

**WETLAND DELINEATION REPORT
Heskett Station Natural Gas Pipeline Route
Morton County, North Dakota**

Prepared for



Prepared by



October 2012

TABLE OF CONTENTS

	Page
1. INTRODUCTION	1
2. METHODOLOGY	3
2.1 Hydrophytic Vegetation.....	3
2.2 Hydric Soil	4
2.3 Wetland Hydrology.....	5
3. EXISTING DATA.....	6
3.1 NRCS Soil Survey Map.....	6
3.2 USFWS National Wetlands Inventory (NWI) Map	6
3.3 USGS Topographic Map	6
3.4 Aerial Photography	6
4. WETLAND RESULTS	7
5. SUMMARY OF WETLAND INVESTIGATION	76
6. WETLAND IMPACTS AVOIDANCE AND MINIMIZATION.....	79
7. COORDINATION/PERMITS REQUIRED.....	80
7.1 Permitting Agencies.....	80
8. MITIGATION.....	80
9. LIMITATIONS AND EXCEPTIONS.....	80
References.....	82

LIST OF TABLES

TABLE

2-1	VEGETATION STRATA/PLOT SIZE FOR GREAT PLAINS REGION	3
2-2	WETLAND HYDROLOGY INDICATORS FOR GREAT PLAINS REGION	5
5-1	WETLAND SUMMARY	77

LIST OF FIGURES

FIGURE

1	PROJECT LOCATION MAP.....	2
2	SITE 1.....	9
3	SITE 2.....	12
4	SITES 3, 4, 5.....	19
5	SITE 6.....	22
6	SITE 7.....	25
7	SITE 8.....	30
8	SITE 9.....	33

9	SITE 10.....	36
10	SITES 11, 12.....	39
11	SITE 13.....	42
12	SITE 14.....	45
13	SITES 15, 16.....	49
14	SITE 17, 18.....	54
15	SITE 19.....	57
16	SITE 20.....	60
17	SITES 21, 22.....	64
18	SITE 23.....	66
19	SITE 24.....	69
20	SITE 25.....	72
21	SITE 26.....	74

LIST OF APPENDICES

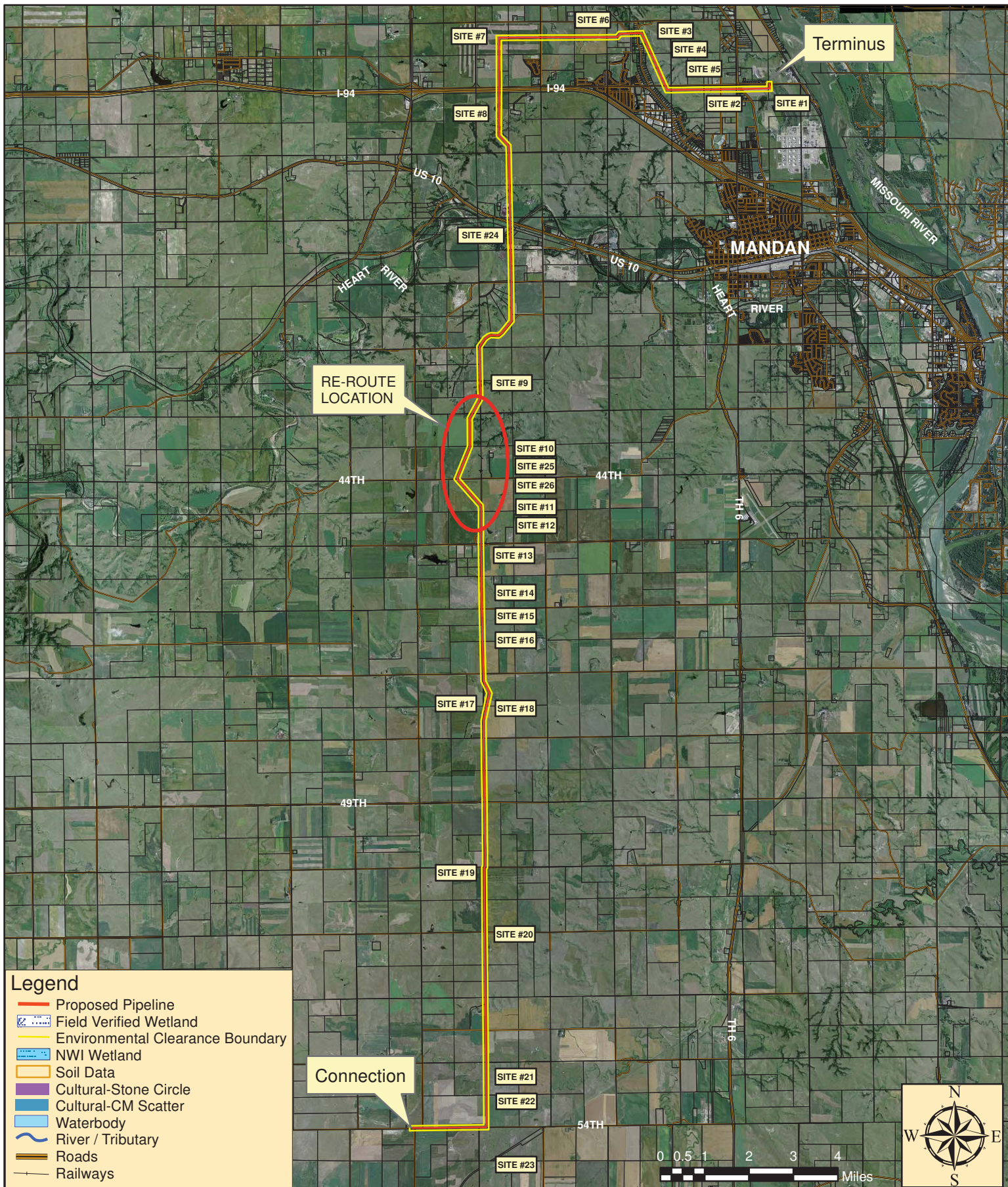
APPENDIX A FIELD DATA SHEETS

1. INTRODUCTION

Montana-Dakota Utilities Co. (Montana-Dakota) is proposing to construct an approximately 24-mile natural gas pipeline in Morton County, North Dakota. The pipeline route investigated is depicted in Figure 1. The pipeline is proposed to originate from a connection approximately two (2) miles west of the intersection of 54th Street and County Road (CR) 82 and extend north along CR 82. The pipeline will cross several private properties, cross underneath Interstate 94, extend north for approximately 0.70 mile and then turn east and terminate approximately one (1) mile east of the intersection of North Dakota State Route 1806 and 38th Street. The pipeline route is shown on Figure 1.

ProSource Technologies, Inc. (ProSource) performed wetland delineations within a 400-foot survey corridor for the entire pipeline route between June 18 and June 23, 2012. Twenty four (24) wetlands and two (2) Waters of the United States (WOUS) were identified and delineated, totaling 26 sites. On August 15, 2012, ProSource completed a review of an additional segment of proposed corridor, because the route was altered to avoid a cultural resources site and geological rock outcrop feature. The location of the pipeline re-alignment is located near the crossing of 44th Street.

Wetland boundaries were surveyed in the field using a sub-meter accuracy global positioning system (GPS). The GPS data were plotted on aerial photographs to depict the locations of the wetlands. This report summarizes the findings of the field visit and the general wetland conditions within the proposed pipeline corridor.



2. METHODOLOGY

The U.S. Army Corps of Engineers (COE) (Federal Register 1982) and the U.S. Environmental Protection Agency (Federal Register 1980) jointly define wetlands as: "Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions". Wetlands generally include swamps, marshes, bogs and similar areas. Wetlands were determined based on the three criteria, hydrophytic vegetation, hydric soils, and wetland hydrology, set forth by the COE in the 1987 Environmental Laboratory publication entitled "Corps of Engineers Wetland Delineation Manual: Technical Report Y-87-1." This manual is commonly referred to as the 1987 Wetland Delineation Manual. This wetland delineation was conducted in accordance with the COE Regional Supplement to the *COE Wetland Delineation Manual: Great Plains Region (COE Great Plains Regional Manual Version 2.0)*. Each potential wetland area was evaluated for the presence of wetland indicators comprised of hydrophytic vegetation, hydric soils, and wetland hydrology.

2.1 Hydrophytic Vegetation

To evaluate the presence of hydrophytic vegetation, data are gathered using a graduated series of plots, one for each vegetation stratum. Plot shape and size are dictated by vegetation type as well as shape and size of the plant community being evaluated. Table 2-1 presents vegetation strata and standard plot/sample sizes used for sampling purposes as defined by the 2010 *COE Great Plains Region Manual*.

Table 2-1 – Vegetation Strata and Plot Size for the Great Plains Region

Stratum	Description	Plot and sample size standards*
Trees	Woody plants three inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	30 foot (9.1 meter) radius
Sapling/Shrub	Woody plants less than 3 inches DBH and greater than 3.28 feet (1 m) tall.	15 foot (4.6 meter) radius
Herb	Herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants less than 3.28 feet tall.	5 foot (1.5 meter) radius or 3.28 by 3.28 foot square (1 meter square) quadrat
Woody Vines	Woody vines greater than 3.28 feet in height.	30 foot (9.1 meter) radius

* Plot size and shape may vary depending on field conditions.

The indicator status and percent absolute cover for the plant species within plots for all vegetation strata is then recorded. The indicator status for plant species are rated based on the estimated probability of occurring in wetlands. In accordance with the North American Digital Flora: National Wetland Plant List, version 2.4.0 a wetland indicator status is assigned to species of plants that occur in wetlands, including one of the five following classifications: obligate wetland plants (OBL), facultative-wet plants (FACW), facultative plants (FAC), facultative upland plants (FACU), and upland plants (UPL). Obligate plant species almost always occur in wetlands. Facultative plant species can exist in saturated or dry soil conditions, and upland plants typically require dry soil conditions to exist. In 2012, *North American Digital Flora: National Wetland Plant List, version 2.4.0* (Kartesz, Lichvar, 2009) was issued to be used in place of the 1988 plant

list. The National Wetland Plant List digital access allows for sorting the plant species by State in which they occur. Therefore, the list of plants that occur in North Dakota was used during this wetland delineation.

The rapid test for hydrophytic vegetation (Indicator 1), the dominance test (Indicator 2), the prevalence index (Indicator 3), morphological adaptations (Indicator 4), and/or problematic vegetation classification are used to determine the presence or absence of hydrophytic vegetation within plots for all vegetation strata. The rapid test for hydrophytic vegetation indicator is met if all dominant species are OBL or FACW.

To pass the dominance test, more than 50 percent of the dominant plant species across all strata must be rated OBL, FACW, or FAC. The “50/20 rule”, as outlined by the 2010 *COE Great Plains Region Manual*, provides an objective procedure for the selection of dominant plant species within each stratum. In general, dominants are the most abundant species that individually or collectively account for more than 50 percent of the total coverage of vegetation in the stratum, plus any other species that, by itself, accounts for at least 20 percent of the total.

The prevalence index is a weighted average wetland indicator status of all plants, both dominant and non-dominant species, within a sampling plot. This index is only used when the dominance test fails and both hydric soils and wetland hydrology are present. Each indicator status category is given a numeric value (OBL = 1, FACW = 2, FAC = 3, FACU = 4, and UPL = 5) and weighted by its abundance (absolute percent cover). A prevalence index of 3.0 or less indicates the presence of hydrophytic vegetation.

Morphological adaptations are often present in plants within wetland areas to help them survive prolonged inundation and saturation in the root zone. Morphological adaptations can be used as an additional hydrophytic vegetation indicator when observed in more than 50 percent of the individuals of a FACU species living in an area where indicators of hydric soil and wetland hydrology are present. Morphological adaptations are only used as a hydrophytic vegetation indicator when the dominance test fails, the prevalence index is not met, and when both hydric soils and wetland hydrology are present.

2.2 Hydric Soil

A description of the soil profile is used to evaluate the presence of hydric soil. Documentation of these primary and secondary indicators is used to determine wetland hydrology during the site investigation. Hydric soil indicators include the following as defined by the 2010 *COE Great Plains Region Manual; Hydric Soil Indicators, Chapter 3*:

- | | |
|------------------------------------|-----------------------------|
| • A1. Histisol | • S4. Sandy Gleyed Matrix |
| • A2. Histic Epipedon | • S5. Sandy Redox |
| • A3. Black Histic | • S6. Stripped Matrix |
| • A4. Hydrogen Sulfide | • F1. Loamy Mucky Mineral |
| • A5. Stratified Layers | • F2. Loamy Gleyed Matrix |
| • A9. 1 cm Muck | • F3. Depleted Matrix |
| • A11. Depleted Below Dark Surface | • F6. Redox Dark Surface |
| • A12. Thick Dark Surface | • F7. Depleted Dark Surface |
| • S1. Sandy Mucky Mineral | • F8. Redox Depressions |

- S2. 2.5 cm Mucky Peat or Peat
- S3. 5cm Mucky Peat or Peat
- F16. High Plains Depressions
- F18 Reduced Vertic
- TF 2 Red Parent Material
- TF12 Very Shallow Dark Surface

2.3 Wetland Hydrology

Wetland hydrology indicators, outlined by the 2010 *COE Great Plains Region Manual; Wetland Hydrology Indicators, Chapter 4*, are separated into four groups and divided into a primary or secondary category based on their estimated reliability in this region. Primary indicators provide stand-alone evidence of a current or recent hydrological event. Secondary indicators provide evidence of recent inundation or saturation when supported by one or more other primary indicators or secondary wetland hydrology indicators, but should not be used alone. Documentation of wetland indicators is used to determine wetland hydrology during the site investigation. Table 2-2 presents the wetland hydrology indicators for this region.

Table 2-2 – Wetland Hydrology Indicators for the Great Plains Region

Indicator	Category	
	Primary	Secondary
Group A - Observation of Surface Water or Saturated Soils		
A1 - Surface water	X	
A2 - High water table	X	
A3 – Saturation	X	
Group B - Evidence of Recent Inundation		
B1 - Water marks	X	
B2 - Sediment deposits	X	
B3 - Drift deposits	X	
B4 - Algal mat or crust	X	
B5 - Iron deposits	X	
B6 - Surface soil cracks		X
B7 - Inundation visible on aerial imagery	X	
B8- Sparsely vegetated concave surface		X
B9 - Water-stained leaves	X	
B10 - Drainage patterns		X
B11- Salt crust	X	
B13 - Aquatic fauna	X	
Group C - Evidence of Current or Recent Soil Saturation		
C1 - Hydrogen sulfide odor	X	
C2 – Dry-season water table	X	
C3 – Oxidized rhizospheres along living roots	X	X (where tilled)
C4 - Presence of reduced iron	X	
C7 - Thin muck surface	X	
C8 - Crayfish burrows		X
C9 - Saturation visible on aerial imagery		X
Group D - Evidence from Other Site Conditions or Data		
D2 – Geomorphic position		X
D5 - FAC-neutral test		X
D7 – Frost-heave hummocks		X (LRR F)

3. EXISTING DATA

The sources identified in Section 2 were used to identify potential wetland areas. Each source provides indications of areas where wetlands potentially occur and is discussed below. The areas identified by these sources were then evaluated in the field.

3.1 NRCS Soil Survey Map

The United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) *Soil Survey* for Morton County and the 2012 *National List of Hydric Soils* for Morton County were reviewed to determine the soil types (map units) for each wetland and surrounding area. The 2012 *National List of Hydric Soils* for Morton County was referenced to determine the landforms in which the soil types are hydric. The soil types are overlaid on each of the wetland location map figures.

3.2 National Wetlands Inventory (NWI) Map

The United States Department of the Interior, Fish and Wildlife Service (FWS) prepared the wetland maps for the NWI. The maps were prepared primarily by stereoscopic analysis of high altitude aerial photographs. All wetlands are identified based on vegetation, visible hydrology, and geography in accordance with the Cowardin System. According to the FWS, the aerial photographs typically reflect conditions during the year and season they were taken, and there is a margin of error inherent in the use of aerial photographs to delineate wetlands. Therefore, wetland boundaries established through interpretation of aerial photographs may be revised based on detailed ground and historical analyses of an individual site.

The NWI maps were reviewed for the entire proposed pipeline route. The mapped NWI wetlands are overlaid on the wetland location map figures.

3.3 U.S. Geological Survey (USGS) Topographic Map

The USGS topographic map (various quadrangles) was reviewed to provide information regarding topographic features along the proposed pipeline route. This information includes streams, water features, topographic relief and gradients, structures, and elevations changes, as well as other information.

3.4 Aerial Photography

Aerial photography was reviewed to discern differences in vegetation cover, observe the presence of surface water, and view the drainage patterns within the proposed pipeline route. Viewing several years of aerial imagery can assist with understanding of the hydrology regimes of wetland resources.

4. WETLAND RESULTS

A total of 26 sites were investigated as potential wetlands and/or WOUS. All sites were evaluated for likely jurisdictional status in the field, in conjunction with a desktop review of applicable data listed in Section 3. The COE makes all final jurisdictional determinations. Each delineated site is discussed briefly below. Field datasheets are located in Appendix A

Site 1

Site 1 is a depression/swale located approximately 20 feet south of 38th Street and 2,800 feet east of ND Highway 1806. This site serves the functions of water conveyance, wildlife habitat, and erosion control.

Site 1 receives surface water from adjacent uplands, agricultural fields, and surface water ponds. Surface water is not visible on aerial photography. Site 1 is not mapped on the NWI.

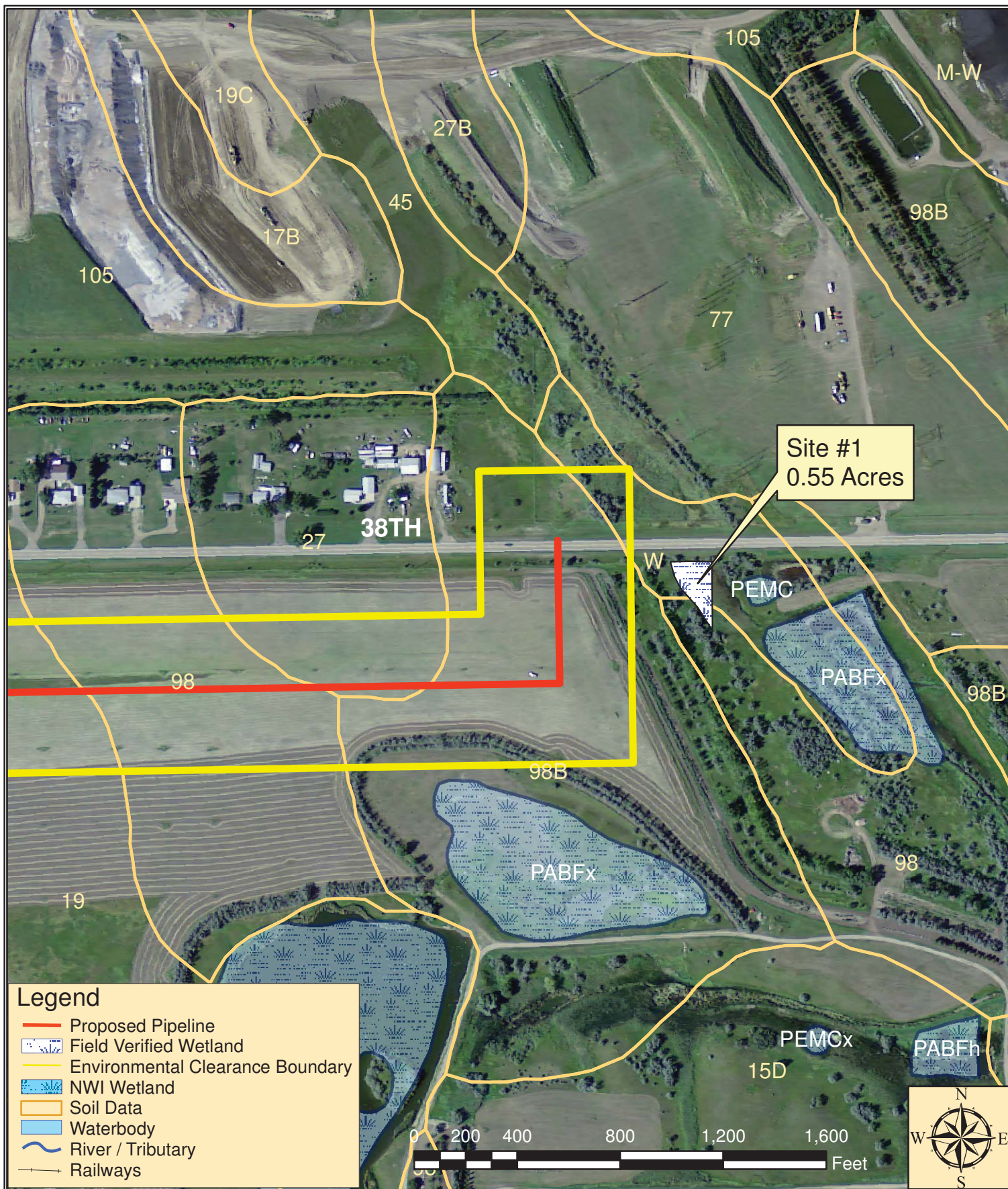
The soil is mapped as Water (W) within the survey limits. A dominance of hydrophytic vegetation exists within the site. Site 1 does appear to have a surface hydrologic connection to the nearby Missouri River, a WOUS. See data form 1-1 for detail of vegetation, soil profile, and hydrology conditions.



Photo 1: Site 1, facing south (6/18/2012).



Photo 2: Data Point 1-2 (6/18/2012).



Site 2

Site 2 is a depression/swale located approximately 200 feet south of 38th Street and 950 feet west of ND Highway 1806. This site serves the functions of water conveyance, wildlife habitat, source of water for cattle, and erosion control. Cattle openly graze in the vicinity of the wetland, and portions of it are disturbed.

Site 2 receives surface water from adjacent uplands to the southwest, which do not appear to be agricultural. Surface water is visible on aerial photography. Site 2 is not mapped on the NWI.

The soil is mapped as Dogtooth-Janesburg-Cabba complex, 6 to 30 percent slopes (42F) within the survey limits. A dominance of hydrophytic vegetation exists within the site. Site 2 does appear to have a surface hydrologic connection to the nearby Missouri River, a WOUS. See data form 2-1 for detail of vegetation, soil profile, and hydrology conditions.



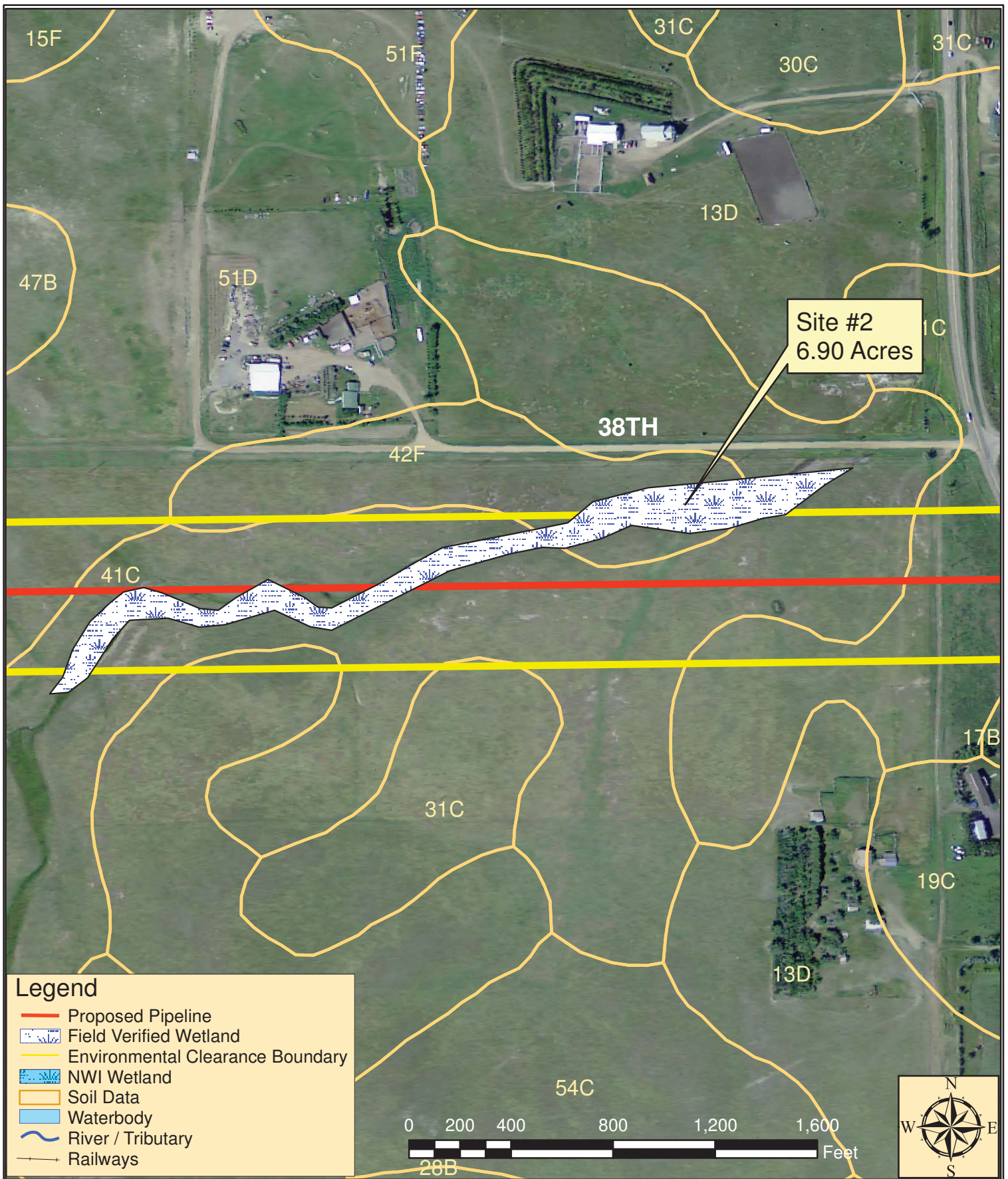
Photo 3: Site 2, facing west (6/18/2012).



Photo 4: Data Point 2-1 (6/18/2012).



Photo 5: Data Point 2-2 (6/18/2012).



