopes in the off-alignment investigation area.



P-118i: View facing north at representative upland along the low area between two hillslopes in the off-alignment investigation area.



P-118j: View facing south at representative upland along the low area between two hillslopes in the off-alignment investigation area.



P-118k: View facing north at representative upland along the low area between two hillslopes in the off-alignment investigation area.



P-118l: View facing south at representative upland along the low area between two hillslopes. Area is identified as an NWI intermittent stream. No channel was observed.



P-118m: View facing north at representative upland along the low area between two hillslopes. Area is identified as an NWI intermittent stream. No channel was observed.



P-118n: View facing west at representative upland in the off-alignment investigation area.



P-118o: View facing northwest at representative upland along the low area between two hillslopes in the off-alignment investigation area.



P-118p: View facing northwest at representative upland in the off-alignment investigation area.



P-118q: View facing south at representative upland in the low area between two hillslopes in the off-alignment investigation area.



P-118r: View facing southeast at ephemeral steam between two hillslopes in the off-alignment investigation area.



P-118s: View facing northwest at ephemeral stream between two hillslopes in the off-alignment investigation area.



P-118t: View facing southwest at representative upland in the off-alignment investigation area.



P-118u: View facing northwest at representative upland in the off-alignment investigation area.



P-118v: View facing northwest at representative upland in the off-alignment investigation area.



P-118w: View facing southwest at representative upland in the off-alignment investigation area.



P-118x: View facing northwest at representative upland in the off-alignment investigation area.



P-118y: View facing southeast at representative upland in the off-alignment investigation area.



P-118z: View facing northwest at representative upland in the off-alignment investigation area.



P-119: View facing southwest at upland sample point S-119 positioned in a low area between hillslopes in the off-alignment investigation area. No wetland indicators were observed.



P-119a: View facing northwest at representative upland along the low area between two hillslopes. Area is identified as an NWI intermittent stream. No channel was observed.



P-119b: View facing southeast at representative upland along the low area between two hillslopes. Area is identified as an NWI intermittent stream. No channel was observed.



P-119c: View facing northwest at representative upland in the off-alignment investigation area.



P-119d: View facing west at representative upland in the off-alignment investigation area.



P-119e: View facing southeast at representative upland in the off-alignment investigation area.



P-119f: View facing southwest at representative upland in the off-alignment investigation area.



P-119g: View facing northeast at representative upland in the off-alignment investigation area.



P-119h: View facing northeast at representative upland along the low area between hillslopes in the off-alignment investigation area. The area was dominated by cheat grass (*Bromus tectorum*).



P-119i: View facing northwest at representative upland along the low area between hillslopes in the off-alignment investigation area.



P-119j: View facing northeast at representative upland along the low area between hillslopes in the off-alignment investigation area.



P-119k: View facing northwest at representative upland in the off-alignment investigation area.



P-119l: View facing northwest at representative upland in the off-alignment investigation area.



P-119m: View facing southwest at representative upland in the off-alignment investigation area.



P-120: View facing southwest at upland sample point S-120 positioned at a topographic low point within the off-alignment investigation area near the branch onto US-385. No wetland indicators were observed.



P-120a: View facing north at representative upland in the roadside ditch west of US-385.



P-120b: View facing south at representative upland in the roadside ditch west of US-385.



P-120c: View facing northeast at representative upland in the field near US-385.



P-120d: View facing southeast at representative upland on the rise alongside the US-385 road ditch.



P-120e: View facing northwest at representative upland on hillslope within the off-alignment investigation area.



P-121: View facing south at upland sample point S-121 positioned in a slight low area alongside the access road near the north end of the off-alignment investigation area.



P-121a: View facing north at representative upland along the two-track access road that extends near the center of the off-alignment investigation area's northern spur. The portions of the investigation area west of the access road were being actively grazed while those to the east where fallow.



P-121b: View facing east at representative upland in the off-alignment investigation area.



P-121c: View facing south at representative upland in the off-alignment investigation area.



P-121d: View facing west at representative upland in the off-alignment investigation area.



P-121e: View facing east at representative upland in the off-alignment investigation area.



P-121f: View facing west at representative upland in the off-alignment investigation area.



P-122: View facing southwest at upland sample point S-122 positioned in a low area between two hillslopes in the off-alignment investigation area. No wetland indicators were observed.



P-122a: View facing east at representative upland along the low area between hillslopes in the off-alignment investigation area.



P-122b: View facing west at representative upland along the low area between hillslopes in the off-alignment investigation area.



P-122c: View facing east at representative upland along the low area between hillslopes in the off-alignment investigation area.



P-122d: View facing west at representative upland along the low area between hillslopes in the off-alignment investigation area.



P-122e: View facing southwest at representative upland in the off-alignment investigation area.



P-122f: View facing northeast at representative upland in the off-alignment investigation area.



P-122g: View facing southwest at representative upland in the off-alignment investigation area.



P-123: View facing south at upland sample point S-123 positioned at the toe slope of a hill in a low area near the east end of the off-alignment investigation area. No wetland indicators were observed.



P-123a: View facing north at representative upland hillslope near the east end of the off-alignment investigation area.



P-123b: View facing southeast at representative upland near the east end of the off-alignment investigation area.



P-123c: View facing northwest at representative upland near the east end of the off-alignment investigation area.



P-123d: View facing south at the representative upland roadside ditch northwest of US-385 near the east end of the off-alignment investigation area.