Appendix F – Wetland Delineation Report

U.S. ARMY COR REQUEST FOR CORPS JURI	PS OF ENGINEERS			
*Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Program of the U.S. Army 33 CFR Parts 320-332. Principal Purpose: The information that you provide will be used in evalue whether there are any aquatic resources within the project area subject to federal jurisdiction unde referenced above. Routine Uses: This information may be shared with the Department of Justice government agencies, and the public, and may be made available as part of a public notice as req and property location where federal jurisdiction is to be determined will be included in the approve (ADD), which will be made available to the public on the District's website and on the Headquarters Submission of requested information is voluntary; however, if information is not provided, the requ	USC 1344; Marine Protection, Corps of Engineers; Final Rule for ating your request to determine in the regulatory authorities and other federal, state, and local uired by federal law. Your name d jurisdictional determination USACE website, Disclosure: est for an AJD cannot be PROJECT NO.:			
1. PROPERTY LOCATION:	2.REQUESTOR CONTACT INFORMATION:			
Street Address: 85th Street/I-29 Interchange	Typed or Printed Name: Bailey Nelson (Agent)			
City/Townshin/Parish: Sioux Falls / Delance Townshin	Company Name: SEH			
County: Lincoln State: South Dakota	Street Address: 3535 Vadnais Center Drive			
Acreage of Parcel/Review Area for JD: 451	City: St Paul State: MN ZIP: 55110			
Section: 14 Township: 100 Range: 51	Phone Number: (651) 490-2116			
Latitude: -96 796455	F-mail: hnelson@sehinc.com			
(For linear projects, please include the center point of the proposed alignment.)				
3. MAP: Please attach a survey/plat map and vicinity map id	dentifying location and review area for the JD.			
4. REASON FOR REQUEST (check as many as applicable	). 			
<ul> <li>I intend to construct/develop a project or perform actigized jurisdictional aquatic resources under Corps authority. I intend to construct/develop a project or perform actin Corps, and the JD would be used to avoid and miniminitial step in a future permitting process.</li> <li>I intend to construct/develop a project or perform actin Corps; this request is accompanied by my permit approperties of the district Section 10 list and/or is subject to the ebb.</li> <li>A Corps JD is required in order to obtain my local/state does/does not exist over the aquatic resource on the I believe that the site may be comprised entirely of district of the site may be compresed where the site may be comprised entirely of the site may</li></ul>	ivities on this parcel which would be designed to avoid all y. ivities on this parcel which may require authorization from the nize impacts to jurisdictional aquatic resources and as an ivities on this parcel which may require authorization from the plication and the JD is to be used in the permitting process. Ivities in a navigable water of the U.S. which is included on and flow of the tide. Ite authorization. Ic resource and request the Corps confirm that jurisdiction parcel. by land.			
☐ Other:				
5. TYPE OF DETERMINATION BEING REQUESTED:	6. OWNERSHIP DETAILS:			
🔀 I am requesting an approved JD.	I currently own this property.			
I am requesting a preliminary JD.	☐ I plan to purchase this property.			
I am requesting a "no permit required" letter as I believe my proposed activity is not regulated.				
I am unclear as to which JD I would like to request and require additional information to inform my decision.	☐ Other (please explain:)			
By signing below, you are indicating that you have the authority, or are acti and do hereby grant Corps personnel right of entry to legally access the sit you possess the requisite property rights to request a JD on the subject pro-	ng as the duly authorized agent of a person or entity with such authority, to e if needed to perform the JD. Your signature shall be an affirmation that operty.			
Signature: Bailey MUMM	Date: 1/6/2020			



# Wetland Delineation Report 85th Street Business District Joint Venture Group 85th Street Interchange Lincoln County, South Dakota OWNJV 149418 | January 2020



Building a Better World for All of Us<sup>®</sup> Engineers | Architects | Planners | Scientists



January 6, 2020

RE: 85th Street Interchange Lincoln County, South Dakota Wetland Delineation Report SEH No. OWNJV 149418 30.90

Joel Dykstra RMB, PO Box 2524 Sioux Falls, SD 57101

Dear Mr. Joel Dykstra:

Please find enclosed the Wetland Delineation Report for 85<sup>th</sup> Street Interchange in Sioux Falls and Delapre Township in Lincoln County, South Dakota. This Report presents the results of the field delineation for wetlands performed on November 25, 2018 and July 25, 2019 completed by Rebecca Beduhn (PWS #2758, CPSS # 333315). The field delineation included on-site identification, classification, and boundary determinations of wetland basins following the 1987 U.S. Army Corps of Engineers *Wetlands Delineation Manual* and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region* (USACE 2010).

Thank you for the opportunity to provide wetland services to the 85th Street Business District Joint Venture Group. Short Elliott Hendrickson Inc. (SEH<sup>®</sup>) is pleased to provide you with this information for your records and review. If you have any questions, please contact me directly at 651.490.2146 or via e-mail at rbeduhn@sehinc.com.

Sincerely,

Releace Bed

Rebecca Beduhn Professional Wetland Scientist Certified Professional Soil Scientist

## Wetland Delineation Report

85th Street Interchange

#### Prepared for: 85th Street Business District Joint Venture Group RMB, PO Box 2524 Sioux Falls, SD 57101

Prepared by: Short Elliott Hendrickson Inc. 3535 Vadnais Center Drive St. Paul, MN 55110-5196 651.490.2000

The procedures described in this report and the field methods used constitute an official wetland delineation in accordance with the 1987 U.S. Army Corps of Engineers *Wetlands Delineation Manual* and applicable *Regional Supplement*.

The field delineation was completed by Rebecca Beduhn. The methodology meets the standards and criteria described in the manual, and conforms to the applicable standards and regulations in force at the time the fieldwork was completed. The results reflect conditions present at the time of the delineation.

I hereby certify that this report was prepared by me or under my direct supervision.

xilly Melyon

Prepared by:

Bailey Nelson, Wetland Biologist Minnesota Certified Wetland Delineator, No. 5279

Certified Professional Soil Scientist, No. 333315

9/16/2019 Date

elece Reviewed by:

Rebecca Beduhn, Wetland Scientist Professional Wetland Scientist, No. 2758 9/25/2019

Date





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# Wetland Delineation Report

### 85th Street Interchange

Prepared for 85th Street Business District Joint Venture Group

## 1 Introduction

The purpose of this study was to investigate the project area, identify areas meeting the technical criteria for wetlands, delineate the jurisdictional extent of the wetland basins, and classify the wetland habitat as part of the completion of an Environmental Assessment (EA) for potential impacts associated with the upgrade of the 85<sup>th</sup> Street interchange along Interstate 29 (I-29). This field delineation will be the basis on which wetland impacts from the proposed project will be determined.

This report describes the methodology and results of the field delineation performed on November 13, 2018. Wetlands were verified in July 2019 to ensure the placement of the boundary was correct. All wetlands remained unchanged, and wetland hydrology indicators were observed. Figures referred to in the text are included at the end of the report.

### 1.1 Site Description

The project site is located in Sioux Falls and Delapre Township in Lincoln County, South Dakota as shown on **Figure 1**.

**Table 1** is a summary of the project location based on the Public Land Survey System. The project site is located in the following townships, sections, and ranges:

Township	Section	Range
100	13	51
100	14	51
100	18	50
100	19	50

**Figure 2** shows the site on a 2016 aerial photograph background. The project corridor is defined by potential alignments for a new interchange along I-29 for 85<sup>th</sup> Street. The approximately 465-acre area of interest is bounded on the north by 269<sup>th</sup> Street (CR 102), on the east by Tallgrass Avenue, on the south by 271<sup>st</sup> Street (CR 106), and on the west by 469<sup>th</sup> Avenue (CR 111). The site is located in the Lower Big Sioux Watershed.

The project site consists of a variety of upland and wetland plant communities. The wetland and upland communities onsite are described in more detail in the following sections.

# 2 Wetland Delineation

### 2.1 Wetlands Definition

Wetlands are defined in federal Executive Order 11990 as follows:

"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."

According to U.S. Army Corps of Engineers *Wetlands Delineation Manual* (USACE 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region* (USACE 2010), one positive indicator (except in certain situations) from each of three elements must be present in order to make a positive wetland determination, which are as follows:

- Greater than 50 percent dominance of hydrophytic plant species.
- Presence of hydric soil.
- The area is either permanently or periodically inundated, or soil is saturated to the surface during the growing season of the dominant vegetation.

### 2.2 Methodology

Level 1 (onsite inspection unnecessary) delineation was applied where the wetlands were not accessible. Level 2 (onsite inspection necessary) delineation was applied for all other areas within the corridor.

### 2.2.1 Level 1 Resource Review

Various data sets were collected in order to aid in the identification of wetland areas including:

Aerial Photography:

• U.S. Geological Survey black and white aerial photographs (2016) (Figure 2).

Elevation Data:

• MNDNR LiDAR data for South Dakota (Figure 5).

Ancillary Data:

- The Natural Resources Conservation Service (NRCS) Soil Survey Geographic Maps (SSURGO) for Lincoln County (**Figure 4**).
- U.S. Fish and Wildlife Service National Wetlands Inventory (NWI) (Figure 3).

Wetland boundary lines were digitized using a compilation of the data described above. The general process involved identifying areas that are potential wetland and then determining a boundary for those wetlands. Once an area was identified as wetland, the DEM and higher resolution aerial photographs where used to aid in boundary determination.

## 2.2.2 Level 2 Delineation Field Procedures

The project site was examined on November 13, 2018 for areas meeting the technical wetland criteria in accordance with the U.S. Army Corps of Engineers *Wetlands Delineation Manual* (USACE 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region* (USACE 2010). The site was revisited on July 25<sup>th</sup>, 2019 to verify that wetlands delineated late in the season were accurate under normal conditions. No changes to boundaries or types were made during the 2<sup>nd</sup> visit.

The delineation procedures in the Corps *Manual* (*i.e.*, the Routine Onsite Determination Method), in combination with wetland indicators and guidance provided in the *Regional Supplement* were applied for this delineation. Where differences in the two documents occur, the *Regional Supplement* takes precedence over the Corps *Manual* for applications in the *Midwest Region* (USACE 2010).

Field notes, samples, and photographs were taken at representative locations in each wetland basin, with data transect locations following spacing guidelines in the *Regional Supplement*. The respective wetland and upland plots for each wetland were documented on Wetland Determination Data Forms (**Appendix A**). Relevant photographs of the site and representative sample locations are included in **Appendix B**; all other photographs will be retained on file at SEH.

The locations of the delineated wetland boundaries were collected with a sub-meter accuracy Global Positioning System (GPS) unit and mapped. The results of the delineation are shown on **Figures 6 and 7**. The sample points noted identify where data was collected.

### 2.2.3 Previously Delineated Wetlands

Wetlands 4, 5, 6, 10, 11, 12, 13, 30, 31, 32, and 34 were previously delineated by others and approved by the USACE. The boundaries were verified and in most cases additional data was collected. If additional data was collected, data forms were prepared and a HGM assessment was done. A map showing these wetlands in addition to supplemental documents from the USACE for these delineations are included in **Appendix E**.

## 2.3 Hydrophytic/Wetland Vegetation

Wetland plant species nomenclature follows the *National Wetland Plant List* (USACE 2016). Identification was aided when necessary with field guides for the region. Vegetation was sampled in nested circular plots: 5-ft radius for herbaceous species, 15-ft radius for shrubs, and 30-ft radius for trees and vines.

## 2.4 Hydric/Wetland Soils

Soils were observed for hydric soil characteristics. Soils were examined in cores taken with a Dutch auger. Soil profiles were observed at a depth necessary to confirm hydric soil characteristics. Typical soil profile depths are typically within 18-24 inches below ground surface to allow for: (1) observation of an adequate portion of the soil profile to determine presence/absence of hydric soil characteristics; (2) observation of hydrology including depth to the water table and saturated soils; and, (3) identification of disturbances (*e.g.*, buried horizon, plow line, etc.). Soil color determinations were made using Munsell Soil Color Charts (Gretag-Macbeth 1994). Site soil characteristics were compared to those mapped and described in the

Soil Survey for Lincoln County (USDA 2019). Hydric soil characteristics were compared to those identified in the *Midwest Regional Supplement* (USACE 2010) and the most recent version of the NRCS publication *Field Indicators of Hydric Soils in the United States, Version 8.1* (USDA 2017).

### 2.5 Hydrology

Primary and secondary indicators of hydrology were identified in the field to determine the presence or absence of wetland hydrology, as described in the *Midwest Regional Supplement* (USACE 2010), and are listed in each wetland description. However, saturation and/or water tables were not able to be observed as the water was frozen at the time of the first site visit. Wetlands were verified during the 2019 growing season, and wetland hydrology indicators were observed.

3

# Hydrogeomorphic (HGM) Assessment

The Hydrogeomophic (HGM) Approach is a method to assess the functional condition of wetlands by using data from a range of physical characteristics of the wetland collected during the field delineation. The HGM Approach incorporates data collected from the wetlands by using mathematic models to provide a level of wetland condition for each function. When combined in an aggregation equation, these functions produce a functional capacity index (FCI), a measure of the functional capacity of a wetland relative to reference standard wetlands on a scale of 0.0 - 1.0. A low FCI indicates that the wetland is performing a function at a level that is below that characteristic of reference standard.

While the FCI scores alone define relationships between variables of the wetland, when they are combined with the area of the wetland, a Functional Capacity Unit (FCU) score is generated. The FCU provides a basis for determination of impact and mitigation.

The HGM Approach was utilized on the 34 field delineated wetland basins described above. HGM was not used on wetlands that were previously delineated by others where new data was not taken. HGM scores were calculated as required for the wetland delineation. A summary table of the HGM scores is included below. Full calculations for HGM can be found in the Hydrogeomophic Model Worksheets in **Appendix D**. The total HGM score for the site is 858.50 FCUs.

The Prairie Pothole and Slope models were used for the wetlands in this project. Those that were mostly linear wetlands on low gradient slopes were characterized under the slope HGM model. Wetlands that were characterized under the Prairie Pothole HGM model were those that are within closed-contours.

Please see **Appendix D** for the HGM results table.

## 4 Results

At the time of the delineation, the active growing season for the area had concluded, but plants were identifiable as were the soil and hydrology indicators. The *Regional Supplement* (USACE 2010) describes several criteria for an active growing season, which include fresh growth on wetland herbaceous vegetative species, bud break on trees or shrubs, and/or active flowering plants.

The field delineation was conducted under precipitation conditions that were normal as compared to the historical average for the region according to National Weather Service (**Appendix C**). Most of the vegetation was identifiable, including all dominant species.

43 wetland basins were identified, delineated, and classified (**Figures 6 and 7**). The Wetland Determination Data Forms (**Appendix A**) indicate the dominant species of vegetation and the soil and hydrologic characteristics at representative locations around each basin. **Table 1** is a summary of the size and classification of each wetland basin delineated using Level 1 delineation methods and **Table 2** is a summary of the size and classification of each wetland basin delineated using Level 2 delineation methods.

The wetlands are grouped by HGM classification followed by Cowardin classification below **Table 2**.

### 4.1 Level 1 Delineation

Wetland ID	Figure	Size (acres) <sup>1</sup>	HGM Classification	Latitude	Longitude		
Wetland 33	Figure 6-2	0.0000 <sup>2</sup>	Prairie Pothole	43.4861	-96.7958		
Wetland 35	Figures 6-1 and 6-2	0.2186	Slope	43.4829	-96.7971		
Wetland 36	Figure 6-1	0.2915	Slope	43.4685	-96.7963		
Wetland 37         Figure 6-1         0.0000 <sup>2</sup> Prairie Pothole         43.4664         -96.7961							
<sup>1</sup> Size includes areas of wetland within the area of investigation only. Wetlands may extend beyond							
the limits of the area investigated and actual wetland size may be larger than that indicated.							
<sup>2</sup> Project area has b	been revised since origin	al site visit in 2	018. This basin is	no longer w	ithin the		

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I	anie		_	LEVEL		vvellanu	anu	AU	Jualic	Г	620a	1662

project limits.

\* Previously Delineated Wetland by others

## 4.2 Level 2 Delineation

#### Table 2 – Level 1 Wetland and Aquatic Resources

Wetland ID	Figure	Size (acres) <sup>1</sup>	HGM Classification	Lat	Long
Wetland 1	Figures 6-1 and 6-2	1.0355	Prairie Pothole	43.4760	-96.7945
Wetland 2	Figures 6-1 and 6-2	2.0282	Slope	43.4763	-96.7956
Wetland 3	Figures 6-1 and 6-2	0.6978	Slope	43.4760	-96.7927
Wetland 4*	Figure 6-2	0.0994	Slope	43.4818	-96.7948
Wetland 5*	Figures 6-1 and 6-2	1.4022	Prairie Pothole	43.4748	-96.7946

Wetland ID	Figure	Size (acres) <sup>1</sup>	HGM Classification	Lat	Long
Wetland 6*	Figure 6-1	2.0970	Prairie Pothole	43.4749	-96.7923
Wetland 7	Figure 6-1	0.0000 <sup>2</sup>	Prairie Pothole	43.4720	-96.7941
Wetland 8	Figure 6-1	0.2329	Prairie Pothole	43.4721	-96.7957
Wetland 9	Figure 6-1	0.2507	Prairie Pothole	43.4735	-96.7956
Wetland 10*	Figure 6-1	1.5382	Slope	43.4749	-96.7999
Wetland 11*	Figures 6-1, 6-2, and 6-3	5.9340	Slope	43.4778	-96.7979
Wetland 12*	Figures 6-1 and 6-3	3.3435	Prairie Pothole	43.4750	-96.8026
Wetland 13*	Figures 6-1 and 6-3	0.0319	Prairie Pothole	43.4752	-96.8053
Wetland 14	Figures 6-3 and 6-4	0.7490	Prairie Pothole	43.4758	-96.8114
Wetland 15	Figures 6-3 and 6-4	0.3751	Slope	43.4754	-96.8107
Wetland 16	Figure 6-4	0.4261	Slope	43.4757	-96.8145
Wetland 17	Figure 6-4	0.7141	Slope	43.4758	-96.8171
Wetland 18	Figure 6-4	0.1251	Slope	43.4754	-96.8174
Wetland 19	Figure 6-4	0.4161	Slope	43.4757	-96.8223
Wetland 20	Figure 6-4	0.0940	Slope	43.4754	-96.8221
Wetland 21	Figure 6-4	0.0793	Slope	43.4754	-96.8248
Wetland 22	Figure 6-2	0.0000 <sup>2</sup>	Slope	43.4865	-96.8003
Wetland 23	Figures 6-2 and 6-3	1.7661	Slope	43.4822	-96.7981
Wetland 24	Figures 6-2 and 6-3	0.1306	Slope	43.4817	-96.7994
Wetland 25	Figure 6-3	2.0234	Slope	43.4811	-96.7994
Wetland 26	Figure 6-3	1.6802	Slope	43.4843	-96.8067
Wetland 27	Figure 6-3	2.9032	Slope	43.4811	-96.8067
Wetland 28	Figure 6-3	0.2129	Prairie Pothole	43.4820	-96.8060
Wetland 29	Figure 6-3	0.9682	Prairie Pothole	43.4872	-96.8068
Wetland 30*	Figure 6-1	0.2320	Prairie Pothole	43.4896	-96.8060
Wetland 31*	Figure 6-1	0.0995	Prairie Pothole	43.4704	-96.7982
Wetland 32*	Figure 6-1	0.5616	Prairie Pothole	43.4695	-96.7977
Wetland 33	Figure 6-2	0.0000 <sup>2</sup>	Prairie Pothole	43.4861	-96.7958
Wetland 34*	Figure 6-2	5.4493	Slope	43.4907	-96.7807
Wetland 38	Figures 6-1 and 6-2	0.0312	Slope	43.4755	-96.7981

Wetland ID	Figure	Size (acres) <sup>1</sup>	HGM Classification	Lat	Long
Wetland 39	Figures 6-1 and 6-2	0.0176	Slope	43.4756	-96.8023
Wetland 40	Figure 6-3	0.1701	Slope	43.4756	-96.8088
Wetland 41	Figure 6-4	0.1690	Slope	43.4755	-96.8153
Wetland 42	Figure 6-3	0.0924	Slope	43.4894	-96.8064
Wetland 43	Figure 6-3	0.1069	Slope	43.4770	-96.8064

<sup>1</sup> Size includes areas of wetland within the area of investigation only. Wetlands may extend beyond the limits of the area investigated and actual wetland size may be larger than that indicated.

 $^2$  Project area has been revised since original site visit in 2018. This basin is no longer within the project limits.

\* Previously Delineated Wetland by others

## 4.2.1 Prairie Pothole HGM Class Wetlands

Wetland ID	Figure	Cowardin Classification	Size (acres) <sup>1</sup>
Wetland 1	Figures 6-1 and 6-2	PEM1C	1.0355
Wetland 5	Figures 6-1 and 6-2	PEM1A	1.4022
Wetland 6	Figure 6-1	PEM1C	2.0970
Wetland 8	Figure 6-1	PEM1B	0.2329
Wetland 9	Figure 6-1	PEM1C	0.2507
Wetland 12	Figures 6-1 and 6-3	PEM1B	3.3435
Wetland 13*	Figures 6-1 and 6-3	PEM1C	0.0319
Wetland 14	Figures 6-3 and 6-4	PUBH	0.7490
Wetland 28	Figure 6-3	PEM1B	0.2129
Wetland 29	Figure 6-3	PEM1B	0.9682
Wetland 30*	Figure 6-1	PEM1A	0.2320
Wetland 31*	Figure 6-1	PEM1A	0.0995
Wetland 32*	Figure 6-1	PEM1C	0.5616
		Total acreage	11.2169

Table 3 – Summary of Prairie Pothole Wetlands

<sup>1</sup> Size includes areas of wetland within the area of investigation only. Wetlands may extend beyond the limits of the area investigated and actual wetland size may be larger than that indicated.

<sup>1</sup> Size includes areas of wetland within the area of investigation only. Wetlands may extend beyond the limits of the area investigated and actual wetland size may be larger than that indicated.

<sup>2</sup> Project area has been revised since original site visit in 2018. This basin is no longer within the project limits.

\* Previously Delineated Wetland by others

#### 4.2.1.1 PEM1A

Wetlands 5, 30, and 31 are PEM1A classified wetlands located within the project limits (**Figure 6**). Data was not taken for Wetlands 30 and 31, as they were previously delineated by others, and it presumed site conditions had not changed.

The dominant vegetation in Wetland 5 included lakebank sedge (*Carex lacustris* – OBL) and northern water-plantain (*Alisma triviale* – OBL) in the herbaceous stratum.

The soil profile of the wetland met technical hydric soil indicator F6 – Redox Dark Surface. The Lincoln County soil survey identifies soils in this wetland as predominantly nonhydric, inconsistent with field observations. This contradiction is likely due to the accuracy of the soil survey and the disturbed soils on site associated with farming practices.

Wetlands were verified during the 2019 growing season, and wetland hydrology indicators were observed.

The wetland boundary placement was primarily based upon a topographic change and a change in vegetation dominance. Dominant vegetation in the upland included soybeans (*Glycine max* – NI). Upland soils did not meet for hydric soils criteria. Hydrology indicators were not observed in the upland.

#### 4.2.1.2 PEM1B

Wetlands 8, 12, 28, and 29 are PEM1B classified wetlands located within the project limits (Figures 6-1 through 6-4).

The dominant vegetation in these wetlands included northern water plantain, reed canary grass (*Phalaris arundinacea* – FACW), and freshwater cordgrass (*Spartina pectinata* – FACW), in the herbaceous stratum.

The soil profile of these wetlands met technical hydric soil indicator F6 – Redox Dark Surface. The Lincoln County soil survey identifies soils in this wetland as predominantly hydric or partially hydric, consistent with field observations.

Wetlands were verified during the 2019 growing season, and wetland hydrology indicators were observed.

The wetland boundary placement was primarily based upon a topographic change and a change in vegetation dominance. Dominant vegetation in the upland included corn (*Zea mays* – NI) and soybeans. Upland soils did not meet hydric soils criteria. Hydrology indicators were not observed in the upland.

#### 4.2.1.3 PEM1C

Wetlands 1, 9, 13, and 32 are PEM1C classified wetlands located within the project limits (**Figures 6-1 through 6-4**). Data was not taken for Wetlands 13 and 32, as they were previously delineated by others.

The dominant vegetation in these wetlands included narrow-leaf cat-tail (*Typha angustifolia* – OBL), Kentucky blue grass (*Poa pratensis* – FAC), soybeans, and blunt spike-rush (*Eleocharis obtusa* – OBL) in the herbaceous stratum.

The soil profile of these wetlands met technical hydric soil indicator F6 – Redox Dark Surface. The Lincoln County soil survey identifies soils in this wetland as predominantly hydric or partially hydric, consistent with field observations.

Wetlands were verified during the 2019 growing season, and wetland hydrology indicators were observed.

The wetland boundary placement was primarily based upon a topographic change and a change in vegetation dominance. Dominant vegetation in the upland included yellow bristle grass (*Setaria pumila* – FAC), an unidentifiable sedge species (*Carex spp.*), and soybeans. Upland soils did not meet hydric soils criteria. Hydrology indicators were not observed in the upland.

#### 4.2.1.4 PUBH

Wetland 14 is a PUBH classified wetland located within the project limits (Figures 6-3 and 6-4).

The dominant vegetation in this wetland included reed canary grass.

The soil profile in this wetland met technical hydric soil indicator F6 – Redox Dark Surface. The Lincoln County soil survey identifies soils in this wetland as predominantly hydric, consistent with field observations.

Wetlands were verified during the 2019 growing season, and wetland hydrology indicators were observed.

The wetland boundary placement was primarily based upon a topographic change and a change in vegetation dominance. Dominant vegetation in the upland included Kentucky blue grass. Upland soils did not meet hydric soils criteria. Hydrology indicators were not observed in the upland.

## 4.2.2 Slope HGM Class Wetlands

Wetland ID	Figure	Cowardin Classification	Size (acres) <sup>1</sup>
Wetland 2	Figures 6-1 and 6-2	PEM1C	2.0282
Wetland 3	Figures 6-1 and 6-2	PEM1B	0.6978
Wetland 4	Figure 6-2	PEM1B	0.0994
Wetland 10	Figure 6-1	PEM1A	1.5382
Wetland 11	Figures 6-1, 6-2, and 6-3	PEM1B / PEM1C	5.9340
Wetland 15	Figures 6-3 and 6-4	PEM1A	0.3751
Wetland 16	Figure 6-4	PEM1B	0.4261
Wetland 17	Figure 6-4	PEM1C	0.7141
Wetland 18	Figure 6-4	PEM1C	0.1251
Wetland 19	Figure 6-4	PEM1C	0.4161
Wetland 20	Figure 6-4	PEM1B	0.0940
Wetland 21	Figure 6-4	PEM1B	0.0793
Wetland 23	Figures 6-2 and 6-3	PEM1C	1.7661

Table 4 – Summary of Slope Wetlands

Wetland ID	Figure	Cowardin Classification	Size (acres) <sup>1</sup>
Wetland 24	Figures 6-2 and 6-3	PEM1A	0.1306
Wetland 25	Figure 6-3	PEM1B	2.0234
Wetland 26	Figure 6-3	PEM1B	1.6802
Wetland 27	Figure 6-3	PEM1B	2.9032
Wetland 38	Figures 6-1 and 6-2	PEM1B	0.0312
Wetland 39	Figures 6-1 and 6-2	PEM1C	0.0176
Wetland 40	Figure 6-3	PEM1B	0.1701
Wetland 41	Figure 6-4	PEM1B	0.1690
Wetland 42	Figure 6-3	PEM1B	0.0924
Wetland 43	Figure 6-3	PEM1B	0.1069
		Total acreage	21.6181

<sup>1</sup> Size includes areas of wetland within the area of investigation only. Wetlands may extend beyond the limits of the area investigated and actual wetland size may be larger than that indicated.

<sup>1</sup> Size includes areas of wetland within the area of investigation only. Wetlands may extend beyond the limits of the area investigated and actual wetland size may be larger than that indicated.

<sup>2</sup> Project area has been revised since original site visit in 2018. This basin is no longer within the project limits.

\* Previously Delineated Wetland by others

#### 4.2.2.1 PEM1A

Wetlands 10, 15, and 24 are PEM1A classified wetlands located within the project limits (**Figures 6-1 through 6-6**).

The dominant vegetation in the wetlands included freshwater cord grass, dark green bulrush (*Scirpus atrovirens* – OBL), curly dock (*Rumex crispus* – FAC), reed canary grass, and corn.

The soil profiles of the fresh (wet) meadow communities met technical hydric soil indicator F6 – Redox Dark Surface. The Lincoln County soil survey identifies soils in these wetlands as predominantly hydric and predominantly hydric, partially consistent with field observations.

Wetlands were verified during the 2019 growing season, and wetland hydrology indicators were observed.

The wetland boundary placement was primarily based upon a topographic change and a change in vegetation dominance. Dominant vegetation in the upland included soybeans, Kentucky blue grass, and corn. Upland soils did not meet hydric soils criteria. Hydrology indicators were not observed in the upland.

#### 4.2.2.2 PEM1B

Wetlands 3, 4, 16, 20, 21, 25, 26, 27, 38, 40, 41, 42, 43 and a portion of 11 are PEM1B classified wetlands located within the project limits (**Figures 6-1 through 6-6**).