Site 3

Site 3 is a depression located approximately 600 feet east of Highland Road. This site serves the functions of groundwater recharge, wildlife habitat, and erosion control. Wetland conditions at the surface (farther east) were not apparent to connect this wetland to the Missouri River.

Site 3 receives surface water from adjacent uplands to the west. Surface water is not visible on aerial photography; however a salt crust is noticeable on aerial imagery, and was also observed in the field. Site 3 is not mapped on the NWI.

The soil is mapped as Dogtooth-Janesburg-Cabba complex, 6 to 30 percent slopes (42F) within the survey limits. A dominance of hydrophytic vegetation exists within the site. Site 3 does not appear to have a surface hydrologic connection to the nearby Missouri River, a WOUS. Site 3 appears to be isolated. See data form 3-1 for detail of vegetation, soil profile, and hydrology conditions.



Photo 6: Site 3, facing southwest (6/18/2012).



Photo 7: Data Point 3-1 (6/18/2012).



Photo 8: Data Point 3-2 (6/18/2012).

Site 4

Site 4 is a wooded ravine located approximately 1000 feet east of Highland Road. This site serves the functions of water conveyance and wildlife habitat.

Site 4 receives surface water from adjacent uplands to the west. Surface water is not visible on aerial photography. Site 4 is not mapped on the NWI.

The soil is mapped as Dogtooth-Janesburg-Cabba complex, 6 to 30 percent slopes (42F) within the survey limits. A dominance of hydrophytic vegetation exists within the site. Site 4 does appear to have a surface hydrologic connection to the Missouri River, a WOUS. See data form 4-1 for detail of vegetation, soil profile, and hydrology conditions.



Photo 9: Site 4, facing east (6/18/2012).



Photo 10: Data Point 4-1 (6/18/2012).



Photo 11: Site 4, Data Point 4-2 in foreground, facing south (6/18/2012).

Site 5

Site 5 is a depression/swale located approximately 900 feet east of Highland Road. This site serves the functions of groundwater recharge, wildlife habitat, and erosion control. Wetland conditions at the surface (farther east) were not apparent to connect this wetland to the Missouri River.

Site 5 receives surface water from adjacent uplands to the west. Surface water is not visible on aerial photography; however a salt crust is noticeable on aerial imagery, and was also observed in the field. Site 5 is not mapped on the NWI.

The soil is mapped as Dogtooth-Janesburg silt loams, 0 to 6 percent slopes (47B) within the survey limits. A dominance of hydrophytic vegetation exists within the site. Site 5 does not appear to have a surface hydrologic connection to the nearby Missouri River, a WOUS. Site 5 appears to be isolated. See data form 5-1 for detail of vegetation, soil profile, and hydrology conditions.



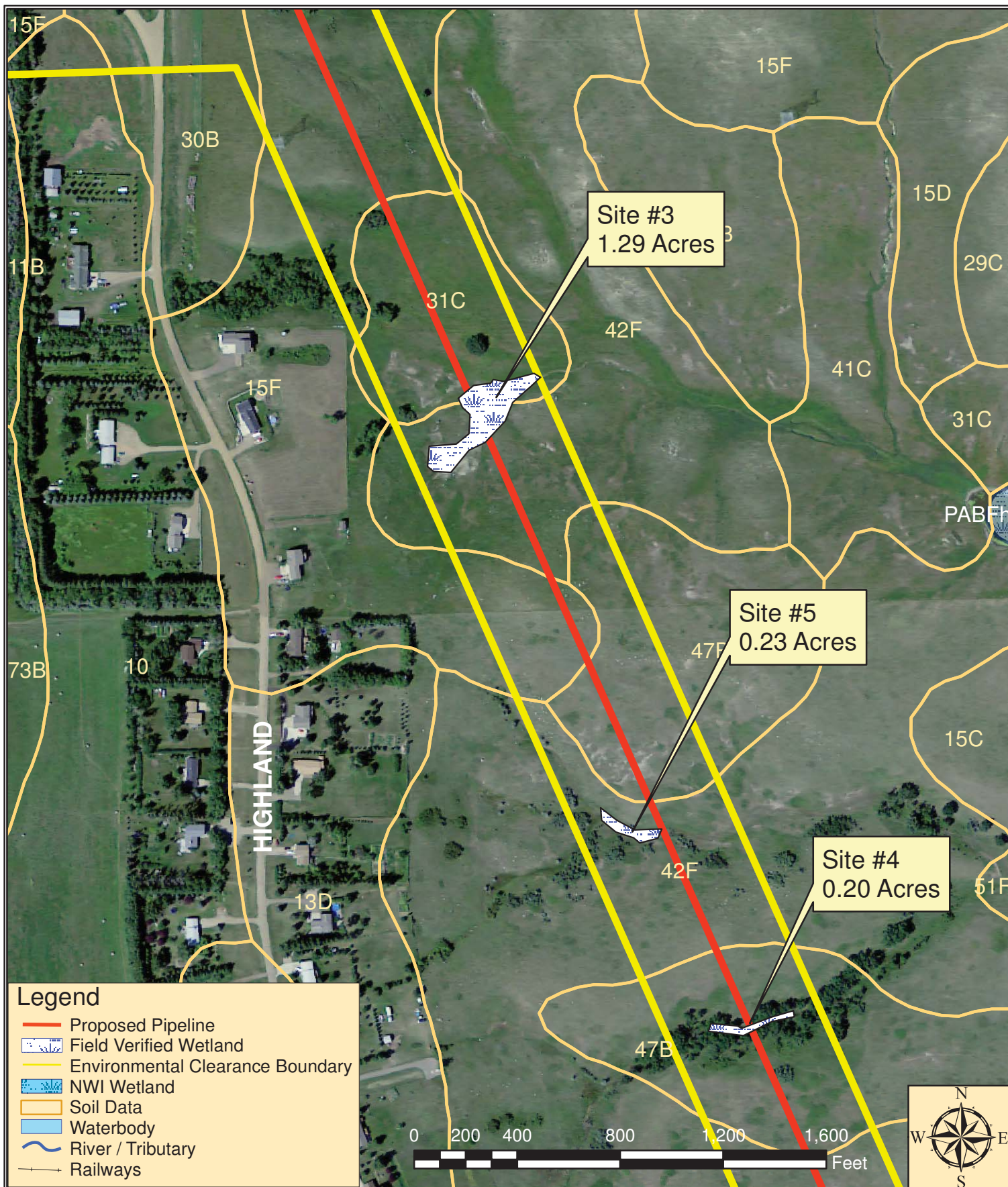
Photo 12: Site 5, facing northwest (6/18/2012).



Photo 13: Data Point 5-1 (6/18/2012).



Photo 14: Upland area adjacent to Site 5 (6/18/2012).



Site 6

Site 6 is a depression/swale located approximately 900 feet south of 37th Street. This site serves the functions of groundwater recharge, nutrient removal, wildlife habitat, and erosion control. Site 6 is located in an agricultural field.

Site 6 receives surface water from adjacent agricultural upland areas. Surface water is visible on aerial photography, and was also observed in the field. Site 6 is not mapped on the NWI.

The soil is mapped as Farland silt loam, 2 to 6 percent slopes (19B) within the survey limits. A dominance of hydrophytic vegetation exists within the site. Site 6 does appear to have a surface hydrologic connection to the Heart River, a WOUS. See data form 6-1 for detail of vegetation, soil profile, and hydrology conditions.



Photo 15: Site 6, facing southwest (6/19/2012).



Photo 16: Data Point 6-1 (6/19/2012).

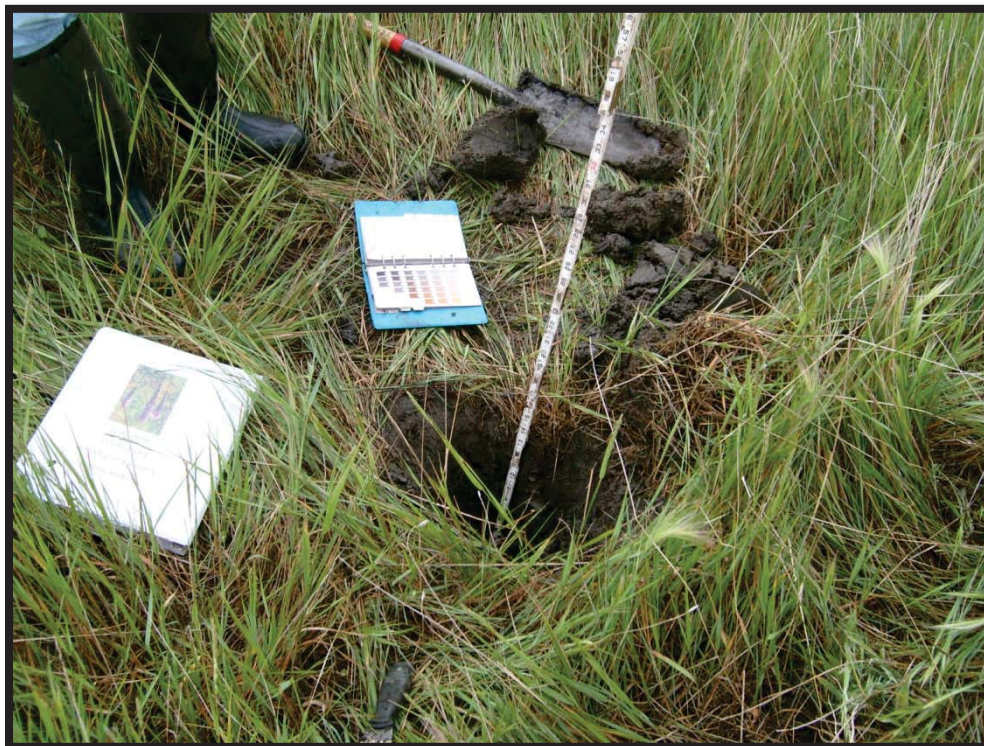
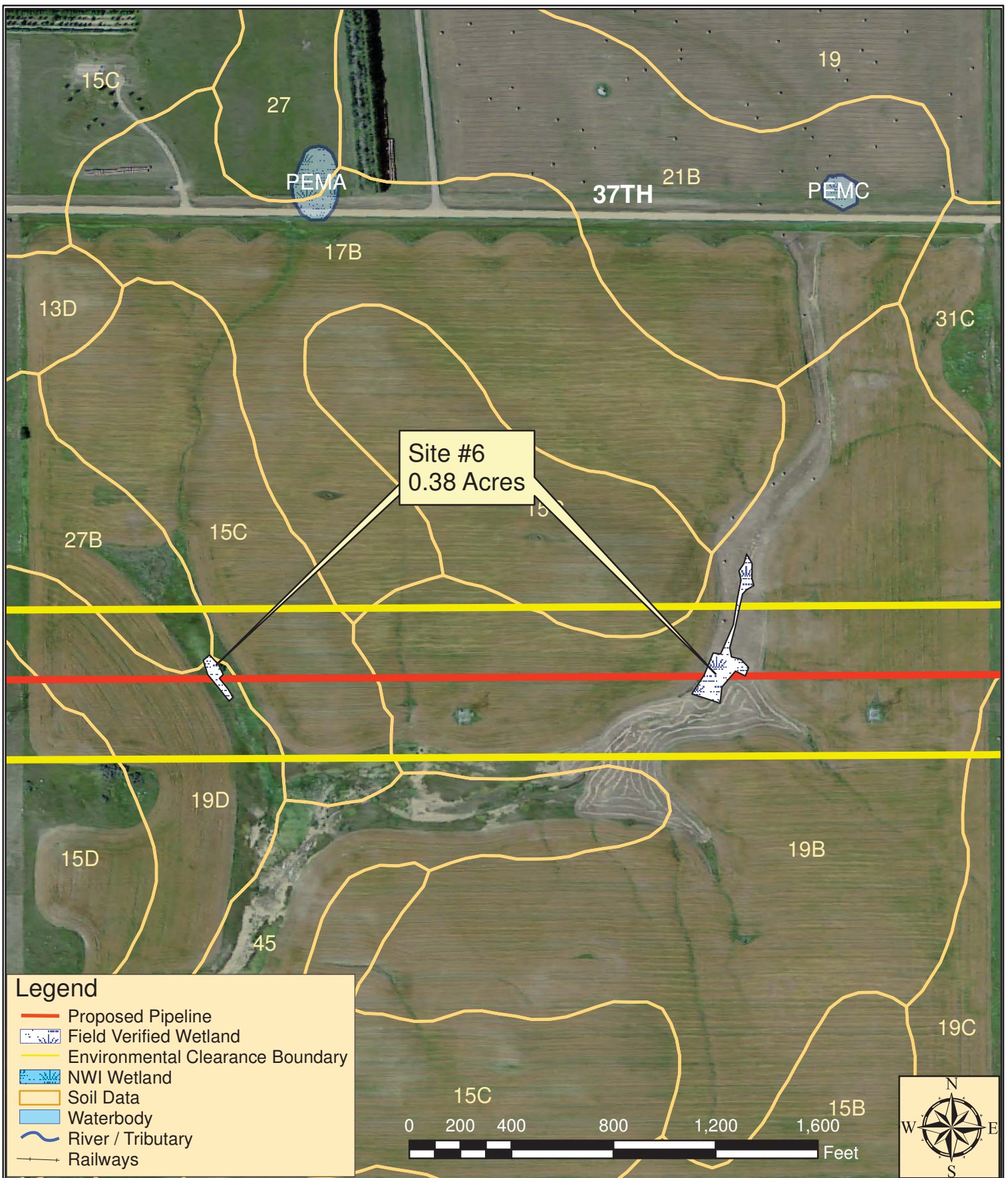


Photo 17: Data Point 6-2 (6/19/2012).



Site 7

Site 7 is a depression/swale located approximately 1,600 feet south of 37th Street and 1,600 feet east of Township Road 5. This site serves the functions of groundwater recharge, nutrient removal, wildlife habitat, and erosion control. Site 7 is located in an agricultural field.

Site 7 receives surface water from adjacent agricultural upland areas. Surface water is visible on aerial photography, and was also observed in the field. A created pond is part of Site 7, which contains eastern cottonwood trees along the perimeter. Site 7 is not mapped on the NWI.

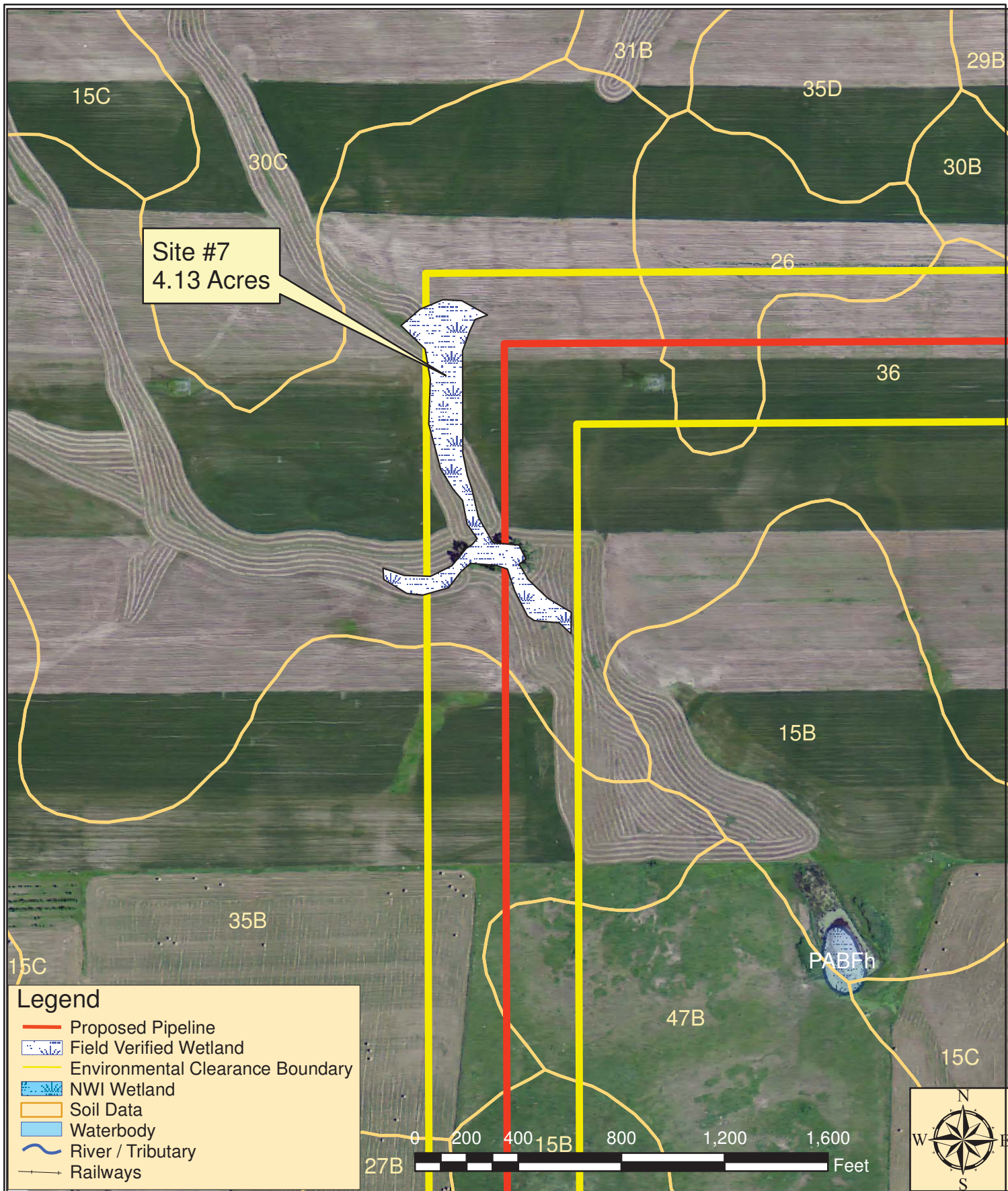
The soil is mapped as Lawther silty clay, 0 to 2 percent slopes (36) within the survey limits. A dominance of hydrophytic vegetation exists within the site. Site 7 does appear to have a surface hydrologic connection to the Heart River, a WOUS. See data form 7-1 for detail of vegetation, soil profile, and hydrology conditions.



Photo 18: Site 7, facing south (6/19/2012).



Photo 19: Site 7, facing east (6/19/2012).



Site 8

Site 8 is a ravine located approximately 460 feet south of I-94 right-of-way. Wetland 8 is a dry ravine/channel toward the north end and develops into an unnamed tributary toward the south portion. This site serves the functions of water conveyance, groundwater recharge, nutrient removal, wildlife habitat, and erosion control. Site 8 is likely the most dynamic and diverse site evaluated during the wetland delineation, as it contains wooded areas, intermittent surface flow areas, inundated portions, and a variety of native plants. Some of the upland habitat surrounding the ravine is rocky talus. A beaver dam is located toward the south portion of Site 8.

Site 8 receives surface water from adjacent upland areas. Surface water is visible on aerial photography, and was also observed in the field. Site 8 is not mapped on the NWI.

The soil is mapped as Flasher-Vebar-Parshall complex, 9 to 35 percent slopes (51F) within the survey limits. A dominance of hydrophytic vegetation exists within the site. Site 8 does appear to have a surface hydrologic connection to the Heart River, a WOUS. See data form 8-1 for detail of vegetation, soil profile, and hydrology conditions.



Photo 20: Site 8 (north end), ravine, facing north (6/19/2012).



Photo 21: Site 8, ravine, facing west, farther downstream (6/19/2012).



Photo 22: Data Point 8-1 (6/20/2012).



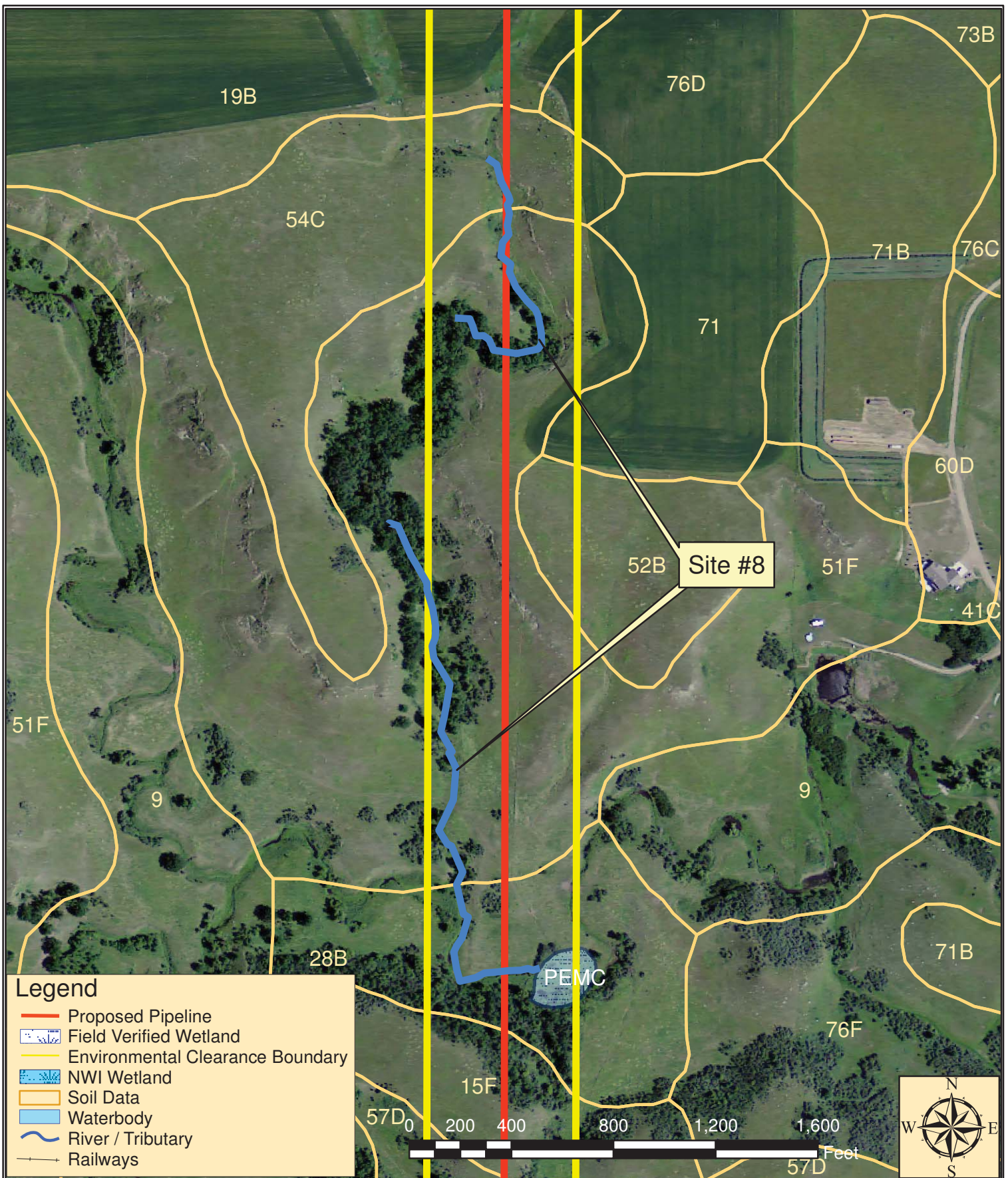
Photo 23: Data Point 8-2 (6/20/2012).



Photo 24: Site 8 (unnamed tributary to Heart River), facing northeast (6/20/2012).



Photo 25: Site 8, with Beaver Dam, facing east (6/20/2012).



Site 9

Site 9 is a wooded ravine located in a remote area, far away from roads and structures. This site serves the functions of water conveyance and wildlife habitat.

Site 9 receives surface water from adjacent uplands to the west. Surface water is not visible on aerial photography. Site 9 is not mapped on the NWI.

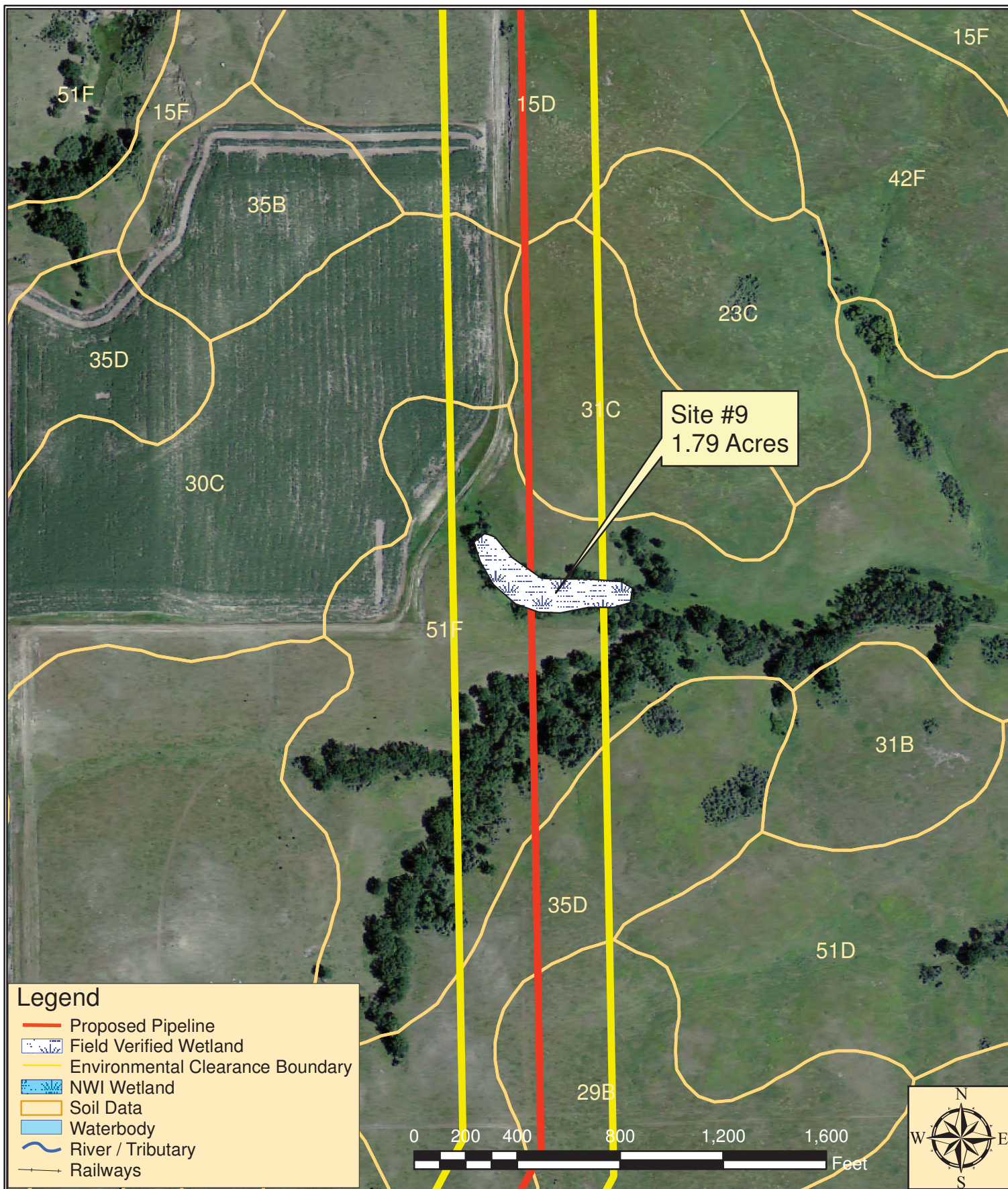
The soil is mapped as Flasher-Vebar-Parshall Complex, 9 to 35 percent slopes (51F) within the survey limits. A dominance of hydrophytic vegetation exists within the site. Site 9 does appear to have a surface hydrologic connection to the Heart River. See data form 9-1 for detail of vegetation, soil profile, and hydrology conditions.



Photo 26: Site 9, facing east (6/21/2012).



Photo 27: Data Point 9-1 (6/21/2012).



Site 10

Site 10 is a depression/swale located approximately 1,800 feet north of 44th Street in an agricultural field. This site serves the functions of groundwater recharge, nutrient removal, wildlife habitat, and erosion control.

Site 10 receives surface water from adjacent upland areas to the west. Surface water is visible on aerial photography, but was not observed in the field at the time of the site visit. Site 10 is not mapped on the NWI.

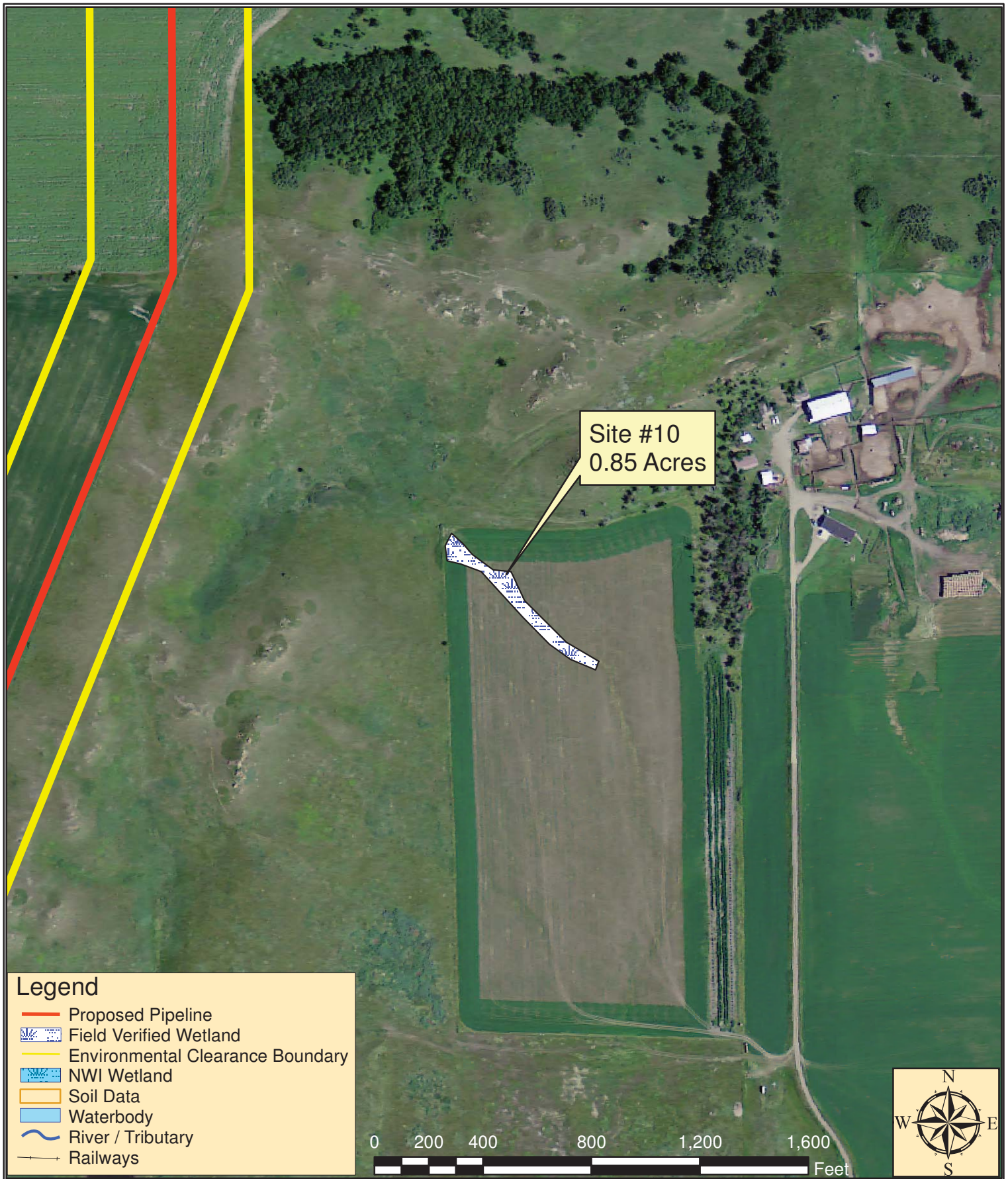
The soil is mapped as Belfield-Daglum silt loam, 0 to 2 percent slopes (28) within the survey limits. A dominance of hydrophytic vegetation exists within the site. Site 10 appears to be an isolated wetland. See data form 10-1 for detail of vegetation, soil profile, and hydrology conditions. Site 10 was delineated prior to the pipeline re-route to the west, as project planning progressed. Site 10 is no longer within the limits of the proposed pipeline construction.



Photo 28: Site 10, facing northwest (6/21/2012).



Photo 29: Site 10, facing southeast (6/21/2012).



Site 11

Site 11 is a depression/swale located approximately 700 feet south of 44th Street. This site serves the functions of groundwater recharge, water conveyance, wildlife habitat, and erosion control.

Site 11 receives surface water from adjacent uplands to the northwest. Surface water is not visible on aerial photography. Site 11 is not mapped on the NWI.

The soil is mapped as Belfield-Daglum silt loam, 0 to 2 percent slopes (28) within the survey limits. A dominance of hydrophytic vegetation exists within the site. Site 11 does appear to have a surface hydrologic connection to the North Branch of the Little Heart River. See data form 11-1 for detail of vegetation, soil profile, and hydrology conditions. Site 11 was delineated prior to the pipeline re-route to the west, as project planning progressed. Site 11 is no longer within the limits of the proposed pipeline construction.



Photo 30: Site 11, facing south (6/22/2012).

Site 12

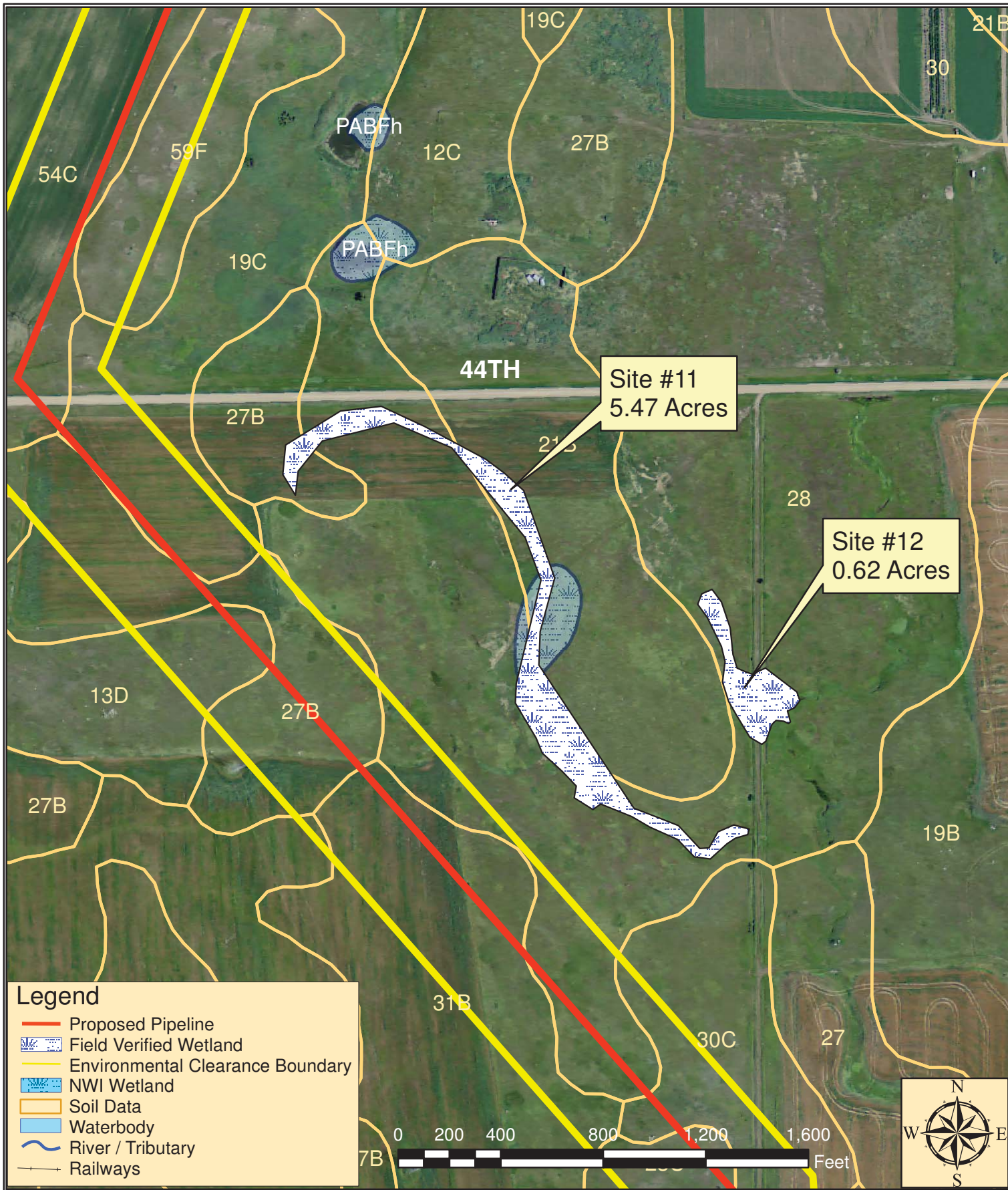
Site 12 is a depression/swale located approximately 1,100 feet south of 44th Street. This site serves the functions of groundwater recharge, water conveyance, wildlife habitat, and erosion control.

Site 12 receives surface water from adjacent uplands to the northwest. Surface water is not visible on aerial photography. Site 12 is not mapped on the NWI.

The soil is mapped as Regent-Savage silty clay loams, 6 to 9 percent slopes (30C) within the survey limits. A dominance of hydrophytic vegetation exists within the site. Site 12 does appear to have a surface hydrologic connection to the North Branch of the Little Heart River. See data form 12-1 for detail of vegetation, soil profile, and hydrology conditions. Site 12 was delineated prior to the pipeline re-route to the west, as project planning progressed. Site 12 is no longer within the limits of the proposed pipeline construction.



Photo 31: Site 12, facing north (6/22/2012).



MONTANA-DAKOTA
UTILITIES CO.
A Division of MDU Resources Group, Inc.
In the Community to Serve®

Heskett Station
Proposed Natural Gas Pipeline
Morton County, North Dakota

Figure 10
Wetland Location Map

ProSource
TECHNOLOGIES, INC.

Site 13

Site 13 is a depression/swale located near the intersection of County Roads 82 and 138. This site serves the functions of groundwater recharge, water conveyance, nutrient removal, wildlife habitat, and erosion control.

Site 13 receives surface water from adjacent uplands to the northeast. Surface water is visible on aerial photography, and was observed in the field. Site 13 is not mapped on the NWI.

The soil is mapped as Arnegard loam, 0 to 2 percent slopes (10) within the survey limits. A dominance of hydrophytic vegetation exists within the site. Site 13 does appear to have a surface hydrologic connection to the North Branch of the Little Heart River. See data form 13-1 for detail of vegetation, soil profile, and hydrology conditions.



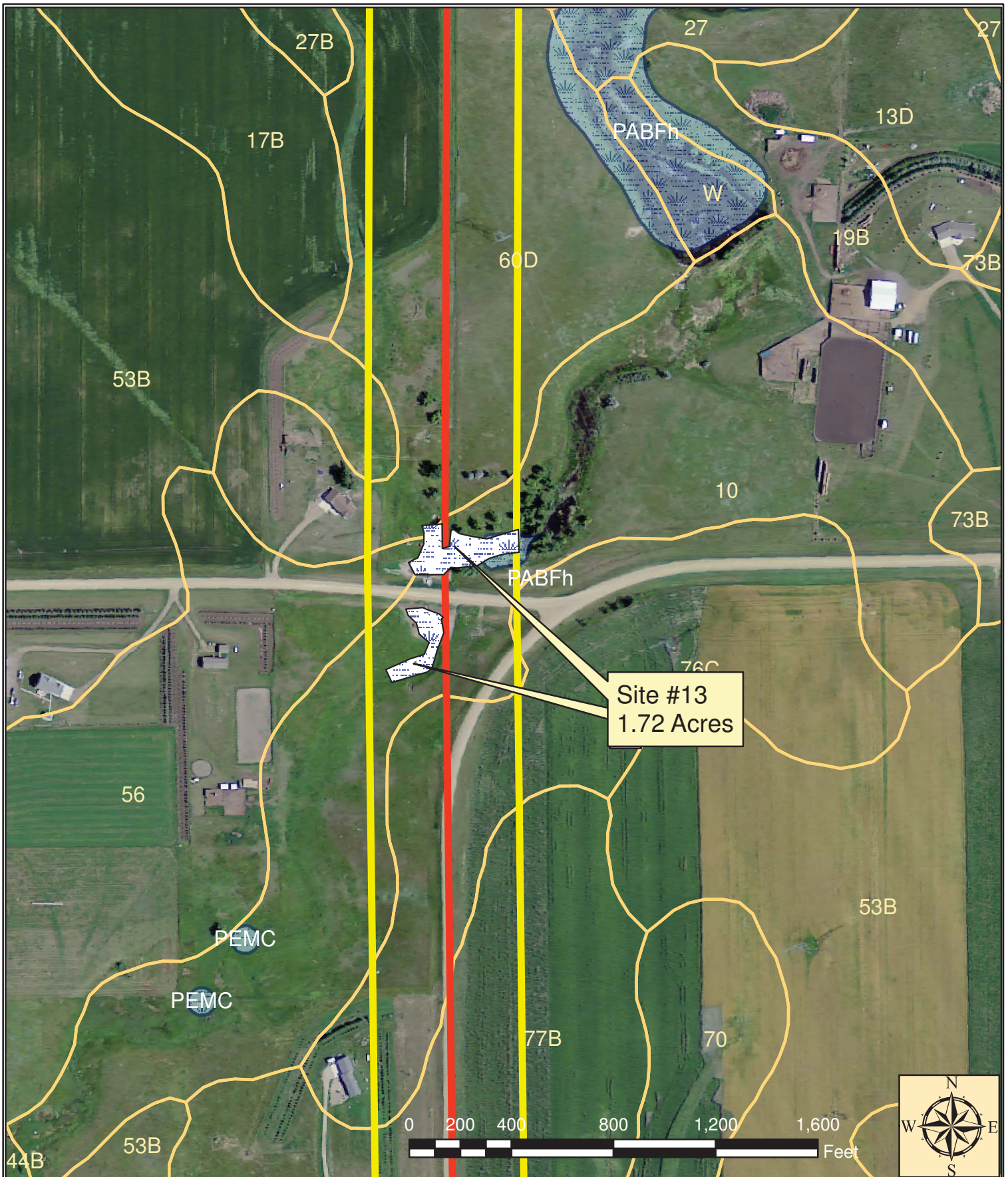
Photo 32: Site 13, facing east (6/22/2012).



Photo 33: Site 13, facing east (6/22/2012).



Photo 34: Data Point 13-1 (6/22/2012).



MONTANA-DAKOTA
 UTILITIES CO.
 A Division of MDU Resources Group, Inc.
In the Community to Serve®

Heskett Station
 Proposed Natural Gas Pipeline
 Morton County, North Dakota

FIGURE 11
 Wetland Location Map

ProSource
 TECHNOLOGIES, INC.

Site 14

Site 14 is a tributary to the North Branch of the Little Heart River, located approximately 2,500 feet south of the intersection of County Roads 82 and 138. This site serves the functions of groundwater recharge, water conveyance, nutrient removal, wildlife habitat, and erosion control.

Site 14 receives surface water from adjacent uplands to the northwest. Surface water is visible on aerial photography, and was observed in the field. Site 14 is mapped as PEMA on the NWI.

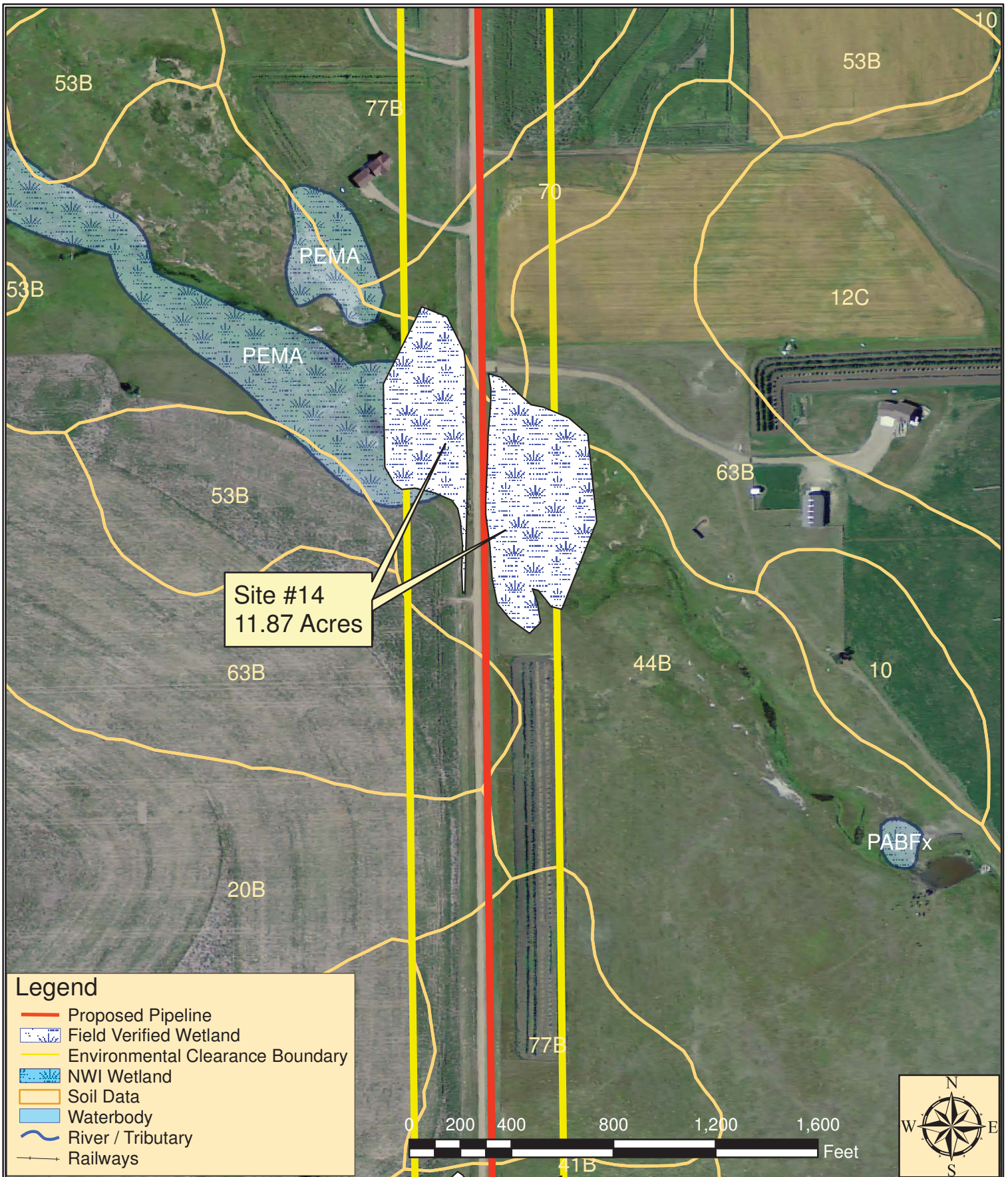
The soil is mapped as Ekalaka-Lakota fine sandy loams, 0 to 6 percent slopes (44B) within the survey limits. A dominance of hydrophytic vegetation exists within the site. Site 14 does appear to have a surface hydrologic connection to the North Branch of the Little Heart River. See data form 14-1 for detail of vegetation, soil profile, and hydrology conditions.



Photo 35: Site 14, facing east (6/22/2012).



Photo 36: Site 14, facing north (6/22/2012).



Site 15

Site 15 is a depression/swale located approximately 360 feet north of the intersection of County Road 82 and 46th Street. This site serves the functions of groundwater recharge, water conveyance, nutrient removal, wildlife habitat, and erosion control.

Site 15 receives surface water from adjacent uplands to the west. Surface water is not visible on aerial photography, nor was it observed in the field during the time of the site visit. Site 15 is mapped as PEMC on the NWI.

The soil is mapped as Daglum-Rhoades complex, 0 to 6 percent slopes (41B) within the survey limits. A dominance of hydrophytic vegetation exists within the site. Site 15 does appear to have a surface hydrologic connection to the North Branch of the Little Heart River. See data form 15-1 for detail of vegetation, soil profile, and hydrology conditions.



Photo 37: Site 15, facing west (6/22/2012).



Photo 38: Site 15, facing east (6/22/2012).

Site 16

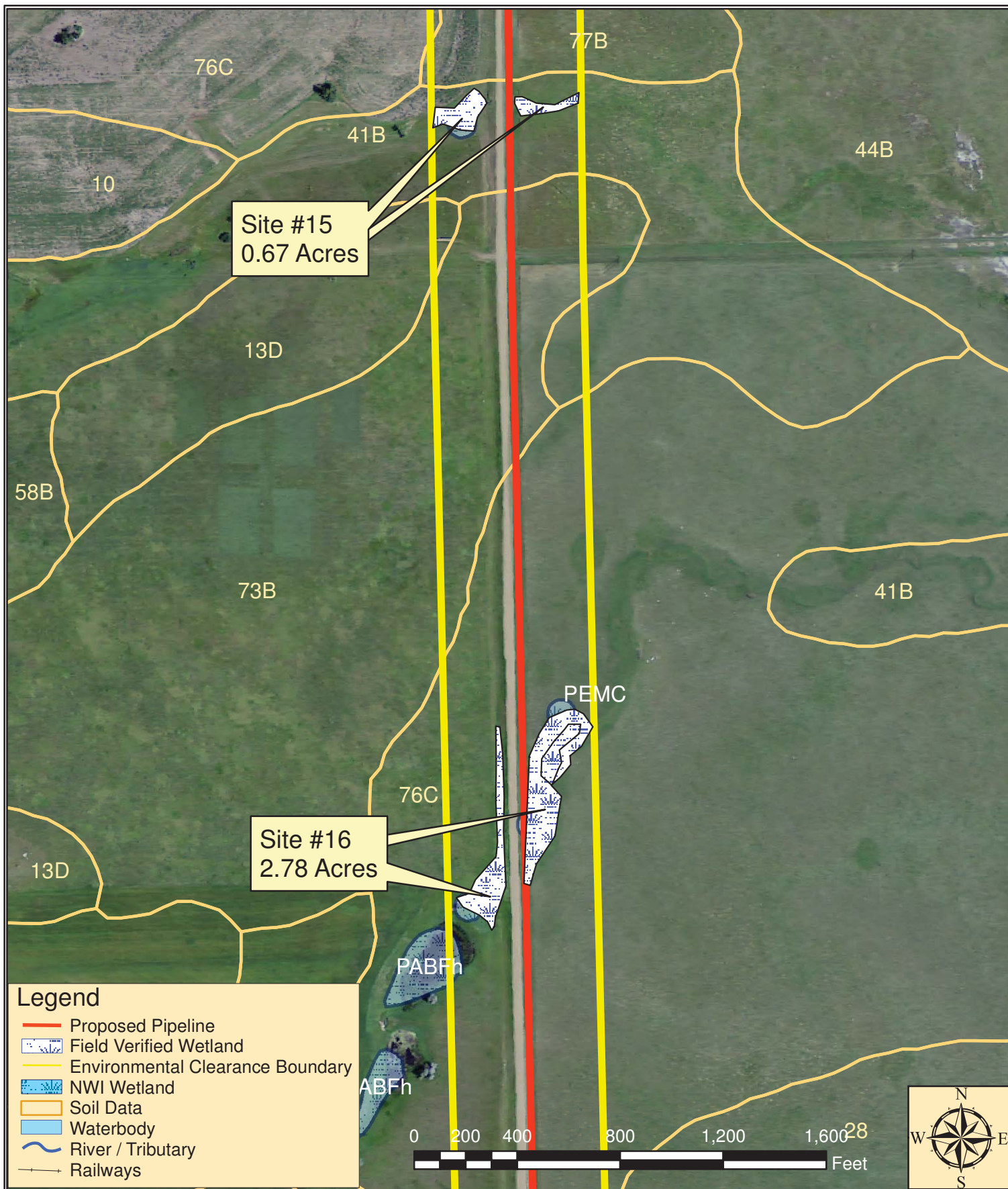
Site 16 is a depression/swale located approximately 3,500 feet north of the intersection of County Roads 82 and 138A. This site serves the functions of groundwater recharge, water conveyance, nutrient removal, wildlife habitat, and erosion control.