The dominant vegetation in the wetlands included reed canary grass, corn, tall scouring-rush (*Equisetum hyemale* – FACW), narrow-leaf cat-tail, and uptight (*Carex stricta* – OBL).

The soil profiles of the fresh (wet) meadow communities met technical hydric soil indicators F7 – Depleted Dark Surface and/or F6 – Redox Dark Surface. The Lincoln County soil survey identifies soils in this wetland as predominantly hydric, partially hydric, and predominantly hydric, partially consistent with field observations.

Wetlands were verified during the 2019 growing season, and wetland hydrology indicators were observed.

The wetland boundary placement was primarily based upon a topographic change and a change in vegetation dominance. Dominant vegetation in the upland included yellow bristle grass, an unidentifiable sedge species, corn, soybeans, and Kentucky blue grass. Upland soils did not meet hydric soils criteria. Hydrology indicators were not observed in the upland.

#### 4.2.2.3 PEM1C

Wetlands 2, 17, 18, 19, 23, and 39 are PEM1C classified wetlands located within the project limits (**Figures 6-1 through 6-6**).

The dominant vegetation in the wetlands included narrow-leaf cat-tail, reed canary grass, darkgreen bulrush, and Kentucky blue grass.

The soil profiles of the fresh (wet) meadow communities met technical hydric soil indicators F7 – Depleted Dark Surface and/or F6 – Redox Dark Surface. The Lincoln County soil survey identifies soils in this wetland as predominantly hydric and predominantly hydric, partially consistent with field observations.

Wetlands were verified during the 2019 growing season, and wetland hydrology indicators were observed.

The wetland boundary placement was primarily based upon a topographic change and a change in vegetation dominance. Dominant vegetation in the upland included yellow bristle grass, an unidentifiable sedge species, corn, soybeans, and Kentucky blue grass. Upland soils did not meet hydric soils criteria. Hydrology indicators were not observed in the upland.

## 5 Regulatory Considerations

Wetlands in the project area are regulated by agencies at the local, regional, state, and federal levels including the USACE and the EPA at the federal level. It is presumed that the USACE has jurisdiction over all the wetlands in the project are due to their and connectivity proximity to the River. The primary state agencies in involved in wetlands protection include the South Dakota Department of Environment and Natural Resources (SDDENR), South Dakota Department of Game, Fish, and Parks (SDGFP), and the South Dakota Department of Agriculture (SDDA). These agencies may require a field review of the wetland delineation.

Construction plans that propose any direct alteration or indirect impact to wetlands or watercourses within the project area will require permits from the appropriate regulatory agencies. Violation of wetland regulations can result in substantial civil and/or criminal penalties.

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# Figures

Figure 1 – Site Location and Topography Figure 2 – 2016 Aerial Photograph Figure 3 – National Wetlands Inventory (NWI) Figure 4 – NRCS Web Soil Survey Map Figure 5 – LIDAR Topography Figure 6 – Wetland Delineation Results Figure 7 – Wetland Community Type



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3535 VADNAIS CENTER DR.           ST. PAUL, MN 55110           PHONE: (651) 490-2000           FAX: (888) 908-8166           TF: (800) 325-2055           Www.sehinc.com	Project: OWNJV 149418 Print Date: 9/14/2019 Map by: bnelson Projection: UTM NAD 83 Zone 14N Source: SEH, ESRI, SDDOT, USGS, FWS, NRCS	NATIONAL WETLANDS INVENTORY (NWI) 85th Street Interchange Lincoln County, South Dakota	Figure 3

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Ca       WeA       EsC       Ws         HuA       Ws       Ws       Te         Ws       HuA       Ws       Ws         Ca       Ws       Ws       HuA         WeA       Ws       HuA       Ws         WeA       WeA       HuA       HuA         EsC       WeA       HuA       HuA         Ca       HuA       Ca       HuA         WeA       HuA       HuA       Ws         Ca       HuA       Ca       HuA         HuA       Ws       Ws       HuA         WhA       HuA       Ws       HuA         HuA       WeA       EwB       HuA         HuA       WeA       EwB       HuA         Ws       Ease       EwB       HuA         Ws       Ks       EwB       Ws         Map Unit       Soil Name       Kos       Kos         AcA       Alcester silty clay loam, cool, ot o 2 percent slopes       AcA         Alcester silty clay loam, cool, ot o 2 percent slopes       AcA       Alcester silty clay loam, cool, ot o 2 percent slopes         Bb       Baltic silty clay loam, ot o 1 percent slopes       Bab       Baltic silty	HuA Mh V Ws Ca EcB Ch Ws EcB Ch Ws EcB Ma Cd E EcB Ma Cd E EcB Ma Cd E EcB Ma Cd E EcB EcB EcB EcB EcB EcB EcB EcB EcB Ec	Vs Cd Te Ca Ws EaB WhA WeA Mh Te Cd Te EaB Ca Mh ECB Ca Mh Ca Ca Mh ECB Ca Mh Ca Ca Mh ECB Ca Mh Ca Ca Mh CA Ca Mh Ca Ca Mh CA Ca Mh Ca Ca Mh CA Ca Mh CA Ca Mh Ca Ca Mh CA Ca CA Mh CA CA CA C	WeA Te EaB   Te Ca   EaB WeA   Te Ca   WeA Ca   WeA Ca   WeA Ca   EsC EsC   ACA WeA   Te EcB   EcB EcB   Cd Cd   Cd Cd   Te Te   EaB EcB   HuA   Te Te   EaB EcB   EaB EcB	Te Mh Ca Ca EaB Ca Ca Ca Ca Ca Ca Ca Ca Ca EcB Ca Ca EcB Ca Ca EcB Ca Ca EcB Ca Ca EcB Ca Ca EcB Ca Ca Ca Ca Ca Ca Ca Ca Ca Ca Ca Ca Ca
Ca       WeA       EsC       Ws         HuA       Ws       Ws       Te         Ws       HuA       Te         Ca       Ws       Ws       HuA         WeA       Ws       Ws       HuA         EsC       WeA       HuA       HuA         EsC       WeA       HuA       Ws         WhA       HuA       Ws       Ws         WhA       HuA       Ws       Ws         WhA       HuA       Ws       Ws         HuA       WeA       EwB       HuA         HuA       WeA       EwB       HuA         HuA       WeA       EwB       Ws         Ws       Ws       EwB       Ws         HuA       Ca       HuA       Ws         Ws       Ws       HuA       Ws         Ws       Ws       HuA       Ws         Map Unit       Soil Name       AcA       Alcester silty clay loam, cool, 0 to 2 percent slopes         AcA       Alcester silty clay loam, cool, 0 to 2 percent slopes       AcA       Alcester silty clay loam, cool, 0 to 2 percent slopes         Ba       Baltic silty clay loam, oton 1 percent slopes       Ba       Ba	HuA Mh V VS Ca Fe VS Te VA ECB A Ca Cd Fe Ch VS Ca Cd Fe Ch VS Ca Cd Ch VS Ca Cd Fe Ch VS Ca Cd Fe Ch VS Ca Cd Fe Ch VS Ca Cd Fe Ch VS Ca Cd Fe Ch VS Ca Cd Fe Ch VS Ca Cd Fe Ch VS Ca Cd Fe Ch VS Ca Cd Fe Ch VS Ca Cd Fe Ch VS Ca Cd Fe Ch VS Ca Cd Fe Ch VS Ca Cd Fe Ch VS Ca Cd Fe Ch VS Ca Cd Fe Ch VS Ca Cd Fe Ch VS Ca Cd Fe Ch VS Ca Cd Fe Ch VS Ca Cd Cd Fe Ch VS Ca Cd Fe Ch VS Ca Cd Cd Fe Ch VS Ca Cd Cd Fe Ch VS Ca Cd Cd Cd Fe Ch VS Ca Cd Cd Cd Cd Cd Cd Cd Cd Cd Cd	Vs Cd Ca Ws EaB WhA WeA Mh Te Cd Te EaB Ca Mh EcB Ca Mh	WeA Te EaB   Te Ca   Te Ca   EaB WeA   WeA Ca   WeA Ca   WeA Ca   Te EcB   EcB EcB   Cd Cd   Ca Cd   Ca Cd   Ca Ca	Te Mh Ca Ca EaB Ca Ca Ca Ca Ca Ca Ca Ca Ca Ca Ca Ca Ca C
Ca       WeA       EsC       Ws         HuA       Ws       Ws       Te         Ws       HuA       Ws       Ws         Wa       HuA       Ws       Ws         Ca       Ws       Ws       HuA         WeA       Ws       HuA       Ws         WeA       Was       HuA       HuA         EsC       WeA       HuA       HuA         Was       HuA       Ws       HuA         WhA       HuA       Ws       HuA         WhA       HuA       Ws       Ws         WhA       HuA       Ws       Ws         WhA       HuA       Ws       Ws         WhA       HuA       Ws       Ws         Ws       HuA       Ws       Ws         Map Unit       Soil Name       Aca       Alcester silty clay loam, Ot o 2 percent slopes         Aca       Alcester silty clay loam, Col, 0 to 2 percent slopes       Aca       Alcester silty clay loam, Col, 0 to 2 percent slopes         Aca       Alcester silty clay loam, ponded       Ba       Baltic silty clay loam, ponded       Ba         Bo       Bon loam, 0 to 2 percent slopes, 0 to 2 percent slopes       Cc       Ch	HuA Mh V VVs Ca Fe VVs Te VVs ECB A Ca Cd Fe Ch VVs Ca Cd Fe Ch Ch VVs Ca Cd Fe Ch Ch VVs Ca Cd Ch VVs Ca Cd Cd Fe Ch Ch VVs Ca Cd Ch VVs Ca Cd Cd Ch Ch Ch Ch Ch Ch Ch Ch Ch Ch	Vs Cd Ca Ws EaB WhA WeA Mh Te Cd Cd Ce EaB Ca Mh ECB Ca Mh Ca Ca Mh ECB Ca Mh Ca Ca Mh Ca Ca Ca Mh Ca Ca Mh Ca Ca Ca Mh Ca Ca Mh Ca Ca Ca Mh Ca Ca Mh CA Ca MH CA CA MH CA CA CA MH CA CA MH CA CA MH CA	WeA Te EaB   Te Ca   EaB WeA   Te Ca   WeA Ca   WeA Ca   WeA Ca   Ca Ca   Cd Cd   Cd Ca   Te Te   EaB EcB   HuA Te   Te Te   Cd Ca   WeA WeA	Cu     HuA     Te       Te     Mh     Ca       EaB     Ca       A     Ca       Ca     Ca
Ca       WeA       EsC       Ws         HuA       Ws       Ws       Te         Ws       HuA       Ws       Ws         Ca       Ws       Ws       HuA         Ca       Ws       Ws       HuA         WeA       EsC       WeA       HuA         EsC       WeA       HuA       HuA         Wa       HuA       HuA       Ws         WhA       HuA       Ws       Ws         Ws       HuA       Ca       HuA         Kos       Ks       EvB       Ks         HuA       Ca       HuA       Ca <th>HuA Mh V VS Ca Te VeA VS Te VeA VS Te VeA VEA ECB Ch VS Ca Cd E Ch VS CA CA</th> <th>Vs Cd Ca Ws EaB WhA WeA Mb Te Cd Te EaB Ca Mb ECB Ca Mb</th> <th>WeA Te EaB   Te Ca   Te Ca   EaB WeA   WeA Ca   WeA Ca   WeA Ca   To EcB   EcB EcB   Cd Ca   Cd Ca   Cd Ca   Cd Ca   Cd Ca   Mh Ws   Wo Wo</th> <th>Te     Mb     Ca       Te     Mb     Ca       EaB     Ca       Ca     Ca       Cd     WeA       Cd     Cd       Cd     Te       EcB     Ca       WhA     EcB       Ca     EcB       WhA     EcB       Ca     Ca       EcB     Ca       Ca     EcB       Ca     EcB    &lt;</th>	HuA Mh V VS Ca Te VeA VS Te VeA VS Te VeA VEA ECB Ch VS Ca Cd E Ch VS CA	Vs Cd Ca Ws EaB WhA WeA Mb Te Cd Te EaB Ca Mb ECB Ca Mb	WeA Te EaB   Te Ca   Te Ca   EaB WeA   WeA Ca   WeA Ca   WeA Ca   To EcB   EcB EcB   Cd Ca   Cd Ca   Cd Ca   Cd Ca   Cd Ca   Mh Ws   Wo Wo	Te     Mb     Ca       Te     Mb     Ca       EaB     Ca       Ca     Ca       Cd     WeA       Cd     Cd       Cd     Te       EcB     Ca       WhA     EcB       Ca     EcB       WhA     EcB       Ca     Ca       EcB     Ca       Ca     EcB       Ca     EcB    <
Ca       WeA       EsC       Ws         HuA       Ws       Ws       Te         Ws       HuA       Ws       Ws         Ca       Ws       Ws       HuA         Ca       Ws       Ws       HuA         EsC       WeA       HuA       HuA         EsC       WeA       HuA       HuA         Ca       HuA       Ca       HuA         HuA       Ca       HuA       Ws         WhA       HuA       Ws       Ws         HuA       WeA       HuA       Ws         HuA       WeA       EwB       HuA         HuA       WeA       EwB       HuA         Ws       Ks       EwB       HuA         Ws       Ks       EwB       Ks         HuA       WeA       HuA       Ws         Ws       Ks       EwB       Ks         HuA       Ca       HuA       Ws         Ws       Ks       EwB       Ks         HuA       Ca       HuA       Ws         Ks       Ks       EwB       Ks         HuA       Ca       HuA       Ks </th <th>HuA Mh V VVs Ca Fe VVs Te VVs Ca Fe VVs Te VVeA Fe Ca Ch VVs Ca Cd Fe Ch VVs Ca Cd Cd Ch VVs Ca Cd Cd Cd Cd Cd Cd Cd Cd Cd Cd</th> <th>Vs Cd Ca Ws EaB WhA WeA Mh Te Cd Cd Ce EaB Ca Mb ECB Ca Mb ECB Ca</th> <th>WeA Te EaB   Te Ca   EaB WeA   Te Ca   EaB WeA   WeA Ca   WeA Ca   WeA Ca   WeA Ca   Ca Cd   Ca Cd   Ca Ca   Ca Ca<th>U     HUA     Te       Te     Mh     Ca       EaB     Ca       A     Ca       Cd     WeA     Cd       Cd     WeA     Cd       Cd     WeA     Cd       Cd     WeA     Cd       EcB     Ca       WhA     EcB       Ca     Ca       EcB     Ca       WhA     EcB       Ca     Ca       B     Cd       EcB     EcB       Wa     Ca       EaB     HuA       WeA     EaB       Ca     EaB</th></th>	HuA Mh V VVs Ca Fe VVs Te VVs Ca Fe VVs Te VVeA Fe Ca Ch VVs Ca Cd Fe Ch VVs Ca Cd Cd Ch VVs Ca Cd Cd Cd Cd Cd Cd Cd Cd Cd Cd	Vs Cd Ca Ws EaB WhA WeA Mh Te Cd Cd Ce EaB Ca Mb ECB Ca	WeA Te EaB   Te Ca   EaB WeA   Te Ca   EaB WeA   WeA Ca   WeA Ca   WeA Ca   WeA Ca   Ca Cd   Ca Cd   Ca Ca   Ca Ca <th>U     HUA     Te       Te     Mh     Ca       EaB     Ca       A     Ca       Cd     WeA     Cd       Cd     WeA     Cd       Cd     WeA     Cd       Cd     WeA     Cd       EcB     Ca       WhA     EcB       Ca     Ca       EcB     Ca       WhA     EcB       Ca     Ca       B     Cd       EcB     EcB       Wa     Ca       EaB     HuA       WeA     EaB       Ca     EaB</th>	U     HUA     Te       Te     Mh     Ca       EaB     Ca       A     Ca       Cd     WeA     Cd       Cd     WeA     Cd       Cd     WeA     Cd       Cd     WeA     Cd       EcB     Ca       WhA     EcB       Ca     Ca       EcB     Ca       WhA     EcB       Ca     Ca       B     Cd       EcB     EcB       Wa     Ca       EaB     HuA       WeA     EaB       Ca     EaB
Ca WeA EsC Ws HuA Ws Ws Ws Ws HuA Ws Ws Ws Ws HuA Ws WeA Ws Ws HuA HuA EsC WeA HuA Ca HuA Ca HuA Ca HuA Ws HuA Ws WhA HuA Ws HuA Ws HuA Ws WhA HuA Ws HuA Ws WhA HuA Ws HuA Ws Ws EwB HuA Ca HuA Ca HuA Ws Ws EwB HuA Ws Ws EwB HuA Ws Ws EwB HuA Ws Ws Ws Ws Ks Map Unit Soil Name AcA Alcester silty clay loam, 0 to 2 percent slopes AcA Alcester silty clay loam, cool, 0 to 2 percent slopes AcA Alcester silty clay loam, cool, 0 to 2 percent slopes AcA Alcester silty clay loam, cool, 0 to 2 percent slopes AcA Alcester silty clay loam, cool, 0 to 2 percent slopes AcA Alcester silty clay loam, 0 to 1 percent slopes AcA Alcester silty clay loam, 0 to 2 percent slopes Cc Chancellor-Tetonka complex, 0 to 2 percent slopes Cc Chancellor-Tetonka complex, 0 to 2 percent slopes Cc Chancellor-Tetonka complex, 0 to 2 percent slopes Cc Chancellor-Viborg silty clay loams Ch Chancellor-Wakonda-Tetonka complex Ch Chaska loam, 0 to 2 percent slopes DeA Davis loam, 0 to 2 percent slopes EB Egan-Ethan-Trent complex, 1 to 6 percent slopes EB Egan-Ethan-Trent complex, 1 to 6 percent slopes EEB Egan-Tetnet slity clay loams, 0 to 2 percent slopes EEB Egan-Tetnet slopes A to 2 percent slopes EEB Egan-Tetnet slopes A to 6 percent slopes EEB Egan A to 8 percent slopes A to 6 percent slopes EEB Egan A to 8 percent slopes A t	HuA Mh V VS Ca Fe Ws Te VeA Fe EcB Ch VS EcB Ch VS ES Egan-Shindler complex EsC Egan-Shindler complex EsC Egan-Shindler complex EsC EsB Egan-Worthing comple HuA Huntimer silty clay loam, oc Ch B B Egan-Worthing complex HuA Huntimer silty clay loam, oc SkD2 Shindler-Egan complex Te Tetonka silt loam, 0 to 2 V W Water Va Wakonda-Chancellor oc VA Wentworth-Chancellor WhA Wentworth-Chancellor	Vs Cd Ca Ws EaB WhA WeA Mh Te Cd Te EaB Ca Mh EcB Ca Mh	WeA Te EaB   Te Ca   EaB WeA   Te Ca   WeA Ca   WeA Ca   WeA Ca   WeA Ca   WeA Ca   Cd Cd   Cd Ca   WeA Ca   WeA Ca   WeA Ca   WeA Ca   WeA Ca   WeA Ca   Cd Cd   Cd Ca   WeA Ca   WeA Ca   Cd Ca   WeA WeA   Te Te   EaB EcB   Mh Ws   Ws Mh	U       HUA       Te         Te       Mh       Ca         EaB       Ca         A       Ca         Cd       WeA       Cd         Cd       WeA       Cd         Cd       WeA       Cd         Cd       WeA       EcB         WhA       EcB       Ca         WhA       EcB       Ca         WhA       EcB       Ca         WhA       EcB       Ca         EcB       Ws       Ca         EcB       Ws       Ca         EaB       HuA       WeA         Te       Wus       EaB         Te       Wus       EaB         Ca       Ws       EaB         Te       HuA       WeA         Te       HuA       HuA         Ca       Ws       EaB         Ca       Ws       EaB         Te       EaB       Ws         Te       EaB       Ws         Ca       Ws       EaB         Ca       Ws       EaB
Ca WeA EsC Ws HuA Ws Ws Ws Tha Ws HuA Ws Ws WeA HuA Ws Ws WeA HuA HuA HuA HuA EsC WeA HuA Ca HuA HuA Ws HuA Ws HuA Ws HuA Ws HuA Ws HuA Ws HuA Ws Ws HuA Ws Ws HuA	HuA       Mh       W         Ws       Ca       Te         Ws       Te       WeA         Ws       Te       WeA         ECB       W       Ca       Cd         Ca       Cd       E       Ca         ECB       Cd       E       Ca       Cd         ECB       ECB       W       Ca       Cd       E         ED       Ethan-Betts loams, 9 to       Es       Egan-Shindler complex         ESC       Egan-Shindler complex, 6       EwB       Egan-Worthing comple         HuA       Huntimer silty clay loam, cc       Mh       Baltic silty clay loam, pc         Or       Orthents, loamy       Sa       Salmo silty clay loam, pc         Or       Orthents, loamy       Sa       Salmo silty clay loam, pc         VW       Water       Wa       Wakonda-Chancellor cc         WA       Wentworth-Trent complex       Te       Tetonka silt loam, 0 to 2         WhA       Wentworth-Chancellor cc       WeA       Wentworth-Trent complex         Wo       Worthing silty clay loan       Wo       Worthing silty clay loan         Wo       Worthing silty clay loan       Wo       Worthing silty clay loan	Vs Cd Ca Ws EaB WhA WeA Mh Te Cd Cd Ce EaB Ca Mb ECB Ca	WeA Te EaB   Te Ca   EaB WeA   Te Ca   EaB WeA   WeA Ca   WeA WeA   WeA Ca   WeA Ca   WeA Ca   WeA WeA   WeA Ca   WeA Ca   WeA WeA   WeA Ca   WeA WeA   WeA WeA   WeA WeA   WeA Ca   WeA WeA	U       HUA       Te         Te       Mh       Ca         EaB       Ca         A       Ca         Cd       WeA       Cd         Cd       WeA       Cd         Cd       WeA       Cd         EcB       Ca         WhA       EcB         EcB       Ca         WhA       EcB         Ca       EcB         Ca       Ca         EcB       Ca         EcB       Ca         WeA       EcB         Ca       Ca         Ca       EcB         Ca       EcB         Ca       EcB         Ca       EcB         Ca       EaB         Ca       EaB
Ca WeA EsC Ws HuA Ws Ws Ws ThuA Te Ws HuA Ws Ws Ws WeA HuA Ws Ws WeA HuA HuA HuA EsO WeA HuA HuA HuA Ws Ws HuA Ws Ws Ws HuA Ws Ws Ks Ms Unit Soil Name AcA Alcester silty clay loam, Oto 2 percent slopes AcA Alcester silty clay loam, oto 1 percent slopes AcA Alcester silty clay loam, oto 1 percent slopes AcA Alcester silty clay loam, oto 2 percent slopes AcA Alcester silty clay loam, Oto 2 percent slopes AcA Alcester silty clay loam, Oto 2 percent slopes Cc Chancellor-Tetonka complex, Oto 2 percent slopes EaB Egan silty clay loam, Oto 2 percent slopes EaB Egan Wentworth-Trent complex, 2 to 6 percent slopes EaB Egan Wentworth-Trent complex, 2 to 6 percent slopes EaB Egan Silty Clay loam, Oto 2 percent slopes	HuA       Mh       W         Ws       Ca       Te         Ws       Te       WeA         ECB       W       Ca       Cd         ECB       Ws       Ca       Cd       Ed         Map Unit       Soil Name       EcB       Ca       Cd       Ed         Map Unit       Soil Name       EcB       EcB       Ca       Cd       Ed         Map Unit       Soil Name       EcB       EcB       Ca       Cd       Ed       Ca       Cd       Ed	Vs Cd Ca Ws EaB WhA WeA Mh Te Cd Te EaB Ca Mh EcB Ca Mh	WeA Te EaB   Te Ca   EaB WeA   Te Ca   WeA WeA	U HUA Te   Te Mh Ca   EaB Ca   Ca Ca<

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A + 23297721	1+2779 - 1 - 1 - 1 - 1		Wetland 36	
	500         1,000           Feet	Pelineated Wetland by oth	Ners	neation limits
」 SEH	3535 VADNAIS CENTER DR. ST. PAUL, MN 55110 PHONE: (651) 490-2000 FAX: (888) 908-8166 TF: (800) 325-2055 www.sehinc.com	Project: OWNJV 149418 Print Date: 4/28/2020 Map by: bnelson Projection: UTM NAD Zone 14N Source: SEH ESRI SDDOT, USGS, FWS, NRCS	<b>Wetland Delineation Results - Revised</b> 85th Street Interchange Lincoln County, South Dakota	Figure 6-1

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Wetland 34			
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3535 VADNAIS CENTER DR.           ST. PAUL, MN 55110           PHONE: (651) 490-2000           FAX: (888) 908-8166           TF: (800) 325-2055           www.sehinc.com	Project: OWNJV 149418 Print Date: 9/16/2019 Map by: bnelson Projection: UTM NAD Zone 14N Source: SEH ESRI SDDOT, USGS, FWS, NRCS	Wetland Delineation Results 85th Street Interchange Lincoln County, South Dakota	Figure 6-5



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This map is neither a legally recorded map nor a survey map and is not intended to be used as one. This map is a compilation of records, information, and data gathered from various sources listed on this map and is to be used for soles not warrant that the Geographic full relations of sets (GIS) Data used to prepare this map are error free, and SEH does not terpresent the the GIS Data could on the song and is not intended to be used as a compilation of records, information, and data gathered from various sources listed on this map and is to be used for an advanced map and is to be used for an advanced map and is not intended to be used as one. This map is a compilation of records, information, and tab gathered from various sources listed on this map and is to be used for advanced map. The use of this map active data provided. The depiction of operacina in the depiction of geographic faulty constraints are constraints and advanced map. The user of this map acknowledges that SEH advances under advanced map. The user of this map active data provided.



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Wetland 34           Wetland 4           0         500         1,000           Feet			
3535 VADNAIS CENTER DR.           ST. PAUL, MN 55110           PHONE: (651) 490-2000           FAX: (888) 908-8166           TF: (800) 325-2055           www.sehinc.com	Project: OWNJV 149418 Print Date: 9/12/2019 Map by: bnelson Projection: UTM NAD Zone 14N Source: SEH ESRI SDDOT, USGS, FWS, NRCS	<i>HGM Classification</i> 85th Street Interchange Lincoln County, South Dakota	Figure 7-5



the GIS Data can be used for navigational, tracking, or any other purpose requiring exacting measurement of distance or direction or precision in the depiction of geographic features. The user of this map acknowledges that SEH shall not be liable for any damages which arise out of the user's access or use of data provided.

# Appendix A

Wetland Delineation Data Forms

WETLAND DETERMINA	TION D	ATA FORM	I - Midwest R	legion			
Project/Site 85th Street Interchange	City/0	County:	Lincoln County	sampling	J Date:	11/13/18	}
Applicant/Owner: 85th Street Business District Joint Venture Grou	qu	State:	South Dakot	a Sampling	Point:	1-U	
Investigator(s): Rebecca Beduhn		Section	on, Township, R	lange:	T100NS18R	50W	
Landform (hillslope, terrace, etc.): backslope		Local	relief (concave,	convex, none):	N	one	
Slope (%): 3 Lat: 43.4765		Long:	-96.7949	Datum:	UTM NAD	83 Zone 1	14N
Soil Map Unit Name Egan-Chancellor silty clay loams, 0 to 4 percent	t slopes		NWI Cla	ssification:	Nor	ie	
Are climatic/hydrologic conditions of the site typical for this time of the	ne year?	-	Y (If no,	, explain in remai	rks)		
Are vegetation, soil, or hydrologys	significant	ly disturbed?					
Are vegetation , soil , or hydrology r	naturally p	oroblematic?	Ar	e "normal circum	nstances" pre	sent? Y	es
SUMMARY OF FINDINGS			(If	needed, explain	any answers	in remark	ks.)
Hydrophytic vegetation present? Y							
Hydric soil present? N		Is the sa	ampled area wi	thin a wetland?	Ν	1	
Indicators of wetland hydrology present? N		lf yes, op	tional wetland s	ite ID:			
Remarks: (Explain alternative procedures here or in a separate repo	ort )			-			
VEGETATION Lise scientific names of plants							
	Absolute	Dominan	Indicator Do	ominance Test V	Norksheet		
Tree Stratum (Plot size: 30' Radius )	% Cover	t Species	Status N	Jumber of Domina	ant Species		
1 '			th	nat are OBL, FAC	W, or FAC:	1	(A)
2				Total Number o	of Dominant		-
3				Species Across	s all Strata:	2	(B)
4			F	Percent of Domina	ant Species		
5		TILO	th	hat are OBL, FAC	W, or FAC:	50.00%	_(A/B)
Sonling/Shrub strature (Plot size: 15' Padius )	0	= I otal Cover	Dr	ovalanca Indax	Workshoot		
1				otal % Cover of	WUIKSHEEL		
2			OF	BL species	0 x 1 =	0	
3			FA	ACW species	0 x 2 =	0	-
4			FA	AC species	80 x 3 =	240	_
5			FA	ACU species	0 x 4 =	0	_
	0	= Total Cover	UF	PL species	$0 \times 5 =$	0	
Herb stratum (Plot size: <u>5' Radius</u> )			Co	olumn totals	80 (A)	240	_(B)
1 Setaria pumila Yellow Bristle Grass	80	<u> </u>	FAC Pr	evalence Index =	= B/A =	3.00	-
2 Carex spp	20	Y	NI U	drophytic Vogo	tation India:	tore	
<u> </u>			ייי	Rapid test for h	avdronhytic v	edetation	
				Dominance tes	st is >50%	gotation	
6			X	Prevalence ind	lex is ≤3.0*		
7				 Morphological	adaptations*	(provide	
8				supporting data	a in Remarks	or on a	
9				_separate sheet	1)		
10	100	<u></u>		Problematic hy	drophytic veg	jetation*	
Weedwaine stratum (Plet size: 20' Bedius )	100	= I otal Cover	·	(explain)			
(Plot size: <u>30 Radius</u> )			*	Indicators of hydric s	oil and wetland h	nydrology m	ust be
2				Hvdrophvtic		opiematic	
	0	= Total Cover		vegetation			
	Ũ			present?	Y		
Remarks: (Include photo numbers here or on a separate sheet)			I				
Note: This data sheet has been adapted to use the 2012 National Wetla Robert W. Lichvar and John T. Kartesz, 2009, North American Digital Flora: National	and Plant L	_ist: Plant List_version	n 2 4 () (https://wetls	and plants usace arr	mvmil) IIS Arr	ny Corps of	,
Engineers, Engineer Research and Development Center, Cold Regions Research a	and Enginee	ring Laboratory,	Hanover, NH, and	BONAP, Chapel Hill,	, NC. (2012)	., 20,000	

Depth (Inches)     Matrix Color (moist)     Color (n       0-14     10YR 2/1     100       100     100     100       100     100     100       100     100     100       100     100     100       100     100     100       100     100     100       100     100     100       100     100     100       100     100     100	Redox Feat noist) %	ures Tures*					
(Inches)         Color (moist)         %         Color (noist)           0-14         10YR 2/1         100         100           100         100         100         100           100         100         100         100           100         100         100         100           100         100         100         100           100         100         100         100           100         100         100         100           100         100         100         100           100         100         100         100           100         100         100         100           100         100         100         100           100         100         100         100           100         100         100         100           100         100         100         100           100         100         100         100           100         100         100         100           100         100         100         100           100         100         100         100	noist) %	T					
0-14 10YR 2/1 100		Type" Loc""	Texture	Remarks			
			Silty Clay Loam				
*Type: C = Concentration D = Depletion PM =	Reduced Matrix	MS - Maskad	Sand Crains **Logat	ion: PL - Poro Lining M - Matrix			
Hydric Soil Indicators:		, WO - Waskeu	Indicators for Prol	plematic Hydric Soils:			
Histosol (A1)	Sandv Gleve	ed Matrix (S4)	Iron-Manganes	e Masses (F12) ( <b>LRR K. L. M</b> )			
Histic Epipedon (A2)	Sandy Redo	x (S5)	Very Shallow D	ark Surface (F22)			
Black Histic (A3)	Stripped Ma	trix (S6)	Other (explain i	n remarks)			
Hydrogen Sulfide (A4)	Dark Surfac	e (S7)					
Stratified Layers (A5)	Loamy Muck	(y Mineral (F1)					
2 cm Muck (A10)	Loamy Gley	ed Matrix (F2)					
Depleted Below Dark Surface (A11)	Depleted Ma	atrix (F3)					
I NICK Dark Surface (A12)	Redox Dark	Surface (F6)	*Indicators of hydrology must	drophytic vegetation and wetland			
5 cm Mucky Peat or Peat (S3)	Depleted Da	essions (F8)	nyarology musi	problematic			
				problematic			
Restrictive Layer (If observed):			Hudria agil progo	nta N			
Denth (inches):		-	Hydric soli prese				
		•					
HYDROLOGY							
Wetland Hydrology Indicators:							
Primary Indicators (minimum of one is required;	check all that a	pply)	Secondary Ir	ndicators (minimum of two required)			
Surface Water (A1)	Aquatic	Fauna (B13)	Surface	e Soil Cracks (B6)			
High Water Table (A2)	True Aq	uatic Plants (B14	Ints (B14) Drainage Patterns (B10)				
Saturation (A3)	Hydroge	n Sulfide Odor (0	C1) Dry-Se	ason Water Table (C2)			
	Oxidized	Rhizospheres o	n Living Roots Crayfis				
Water Marks (B1)	11 201			h Burrows (C8)			
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	Presenc	e of Reduced Iro	n (C4) Stunte	h Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1)			
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	Presenc Recent I	e of Reduced Iro ron Reduction in	n (C4) Stunted Tilled Soils Geomo	h Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2)			
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	Presenc Recent I (C6)	e of Reduced Iro ron Reduction in	n (C4) Stunter Tilled Soils Geomo FAC-N	h Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2) eutral Test (D5)			
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7)	Presenc Recent I (C6) Thin Mu	e of Reduced Iro ron Reduction in ck Surface (C7)	n (C4) Stunted Tilled Soils Geomo	h Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2) eutral Test (D5)			
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Water Object Leaver (D0)	Presenc Recent I (C6) Thin Mu Gauge c	e of Reduced Iro ron Reduction in ck Surface (C7) r Well Data (D9)	n (C4) Stunted Tilled Soils Geomo	h Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2) eutral Test (D5)			
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Water-Stained Leaves (B9)	Presenc Recent I (C6) Thin Mu Gauge c Other (E	e of Reduced Iro ron Reduction in ck Surface (C7) r Well Data (D9) xplain in Remark	n (C4) Stunter Tilled Soils Geomo FAC-N	h Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2) eutral Test (D5)			
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Water-Stained Leaves (B9) Field Observations: Surface water present?	Presenc Recent I (C6) Thin Mu Gauge c Other (E	e of Reduced Iro ron Reduction in ck Surface (C7) rr Well Data (D9) xplain in Remark	n (C4) Stunted Tilled Soils Geomo FAC-N	h Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2) eutral Test (D5)			
Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Inundation Visible on Aerial Imagery (B7)         Sparsely Vegetated Concave Surface (B8)         Water-Stained Leaves (B9)         Field Observations:         Surface water present?       Yes         Water table present?       Yes		e of Reduced Iro iron Reduction in ck Surface (C7) r Well Data (D9) xplain in Remark Depth (inches): Depth (inches):	n (C4) Stunted Tilled Soils Geomo FAC-N	h Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2) eutral Test (D5)			
Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Inundation Visible on Aerial Imagery (B7)         Sparsely Vegetated Concave Surface (B8)         Water-Stained Leaves (B9)         Field Observations:         Surface water present?       Yes         Water table present?       Yes         Saturation present?       Yes	No X No X No X	e of Reduced Iro ron Reduction in ck Surface (C7) or Well Data (D9) xplain in Remark Depth (inches): Depth (inches): Depth (inches):	n (C4) Stunted Tilled Soils Geomo FAC-N	h Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2) eutral Test (D5) ndicators of wetland hydrology present? N			
Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Inundation Visible on Aerial Imagery (B7)         Sparsely Vegetated Concave Surface (B8)         Water-Stained Leaves (B9)         Field Observations:         Surface water present?       Yes         Water table present?       Yes         Saturation present?       Yes         (includes capillary fringe)       Yes	Image: No state of the stat	e of Reduced Iro ron Reduction in ck Surface (C7) or Well Data (D9) xplain in Remark Depth (inches): Depth (inches): Depth (inches):	n (C4) Stunted Tilled Soils Geomo FAC-N (s)	h Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2) eutral Test (D5) ndicators of wetland hydrology present? N			
Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Inundation Visible on Aerial Imagery (B7)         Sparsely Vegetated Concave Surface (B8)         Water-Stained Leaves (B9)         Field Observations:         Surface water present?       Yes         Water table present?       Yes         Saturation present?       Yes         (includes capillary fringe)       Describe recorded data (stream gauge, monitor)	No X No X No X No X No X No X	e of Reduced Iro iron Reduction in ck Surface (C7) or Well Data (D9) explain in Remark Depth (inches): Depth (inches): Depth (inches):	n (C4) Stunted Tilled Soils Geomo FAC-N (s) In inspections), if available:	h Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2) eutral Test (D5) ndicators of wetland hydrology present? N			
Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Inundation Visible on Aerial Imagery (B7)         Sparsely Vegetated Concave Surface (B8)         Water-Stained Leaves (B9)         Field Observations:         Surface water present?       Yes         Water table present?       Yes         Saturation present?       Yes         (includes capillary fringe)       Describe recorded data (stream gauge, monitor         Remarks:       Emarks:	No X No X No X No X No X	e of Reduced Iro ron Reduction in ck Surface (C7) or Well Data (D9) Explain in Remark Depth (inches): Depth (inches): Depth (inches):	n (C4) Stunted Tilled Soils Geomo FAC-N (s) inspections), if available:	h Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2) eutral Test (D5) ndicators of wetland hydrology present? N			
Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Inundation Visible on Aerial Imagery (B7)         Sparsely Vegetated Concave Surface (B8)         Water-Stained Leaves (B9)         Field Observations:         Surface water present?       Yes         Water table present?       Yes         Saturation present?       Yes         (includes capillary fringe)       Describe recorded data (stream gauge, monitor         Remarks:       Saturation and/or a water table were not	No X No X No X No X No X No X No X No X	e of Reduced Iro iron Reduction in ck Surface (C7) or Well Data (D9) ixplain in Remark Depth (inches): Depth (inches): Depth (inches): hotos, previous	n (C4) Stunted Tilled Soils Geomo FAC-N (s) inspections), if available: water was frozen at t	h Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2) eutral Test (D5) hdicators of wetland hydrology present? N he time of the site visit.			
Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Inundation Visible on Aerial Imagery (B7)         Sparsely Vegetated Concave Surface (B8)         Water-Stained Leaves (B9)         Field Observations:         Surface water present?       Yes         Water table present?       Yes         Saturation present?       Yes         (includes capillary fringe)       Describe recorded data (stream gauge, monitor         Remarks:       Saturation and/or a water table were not	Image: constraint of the second line       Presenc       Recent l       (C6)       Thin Mu       Gauge c       Other (E       No     X       No     X       ing well, aerial p       able to be obs	e of Reduced Iro ron Reduction in ck Surface (C7) or Well Data (D9) Explain in Remark Depth (inches): Depth (inches): Depth (inches): whotos, previous Served, as the	n (C4) Stunted Tilled Soils Geomo FAC-N (s) inspections), if available: water was frozen at t	h Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2) eutral Test (D5) hdicators of wetland hydrology present? N he time of the site visit.			
Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Inundation Visible on Aerial Imagery (B7)         Sparsely Vegetated Concave Surface (B8)         Water-Stained Leaves (B9)         Field Observations:         Surface water present?       Yes         Water table present?       Yes         Saturation present?       Yes         (includes capillary fringe)       Describe recorded data (stream gauge, monitor         Remarks:       Saturation and/or a water table were not	No X No X No X No X hing well, aerial p	e of Reduced Iro ron Reduction in ck Surface (C7) or Well Data (D9) Explain in Remark Depth (inches): Depth (inches): Depth (inches): hotos, previous	n (C4) Stunted Tilled Soils Geomo FAC-N (s) Inspections), if available: water was frozen at t	h Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2) eutral Test (D5) ndicators of wetland hydrology present? N he time of the site visit.			
Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Inundation Visible on Aerial Imagery (B7)         Sparsely Vegetated Concave Surface (B8)         Water-Stained Leaves (B9)         Field Observations:         Surface water present?         Yes         Saturation present?         Yes         (includes capillary fringe)         Describe recorded data (stream gauge, monitor         Remarks:         Saturation and/or a water table were not	No X No X No X ing well, aerial p	e of Reduced Iro ron Reduction in ck Surface (C7) or Well Data (D9) Explain in Remark Depth (inches): Depth (inches): Depth (inches): hotos, previous	n (C4) Stunted Tilled Soils Geomo FAC-N (s) inspections), if available: water was frozen at t	h Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2) eutral Test (D5) hdicators of wetland hydrology present? <u>N</u> he time of the site visit.			

WETLAND DETERMIN	ATION D	ATA FORM	I - Midwest Re	gion	
Project/Site 85th Street Interchange	City/0	County:	Lincoln County	Sampling Date:	11/13/18
Applicant/Owner: 85th Street Business District Joint Venture Green	oup	State:	South Dakota	Sampling Point:	1-W
Investigator(s): Rebecca Beduhn		Section	on, Township, Rar	nge: T100N	S18R50W
Landform (hillslope, terrace, etc.): toeslope		Local	relief (concave, co	onvex, none):	Concave
Slope (%): 1 Lat: 43.4764		Long:	-96.7948	Datum: UTM I	NAD 83 Zone 14N
Soil Map Unit Name Egan-Chancellor silty clay loams, 0 to 4 perce	nt slopes		NWI Class	sification:	None
Are climatic/hydrologic conditions of the site typical for this time of	the year?	-	Y (If no, e	explain in remarks)	
Are vegetation, soil, or hydrology	significant	ly disturbed?			
Are vegetation, soil, or hydrology	naturally p	oroblematic?	Are	"normal circumstances	" present? Yes
SUMMARY OF FINDINGS			(If ne	eeded, explain any ans	wers in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? Y		Is the sa	ampled area with	in a wetland?	Y
Indicators of wetland hydrology present? Y		lf yes, op	tional wetland site	e ID: Wetland 1	
Remarks: (Explain alternative procedures here or in a separate rec	port.)				
· · · · · · · · · · · · · · · · · · ·	,				
VEGETATION Use scientific names of plants					
	Absolute	Dominan	Indicator Don	ninance Test Worksho	et
<u>Tree Stratum</u> (Plot size: 30' Radius )	% Cover	t Species	Status Nu	mber of Dominant Speci	es
1			that	t are OBL, FACW, or FA	.C: <u> </u>
2				Total Number of Domina	ant
3				Species Across all Stra	ta: <u> 1 (</u> B)
4			Pe	rcent of Dominant Speci	es
		= Total Cover		are OBL, FACW, OFFA	.с. <u>100.00%</u> (А/В)
Sapling/Shrub stratum (Plot size: 15' Radius )			Prev	valence Index Worksh	leet
1 /			Tota	al % Cover of:	
2			OBL	species 75 x	1 = 75
3			FAC	W species 10 x	2 = 20
4			FAC	species <u>15</u> x	3 = 45
5		- Total Caver		U species 0 x	4 = 0
Herb stratum (Plot size: 5' Radius )		= Total Cover	OPL	$\frac{1}{100}$	$\Delta = 0$ (B)
1 Typha angustifolia Narrow-Loaf Cat-Tail	60	V		rate = R/A	140
2 Poa pratensis Kentucky Blue Grass	15	<u> </u>	FAC		1.40
3 Carex lacustris Lakebank Sedge	15	<u> </u>	OBL Hyd	rophytic Vegetation I	ndicators:
4 Spartina pectinata Freshwater Cord Grass	10	N	FACW	Rapid test for hydrophy	/tic vegetation
5			X	Dominance test is >50 <sup>0</sup>	%
6			<u> </u>	Prevalence index is ≤3	.0*
				Morphological adaptati	ons* (provide
8				supporting data in Rem	arks or on a
10				Problematic hydronhyti	c vegetation*
··	100	= Total Cover		(explain)	e vegetation
Woody vine stratum (Plot size: 30' Radius )		-	*Inc	ticators of hydric soil and we	atland hydrology must be
1			inc	present, unless disturbe	d or problematic
2				Hydrophytic	
	0	= Total Cover		vegetation	
Remarks: (Include photo numbers here or on a separate sheet)					
Note: This data sheet has been adapted to use the 2012 National Wet	tland Plant L	_ist:			
Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: Natio Engineers, Engineer Research and Development Center. Cold Regions Research	nal Wetland F and Enginee	Plant List, version pring Laboratory	n 2.4.0 (https://wetland Hanover. NH. and BC	d_plants.usace.army.mil). U. DNAP, Chapel Hill. NC. (201	S. Army Corps of 2)

Profile Des	Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)											
Depth	<u>Matrix</u>		Rec	dox Feat	ures							
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks				
0-4	7.5YR 2.5/2	100					Silty Clay Loam					
4-16	10YR 2/1	95	10YR 3/6	5	С	М	Silty Clay Loam					
*Type: C = 0	Concentration, D :	= Depleti	on, RM = Reduce	ed Matrix	, MS = N	lasked S	and Grains. **Locatio	n: PL = Pore Lining, M = Matrix				
Hydric So	oil Indicators:		0			(0.1)	Indicators for Probl	ematic Hydric Soils:				
His	tosol (A1)		San	idy Gleye	ed Matrix	(S4)	Iron-Manganese	Masses (F12) ( <b>LRR K, L, M</b> )				
His	tic Epipedon (A2)		San	idy Redo	x (S5)		Very Shallow Da	rk Surface (F22)				
	CK HISTIC (A3) Irogon Sulfido (A)	1)	Strij	pped ivia	trix (56)			remarks)				
	tified Lovers (A5	+ <i>)</i>	Dar	K Surrac	e (57) w Miner	J (E1)						
2	m Muck (A10)	)	Loa	my Clev	od Matrix	al (F1) (F2)						
	hited Below Dark	Surface	(A11) Der	Iny Gley	triv (F3)	(I Z)						
	ck Dark Surface (	A12)		lox Dark	Surface	(F6)	*Indicators of byd	conduction and wotland				
Sar	ndv Mucky Minera	(S1)		oleted Da	rk Surfa	(F7)	hydrology must h	e present unless disturbed or				
5 c	n Mucky Peat or	Peat (S3	) Rec	lox Depr	essions (	F8)	nyarology maori	problematic				
	Leven (if a become					,		F				
Restrictive	Layer (If observe	ea):					Hudria agil progor	<b>*2</b> V				
Type: Donth (inch					-		Hydric soli preser	It?				
Depth (inche	=5).				-							
HYDROLO Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimen	DGY drology Indicato cators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2)	ors: of one is	required; check a	all that a Aquatic True Aqu Hydroge Oxidized (C3)	<u>pply)</u> Fauna (B uatic Plar n Sulfide I Rhizosp	13) hts (B14) Odor (C1 heres on	Secondary Inc Surface Drainage Dry-Sea Living Roots Saturatio	licators (minimum of two required) Soil Cracks (B6) ∋ Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9)				
Drift Dej Algal Ma Iron Deg Inundati Sparsel Water-S	bosits (B3) at or Crust (B4) bosits (B5) on Visible on Aeria / Vegetated Conca tained Leaves (B9	al Imager ave Surfa	/ (B7)	Presenc Recent I (C6) Thin Mu Gauge c Other (E	e of Redu ron Redu ck Surfac or Well Da xplain in	iced Iron ction in T e (C7) ata (D9) Remarks	(C4) Stunted illed Soils X Geomor X FAC-Ne	or Stressed Plants (D1) phic Position (D2) utral Test (D5)				
Field Obsen Surface wat Water table Saturation p	vations: er present? present? resent?	Yes Yes Yes	No No No	X X X	Depth (i Depth (i Depth (i	nches): nches): nches):	Inc	dicators of wetland ydrology present? Y				
, (includes ca	pillary fringe)					,						
Describe ree	corded data (strea	am gauge	e, monitoring well	, aerial p	hotos, pi	evious ir	nspections), if available:					
Remarks:												
Saturation	and/or a water	r table v	vere not able to	be obs	served,	as the v	water was frozen at th	e time of the site visit.				
US Army C	orps of Engine	ers						Midwest Region				

WETLAND DETERMIN	ATION D	ATA FORM	I - Midwest	Region		
Project/Site 85th Street Interchange	City/0	County:	Lincoln Count	ty Sar	npling Date:	11/13/18
Applicant/Owner: 85th Street Business District Joint Venture Gro	oup	State:	South Dake	ota San	npling Point:	2-U
Investigator(s): Rebecca Beduhn		Secti	on, Township,	Range:	T100NS1	18R50W
Landform (hillslope, terrace, etc.): backslope		Local	relief (concave	, convex, no	ne):	None
Slope (%): 3 Lat: 43.47649503	_	Long:	-96.79514624	4 Dat	um: UTM NA	AD 83 Zone 14N
Soil Map Unit Name Egan-Chancellor silty clay loams, 0 to 4 percent	nt slopes		NWI CI	assification:	1	None
Are climatic/hydrologic conditions of the site typical for this time of the site typical for	the year?		Y (If no	o, explain in	remarks)	
Are vegetation, soil, or hydrology	significant	ly disturbed?				
Are vegetation , soil , or hydrology	naturally p	oroblematic?	A	Are "normal o	circumstances"	present? Yes
SUMMARY OF FINDINGS			(1	If needed, ex	kplain any answ	ers in remarks.)
Hydrophytic vegetation present? Y						
Hydric soil present? N		Is the sa	ampled area w	vithin a wetl	and?	N
Indicators of wetland hydrology present? N		If yes, op	tional wetland	site ID:		
Remarks: (Explain alternative procedures here or in a separate rep	ort.)					
	,					
VEGETATION Use scientific names of plants.						
	Absolute	Dominan	Indicator C	Dominance <sup>-</sup>	Test Workshee	t
<u>Tree Stratum</u> (Plot size: <u>30' Radius</u> )	% Cover	t Species	Status	Number of D	ominant Species	
1				that are OBL	, FACW, or FAC	1 (A)
				Total Nun	nber of Dominant	
		·		Species	Across all Strata	<u>2</u> (B)
4 5				Percent of D	ominant Species	50.00% (A/F
	0	= Total Cover			, 1 AOW, 011 AO	(7/1
Sapling/Shrub stratum (Plot size: 15' Radius )			F	Prevalence I	ndex Workshe	ət
1			т	Total % Cove	er of:	
2			C	OBL species	<u>    0    x 1</u>	= 0
3			F	ACW specie	es <u>0</u> x2	= 0
4			F	AC species	<u>80</u> x 3	= 240
5		- Total Caver			$s = 0 \times 4$	= 0
Herb stratum (Plot size: 5' Radius )	0	- Total Cover		Column totals	$\frac{0}{80}$ (A)	- 0 (B)
1 Sotaria pumila	80	V	EAC E	Provolence Ir	$B = \frac{B}{A}$	3.00
2 Carex spp	20	<u> </u>				5.00
3		·	F	lydrophytic	Vegetation Ind	licators:
4				Rapid tes	st for hydrophytic	c vegetation
5				Dominan	ce test is >50%	
6				X Prevalen	ce index is ≤3.0 <sup>°</sup>	k
				Morpholo	gical adaptation	s* (provide
8				supportin	ig data in Remai	rks or on a
10			-	Separate	sileer)	vegetation*
	100	= Total Cover		(explain)		vegetation
Woody vine stratum (Plot size: 30' Radius )			-	*Indicators of h	wdric soil and wetla	nd hydrology must be
1				presen	t, unless disturbed	or problematic
2				Hydroph	ytic	
	0	= Total Cover		vegetatio	on v	
				present?	I	_
Remarks: (Include photo numbers here or on a separate sheet)						
Note: This data sheet has been adapted to use the 2012 National Wet	land Plant L	_ist:				
Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: Nation Engineers, Engineer Research and Development Center. Cold Regions Research	nal Wetland F and Enginee	Plant List, version pring Laboratory.	n 2.4.0 (https://wei Hanover. NH. and	tland_plants.us d BONAP. Chai	ace.army.mil). U.S. pel Hill, NC. (2012)	Army Corps of

Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm the abs	ence of indicators.)
Depth	Matrix		Rec	lox Featu	ures			
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks
0-14	10YR 2/2	100					Silty Clay Loam	
• • • •								
*Type: C = C	Concentration, D	= Depleti	on, RM = Reduce	ed Matrix	, MS = N	lasked S	and Grains. **Loc	ation: PL = Pore Lining, M = Matrix
Hydric So	il Indicators:						Indicators for Pr	oblematic Hydric Soils:
Hist	tosol (A1)		San	dy Gleye	ed Matrix	: (S4)	Iron-Mangane	ese Masses (F12) ( <b>LRR K, L, M</b> )
Hist	tic Epipedon (A2)		San	dy Redo	ix (S5)		Very Shallow	Dark Surface (F22)
Blac	ck Histic (A3)		Stri	oped Ma	trix (S6)		Other (explain	n in remarks)
Hyc	Irogen Sulfide (A	4)	Dar	k Surface	e (S7)			
Stra	atified Layers (A5	)	Loa	my Mucł	ky Minera	al (F1)		
2 cr	n Muck (A10)		Loa	my Gley	ed Matrix	k (F2)		
Dep	leted Below Darl	surface	e (A11) Dep	leted Ma	atrix (F3)			
Thio	ck Dark Surface (	A12)	Rec	lox Dark	Surface	(F6)	*Indicators of h	ydrophytic vegetation and wetland
Sar	dy Mucky Minera	al (S1)	Dep	leted Da	ark Surfa	ce (F7)	hydrology mu	st be present, unless disturbed or
5 cr	m Mucky Peat or	Peat (S3	) Rec	lox Depre	essions (	(F8)		problematic
Restrictive	l aver (if observ	ed):				I		
Type:							Hydric soil pre	sent? N
Depth (inche	es).				-		iljune con pro	
					•			
HYDROLO	DGY							
Wetland Hy	drology Indicate	ors:						
Primary Indi	cators (minimum	of one is	required; check	all that a	(ylqq		Secondarv	Indicators (minimum of two required)
Surface	Water (A1)		·	Aquatic	Fauna (B	13)	Surfa	ace Soil Cracks (B6)
High Wa	ter Table (A2)			True Aqu	uatic Plar	nts (B14)	Drair	nage Patterns (B10)
Saturatio	on (A3)			Hydroge	n Sulfide	Odor (C1	1) Dry-8	Season Water Table (C2)
Water M	larks (B1)			Oxidized	l Rhizosp	heres on	Living Roots Cray	fish Burrows (C8)
Sedimer	nt Deposits (B2)			(C3)			Satu	ration Visible on Aerial Imagery (C9)
Drift Dep	oosits (B3)			Presenc	e of Redu	uced Iron	(C4) Stun	ted or Stressed Plants (D1)
Algal Ma	at or Crust (B4)			Recent I	ron Redu	iction in T	illed Soils Geor	norphic Position (D2)
Iron Dep	osits (B5)			(C6)			FAC-	Neutral Test (D5)
Inundatio	on Visible on Aeria	al Imager	/ (B7)	Thin Mu	ck Surfac	ce (C7)		
Sparsely	Vegetated Conca	ave Surfa	ce (B8)	Gauge o	or Well Da	ata (D9)	<b>、</b>	
Water-S	tained Leaves (B9	)		Other (E	xplain in	Remarks	)	
Field Obser	vations:							
Surface wate	er present?	Yes	No	<u>X</u>	Depth (i	nches):		In dia stand of motional
vvater table	present?	Yes	NO	X	Depth (i	ncnes):		Indicators of Wetland
Saturation p	nillary fringe)	res	NO	X		ncnes):		nyurology present? N
					1 . 1			
Describe rec	corded data (strea	am gauge	e, monitoring well	, aeriai p	notos, p	revious ir	spections), if available	2.
Remarks:								
Saturation	and/or a water	r table v	vere not able to	be obs	served	as the v	water was frozen at	the time of the site visit
20.00 00001						2.0 410		

WETLAND DETERMINA	ATION D	ATA FORM	I - Midwest Regio	วท				
Project/Site 85th Street Interchange	City/0	County:	Lincoln County	Sampling Date:	11/13/18			
Applicant/Owner: 85th Street Business District Joint Venture Gro	up	State:	South Dakota	Sampling Point:	2-W			
Investigator(s): Rebecca Beduhn		Section	on, Township, Range	: T100NS1	8R50W			
Landform (hillslope, terrace, etc.): toeslope		Local	relief (concave, conv	ex, none): (	Concave			
Slope (%): 1 Lat: 43.47645947		Long:	-96.79525073	Datum: UTM NA	AD 83 Zone 14N			
Soil Map Unit Name Egan-Chancellor silty clay loams, 0 to 4 percen	nt slopes		NWI Classific	ation: N	lone			
Are climatic/hydrologic conditions of the site typical for this time of t	he year?		Y (If no, expl	ain in remarks)				
Are vegetation , soil , or hydrology	significant	ly disturbed?						
Are vegetation , soil , or hydrology	naturally p	oroblematic?	Are "no	ormal circumstances"	present? Yes			
SUMMARY OF FINDINGS			(If need	led, explain any answ	ers in remarks.)			
Hydrophytic vegetation present? Y								
Hydric soil present? Y		Is the sa	ampled area within	a wetland?	Y			
Indicators of wetland hydrology present? Y		If yes, optional wetland site ID: Wetland 2						
Remarks: (Evolain alternative procedures here or in a separate repo	ort)							
	511.)							
VECETATION Lies scientific names of plants								
VEGETATION Ose scientific names of plants.	Abaaluta	Deminen	Indiantar Domin	anco Tost Workshoo	t			
Tree Stratum (Plot size: 30' Radius )	% Cover	t Species	Status Numb	or of Dominant Species				
1			that ar	e OBL, FACW, or FAC:	1 (A)			
2			Tot	al Number of Dominan	t()			
3			Sp	ecies Across all Strata:	. 1 (B)			
4			Perce	nt of Dominant Species	;			
5			that ar	e OBL, FACW, or FAC:	100.00% (A/B)			
	0	= Total Cover						
Sapling/Shrub stratum (Plot size: 15' Radius )			Prevale Total %	ence Index Workshee	¥			
2		·		0  COVEL OI.	- 90			
3		<u> </u>	FACW	species $5 \times 2$	$= \frac{30}{10}$			
4		·	FAC sp	becies $5 \times 3$	= 15			
5			FACU	species 0 x 4	= 0			
	0	= Total Cover	UPL sp	ecies 0 x 5	= 0			
Herb stratum (Plot size: 5' Radius )			Columr	totals <u>100</u> (A)	<u>115</u> (B)			
1 Typha angustifolia Narrow-Leaf Cat-Tail	80	Y	OBL Prevale	ence Index = B/A =	1.15			
2 Carex lacustris Lakebank Sedge	10	N	OBL					
3 Poa pratensis Kentucky Blue Grass	5	<u> </u>	FAC Hydrop	ohytic Vegetation Ind	icators:			
4 Spartina pectinata Freshwater Cord Grass	5	<u>N</u>		pid test for nyaropnytic	vegetation			
6				$\frac{1}{2}$ valence index is $\leq 3.0^{\circ}$	k			
7				robological adaptation	s* (provide			
8			sup	oporting data in Remar	rks or on a			
9			sep	barate sheet)				
10			Pro	blematic hydrophytic	vegetation*			
	100	Total Cover	(ex	plain)				
<u>Woody vine stratum</u> (Plot size: <u>30' Radius</u> )			*Indica	tors of hydric soil and wetla	nd hydrology must be			
				present, unless disturbed of	or problematic			
		TILO		urophytic petation				
	0	= I otal Cover	pre	esent? Y				
Remarks: (Include photo numbers here or on a separate sheet)								
Note: This data sheet has been adapted to use the 2012 National Wetl	and Plant L	_ist:	0.4.0.4.5.					
Robert vv. Lichvar and John T. Kartesz. 2009. North American Digital Flora: Nation Engineers, Engineer Research and Development Center, Cold Regions Research	aı vvetland P and Enginee	riant List, versioi ring Laboratory,	n ∠.4.∪ (nttps://wetland_pl Hanover, NH, and BONA	ants.usace.army.mil). U.S. NP, Chapel Hill, NC. (2012)	Army Corps of			