Site 16 receives surface water from adjacent uplands to the west. Surface water is not visible on aerial photography, but it was observed in the field during the time of the site visit. Site 16 is mapped as PEMC/PABFh on the NWI.

The soil is mapped as Williams-Zahl loams, 6 to 9 percent slopes (76C) within the survey limits. A dominance of hydrophytic vegetation exists within the site. Site 16 does appear to have a surface hydrologic connection to the North Branch of the Little Heart River. See data form 16-1 for detail of vegetation, soil profile, and hydrology conditions.



Photo 39: Site 16, facing northwest, culvert (6/22/2012).



Site 17

Site 17 is a tributary to the North Branch of the Little Heart River, located at a curve in County Road 82. This site serves the functions of water conveyance, nutrient transport, wildlife habitat, and erosion control. Large boulders are present, acting as rip rap near the road.

Site 17 receives surface water from adjacent uplands to the southwest. Surface water is visible on aerial photography, and was observed in the field during the time of the site visit. Site 17 is not mapped on the NWI.

The soil is mapped as Daglum-Rhoades complex, 0 to 6 percent slopes (41B) within the survey limits. A dominance of hydrophytic vegetation exists within the site. Site 17 does appear to have a surface hydrologic connection to the North Branch of the Little Heart River. See data form 17-1 for detail of vegetation, soil profile, and hydrology conditions.



Photo 40: Site 17, facing east (6/22/2012).



Photo 41: Data Point 17-1 (6/22/2012).



Photo 42: Data Point 17-2 (6/22/2012).

Site 18

Site 18 is a forested ephemeral wetland dominated by eastern cottonwood trees, sedges, spikerush, and freshwater cord grass. It is located approximately 1,500 feet south of County Road 138A and 40 feet east of County Road 82. This site serves the functions groundwater recharge, nutrient removal, wildlife habitat, and erosion control.

Site 18 receives surface water from surrounding upland areas. Surface water was not observed at the time of the site visit. Site 18 is not mapped on the NWI.

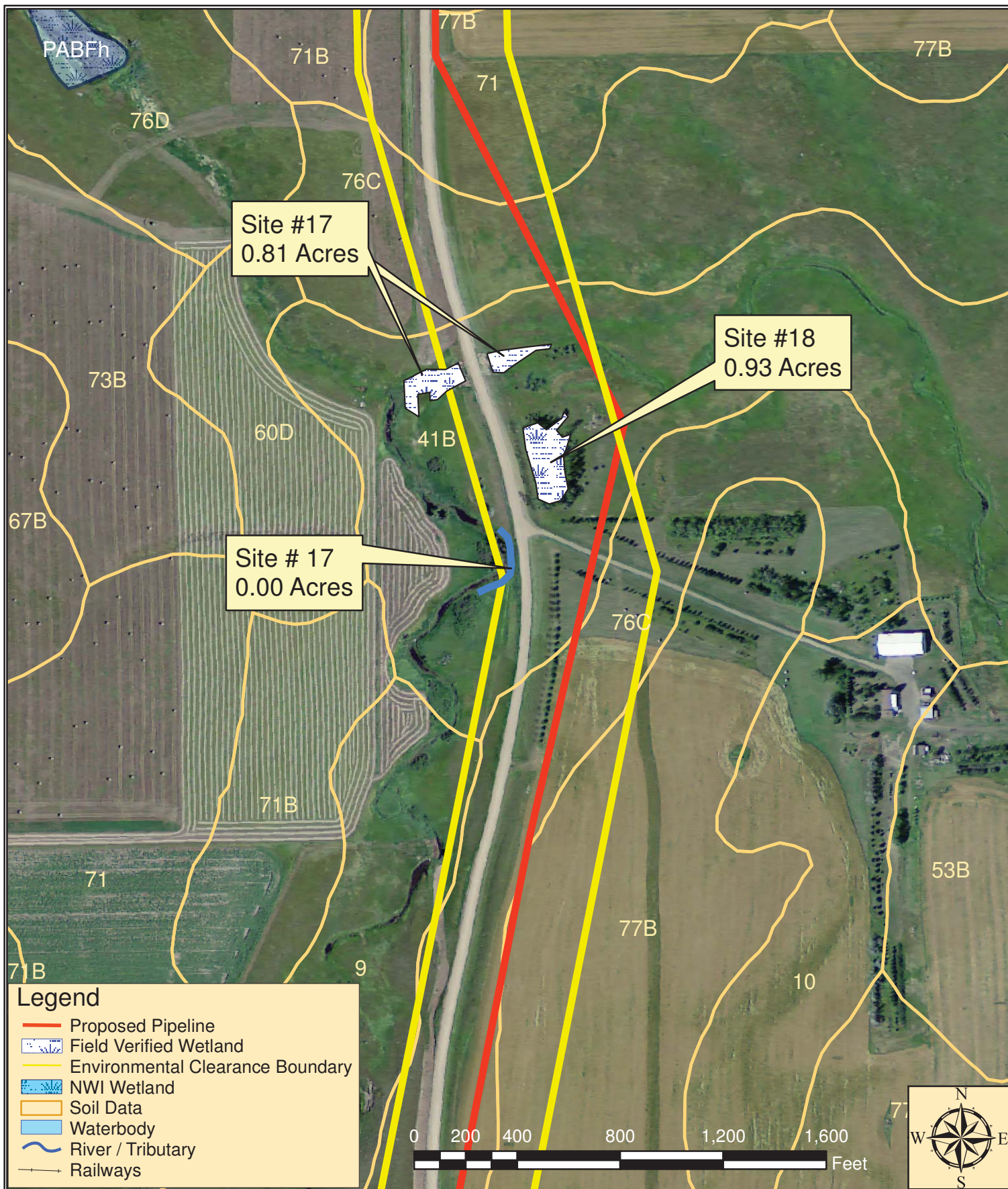
The soil is mapped as Daglum-Rhoades complex, 0 to 6 percent slopes (41B) within the survey limits. A dominance of hydrophytic vegetation exists within the site. Site 18 does appear to have a surface hydrologic connection to the North Branch of the Little Heart River. See data form 18-1 for detail of vegetation, soil profile, and hydrology conditions.



Photo 43: Site 18, facing south (6/22/2012).



Photo 44: Site 18, facing south (6/22/2012).



Site 19

Site 19 is a depression/swale located approximately 4,200 feet south of the intersection of 49th Street and 25th Avenue. This site serves the functions of water conveyance, nutrient removal, wildlife habitat, and erosion control.

Site 19 receives surface water from surrounding upland areas to the southeast. Surface water was not observed at the time of the site visit. Site 19 is not mapped on the NWI.

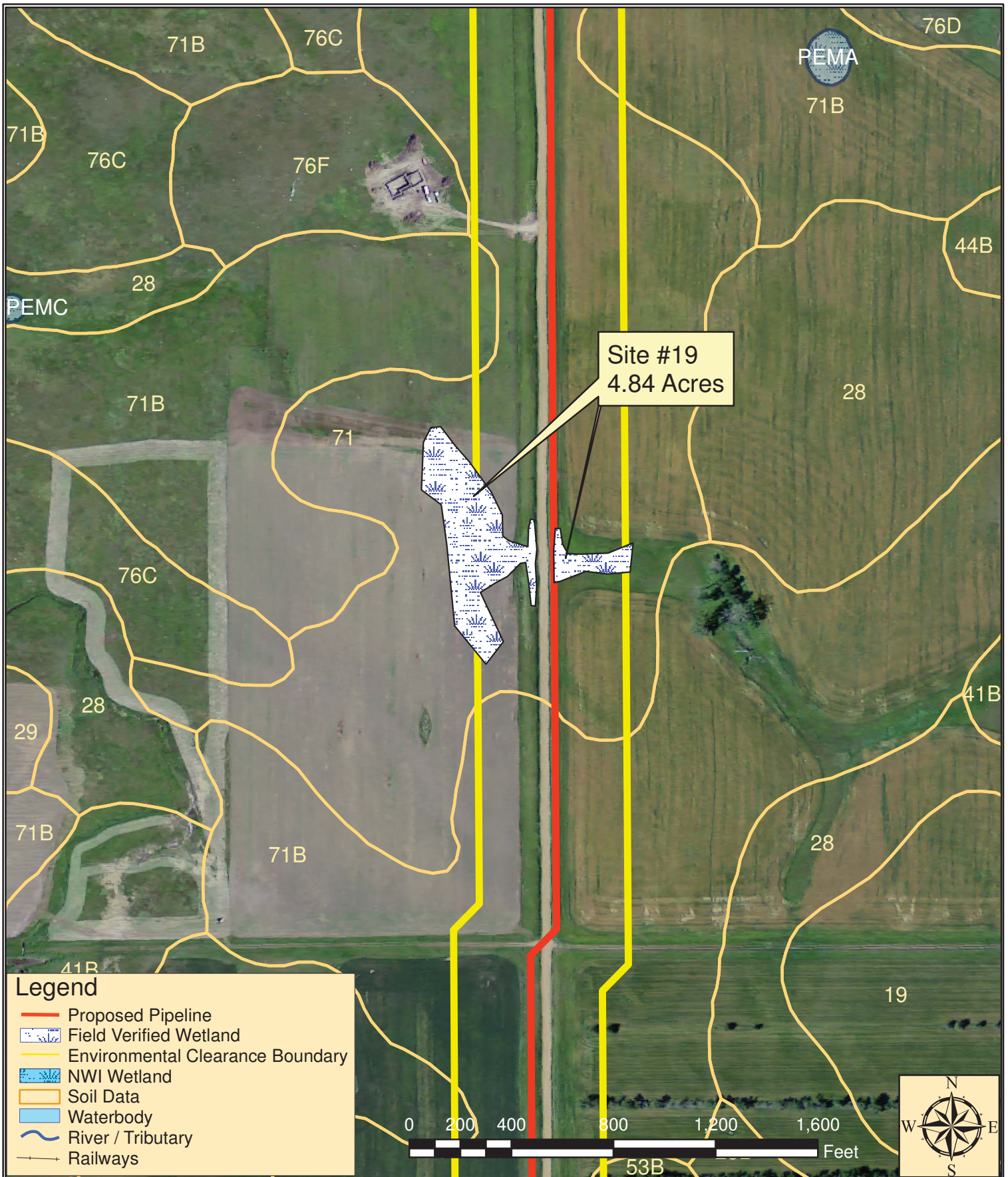
The soil is mapped as Ekalaka-Lakota fine sandy loams, 0 to 6 percent slopes (44B) within the survey limits. A dominance of hydrophytic vegetation exists within the site. Site 19 does appear to have a surface hydrologic connection to the North Branch of the Little Heart River. See data form 19-1 for detail of vegetation, soil profile, and hydrology conditions.



Photo 45: Site 19, facing east (6/23/2012).



Photo 46: Data Point 19-1 (6/23/2012).



Site 20

Site 20 is a depression located approximately 1,500 feet north of 51st Street and 40 feet east of County Road 82. The wetland is located at the edge of an agricultural field. This site serves the functions of groundwater recharge, nutrient removal, wildlife habitat, and erosion control.

Site 20 receives surface water from surrounding upland areas to the east. Surface water was not observed at the time of the site visit. Site 20 is not mapped on the NWI.

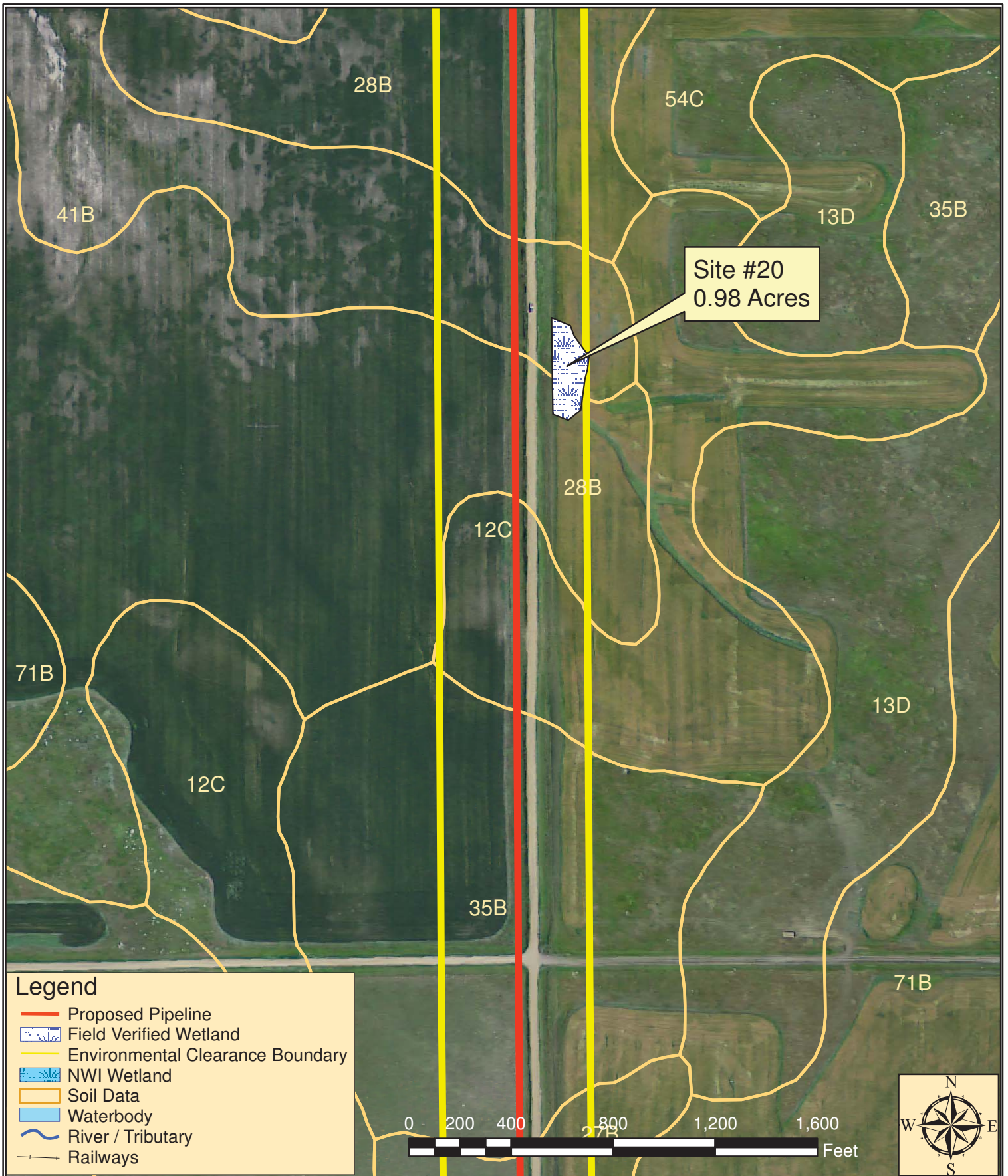
The soil is mapped as Belfield-Daglum silt loam, 2 to 6 percent slopes (28B) within the survey limits. A dominance of hydrophytic vegetation exists within the site. Site 20 appears to be an isolated wetland. County Road 82 appears to dam the surface flow of water (on the west side of the wetland). See data form 20-1 for detail of vegetation, soil profile, and hydrology conditions.



Photo 47: Site 20, facing south (6/23/2012).



Photo 48: Site 20, facing north (6/23/2012).



MONTANA-DAKOTA
UTILITIES CO.
A Division of MDU Resources Group, Inc.
In the Community to Serve®

Heskett Station
Proposed Natural Gas Pipeline
Morton County, North Dakota

FIGURE 16
Wetland Location Map

ProSource
TECHNOLOGIES, INC.

Site 21

Site 21 is the Little Heart River, a WOUS. This site serves the functions of water conveyance, nutrient transport, and wildlife habitat.

Site 21 receives surface water from upstream. Surface water was observed at the time of the site visit. Site 21 is not mapped on the NWI.

The soil is mapped as Rhoades-Slickspots-Daglum complex, 0 to 9 percent slopes (40C) within the survey limits. A dominance of hydrophytic vegetation exists within the site. Site 21 is considered jurisdictional. See data form 21-1 for detail of vegetation, soil profile, and hydrology conditions.



Photo 49: Little Heart River (Site 21) a WOUS, facing west (6/23/2012).



Photo 50: Little Heart River (Site 21) a WOUS, facing west (6/23/2012).

Site 22

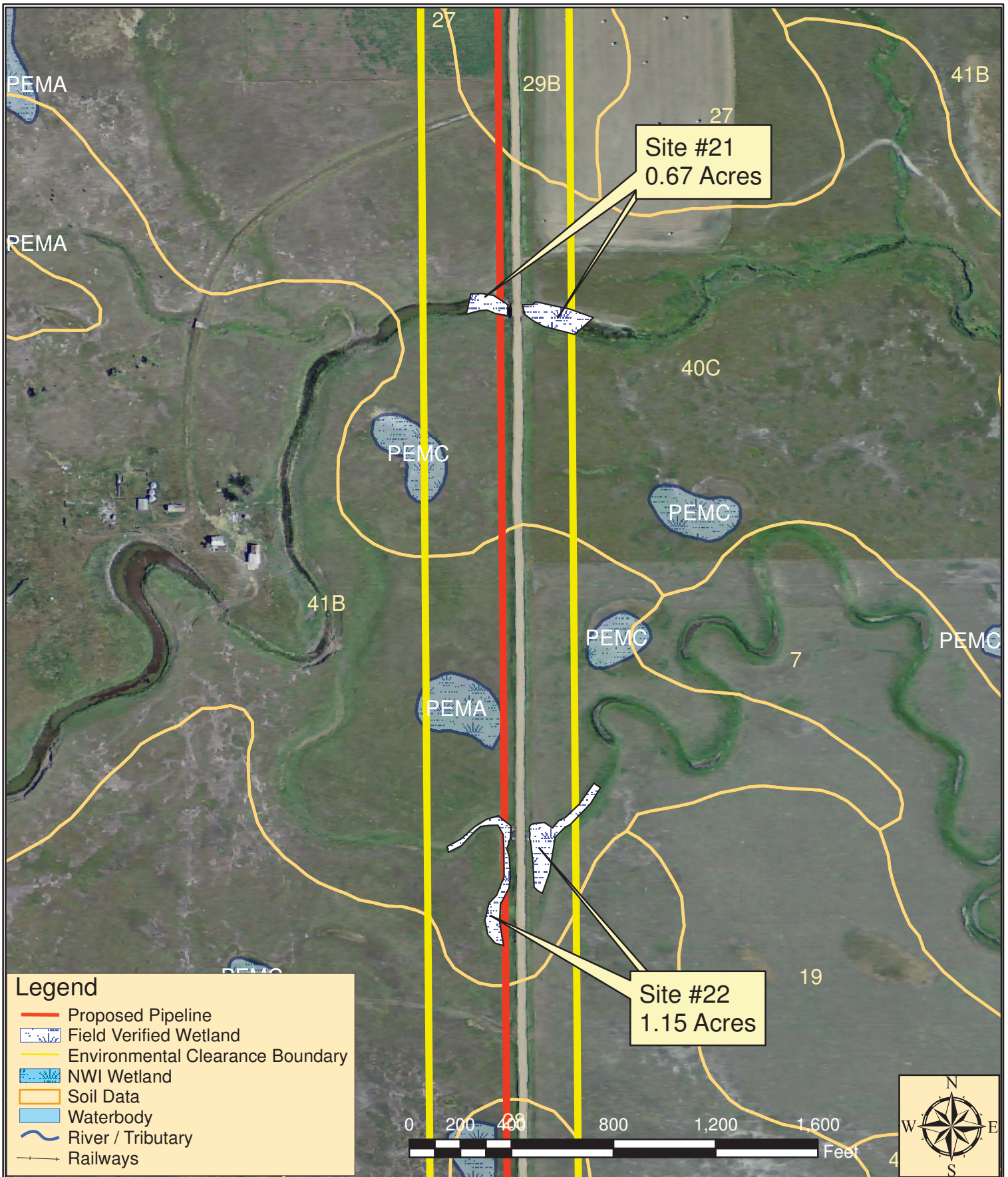
Site 22 is a segment of an oxbow associated with the Little Heart River. This site serves the functions of groundwater recharge, flood control, nutrient reduction, and wildlife habitat.

Site 22 receives water during high stream flows, and surface flow from surrounding upland areas. Surface water was not observed at the time of the site visit. Site 22 is not mapped on the NWI.

The soil is mapped as Daglum-Rhoades complex, 0 to 6 percent slopes (41B) within the survey limits. A dominance of hydrophytic vegetation exists within the site. Site 22 is considered jurisdictional. See data form 22-1 for detail of vegetation, soil profile, and hydrology conditions.



Photo 51: Site 22 (an oxbow of the Little Heart River), facing north (6/23/2012).



Site 23

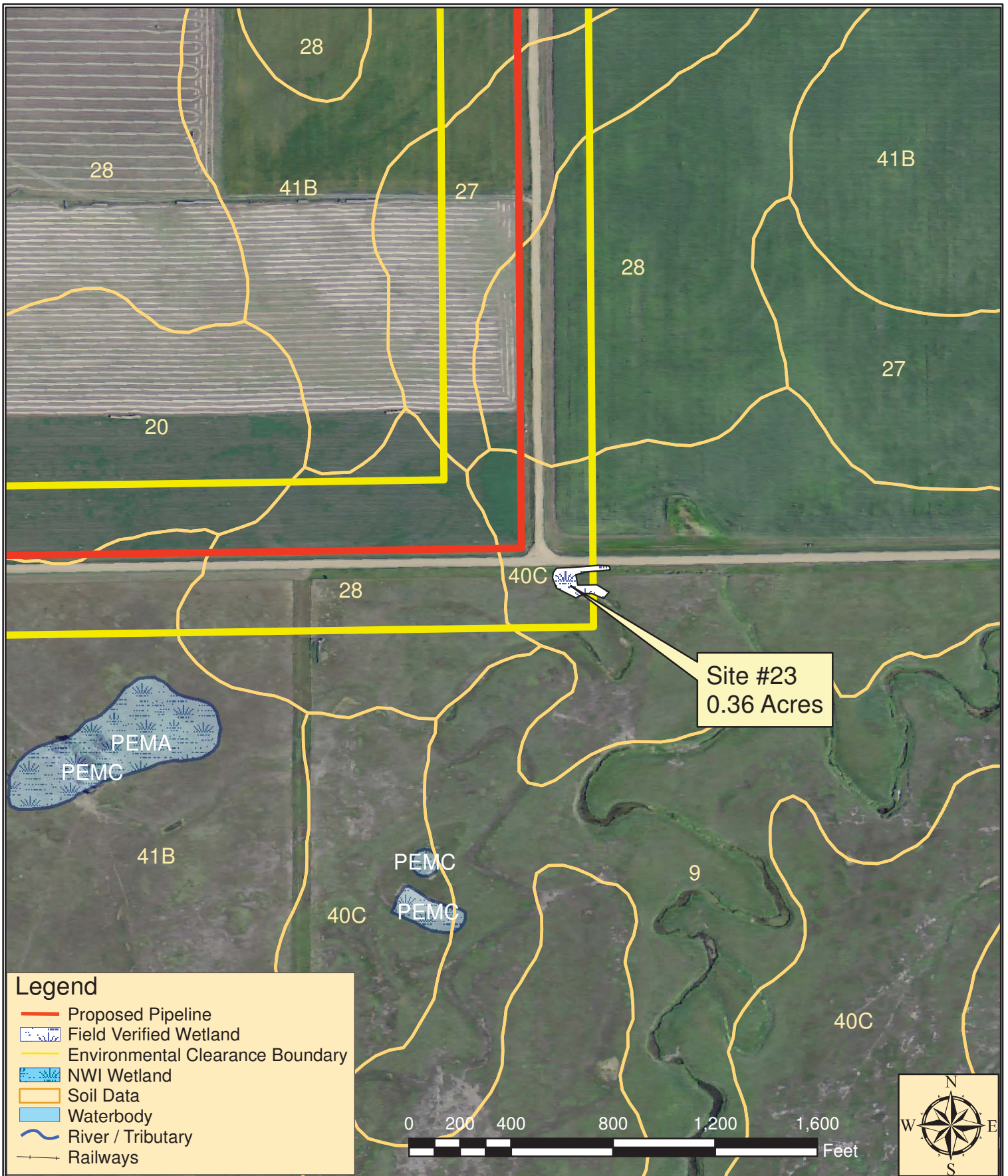
Site 23 is a segment of an oxbow associated with the Little Heart River. This site serves the functions of groundwater recharge, flood control, nutrient reduction, and wildlife habitat.

Site 23 receives water during high stream flows, and surface flow from surrounding upland areas. Surface water was not observed at the time of the site visit. Site 23 is not mapped on the NWI.

The soil is mapped as Rhoades-Slickspots-Daglum complex, 0 to 9 percent slopes (40C) within the survey limits. A dominance of hydrophytic vegetation exists within the site. Site 23 is considered jurisdictional. See data form 23-1 for detail of vegetation, soil profile, and hydrology conditions.



Photo 52: Site 23, facing south (6/23/2012).



Site 24

Site 24 is the Heart River, a WOUS. Site 24 includes areas within the banks of the river channel. This site serves the functions of water conveyance, nutrient transport, wildlife habitat, recreational uses, and aesthetics. Surface water was observed at the time of the site visit. Site 24 is mapped as R2UBG on the NWI.

The soil is mapped as Banks loamy fine sand, 0 to 6 percent slopes (85B). A dominance of hydrophytic vegetation exists within the site. Site 24 is considered jurisdictional. See data form 24-1 for detail of vegetation and hydrology conditions. A soil profile was not evaluated at the site because of the steep banks. Soil within the river channel is assumed to be hydric.