Profile Des	Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth	Matrix			Red	dox Feat	ures					
(Inches)	Color (moist)	%	Color (	moist)	%	Type*	Loc**	Tex	ture	Remarks	
0-6	5YR 3/1	100						Silty Clay	Loam		
6-18	10YR 2/1	95	2.5YF	R 3/6	5	С	М	Silty Clav	Loam		
				, .	-	-		,			
*T		Daulati		Deduc	al Masteliu				**! 4: -	. D. – Dana Lining M. – Matrix	
"Type: C = C	Joncentration, D	= Deplet	on, Rivi =	Reduce	ed Matrix	, 1415 = 14	lasked S	and Grains.		n: PL = Pore Lining, M = Matrix	
Hydric So				Car		ad Matrix	(04)	Indicato	Drs for Probl	ematic Hydric Solis:	
	tosol (A1) tia Enimadam (A0)		-	Sar	idy Gieye	ed Matrix	(54)		-Manganese	Masses $(F12)$ (LRR K, L, M)	
	tic Epipedon (A2)		-	Sar	iay Read	ix (55)			y Snallow Da		
Black Histic (A3) Stripped Matrix (S6) Other (explain in re									remarks)		
Hyc	arogen Sulfide (A4	+)	-	Dar	k Surfac	e (S7)					
	atified Layers (A5	)	-	Loa		ky Minera	al (F1)				
2 cr	m IVIUCK (A1U)	C	(	Loa	iny Gley	ea Matrix	(F2)				
	Dieted Below Dark		e (A11)			atrix (F3)					
	ck Dark Surface (	A12)	-			Surface	(F6)	*India	cators of hydr	ophytic vegetation and wetland	
Sar	ndy Mucky Minera	I (S1)	, -	Dep	pieted Da	irk Surta		hydi	rology must b	e present, unless disturbed or	
5 cr	m Mucky Peat or	Peat (S3	) -	Rec	lox Depr	essions (	(F8)			problematic	
Restrictive	Layer (if observe	əd):									
Type:								Hydrid	c soil presen	t? Y	
Depth (inche	es):					-					
Remarks <sup>.</sup>						-					
HYDROLO	OGY										
Wetland Hy	drology Indicato	ors:									
Primary Indi	cators (minimum	of one is	required	; check	all that a	pply)		<u>s</u>	econdary Ind	icators (minimum of two required)	
Surface	Water (A1)				Aquatic	Fauna (B	13)		Surface	Soil Cracks (B6)	
High Wa	ater Table (A2)				True Aq	uatic Plar	nts (B14)		Drainage	e Patterns (B10)	
Saturatio	on (A3)				Hydroge	n Sulfide	Odor (C	1)	Dry-Sea	son Water Table (C2)	
Water M	larks (B1)				Oxidized	l Rhizosp	heres on	Living Roots	Crayfish	Burrows (C8)	
Sedimer	nt Deposits (B2)				(C3)				Saturatio	on Visible on Aerial Imagery (C9)	
Drift Dep	posits (B3)				Presenc	e of Redu	iced Iron	(C4)	Stunted	or Stressed Plants (D1)	
Algal Ma	at or Crust (B4)				Recent I	ron Redu	iction in T	filled Soils	X Geomor	phic Position (D2)	
Iron Dep	osits (B5) on Visible on Asris	Imagan	(07)		(C6)	ale Cruefa a	a (07)		X FAC-Nei	utral Test (D5)	
Inundation Sportsolv		ii imager wo Surfo	y (D7)								
Sparsely Water S	tained Leaves (B0	ive Sulla	се (во)		Othor (E	i vveli Da	ala (D9) Pomorko	•			
		/					- CHINENS	7			
Field Ubser	vations:	Vaa	v	No		Denth /:	nchoc);	C			
Water toble	resent?	Vec	^	No	v	Depth (i	nches):	۷	Inc	licators of wetland	
Saturation n	present?	Vec		No	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Depth (I	nches):		- inc	$drology$ present? $\vee$	
(includes co	nillary fringe)	165		INU	^	Dehiii (I	nones).		.   <sup>ny</sup>		
	pind y minger				e e ri - L -	hata-			favailation		
Describe rec	corded data (strea	am gaug	e, monito	ring weil	, aeriai p	notos, pr	revious II	nspections), i	f avallable:		
Remarks:											
Saturation	and/or a water	table v	vere not	able to	be ob	served	as the	water was f	rozen at th	e time of the site visit	
2						<b></b> . ,					

WETLAND DETERMINATI		ATA FORM	I - Midwest Reg	ion	
Project/Site 85th Street Interchange	City/C	County:	Lincoln County	Sampling Date:	11/13/18
Applicant/Owner: 85th Street Business District Joint Venture Group		State:	South Dakota	Sampling Point:	3-U
Investigator(s): Rebecca Beduhn		Section	on, Township, Rang	je: T100N	S18R50W
Landform (hillslope, terrace, etc.): backslope		Local	relief (concave, con	vex, none):	None
Slope (%): 4 Lat: 43.47642718		Long:	-96.79318805	Datum: UTM I	VAD 83 Zone 14N
Soil Map Unit Name Tentonka silt loam, 0 to 2 percent slopes, frequent	tly pond	ed	NWI Classif	ication:	None
Are climatic/hydrologic conditions of the site typical for this time of the	year?	_	Y (If no, ex	plain in remarks)	
Are vegetation, soil, or hydrology sig	nificantl	y disturbed?			
Are vegetation , soil , or hydrology nat	turally p	roblematic?	Are "r	normal circumstances	" present? Yes
SUMMARY OF FINDINGS			(If nee	eded, explain any ans	wers in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? N		Is the sa	ampled area withir	n a wetland?	N
Indicators of wetland hydrology present? N		lf yes, op	tional wetland site l	D:	
Remarks: (Explain alternative procedures here or in a separate report.	)				
	,				
VEGETATION Use scientific names of plants.					
Ab	solute	Dominan	Indicator Domi	nance Test Workshe	et
Tree Stratum (Plot size: 30' Radius ) %	Cover	t Species	Status Num	ber of Dominant Speci	es
1			that a	are OBL, FACW, or FA	C: <u>2</u> (A)
2			T(	otal Number of Domina	int
		<u> </u>		species Across all Stra	ia: <u>2</u> (B)
4		<u> </u>	Perc	ent of Dominant Speci	es C: 100.00% (Δ/Β)
	0	Total Cover			0. <u>100.0070</u> (A/D)
Sapling/Shrub stratum (Plot size: 15' Radius )	<u> </u>		Preva	alence Index Worksh	eet
1 '			Total	% Cover of:	
2			OBL	species <u>0</u> x	1 = 0
3			FACV	V species 20 x	2 = 40
4			FAC s	species <u>80</u> x	3 = 240
5		Tatal Cavar		species <u>0</u> x	4 = 0
Herb stratum (Plot size: 5' Badius )	0	- Total Cover	Colum	species $0 \times 100$	5 = 0 (B) 280 (B)
1 Sotaria numila	80	v	EAC Preva	$\frac{100}{100}$	2.80
2 Carex spp	20	<u> </u>	FACW		2.00
3			Hydro	ophytic Vegetation I	ndicators:
4			R	apid test for hydrophy	tic vegetation
5			XD	ominance test is >50°	%
6			<u> </u>	revalence index is ≤3.	.0*
		<u> </u>	M	lorphological adaptati	ons* (provide
8 <u></u>		·		upporting data in Rem	arks or on a
10		<u> </u>		roblematic bydrophyti	c vegetation*
···	100 :	Total Cover	(e	explain)	e vegetation
Woody vine stratum (Plot size: 30' Radius )			*Indic	ators of bydric soil and we	tland hydrology must be
1				present, unless disturbe	d or problematic
2			н	ydrophytic	
	0 :	Total Cover		egetation	
			p		
Remarks: (Include photo numbers here or on a separate sheet)					
Note: This data sheet has been adapted to use the 2012 National Wetland	d Plant L	ist:			
Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: National V Engineers, Engineer Research and Development Center, Cold Regions Research and	Vetland P Engineer	lant List, versioi ring Laboratory.	n 2.4.0 (https://wetland_ Hanover, NH, and BON	plants.usace.army.mil). U. JAP, Chapel Hill, NC. (201	S. Army Corps of 2)

Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm the abse	nce of indicators.)
Depth	Matrix		Rec	dox Feat	ures			
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks
0-16	10YR 2/1	100					Silty Clay Loam	
*Type: C = 0	Concentration, D :	= Depleti	on, RM = Reduce	ed Matrix	, MS = N	lasked S	and Grains. **Locat	ion: PL = Pore Lining, M = Matrix
Hydric So His His	<b>bil Indicators:</b> tosol (A1) tic Epipedon (A2)		San San	idy Gleye idy Redo	ed Matrix x (S5)	(S4)	Indicators for Prol Iron-Manganes Very Shallow D	olematic Hydric Soils: e Masses (F12) (LRR K, L, M) ark Surface (F22)
Bla	ck Histic (A3)		Stri	pped Ma	trix (S6)		Other (explain	n remarks)
Hyo	drogen Sulfide (A4	4)	Dar	k Surfac	e (S7)			,
Stra	atified Layers (A5)	)	Loa	my Mucł	y Minera	al (F1)		
2 ci	m Muck (A10)		Loa	my Gley	ed Matrix	(F2)		
Dep	oleted Below Dark	Surface	e (A11) Dep	leted Ma	atrix (F3)			
Thi	ck Dark Surface (	A12)	Rec	lox Dark	Surface	(F6)	*Indicators of hy	drophytic vegetation and wetland
Sar	ndy Mucky Minera	al (S1)	Dep	leted Da	rk Surfa	ce (F7)	hydrology must	be present, unless disturbed or
5 ci	m Mucky Peat or	Peat (S3	)Rec	lox Depr	essions (	(F8)		problematic
Restrictive	Layer (if observe	ed):						
Туре:							Hydric soil prese	nt? N
Depth (inche	es):							
HYDROLO Wetland Hy	OGY drology Indicato	ors:		all that a			Socondary I	diators (minimum of two required)
Surface	Water (A1)		required, check	Aquatic	<u>opiy)</u> Fauna (B	13)	Surface	Soil Cracks (B6)
High Wa	ater Table (A2)			True Aa	uatic Plar	nts (B14)	Draina	ge Patterns (B10)
Saturatio	on (A3)			Hydroge	n Sulfide	Odor (C	1) Dry-Se	ason Water Table (C2)
Water N	larks (B1)			Oxidized	Rhizosp	heres on	Living Roots Crayfis	h Burrows (C8)
Sedimer	nt Deposits (B2)			(C3)			Satura	ion Visible on Aerial Imagery (C9)
Drift Dep	posits (B3)			Presenc	e of Redu	uced Iron	(C4) Stunte	d or Stressed Plants (D1)
Algal Ma	at or Crust (B4)			Recent I	ron Redu	iction in 1	Geomo	orphic Position (D2)
Inundati	on Visible on Aeria	al Imager	(B7)	Thin Mu	ck Surfac	e (C7)		eutral Test (DS)
Sparsel	Vegetated Conca	ave Surfa	ce (B8)	Gauge c	r Well Da	ata (D9)		
Water-S	, itained Leaves (B9	)	. ,	Other (E	xplain in	Remarks	)	
Field Obser	vations:			•				
Surface wat	er present?	Yes	No	х	Depth (i	nches):		
Water table	present?	Yes	No	Х	Depth (i	nches):	li	ndicators of wetland
Saturation p	present?	Yes	No	X	Depth (i	nches):		hydrology present? N
(includes ca	pillary fringe)							
Describe ree	corded data (strea	am gauge	e, monitoring well	, aerial p	hotos, pi	revious ir	nspections), if available:	
Remarks:								
Saturation	and/or a water	table v	vere not able to	be obs	served,	as the	water was frozen at t	he time of the site visit.
US Army C	Corps of Engine	ers						Midwest Region
, -	. 0 -							0

WETLAND DETERMIN	ATION D	ATA FORM	I - Midwest I	Region				
Project/Site 85th Street Interchange	City/0	County:	Lincoln Count	ty S	Sampling	ampling Date: 11/13/18		;
Applicant/Owner: 85th Street Business District Joint Venture Gro	oup	State:	South Dake	ota S	Sampling	Point:	3-W	
Investigator(s): Rebecca Beduhn		Secti	on, Township, I	Range:		T100NS18F	۲50W	
Landform (hillslope, terrace, etc.): toeslope		Local	relief (concave	, convex,	none):	Co	ncave	
Slope (%):         1         Lat:         43.47646679		Long:	-96.79309889	9 C	Datum:	UTM NAD	83 Zone 1	14N
Soil Map Unit Name Tentonka silt loam, 0 to 2 percent slopes, frequ	ently pond	led	NWI CI	assificatio	on:	Noi	ne	
Are climatic/hydrologic conditions of the site typical for this time of t	he year?		Y (If no	o, explain	in remar	'ks)		
Are vegetation, soil, or hydrology	significant	ly disturbed?						
Are vegetation , soil , or hydrology	naturally p	oroblematic?	A	Are "norm	al circum	istances" pre	sent? Y	es
SUMMARY OF FINDINGS			(	If needed	, explain	any answers	in remark	ks.)
Hydrophytic vegetation present? Y								
Hydric soil present? Y		Is the sa	ampled area w	vithin a w	etland?	·	Y	
Indicators of wetland hydrology present? Y		lf yes, op	tional wetland	site ID:	We	etland 3	_	
Remarks: (Explain alternative procedures here or in a separate rep	ort.)							
······································	,							
VEGETATION Use scientific names of plants.								
	Absolute	Dominan	Indicator D	Dominanc	e Test V	Vorksheet		
<u>Tree Stratum</u> (Plot size: 30' Radius )	% Cover	t Species	Status	Number o	of Domina	nt Species		
1				that are O	BL, FAC\	N, or FAC:	1	(A)
2				Total N	lumber of	f Dominant		
				Speci	es Across	all Strata:	1	_(B)
				Percent c	of Domina	nt Species	100 00%	(
	0	= Total Cover			DL, FACI	M, OFFAC.	100.00 %	_(A/D)
Sapling/Shrub stratum (Plot size: 15' Radius )	0		P	Prevalenc	e Index	Worksheet		
1			Т	Total % Co	over of:			
2			C	OBL speci	es	15 x 1 =	15	_
3			F	ACW spe	ecies	90 x 2 =	180	_
4			F	AC speci	es	5 x 3 =	15	_
5		Tatal Cause	F	ACU spe	cies	$5 \times 4 =$	20	-
Herb stratum (Plot size: 5' Radius )	0	= I otal Cover		JPL speci	es <u> </u>	$\frac{0}{115}$ (A)	230	- (B)
1 Declaria arundinaaaa Decd Canary Craa	70	V					200	_(D)
2 Sparting pectingta     2 Sparting pectingta     2 Sparting pectingta	20	·	FACW P	revalence	e muex –	· D/A -	2.00	-
3 Typha angustifolia Narrow-Leaf Cat-Tail	10	<u> </u>	OBL H	lvdrophv	tic Veae	tation Indic	ators:	
4 Scirpus cyperinus Cottongrass Bulrush	5	N	OBL	Rapid	test for h	ydrophytic v	egetation	
5 Hordeum jubatum Fox-Tail Barley	5	Ν	FAC	X Domin	ance tes	t is >50%		
6 Asclepias syriaca Common Milkweed	5	N	FACU	X Preval	ence ind	ex is ≤3.0*		
7 Aster spp	5	<u>N</u>	N/A	Morph	ological	adaptations*	(provide	
		······································		suppo	rting data	a in Remarks	or on a	
9 <u></u>		······································		separa	ale sneel	) dranbutia va	actation*	
	120	= Total Cover	. <u></u>	(expla	inauc ny		Jelalion	
Woody vine stratum (Plot size: 30' Radius )	120		-		of bydrio o	oil and watland	budrology m	aust bo
1				pre	sent, unles	s disturbed or p	problematic	iusi be
2		·······		Hydro	phytic			
	0	= Total Cover		vegeta	ation	V		
				prese	nt <i>r</i>	<u> </u>		
Remarks: (Include photo numbers here or on a separate sheet)								
Note: This data sheet has been adapted to use the 2012 National Wet	and Plant I	_ist:						
Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: Nation	al Wetland F	Plant List, version	n 2.4.0 (https://wet	tland_plants	s.usace.am	ny.mil). U.S. Ari	ny Corps of	
Liginous, Ligineer research and Development Center, Cold Regions Research	പപപുവല	ing Laboratory,		LUNAF, C	napei nill,	110. (2012)		

Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm the abser	ce of indicators.)		
Depth	<u>Matrix</u>		Rec	dox Featu	ures					
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks		
0-16	10YR 2/2	95	2.5YR 4/6	5	С	М	Silty Clay Loam			
*Type: C = (	Concentration, D :	= Depleti	on, RM = Reduce	ed Matrix	, MS = N	lasked S	and Grains. **Locati	on: PL = Pore Lining, M = Matrix		
Hydric Sc	il Indicators:						Indicators for Prob	lematic Hydric Soils:		
His	tosol (A1)		San	dy Gleye	ed Matrix	(S4)	Iron-Manganese	e Masses (F12) ( <b>LRR K, L, M</b> )		
His	tic Epipedon (A2)		San	dy Redo	x (S5)	( )	Very Shallow D	ark Surface (F22)		
Bla	ck Histic (A3)		Stri	pped Ma	trix (S6)		Other (explain i	n remarks)		
Hvo	lrogen Sulfide (A4	4)	 Dar	k Surface	e (S7)		、 '	,		
Stra	atified Layers (A5)	)	Loa	my Muck	v Minera	al (F1)				
2 ci	m Muck (A10)	-	Loa	my Glev	ed Matrix	(F2)				
Dep	bleted Below Dark	Surface	e (A11) Dep	leted Ma	atrix (F3)					
	ck Dark Surface (	A12)	X Rec	lox Dark	Surface	(F6)	*Indicators of hvo	rophytic vegetation and wetland		
Sar	ndy Mucky Minera	al (S1)	Dep	leted Da	rk Surfa	ce (F7)	hydrology must	be present, unless disturbed or		
5 ci	m Mucky Peat or	Peat (S3	) Rec	lox Depre	essions (	(F8)	, ,	problematic		
Poetrictivo	l avor (if obsorv	od).	·	•						
Type	Layer (II Observe	eu).					Hydric soil prese	nt? V		
Denth (inch	<i>be)</i> .						riyune son prese	<u> </u>		
Deptil (Inche										
HYDROLOGY Wetland Hydrology Indicators:										
Drimory Indi	cators (minimum	of one is	required: check	all that a	oply)		Secondary In	diastors (minimum of two required)		
Surface	Water (A1)		Tequiled, check a	Aquatic	<u>opiy)</u> Fauna (B	13)	Surface	Soil Cracks (B6)		
High Wa	$\frac{Valer(A1)}{\Delta 2}$				rauna (D Jatic Plar	13) hts (R14)	Drainac	e Patterns (B10)		
Saturatio	(A3)			Hvdrone	n Sulfide	Odor (C	1) Drainag	ason Water Table (C2)		
Water N	larks (B1)			Oxidized	Rhizosp	heres on	Living Roots Cravfish	Burrows (C8)		
Sedimer	nt Deposits (B2)			(C3)			Saturati	on Visible on Aerial Imagery (C9)		
Drift Dep	posits (B3)			Presenc	e of Redu	uced Iron	(C4) Stunted	or Stressed Plants (D1)		
Algal Ma	at or Crust (B4)			Recent I	ron Redu	ction in T	illed Soils X Geomo	rphic Position (D2)		
Iron Dep	oosits (B5)			(C6)			X FAC-Ne	eutral Test (D5)		
Inundati	on Visible on Aeria	al Imager	/ (B7)	Thin Mu	ck Surfac	e (C7)				
Sparsely	Vegetated Conca	ave Surfa	ce (B8)	Gauge o	r Well Da	ata (D9)				
Water-S	tained Leaves (B9	)		Other (E	xplain in	Remarks	)			
Field Obser	vations:									
Surface wat	er present?	Yes	No	Х	Depth (i	nches):				
Water table	present?	Yes	No	X	Depth (i	nches):	In	dicators of wetland		
Saturation p	resent?	Yes	No	Х	Depth (i	nches):	r	ydrology present? Y		
(includes ca	pillary fringe)									
Describe red	corded data (strea	am gauge	e, monitoring well	, aerial p	hotos, pr	revious ir	nspections), if available:			
Remarks:										
Saturation	and/or a water	r table v	vere not able to	be obs	served.	as the	water was frozen at th	ne time of the site visit.		
		-			,					
	orps of Engine	orc						Midwort Dogion		
US AITHY C	or ha or Eußine	612						windwest Region		

WETLAND DETERMINA	TION D	ATA FORM	I - Midwest Re	egion			
Project/Site 85th Street Interchange	City/	County:	Lincoln County	Sampling	Date:	11/13/18	
Applicant/Owner: 85th Street Business District Joint Venture Gro	up	State:	South Dakota	Sampling	Point:	4-U	
Investigator(s): Rebecca Beduhn		Secti	on, Township, Ra	inge:	T100NS18R5	50W	
Landform (hillslope, terrace, etc.): Backslope		Local	relief (concave, co	onvex, none):	No	ne	
Slope (%): 4 Lat: 43.4821618	_	Long:	-96.79437184	Datum:	UTM NAD 8	3 Zone 1	14N
Soil Map Unit Name Chancellor-Tetonka complex, 0 to 2 percent slo	pes		NWI Class	sification:	None	÷	
Are climatic/hydrologic conditions of the site typical for this time of the	he year?	-	Y (If no, e	explain in remar	ks)		
Are vegetation, soil, or hydrology	significant	ly disturbed?					
Are vegetation , soil , or hydrology	naturally p	oroblematic?	Are	normal circum	stances" pres	ent? Yo	es
SUMMARY OF FINDINGS			(lf n	needed, explain a	any answers in	n remark	ks.)
Hydrophytic vegetation present? N							
Hydric soil present? N		Is the sa	ampled area with	nin a wetland?	N		
Indicators of wetland hydrology present? N		lf yes, op	tional wetland site	e ID:		_	
Remarks: (Explain alternative procedures here or in a separate repo	ort.)						
	,						
VEGETATION Use scientific names of plants.							
	Absolute	Dominan	Indicator Dor	minance Test W	Vorksheet		
<u>Tree Stratum</u> (Plot size: 30' Radius )	% Cover	t Species	Status Nu	umber of Domina	nt Species		
1			tha	at are OBL, FACV	V, or FAC:	0	(A)
2				Total Number of	Dominant		
				Species Across	all Strata:	1	_(B)
4 5			Pe	ercent of Dominal	nt Species	0.00%	(A/D)
	0	= Total Cover		at are OBL, I ACV	v, or rac. (	J.00 %	(A/D)
- Sapling/Shrub stratum (Plot size: 15' Radius )	<u> </u>		Pre	valence Index \	Worksheet		
1			Tota	al % Cover of:			
2			OBI	L species	0 x 1 =	0	_
3			FAC	CW species	0 x 2 =	0	
4			FAC	C species	0 x 3 =	0	-
5		Tatal Cause	FAC	CU species	$0 \times 4 =$	0	-
Herb stratum (Plot size: 5' Radius )	0	= I otal Cover	UPL	L species	$\frac{0}{0}$ (A)		(B)
	100	V	NI Brow				_(0)
2	100	·			D/A -		-
3			Hyd	drophytic Veget	tation Indicat	ors:	
4				Rapid test for h	ydrophytic veç	getation	
5				Dominance test	is >50%		
6				Prevalence inde	ex is ≤3.0*		
				Morphological a	adaptations* (p	provide	
				supporting data	in Remarks o	or on a	
9 <u></u>			[	Broblomatic by	/ drophytic yogr	station*	
	100	= Total Cover		(explain)	liopinytic vege	station	
- Woody vine stratum (Plot size: 30' Radius )	100		*10.	diastors of bydris of	and wotland by	(drology m	unt ha
1				present, unless	s disturbed or pro	blematic	iusi be
2		·······		Hydrophytic			
	0	= Total Cover		vegetation	N		
				present?	<u> </u>		
Remarks: (Include photo numbers here or on a separate sheet)							
Note: This data sheet has been adapted to use the 2012 National Wetla	and Plant I	_ist:					
Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: Nation	al Wetland F	Plant List, version	n 2.4.0 (https://wetlan	d_plants.usace.arm	iy.mil). U.S. Army	Corps of	
Lingineers, Engineer Research and Development Center, Cold Regions Research a	anu ⊏nginee	ппу сарогатогу,	i lanover, INH, and B	UNAF, UNAPELHIII,	110. (2012)		

Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm the a	bsence of indicators.)	
Depth	Matrix		Rec	dox Feat	ures			-	
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks	
0-15	10YR 2/2	100					Silty Clay Loam		
*Type: C = 0	Concentration, D	= Depleti	on, RM = Reduce	ed Matrix	, MS = N	lasked S	and Grains. **L	ocation: PL = Pore Lining, M = N	1atrix
Hydric So	oil Indicators:						Indicators for	Problematic Hydric Soils:	
His	tosol (A1)		Sar	dy Gleye	ed Matrix	(S4)	Iron-Manga	anese Masses (F12) ( <b>LRR K, L,</b> I	M)
His	tic Epipedon (A2)		Sar	idy Redo	x (S5)		Very Shallo	ow Dark Surface (F22)	
Bla	ck Histic (A3)		Stri	pped Ma	trix (S6)		Other (expl	ain in remarks)	
Hyo	drogen Sulfide (A4	4)	Dar	k Surfac	e (S7)				
Stra	atified Layers (A5	)	Loa	my Mucł	ky Minera	al (F1)			
2 c	m Muck (A10)	_	Loa	my Gley	ed Matrix	k (F2)			
Dep	pleted Below Dark	Surface	e (A11) Dep	leted Ma	atrix (F3)	(= c)			
Thi	ck Dark Surface (	A12)	Rec	lox Dark	Surface	(F6)	*Indicators o	f hydrophytic vegetation and wet	tland
Sar	ndy Mucky Minera	al (S1)	, Dep	leted Da	rk Surfa	ce (F7)	hydrology n	nust be present, unless disturbed	d or
5 ci	m Mucky Peat or	Peat (S3	) <u>Rec</u>	lox Depr	essions (	(F8)		problematic	
Restrictive	Layer (if observe	ed):							
Туре:					-		Hydric soil p	resent? N	
Depth (inche	es):				_				
HYDROL Wetland Hy Primary Indi Surface	DGY drology Indicato cators (minimum Water (A1)	ors: of one is	required; check	<u>all that a</u> Aquatic	<u>pply)</u> Fauna (B	13)	<u>Seconda</u> Su	ry Indicators (minimum of two re	equired
High Wa	ater Table (A2)			True Aq	uatic Plar	nts (B14)	Dra	ainage Patterns (B10)	
Saturati	on (A3)			Hydroge	n Sulfide	Odor (C	1) Dr	y-Season Water Table (C2)	
Water N	larks (B1)			Oxidized	l Rhizosp	heres on	Living Roots Cra	ayfish Burrows (C8)	(00)
Seaimei	nt Deposits (B2)			(C3) Procone	o of Podu	ucod Iron	(C4) Sa	ituration Visible on Aerial Imagery	(C9)
	at or Crust (B4)			Recent I	ron Redu	uction in T	(C4) Silled Soils Ge	amorphic Position (D2)	
Iron Der	(B5)			(C6)	Ion Roud		FA	C-Neutral Test (D5)	
Inundati	on Visible on Aeria	al Imager	y (B7)	Thin Mu	ck Surfac	e (C7)			
Sparsel	Vegetated Conca	ave Surfa	ce (B8)	Gauge o	r Well Da	ata (D9)			
Water-S	tained Leaves (B9	)		Other (E	xplain in	Remarks	.)		
Field Obse	vations:								
Surface wat	er present?	Yes	No	Х	Depth (i	nches):			
Water table	present?	Yes	No	X	Depth (i	nches):		Indicators of wetland	
Saturation p	resent?	Yes	No	Х	Depth (i	nches):		hydrology present? N	
(includes ca	pillary fringe)								
Describe re	corded data (strea	am gauge	e, monitoring well	, aerial p	hotos, pi	revious ii	nspections), if availa	ble:	
Remarks:									
Saturation	and/or a water	r table v	vere not able to	be obs	served.	as the	water was frozen	at the time of the site visit.	
					,				
IC Armir C	orns of Engine	orc						Midwast Daa	ion
55 Anny C	or ha or cliging	615						ivituwest Reg	1011