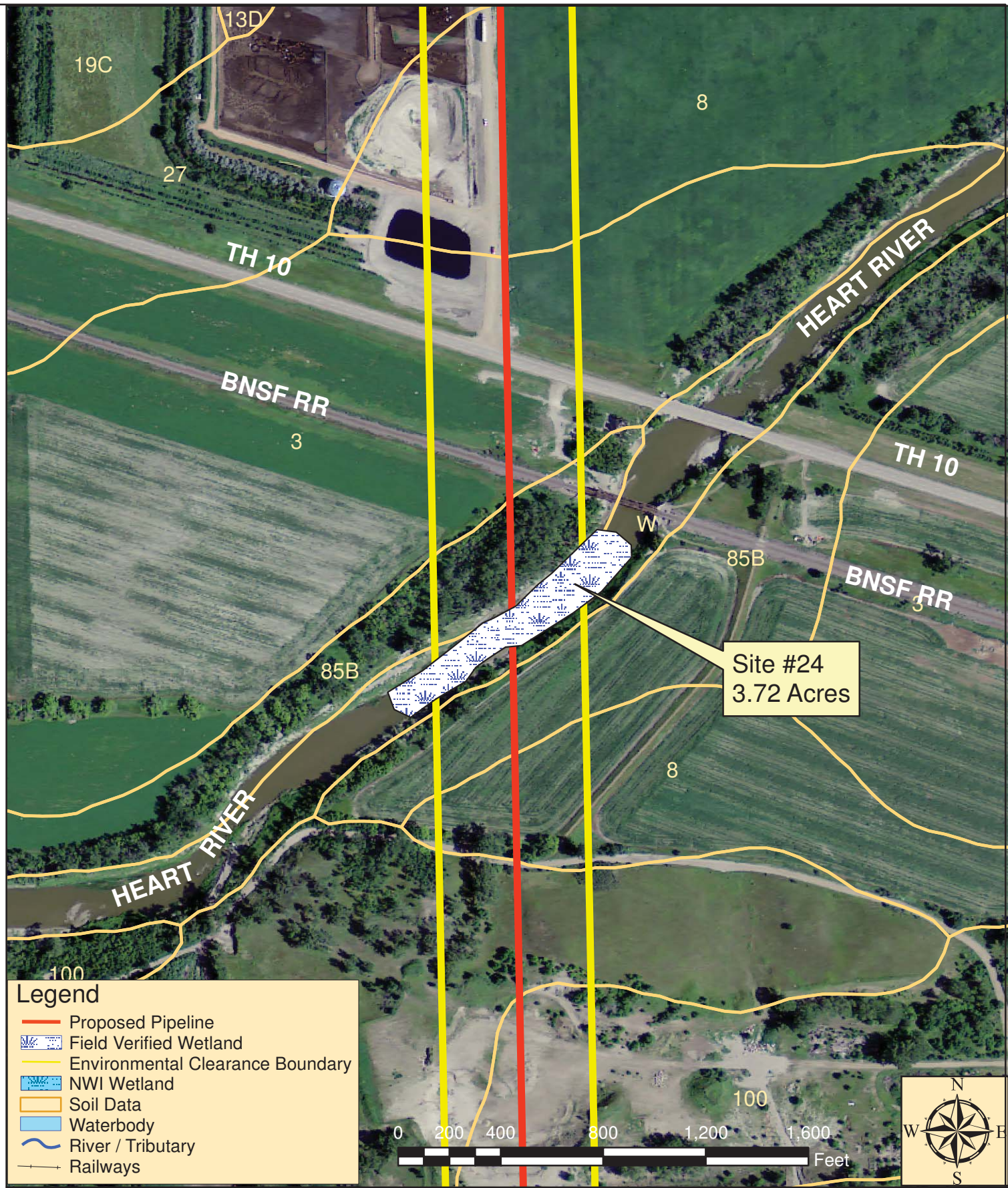
Photo 53: Heart River (Site 24) a WOUS, facing north (6/20/2012).



Photo 54: Heart River (Site 24) a WOUS, facing west (6/20/2012).



Photo 55: Heart River (Site 24) a WOUS, facing west (6/20/2012).



MONTANA-DAKOTA
UTILITIES CO.
A Division of MDU Resources Group, Inc.
In the Community to Serve®

Heskett Station
Proposed Natural Gas Pipeline
Morton County, North Dakota

Figure 19
Wetland Location Map

ProSource
TECHNOLOGIES, INC.

Site 25

Site 25 is an isolated ephemeral depression located approximately 700 feet north of 44th Street in an agricultural field. This site serves the functions of groundwater recharge, nutrient removal, wildlife habitat, and erosion control.

Site 25 receives surface water from surrounding upland areas. Surface water was not observed at the time of the site visit. Site 25 is not mapped on the NWI.

The soil is mapped as Belfield-Daglum silt loams (28) within the survey limits. A dominance of hydrophytic vegetation exists within the site. Site 25 appears to be an isolated wetland. See data form 25-1 for detail of vegetation, soil profile, and hydrology conditions. Site 25 was delineated prior to the pipeline re-route to the west, as project planning progressed. Site 25 is no longer within the limits of the proposed pipeline construction.



Photo 56: Site 25, facing southeast (6/21/2012).



Photo 57: Site 25 (6/21/2012).



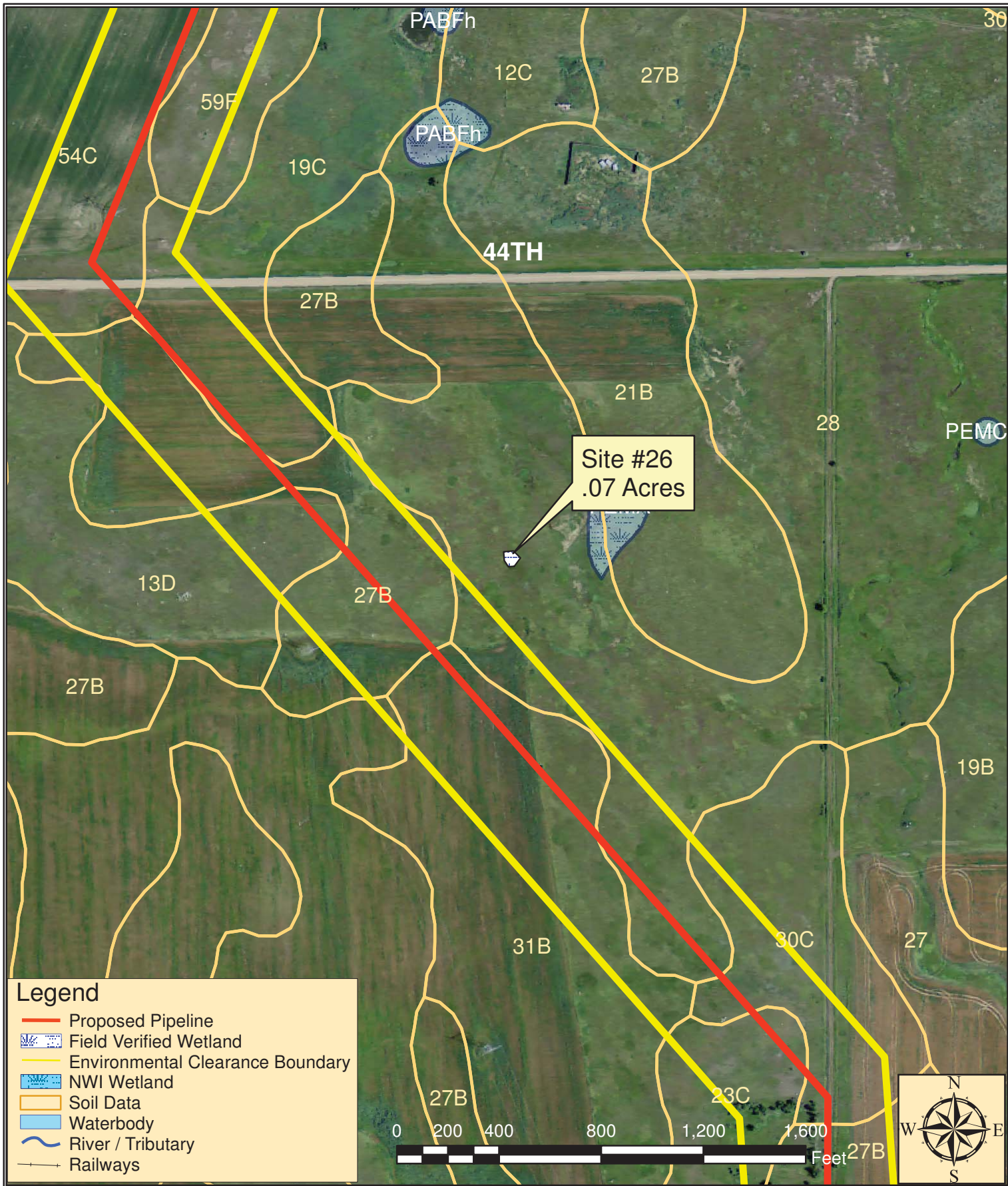
Site 26

Site 26 is an isolated ephemeral depression located approximately 740 feet south of 44th Street and 870 feet west of a farm access road. This site serves the functions of groundwater recharge, nutrient removal, wildlife habitat, and erosion control.

Site 26 receives surface water from surrounding upland areas. Surface water was not observed at the time of the site visit. Site 26 is not mapped on the NWI.

The soil is mapped as Belfield-Daglum silt loams (28) within the survey limits. A dominance of hydrophytic vegetation exists within the site. Site 26 appears to be an isolated wetland. See data form 26-1 for detail of vegetation, soil profile, and hydrology conditions.

No picture is available for Site 26.



MONTANA-DAKOTA
UTILITIES CO.
A Division of MDU Resources Group, Inc.
In the Community to Serve®

Heskett Station
Proposed Natural Gas Pipeline
Morton County, North Dakota

Figure 21
Wetland Location Map

ProSource
TECHNOLOGIES, INC.

Test Pit 1

Test Pit 1 is located in an upland area approximately 90 feet east of County Road 82 (Lat. 46.666518, Long. -100.983588). It is the upper portion of a swale/depression which has lower elevations to the east. Test Pit 1 did not exhibit wetland criteria at the time of the site visit. It appears that wetland conditions are present farther east, outside of the environmental review limits. Test Pit 1 was not deemed wetland.

5. SUMMARY OF WETLAND INVESTIGATION

ProSource identified 24 wetlands and two WOUS (the Heart River and North Branch Little Heart River) during the wetland delineation field review. Table 5-1 summarizes characteristics of the wetlands present within the project limits.

Table 5-1 – Wetland Summary

Site* No.	Wetland Type	Wetland Location (Lat/Long)	Soil Type	NWI	Dominant Plants at Data Plot	Isolated? Y/N **
Site 1	Depression/Swale	46.864663/ -100.890086	Water	No	common reed grass, narrow-leaved cattail	N
Site 2	Depression/Swale	46.864005/ -100.906081	Dogtooth-Janesburg-Cabba complex	No	Pointed broom sedge, common spike-rush	N
Site 3	Depression	46.873186/ -100.930901	Dogtooth-Janesburg-Cabba complex	No	Foxtail-Barley	Y
Site 4	Ravine	46.868577/ -100.928258	Dogtooth-Janesburg-Cabba complex	No	Green ash, Twinsisters, Bluejoint, Yellowcress	N
Site 5	Depression/Swale	46.870003/ -100.929337	Dogtooth-Janesburg silt loams	No	Foxtail-Barley, Bluejoint, Pointed broom sedge, bulrush	Y
Site 6	Depression/Swale	46.876070/ -100.947105	Farland silt loam	No	Foxtail-Barley	N
Site 7	Depression/Swale	46.874073/ -100.980117	Lawther silty clay	No	Brome	N
Site 8	Ravine	46.857289/ -100.980215	Flasher-Vebar-Parshall Complex	No	Green ash, mint, manna grass	N
Site 9	Ravine	46.798885/ -100.985563	Flasher-Vebar-Parshall Complex	No	Bur oak, Green ash, common buckthorn, Fowl Blue grass, Devil's Pitchfork, Red-Root	N
Site 10	Depression/Swale	46.781961/ -100.985822	Belfield-Daglum silt loams	No	Broad-leaved cattail, Rough-Fruit amaranth	Y
Site 11	Depression/Swale	46.774660/ -100.985538	Belfield-Daglum silt loams	No	American plum, Foxtail-Barley, common spike rush	N
Site 12	Depression/Swale	46.773649/ -100.985521	Regent-Savage silty clay loams	No	Foxtail-Barley, common spike rush	N
Site 13	Depression/Swale	46.762469/ -100.985373	Arnegard loam	No	Willow spp., Yellow cress, Broad-Leaf Cat-Tail, common spike rush, Turion duckweed,	N
Site 14	Tributary/ Swale	46.762469/ -100.985373	Ekalaka-Lakota fine sandy loams	PEMA	Hard-stem club rush, common spike rush,	N
Site 15	Depression/Swale	46.748985/ -100.985613	Daglum-Rhoades complex	PEMC	Broad-Leaf Cat-Tail, Creeping Meadow-Foxtail	N
Site 16	Depression/Swale	46.744036/ -100.985012	Williams-Zahl loams	PEMC/PABFh	Juncus spp., Foxtail Barley	N

Site* No.	Wetland Type	Wetland Location (Lat/Long)	Soil Type	NWI	Dominant Plants at Data Plot	Isolated? Y/N **
Site 17	Unnamed Tributary	46.729764/ -100.983999	Daglum-Rhoades complex	No	Reed Canary grass, Common spike rush	N
Site 18	Forested Ephemeral Depression	46.729017/ -100.983440	Daglum-Rhoades complex	No	Eastern cottonwood, sedge spp., common spike rush, Freshwater Cord Grass	N
Site 19	Depression/Swale	46.693120/ -100.984622	Ekalaka-Lakota fine sandy loams	No	Curly dock, Hard-stem club rush	N
Site 20	Depression	46.680114/ -100.983764	Belfield-Daglum silt loams	No	Elymus spp., Foxtail-Barley	Y
Site 21	Little Heart River (WOUS)	46.648516/ -100.983654	Rhoades-Slickspots-Daglum complex	No	Alfalfa	N
Site 22	Oxbow/Depression	46.644749/ -100.983877	Daglum-Rhoades complex	No	Sedge spp., Foxtail-Barley, Red Fescue	N
Site 23	Oxbow/Depression	46.632102/ -100.983240	Rhoades-Slickspots-Daglum complex	No	Tussock sedge, Freshwater Cord Grass	N
Site 24	Heart River (WOUS)	46.831889/ -100.976376	Banks loamy fine sand	R2UBG	Eastern cottonwood	N
Site 25	Ephemeral Depression	46.778702/ -100.985801	Belfield-Daglum silt loams	No	Foxtail-Barley	Y
Site 26	Ephemeral Depression	46.774779/ -100.988731	Belfield-Daglum silt loams	No	Foxtail-Barley, Lady's Thumb	Y

WOUS – “Waters of the U.S.”

*Number assigned by ProSource during wetland delineations.

** Isolated is based on professional judgment in the field and review of data sources listed in Section 3. The COE makes all final jurisdictional determinations. Isolated applies to a lack of hydrological connection to a “Waters of the U.S.”

6. WETLAND IMPACTS AVOIDANCE AND MINIMIZATION

Montana-Dakota is committed to avoiding or minimizing impacts to water resources during route analysis and pipeline siting. Practicable measures taken to avoid impacts include:

- Using horizontal directional drill (HDD) method to cross under streams with flowing water at the time of construction, therefore avoiding surface temporary impacts, and/or the need for in-stream channel work.
- Reducing open trench installation workspace to the minimal surface area required to complete the pipeline installation safely, and within construction specifications.
- Re-routing the proposed pipeline around Site 18, therefore avoiding tree removal and impacts to the ephemeral wooded depression wetland.
- Implementing the Montana-Dakota Upland and Erosion Control Plan during project construction.
- Implementing the Montana-Dakota Spill Prevention Control and Countermeasure (SPCC) Plan during project construction.

Temporary wetland impacts authorized under the U.S. Army Corps of Engineers Nationwide Permit #12 are proposed to occur.

7. COORDINATION/PERMITS REQUIRED

7.1 Permitting Agencies

Permits for wetland and WOUS impacts are issued through the Omaha District COE for projects in Morton County. If wetlands or WOUS will be impacted, a jurisdictional determination will be necessary. Based on the proposed pipeline crossing methods involving only temporary impacts, pipeline construction activities are expected to be authorized by Nationwide Permit 12- Utility Line Activities. Confirmation of this determination will be required through coordination with the COE.

Based on current guidelines, a sequence of impact assessments must be reviewed prior to the issuance of permits for wetland impacts. This sequence must take into account the potential for the complete avoidance of wetland impacts. If it can be proved that impacts are unavoidable, then the project must be designed to minimize wetland impacts. Once impacts are minimized to the least amount of impact possible, mitigation of these impacts will be reviewed.

The permitting process for jurisdictional wetlands is initiated by the submittal of the Joint Application to the COE. This application is also submitted to the following agencies:

- U.S. Fish and Wildlife Service (FWS)
- North Dakota Department of Health (401 Water Quality Certification).
- North Dakota Department of Game and Fish (NDGF)
- State Historical Society of North Dakota (HSND)

A jurisdictional determination is required from the COE to determine whether the on-site wetlands are under the jurisdiction of the COE. A jurisdictional determination includes submittal of the delineation report and a request for the determination. The COE uses maps and aerial photographs to determine whether the wetland is adjacent or connected to WOUS. The COE may complete a field verification to confirm the jurisdictional determination. The final determination regarding jurisdictional status and potential mitigation will be made by the COE.

8. MITIGATION

At temporary wetland impact locations, after the pipeline is installed and backfilled, the work space will be returned to grade and re-seeded. To the extent practical, Montana-Dakota will restore the installation area to its preconstruction contours and reseed with vegetation seed mixtures that meet the approval or recommendations of the landowner, or by applicable authority such as state or local agency.

9. LIMITATIONS AND EXCEPTIONS

The wetland delineation detailed in this report was performed in accordance with accepted methods and practices of the COE technical memorandum, the *1987 Wetland Delineation Manual* and *2010 Great Plains Regional Manual*. The scope and depth of this study is consistent with ProSource representations. The following limitations and exceptions apply:

- This document must be read and interpreted as a whole. Specific individual sections of this document are dependent upon the balance of this document in its entirety.
- This document has been prepared specifically for Montana-Dakota. No additional party other than Montana-Dakota and the COE may use the information contained in this document without written permission from ProSource and Montana-Dakota.
- This document is time sensitive because the field delineations are only acceptable for a maximum of five years.

REFERENCES

- Google, Google Earth, Accessed October 1, 2012. Available online at <http://maps.google.com/maps?hl=en&tab=wl>.
- U.S. Army Corps of Engineers, Technical Report Y-87-2, Corps of Engineers Wetland Delineation Manual (1987), Environmental Laboratory, Department of the Army.
- U.S. Army Corps of Engineers, Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region 2.0 (COE Great Plains Region Manual), Environmental Laboratory, Department of the Army, 2010.
- U.S. Department of Agriculture, Natural Resource Conservation Service, National List of Hydric Soils, Washington D.C., 2012.
- U.S. Department of Agriculture Natural Resources Conservation Service Web Soil Survey, Accessed October 1, 2012. Available online at <http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>.
- U. S. Department of the Interior, Bureau of Land Management, GeoCommunicator Site Mapper. Accessed October 1, 2012. Available online at <http://www.geocommunicator.gov/blmMap/MapSiteMapper.jsp>
- U.S. Department of the Interior, Fish and Wildlife Service, National Wetlands Inventory Mapper, Accessed October 1, 2012. Available online at <http://107.20.228.18/Wetlands/WetlandsMapper.html>.

APPENDIX A

FIELD DATA FORMS

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/18/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 1-1 wet
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 15, T139N, R81W
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 4
 Subregion (LRR): F Lat: 46.864663 Long: -100.890086 Datum: WGS 84
 Soil Map Unit Name: Water (W) 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 <u>X</u>	No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks: Site 1 is located approximately 20 feet south of 38th Street. Site 1 appears to have a hydrologic connection to the Missouri River, via ditches and culverts.					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				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 = _____
Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>)				
1. <u>none</u>				
2. _____				
3. _____				
_____ = Total Cover				
Herb Stratum (Plot size: <u>5' x 5'</u>)				Hydrophytic Vegetation Indicators: ☒ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Phragmites australis</u>	<u>65</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Typha angustifolia</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
3. <u>Hordeum jubatum</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
4. <u>Lactuca serriola</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
_____ = Total Cover				
Woody Vine Stratum (Plot size: <u>30' x 30'</u>)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. <u>none</u>				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: The Rapid Test for Hydrophytic Vegetation and Dominance Test indicators were met, confirming hydrophytic vegetation.				

SOIL

Sampling Point: 1-1 wet

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		
0-7	2.5Y 4/1	90	7.5YR 4/6	10	C	M	silt loam
7-17	2.5Y 2.5/1	100					silt loam

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☒ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- ☐ 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)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

One hydric soil indicator was observed at the time of the site visit.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☒ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☒ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☒ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (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): _____
Water Table Present? Yes X No _____ Depth (inches): 8
Saturation Present? Yes X No _____ Depth (inches): 5
(includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

Remarks:

Three primary and one secondary wetland hydrology indicators were observed at the time of the site visit.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/18/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 1-2 upland
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 15, T139N, R81W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 3
 Subregion (LRR): F Lat: 46.864663 Long: -100.890086 Datum: WGS 84
 Soil Map Unit Name: Water (W) 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: The upland data point for Site 1 is located approximately 6 feet north of the wetland boundary, near the toe of the road shoulder slope. Road fill may be present in the soil profile.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
				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 = _____
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>) 1. <u>none</u> 2. _____ 3. _____ 4. _____ 5. _____				
_____ = Total Cover				
Herb Stratum (Plot size: <u>5' x 5'</u>) 1. <u>Festuca rubra</u> 40 Y FAC 2. <u>Bromus arvensis</u> 30 Y FACU 3. <u>Phragmites australis</u> 15 N FACW 4. <u>Cirsium arvense</u> 15 N FACU 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____				
100 = Total Cover				Hydrophytic Vegetation Indicators: ☐ 1 - Rapid Test for Hydrophytic Vegetation ☐ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: <u>30' x 30'</u>) 1. <u>none</u> 2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Hydrophytic Vegetation Present? Yes _____ No <u>X</u>				
Remarks: No Hydrophytic Vegetation Indicators were observed at the time of the site visit.				

SOIL

Sampling Point: 1-2 upland

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 4/2	50					silt loam	
	10YR 5/1	40						
	2.5Y 3/1	10						
16								gravel/rocks encountered

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- ☐ 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)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

No hydric soil indicators were observed. Rock and gravel were encountered at 16 inches below the soil surface.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|---|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (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? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

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

Remarks:

No wetland hydrology indicators were observed at the time of the site visit.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/18/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 2-1 wet
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 16, T139N, R81W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 2
 Subregion (LRR): F Lat: 46.864005 Long: -100.906081 Datum: WGS 84
 Soil Map Unit Name: Dogtooth-Janesburg-Cabba complex, 6 to 30 percent slopes (42F) 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 <u>X</u>	No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks: Site 2 is located approximately 200 feet south of 38th Street. Site 2 appears to have a surface hydrologic connection to the Missouri River, which is located approximately 1 mile to the northeast.					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				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 = _____
<u>Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>)</u>				
1. <u>none</u>				
2. _____				
3. _____				
_____ = Total Cover				
<u>Herb Stratum (Plot size: <u>5' x 5'</u>)</u>				Hydrophytic Vegetation Indicators: ☒ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Carex scoparia</u>	<u>55</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Eleocharis palustris</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
3. <u>Hordeum jubatum</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
4. <u>Chenopodium album</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
5. <u>Spartina pectinata</u>	<u>3</u>	<u>N</u>	<u>FACW</u>	
6. _____				
7. _____				
8. _____				
9. _____				
_____ = Total Cover				
<u>Woody Vine Stratum (Plot size: <u>30' x 30'</u>)</u>				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. <u>none</u>				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>7</u>				
Remarks: The Rapid Test for Hydrophytic Vegetation and Dominance Test indicators were met, confirming hydrophytic vegetation.				

SOIL

Sampling Point: 2-1 wet

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		
0-15	N 2.5/0	90	10YR 4/4	10	C	M	m. silt loam	mucky silt loam

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☒ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- | |
|--|
| ☐ 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) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____**Remarks:**

One hydric soil indicator was observed at the time of the site visit. The soil has been mixed and rutted from grazing cattle.

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one required; check all that apply)

- | | |
|---|--|
| ☒ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☒ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☒ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☒ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | (where not tilled) |
| ☒ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☒ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|---|
| ☐ Surface Soil Cracks (B6) |
| ☐ Sparsely Vegetated Concave Surface (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): 1

Water Table Present? Yes X No _____ Depth (inches): 0

Saturation Present? Yes X No _____ Depth (inches): 0
(includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

Remarks:

Six primary and two secondary wetland hydrology indicators were observed at the time of the site visit.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/18/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 2-2 upland
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 16, T139N, R81W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 3
 Subregion (LRR): F Lat: 46.864005 Long: -100.906081 Datum: WGS 84
 Soil Map Unit Name: Dogtooth-Janesburg-Cabba complex, 6 to 30 percent slopes (42F) 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: The upland data point for Site 2 is located approximately 7 feet south of the wetland boundary.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33</u> (A/B)
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				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 = _____
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15' x 15'</u>)				
1. <u>none</u>				
2. _____				
3. _____				
_____ = Total Cover				
<u>Herb Stratum</u> (Plot size: <u>5' x 5'</u>)				Hydrophytic Vegetation Indicators: ☐ 1 - Rapid Test for Hydrophytic Vegetation ☐ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Festuca rubra</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Bromus arvensis</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Melilotus officinalis</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
4. <u>Poa pratensis</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
_____ = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: <u>30' x 30'</u>)				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
1. <u>none</u>				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: No Hydrophytic Vegetation Indicators were observed at the time of the site visit.				

SOIL

Sampling Point: 2-2 upland

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	2.5Y 2.5/1	100					silt loam	
8-14	2.5Y 4/2	70					silt loam	
	2.5Y 2.5/1	30						

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- ☐ 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)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

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 required; check all that apply)

- | | |
|--|---|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (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): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? Yes _____ No X Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No wetland hydrology indicators were observed at the time of the site visit.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/18/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 3-1 wet
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 8, T139N, R81W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 2
 Subregion (LRR): F Lat: 46.873186 Long: -100.930901 Datum: WGS 84
 Soil Map Unit Name: Dogtooth-Janesburg-Cabba complex, 6 to 30 percent slopes (42F) 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 <u>X</u>	No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks: Site 3 3 is located approximately 600 feet east of Highland Road, at the base of a hill. Site 3 appears to be isolated.					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
				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 = _____
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>) 1. <u>none</u> 2. _____ 3. _____ 4. _____ 5. _____				
_____ = Total Cover				
Herb Stratum (Plot size: <u>5' x 5'</u>) 1. <u>Hordeum jubatum</u> 35 Y FACW 2. <u>Chenopodium album</u> 5 N FACU 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____				
40 = Total Cover				Hydrophytic Vegetation Indicators: ☒ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: <u>30' x 30'</u>) 1. <u>none</u> 2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>60</u>				
Hydrophytic Vegetation Present? Yes <u>X</u> No _____				
Remarks: The Rapid Test for Hydrophytic Vegetation and Dominance Test indicators were met, confirming hydrophytic vegetation.				