WETLAND DETERMINA		ATA FORM	I - Midwest Regio	on	
Project/Site 85th Street Interchange	City/0	County:	Lincoln County	Sampling Date:	11/13/18
Applicant/Owner: 85th Street Business District Joint Venture Grou	ıp	State:	South Dakota	Sampling Point:	4-W
Investigator(s): Rebecca Beduhn		Section	on, Township, Range	: T100NS1	18R50W
Landform (hillslope, terrace, etc.): toeslope		Local	relief (concave, conve	ex, none):	Concave
Slope (%): 1 Lat: 43.48211507		Long:	-96.79428685	Datum: UTM NA	AD 83 Zone 14N
Soil Map Unit Name Chancellor-Tetonka complex, 0 to 2 percent slop	pes		NWI Classific	ation: N	√one
Are climatic/hydrologic conditions of the site typical for this time of the	ie year?	-	Y (If no, expl	ain in remarks)	
Are vegetation, soil, or hydrologys	ignificant	ly disturbed?			
Are vegetation , soil , or hydrology n	naturally p	oroblematic?	Are "no	rmal circumstances"	present? Yes
SUMMARY OF FINDINGS			(If need	led, explain any answ	ers in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? Y		Is the sa	ampled area within a	a wetland?	Y
Indicators of wetland hydrology present? Y		lf yes, op	tional wetland site ID	: Wetland 4	
Remarks: (Explain alternative procedures here or in a separate repo	rt.)				
VEGETATION Use scientific names of plants.					
	Absolute	Dominan	Indicator Domina	ance Test Workshee	t
<u>Tree Stratum</u> (Plot size: <u>30' Radius</u> )	% Cover	t Species	Status Numbe	er of Dominant Species	i
			that are	∋ OBL, FACW, or FAC	1 (A)
			Tota	al Number of Dominant	
			Sp	ecles Across all Strata.	<u> </u>
5		<u> </u>	Percer that are	e OBL. FACW, or FAC	50.00% (A/B)
	0	= Total Cover			(,,,,,)
			Prevale	ence Index Workshe	et
1			Total %	Cover of:	
2			OBL sp	ecies <u>0</u> x1	= 0
3			FACW	species <u>30</u> x 2	= 60
			FAC sp	ecles $5 \times 3$	= 15
	0	= Total Cover	FACU S	species $10 \times 4$	$= \frac{40}{0}$
Herb stratum (Plot size: 5' Radius )	0		Column	$1 \text{ totals} = \frac{1}{45} \text{ (A)}$	- <u> </u>
1 Zea mays Corn	60	Y	NI Prevale	ence Index = $B/A =$	2.56
2 Phalaris arundinacea Reed Canary Grass	30	Y	FACW		
3 Arctium minus Lesser Burrdock	10	N	FACU Hydrop	hytic Vegetation Ind	licators:
4 Rumex crispus Curly Dock	5	Ν	FAC Rap	oid test for hydrophytic	c vegetation
5			Dor	minance test is >50%	
<u> </u>		. <u> </u>	X_Pre	valence index is ≤3.0 <sup>3</sup>	۴
		<u> </u>	Mo	rphological adaptation	s* (provide
9			sup	porting data in Remai	ks of on a
10			Pro	blematic hydrophytic	vegetation*
	105	= Total Cover	(ex	plain)	rogotation
Woody vine stratum (Plot size: 30' Radius )			*Indicat	ors of hydric soil and wetle	and hydrology must be
1				present, unless disturbed	or problematic
2			Hyo	drophytic	
	0	= Total Cover	veç	sent? Y	
Pemarke: (Include photo pumboro boro or on a constate aboat)			pic		-
Note: This data sheet has been adapted to use the 2012 National Wetla	ind Plant L	_ist:			
Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: Nationa Engineers, Engineer Research and Development Center, Cold Regions Research a.	nl Wetland P nd Enginee	Plant List, version ring Laboratory,	n 2.4.0 (https://wetland_pla Hanover, NH, and BONA	ants.usace.army.mil). U.S. P, Chapel Hill, NC. (2012)	Army Corps of

Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm the ab	sence of indicators.)
Depth	Matrix		Re	dox Feat	ures			
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks
0-14	10YR 2/1	90	10YR 4/6	10	С	М	Silty Clay Loam	
*Type: C = 0	Concentration, D :	= Depleti	ion, RM = Reduc	ed Matrix	k, MS = №	lasked S	and Grains. **Lo	cation: PL = Pore Lining, M = Matrix
Hydric So	oil Indicators:		_				Indicators for F	Problematic Hydric Soils:
His	tosol (A1)		Sa	ndy Gleye	ed Matrix	: (S4)	Iron-Mangai	nese Masses (F12) ( <b>LRR K, L, M</b> )
His	tic Epipedon (A2)		Sa	ndy Redo	ox (S5)		Very Shallov	w Dark Surface (F22)
Bia	CK HISTIC (A3)	I)	Str	pped Ma	itrix (S6)			ain in remarks)
	arogen Sunde (A4	+) \	Da	rk Suriac	e (57) kv Miner	J (⊑1)		
2 0	m Muck (Δ10)	)	Loa	anny Muci amv Glev	ed Matrix	(F2)		
Der	pleted Below Dark	Surface	e (A11) De	oleted Ma	atrix (F3)	( ( <i>L</i> )		
	ck Dark Surface (	A12)	X Re	dox Dark	Surface	(F6)	*Indicators of	hydrophytic vegetation and wetland
Sar	ndy Mucky Minera	í (S1)	De	pleted Da	ark Surfa	ce (F7)	hydrology m	ust be present, unless disturbed or
5 c	m Mucky Peat or	Peat (S3	3) Re	dox Depr	essions (	(F8)	, ,,	problematic
Restrictive	l aver (if observe	-d).				1		
Type:							Hydric soil pr	esent? Y
Depth (inche	es):				-			
	<i>,</i>				-			
HYDROL	DGY							
Wetland Hy	drology Indicato	ors:						
Primary Indi	cators (minimum	of one is	s required; check	all that a	pply)		Secondar	y Indicators (minimum of two required
X Surface	Water (A1)			Aquatic	Fauna (B	13)	Sur	face Soil Cracks (B6)
High Wa	ater Table (A2) $(A3)$			I rue Aq	uatic Plar	Odor(C)	Dra	Inage Patterns (B10)
Water M	larks (B1)		·	Oxidized	l Rhizosn	heres on	Living Roots Cra	vfish Burrows (C8)
Sedime	nt Deposits (B2)			(C3)			Sat	uration Visible on Aerial Imagery (C9)
Drift De	posits (B3)			Presenc	e of Redu	uced Iron	(C4) Stu	nted or Stressed Plants (D1)
Algal Ma	at or Crust (B4)			Recent	Iron Redu	iction in T	illed Soils X Geo	omorphic Position (D2)
Iron Dep	oosits (B5)			(C6)			FAG	C-Neutral Test (D5)
Inundati	on Visible on Aeria	I Imager	y (B7)	Thin Mu	ck Surfac	e (C7)		
Sparser	vegetated Conce	ive Suna \		Gauge C	or well Da Ivolain in	ila (D9) Romarks	)	
		/				. Cindiks	/	
Surface wat	er present?	Yee	X No		Denth (i	nches).	1	
Water table	present?	Yes		X	Depth (i	nches):	<u> </u>	Indicators of wetland
Saturation p	resent?	Yes	No	X	Depth (i	nches):		hydrology present? Y
(includes ca	pillary fringe)					,	<u> </u>	
Describe re	corded data (strea	am gaug	e, monitoring wel	l, aerial p	hotos, p	revious ir	nspections), if availab	le:
Remarks:								
Saturation	and/or a water	table v	were not able t	be ob	served,	as the	water was frozen a	at the time of the site visit.

WETLAND DETERMINA	TION D	ATA FORM	I - Midwest F	Region			
Project/Site 85th Street Interchange	City/0	County:	Lincoln County	y Sam	pling Date:	11/13/18	
Applicant/Owner: 85th Street Business District Joint Venture Grou	ıp	State:	South Dako	ota Samp	ling Point:	5-U	
Investigator(s): Rebecca Beduhn		Section	on, Township, F	Range:	T100NS19	9R50W	
Landform (hillslope, terrace, etc.): footslope		Local	relief (concave,	convex, none	e):	None	
Slope (%): 2 Lat: 43.47519242		Long:	-96.79443002	2 Datu	m: UTM NA	D 83 Zone 14	ŧΝ
Soil Map Unit Name Egan-Chancellor silty clay loams, 0 to 4 percent	slopes		NWI Cla	assification:	N	one	
Are climatic/hydrologic conditions of the site typical for this time of th	ie year?		Y (If no	o, explain in re	emarks)		
Are vegetation , soil , or hydrology s	ignificant	ly disturbed?					
Are vegetation , soil , or hydrology n	aturally p	roblematic?	А	re "normal ci	rcumstances" p	resent? Yes	s
SUMMARY OF FINDINGS			(It	f needed, exp	lain any answe	rs in remarks	;.)
Hydrophytic vegetation present? N							
Hydric soil present? N		Is the sa	ampled area w	ithin a wetla	nd?	Ν	
Indicators of wetland hydrology present? N		lf yes, op	tional wetland s	site ID:			
Remarks: (Explain alternative procedures here or in a separate repo	rt)						
VEGETATION Liss scientific names of plants							
	Abcoluto	Dominan	Indicator D	ominance Te	est Worksheet		
Tree Stratum (Plot size: 30' Radius )	% Cover	t Species	Status	Number of Do	minant Species		
1		I	t	hat are OBL, I	FACW, or FAC:	0 (	(A)
2				Total Numb	per of Dominant	`	. ,
3				Species A	cross all Strata:	1 (	(B)
4				Percent of Do	minant Species		
5			t	hat are OBL, I	FACW, or FAC:	0.00% (	(A/B)
_	0	= Total Cover			<u> </u>		
Sapling/Shrub stratum (Plot size: 15' Radius )				revalence In	dex Workshee	t	
				Olal % Cover	01: 0 v 1 :	= 0	
3		·	E	ACW species	$\frac{0}{10}$ x 2 :	= 0	
4			F.	AC species	$\frac{0}{0}$ x 3 ;	= 0	
5		·	F/	ACU species	0 x 4 :	= 0	
	0	= Total Cover	U	PL species	0 x 5 :	= 0	
Herb stratum (Plot size: 5' Radius )			С	olumn totals	0 (A)	0 (	(B)
1 Glycine max Soybeans	60	Y	NI P	revalence Ind	lex = B/A =		
2							
			H	ydrophytic V	egetation Indi	cators:	
4 <u></u>				Rapid test	tor nyaropnytic	vegetation	
			<u> </u>	 Prevalence	= index is <3.0*		
7				Morpholog	ical adaptation	o* (provido	
8				supporting	data in Remark	ks or on a	
9		·		separate s	heet)		
10				Problemati	c hydrophytic v	egetation*	
	60	= Total Cover		(explain)			
<u>Woody vine stratum</u> (Plot size: <u>30' Radius</u> )			,	*Indicators of hy	dric soil and wetlan	nd hydrology mus	st be
				present,	unless disturbed or	r problematic	
2		<u></u>		vegetation	แต า		
	0	= I otal Cover		present?	N		
Remarks: (Include photo numbers here or on a separate sheet)				-			
Note: This data sheet has been adapted to use the 2012 National Wetla	nd Plant L	list:					
Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: Nationa Engineers, Engineer Research and Development Center, Cold Regions Research and	I Wetland P nd Enginee	'lant List, versioi ring Laboratory,	n 2.4.0 (https://wetl Hanover, NH, and	land_plants.usad I BONAP, Chape	≿e.army.mil). U.S. A ≱I Hill, NC. (2012)	army Corps of	

Depth (Inches)       Matrix Color (moist)       Redox Features Color (moist)       Type*       Loc**       Texture       Rem:         0-10       10YR 2/2       100       Silty Clay Loam       Si	arks
(Inches)       Color (moist)       %       Color (moist)       %       Type*       Loc**       Texture       Rem:         0-10       10YR 2/2       100       Sitty Clay Loam       Sitty Clay Loam       Image: Clay Clay Loam       Image: Clay Clay Clay Loam       Image: Clay Clay Clay Clay Loam       Image: Clay Clay Clay Clay Clay Clay Clay Clay	arks 
0-10       10YR 2/2       100       Silty Clay Loam         Image: Construction of the second	<u>ng, M = Matrix</u> bils: RR K, L, M)
*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.       **Location: PL = Pore Linir         *Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.       **Location: PL = Pore Linir         Hydric Soil Indicators:       Indicators for Problematic Hydric Sci         Histosol (A1)       Sandy Gleyed Matrix (S4)         Histosol (A1)       Sandy Gleyed Matrix (S6)         Histosol (A1)       Sandy Gleyed Matrix (S6)         Histosol (A1)       Sandy Redox (S5)         Histosol (A1)       Sandy Redox (S5)         Grave Stratified Layers (A5)       Dark Surface (S7)         Loamy Gleyed Matrix (S6)       Other (explain in remarks)         Hydrogen Sulfide (A4)       Dark Surface (S7)         Loamy Gleyed Matrix (F3)       *Indicators of hydrophytic vegetation         Thick Dark Surface (A11)       Depleted Matrix (F3)         Thick Dark Surface (A12)       Redox Dark Surface (F6)         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F7)         Sandy Mucky Peat or Peat (S3)       Redox Depressions (F8)         Restrictive Layer (if observed):       Type:         Type:       Hydric soil present?	ng, M = Matrix <b>bils:</b> <b>R K, L, M</b> )
Image: Stratified Layers (A5)       Stratified Layers (A5)       Stratified Layers (A5)       Loamy Mucky Mineral (F1)         2 cm Mucky Mineral (S1)       Depleted Matrix (F3)       Thick Dark Surface (A12)       Redox Dark Surface (F6)       *Indicators of hydrophytic vegetation hydrology must be present, unless problematic         Restrictive Layer (if observed):       Type:       Hydric soil present?       N	ng, M = Matrix <b>&gt;ils:</b> <b>RR K, L, M</b> )
'Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.       **Location: PL = Pore Linir         Hydric Soil Indicators:       Indicators:       Indicators for Problematic Hydric Sc         Histic Spipedon (A2)       Sandy Gleyed Matrix (S4)       Iron-Manganese Masses (F12) (LF         Black Histic (A3)       Stripped Matrix (S6)       Very Shallow Dark Surface (F22)         Black Histic (A3)       Dark Surface (S7)       Other (explain in remarks)         Yudary Gleyed Matrix (F2)       Depleted Matrix (F3)       Thick Dark Surface (A11)         Depleted Below Dark Surface (A12)       Redox Dark Surface (F6)       *Indicators of hydrophytic vegetation hydrology must be present, unless problematic         Startified Layers (if observed):       Restrictive Layer (if observed):       Popleted Matrix (F3)       *Indicators of hydrophytic vegetation hydrology must be present, unless problematic	ng, M = Matrix bils: RR K, L, M)
*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.       **Location: PL = Pore Linir         Hydric Soil Indicators:       Indicators for Problematic Hydric Sc         Histosol (A1)       Sandy Gleyed Matrix (S4)         Histic Epipedon (A2)       Sandy Redox (S5)         Black Histic (A3)       Stripped Matrix (S6)         Hydrogen Sulfide (A4)       Dark Surface (S7)         Stratified Layers (A5)       Loamy Mucky Mineral (F1)         2 cm Muck (A10)       Depleted Matrix (F3)         Thick Dark Surface (A12)       Redox Dark Surface (F6)         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F7)         Strittice Layer (if observed):       Redox Depressions (F8)         Type:       Hydric soil present?	ng, M = Matrix bils: RR K, L, M)
*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.       **Location: PL = Pore Linir         Hydric Soil Indicators:       Indicators for Problematic Hydric Sc         Histosol (A1)       Sandy Gleyed Matrix (S4)         Histosol (A1)       Sandy Redox (S5)         Histo (A2)       Sandy Redox (S5)         Black Histic (A3)       Stripped Matrix (S6)         Hydrogen Sulfide (A4)       Dark Surface (S7)         Loamy Mucky Mineral (F1)       Loamy Gleyed Matrix (F2)         Depleted Below Dark Surface (A11)       Depleted Matrix (F3)         Thick Dark Surface (A12)       Redox Dark Surface (F7)         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F7)         Strictive Layer (if observed):       Redox Depressions (F8)         Type:       Hydric soil present?	ng, M = Matrix bils: RR K, L, M)
*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.       **Location: PL = Pore Linir         Hydric Soil Indicators:       Indicators for Problematic Hydric Sc         Histosol (A1)       Sandy Gleyed Matrix (S4)       Iron-Manganese Masses (F12) (LF         Histic Epipedon (A2)       Sandy Redox (S5)       Very Shallow Dark Surface (F22)         Black Histic (A3)       Stripped Matrix (S6)       Other (explain in remarks)         Hydrogen Sulfide (A4)       Dark Surface (S7)       Other (explain in remarks)         Stratified Layers (A5)       Loamy Mucky Mineral (F1)       Loamy Gleyed Matrix (F2)         Depleted Below Dark Surface (A11)       Depleted Matrix (F3)       *Indicators of hydrophytic vegetation         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F7)       *Indicators of hydrophytic vegetation         Sandy Mucky Peat or Peat (S3)       Redox Depressions (F8)       *Indicators of hydrophytic vegetation         hydrology must be present, unless problematic       problematic         Type:       Hydric soil present?       N	ng, M = Matrix bils: RR K, L, M)
*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.       **Location: PL = Pore Linir         Hydric Soil Indicators:       Indicators for Problematic Hydric Sc         Histosol (A1)       Sandy Gleyed Matrix (S4)       Iron-Manganese Masses (F12) (LF         Histic Epipedon (A2)       Sandy Redox (S5)       Very Shallow Dark Surface (F22)         Black Histic (A3)       Stripped Matrix (S6)       Other (explain in remarks)         Hydrogen Sulfide (A4)       Dark Surface (S7)       Other (explain in remarks)         Stratified Layers (A5)       Loamy Mucky Mineral (F1)       Loamy Gleyed Matrix (F2)         Depleted Below Dark Surface (A11)       Depleted Matrix (F3)       *Indicators of hydrophytic vegetation         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F6)       *Indicators of hydrophytic vegetation         Sandy Mucky Peat or Peat (S3)       Redox Depressions (F8)       problematic         Restrictive Layer (if observed):       Type:       Hydric soil present?       N	ng, M = Matrix bils: RR K, L, M)
*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.       **Location: PL = Pore Linir         Hydric Soil Indicators:       Indicators for Problematic Hydric Sc         Histosol (A1)       Sandy Gleyed Matrix (S4)       Iron-Manganese Masses (F12) (LF         Histic Epipedon (A2)       Sandy Redox (S5)       Very Shallow Dark Surface (F22)         Black Histic (A3)       Stripped Matrix (S6)       Other (explain in remarks)         Hydrogen Sulfide (A4)       Dark Surface (S7)       Other (explain in remarks)         Stratified Layers (A5)       Loamy Mucky Mineral (F1)       Loamy Gleyed Matrix (F2)         Depleted Below Dark Surface (A11)       Depleted Matrix (F3)       *Indicators of hydrophytic vegetation         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F7)       hydrology must be present, unless problematic         Sandy Mucky Peat or Peat (S3)       Redox Depressions (F8)       problematic         Type:       Hydric soil present?       N	ng, M = Matrix bils: RR K, L, M)
"Lype: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.       "Location: PL = Pore Linit"         Hydric Soil Indicators:         Histosol (A1)       Sandy Gleyed Matrix (S4)       Indicators for Problematic Hydric Sc         Histic Epipedon (A2)       Sandy Redox (S5)       Very Shallow Dark Surface (F22)         Black Histic (A3)       Stripped Matrix (S6)       Other (explain in remarks)         Hydrogen Sulfide (A4)       Dark Surface (S7)       Other (explain in remarks)         Stratified Layers (A5)       Loamy Mucky Mineral (F1)       Cam Muck (A10)       Loamy Gleyed Matrix (F2)         Depleted Below Dark Surface (A11)       Depleted Matrix (F3)       *Indicators of hydrophytic vegetation hydrophytic vegetation         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F7)       *Indicators of hydrophytic vegetation hydrology must be present, unless problematic         Setrictive Layer (if observed):         Type:       Hydric soil present?       N	ng, M = Matrix Dils: RR K, L, M)
Hydric Son mulcators.       Sandy Gleyed Matrix (S4)       Iron-Manganese Masses (F12) (LF         Histic Epipedon (A2)       Sandy Redox (S5)       Very Shallow Dark Surface (F22)         Black Histic (A3)       Stripped Matrix (S6)       Other (explain in remarks)         Hydrogen Sulfide (A4)       Dark Surface (S7)       Other (explain in remarks)         Stratified Layers (A5)       Loamy Mucky Mineral (F1)       Other (explain in remarks)         Depleted Below Dark Surface (A11)       Depleted Matrix (F2)       Other (explain in remarks)         Thick Dark Surface (A12)       Redox Dark Surface (F6)       *Indicators of hydrophytic vegetation hydrophytic vegetation problematic         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F7)       *Indicators of hydrophytic vegetation hydrology must be present, unless problematic         Restrictive Layer (if observed):       Type:       Hydric soil present?       N	RR K, L, M)
Histosof (A1)       Coandy Cicyed Matrix (C4)       Individuality (C4)         Histosof (A1)       Sandy Redox (S5)       Very Shallow Dark Surface (F22)         Black Histic (A3)       Stripped Matrix (S6)       Other (explain in remarks)         Hydrogen Sulfide (A4)       Dark Surface (S7)       Other (explain in remarks)         Stratified Layers (A5)       Loamy Mucky Mineral (F1)       Other (explain in remarks)         Depleted Below Dark Surface (A11)       Depleted Matrix (F3)       *Indicators of hydrophytic vegetation hydrophytic vegetation         Thick Dark Surface (A12)       Redox Dark Surface (F6)       *Indicators of hydrophytic vegetation hydrology must be present, unless problematic         Sandy Mucky Peat or Peat (S3)       Redox Depressions (F8)       Hydric soil present?         N       N	((( ( ( , L , III )
Black Histic (A3)       Stripped Matrix (S6)       Other (explain in remarks)         Hydrogen Sulfide (A4)       Dark Surface (S7)         Stratified Layers (A5)       Loamy Mucky Mineral (F1)         2 cm Muck (A10)       Loamy Gleyed Matrix (F2)         Depleted Below Dark Surface (A11)       Depleted Matrix (F3)         Thick Dark Surface (A12)       Redox Dark Surface (F6)         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F7)         5 cm Mucky Peat or Peat (S3)       Redox Depressions (F8)         Hydric soil present? N	
Hydrogen Sulfide (A4)       Dark Surface (S7)         Stratified Layers (A5)       Loamy Mucky Mineral (F1)         2 cm Muck (A10)       Loamy Gleyed Matrix (F2)         Depleted Below Dark Surface (A11)       Depleted Matrix (F3)         Thick Dark Surface (A12)       Redox Dark Surface (F6)         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F7)         5 cm Mucky Peat or Peat (S3)       Redox Depressions (F8)         Hydric soil present? N	
Stratified Layers (A5)       Loamy Mucky Mineral (F1)         2 cm Muck (A10)       Loamy Gleyed Matrix (F2)         Depleted Below Dark Surface (A11)       Depleted Matrix (F3)         Thick Dark Surface (A12)       Redox Dark Surface (F6)         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F7)         5 cm Mucky Peat or Peat (S3)       Redox Depressions (F8)         Hydric soil present? N	
2 cm Muck (A10)       Loamy Gleyed Matrix (F2)         Depleted Below Dark Surface (A11)       Depleted Matrix (F3)         Thick Dark Surface (A12)       Redox Dark Surface (F6)         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F7)         5 cm Mucky Peat or Peat (S3)       Redox Depressions (F8)         Hydric soil present? N	
Depleted Below Dark Surface (A11)       Depleted Matrix (F3)         Thick Dark Surface (A12)       Redox Dark Surface (F6)         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F7)         5 cm Mucky Peat or Peat (S3)       Redox Depressions (F8)         Hydric soil present? N	
Thick Dark Surface (A12)       Redox Dark Surface (F6)       *Indicators of hydrophytic vegetatior         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F7)       hydrology must be present, unless         5 cm Mucky Peat or Peat (S3)       Redox Depressions (F8)       problematic         Hydric soil present? N	
Sandy Mucky Mineral (S1)       Depleted Dark Surface (F7)       hydrology must be present, unless         5 cm Mucky Peat or Peat (S3)       Redox Depressions (F8)       problematic         Restrictive Layer (if observed):         Type:       Hydric soil present?       N	1 and wetland
S cm Mucky Peat or Peat (S3)    Redox Depressions (F8)     problematic       Restrictive Layer (if observed):	disturbed or
Restrictive Layer (if observed):         Type:	
Type: Hydric soil present? N	
Depth (inches):	
HYDROLOGY	
Wetland Hydrology Indicators:	-
Primary Indicators (minimum of one is required: check all that apply) Secondary Indicators (minimum	of two required
Surface Water (A1) Aquatic Fauna (B13) Surface Soil Cracks (B6)	
High Water Table (A2)     True Aquatic Plants (B14)     Drainage Patterns (B10)	
Saturation (A3)       Hydrogen Sulfide Odor (C1)       Dry-Season Water Table (C	22)
Water Marks (B1) Oxidized Rhizospheres on Living Roots Crayfish Burrows (C8)	(00)
Sediment Deposits (B2) (C3) Saturation Visible on Aerial Sturation Vis	Imagery (C9)
Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils Geomorphic Position (D2)	(01)
Iron Deposits (B5) (C6) FAC-Neutral Test (D5)	
Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7)	
Sparsely Vegetated Concave Surface (B8) Gauge or Well Data (D9)	
Water-Stained Leaves (B9) Other (Explain in Remarks)	
Field Observations:	
Surrace water present? Yes No X Depth (inches):	nd
Saturation present? Yes No X Depth (inches): hvdrology present	? N
Saturation present? Yes No X Depth (inches): hydrology present (includes capillary fringe)	!? <u>N</u>
Saturation present?       Yes       No       X       Depth (inches):       hydrology present         (includes capillary fringe)       Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Image: Constraint of the stream gauge is a stream gauge in the stream gauge in the stream gauge in the stream gauge in t	? <u>N</u>
Saturation present?       Yes       No       X       Depth (inches):       hydrology present         (includes capillary fringe)       Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Remarks:	N
Saturation present?       Yes       No       X       Depth (inches):       hydrology present         (includes capillary fringe)       Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Remarks:         Remarks:       Saturation and/or a water table were not able to be observed, as the water was frozen at the time of the site	e visit.
Saturation present?       Yes       No       X       Depth (inches):       hydrology present         (includes capillary fringe)       Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Remarks:         Remarks:       Saturation and/or a water table were not able to be observed, as the water was frozen at the time of the site	e visit.
Saturation present?       Yes       No       X       Depth (inches):       hydrology present         (includes capillary fringe)       Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Remarks:         Remarks:       Saturation and/or a water table were not able to be observed, as the water was frozen at the time of the site	e visit.
Saturation present?       Yes       No       X       Depth (inches):       hydrology present         includes capillary fringe)       Depth (inches):	e visit.

WETLAND DETERMIN	ATION D	ATA FORM	1 - Midwest	t Region				
Project/Site 85th Street Interchange	City/	County:	Lincoln Cou	nty	Sampling	) Date:	11/13/18	
Applicant/Owner: 85th Street Business District Joint Venture Gro	oup	State:	South Dal	kota	Sampling	Point:	5-W	
Investigator(s): Rebecca Beduhn		Secti	on, Township	, Range:		T100NS19	R50W	
Landform (hillslope, terrace, etc.): Toeslope		Local	relief (concav	e, convex,	none):	Co	ncave	
Slope (%): 1 Lat: 43.47511001		Long:	-96.794443	33	Datum:	UTM NAD	83 Zone 14	4N
Soil Map Unit Name Egan-Chancellor silty clay loams, 0 to 4 percent	nt slopes		NWI C	Classificati	on:	No	ne	
Are climatic/hydrologic conditions of the site typical for this time of	the year?		Y (lf	no, explair	n in remai	rks)		
Are vegetation, soil, or hydrology	significant	ly disturbed?						
Are vegetation, soil, or hydrology	naturally p	oroblematic?		Are "norm	nal circum	nstances" pro	esent? Ye	s
SUMMARY OF FINDINGS				(If needed	l, explain	any answers	s in remarks	s.)
Hydrophytic vegetation present? Y								
Hydric soil present? Y		Is the sa	ampled area	within a w	vetland?		Y	
Indicators of wetland hydrology present? Y		If yes, op	otional wetland	d site ID:	We	etland 5		
Remarks: (Explain alternative procedures here or in a separate rep	ort.)							
	,							
VEGETATION Use scientific names of plants.								
	Absolute	Dominan	Indicator	Dominan	ce Test V	Norksheet		
<u>Tree Stratum</u> (Plot size: <u>30' Radius</u> )	% Cover	t Species	Status	Number	of Domina	ant Species		
1				that are C	OBL, FAC	W, or FAC:	2	(A)
				Total	Number o	f Dominant	•	
		<u> </u>		Spec	ies Acros	s all Strata:	2	(B)
5		······································		Percent that are (	OF Domina	W or FAC:	100 00%	(Δ/R)
· · · · · · · · · · · · · · · · · · ·	0	= Total Cover			<i>DE</i> , 17(0)		100.0070	(///////
<u>Sapling/Shrub stratur</u> (Plot size: 15' Radius )				Prevalen	ce Index	Worksheet		
1				Total % C	over of:			
2				OBL spec	ies	90 x 1 =	90	
3				FACW sp	ecies	5 x 2 =	10	
4 <u></u>				FAC spec	ies	$10 \times 3 =$	30	
5		= Total Cover				0 x 4 =		
Herb stratum (Plot size: 5' Radius )				Column to	otals	105 (A)	130	(B)
1 Carex lacustris Lakebank Sedge	50	Y	OBI	Prevalenc	e Index =	= B/A =	1 24	( )
2 Alisma triviale Northern Water-Plantain	30	Y	OBL					
3 Rumex crispus Curly Dock	5	Ν	FAC	Hydrophy	ytic Vege	tation Indic	ators:	
4 Hordeum jubatum Fox-Tail Barley	5	Ν	FAC	Rapid	l test for h	nydrophytic v	regetation	
5 Persicaria lapathifolia Dock-Leaf Smartweed	5	N	FACW	X Domi	nance tes	st is >50%		
6 Scirpus atrovirens Dark-Green Bulrush	5	<u> </u>	OBL	X Preva	lence ind	lex is ≤3.0*		
Chroine max     Southeans     Southeans	5	<u> </u>	OBL	Morpl	nological	adaptations*	(provide	
9 Soybeans				separ	ate sheet	a in Remarks t)	sorona	
10				Proble	ematic hv	., drophytic ve	detation*	
	110	= Total Cover	-	(expla	ain)		9010100	
Woody vine stratum (Plot size: 30' Radius )				*Indicators	s of hvdric s	oil and wetland	hvdroloav mu	ust be
1				pre	esent, unles	ss disturbed or	problematic	
2				Hydro	ophytic			
	0	= Total Cover	-	prese	ation ant?	Y		
Pemarke: (Include photo pumboro boro or on a concrete abact)				p.030		<u> </u>		
Note: This data sheet has been adapted to use the 2012 National Wet	land Plant I	_ist:						
Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: Nation Engineers, Engineer Research and Development Center, Cold Regions Research	nal Wetland F and Enginee	Plant List, version pring Laboratory,	n 2.4.0 (https://w Hanover, NH, a	vetland_plant nd BONAP,	s.usace.arr Chapel Hill,	ту.тіl). U.S. Aı , NC. (2012)	my Corps of	

Profile Des	cription: (Descri	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm the a	bsence of indicators.)
Depth	Matrix		Re	dox Feat	ures			
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks
0-16	7.5YR 3/1	95	7.5YR 5/6	5	С	М	Silty Clay Loam	
*Type: C = 0	Concentration, D =	= Depleti	ion, RM = Reduc	ed Matrix	k, MS = №	lasked S	and Grains. **L	ocation: PL = Pore Lining, M = Matrix
Hydric So	oil Indicators:		_				Indicators for	Problematic Hydric Soils:
His	tosol (A1)		Sa	ndy Gleye	ed Matrix	: (S4)	Iron-Manga	anese Masses (F12) ( <b>LRR K, L, M</b> )
His	tic Epipedon (A2)		Sa	ndy Redo	ox (S5)		Very Shall	ow Dark Surface (F22)
Bla	CK HISTIC (A3)		Str	ipped Ma	itrix (S6)		Other (exp	lain in remarks)
Hyo Str	arogen Sulfide (A4	+)		rk Surrac	e (S7) ku Minor			
	m Muck (A10)	)	Loa	arriy Muci	ny Matrix	ai (F1) 2 (E2)		
2 U	nimuck (ATU) Deted Below Dark	Surface	Δ11) <u> </u>	nleted Ma	eu Main atrix (F3)	( ( 1 <i>Z</i> )		
	ck Dark Surface (	A12)		dox Dark	Surface	(F6)	*Indicators of	of hydrophytic vegetation and wetland
Sar	ndv Muckv Minera	I (S1)	De	pleted Da	ark Surfa	(F7)	hvdrology r	must be present. unless disturbed or
5 ci	m Mucky Peat or I	, Peat (S3	3) Re	dox Depr	essions (	(F8)		problematic
Restrictive	l aver (if observe	<u>,</u>						
Type <sup>.</sup>							Hydric soil n	resent? Y
Depth (inche	es):				-		ngane con p	
- ~	, <u> </u>				-			
HYDROL	DGY							
Wetland Hy	drology Indicato	ors:						
Primary Indi	cators (minimum	of one is	s required; check	all that a	pply)		Seconda	ary Indicators (minimum of two required
X Surface	Water (A1)			Aquatic	Fauna (B	13)		urface Soil Cracks (B6)
High Wa	ater Table (A2)			I rue Aq	uatic Plar	its (B14) $Odor (C'$		anage Patterns (B10)
Water M	larks (B1)		·	Oxidized	l Rhizosn	heres on	Living Roots Cr	avfish Burrows (C8)
Sedime	nt Deposits (B2)			(C3)			Sa	aturation Visible on Aerial Imagery (C9)
Drift De	posits (B3)			Presenc	e of Redu	uced Iron	(C4) St	unted or Stressed Plants (D1)
Algal Ma	at or Crust (B4)			Recent	Iron Redu	iction in T	illed Soils X Ge	eomorphic Position (D2)
Iron Dep	oosits (B5)			(C6)			X FA	AC-Neutral Test (D5)
Inundati	on Visible on Aeria	I Imager	y (B7)	Thin Mu	ck Surfac	e (C7)		
Sparser	vegetated Conca	ive Suna \		Gauge C	or well Da Syntain in	ila (D9) Romarks	)	
	nationa:	/				. Cindiks	/	
Surface wat	er present?	Yee	X No		Denth (i	nches).	3	
Water table	present?	Yes		X	Depth (i	nches):		Indicators of wetland
Saturation p	resent?	Yes	No	X	Depth (i	nches):		hydrology present? Y
(includes ca	pillary fringe)					,	<u> </u>	
Describe re	corded data (strea	am gaug	e, monitoring wel	l, aerial p	hotos, p	revious ir	nspections), if availa	ble:
Remarks:								
Saturation	and/or a water	table v	were not able t	o be ob	served,	as the	water was frozen	at the time of the site visit.

WETLAND DETERMINA	TION D	ATA FORM	I - Midwest I	Region			
Project/Site 85th Street Interchange	City/0	County:	Lincoln Count	y Samplir	ng Date:	11/13/18	
Applicant/Owner: 85th Street Business District Joint Venture Grou	q	State:	South Dake	ota Samplin	ig Point:	6-U	
Investigator(s): Rebecca Beduhn		Secti	on, Township, I	Range:	T100NS19	R50W	
Landform (hillslope, terrace, etc.): footslope		Local	relief (concave,	, convex, none):	1	√one	
Slope (%): 5 Lat: 43.47513194		Long:	-96.79269862	2 Datum:	UTM NAD	83 Zone 14	4N
Soil Map Unit Name Egan-Chancellor silty clay loams, 0 to 4 percent	t slopes		NWI Cla	assification:	No	ne	
Are climatic/hydrologic conditions of the site typical for this time of the	ne year?		Y (If no	o, explain in rem	arks)		
Are vegetation, soil, or hydrologys	significant	ly disturbed?					
Are vegetation , soil , or hydrology r	naturally p	roblematic?	A	re "normal circu	umstances" pre	esent? Ye	es
SUMMARY OF FINDINGS			(	f needed, explai	n any answers	s in remarks	s.)
Hydrophytic vegetation present? N							
Hydric soil present? N		Is the sa	ampled area w	vithin a wetland	?	N	
Indicators of wetland hydrology present? N		lf yes, op	tional wetland	site ID:			
Remarks: (Explain alternative procedures here or in a separate repo	rt.)						
	,						
VEGETATION Use scientific names of plants.							
	Absolute	Dominan	Indicator D	ominance Test	t Worksheet		
<u>Tree Stratum</u> (Plot size: 30' Radius )	% Cover	t Species	Status	Number of Domi	nant Species		
1			t	that are OBL, FA	CW, or FAC:	0	(A)
2				Total Number	of Dominant		
		·		Species Acro	ss all Strata:	1	(B)
4 <u></u> 5			I ,	Percent of Domi	nant Species	0.00%	(Δ/R)
	0	= Total Cover	· · ·			0.0070	(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
– Sapling/Shrub stratum (Plot size: 15' Radius )	0		P	Prevalence Inde	x Worksheet		
1 /			т	otal % Cover of:	:		
2			C	BL species	0 x 1 =	0	_
3			F	ACW species	0 x 2 =	0	
4			F	AC species	<u>0</u> x 3 =	0	
5		- Total Caver	ŀ	ACU species	$0 \times 4 =$	0	
Herb stratum (Plot size: 5' Radius )	0	= Total Cover		Column totals	$= \frac{c x}{0} \frac{0}{(\Delta)}$		(B)
1 Glucino max	50	V		Provalence Index	= B/A =		(0)
2	50	·		revalence index	- DIA -		
3			— н	lydrophytic Veg	getation Indic	ators:	
4				Rapid test for	r hydrophytic v	egetation	
5				Dominance te	est is >50%		
6				Prevalence ir	1dex is ≤3.0*		
				Morphologica	al adaptations*	(provide	
				supporting da	ata in Remarks	s or on a	
9 <u></u>					el) hydrophytic yc	actation*	
	50	= Total Cover		(explain)		geration	
– Woody vine stratum (Plot size: 30' Radius )				*Indicators of hydric		bydrology m	ust bo
1				present, unl	less disturbed or p	problematic	JSI DE
2				Hydrophytic			
	0	= Total Cover		vegetation	N		
				present?	<u> </u>		
Remarks: (Include photo numbers here or on a separate sheet)							
Note: This data sheet has been adapted to use the 2012 National Wetla	and Plant I	_ist:					
Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: Nationa Engineers, Engineer Research and Development Center. Cold Regions Research a	al Wetland F and Enginee	Plant List, versio ring Laboratorv.	n 2.4.0 (https://wet Hanover, NH, and	land_plants.usace.a I BONAP, Chapel H	army.mil). U.S. Ar Iill, NC. (2012)	my Corps of	

Depth (Inches) C	-		e depiñ needed	to docu	ment the	e indicat	or or confirm th	e absence	e of indicators.)
(Inches) C	Matrix		Re	dox Feat	ures				•
	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	;	Remarks
0-12	10YR 3/1	100					Silty Clay Loa	m	
-							<u> </u>		
*Type: C = Con	centration, D =	· Depleti	on, RM = Reduc	ed Matrix	., MS = №	lasked S	and Grains.	**Location	: PL = Pore Lining, M = Matrix
Hydric Soil Ir	ndicators:					( <b>a</b> 1)	Indicators	for Proble	matic Hydric Soils:
Histoso	ol (A1)		Sa	ndy Gleye	ed Matrix	: (S4)	Iron-Ma	inganese M	Masses (F12) ( <b>LRR K, L, M</b> )
Histic E	Epipedon (A2)		Sa	ndy Redo	ix (S5)		Very Sh	allow Darl	surface (F22)
Black H	Histic (A3)		Stri	pped Ma	trix (S6)		Other (e	explain in r	emarks)
Hydrog	jen Sulfide (A4	.)	Da	k Surfac	e (S7)				
Stratifie	ed Layers (A5)		Loa	my Mucl	ky Minera	al (F1)			
2 cm M	/luck (A10)		Loa	amy Gley	ed Matrix	(F2)			
Deplete	ed Below Dark	Surface	(A11)De	pleted Ma	atrix (F3)				
Thick D	Jark Surface (A	412)	Re	dox Dark	Surface	(F6)	*Indicator	rs of hydro	phytic vegetation and wetland
Sandy	Mucky Mineral	l (S1)	De	pleted Da	ark Surfa	ce (F7)	hydrolog	gy must be	present, unless disturbed or
5 cm M	lucky Peat or F	Peat (S3	) Re	dox Depr	essions (	(F8)		F	problematic
Restrictive Lav	ver (if observe	ed):							
Tvpe:	,- (						Hvdric so	il present	? N
Depth (inches):					-		,	•	
HYDROLOG	Y								
wetland Hydro									
Primary Indicate	<u>ors (minimum a</u>	rs:							
Surface Wa		<b>rs:</b> of one is	required; check	all that a	pply)		Seco	ndary Indio	ators (minimum of two required
	ater (A1)	r <b>s:</b> of one is	required; check	all that a	pply) Fauna (B	13)	Seco	ndary India Surface S	cators (minimum of two required oil Cracks (B6)
High Water	ater (A1) Table (A2)	r <b>s:</b> of one is	required; check	<u>all that a</u> Aquatic True Aq	pply) Fauna (B uatic Plar	13) nts (B14)	Seco	ndary India Surface S Drainage	cators (minimum of two required oil Cracks (B6) Patterns (B10)
High Water Saturation (A	ater (A1) Table (A2) A3)	rs: of one is	required; check	<u>all that a</u> Aquatic True Aq Hydroge	<u>pply)</u> Fauna (B uatic Plar n Sulfide	13) hts (B14) Odor (C1	<u>Seco</u>	ndary Indio Surface S Drainage Dry-Seaso	cators (minimum of two required oil Cracks (B6) Patterns (B10) on Water Table (C2)
High Water Saturation (/ Water Marks	ater (A1) Table (A2) A3) s (B1)	rs: of one is	required; check	<u>all that a</u> Aquatic True Aq Hydroge Oxidized	<u>pply)</u> Fauna (B uatic Plar n Sulfide I Rhizosp	13) hts (B14) Odor (C1 heres on	<u>Seco</u>	ndary India Surface S Drainage Dry-Seasa Crayfish E	cators (minimum of two required oil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8)
High Water Saturation (/ Water Marks Sediment D	ater (A1) Table (A2) (A3) s (B1) reposits (B2) ts (B3)	<b>rs:</b> of one is	required; check	all that a Aquatic True Aq Hydroge Oxidizeo (C3)	<u>pply)</u> Fauna (B uatic Plar n Sulfide I Rhizosp	13) hts (B14) Odor (C1 heres on	<u>Seco</u>	ndary India Surface S Drainage Dry-Seasa Crayfish E Saturation	cators (minimum of two required oil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) I Visible on Aerial Imagery (C9)
High Water Saturation (/ Water Marks Sediment D Drift Deposi	ater (A1) Table (A2) (A3) (s (B1) (reposits (B2) (ts (B3)) (c rust (B4))	rs: of one is	required; check	all that a Aquatic True Aq Hydroge Oxidized (C3) Presenc	<u>pply)</u> Fauna (B uatic Plar n Sulfide I Rhizosp e of Redu ron Redu	13) hts (B14) Odor (C1 heres on uced Iron	Seco	ndary India Surface S Drainage Dry-Seasa Crayfish E Saturatior Stunted o	cators (minimum of two required oil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) I Visible on Aerial Imagery (C9) Stressed Plants (D1)
High Water Saturation ( <i>i</i> Water Marks Sediment D Drift Deposi Algal Mat or	ater (A1) Table (A2) (A3) (s (B1) (reposits (B2)) (ts (B3) - Crust (B4) (ts (B5))	rs: <u>of one is</u>	required; check	all that a Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent I (C6)	<u>pply)</u> Fauna (B uatic Plar n Sulfide I Rhizosp e of Redu ron Redu	13) hts (B14) Odor (C1 heres on uced Iron uction in T	) Living Roots	ndary India Surface S Drainage Dry-Sease Crayfish E Saturatior Stunted o Geomorpl	cators (minimum of two required oil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) I Visible on Aerial Imagery (C9) Stressed Plants (D1) nic Position (D2) ral Test (D5)
High Water Saturation ( Water Marks Sediment D Drift Deposi Algal Mat or Iron Deposit	ater (A1) Table (A2) (A3) (s (B1) (reposits (B2)) (ts (B3) (r Crust (B4)) (ts (B5) (/isible on Aeria)	rs: of one is	required; check	all that a Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu	<u>pply)</u> Fauna (B uatic Plar en Sulfide I Rhizosp e of Redu ron Redu ck Surfac	13) nts (B14) Odor (C1 heres on uced Iron uction in T ce (C7)	) Living Roots	ndary India Surface S Drainage Dry-Sease Crayfish E Saturatior Stunted o Geomorpl FAC-Neut	cators (minimum of two required oil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) I Visible on Aerial Imagery (C9) r Stressed Plants (D1) nic Position (D2) ral Test (D5)
High Water Saturation ( Water Marks Sediment D Drift Deposi Algal Mat or Iron Deposit Inundation V Sparsely Ve	ater (A1) Table (A2) (A3) (s (B1) (peposits (B2)) (ts (B3) (r Crust (B4)) (ts (B5) (Jisible on Aerial) (sigetated Concar	rs: of one is I Imagery ve Surfac	required; check	all that a Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge o	pply) Fauna (B uatic Plar in Sulfide I Rhizosp e of Redu ron Redu ck Surfac or Well Da	13) odor (C1 heres on uced Iron uction in T ee (C7) ata (D9)	) Living Roots (C4) illed Soils	ndary India Surface S Drainage Dry-Seaso Crayfish E Saturatior Stunted o Geomorpl FAC-Neut	cators (minimum of two required oil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) I Visible on Aerial Imagery (C9) r Stressed Plants (D1) nic Position (D2) ral Test (D5)
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High Water Saturation ( Water Mark Sediment D Drift Deposit Algal Mat or Iron Deposit Inundation V Sparsely Ve Water-Stain Field Observat Surface water p Water table pre Saturation preso	ater (A1) Table (A2) (A3) (as (B1) (beposits (B2)) (as (B3) (crust (B4)) (as (B5) (visible on Aerial (agetated Conca) (agetated Conca) (agetat	rs: of one is I Imagery ve Surfac Yes Yes Yes	required; check	all that a Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge c Other (E X X X	pply) Fauna (B uatic Plar in Sulfide I Rhizosp e of Redu ron Redu ck Surfac or Well Da ixplain in Depth (i Depth (i	13) nts (B14) Odor (C1 heres on uced Iron action in T ce (C7) ata (D9) Remarks nches): nches): nches):	Seco	ndary India Surface S Drainage Dry-Sease Crayfish E Saturatior Stunted o Geomorpl FAC-Neut	cators (minimum of two required oil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) I Visible on Aerial Imagery (C9) Stressed Plants (D1) nic Position (D2) ral Test (D5)
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High Water Saturation (, Water Mark: Sediment D Drift Deposi Algal Mat or Iron Deposit Inundation \ Sparsely Ve Water-Stain Field Observat Surface water p Water table pre Saturation preso (includes capilla Describe record Remarks: Saturation an	ater (A1) Table (A2) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A4) (B4) (A5) (A4) (A5) (	rs: of one is of one is I Imagery ve Surfac Yes Yes Yes Magauge table w	required; check	all that a Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge c Other (E X X X	pply) Fauna (B uatic Plar in Sulfide I Rhizosp e of Redu ron Redu ck Surfac or Well Da ixplain in Depth (i Depth (i boots, pu served,	13) odor (C1 heres on uced Iron iction in T ie (C7) ata (D9) Remarks nches): nches): nches): revious ir as the v	Seco	ndary India Surface S Drainage Dry-Sease Crayfish E Saturatior Stunted o Geomorpl FAC-Neut	cators (minimum of two required oil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) I Visible on Aerial Imagery (C9) r Stressed Plants (D1) nic Position (D2) ral Test (D5) cators of wetland drology present?N time of the site visit.

WETLAND DETERMINA	ATION D	ATA FORM	l - Midwest Re	egion		
Project/Site 85th Street Interchange	City/	County:	Lincoln County	Sampling Date:	11/13/18	
Applicant/Owner: 85th Street Business District Joint Venture Gro	up	State:	South Dakota	Sampling Point:	6-W	
Investigator(s): Rebecca Beduhn		Section	on, Township, Ra	inge: T100N	S19R50W	
Landform (hillslope, terrace, etc.): toeslope		Local	relief (concave, c	onvex, none):	Concave	
Slope (%): 0 Lat: 43.4751389		Long:	-96.79263129	Datum: UTM	NAD 83 Zone 14	N
Soil Map Unit Name Egan-Chancellor silty clay loams, 0 to 4 percer	nt slopes		NWI Clas	sification:	None	
Are climatic/hydrologic conditions of the site typical for this time of t	he year?		Y (If no,	explain in remarks)		
Are vegetation, soil, or hydrology	significant	ly disturbed?				
Are vegetation , soil , or hydrology	naturally p	problematic?	Are	e "normal circumstances	s" present? Yes	
SUMMARY OF FINDINGS			(lf r	needed, explain any ans	wers in remarks.	)
Hydrophytic vegetation present? Y						
Hydric soil present? Y		Is the sa	ampled area with	hin a wetland?	Y	
Indicators of wetland hydrology present? Y		If yes, op	tional wetland sit	e ID: Wetland 6		
Remarks: (Explain alternative procedures here or in a separate repo	ort.)					
	,					
VEGETATION Use scientific names of plants						
	Absolute	Dominan	Indicator Doi	minance Test Worksh	eet	
<u>Tree Stratum</u> (Plot size: 30' Radius )	% Cover	t Species	Status Nu	umber of Dominant Spec	ies	
1			tha	at are OBL, FACW, or FA	NC: 2 (A	4)
2				Total Number of Domination	ant	
				Species Across all Stra	ta: <u> </u>	3)
			Pe	ercent of Dominant Spec	ies	∧ /D \
	0	= Total Cover		at are OBL, FACW, OF FA	IC. 100.00% (F	<b>√</b> D)
Sapling/Shrub stratum (Plot size: 15' Radius )	0		Pre	valence Index Works	leet	
1			Tot	al % Cover of:		
2		·	ОВ	L species 55 >	(1= 55	
3			FAG	CW species 40	(2 = 80	
4			FAG	C species 15	(3 = 45	
5			FAG	CU species 0	(4 = 0)	
Horb stratum (Dist size: 5' Radius )	0	= I otal Cover		L species 0 >	(5 = 0)	ים
A Schermania (Plot size. <u>5 Radius</u> )	50	N			A) <u>100 (E</u>	2)
2 Pholoria arundinagoa Rood Canary Crass	50	<u> </u>	OBL Pre	valence index = B/A =	1.64	
3 Sparting pectingta Freshwater Cord Grass	10	<u> </u>	FACW Hv	drophytic Vegetation I	ndicators:	
4 Rumex crispus Curly Dock	5	<u> </u>	FAC	Rapid test for hydroph	vtic vegetation	
5 Hordeum jubatum Fox-Tail Barley	5	N	FAC X	Dominance test is >50	%	
6 Xanthium strumarium Rough Cockleburr	5	Ν	FAC X	Prevalence index is ≤3	.0*	
7 Carex lacustris Lakebank Sedge	5	N	OBL	Morphological adaptat	ons* (provide	
8				supporting data in Ren	harks or on a	
				separate sheet)		
	110	- Total Covor		Problematic hydrophyt	ic vegetation*	
Woody vine stratum (Plot size: 30' Radius )	110		<u> </u>			
1			*In	dicators of hydric soil and we present_unless disturbe	Itand hydrology must or problematic	t be
2				Hydrophytic		
	0	= Total Cover		vegetation		
				present? Y	<u> </u>	
Remarks: (Include photo numbers here or on a separate sheet)						
Nate: This data about here been adapted to you the 2040 Nether 1944	and Direct !	liate				
Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: National	ang Piant L Ial Wetland F	∟ıst: Plant List, versioi	n 2.4.0 (https://wetlan	nd_plants.usace.army.mil). U	.S. Army Corps of	
Engineers, Engineer Research and Development Center, Cold Regions Research	and Enginee	ering Laboratory,	Hanover, NH, and B	ONAP, Chapel Hill, NC. (201	2)	

Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm the absen	ce of indicators.)	
Depth	Matrix		Ree	dox Feat	ures				
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks	
0-5	10YR 2/1	100					Silty Clay Loam		
5-18	10YR 2/2	90	10YR 5/6	10	С	М	Silty Clay Loam		
± <b>T</b> 0 (									
*Type: C = C	Concentration, D	= Deplet	ion, RM = Reduce	ed Matrix	., MS = №	lasked S	and Grains. **Location	on: PL = Pore Lining, M = Matrix	
Hist	tosol (A1)		Sar	ndv Gleve	ad Matrix	(\$4)	Indicators for Prop		
Hist	tic Epipedon (A2)		Sar	ndy Redo	x (S5)	(04)	Verv Shallow Da	ark Surface (F22)	
Bla	ck Histic (A3)		Stri	pped Ma	trix (S6)		Other (explain in	remarks)	
Hyd	Irogen Sulfide (A4	4)	Dar	' ∖ 'k Surfac	e (S7)			,	
Stra	atified Layers (A5	)	Loa	my Mucl	ky Minera	al (F1)			
2 cr	m Muck (A10)		Loa	ımy Gley	ed Matrix	(F2)			
Dep	oleted Below Dark	Surface	e (A11) Dep	pleted Ma	atrix (F3)				
Thick Dark Surface (A12) X Redox Dark Surface (F6) *Indicators of hydrophytic vegetation and wetland									
Sar	ndy Mucky Minera	ll (S1)	Dep	pleted Da	ark Surfa	ce (F7)	hydrology must l	be present, unless disturbed or	
5 CI	п миску Peat or	Peat (53	6)	lox Depr	essions (	(F8)		problematic	
Restrictive	Layer (if observe	ed):							
Type:					-		Hydric soil prese	nt? <u>Y</u>	
Depth (Inche	es):				-				
HYDROLO	DGY								
Wetland Hy	drology Indicato	ors:							
Primary Indi	<u>cators (minimum</u>	of one is	required; check	all that a	pply)	10)	Secondary In	dicators (minimum of two required)	
X Surface	vvater (A1)				Fauna (B uatic Plar	13) hts (B14)	Surface	Soli Cracks (B6) e Patterns (B10)	
Saturatio	on (A3)			Hvdroae	en Sulfide	Odor (C	I) Drainag	uson Water Table (C2)	
Water M	larks (B1)			Oxidized	l Rhizosp	heres on	Living Roots Crayfish	Burrows (C8)	
Sedimer	nt Deposits (B2)			(C3)	·		Saturati	on Visible on Aerial Imagery (C9)	
Drift Dep	oosits (B3)			Presenc	e of Redu	uced Iron	(C4) Stunted	or Stressed Plants (D1)	
Algal Ma	at or Crust (B4)			Recent I	ron Redu	iction in T	illed Soils X Geomo	rphic Position (D2)	
Iron Dep	OSIIS (B5) on Visible on Aeria	l Imager	(B7)	(C6) Thin Mu	ck Surfac		X FAC-Ne	eutral Test (D5)	
Sparsel	/ Vegetated Conca	ive Surfa	ce (B8)	Gauge c	or Well Da	ata (D9)			
Water-S	tained Leaves (B9	)		Other (E	xplain in	Remarks	)		
Field Obser	vations:			• `	-		I		
Surface wat	er present?	Yes	X No		Depth (i	nches):	2		
Water table	present?	Yes	No	Х	Depth (i	nches):	In	dicators of wetland	
Saturation p	resent?	Yes	No	X	Depth (i	nches):	h	ydrology present? Y	
(includes ca	piliary iringe)								
Describe red	corded data (strea	am gaug	e, monitoring well	l, aerial p	photos, pi	revious ir	spections), if available:		
Remarks:									
Saturation	and/or a water	table v	vere not able to	be obs	served,	as the	water was frozen at th	e time of the site visit.	