SOIL

Sampling Point: 3-1 wet

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		
0-6	N 2.5/0	90	7.5YR 3/4	10	C	PL	silt loam
6-12	N 2.5/0	100					silt loam
12-18	N 3/1	100					silt loam

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☒ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- ☐ 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)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

One hydric soil indicator was observed at the time of the site visit.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| ☐ Surface Water (A1) | ☒ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☒ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | (where not tilled) |
| ☒ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☒ Sparsely Vegetated Concave Surface (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): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes _____ No X Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

Remarks:

Three primary and two secondary wetland hydrology indicators were observed at the time of the site visit. A salt crust was visible throughout much of the wetland.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/18/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 3-2 upland
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 8, T139N, R81W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 3
 Subregion (LRR): F Lat: 46.873186 Long: -100.930901 Datum: WGS 84
 Soil Map Unit Name: Regent-Janesburg complex, 6 to 9 percent slopes (31C) 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 <u>X</u>	No _____	Is the Sampled Area within a Wetland?	Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>		
Wetland Hydrology Present?	Yes _____	No <u>X</u>		
Remarks: The upland data point for Site 3 is located approximately 7 feet south of the wetland boundary.				

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
				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 = _____
_____ = Total Cover				
<u>Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>)</u>				
1. <u>none</u>				
2. _____				
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 ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. _____				
5. _____				
_____ = Total Cover				
<u>Herb Stratum (Plot size: <u>5' x 5'</u>)</u>				
1. <u>Festuca rubra</u>	<u>90</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Bromus arvensis</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
8. _____				
9. _____				
10. _____				
_____ = Total Cover				
<u>Woody Vine Stratum (Plot size: <u>30' x 30'</u>)</u>				
1. <u>none</u>				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				

Remarks:
One Hydrophytic Vegetation Indicator was observed at the time of the site visit.

SOIL

Sampling Point: 3-2 upland

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					silt loam	
5-7	N 2.5/1	100					silt loam	
7-12	N 2.5/1	60					silt loam	
	2.5Y 4/1	40						

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- ☐ 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)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

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 required; check all that apply)

- | | |
|--|---|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (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): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? Yes _____ No X Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No wetland hydrology indicators were observed at the time of the site visit.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/18/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 4-1 wet
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 8, T139N, R81W
 Landform (hillslope, terrace, etc.): ravine Local relief (concave, convex, none): concave Slope (%): 5
 Subregion (LRR): F Lat: 46.868577 Long: -100.928258 Datum: WGS 84
 Soil Map Unit Name: Dogtooth-Janesburg-Cabba complex, 6 to 30 percent slopes (42F) 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 <u>X</u>	No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks: Site 4 is located approximately 1,000 feet east of Highland Road, within a forested ravine. Site 4 appears to have a surface hydrologic connection to the Missouri River.					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75</u> (A/B)
1. <u>Fraxinus pennsylvanica</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	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 = _____
<u>25</u> = Total Cover Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>)				
1. <u>Lonicera tatarica</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
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 ¹ (Explain)
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>15</u> = Total Cover Herb Stratum (Plot size: <u>5' x 5'</u>)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Calamagrostis canadensis</u>	<u>35</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Rorippa spp.</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Rumex crispus</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
4. <u>Poa spp.</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
5. <u>Chenopodium album</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>85</u> = Total Cover Woody Vine Stratum (Plot size: <u>30' x 30'</u>)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. <u>none</u>	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
<u>_____</u> = Total Cover % Bare Ground in Herb Stratum <u>15</u>				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
Remarks:				
The Dominance Test indicator was met, confirming hydrophytic vegetation.				

SOIL

Sampling Point: 4-1 wet

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	N 2.5/1	100					m silt loam	mucky silt loam

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☒ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) (LRR F) | ☒ Loamy Gleyed Matrix (F2) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- ☐ 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)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Two hydric soil indicators were observed at the time of the site visit. Hydrogen sulfide odor was noticed.

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|---|
| ☒ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☒ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☒ Saturation (A3) | ☒ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (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): 1

Water Table Present? Yes X No _____ Depth (inches): 0

Saturation Present? Yes X No _____ Depth (inches): 0
(includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

Remarks:

Four primary and two secondary wetland hydrology indicators were observed at the time of the site visit. Hydrogen sulfide odor was noticed.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/18/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 4-2 upland
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 8, T139N, R81W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 3
 Subregion (LRR): F Lat: 46.868577 Long: -100.928258 Datum: WGS 84
 Soil Map Unit Name: Dogtooth-Janesburg-Cabba complex, 6 to 30 percent slopes (42F) 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: The upland data point for Site 4 is located approximately 7 feet north of the wetland boundary.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40</u> (A/B)
1. <u>Fraxinus pennsylvanica</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Quercus macrocarpa</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>40</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>)				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 = _____
1. <u>Lonicera tatarica</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>10</u> = Total Cover				
Herb Stratum (Plot size: <u>5' x 5'</u>)				Hydrophytic Vegetation Indicators: ☐ 1 - Rapid Test for Hydrophytic Vegetation ☐ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Hesperis matronalis</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Bromus arvensis</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Poa pratensis</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
4. <u>Oxalis dillenii</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
5. <u>Euphorbia esula</u>	<u>5</u>	<u>N</u>	<u>UPL</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>70</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30' x 30'</u>)				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
1. <u>none</u>	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>30</u>				
Remarks: No Hydrophytic Vegetation Indicators were observed at the time of the site visit.				

SOIL

Sampling Point: 4-2 upland

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	2.5Y 2.5/1	100					silt loam	
8-14	10YR 4/1						silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- ☐ 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)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

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 required; check all that apply)

- | | |
|--|---|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (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): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? Yes _____ No X Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No wetland hydrology indicators were observed at the time of the site visit.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/18/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 5-1 wet
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 8, T139N, R81W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 5
 Subregion (LRR): F Lat: 46.870003 Long: -100.929337 Datum: WGS 84
 Soil Map Unit Name: Dogtooth-Janesburg silt loams, 0 to 6 percent slopes (47B) 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 <u>X</u>	No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks: Site 5 is located approximately 900 feet east of Highland Road. Site 5 is a depression/swale, which does not appear to have a surface hydrologic connection to the Missouri River.					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				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 = _____
<u>Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>)</u>				
1. <u>none</u>				
2. _____				
3. _____				
_____ = Total Cover				Hydrophytic Vegetation Indicators: ☒ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain)
<u>Herb Stratum (Plot size: <u>5' x 5'</u>)</u>				
1. <u>Hordeum jubatum</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Calamagrostis canadensis</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Carex scoparia</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
4. <u>Scirpus spp.</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. <u>Chenopodium album</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
6. _____				
7. _____				
8. _____				
_____ = Total Cover				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
<u>Woody Vine Stratum (Plot size: <u>30' x 30'</u>)</u>				
1. <u>none</u>				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>5</u>				

Remarks:

The Rapid Test for Hydrophytic Vegetation and Dominance Test indicators were met, confirming hydrophytic vegetation.

SOIL

Sampling Point: 5-1 wet

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

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

Indicators for Problematic Hydric Soils³:

- | | |
|--------------------------|--|
| ☐ | 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) |
| ☐ | Very Shallow Dark Surface (TF12) |
| ☐ | Other (Explain in Remarks) |

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

One hydric soil indicator was observed at the time of the site visit.

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (minimum of two required)

- | | | |
|--|---|---|
| ☒ Surface Water (A1) | ☒ Salt Crust (B11) | ☐ Surface Soil Cracks (B6) |
| ☒ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) | ☐ Sparsely Vegetated Concave Surface (B8) |
| ☒ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) | ☒ Drainage Patterns (B10) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) | ☐ (where tilled) |
| ☐ Drift Deposits (B3) | (where not tilled) | ☐ Crayfish Burrows (C8) |
| ☒ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) | ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) | ☒ Geomorphic Position (D2) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) | ☐ FAC-Neutral Test (D5) |
| ☐ Water-Stained Leaves (B9) | | ☐ Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

Surface Water Present? Yes X No Depth (inches): 1

Water Table Present? Yes X No Depth (inches): 0

Saturation Present? Yes X No Depth (inches): 0
(includes capillary fringe)

Wetland Hydrology Present? Yes X No

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

Remarks:

Five primary and two secondary wetland hydrology indicators were observed at the time of the site visit.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/18/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 5-2 upland
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 8, T139N, R81W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 3
 Subregion (LRR): F Lat: 46.870003 Long: -100.929337 Datum: WGS 84
 Soil Map Unit Name: Dogtooth-Janesburg silt loams, 0 to 6 percent slopes (47B) 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 <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: The upland data point for Site 5 is located approximately 6 feet south of the wetland boundary.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>60</u> (A/B)
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				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 = _____
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15' x 15'</u>)				
1. <u>Crataegus mollis</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Shepherdia argentea</u>	<u>15</u>	<u>Y</u>	<u>UPL</u>	
3. _____				
_____ = Total Cover				Hydrophytic Vegetation Indicators: ☐ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<u>Herb Stratum</u> (Plot size: <u>5' x 5'</u>)				
1. <u>Poa pratensis</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Lonicera tatarica</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Festuca rubra</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
_____ = Total Cover				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
4. <u>Achillea millefolium</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
5. _____				
6. _____				
7. _____				
_____ = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: <u>30' x 30'</u>)				
1. <u>none</u>				
2. _____				
3. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>5</u>				
Remarks: One Hydrophytic Vegetation Indicator was observed at the time of the site visit.				

SOIL

Sampling Point: 5-2 upland

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 3/1	100					silt loam	
7-14	2.5Y 4/2	70					silt loam	
	10YR 3/1	30						

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- ☐ 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)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

No hydric soil indicators were observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|---|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (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? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

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

Remarks:

No wetland hydrology indicators were observed at the time of the site visit.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/19/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 6-1 wet
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 7, T139N, R81W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 2
 Subregion (LRR): F Lat: 46.876070 Long: -100.947105 Datum: WGS 84
 Soil Map Unit Name: Farland silt loam, 2 to 6 percent slopes (19B) 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 <u>X</u>	No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks: Site 6 is located approximately 900 feet south of 37th Street. Site 6 is a depression/swale located in an agricultural field. The wetland appears to have a surface hydrologic connection to the Heart River.					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				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 = _____
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15' x 15'</u>)				
1. <u>none</u>				
2. _____				
3. _____				
_____ = Total Cover				Hydrophytic Vegetation Indicators: ☒ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<u>Herb Stratum</u> (Plot size: <u>5' x 5'</u>)				
1. <u>Hordeum jubatum</u>	<u>90</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Chenopodium album</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
_____ = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: <u>30' x 30'</u>)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. <u>none</u>				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks: The Rapid Test for Hydrophytic Vegetation and Dominance Test indicators were met, confirming hydrophytic vegetation.				

SOIL

Sampling Point: 6-1 wet

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	2.5Y 4/1	20	7.5YR 3/3	10	C	M	s. clay loar	silty clay loam
	2.5Y 3/1	70						
10-18	2.5Y 4/1	45					s. clay loar	silty clay loam
	2.5Y 2.5/1	30						
	2.5Y 5/3	25						

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☒ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- ☐ 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)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

One hydric soil indicator was observed at the time of the site visit.

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|---|
| ☒ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☒ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☒ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (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): 3

Water Table Present? Yes X No _____ Depth (inches): 0

Saturation Present? Yes X No _____ Depth (inches): 0
(includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

Remarks:

Three primary and two secondary wetland hydrology indicators were observed at the time of the site visit.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/19/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 6-2 upland
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 8, T139N, R81W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 4
 Subregion (LRR): F Lat: 46.876070 Long: -100.947105 Datum: WGS 84
 Soil Map Unit Name: Farland silt loam, 2 to 6 percent slopes (19B) 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks: The upland data point for Site 6 is located approximately 7 feet east of the wetland boundary.		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				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 = _____
Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>) 1. <u>none</u> 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: <u>5' x 5'</u>) 1. <u>Elymus spp.</u> 55 Y FACU 2. <u>Hordeum jubatum</u> 45 Y FACW 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: <u>30' x 30'</u>) 1. <u>none</u> 2. _____ _____ = Total Cover % Bare Ground in Herb Stratum <u>5</u>				
Hydrophytic Vegetation Indicators: ☐ 1 - Rapid Test for Hydrophytic Vegetation ☐ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Hydrophytic Vegetation Present? Yes _____ No <u>X</u>				
Remarks: No Hydrophytic Vegetation Indicators were observed at the time of the site visit.				

SOIL

Sampling Point: 6-2 upland

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		
0-13	2.5Y 3/1	35	7.5YR 4/4	10	C	M	silty clay lo
	2.5Y 4/1	40					
	2.5Y 5/2	15					
13-18	2.5Y 5/3	80	2.5Y 5/1	10	D	M	silty clay
	2.5Y 3/1	10					

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☒ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | |

Indicators for Problematic Hydric Soils³:

- | |
|--|
| ☐ 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) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

One hydric soil indicator was observed.

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|---|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|---|
| ☐ Surface Soil Cracks (B6) |
| ☐ Sparsely Vegetated Concave Surface (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): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? Yes _____ No X Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No wetland hydrology indicators were observed at the time of the site visit.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/19/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 7-1 wet
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 12, T139N, R82W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 2
 Subregion (LRR): F Lat: 46.874073 Long: -100.980117 Datum: WGS 84
 Soil Map Unit Name: Lawther silty clay, 0 to 2 percent slopes (36) 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 <u>X</u>	No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks: Site 7 is located approximately 1,600 feet south of 37th Street and 1,600 feet east of Township Road 5. Site 7 is a depression/swale located in an agricultural field. There is an excavated pond surrounded by trees, which is part of this wetland system. The wetland appears to have a surface hydrologic connection to the Heart River.					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				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 = _____
<u>Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>)</u>				
1. <u>none</u>				
2. _____				
3. _____				
_____ = Total Cover				Hydrophytic Vegetation Indicators: ☐ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain)
<u>Herb Stratum (Plot size: <u>5' x 5'</u>)</u>				
1. <u>Bromus ciliatus</u>	<u>75</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Zea mays</u>	<u>10</u>	<u>N</u>	<u>UPL</u>	
3. <u>Barbarea vulgaris</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
_____ = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. _____				
5. _____				
6. _____				
7. _____				
_____ = Total Cover				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
<u>Woody Vine Stratum (Plot size: <u>30' x 30'</u>)</u>				
1. <u>none</u>				
2. _____				
3. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>10</u>				
Remarks: The Dominance Test indicator was met, confirming hydrophytic vegetation.				

SOIL

Sampling Point: 7-1 wet

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	2.5Y 3/1	100					silt loam	
5-15	2.5Y 4/1	65	10YR 4/4	10	C	M	silt loam	
	2.5Y 5/2	25						

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☒ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- ☐ 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)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

One hydric soil indicator was observed at the time of the site visit.

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|---|
| ☒ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☒ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☒ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (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

Water Table Present? Yes X No _____ Depth (inches): 0

Saturation Present? Yes X No _____ Depth (inches): 0
(includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

Remarks:

Three primary and two secondary wetland hydrology indicators were observed at the time of the site visit.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/19/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 7-2 upland
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 12, T139N, R82W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 4
 Subregion (LRR): F Lat: 46.874073 Long: -100.980117 Datum: WGS 84
 Soil Map Unit Name: Lawther silty clay, 0 to 2 percent slopes (36) 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks: The upland data point for Site 7 is located approximately 8 feet west of the wetland boundary on a gradual slope planted with corn.		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				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 = _____
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15' x 15'</u>)				
1. <u>none</u>				
2. _____				
3. _____				
4. _____				Hydrophytic Vegetation Indicators: ☐ 1 - Rapid Test for Hydrophytic Vegetation ☐ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain)
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
10. _____				
_____ = Total Cover				
<u>Herb Stratum</u> (Plot size: <u>5' x 5'</u>)				
1. <u>Zea mays</u>	<u>40</u>	<u>Y</u>	<u>UPL</u>	
2. _____				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
_____ = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: <u>30' x 30'</u>)				
1. <u>none</u>				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>60</u>				
Remarks: No Hydrophytic Vegetation Indicators were observed at the time of the site visit.				

SOIL

Sampling Point: 7-2 upland

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

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | | | |
|--------------------------|--|--------------------------|-------------------------------|
| ☐ | Histosol (A1) | ☐ | Sandy Gleyed Matrix (S4) |
| ☐ | Histic Epipedon (A2) | ☐ | Sandy Redox (S5) |
| ☐ | Black Histic (A3) | ☐ | Stripped Matrix (S6) |
| ☐ | Hydrogen Sulfide (A4) | ☐ | Loamy Mucky Mineral (F1) |
| ☐ | Stratified Layers (A5) (LRR F) | ☐ | Loamy Gleyed Matrix (F2) |
| ☐ | 1 cm Muck (A9) (LRR F, G, H) | ☐ | Depleted Matrix (F3) |
| ☐ | Depleted Below Dark Surface (A11) | ☐ | Redox Dark Surface (F6) |
| ☐ | Thick Dark Surface (A12) | ☐ | Depleted Dark Surface (F7) |
| ☐ | Sandy Mucky Mineral (S1) | ☐ | Redox Depressions (F8) |
| ☐ | 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ | High Plains Depressions (F16) |
| ☐ | 5 cm Mucky Peat or Peat (S3) (LRR F) | | |
- (MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils³:

- | | |
|--------------------------|--|
| ☐ | 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) |
| ☐ | Very Shallow Dark Surface (TF12) |
| ☐ | Other (Explain in Remarks) |

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

Restrictive Layer (if present):

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 required; check all that apply)

- | | |
|--|---|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (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): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? Yes _____ No X Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No wetland hydrology indicators were observed at the time of the site visit.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/20/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 8-1 wet
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 13, T139N, R82W
 Landform (hillslope, terrace, etc.): hillslope/ravine Local relief (concave, convex, none): concave Slope (%): 3
 Subregion (LRR): F Lat: 46.857289 Long: -100.980215 Datum: WGS 84
 Soil Map Unit Name: Flasher-Vebar-Parshall Complex, 9 to 35 percent slopes (51F) 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 <u>X</u>	No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks: Site 8 is a ravine located approximately 460 feet south of I-94 right of way. Site 8 is a dry ravine/channel toward the north end and develops into an unnamed tributary toward the south, as more water flows into it. The wetland appears to have a surface hydrologic connection to the Heart River. Site 8 would likely be considered a WOUS.					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u>Fraxinus pennsylvanica</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>15</u> = Total Cover				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 = _____
Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>) 1. <u>none</u> 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: <u>5' x 5'</u>) 1. <u>Mentha arvensis</u> <u>25</u> <u>Y</u> <u>FACW</u> 2. <u>Glyceria spp.</u> <u>25</u> <u>Y</u> <u>FACW</u> 3. <u>Lonicera tatarica</u> <u>10</u> <u>N</u> <u>FACU</u> 4. <u>Oxalis spp.</u> <u>10</u> <u>N</u> <u>FACU</u> 5. <u>Rumex crispus</u> <u>20</u> <u>Y</u> <u>FACW</u> 6. <u>Festuca</u> <u>10</u> <u>N</u> <u>FAC</u> 7. _____ 8. _____ 9. _____ 10. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: <u>30' x 30'</u>) 1. <u>none</u> 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum _____ _____ = Total Cover				
Hydrophytic Vegetation Indicators: ☐ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Hydrophytic Vegetation Present? Yes <u>X</u> No _____				
Remarks: The Dominance Test indicator was met, confirming hydrophytic vegetation.				

SOIL

Sampling Point: 8-1 wet

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		
0-4	2.5Y 2.5/1	95					silt loam	
	2.5Y 5/4							
4-8	2.5Y 3/1	70					loamy sand	loamy sand
	2.5Y 4/1	30						
8-16	2.5Y 4/1	90	2.5YR 5/8	10	C	M	loamy sand	loamy sand
16-18	2.5Y 4/1	100					sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☒ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- ☐ 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)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

One hydric soil indicator was observed at the time of the site visit.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|---|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (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): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes _____ No X Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

Remarks:

Two secondary wetland hydrology indicators were observed at the time of the site visit. Data Point 8-1 is located in a location farther upstream from the wetter locations of Site 8, therefore the saturation and water table were not present at this location.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/20/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 8-2 upland
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 13, T139N, R82W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 5
 Subregion (LRR): F Lat: 46.857289 Long: -100.980215 Datum: WGS 84
 Soil Map Unit Name: Flasher-Vebar-Parshall Complex, 9 to 35 percent slopes (51F) 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: The upland data point for Site 8 is located approximately 10 feet west of the wetland boundary on slope.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				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 = _____
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15' x 15'</u>)				
1. <u>none</u>				
2. _____				
3. _____				
_____ = Total Cover				Hydrophytic Vegetation Indicators: ☐ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain)
<u>Herb Stratum</u> (Plot size: <u>5' x 5'</u>)				
1. <u>Festuca rubra</u>	<u>45</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Bromus arvensis</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Euphorbia esula</u>	<u>15</u>	<u>N</u>	<u>FACU</u>	
4. <u>Lonicera tatarica</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. <u>Mentha arvensis</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
6. _____				
7. _____				
8. _____				
_____ = Total Cover				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
<u>Woody Vine Stratum</u> (Plot size: <u>30' x 30'</u>)				
1. <u>none</u>				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks: One Hydrophytic Vegetation Indicator was observed at the time of the site visit.				

SOIL

Sampling Point: 8-2 upland

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	2.5Y 2/1						loamy sand	
7-18	2.5Y 4/1							

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- ☐ 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)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

No hydric soil indicators were observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|---|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (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? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

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

Remarks:

One secondary wetland hydrology indicator was observed at the time of the site visit. The wetland hydrology parameter was not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/21/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 9-1 wet
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 13, T139N, R82W
 Landform (hillslope, terrace, etc.): hillslope/ravine Local relief (concave, convex, none): concave Slope (%): 3
 Subregion (LRR): F Lat: 46.798885 Long: -100.985563 Datum: WGS 84
 Soil Map Unit Name: Flasher-Vebar-Parshall Complex, 9 to 35 percent slopes (51F) 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 <u>X</u>	No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks: Site 9 is a ravine located in the middle of nowhere. Site 9 appears to have a surface hydrologic connection to Dead Heart Slough, and ultimately the Heart River.					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66</u> (A/B)
1. <u>Quercus macrocarpa</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Fraxinus pennsylvanica</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	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 = _____
<u>50</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>) 1. <u>Rhamnus cathartica</u> <u>10</u> <u>Y</u> <u>FACU</u>				
2. _____				
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 ¹ (Explain)
4. _____				
5. _____				
<u>10</u> = Total Cover				
Herb Stratum (Plot size: <u>5' x 5'</u>) 1. <u>Poa palustris</u> <u>25</u> <u>Y</u> <u>FACW</u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Polygonum spp.</u> <u>10</u> <u>N</u> <u>FACW</u>				
3. <u>Bidens frondosa</u> <u>15</u> <u>Y</u> <u>FACW</u>				
4. <u>Oxalis corniculata</u> <u>5</u> <u>N</u> <u>UPL</u>				
5. <u>Glyceria spp.</u> <u>5</u> <u>N</u> <u>OBL</u>				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
6. <u>Juncus spp.</u> <u>5</u> <u>N</u> <u>FACW</u>				
7. <u>carex lanuginosa</u> <u>10</u> <u>N</u> <u>FACW</u>				
8. <u>Amaranthus retroflexus</u> <u>15</u> <u>Y</u> <u>FACW</u>				
9. _____				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
10. _____				
<u>90</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30' x 30'</u>) 1. <u>none</u>				
2. _____				Hydrophytic Vegetation Present? Yes <u>X</u> No _____

<u>_____</u> = Total Cover				
% Bare Ground in Herb Stratum <u>10</u>				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
Remarks:				
The Dominance Test indicator was met, confirming hydrophytic vegetation.				

SOIL

Sampling Point: 9-1 wet

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	2.5Y 2.5/1	100					silt loam	with sand
6-12	2.5Y 2.5/1	95	7.5YR 5/8	5	C	PL		oxidized rhizospheres
12-19	2.5Y 2.5/1	50	7.5YR 5/8	15	C	PL		
	2.5Y 4/1	35						

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☒ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- ☐ 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)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

One hydric soil indicator was observed at the time of the site visit.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|---|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☒ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (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): _____
Water Table Present? Yes X No _____ Depth (inches): _____
Saturation Present? Yes X No _____ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

Remarks:

One primary and four secondary wetland hydrology indicators were observed at the time of the site visit.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/20/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 9-2 upland
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 13, T139N, R82W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 22
 Subregion (LRR): F Lat: 46.798885 Long: -100.985563 Datum: WGS 84
 Soil Map Unit Name: Flasher-Vebar-Parshall Complex, 9 to 35 percent slopes (51F) 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: The upland data point for Site 9 is located approximately 7 feet north of the wetland boundary on the ravine slope.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>20</u> (A/B)
1. <u>Fraxinus pennsylvanica</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>25</u> = Total Cover				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 = _____
Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>) 1. <u>Rhamnus cathartica</u> <u>10</u> <u>Y</u> <u>FACU</u> 2. <u>Prunus americana</u> <u>10</u> <u>Y</u> <u>UPL</u> 3. _____ 4. _____ 5. _____				
<u>20</u> = Total Cover				
Herb Stratum (Plot size: <u>5' x 5'</u>) 1. <u>Bromus arvensis</u> <u>25</u> <u>Y</u> <u>FACU</u> 2. <u>Lonicera tatarica</u> <u>20</u> <u>Y</u> <u>FACU</u> 3. <u>Amelachier alnifolia</u> <u>10</u> <u>N</u> <u>FACU</u> 4. <u>Quercus macrocarpa</u> <u>10</u> <u>N</u> <u>FACU</u> 5. <u>Carex blanda</u> <u>5</u> <u>N</u> <u>FAC</u> 6. <u>Anemone canadensis</u> <u>5</u> <u>N</u> <u>FACW</u> 7. <u>Oxalis corniculata</u> <u>5</u> <u>N</u> <u>FACU</u> 8. <u>Poa pratensis</u> <u>5</u> <u>N</u> <u>FACU</u> 9. _____ 10. _____				
<u>85</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30' x 30'</u>) 1. <u>none</u> 2. _____ _____ = Total Cover % Bare Ground in Herb Stratum <u>15</u>				Hydrophytic Vegetation Indicators: ☐ 1 - Rapid Test for Hydrophytic Vegetation ☐ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Hydrophytic Vegetation Present? Yes _____ No <u>X</u>				
Remarks: No Hydrophytic Vegetation Indicators were observed at the time of the site visit.				