WETLAND DETERMIN	ATION D	ATA FORM	I - Midwest R	legion			
Project/Site 85th Street Interchange	City/	County:	Lincoln County	sampling	g Date:	11/13/18	
Applicant/Owner: 85th Street Business District Joint Venture Gr	oup	State:	South Dakot	a Sampling	Sampling Point:		
Investigator(s): Rebecca Beduhn		Section	on, Township, R	lange:	T100NS19R	50W	
Landform (hillslope, terrace, etc.): backslope		Local	relief (concave,	convex, none):	No	one	
Slope (%): 3 Lat: 43.47225829		Long:	-96.79572263	Datum:	UTM NAD 8	33 Zone 1	4N
Soil Map Unit Name Egan silty clay loam, 3 to 6 percent slopes			NWI Cla	ssification:	Non	е	
Are climatic/hydrologic conditions of the site typical for this time of	the year?		Y (If no,	, explain in rema	rks)		
Are vegetation, soil, or hydrology	significant	ly disturbed?					
Are vegetation , soil , or hydrology	naturally p	problematic?	Ar	re "normal circun	nstances" pres	sent? Ye	es
SUMMARY OF FINDINGS			(If	needed, explain	any answers	in remarks	s.)
Hydrophytic vegetation present? N							
Hydric soil present? N		Is the sa	ampled area wi	thin a wetland?	. <u>N</u>		
Indicators of wetland hydrology present? N		∣f yes, op	tional wetland s	ite ID:		_	
Remarks: (Explain alternative procedures here or in a separate rec	port.)						
	,						
VEGETATION Use scientific names of plants							
	Absolute	Dominan	Indicator Do	ominance Test	Worksheet		
<u>Tree Stratum</u> (Plot size: 30' Radius )	% Cover	t Species	Status N	Jumber of Domina	ant Species		
1			th	nat are OBL, FAC	W, or FAC:	0	(A)
2				Total Number o	of Dominant		
3				Species Acros	s all Strata:	1	(B)
4			F	Percent of Domina	ant Species	0.000/	
5		- Total Cover	ur	Tal are OBL, FAC	W, of FAC:	0.00%	(A/B)
Sanling/Shrub stratum (Plot size: 15' Radius )	0		Pr	evalence Index	Worksheet		
1			То	otal % Cover of:	WorkSheet		
2		· ·	OF	BL species	0 x 1 =	0	
3			FA	ACW species	0 x 2 =	0	
4			FA	AC species	0 x 3 =	0	
5			FA	ACU species	0 x 4 =	0	
Herb stratum (Dist size: 5' Dadius )	0	= I otal Cover	UF	<sup>-</sup> L species	0 x 5 =	0	(P)
(Plot size. <u>5 Radius</u> )	400	V			0 (A)		(D)
2 Give max Soybeans	100	<u> </u>		evalence index -	= D/A =		
3		· ·	H	drophytic Veg	etation Indica	tors:	
4		· ·		Rapid test for I	hydrophytic ve	getation	
5		· ·		Dominance tes	st is >50%	-	
6				Prevalence inc	lex is ≤3.0*		
7				Morphological	adaptations* (	provide	
8				supporting dat	a in Remarks	or on a	
<u>9</u>		· ·			() I drambutia v an	atation*	
	100	= Total Cover		(explain)	arophytic veg	etation	
Woody vine stratum (Plot size: 30' Radius )	100				ail and watland b		unt ha
1 /				present, unles	soil and wetland n	oblematic	ust be
2				Hydrophytic			
	0	= Total Cover		vegetation	N		
				present?	<u> </u>		
Remarks: (Include photo numbers here or on a separate sheet)							
Note: This data sheet has been adapted to use the 2012 National We	tland Plant I	List:					
Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: Natio Engineers, Engineer Research and Development Conter, Cold Pagings Pagaget	nal Wetland F	Plant List, version	n 2.4.0 (https://wetla Hanover NH and	and_plants.usace.an	my.mil). U.S. Arm	y Corps of	
Lighters, Lighter Research and Development Center, Cold Regions Research	, ала спушее	miny Laboratory,	, iaiiovei, ivii, ailu i	Ботилії, Спареї Піїї	, 100. (2012)		

Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm the abse	nce of indicators.)
Depth <u>Matrix</u> <u>Redox Features</u>								
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks
0-12	10YR 3/2	100					Silty Clay Loam	
1								
*Type: C = 0	Concentration, D	= Depleti	on, RM = Reduce	ed Matrix	, MS = N	lasked S	and Grains. **Locat	ion: PL = Pore Lining, M = Matrix
Hydric So	oil Indicators:						Indicators for Prol	plematic Hydric Soils:
His	tosol (A1)		San	dy Gleye	ed Matrix	(S4)	Iron-Manganes	e Masses (F12) ( <b>LRR K, L, M</b> )
His	tic Epipedon (A2)		San	idy Redo	x (S5)		Very Shallow D	ark Surface (F22)
Bla	ck Histic (A3)		Stri	pped Ma	trix (S6)		Other (explain i	n remarks)
Hyo	drogen Sulfide (A	4)	Dar	k Surface	e (S7)			
Stra	atified Layers (A5	)	Loa	my Muck	ky Minera	al (F1)		
2 ci	m Muck (A10)		Loa	my Gley	ed Matrix	(F2)		
Dep	pleted Below Dark	Surface	e (A11)Dep	oleted Ma	atrix (F3)	(= 0)		
	ck Dark Surface (	A12)		lox Dark	Surface	(F6)	*Indicators of hy	controphytic vegetation and wetland
Sar	ndy Mucky Minera	11 (S1) Deet (S2		leted Da	irk Surta		hydrology must	be present, unless disturbed or
50	m Mucky Peat of	Pear (53			essions (	(F0)		problematic
Restrictive	Layer (if observe	ed):						
Туре:							Hydric soil prese	ent? <u>N</u>
Depth (inche	es):				-			
Wetland Hy Primary Indi Surface High Wa	vdrology Indicato cators (minimum Water (A1) ater Table (A2) on (A3)	ors: of one is	required; check a	all that a Aquatic True Aqu Hvdroge	<u>pply)</u> Fauna (B uatic Plar n Sulfide	13) nts (B14) Odor (C <sup>2</sup>	Secondary Ir Surface Drainage Dry-Se	ndicators (minimum of two required e Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2)
Water M	larks (B1)			Oxidized	l Rhizosp	heres on	Living Roots Crayfis	h Burrows (C8)
Sedime	nt Deposits (B2)			(C3)	-		Satura	ion Visible on Aerial Imagery (C9)
Drift De	posits (B3)			Presenc	e of Redu	uced Iron	(C4) Stunted	d or Stressed Plants (D1)
Algal Ma	at or Crust (B4)			Recent I	ron Redu	iction in 1	Illed Soils Geomo	orphic Position (D2)
Inundati	on Visible on Aeria	al Imagen	/ (B7)	Thin Mu	ck Surfac	e (C7)	FAC-N	eutral Test (DS)
Sparsel	Vegetated Conca	ave Surfa	ce (B8)	Gauge o	or Well Da	ata (D9)		
Water-S	tained Leaves (B9	)		Other (E	xplain in	Remarks	)	
Field Obse	rvations:	-		. `	•		•	
Surface wat	er present?	Yes	No	х	Depth (i	nches):		
Water table	present?	Yes	No	Х	Depth (i	nches):	——————————————————————————————————————	ndicators of wetland
Saturation p	resent?	Yes	No	Х	Depth (i	nches):		hydrology present? N
(includes ca	pillary fringe)							
Describe re	corded data (strea	am gauge	e, monitoring well	, aerial p	hotos, pi	revious ir	nspections), if available:	
Remarks:								
Saturation	and/or a water	r table v	vere not able to	be obs	served.	as the	water was frozen at t	he time of the site visit.
					<b>s</b> u,			
IIS Army C	orns of Engine	orc						Midwest Pegion
55 Anny C	orba or rugine	ci s						windwest region

WETLAND DETERMIN	ATION D	ATA FORM	1 - Midwest	t Regior	1			
Project/Site 85th Street Interchange	City/	County:	Lincoln Cou	inty	Sampling Date: 11/1		11/13/18	3
Applicant/Owner: 85th Street Business District Joint Venture Green	oup	State:	South Da	kota	Sampling	Point:	8-W	
Investigator(s): Rebecca Beduhn		Secti	on, Township	, Range:		T100NS19	R50W	
Landform (hillslope, terrace, etc.): toeslope		Local	relief (concav	/e, convex	, none):	Co	oncave	
Slope (%): 1 Lat: 43.47232063		Long:	-96.795642	98	Datum:	UTM NAC	83 Zone	14N
Soil Map Unit Name Egan silty clay loam, 3 to 6 percent slopes			NWI	Classificat	ion:	No	ne	
Are climatic/hydrologic conditions of the site typical for this time of	the year?		Y (If	no, explai	n in remar	ks)		
Are vegetation, soil, or hydrology	significant	ly disturbed?						
Are vegetation, soil, or hydrology	naturally p	oroblematic?		Are "norr	nal circum	stances" pr	esent? Y	'es
SUMMARY OF FINDINGS				(If neede	d, explain	any answer	s in remar	ks.)
Hydrophytic vegetation present? Y								
Hydric soil present? Y	Is the sa	ampled area	within a	wetland?		Y		
Indicators of wetland hydrology present? Y		lf yes, op	tional wetlan	d site ID:	We	etland 8		
Remarks: (Explain alternative procedures here or in a separate rec	port.)							
	,							
VEGETATION Use scientific names of plants.								
	Absolute	Dominan	Indicator	Dominar	ice Test V	Vorksheet		
<u>Tree Stratum</u> (Plot size: <u>30'</u> Radius )	% Cover	t Species	Status	Number	of Domina	nt Species		
1				that are (	OBL, FACV	N, or FAC:	1	(A)
2		·		Total	Number of	Dominant		
		······································		Spec	cies Across	all Strata:	1	_(B)
4 <u></u>		·		Percent	of Domina	nt Species	100.00%	(Δ/B)
· · · · · · · · · · · · · · · · · · ·	0	= Total Cover			56L, 1 AOV	, or i AO.	100.00 /0	_(,,,,,)
Sapling/Shrub stratum (Plot size: 15' Radius )			F	Prevalen	ce Index	Worksheet		
1				Total % C	Cover of:			
2				OBL spee	cies	85 x 1 =	85	
3				FACW sp	becies	5 x 2 =	10	_
4		·		FAC spec	cies	<u>5</u> x 3 =	15	_
5		- Total Caver		FACU sp	ecies	$0 \times 4 =$	0	_
Herb stratum (Plot size: 5' Radius )	0	= Total Cover		Column t	otals	$\frac{0}{95}$ (A)	110	(B)
1 Alisma trivialo	75	v	OBI	Drevalen	=	B/A -	1 16	_(B)
2 Typha angustifolia Narrow-Leaf Cat-Tail	5	N	OBL	Trevalent		- D/A -	1.10	_
3 Hordeum jubatum Fox-Tail Barley	5	N	FAC	Hydroph	ytic Vege	tation Indic	ators:	
4 Poa palustris Fowl Blue Grass	5	Ν	FACW	Rapio	d test for h	ydrophytic	egetation	
5 Eleocharis obtusa Blunt Spike-Rush	5	Ν	OBL	X Domi	nance tes	t is >50%		
6				X Preva	alence inde	ex is ≤3.0*		
7				Morp	hological a	adaptations	(provide	
		<u> </u>		supp	orting data	in Remark	s or on a	
9 <u></u>		<u> </u>		Sepa		) drophytic yc	actation*	
······	95	= Total Cover	.	(expl	ain)		gelation	
Woody vine stratum (Plot size: 30' Radius )				*Indicator	s of hydric s		bydrology n	aust bo
1				pr	esent, unles	s disturbed or	problematic	iusi be
2		I		Hydr	ophytic			
	0	= Total Cover		vege	tation	V		
				pres	5111 (	<u> </u>		
Remarks: (Include photo numbers here or on a separate sheet)								
Note: This data sheet has been adapted to use the 2012 National Wei	tland Plant I	List:						
Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: Natio Engineers, Engineer Research and Development Center. Cold Regions Research	nal Wetland F and Enginee	Plant List, versio ering Laboratory	n 2.4.0 (https://w Hanover. NH  a	vetland_plan and BONAP	ts.usace.arn Chapel Hill	ny.mil). U.S. Al NC. (2012)	my Corps of	r

Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	e indicat	tor or confirm	the absend	ce of indicators.)	
Depth	Matrix		Ree	dox Feat	ures					
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Textu	ıre	Remarks	
0-2	2.5YR 2.5/2	100					Silty Clay Lo	bam		
2-16	10YR 2/1	95	10YR 3/6	5	С	м	Silty Clay Lo	oam		
2.10	101112/1	00	101110/0	Ű	- Ŭ			Jam		
*Type: C = C	Concentration D :	I = Denleti	on RM = Reduce	n A Matrix	MS = M	lasked S	Sand Grains	**Locatio	n: PL = Pore Lining M = Matrix	
Hydric So	bil Indicators:	- Depict			., 1010 – 10		Indicator	s for Probl	ematic Hydric Soils:	
Hist	tosol (A1)		Sar	ndv Gleve	ed Matrix	(S4)	Iron-N	Vanganese	Masses (F12) (LRR K. L. M)	
Hist	tic Epipedon (A2)		Sar	ndv Redo	ox (S5)	()	Verv	Shallow Da	rk Surface (F22)	
Blac	ck Histic (A3)		Stri	pped Ma	trix (S6)		Other	r (explain in	remarks)	
Hyc	drogen Sulfide (A4	4)	Dar	k Surfac	e (S7)			<b>、</b> 1	,	
Stra	atified Layers (A5)	)	Loa	my Mucł	ky Minera	al (F1)				
2 cr	m Muck (A10)	-	Loa	my Gley	ed Matrix	k (F2)				
Dep	oleted Below Dark	Surface	e (A11) 📃 Dep	pleted Ma	atrix (F3)					
Thio	ck Dark Surface (	A12)	X Red	lox Dark	Surface	(F6)	*Indica	tors of hydr	ophytic vegetation and wetland	
Sar	ndy Mucky Minera	al (S1)	Dep	pleted Da	ark Surfa	ce (F7)	hydro	logy must b	e present, unless disturbed or	
5 cr	m Mucky Peat or	Peat (S3	) Red	lox Depr	essions (	(F8)			problematic	
Restrictive	Laver (if observe	ed):				1				
Type:		,					Hydric	soil presen	t? Y	
Depth (inche	es):				-			•		
Demenden	·				-					
HYDROLO	OGY									
Wetland Hy	drology Indicate	ors:								
Primary Indi	cators (minimum	of one is	required check	all that a	nnlv)		Se	condary Ind	icators (minimum of two required)	
X Surface	Water (A1)		required, check	Aquatic	Fauna (B	13)	<u></u>	Surface	Soil Cracks (B6)	
High Wa	ater Table (A2)			True Aa	uatic Plar	Plants (B14) Surface Soli Cracks (B6)				
Saturatio	on (A3)			Hydroge	n Sulfide	ide Odor (C1) Dry-Season Water Table (C2)				
Water M	larks (B1)			Oxidized	l Rhizosp	heres on	Living Roots	Crayfish	Burrows (C8)	
Sedimer	nt Deposits (B2)			(C3)			_	Saturatio	on Visible on Aerial Imagery (C9)	
Drift Dep	oosits (B3)			Presenc	e of Redu	uced Iron	(C4)	Stunted	or Stressed Plants (D1)	
Algal Ma	at or Crust (B4)			Recent I	ron Redu	iction in T	Filled Soils	X Geomor	phic Position (D2)	
Iron Dep	oosits (B5)		. (DZ)	(C6)			<u> </u>	X FAC-Nei	utral Test (D5)	
	on Visible on Aeria	ai imager	(B7)		CK Surfac	xe (C7)				
Water-S	tained Leaves (BQ			Other (F	volain in	ala (D9) Romarks	•)			
Field Ober		)				i terriari (S	"			
Fleid Obser	rvations:	Voc	X No		Denth (i	nchos).	2			
Water table	nresent?	Yes	No		Depth (i	nches):	Z	Inc	licators of wetland	
Saturation p	resent?	Yes	No		Depth (i	nches):		h	/drology present? Y	
(includes ca	pillary fringe)	100			-	nonee).				
Describe rec	corded data (stres	am daug	e monitoring well	aerial n	hotos n	revious i	nspections) if	available <sup>.</sup>		
Describeree		un gaug	s, monitoring wei	, achai p	notos, p					
Remarks:										
Saturation	and/or a water	r table v	vere not able to	be obs	served,	as the	water was fro	ozen at the	e time of the site visit.	

WETLAND DETERMINA	ATION D	ATA FORM	I - Midwest	Region				
Project/Site 85th Street Interchange	City/	County:	Lincoln County		Sampling Date:		11/13/18	3
Applicant/Owner: 85th Street Business District Joint Venture Gro	up	State:	South Dak	ota S	Sampling	Point:	9-U	
Investigator(s): Rebecca Beduhn		Secti	on, Township,	Range:		T100NS19R	50W	
Landform (hillslope, terrace, etc.): footslope		Local	relief (concave	e, convex,	none):	N	one	
Slope (%): 2 Lat: 43.47326979	_	Long:	-96.7955671	9	Datum:	UTM NAD	83 Zone	14N
Soil Map Unit Name Chancellor-Viborg silty clay loams			NWI C	lassificati	on:	Nor	ie	
Are climatic/hydrologic conditions of the site typical for this time of t	he year?		Y (If n	io, explair	n in remar	'ks)		
Are vegetation, soil, or hydrology	significant	ly disturbed?						
Are vegetation , soil , or hydrology	naturally p	oroblematic?	/	Are "norm	nal circum	istances" pre	sent? Y	'es
SUMMARY OF FINDINGS			(	(If needed	l, explain	any answers	in remar	ks.)
Hydrophytic vegetation present? N								
Hydric soil present? N		Is the sa	ampled area v	within a w	vetland?	N	1	
Indicators of wetland hydrology present? N		lf yes, op	tional wetland	site ID:				
Remarks: (Explain alternative procedures here or in a separate repo	ort)							
	511.)							
VEGETATION Lise scientific names of plants								
	Absolute	Dominan	Indicator	Dominan	ce Test V	Vorksheet		
Tree Stratum (Plot size: 30' Radius )	% Cover	t Species	Status	Number	of Domina	nt Species		
<u> </u>		•		that are C	BL, FAC	N, or FAC:	0	(A)
2		·······		Total I	Number o	f Dominant		
3				Speci	ies Across	s all Strata:	1	(B)
4				Percent of	of Domina	nt Species		
5				that are C	DBL, FAC	N, or FAC:	0.00%	_(A/B)
Sonling/Shrub stratum (Plot size: 15' Padius )	0	= I otal Cover		Provolony	oo Indox	Workshoot		
			r	Total % C	over of	WOIKSHEEL		
2			(	OBL spec	ies	0 x 1 =	0	
3			F	FACW sp	ecies	0 x 2 =	0	_
4			F	FAC spec	ies	0 x 3 =	0	_
5			F	FACU spe	ecies	0 x 4 =	0	_
	0	= Total Cover		UPL spec	ies _	$0 \times 5 =$	0	
Herb stratum (Plot size: 5' Radius )				Column to	otals	0 (A)	0	_(B)
1 Glycine max Soybeans	70	<u>Y</u>		Prevalenc	e Index =	: B/A =		_
		···········		Hydrophy	rtic Vogo	tation Indica	tors:	
4		·	'	Rapid	test for h	vdrophytic ve	egetation	
5		······································		' Domir	nance tes	t is >50%	5	
6		·······		Preva	lence ind	ex is ≤3.0*		
7				Morph	nological	adaptations*	(provide	
8				suppo	orting data	a in Remarks	or on a	
9				separ	ate sheet	)		
10	70	- Total Caver	<u> </u>	Proble	ematic hy	drophytic veg	jetation*	
Woody vine stratum (Plot size: 30' Padius )	70	= I otal Cover	- I –	(expla	arri <i>)</i>			
1 (Flot size: <u>30 Radius</u> )				*Indicators	of hydric s	oil and wetland l	nydrology m	nust be
2		······································		Hydro	ophytic		oblematic	
	0	= Total Cover		veget	ation			
				prese	ent?	<u>N</u>		
Remarks: (Include photo numbers here or on a separate sheet)			<u> </u>					
		· .						
Note: This data sheet has been adapted to use the 2012 National Wetle Robert W. Lichvar and John T. Kartesz. 2009. North American Diaital Flora: Nation	and Plant L al Wetland F	_ist: Plant List, versio	n 2.4.0 (https://we	etland plant	s.usace.am	ny.mil). U.S. Arn	ny Corps of	f
Engineers, Engineer Research and Development Center, Cold Regions Research	and Enginee	ring Laboratory,	Hanover, NH, an	d BONAP,	Chapel Hill,	NC. (2012)		

Profile Desc	ription: (Descri	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm th	ne absenc	e of indicators.)
Depth	Matrix		Red	dox Feat	ures				·
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	e	Remarks
0-14	10YR 3/2	100					Silty Clay Loa	ım	
_							<u> </u>		
*Type: C = C	oncentration, D =	= Depleti	on, RM = Reduce	ed Matrix	, MS = N	lasked S	and Grains.	**Locatior	n: PL = Pore Lining, M = Matrix
Hydric Soi	I Indicators:						Indicators	for Proble	ematic Hydric Soils:
Histo	osol (A1)		Sar	idy Gleye	ed Matrix	: (S4)	Iron-Ma	anganese l	Masses (F12) ( <b>LRR K, L, M</b> )
Histi	c Epipedon (A2)		Sar	idy Redo	x (S5)		Very Sl	hallow Dar	k Surface (F22)
Blac	k Histic (A3)		Stri	pped Ma	trix (S6)		Other (	explain in	remarks)
Hydr	ogen Sulfide (A4	4)	Dar	k Surfac	e (S7)				
Strat	ified Layers (A5)	)	Loa	my Mucł	ky Minera	al (F1)			
2 cm	Muck (A10)		Loa	my Gley	ed Matrix	k (F2)			
Depl	eted Below Dark	Surface	e (A11) Dep	leted Ma	atrix (F3)				
Thic	k Dark Surface (	A12)	Rec	lox Dark	Surface	(F6)	*Indicato	ors of hydro	ophytic vegetation and wetland
Sand	ly Mucky Minera	l (S1)	Dep	leted Da	ark Surfa	ce (F7)	hydrolo	gy must be	e present, unless disturbed or
5 cm	Mucky Peat or	Peat (S3	) Rec	lox Depr	essions (	(F8)	-		problematic
Restrictive I	aver (if observe	ed).				1			
Type <sup>.</sup>		<i>.</i>					Hydric so	nil nresent	<b>?</b> N
Denth (inches	z).				-		inguine ec	n present	
Bopan (mono									
HYDROLO	GY								
Wetland Hyd	Irology Indicato	ors:					_		
Primary Indic	<u>ators (minimum</u>	of one is	required; check	all that a	<u>pply)</u>		Seco	ondary Indi	cators (minimum of two required
Surface V	Vater (A1)			Aquatic	Fauna (B	13)		Surface S	Soil Cracks (B6)
High Wat	er Table (A2)			True Aq	uatic Plar	nts (B14)	—	_Drainage	Patterns (B10)
Saturation	n (A3)			Hydroge	n Sulfide	Odor (C1	I)	Dry-Seas	on Water Table (C2)
Water Ma	irks (B1)			Oxidized	I Rhizosp	heres on	Living Roots	Crayfish I	Burrows (C8)
Sediment	Deposits (B2)			(U3) Dracana	a of Dodu	upped lines	(C4)	Saturation	n Visible on Aerial Imagery (C9)
	osils (B3)			Presenc	e of Real	uced from	(C4)		bis Desition (D2)
	or Crust (D4)			Recent I	ron Redu				trol Toot (DE)
	n Visible on Aeria	l Imanen	/ (B7)	Thin Mu	ck Surfac	o (C7)		- FAC-INEU	tiai Test (D5)
Sparsely	Vegetated Conca	ive Surfa	ce (B8)	Gauge o	r Well Da	ata (D9)			
Water-St	ained Leaves (B9	)		Other (F	xplain in	Remarks	)		
Field Obsor	vations:	,					,		
Surface wate	r present?	Yes	No	х	Depth (i	nches):			
Water table r	resent?	Yes	No	X	Depth (i	nches):		Ind	icators of wetland
Saturation pr	esent?	Yes	No	X	Depth (i	nches):		hv	drology present? N
(includes cap	illary fringe)				<u> </u>	,			
Describe reco	orded data (strea	am gauge	e, monitoring well	, aerial p	hotos, pi	revious ir	nspections), if av	ailable:	
	Υ.	0 0	, U	, i					
Remarks:									
Saturation	and/or a water	table v	vere not able to	be obs	served.	as the	water was froz	en at the	e time of the site visit.
		-			,				

WETLAND DETERMINA	TION D	ATA FORM	I - Midwest Regio	on	
Project/Site 85th Street Interchange	City/0	County:	Lincoln County	Sampling Date:	11/13/18
Applicant/Owner: 85th Street Business District Joint Venture Grou	qu	State:	South Dakota	Sampling Point:	9-W
Investigator(s): Rebecca Beduhn		Section	on, Township, Range	: T100NS1	9R50W
Landform (hillslope, terrace, etc.): toeslope		Local	relief (concave, conve	ex, none): (	Concave
Slope (%): 0 Lat: 43.47334944		Long:	-96.79560556	Datum: UTM NA	AD 83 Zone 14N
Soil Map Unit Name Chancellor-Viborg silty clay loams			NWI Classific	ation: N	√one
Are climatic/hydrologic conditions of the site typical for this time of the	ne year?	_	Y (If no, expl	ain in remarks)	
Are vegetation, soil, or hydrologys	significantl	y disturbed?			
Are vegetation , soil , or hydrology r	naturally p	roblematic?	Are "no	rmal circumstances" r	present? Yes
SUMMARY OF FINDINGS			(If need	led, explain any answe	ers in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? Y		Is the sa	ampled area within a	a wetland?	Y
Indicators of wetland hydrology present? Y		lf yes, op	tional wetland site ID	: Wetland 9	
Remarks: (Explain alternative procedures here or in a separate repo	ort.)				
VEGETATION Use scientific names of plants.					4
Tree Stratum (Plot size: 30' Radius )	Absolute % Cover	Dominan t Species	Status Numb	ance rest worksheet	1
1			that are	e OBL, FACW, or FAC:	2 (A)
2			Tota	al Number of Dominant	t( , ,
3			Sp	ecies Across all Strata:	<u>3</u> (B)
4			Percer	nt of Dominant Species	i
5			that are	∋ OBL, FACW, or FAC:	<u>66.67%</u> (A/B)
Comline (Chrysh stratum (Dist size) 151 Dadius )	0	= I otal Cover	Drevela	nee Index Merkeba	-4
<u>Sapiing/Shrub stratur</u> (Piot size: 15 Radius )			Total %	Cover of	A
2		·	OBL sp	ecies 10 x 1	= 10
3			FACW	species 0 x 2	= 0
4			FAC sp	ecies 30 x 3	= 90
5			FACU s	species 0 x 4	= 0
	0	=Total Cover	UPL sp	ecies 0 x 5	= 0
Herb stratum (Plot size: <u>5' Radius</u> )			Column	totals <u>40</u> (A)	<u>100</u> (B)
1 Poa pratensis Kentucky Blue Grass	30	<u> </u>	FAC Prevale	nce Index = B/A =	2.50
2 Glycine max Soybeans	10	Y .		hutio Vagatation Ind	licotoro
	10	·		nid test for hydrophytic	r vegetation
5				minance test is >50%	vogetation
6			X Pre	valence index is ≤3.0'	k
7			Mo	rphological adaptation	s* (provide
8			sup	porting data in Remar	rks or on a
9			sep	arate sheet)	
10		<u></u>	Pro	blematic hydrophytic	vegetation*
Weedy vine stratum (Plat size: 20' Radius )	50	= I otal Cover	(ex	plain)	
(Plot size. <u>30 Radius</u> )			*Indicat	ors of hydric soil and wetla	nd hydrology must be
2			Hve	drophytic	
	0	= Total Cover	veg	jetation	
	Ũ		pre	sent? Y	_
Remarks: (Include photo numbers here or on a separate sheet)			•		
<b>Note:</b> This data sheet has been adapted to use the 2012 National Wetla Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: National Engineers, Engineer Research and Development Center, Cold Regions Research a	and Plant L al Wetland P and Engineel	ist: Plant List, version ring Laboratory,	n 2.4.0 (https://wetland_pla Hanover, NH, and BONA	ants.usace.army.mil). U.S. P, Chapel Hill, NC. (2012)	Army Corps of