SOIL

Sampling Point: 9-2 upland

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	2.5Y 3/1	100					silt loam	
8-15	2.5Y 4/2	100					silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | |

Indicators for Problematic Hydric Soils³:

- ☐
- 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)
-
- ☐
- Very Shallow Dark Surface (TF12)
-
- ☐
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if present):**

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 required; check all that apply)

- | | |
|--|---|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- ☐
- Surface Soil Cracks (B6)
-
- ☐
- Sparsely Vegetated Concave Surface (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): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? Yes _____ No X Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No wetland hydrology indicators were observed at the time of the site visit.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/21/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 10-1 wet
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 11, T138N, R82W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 2
 Subregion (LRR): F Lat: 46.781961 Long: -100.985822 Datum: WGS 84
 Soil Map Unit Name: Belfield-Daglum silt loam, 0 to 2 percent slopes (28) 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 <u>X</u>	No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks: Site 10 is a swale feature dominated by broad-leaf cattail. Site 10 appears to be an isolated wetland.					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				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 = _____
Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>) 1. <u>none</u> 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: <u>5' x 5'</u>) 1. <u>Typha latifolia</u> 30 Y OBL 2. <u>Amaranthus tuberculatus</u> 40 Y OBL 3. <u>Thlaspi arvense</u> 5 N FACU 4. <u>Chenopodium album</u> 5 N FACU 5. <u>Ipomoea purpurea</u> 5 N FACU 6. <u>Hordeum jubatum</u> 5 N FACW 7. <u>Juncus spp.</u> 10 N FACW 8. _____ 9. _____ 10. _____ 100 = Total Cover				
Woody Vine Stratum (Plot size: <u>30' x 30'</u>) 1. <u>none</u> 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>10</u>				
Remarks: The Rapid Test for Hydrophytic Vegetation and Dominance Test indicators were met, confirming hydrophytic vegetation.				Hydrophytic Vegetation Indicators: ☒ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes <u>X</u> No _____

SOIL

Sampling Point: 10-1 wet

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		
0-10	N 2.5/1	90	7.5YR 3/4	10	C	PL	silt loam
10-16	N 4/1	100					fine sand

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|---|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☐ Depleted Matrix (F3) |
| ☒ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- ☐ 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)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

One hydric soil indicator was observed at the time of the site visit.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|---|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☒ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (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): _____

Water Table Present? Yes X No _____ Depth (inches): 14

Saturation Present? Yes X No _____ Depth (inches): 12

(includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

Remarks:

One primary and three secondary wetland hydrology indicators were observed at the time of the site visit.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/21/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 10-2 upland
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 11, T138N, R82W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 22
 Subregion (LRR): F Lat: 46.781961 Long: -100.985822 Datum: WGS 84
 Soil Map Unit Name: Belfield-Daglum silt loam, 0 to 2 percent slopes (28) 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks: The upland data point for Site 10 is located approximately 6 feet northeast of the wetland boundary.		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
				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 = _____
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>)				
1. <u>none</u>				
2. _____				
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 ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. _____				
5. _____				
_____ = Total Cover				
Herb Stratum (Plot size: <u>5' x 5'</u>)				
1. <u>Medicago sativa</u>	<u>45</u>	<u>Y</u>	<u>UPL</u>	
2. <u>Thlaspi arvense</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Chenopodium album</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
4. <u>Cirsium arvense</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
5. <u>Sisymbrium altissimum</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
_____ = Total Cover				
Woody Vine Stratum (Plot size: <u>30' x 30'</u>)				
1. <u>none</u>				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Hydrophytic Vegetation Present? Yes _____ No <u>X</u>				
Remarks: No Hydrophytic Vegetation Indicators were observed at the time of the site visit.				

SOIL

Sampling Point: 10-2 upland

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		
0-13	2.5Y 2.5/1	100					silt loam	
13-17	2.5Y 5/3	60					s. clay loar	silty clay loam
	2.5Y 5/2	25						
	2.5Y 2.5/1	15						

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- ☐ 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)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

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 required; check all that apply)

- | | |
|--|---|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (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): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? Yes _____ No X Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No wetland hydrology indicators were observed at the time of the site visit.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/22/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 11-1 wet
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 13, T138N, R82W
 Landform (hillslope, terrace, etc.): swale/depression Local relief (concave, convex, none): concave Slope (%): 2
 Subregion (LRR): F Lat: 46.774660 Long: -100.985538 Datum: WGS 84
 Soil Map Unit Name: Belfield-Daglum silt loams, 0 to 2 percent slopes (28) 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 <u>X</u>	No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks: Site 11 is a swale located 700 feet south of 44th Street. Site 11 appears to have a surface hydrologic connection to the North Branch of the Little Heart River.					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66</u> (A/B)
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				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 = _____
<u>Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>)</u>				
1. <u>Prunus americana</u>	<u>5</u>	<u>Y</u>	<u>UPL</u>	
2. _____				
3. _____				
<u>5</u> = Total Cover				Hydrophytic Vegetation Indicators: ☐ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<u>Herb Stratum (Plot size: <u>5' x 5'</u>)</u>				
1. <u>Hordeum jubatum</u>	<u>45</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Eleocharis palustris</u>	<u>35</u>	<u>Y</u>	<u>OBL</u>	
3. <u>Rumex crispus</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
4. <u>Juncus spp.</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
5. _____				
6. _____				
7. _____				
8. _____				
<u>100</u> = Total Cover				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
<u>Woody Vine Stratum (Plot size: <u>30' x 30'</u>)</u>				
1. <u>none</u>				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>10</u>				
Remarks: The Dominance Test indicator was met, confirming hydrophytic vegetation.				

SOIL

Sampling Point: 11-1 wet

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

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | | | |
|--------------------------|--|-------------------------------------|-------------------------------|
| ☐ | Histosol (A1) | ☐ | Sandy Gleyed Matrix (S4) |
| ☐ | Histic Epipedon (A2) | ☐ | Sandy Redox (S5) |
| ☐ | Black Histic (A3) | ☐ | Stripped Matrix (S6) |
| ☐ | Hydrogen Sulfide (A4) | ☐ | Loamy Mucky Mineral (F1) |
| ☐ | Stratified Layers (A5) (LRR F) | ☐ | Loamy Gleyed Matrix (F2) |
| ☐ | 1 cm Muck (A9) (LRR F, G, H) | ☒ | Depleted Matrix (F3) |
| ☐ | Depleted Below Dark Surface (A11) | ☐ | Redox Dark Surface (F6) |
| ☐ | Thick Dark Surface (A12) | ☐ | Depleted Dark Surface (F7) |
| ☐ | Sandy Mucky Mineral (S1) | ☐ | Redox Depressions (F8) |
| ☐ | 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ | High Plains Depressions (F16) |
| ☐ | 5 cm Mucky Peat or Peat (S3) (LRR F) | | |
- (MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils³:

- ☐ 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)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

One hydric soil indicator was observed at the time of the site visit.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| ☒ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☒ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☒ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☒ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (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): 7

Water Table Present? Yes X No _____ Depth (inches): 0

Saturation Present? Yes X No Depth (inches): 0
(includes capillary fringe)

Wetland Hydrology Present? Yes X No

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

Remarks:

Four primary and two secondary wetland hydrology indicators were observed at the time of the site visit.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/22/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 11-2 upland
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 13, T138N, R82W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 6
 Subregion (LRR): F Lat: 46.774660 Long: -100.985538 Datum: WGS 84
 Soil Map Unit Name: Belfield-Daglum silt loams, 0 to 2 percent slopes (28) 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: The upland data point for Site 11 is located approximately 5 feet south of the wetland boundary.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				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 = _____
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15' x 15'</u>)				
1. <u>none</u>				
2. _____				
3. _____				
_____ = Total Cover				Hydrophytic Vegetation Indicators: ☐ 1 - Rapid Test for Hydrophytic Vegetation ☐ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain)
<u>Herb Stratum</u> (Plot size: <u>5' x 5'</u>)				
1. <u>Festuca rubra</u>	<u>35</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Bromus arvensis</u>	<u>65</u>	<u>Y</u>	<u>FACU</u>	
3. _____				
_____ = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. _____				
5. _____				
6. _____				
7. _____				
_____ = Total Cover				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
<u>Woody Vine Stratum</u> (Plot size: <u>30' x 30'</u>)				
1. <u>none</u>				
2. _____				
3. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks: No Hydrophytic Vegetation Indicators were observed at the time of the site visit.				

SOIL

Sampling Point: 11-2 upland

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		
0-13	2.5Y 2.5/1	100					silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- ☐ 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)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

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 required; check all that apply)

- | | |
|--|---|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (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): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? Yes _____ No X Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No wetland hydrology indicators were observed at the time of the site visit.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/22/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 12-1 wet
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 13, T138N, R82W
 Landform (hillslope, terrace, etc.): swale/depression Local relief (concave, convex, none): concave Slope (%): 3
 Subregion (LRR): F Lat: 46.773649 Long: -100.985521 Datum: WGS 84
 Soil Map Unit Name: Regent-Savage silty clay loams, 6 to 9 percent slopes (30C) 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 <u>X</u>	No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks: Site 12 is a swale located 1,100 feet south of 44th Street. Site 12 appears to have a surface hydrologic connection to the North Branch of the Little Heart River.					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				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 = _____
Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>) 1. <u>none</u> 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: <u>5' x 5'</u>) 1. <u>Hordeum jubatum</u> 35 Y FACW 2. <u>Eleocharis palustris</u> 35 Y OBL 3. <u>Rumex crispus</u> 10 N FAC 4. <u>Juncus spp.</u> 10 N FACW 5. <u>Helianthus grosseserratus</u> 5 N FACW 6. <u>Cirsium arvense</u> 5 N FACU 7. _____ 8. _____ 9. _____ 10. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: <u>30' x 30'</u>) 1. <u>none</u> 2. _____ _____ = Total Cover % Bare Ground in Herb Stratum _____				

Hydrophytic Vegetation Indicators:
☒ 1 - Rapid Test for Hydrophytic Vegetation
☒ 2 - Dominance Test is >50%
☐ 3 - Prevalence Index is ≤3.0¹
☐ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes X No _____

Remarks:
 The Rapid Test for Hydrophytic Vegetation and Dominance Test indicators were met, confirming hydrophytic vegetation.

SOIL

Sampling Point: 12-1 wet

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	N 2.5/1	100					silty clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) (LRR F) | ☒ Loamy Gleyed Matrix (F2) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- | |
|--|
| ☐ 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) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

One hydric soil indicator was observed at the time of the site visit.

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|---|
| ☒ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☒ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☒ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|---|
| ☐ Surface Soil Cracks (B6) |
| ☐ Sparsely Vegetated Concave Surface (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): 7

Water Table Present? Yes X No _____ Depth (inches): 0

Saturation Present? Yes X No _____ Depth (inches): 0
(includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

Remarks:

Three primary and two secondary wetland hydrology indicators were observed at the time of the site visit.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/22/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 12-2 upland
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 13, T138N, R82W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 3
 Subregion (LRR): F Lat: 46.773649 Long: -100.985521 Datum: WGS 84
 Soil Map Unit Name: Regent-Savage silty clay loams, 6 to 9 percent slopes (30C) 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks: The upland data point for Site 12 is located approximately 6 feet north of the wetland boundary.		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				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 = _____
Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>) 1. <u>none</u> 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: <u>5' x 5'</u>) 1. <u>Festuca rubra</u> 65 Y FAC 2. <u>Bromus arvensis</u> 30 Y FACU 3. <u>Melilotus officinalis</u> 5 N FACU 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: <u>30' x 30'</u>) 1. <u>none</u> 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Hydrophytic Vegetation Indicators: ☐ 1 - Rapid Test for Hydrophytic Vegetation ☐ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain)				
Hydrophytic Vegetation Present? Yes _____ No <u>X</u>				
Remarks: No Hydrophytic Vegetation Indicators were observed at the time of the site visit.				

SOIL

Sampling Point: 12-2 upland

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

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|---|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | |
- (MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils³:

- ☐ 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)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

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 required; check all that apply)

- | | |
|--|---|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (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 **X** Depth (inches):

Saturation Present? Yes _____ No X Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks:

No wetland hydrology indicators were observed at the time of the site visit.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/22/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 13-1 wet
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 13, T138N, R82W
 Landform (hillslope, terrace, etc.): swale/depression Local relief (concave, convex, none): concave Slope (%): 4
 Subregion (LRR): F Lat: 46.762469 Long: -100.985373 Datum: WGS 84
 Soil Map Unit Name: Arnegard loam, 0 to 2 percent slopes (10) 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 <u>X</u>	No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks: Site 13 is a swale located near the intersection of County Roads 82 and 138. Site 13 appears to have a surface hydrologic connection to the North Branch of the Little Heart River.					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u>Salix spp.</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	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 = _____
<u>30</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>) 1. <u>none</u> 2. _____ 3. _____ 4. _____ 5. _____				
_____ = Total Cover				
Herb Stratum (Plot size: <u>5' x 5'</u>) 1. <u>Lysimachia spp.</u> <u>20</u> <u>Y</u> <u>OBL</u> 2. <u>Sagittaria latifolia</u> <u>25</u> <u>Y</u> <u>OBL</u> 3. <u>Eleocharis palustris</u> <u>20</u> <u>Y</u> <u>OBL</u> 4. <u>Lemna turionifera</u> <u>20</u> <u>Y</u> <u>OBL</u> 5. <u>Hordeum jubatum</u> <u>4</u> <u>N</u> <u>FACW</u> 6. <u>Phalaris arundinacea</u> <u>6</u> <u>N</u> <u>FACW</u> 7. <u>Rumex crispus</u> <u>2</u> <u>N</u> <u>FAC</u> 8. <u>Carex vulpinoidea</u> <u>2</u> <u>N</u> <u>FACW</u> 9. <u>Mentha arvensis</u> <u>1</u> <u>N</u> <u>FACW</u> 10. _____				
<u>100</u> = Total Cover				Hydrophytic Vegetation Indicators: ☒ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: <u>30' x 30'</u>) 1. <u>none</u> 2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Hydrophytic Vegetation Present? Yes <u>X</u> No _____				
Remarks: The Rapid Test for Hydrophytic Vegetation and Dominance Test indicators were met, confirming hydrophytic vegetation.				

SOIL

Sampling Point: 13-1 wet

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	2.5Y 2.5/1	45	10YR 4/4	20	C	M	m. silt loam	mucky silt loam
	2.5Y 5/1	20	2.5Y 6/1	15	D	M		
5-18	2.5Y 3/1						silt loam	silt loam with fine sand

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☒ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- | |
|--|
| ☐ 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) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

One hydric soil indicator was observed at the time of the site visit.

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|---|
| ☒ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☒ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☒ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☒ Drift Deposits (B3) | (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|---|
| ☐ Surface Soil Cracks (B6) |
| ☐ Sparsely Vegetated Concave Surface (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): 10

Water Table Present? Yes X No _____ Depth (inches): 0

Saturation Present? Yes X No _____ Depth (inches): 0

(includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

Remarks:

Four primary and two secondary wetland hydrology indicators were observed at the time of the site visit.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/22/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 13-2 upland
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 13, T138N, R82W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 5
 Subregion (LRR): F Lat: 46.762469 Long: -100.985373 Datum: WGS 84
 Soil Map Unit Name: Arnegard loam, 0 to 2 percent slopes (10) 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: The upland data point for Site 13 is located approximately 7 feet south of the wetland boundary, near the toe of the road shoulder slope.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33</u> (A/B)
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				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 = _____
Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>) 1. <u>none</u> 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: <u>5' x 5'</u>) 1. <u>Festuca rubra</u> 30 Y FAC 2. <u>Bromus arvensis</u> 30 Y FACU 3. <u>Euphorbia esula</u> 10 N UPL 4. <u>Tamarix ramosissima</u> 20 Y UPL 5. <u>Cirsium arvense</u> 10 N FACU 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: <u>30' x 30'</u>) 1. <u>none</u> 2. _____ _____ = Total Cover % Bare Ground in Herb Stratum _____				
Remarks: No Hydrophytic Vegetation Indicators were observed at the time of the site visit.				

SOIL

Sampling Point: 13-2 upland

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	2.5Y 3/1	100					silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- ☐ 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)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

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 required; check all that apply)

- | | |
|--|---|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (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): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? Yes _____ No X Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No wetland hydrology indicators were observed at the time of the site visit.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/22/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 14-1 wet
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 24, T138N, R82W
 Landform (hillslope, terrace, etc.): Tributary Local relief (concave, convex, none): concave Slope (%): 4
 Subregion (LRR): F Lat: 46.762469 Long: -100.985373 Datum: WGS 84
 Soil Map Unit Name: Ekalaka-Lakota fine sandy loams, 0 to 6 percent slopes (44B) NWI classification: PEMA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Site 14 is a tributary to the North Branch of the Little Heart River. Site 14 is located 2,500 feet south of the intersection of County Roads 82 and 138.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				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 = _____
Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>) 1. <u>none</u> 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: <u>5' x 5'</u>) 1. <u>Typha angustifolia</u> 10 N OBL 2. <u>Schoenoplectus acutus</u> 20 Y OBL 3. <u>Eleocharis palustris</u> 25 Y OBL 4. <u>Alopecurus arundinaceus</u> 20 Y FACW 5. <u>Hordeum jubatum</u> 10 N FACW 6. <u>Ranunculus spp.</u> 3 N FACW 7. <u>Chenopodium album</u> 3 N FACU 8. <u>Typha latifolia</u> 2 N OBL 9. <u>Carex lanuginosa</u> 2 N FACW 10. _____ 90 = Total Cover				
Woody Vine Stratum (Plot size: <u>30' x 30'</u>) 1. <u>none</u> 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>10</u>				
Hydrophytic Vegetation Indicators: ☒ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain)				
Hydrophytic Vegetation Present? Yes <u>X</u> No _____				
Remarks: The Rapid Test for Hydrophytic Vegetation and Dominance Test indicators were met, confirming hydrophytic vegetation.				

SOIL

Sampling Point: 14-1 wet

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		
0-4	2.5Y 2/1	90	7.5YR 3/4	10	C	M	m. silty cla	mucky silty clay loam
4-17	2.5Y 3/1	85	7.5YR 4/4	15	C	M	m. silty cla	mucky silty clay loam

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☒ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- ☐ 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)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

One hydric soil indicator was observed at the time of the site visit.

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|---|
| ☒ Surface Water (A1) | ☒ Salt Crust (B11) |
| ☒ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☒ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☒ Drift Deposits (B3) | (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (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): 10

Water Table Present? Yes X No _____ Depth (inches): 0

Saturation Present? Yes X No _____ Depth (inches): 0
(includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

Remarks:

Five primary and two secondary wetland hydrology indicators were observed at the time of the site visit.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/22/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 14-2 upland
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 24, T138N, R82W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 5
 Subregion (LRR): F Lat: 46.762469 Long: -100.985373 Datum: WGS 84
 Soil Map Unit Name: Ekalaka-Lakota fine sandy loams, 0 to 6 percent slopes (44B) 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: The upland data point for Site 14 is located approximately 5 feet west of the wetland boundary, near the toe of the road shoulder slope, east of County Road 82.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				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 = _____
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15' x 15'</u>)				
1. <u>none</u>				
2. _____				
3. _____				
_____ = Total Cover				Hydrophytic Vegetation Indicators: ☐ 1 - Rapid Test for Hydrophytic Vegetation ☐ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<u>Herb Stratum</u> (Plot size: <u>5' x 5'</u>)				
1. <u>Festuca rubra</u>	<u>45</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Bromus arvensis</u>	<u>45</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Euphorbia esula</u>	<u>5</u>	<u>N</u>	<u>UPL</u>	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
_____ = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: <u>30' x 30'</u>)				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
1. <u>none</u>				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>5</u>				
Remarks: No Hydrophytic Vegetation Indicators were observed at the time of the site visit.				

SOIL

Sampling Point: 14-2 upland

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		
0-13	2.5Y 3/1	55					silt loam	
	2.5Y 3/2	45						

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- ☐ 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)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

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 required; check all that apply)

- | | |
|--|---|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (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): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? Yes _____ No X Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No wetland hydrology indicators were observed at the time of the site visit.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/22/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 15-1 wet
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 24, T138N, R82W
 Landform (hillslope, terrace, etc.): depression/swale Local relief (concave, convex, none): concave Slope (%): 3
 Subregion (LRR): F Lat: 46.748985 Long: -100.985613 Datum: WGS 84
 Soil Map Unit Name: Daglum-Rhoades complex, 0 to 6 percent slopes (41B) NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks: Site 15 is a depression/swale with a surface hydrologic connection to the North Branch of the Little Heart River. Site 15 is located 360 feet north of the intersection of County Road 82 and 46th Street.					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
				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 = _____
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>)				
1. <u>none</u>				
2. _____				
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 ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. _____				
5. _____				
_____ = Total Cover				
Herb Stratum (Plot size: <u>5' x 5'</u>)				
1. <u>Typha latifolia</u>	<u>25</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Alopecurus arundinaceus</u>	<u>75</u>	<u>Y</u>	<u>FACW</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
8. _____				
9. _____				
10. _____				
_____ = Total Cover				
Woody Vine Stratum (Plot size: <u>30' x 30'</u>)				
1. <u>none</u>				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks: The Rapid Test for Hydrophytic Vegetation and Dominance Test indicators were met, confirming hydrophytic vegetation.				

SOIL

Sampling Point: 15-1 wet

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		
0-4	N 2.5/1	100					m. loam	mucky loam
4-12	2.5Y 5/1	75	5YR 5/6		D	M	s. loam	sandy loam

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☒ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- | |
|--|
| ☐ 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) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

One hydric soil indicator was observed at the time of the site visit.

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|---|
| ☐ Surface Water (A1) | ☒ Salt Crust (B11) |
| ☒ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☒ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | (where not tilled) |
| ☒ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|---|
| ☐ Surface Soil Cracks (B6) |
| ☐ Sparsely Vegetated Concave Surface (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): _____

Water Table Present? Yes X No _____ Depth (inches): 6

Saturation Present? Yes X No _____ Depth (inches): 4

(includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

Remarks:

Four primary and two secondary wetland hydrology indicators were observed at the time of the site visit.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/22/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 15-2 upland
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 24, T138N, R82W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 5
 Subregion (LRR): F Lat: 46.748985 Long: -100.985613 Datum: WGS 84
 Soil Map Unit Name: Daglum-Rhoades complex, 0 to 6 percent slopes (41B) 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks: The upland data point for Site 15 is located approximately 5 feet north of the wetland boundary.		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				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 = _____
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15' x 15'</u>)				
1. <u>none</u>				
2. _____				
3. _____				
_____ = Total Cover				Hydrophytic Vegetation Indicators: ☐ 1 - Rapid Test for Hydrophytic Vegetation ☐ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain)
<u>Herb Stratum</u> (Plot size: <u>5' x 5'</u>)				
1. <u>Festuca rubra</u>	<u>75</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Bromus arvensis</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Melilotus officinalis</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
_____ = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. _____				
5. _____				
6. _____				
7. _____				
_____ = Total Cover				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
<u>Woody Vine Stratum</u> (Plot size: <u>30' x 30'</u>)				
1. <u>none</u>				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks: No Hydrophytic Vegetation Indicators were observed at the time of the site visit.				

SOIL

Sampling Point: 15-2 upland

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	2.5Y 3/1	65	2.5Y 5/1	10	D	M	silt loam	
3-10	10YR 5/2	25					s. clay loar	silty clay loam, with sand
10-15	2.5Y 4/1	30					s. clay loar	silty clay loam
	2.5Y 5/3	25						
	10YR 6/1	45						

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- ☐ 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)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

No hydric soil indicators were observed. The soil profile was mixed. Fill from road construction was present.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|---|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (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): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? Yes _____ No X Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No wetland hydrology indicators were observed at the time of the site visit.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/22/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 16-1 wet
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 25, T138N, R82W
 Landform (hillslope, terrace, etc.): depression/swale Local relief (concave, convex, none): concave Slope (%): 2
 Subregion (LRR): F Lat: 46.744036 Long: -100.985012 Datum: WGS 84
 Soil Map Unit Name: Williams-Zahl loams, 6 to 9 percent slopes (76C) NWI classification: PEMC/PABFh

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks: Site 16 is a depression/swale with a surface hydrologic connection to the North Branch of the Little Heart River. A portion of the wetland has been excavated in the past. Site 16 is located 3,500 feet north of the intersection of County Roads 82 and 138A.					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				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 = _____
Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>) 1. <u>none</u> 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: <u>5' x 5'</u>) 1. <u>Juncus spp.</u> 25 Y FACW 2. <u>Hordeum jubatum</u> 30 Y FACW 3. <u>Phalaris arundinacea</u> 15 N FACW 4. <u>Rumex crispus</u> 5 N FAC 5. <u>Lemna minor</u> 5 N OBL 6. <u>Typha latifolia</u> 10 N OBL 7. _____ 8. _____ 9. _____ 10. _____ 90 = Total Cover				
Woody Vine Stratum (Plot size: <u>30' x 30'</u>) 1. <u>none</u> 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>10</u>				
Hydrophytic Vegetation Indicators: ☒ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain)				
Hydrophytic Vegetation Present? Yes <u>X</u> No _____				
Remarks: The Rapid Test for Hydrophytic Vegetation and Dominance Test indicators were met, confirming hydrophytic vegetation.				

SOIL

Sampling Point: 16-1 wet

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	2.5YR 4/1	95	7.5YR 4/4	5	C	M	m. loam	mucky loam
6-16	2.5YR 5/1	90	7.5YR 4/4	10	C	M	s. loam	sandy loam

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☒ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- ☐ 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)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

One hydric soil indicator was observed at the time of the site visit.

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one required; check all that apply)

- | | |
|---|---|
| ☒ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☒ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☒ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☒ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (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): 5

Water Table Present? Yes X No _____ Depth (inches): 0

Saturation Present? Yes X No _____ Depth (inches): 0
(includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

Remarks:

Four primary and two secondary wetland hydrology indicators were observed at the time of the site visit.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/22/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 16-2 upland
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 25, T138N, R82W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 5
 Subregion (LRR): F Lat: 46.744036 Long: -100.985012 Datum: WGS 84
 Soil Map Unit Name: Williams-Zahl loams, 6 to 9 percent slopes (76C) 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: The upland data point for Site 16 is located approximately 8 feet south of the wetland boundary.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				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 = _____
Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>) 1. <u>none</u> 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: <u>5' x 5'</u>) 1. <u>Festuca rubra</u> 65 Y FAC 2. <u>Bromus arvensis</u> 30 Y FACU 3. <u>Euphorbia esula</u> 5 N FACU 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: <u>30' x 30'</u>) 1. <u>none</u> 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Hydrophytic Vegetation Indicators:
☐ 1 - Rapid Test for Hydrophytic Vegetation
☐ 2 - Dominance Test is >50%
☐ 3 - Prevalence Index is ≤3.0¹
☐ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:
No Hydrophytic Vegetation Indicators were observed at the time of the site visit.

SOIL

Sampling Point: 16-2 upland

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 3/1	85					silt loam	
	10YR 2/1	15						

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- ☐
- 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)
-
- ☐
- Very Shallow Dark Surface (TF12)
-
- ☐
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if present):**

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 required; check all that apply)

- | | |
|--|---|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- ☐
- Surface Soil Cracks (B6)
-
- ☐
- Sparsely Vegetated Concave Surface (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): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? Yes _____ No X Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No wetland hydrology indicators were observed at the time of the site visit.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/22/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 17-1 wet
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 36, T138N, R82W
 Landform (hillslope, terrace, etc.): stream Local relief (concave, convex, none): concave Slope (%): 3
 Subregion (LRR): F Lat: 46.729764 Long: -100.983999 Datum: WGS 84
 Soil Map Unit Name: Daglum-Rhoades complex, 0 to 6 percent slopes (41B) 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 <u>X</u>	No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks: Site 17 is an unnamed tributary with a surface hydrologic connection to the North Branch of the Little Heart River. Site 17 is located at a curve in County Road 82. Large boulders are present, as part of the rip rap near the road crossing.					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				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 = _____
Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>) 1. <u>none</u> 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: <u>5' x 5'</u>) 1. <u>Phalaris arundinacea</u> 55 Y FACW 2. <u>Typha angustifolia</u> 10 N OBL 3. <u>Eleocharis palustris</u> 20 Y OBL 4. <u>Alisma subcordatum</u> 5 N OBL 5. <u>Carex stricta</u> 5 N OBL 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 95 = Total Cover				
Woody Vine Stratum (Plot size: <u>30' x 30'</u>) 1. <u>none</u> 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>5</u>				
Hydrophytic Vegetation Indicators: ☒ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Hydrophytic Vegetation Present? Yes <u>X</u> No _____				
Remarks: The Rapid Test for Hydrophytic Vegetation and Dominance Test indicators were met, confirming hydrophytic vegetation.				

SOIL

Sampling Point: 17-1 wet

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	N 2.5/0	100					m. silt loam	mucky silt loam

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) (LRR F) | ☒ Loamy Gleyed Matrix (F2) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- ☐ 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)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

One hydric soil indicator was observed at the time of the site visit.

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one required; check all that apply)

- | | |
|---|---|
| ☒ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☒ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☒ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☒ Drift Deposits (B3) | (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☒ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (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): 4

Water Table Present? Yes X No _____ Depth (inches): 0

Saturation Present? Yes X No _____ Depth (inches): 0
(includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

Remarks:

Five primary and two secondary wetland hydrology indicators were observed at the time of the site visit.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/22/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 17-2 upland
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 36, T138N, R82W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 4
 Subregion (LRR): F Lat: 46.729764 Long: -100.983999 Datum: WGS 84
 Soil Map Unit Name: Daglum-Rhoades complex, 0 to 6 percent slopes (41B) 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 <u>X</u>	Is the Sampled Area within a Wetland?	Yes _____ No <u>X</u>
Hydric Soil Present?	Yes <u>X</u> No _____		
Wetland Hydrology Present?	Yes _____ No <u>X</u>		
Remarks: The upland data point for Site 17 is located approximately 8 feet south of the wetland boundary.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				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 = _____
Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>) 1. <u>none</u> 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: <u>5' x 5'</u>) 1. <u>Bromus arvensis</u> 65 Y FACU 2. <u>Festuca spp.</u> 25 Y FACU 3. <u>Phalaris arundinacea</u> 10 N FACW 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: <u>30' x 30'</u>) 1. <u>none</u> 2. _____ _____ = Total Cover % Bare Ground in Herb Stratum _____				
Remarks: No Hydrophytic Vegetation Indicators were observed at the time of the site visit.				

SOIL

Sampling Point: 17-2 upland

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 2/1	30	2.5Y 5/4	10	C	M	silt loam	
	10YR 4/1	35	7.5YR 4/6	10	C	M		
	10YR 5/2	15						
9-15	2.5Y 2.5/1	95	7.5YR 4/6	5	C	M	silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☒ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- ☐ 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)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

One hydric soil indicator was observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|---|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (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): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? Yes _____ No X Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No wetland hydrology indicators were observed at the time of the site visit.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/22/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 18-1 wet
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 36, T138N, R82W
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 2
 Subregion (LRR): F Lat: 46.729017 Long: -100.983440 Datum: WGS 84
 Soil Map Unit Name: Daglum-Rhoades complex, 0 to 6 percent slopes (41B) 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 <u>X</u>	No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks: Site 18 is a forested wetland located 160 feet south of Wetland 17. Site 18 is a depression wetland dominated by Eastern Cottonwood trees, sedges, spikerush, and freshwater cord grass. Site 18 is located in the Daglum Rhoades complex, and appears to have a hydrologic connection to Wetland 17 (North Branch of Little Heart River).					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u>Populus deltoides</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>25</u> = Total Cover				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 = _____
Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>)				
1. <u>Populus deltoides</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
<u>5</u> = Total Cover				
Herb Stratum (Plot size: <u>5' x 5'</u>)				Hydrophytic Vegetation Indicators: ☒ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Carex spp.</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Eleocharis spp.</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Spartina pectinata</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
4. <u>Typha angustifolia</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
5. <u>Juncus spp.</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>100</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30' x 30'</u>)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. <u>none</u>	_____	_____	_____	
2. _____	_____	_____	_____	
<u>_____</u> = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks: The Rapid Test for Hydrophytic Vegetation and Dominance Test indicators were met, confirming hydrophytic vegetation.				

SOIL

Sampling Point: 18-1 wet

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		
0-4	10YR 4/1	70	10YR 5/8	30	C	M	loam	
4-12	2.5Y 5/2	75	2.5Y 6/1	10	D	M	loam	
			10YR 5/8	15	C	M	loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☒ Redox Depressions (F8) |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | |

Indicators for Problematic Hydric Soils³:

- ☐ 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)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

One hydric soil indicator was observed at the time of the site visit.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|---|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☒ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☒ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (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): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? Yes _____ No X Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

Remarks:

Two primary and one secondary wetland hydrology indicators were observed at the time of the site visit.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/22/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 18-2 upland
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 36, T138N, R82W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 4
 Subregion (LRR): F Lat: 46.729017 Long: -100.983440 Datum: WGS 84
 Soil Map Unit Name: Daglum-Rhoades complex, 0 to 6 percent slopes (41B) 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks: The upland data point for Site 18 is located approximately 6 feet east of the wetland boundary.		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33</u> (A/B)
1. <u>Populus deltoides</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>15</u> = Total Cover				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 = _____
Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>) 1. <u>none</u> 2. _____ 3. _____ 4. _____ 5. _____				
_____ = Total Cover				
Herb Stratum (Plot size: <u>5' x 5'</u>) 1. <u>Poa pratensis</u> 2. <u>Festuca spp.</u> 3. <u>Euphorbia esula</u> 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____				
<u>100</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30' x 30'</u>) 1. <u>none</u> 2. _____ _____ = Total Cover % Bare Ground in Herb Stratum _____				Hydrophytic Vegetation Indicators: ☐ 1 - Rapid Test for Hydrophytic Vegetation ☐ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Hydrophytic Vegetation Present? Yes _____ No <u>X</u>				
Remarks: No Hydrophytic Vegetation Indicators were observed at the time of the site visit.				

SOIL

Sampling Point: 18-2 upland

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 4/1	100					loam	
5-17	2.5Y 5/2	95	2.5Y 5/1	5			sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☒ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- ☐ 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)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

One hydric soil indicator was observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|---|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (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): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? Yes _____ No X Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No wetland hydrology indicators were observed at the time of the site visit.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/23/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 19-1 wet
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 36, T138N, R82W
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 3
 Subregion (LRR): F Lat: 46.693120 Long: -100.984622 Datum: WGS 84
 Soil Map Unit Name: Ekalaka-Lakota fine sandy loams, 0 to 6 percent slopes (44B) 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 <u>X</u>	No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks: Site 19 is a depression/swale wetland that is a tributary to the North Branch of the Little Heart River. Site 19 is located 4,200 feet south of the intersection of 49th Street and 25th Avenue.					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				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 = _____
<u>Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>)</u>				
1. <u>none</u>				
2. _____				
3. _____				
_____ = Total Cover				
<u>Herb Stratum (Plot size: <u>5' x 5'</u>)</u>				Hydrophytic Vegetation Indicators: ☒ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Elymus spp.</u>	<u>45</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Rumex crispus</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Schoenoplectus tabernaemontani</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
4. <u>Typha angustifolia</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
_____ = Total Cover				
<u>Woody Vine Stratum (Plot size: <u>30' x 30'</u>)</u>				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. <u>none</u>				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks: The Rapid Test for Hydrophytic Vegetation and Dominance Test indicators were met, confirming hydrophytic vegetation.				

SOIL

Sampling Point: 19-1 wet

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	2.5Y 2.5/1	85	7.5YR 4/4	15	C	M	s. clay loar	silty clay loam
18-24	2.5Y 4/1	85	7.5YR 4/4	15	C	M	s. clay loar	silty clay loam

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☒ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- ☐ 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)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

One hydric soil indicator was observed at the time of the site visit.

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|---|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (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): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? Yes _____ No X Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

Remarks:

Two secondary wetland hydrology indicators were observed at the time of the site visit.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/23/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 19-2 upland
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 36, T138N, R82W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 4
 Subregion (LRR): F Lat: 46.693120 Long: -100.984622 Datum: WGS 84
 Soil Map Unit Name: Ekalaka-Lakota fine sandy loams, 0 to 6 percent slopes (44B) 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 <u>X</u>	Is the Sampled Area within a Wetland?	Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>		
Wetland Hydrology Present?	Yes _____ No <u>X</u>		
Remarks: The upland data point for Site 19 is located approximately 6 feet north of the wetland boundary.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				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 = _____
Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>) 1. <u>none</u> 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: <u>5' x 5'</u>) 1. <u>Bromus arvensis</u> 65 Y FACU 2. <u>Medicago sativa</u> 20 Y UPL 3. <u>Sonchus arvensis</u> 15 N FAC 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: <u>30' x 30'</u>) 1. <u>none</u> 2. _____ _____ = Total Cover % Bare Ground in Herb Stratum _____				
Hydrophytic Vegetation Indicators: ☐ 1 - Rapid Test for Hydrophytic Vegetation ☐ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Hydrophytic Vegetation Present? Yes _____ No <u>X</u>				
Remarks: No Hydrophytic Vegetation Indicators were observed at the time of the site visit.				

SOIL

Sampling Point: 19-2 upland

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 3/1	100					s. clay loar	silty clay loam
12-17	10YR 5/2	70					s. clay loar	mixed soil profile
	2.5Y 2.5/1	15						
	2.5Y 6/1	15						

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- ☐ 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)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

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 required; check all that apply)

- | | |
|--|---|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (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): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? Yes _____ No X Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No wetland hydrology indicators were observed at the time of the site visit.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/23/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 20-1 wet
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 13, T137N, R82W
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 3
 Subregion (LRR): F Lat: 46.680114 Long: -100.983764 Datum: WGS 84
 Soil Map Unit Name: Belfield-Daglum silt loams, 2 to 6 percent slopes (28B) 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 <u>X</u>	No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks: Site 20 is a depression wetland located 1,500 feet north of 51st Street and 40 feet east of County Road 82. This wetland is located in a depression that appears to be isolated. County Road 82 appears to be acting as a barrier to increase hydrology in the wetland.					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				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 = _____
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15' x 15'</u>)				
1. <u>none</u>				
2. _____				
3. _____				
_____ = Total Cover				Hydrophytic Vegetation Indicators: ☐ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain)
<u>Herb Stratum</u> (Plot size: <u>5' x 5'</u>)				
1. <u>Elymus spp.</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Hordeum jubatum</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Abutilon theophrasti</u>	<u>5</u>	<u>N</u>	<u>UPL</u>	
_____ = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. _____				
5. _____				
6. _____				
7. _____				
_____ = Total Cover				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
<u>Woody Vine Stratum</u> (Plot size: <u>30' x 30'</u>)				
1. <u>none</u>				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>50</u>				
Remarks: The Dominance Test indicators were met, confirming hydrophytic vegetation.				

SOIL

Sampling Point: 20-1 wet

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	2.5Y 3/1	85	7.5YR 3/3	15	C	M	s. clay loar	silty clay loam
18-23	2.5Y 2.5/1	65					s. clay loar	silty clay loam
	2.5Y 4/1	35						

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☒ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- ☐ 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)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

One hydric soil indicator was observed at the time of the site visit.

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|---|
| ☐ Surface Water (A1) | ☒ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | (where not tilled) |
| ☒ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (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): _____Water Table Present? Yes _____ No X Depth (inches): _____Saturation Present? Yes _____ No X Depth (inches): _____
(includes capillary fringe)Wetland Hydrology Present? Yes X No _____

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

Remarks:

Two primary and one secondary wetland hydrology indicators were observed at the time of the site visit.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/23/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 20-2 upland
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 13, T137N, R82W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 7
 Subregion (LRR): F Lat: 46.680114 Long: -100.983764 Datum: WGS 84
 Soil Map Unit Name: Belfield-Daglum silt loams, 2 to 6 percent slopes (28B) 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: The upland data point for Site 20 is located approximately 8 feet east of the wetland boundary in an upland field of oats.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				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 = _____
Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>) 1. <u>none</u> 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: <u>5' x 5'</u>) 1. <u>Avena sativa</u> <u>60</u> <u>Y</u> <u>UPL</u> 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: <u>30' x 30'</u>) 1. <u>none</u> 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>40</u>				
Hydrophytic Vegetation Indicators: ☐ 1 - Rapid Test for Hydrophytic Vegetation ☐ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain)				
Hydrophytic Vegetation Present? Yes _____ No <u>X</u>				
Remarks: No Hydrophytic Vegetation Indicators were observed at the time of the site visit.				

SOIL

Sampling Point: 20-2 upland

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	2.5Y 3/1	50					s. clay loar	silty clay loam
	2.5Y 4/2	50						

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- ☐
- 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)
-
- ☐
- Very Shallow Dark Surface (TF12)
-
- ☐
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if present):**

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 required; check all that apply)

- | | |
|--|---|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- ☐
- Surface Soil Cracks (B6)
-
- ☐
- Sparsely Vegetated Concave Surface (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): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? Yes _____ No X Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No wetland hydrology indicators were observed at the time of the site visit.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/23/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 21-1 wet
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 13, T137N, R82W
 Landform (hillslope, terrace, etc.): stream Local relief (concave, convex, none): concave Slope (%): 4
 Subregion (LRR): F Lat: 46.648516 Long: -100.983654 Datum: WGS 84
 Soil Map Unit Name: Rhoades-Slickspots-Daglum complex, 0 to 9 percent slopes (40C) 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 <u>X</u>	No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks: Site 21 is the Little Heart River, a WOUS. Rip Rap was present around the base of the bridge structure.					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
				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 = _____
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>)				
1. <u>none</u>				
2. _____				
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 ¹ (Explain)
_____ = Total Cover				
Herb Stratum (Plot size: <u>5' x 5'</u>)				
1. <u>Eleocharis palustris</u>	<u>25</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Hordeum jubatum</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Schoenoplectus tabernaemontani</u>	<u>15</u>	<u>Y</u>	<u>OBL</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. <u>Scirpus atrovirens</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
5. <u>Rumex crispus</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
6. <u>Spartina pectinata</u>	<u>3</u>	<u>N</u>	<u>FACW</u>	
7. <u>Aster spp.</u>	<u>3</u>	<u>N</u>	<u>UPL</u>	
8. <u>Rorippa nasturtium aquaticum</u>	<u>2</u>	<u>N</u>	<u>OBL</u>	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
9. _____				
10. _____				
_____ = Total Cover				
Woody Vine Stratum (Plot size: <u>30' x 30'</u>)				
1. <u>none</u>				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks: The Dominance Test indicator was met, confirming hydrophytic vegetation.				

SOIL

Sampling Point: 21-1 wet

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

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|---|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | |
- (MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils³:

- ☐ 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)
☐ Very Shallow Dark Surface (TF12)
☒ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

Because of the dominance of obligate plant species and the abrupt boundary of the river channel, the soil profile was not evaluated.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|---|---|
| ☒ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☒ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☒ Drift Deposits (B3) | (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☒ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (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): >15

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? Yes _____ No _____ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes X No

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

Remarks:

Four primary and three secondary wetland hydrology indicators were observed at the time of the site visit.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/23/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 22-1 wet
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 36, T137N, R82W
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 3
 Subregion (LRR): F Lat: 46.644749 Long: -100.983877 Datum: WGS 84
 Soil Map Unit Name: Daglum-Rhoades complex, 0 to 6 percent slopes (41B) 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 <u>X</u>	No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks: Site 22 is a segment of an old oxbow, associated with the Little Heart River. Site 22 appears to be a jurisdictional wetland.					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				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 = _____
Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>) 1. <u>none</u> 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: <u>5' x 5'</u>) 1. <u>Carex spp.</u> 60 Y FACW 2. <u>Hordeum jubatum</u> 15 N FACW 3. <u>Festuca spp.</u> 15 N FAC 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: <u>30' x 30'</u>) 1. <u>none</u> 2. _____ _____ = Total Cover % Bare Ground in Herb Stratum _____				
Remarks: The Dominance Test indicators were met, confirming hydrophytic vegetation. Other vegetation observed included <i>Spartina pectinata</i> , <i>Eleocharis palustris</i> , <i>Rumex crispus</i> , <i>Aster spp.</i> , <i>Salix interior</i> , <i>Juncus spp.</i> , <i>Ranunculus spp.</i> , <i>Carex vulpinoidea</i> .				Hydrophytic Vegetation Indicators: ☐ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes <u>X</u> No _____

SOIL

Sampling Point: 22-1 wet

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	2.5Y 4/1	85	7.5YR 4/4	10	C	M	s. clay loar	silty clay loam
	2.5Y 6/1	5						

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☒ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- ☐ 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)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

One hydric soil indicator was observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|---|---|
| ☒ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☒ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☒ Drift Deposits (B3) | (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☒ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (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): >15

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? Yes _____ No X Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

Remarks:

Four primary and three secondary wetland hydrology indicators were observed at the time of the site visit.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/23/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 22-2 upland
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 13, T137N, R82W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 3
 Subregion (LRR): F Lat: 46.644749 Long: -100.983877 Datum: WGS 84
 Soil Map Unit Name: Daglum-Rhoades complex, 0 to 6 percent slopes (41B) 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: The upland data point for Site 22 is located approximately 8 feet west of the wetland boundary in an upland field of oats.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				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 = _____
Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>) 1. <u>none</u> 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: <u>5' x 5'</u>) 1. <u>Bromus arvensis</u> 25 Y FACU 2. <u>Helianthus maximiliani</u> 20 Y FACU 3. <u>Festuca rubra</u> 25 Y FAC 4. <u>Poa arida</u> 20 Y FAC 5. <u>Ambrosia artemisiifolia</u> 10 N FACU 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: <u>30' x 30'</u>) 1. <u>none</u> 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>40</u> _____ = Total Cover				
Remarks: No Hydrophytic Vegetation Indicators were observed at the time of the site visit.				Hydrophytic Vegetation Indicators: ☐ 1 - Rapid Test for Hydrophytic Vegetation ☐ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes _____ No <u>X</u>

SOIL

Sampling Point: 22-2 upland

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	2.5Y 3/1	100					s. clay loar	silty clay loam
3-14	2.5Y 5/2	90						
	2.5Y 2.5/1	10						

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- ☐ 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)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

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 required; check all that apply)

- | | |
|--|---|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (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): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? Yes _____ No X Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No wetland hydrology indicators were observed at the time of the site visit.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/23/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 23-1 wet
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 3, T136N, R82W
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 4
 Subregion (LRR): F Lat: 46.632102 Long: -100.983240 Datum: WGS 84
 Soil Map Unit Name: Rhoades-Slickspots-Daglum complex, 0 to 9 percent slopes (40C) 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 <u>X</u>	No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks: Site 23 is a segment of an old oxbow, once associated with the Little Heart River. Site 23 appears to be jurisdictional.					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
				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 = _____
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>) 1. <u>none</u> 2. _____ 3. _____ 4. _____ 5. _____				
_____ = Total Cover				
Herb Stratum (Plot size: <u>5' x 5'</u>) 1. <u>Carex stricta</u> 75 Y OBL 2. <u>Spartina spectinata</u> 25 Y FACW 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____				
100 = Total Cover				Hydrophytic Vegetation Indicators: ☐ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: <u>30' x 30'</u>) 1. <u>none</u> 2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Hydrophytic Vegetation Present? Yes <u>X</u> No _____				
Remarks: The Dominance Test indicators were met, confirming hydrophytic vegetation.				

SOIL

Sampling Point: 23-1 wet

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	2.5Y 2.5/1	85	2.5Y 6/1	10	D	M	s. clay loar	silty clay loam
			10YR 4/4	5	C	M		
5-14	2.5Y 2.5/1	100	10YR 4/4				s. clay loar	silty clay loam

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☒ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- ☐ 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)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____**Remarks:**

One hydric soil indicator was observed.

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|---|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (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): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? Yes _____ No X Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

Remarks:

Two secondary wetland hydrology indicators were observed at the time of the site visit.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/23/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: 23-2 upland
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 13, T137N, R82W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 7
 Subregion (LRR): F Lat: 46.632102 Long: -100.983240 Datum: WGS 84
 Soil Map Unit Name: Rhoades-Slickspots-Daglum complex, 0 to 9 percent slopes (40C) 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 <u>X</u>	Is the Sampled Area within a Wetland?	Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>		
Wetland Hydrology Present?	Yes _____ No <u>X</u>		
Remarks: The upland data point for Site 23 is located on the road slope to the north of the wetland.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				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 = _____
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15' x 15'</u>)				
1. <u>none</u>				
2. _____				
3. _____				
_____ = Total Cover				Hydrophytic Vegetation Indicators: ☐ 1 - Rapid Test for Hydrophytic Vegetation ☐ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain)
<u>Herb Stratum</u> (Plot size: <u>5' x 5'</u>)				
1. <u>Bromus arvensis</u>	<u>80</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Convululus arvensis</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
3. _____				
_____ = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. _____				
5. _____				
6. _____				
7. _____				
_____ = Total Cover				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
<u>Woody Vine Stratum</u> (Plot size: <u>30' x 30'</u>)				
1. <u>none</u>				
2. _____				
3. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>40</u>				
Remarks: No Hydrophytic Vegetation Indicators were observed at the time of the site visit.				

SOIL

Sampling Point: 23-2 upland

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		
0-4	10YR 3/1	100					silty clay lo	silty clay loam
4-15	10YR 5/2	80					silty clay lo	silty clay loam
	2.5YR 2/1	20						

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- ☐ 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)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

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 required; check all that apply)

- | | |
|--|---|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (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): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? Yes _____ No X Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No wetland hydrology indicators were observed at the time of the site visit.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Heskett Station Natural Gas Pipeline City/County: Morton County Sampling Date: 6/23/2012
 Applicant/Owner: Montana-Dakota Utilities Co. State: ND Sampling Point: Test Pit 1
 Investigator(s): ProSource (Tom Nickel, Shawn Williams) Section, Township, Range: Sec. 13, T137N, R82W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 7
 Subregion (LRR): F Lat: 46.666520 Long: -100.983572 Datum: WGS 84
 Soil Map Unit Name: Amor-Cabba loams, 9 to 15 percent slopes (13D) 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Test Pit 1 is located in an upland area approximately 90 feet east of County Road 82. It is the upper portion of a swale/depression which has lower elevations to the east. Test Pit 1 did not exhibit wetland criteria at the time of the site visit. It appears that wetland conditions are present farther east, outside of the environmental review limits.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' x 30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				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 = _____
Sapling/Shrub Stratum (Plot size: <u>15' x 15'</u>) 1. <u>none</u> 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: <u>5' x 5'</u>) 1. <u>Festuca spp.</u> 40 Y FACU 2. <u>Trifolium repens</u> 20 Y FACU 3. <u>Rumex crispus</u> 15 N FAC 4. <u>Lonicera tatarica</u> 10 N FACU 5. <u>Achillea millefolium</u> 10 N FACU 6. <u>Equisetum arvense</u> 5 N FAC 7. _____ 8. _____ 9. _____ 10. _____ 100 = Total Cover				
Woody Vine Stratum (Plot size: <u>30' x 30'</u>) 1. <u>none</u> 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Hydrophytic Vegetation Indicators: ☐ 1 - Rapid Test for Hydrophytic Vegetation ☐ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain)				
1 ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Hydrophytic Vegetation Present? Yes _____ No <u>X</u>				
Remarks: No Hydrophytic Vegetation Indicators were observed at the time of the site visit.				

SOIL

Sampling Point: Test Pit 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		
0-4	10YR 3/2	100					loam	
4-18	10YR 3/1	65					loam	
	10YR 3/2	35						

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | |

Indicators for Problematic Hydric Soils³:

- ☐ 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)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

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 required; check all that apply)

- | | |
|--|---|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (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): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? Yes _____ No X Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

One secondary wetland hydrology indicator was observed at the time of the site visit.