Profile Des	cription: (Descr	ibe to th	e depth neede	ed to docu	ment the	e indicat	or or confirm the a	bsence of indicators.)
Depth	Matrix		F	Redox Feat	ures			,
(Inches)	Color (moist)	%	Color (moist	) %	Type*	Loc**	Texture	Remarks
0-14	10YR 3/2	90	10YR 5/6	10	С	М	Silty Clay Loam	
-				-	-		<u> </u>	
			l		L			
*Type: C = C	Concentration, D	= Depleti	ion, RM = Redu	iced Matrix	k, MS = №	lasked S	and Grains. **L	ocation: PL = Pore Lining, M = Matrix
Hydric So	oil Indicators:					(0.1)	Indicators for	Problematic Hydric Soils:
Hist			s	andy Gleye	ed Matrix	(S4)	Iron-Manga	anese Masses (F12) (LRR K, L, M)
Histic Epipedon (A2) Sandy Redox (S5)							Very Shall	bw Dark Surface (F22)
Blac	ck Histic (A3)		S	tripped Ma	itrix (S6)		Other (exp	lain in remarks)
Hyc	Irogen Sulfide (A	1)	Ľ	ark Surfac	e (S7)			
Stra	atified Layers (A5	)	L	oamy Muci	ky Minera	al (⊢1)		
2 cr	m Muck (A10)	o (	L	oamy Gley	ed Matrix	x (F2)		
	bleted Below Dark	Surface	e (A11)	epleted Ma	atrix (F3)			
	ck Dark Surface (	A12)		edox Dark	Surface	(F6)	*Indicators of	of hydrophytic vegetation and wetland
Sar	idy Mucky Minera	II (51) De et (02		epieted Da	ark Surra		nyarology r	nust be present, unless disturbed or
5 cr	m Mucky Peat or	Peat (53	5) <u> </u>	edox Depr	essions	(F8)		problematic
Restrictive	Layer (if observ	ed):						
Туре:					_		Hydric soil p	resent? Y
Depth (inche	es):				_			
Remarks:								
	OGY							
Wetland Hy	drology Indicato	ors:						
Primary Indi	cators (minimum	of one is	required: chec	k all that a	nnlv)		Seconda	ary Indicators (minimum of two required)
X Surface	Water (A1)			Aquatic	Fauna (B	(13)	Si	Inface Soil Cracks (B6)
High Wa	ater Table (A2)		_		uatic Plar	nts (B14)	Or	ainage Patterns (B10)
Saturatio	on (A3)		<u> </u>	Hvdroae	en Sulfide	Odor (C	1)Dr	v-Season Water Table (C2)
Water M	larks (B1)			Oxidized	d Rhizosp	heres on	Living Roots Cr	ayfish Burrows (C8)
Sedimer	nt Deposits (B2)			(C3)			с <u></u> Sa	aturation Visible on Aerial Imagery (C9)
Drift Dep	posits (B3)		_	Presenc	e of Redu	uced Iron	(C4) St	unted or Stressed Plants (D1)
Algal Ma	at or Crust (B4)			Recent	Iron Redu	uction in T	illed Soils Ge	eomorphic Position (D2)
Iron Dep	osits (B5)			(C6)			FA	AC-Neutral Test (D5)
Inundatio	on Visible on Aeria	I Imager	y (B7)	Thin Mu	ck Surfac	ce (C7)		
Sparsely	Vegetated Conca	ive Surfa	ce (B8)	Gauge	or Well Da	ata (D9)		
Water-S	tained Leaves (B9	)		Other (E	xplain in	Remarks	)	
Field Obser	vations:							
Surface wat	er present?	Yes	X No		Depth (i	inches):	2	
Water table	present?	Yes	No	X	Depth (i	inches):		Indicators of wetland
Saturation p	resent?	Yes	No	X	Depth (i	inches):		hydrology present? Y
(includes ca	piliary tringe)							
Describe red	corded data (strea	am gauge	e, monitoring w	ell, aerial p	photos, p	revious ir	nspections), if availa	ble:
Remarks:								
Saturation	and/or a water	table v	vere not able	to be ob	served,	as the	water was frozen	at the time of the site visit.
1								

WETLAND DETERMIN	ATION D	ATA FORM	l - Midwest Reg	jion					
Project/Site 85th Street Interchange	City/0	County:	Lincoln County	Sampling Da	ate: 11/13/1	8			
Applicant/Owner: 85th Street Business District Joint Venture Gro	oup	State:	South Dakota	Sampling Po	int: 10-U				
Investigator(s): Rebecca Beduhn		Secti	on, Township, Ran	ge: T1	100NS19R50W				
Landform (hillslope, terrace, etc.):		Local	relief (concave, cor	ivex, none):	None				
Slope (%): 5 Lat: 43.4753405		Long:	-96.79989607	Datum: L	JTM NAD 83 Zone	: 14N			
Soil Map Unit Name Worthing silty clay loam, 0 to 1 percent slopes	;		NWI Classi	fication:	PEM1C				
Are climatic/hydrologic conditions of the site typical for this time of	the year?		Y (If no, ex	plain in remarks)	)				
Are vegetation , soil , or hydrology	significant	ly disturbed?							
Are vegetation , soil , or hydrology	naturally p	oroblematic?	Are "	normal circumsta	ances" present?	Yes			
SUMMARY OF FINDINGS			(If ne	eded, explain any	y answers in rema	rks.)			
Hydrophytic vegetation present? N									
Hydric soil present? N	Is the sa	ampled area withi	n a wetland?	N					
Indicators of wetland hydrology present? N		lf yes, op	tional wetland site	ID:					
Remarks: (Explain alternative procedures here or in a separate rep	port.)								
<b>VEGETATION</b> Use scientific names of plants.					<del></del>				
Trop Stratum (Plat size: 20' Padius )	Absolute % Cover	Dominan t Species	Indicator Dom	inance lest Wor	rksheet				
1		t Opecies	that	are OBL FACW	or FAC: 0	(A)			
2			і інші 	otal Number of Du	ominant	_('')			
3				Species Across all	l Strata: 1	(B)			
4			Perc	cent of Dominant S	Species	_			
5			that	are OBL, FACW, o	or FAC: 0.00%	(A/B)			
	0	= Total Cover							
Sapling/Shrub stratum (Plot size: 15' Radius )			Preva	alence Index Wo	orksheet				
2		······································			$x_{1} = 0$				
3		······································	FAC\	N species 0	$x^{2} = 0$	—			
4			FAC	species 0	$x_3 = 0$				
5		·	FACI	J species 0	x 4 = 0	_			
	0	= Total Cover	UPL	species 0	x 5 = 0				
<u>Herb stratum</u> (Plot size: <u>5' Radius</u> )			Colur	nn totals 0	) (A) 0	(B)			
1 Glycine max Soybeans	100	Y	NI Preva	alence Index = B/	'A =				
2									
		······································	Hydr	ophytic Vegetati	ion Indicators:				
4 <u></u>	. <u> </u>	···········		apid test for hydi	ropnytic vegetation	1			
6		······································	F	Prevalence index	is ≤3.0*				
7			[		antations* (provide				
8			s	upporting data in	Remarks or on a				
9			s	eparate sheet)					
10			F	roblematic hydro	phytic vegetation*				
	100	= Total Cover	(	əxplain)					
Woody vine stratum (Plot size: <u>30' Radius</u> )			*Indi	cators of hydric soil a	and wetland hydrology	must be			
		· ·		present, unless di	sturbed or problematio	;			
Z		- Total Covor	v	egetation					
	0		p	vresent?	Ν				
Remarks: (Include photo numbers here or on a separate sheet)			1	=					
Note: This data sheet has been adapted to use the 2012 National Wet	land Plant !	iet:							
Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: Nation Engineers, Engineer Research and Development Center, Cold Regions Research	nal Wetland F and Enginee	Plant List, version ring Laboratory,	n 2.4.0 (https://wetland_ Hanover, NH, and BOI	_plants.usace.army.n VAP, Chapel Hill, NC	nil). U.S. Army Corps o C. (2012)	of			
Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
---	------------------------------------	-----------	-------------------	------------	--------------------	-----------	----------------------	------------------------	-----------------------------------
Depth	Matrix		Rec	lox Featu	ures_				-
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Text	ure	Remarks
0-14	10YR 2/2	100					Silty Clay L	oam	
*Type: C = C	Concentration, D	= Depleti	on, RM = Reduce	ed Matrix	, MS = N	lasked S	and Grains.	**Locatio	n: PL = Pore Lining, M = Matrix
Hydric So	il Indicators:		0			(04)	Indicato	rs for Probl	ematic Hydric Soils:
HIS	iosol (A1) io Eninodon (A2)		San	dy Gleye	o Matrix	(54)	Iron-	Shallow Do	Masses (F12) (LRR K, L, M)
Blac	ic Epipedon (A2) sk Histic (Δ3)		Stri	ned Ma	x(33) triv (S6)		Othe	or (evolain in	remarks)
Hvc	lrogen Sulfide (A4	1)	Oar	k Surface	e (S7)		Ouic		Ternanto)
Stra	atified Layers (A5)	)	Loa	my Muck	ky Minera	al (F1)			
2 cr	n Muck (A10)	, 	Loa	my Gley	ed Matrix	(F2)			
Dep	leted Below Dark	Surface	(A11) Dep	leted Ma	atrix (F3)				
Thio	ck Dark Surface (	A12)	Rec	lox Dark	Surface	(F6)	*Indica	ators of hydr	ophytic vegetation and wetland
Sar	dy Mucky Minera	l (S1)	Dep	leted Da	rk Surfac	ce (F7)	hydro	ology must b	e present, unless disturbed or
5 cr	n Mucky Peat or	Peat (S3	)Rec	lox Depre	essions (	F8)			problematic
Restrictive	Layer (if observe	ed):							
Туре:							Hydric	soil presen	t? <u>N</u>
Depth (inche	es):								
	JG I drology Indicato	ne.							
Primary Indi	cators (minimum	of one is	required: check	all that a	oply)		Se	condary Ind	icators (minimum of two required)
Surface	Water (A1)		required, check	Aquatic	Fauna (B	13)	<u></u>	Surface	Soil Cracks (B6)
High Wa	iter Table (A2)			True Aqu	uatic Plan	its (B14)	-	Drainage	Patterns (B10)
Saturatio	on (A3)			Hydroge	n Sulfide	Odor (C	I) —	Dry-Sea	son Water Table (C2)
Water M	arks (B1)			Oxidized	Rhizosp	heres on	Living Roots	Crayfish	Burrows (C8)
Sedimer	nt Deposits (B2)			(C3)	(			Saturatio	on Visible on Aerial Imagery (C9)
Drift Dep	osits (B3)			Presence	e of Redu	iced Iron	(C4) Tilled Soils	Geomor	or Stressed Plants (D1)
Iron Den	osits (B5)			(C6)	Ion Redu			EAC-Nei	utral Test (D5)
Inundatio	on Visible on Aeria	I Imagery	/ (B7)	Thin Mu	ck Surfac	e (C7)	-		
Sparsely	Vegetated Conca	ve Surfa	ce (B8)	Gauge o	r Well Da	ta (D9)			
Water-S	tained Leaves (B9	)		Other (E	xplain in	Remarks	)		
Field Obser	vations:								
Surface wat	er present?	Yes	No	X	Depth (i	nches):			linetone of weather d
Water table	present?	Yes	No	<u>X</u>	Depth (i	nches):		lnc	dicators of wetland
(includes ca	nillary fringe)	res		^		nches).			diology present? <u>N</u>
Describe rec	corded data (stree	am danda	monitoring well	aerial n	hotos pr		spectione) if	availahle <sup>.</sup>	
Describe rec		an gauge	s, monitoring wei	, acriai p	10003, pi	evious ii			
Remarks:									
Saturation	and/or a water	table v	vere not able to	be obs	served,	as the	water was fr	ozen at the	e time of the site visit.
US Army C	orps of Engine	ers							Midwest Region

WETLAND DETERMIN	ATION D	ATA FORM	1 - Midwest I	Region			
Project/Site 85th Street Interchange	City/0	County:	Lincoln Count	ty S	ampling Date	e: 11/13/1	8
Applicant/Owner: 85th Street Business District Joint Venture Gro	oup	State:	South Dake	ota Sa	ampling Point	t: 10-W	
Investigator(s): Rebecca Beduhn		Secti	on, Township, I	Range:	T10	0NS19R50W	
Landform (hillslope, terrace, etc.): toeslope		Local	relief (concave,	, convex, r	none):	Concave	
Slope (%): 0 Lat: 43.47531934	_	Long:	-96.79996803	3 D	atum: UT	M NAD 83 Zone	e 14N
Soil Map Unit Name Worthing silty clay loam, 0 to 1 percent slopes			NWI Cla	assificatio	n:	PEM1C	
Are climatic/hydrologic conditions of the site typical for this time of	the year?		Y (If no	o, explain	in remarks)		
Are vegetation, soil, or hydrology	significant	ly disturbed?					
Are vegetation , soil , or hydrology	naturally p	oroblematic?	Δ	Are "norma	al circumstand	ces" present?	Yes
SUMMARY OF FINDINGS			(1	lf needed,	explain any a	answers in rema	rks.)
Hydrophytic vegetation present? Y							
Hydric soil present? Y		Is the sa	ampled area w	vithin a we	etland?	Y	
Indicators of wetland hydrology present? Y		lf yes, op	tional wetland	site ID:	Wetland	10	
Remarks: (Explain alternative procedures here or in a separate rep	ort.)						
	,ort.)						
VEGETATION Use scientific names of plants							
	Absolute	Dominan	Indicator D	Dominanc	e Test Works	sheet	
Tree Stratum (Plot size: 30' Radius )	% Cover	t Species	Status	Number of	Dominant Sp	ecies	
1		·	1	that are Of	BL, FACW, or	FAC: 3	(A)
2				Total N	umber of Dom	ninant	
3				Specie	s Across all S	strata: 3	(B)
4		·		Percent of	Dominant Sp		
5		Tatal Carro	1	that are Ob	BL, FACW, or	FAC: 100.00%	(A/B)
Sanling/Shrub stratum (Plot size: 15' Radius )		= Total Cover		Provalence	a Index Work	rehaat	
1				Total % Co	ver of:	Glicet	
2		·	C	OBL specie	es 15	x 1 = 15	
3		······································	F	ACW spe	cies 20	x 2 = 40	
4			F	AC specie	es 10	x 3 = 30	
5			F	ACU spec	cies 0	x 4 = 0	
	0	= Total Cover		JPL specie	es <u>0</u>	x 5 = 0	— (D)
Herb stratum (Plot size: 5 Radius )	45	N/			ais 45	(A) <u>85</u>	_(B)
Spartina pectinata     Freshwater Cord Grass     Soirpus strouirons     Dark Groop Pulruch	15	Y .	FACW P	revalence	Index = B/A	= 1.89	
3 Rumex crispus Curly Dock	10	<u> </u>	FAC H	lydronhyt	ic Vegetatio	n Indicators:	
4 Persicaria lapathifolia Dock-Leaf Smartweed	5	 N	FACW	Rapid t	est for hydro	phytic vegetation	n
5 Typha angustifolia Narrow-Leaf Cat-Tail	5	N	OBL	X Domina	ance test is >	50%	
6 Glycine max Soybeans	5	Ν	NI	X Prevale	ence index is	≤3.0*	
7				Morpho	ological adapt	tations* (provide	•
8		·		suppor	ting data in R	emarks or on a	
<u>9</u>		······································		separa	te sheet)		
10	50	- Total Cover	. <u> </u>	Problei (evolaii	matic hydroph	nytic vegetation*	
Woody vine stratum (Plot size: 30' Radius )			—		· · · · · ·		
1				*Indicators of pres	of hydric soil and ent. unless distu	l wetland hydrology urbed or problematio	must be
2		·		Hydro	ohytic	,	
	0	= Total Cover		vegeta	tion		
				preser	nt?	Y	
Remarks: (Include photo numbers here or on a separate sheet)							
Note: This data sheat has been adapted to use the 2012 National Wet	land Diant !	iet:					
Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: Nation	nal Wetland F	Plant List, versio	n 2.4.0 (https://wet	tland_plants.	usace.army.mil)	. U.S. Army Corps	of
Engineers, Engineer Research and Development Center, Cold Regions Research	and Enginee	ering Laboratory,	Hanover, NH, and	d BONAP, C	hapel Hill, NC. (2	2012)	

Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm the a	bsence of indicators.)
Depth	Matrix		Red	dox Feat	ures			
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks
0-5	10YR 3/1	100					Silty Clay Loam	
5-18	10YR 2/1	95	10YR 4/6	5	С	М	Silty Clay Loam	
*Type: C = 0	Concentration, D	= Depleti	on, RM = Reduce	ed Matrix	, MS = N	/lasked S	and Grains. **L	ocation: PL = Pore Lining, M = Matrix
Hydric So	oil Indicators:						Indicators for	Problematic Hydric Soils:
His	tosol (A1)		Sar	idy Gleye	ed Matrix	(S4)	Iron-Manga	anese Masses (F12) ( <b>LRR K, L, M</b> )
His	tic Epipedon (A2)		Sar	idy Redo	ox (S5)		Very Shallo	ow Dark Surface (F22)
Bla	ck Histic (A3)		Stri	pped Ma	trix (S6)		Other (expl	ain in remarks)
Hyo	drogen Sulfide (A	4)	Dar	k Surfac	e (S7)			
Stra	atified Layers (A5	)	Loa	my Mucl	ky Minera	al (F1)		
2 ci	m Muck (A10)	. C		my Gley	ed Matrix	x (F2)		
	Dieted Below Dark			leted Ma	atrix (F3) Surface	(E6)	*1. 1	
	ck Dark Surface ( dv Mucky Minera	ATZ)		lotod Dark		(F0) co (E7)	^Indicators o	f hydrophytic vegetation and wetland
5 ci	m Mucky Peat or	11 (31) Post (83		lov Denr		(F8)	nyuroiogy n	problematic
				ion Depi	63310113	(10)		problematic
Restrictive	Layer (if observe	ed):						
Type: Denth (inch.					-		Hydric soli p	
Depth (Inche	es):				-			
HYDROL	OGY							
Wetland Hy	drology Indicato	ors:						
Primary Indi	cators (minimum	of one is	required; check	all that a	<u>pply)</u>		<u>Seconda</u>	ry Indicators (minimum of two required)
X Surface	Water (A1)			Aquatic	Fauna (B	313)	Su	rface Soil Cracks (B6)
High Wa	ater Table (A2)			I rue Aq	uatic Plai	nts (B14)	Dra	ainage Patterns (B10)
Water M	larks (B1)			Ovidized	Rhizosn	heres on	Living Roots Cr	avfish Burrows (C8)
Sedime	nt Deposits (B2)			(C3)	11112030		Sa	turation Visible on Aerial Imagery (C9)
Drift De	posits (B3)			Presenc	e of Red	uced Iron	(C4) Stu	unted or Stressed Plants (D1)
Algal Ma	at or Crust (B4)			Recent I	ron Redu	uction in T	illed Soils X Ge	eomorphic Position (D2)
Iron Dep	oosits (B5)			(C6)			FA	C-Neutral Test (D5)
Inundati	on Visible on Aeria	al Imager	/ (B7)	Thin Mu	ck Surfac	ce (C7)		
Sparsel	y Vegetated Conca	ave Surfa	ce (B8)	Gauge c	or Well Da	ata (D9)		
Water-S	tained Leaves (B9	)		Other (E	xplain in	Remarks	)	
Field Obse	rvations:				-			
Surface wat	er present?	Yes	X No		Depth (i	inches):	2	Indiantary of wotland
Saturation n	present?	Yes		×	Depth (i	inches):		hydrology present?
(includes ca	nillary fringe)	165				inches).		
	corded data (stra	am daug	monitoring wall	aerial n	hotos n	revious	enections) if availab	hle
Describe re		ani yauy	e, monitoring wei	, aeriai p	ποιοs, ρ	ievious ii	ispections), il availa	ble.
Remarks:								
Saturation	and/or a water	r table v	vere not able to	be ob	served,	as the	water was frozen	at the time of the site visit.
1								

WETLAND DETERMINA	TION D	ATA FORM	I - Midwest Regio	on	
Project/Site 85th Street Interchange	City/0	County:	Lincoln County	Sampling Date:	11/13/18
Applicant/Owner: 85th Street Business District Joint Venture Grou	qu	State:	South Dakota	Sampling Point:	11-1U
Investigator(s): Rebecca Beduhn		Section	on, Township, Range	: T100N	S18R50W
Landform (hillslope, terrace, etc.): backslope		Local	relief (concave, conv	ex, none):	None
Slope (%): 2 Lat: 43.47561		Long:	-96.79959	Datum: UTM I	NAD 83 Zone 14N
Soil Map Unit Name Worthing silty clay loam, 0 to 1 percent slopes			NWI Classific	ation:	PEM1Cx
Are climatic/hydrologic conditions of the site typical for this time of the	ne year?	-	Y (If no, exp	ain in remarks)	
Are vegetation, soil, or hydrologys	significant	ly disturbed?			
Are vegetation , soil , or hydrology r	naturally p	oroblematic?	Are "no	ormal circumstances	" present? Yes
SUMMARY OF FINDINGS			(If need	led, explain any ans	wers in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? N		Is the sa	ampled area within	a wetland?	N
Indicators of wetland hydrology present? N		lf yes, op	tional wetland site ID	):	
Remarks: (Explain alternative procedures here or in a separate repo	ort )				
VEGETATION Use scientific names of plants					
	Absolute	Dominan	Indicator Domin	ance Test Workshe	et
Tree Stratum (Plot size: 30' Radius )	% Cover	t Species	Status Numb	er of Dominant Speci	es
1 /			that ar	e OBL, FACW, or FA	.C: 1 (A)
2			Tot	al Number of Domina	ant
3			Sp	ecies Across all Stra	ta: <u> </u>
4			Perce	nt of Dominant Speci	es
5		TILO	that ar	e OBL, FACW, or FA	.C: <u>100.00%</u> (A/B)
Sonling/Shrub strature (Plot size: 15' Padius )	0	= I otal Cover	Broyal	anaa Indax Warkah	
1			Total %	Cover of	leet
2			OBL sp	pecies 0 x	1 = 0
3			FACW	species 0 x	2 = 0
4			FAC sp	ecies 100 x	3 = 300
5			FACU	species <u>0</u> x	4 = 0
	0	= Total Cover	UPL sp	ecies <u>0</u> x	5 = 0
Herb stratum (Plot size: 5' Radius )			Colum	n totals <u>100</u> (	A) <u>300</u> (B)
1 Poa pratensis Kentucky Blue Grass	100	<u>Y</u>	FAC Prevale	ence Index = B/A =	3.00
		<u> </u>	Hydro	hytic Vegetation I	ndicators:
4		<u> </u>	Ra	pid test for hydrophy	tic vegetation
5		·	X Do	minance test is >50	%
6			X Pre	evalence index is ≤3	.0*
7			Mo	rphological adaptati	ons* (provide
8			su	porting data in Rem	arks or on a
9			se	parate sheet)	
10	100	TILO	Pro	blematic hydrophyti	c vegetation*
Weedwine stratum (Plet size: 20' Pedius )	100	= I otal Cover	(ex	plain)	
1			*Indica	tors of hydric soil and we	tland hydrology must be
2			Hv	drophytic	
	0	= Total Cover	ve	getation	
	C C		pre	esent? Y	
Remarks: (Include photo numbers here or on a separate sheet)			L		
Note: This data sheet has been adapted to use the 2012 National Wetla Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: National	and Plant L al Wetland P	List: Plant List. versio	n 2.4.0 (https://wetland_n	ants.usace.armv mil) 11	S. Army Corps of
Engineers, Engineer Research and Development Center, Cold Regions Research a	nd Enginee	ring Laboratory,	Hanover, NH, and BONA	P, Chapel Hill, NC. (201	2)

1	1	-	1	ι	J

Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm th	ne absence	e of indicators.)
Depth	Matrix		Rec	dox Featu	ures				
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	e	Remarks
0-14	10YR 3/1	100					Silty Clay Loa	am	
+= 0								**1 (*	
Type: C = C	Joncentration, D	= Depleti	on, RIVI = Reduce	ed Matrix	, MS = N	lasked S	and Grains.	**Location	: PL = Pore Lining, M = Matrix
His	tosol (A1)		Sar	dv Gleve	ed Matrix	(\$4)	Indicators		
His	tic Eninedon (A2)		Sar	idy Gleye idy Redo	x (S5)	(04)	Verv S	hallow Dark	( Surface (E22)
Bla	ck Histic (A3)		Stri	pped Ma	trix (S6)		Other (	explain in r	remarks)
	drogen Sulfide (A	4)	Dar	k Surface	e (S7)			onpiani ini	omantoj
Stra	atified Layers (A5	)	Loa	my Muck	ky Minera	al (F1)			
2 ci	m Muck (A10)		Loa	my Gley	ed Matrix	(F2)			
Dep	oleted Below Dark	Surface	e (A11) Dep	leted Ma	atrix (F3)	-			
Thi	ck Dark Surface (	A12)	Rec	lox Dark	Surface	(F6)	*Indicato	ors of hydro	phytic vegetation and wetland
Sar	ndy Mucky Minera	al (S1)	Dep	leted Da	irk Surfa	ce (F7)	hydrolo	gy must be	present, unless disturbed or
5 c	m Mucky Peat or	Peat (S3	) Rec	lox Depr	essions (	(F8)		Ŕ	problematic
Restrictive	Layer (if observe	ed):							
Туре:					_		Hydric so	oil present	? <u>N</u>
Depth (inche	es):								
HYDROL	DGY								
Wetland Hy	drology Indicato	ors:					_		
Primary Indi	<u>cators (minimum</u>	of one is	required; check	all that a	pply) F	10)	Seco	ondary India	cators (minimum of two required
Surface	Water (A1)			Aquatic	Fauna (B	13) to (P14)		Surface S	oll Cracks (B6) Rettorne (B10)
Saturati	(A2)			Hydrode	n Sulfide	Odor (C	1) <u> </u>	Drv-Seaso	on Water Table (C2)
Water M	larks (B1)			Oxidized	l Rhizosp	heres on	Living Roots	Crayfish E	Burrows (C8)
Sedime	nt Deposits (B2)			(C3)			Ū	Saturation	Visible on Aerial Imagery (C9)
Drift De	posits (B3)			Presenc	e of Redu	uced Iron	(C4)	Stunted of	r Stressed Plants (D1)
Algal Ma	at or Crust (B4)			Recent I	ron Redu	iction in T	illed Soils	Geomorph	nic Position (D2)
Iron Dep	OSIIS (B5) on Visible on Aeria	l Imagen	(B7)	(Co) Thin Mu	ck Surfac			FAC-Neut	ral Test (D5)
Sparsel	Vegetated Conca	ave Surfa	ce (B8)	Gauge o	or Well Da	ata (D9)			
Water-S	tained Leaves (B9	)		Other (E	xplain in	Remarks	)		
Field Obse	vations:								
Surface wat	er present?	Yes	No	Х	Depth (i	nches):			_
Water table	present?	Yes	No	X	Depth (i	nches):		Indi	cators of wetland
Saturation p	resent?	Yes	No	X	Depth (i	nches):		hyo	arology present? N
	pillary initige)				hataa m		opportions) if a	(ailabla)	
Describe re		am gauge	e, morntoring wen	, aenai p	notos, pi		ispections), if av	allable.	
Remarks:									
Saturation	and/or a water	r table v	vere not able to	be obs	served,	as the	water was froz	zen at the	time of the site visit.
IS Army C	orns of Engine	ors							Midwest Pegion
55 Anny C	or ha or Engine	013							minuwest Region

WETLAND DETERMINA	TION D	ATA FORM	- Midwest Regio	on	
Project/Site 85th Street Interchange	City/0	County:	Lincoln County	Sampling Date:	11/13/18
Applicant/Owner: 85th Street Business District Joint Venture Grou	h	State:	South Dakota	Sampling Point:	11-1W
Investigator(s): Rebecca Beduhn		Sectio	on, Township, Range	: T100NS1	8R50W
Landform (hillslope, terrace, etc.): toeslope		Local r	elief (concave, conve	ex, none):(	Concave
Slope (%): 0 Lat: 43.47561		Long:	-96.79971	Datum: UTM NA	AD 83 Zone 14N
Soil Map Unit Name Worthing silty clay loam, 0 to 1 percent slopes			NWI Classific	ation: PE	M1Cd
Are climatic/hydrologic conditions of the site typical for this time of the	ne year?	_	Y (If no, expl	ain in remarks)	
Are vegetation, soil, or hydrologys	significant	ly disturbed?			
Are vegetation , soil , or hydrology r	naturally p	roblematic?	Are "no	rmal circumstances" ہ	present? Yes
SUMMARY OF FINDINGS			(If need	ed, explain any answe	ers in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? Y		Is the sa	ampled area within a	a wetland?	Y
Indicators of wetland hydrology present? Y		lf yes, op	tional wetland site ID	: Wetland 11	
Remarks: (Explain alternative procedures here or in a separate repo	ort.)				
	,				
VEGETATION Use scientific names of plants					
	Absolute	Dominan	Indicator Domina	ance Test Workshee	t
Tree Stratum (Plot size: 30' Radius )	% Cover	t Species	Status Number	er of Dominant Species	-
1		·	that are	e OBL, FACW, or FAC:	1 (A)
2			Tota	al Number of Dominant	1
3			Sp	ecies Across all Strata:	<u> </u>
4			Percer	nt of Dominant Species	
5		<u></u>	that are	∋ OBL, FACW, or FAC:	<u>100.00%</u> (A/B)
Sanling/Shrub stratum (Plat size: 15' Padius )	0	= I otal Cover	Broyald	anaa Indax Warkaha	
1			Total %	Cover of:	20
2			OBL sp	ecies 0 x1	= 0
3			FACW	species 100 x 2	= 200
4			FAC sp	ecies 0 x 3	= 0
5			FACU s	species 0 x 4	= 0
	0	= Total Cover	UPL sp	ecies 0 x 5	= 0
Herb stratum (Plot size: 5' Radius )			Column	totals <u>100</u> (A)	<u>200</u> (B)
1 Phalaris arundinacea Reed Canary Grass	100	Y	FACW Prevale	nce Index = B/A =	2.00
		<u> </u>	Hydron	hytic Vegetation Ind	licators:
4		<u> </u>	Rat	oid test for hydrophytic	c vegetation
5			X Dor	minance test is >50%	5
6			X Pre	valence index is ≤3.0'	ŧ
7			Mo	rphological adaptation	s* (provide
8			sup	porting data in Remai	rks or on a
			sep	arate sheet)	
10	100	- Total Cavar	Pro	blematic hydrophytic v	vegetation*
Woody vine stratum (Plot size: 30' Radius )	100		(ex	Jiaiii)	
1			*Indicat	ors of hydric soil and wetla	nd hydrology must be
2			Hyd	drophytic	, problemado
	0	= Total Cover	veg	jetation	
			pre	sent? Y	
Remarks: (Include photo numbers here or on a separate sheet)					
Nate: This data about has been adapted to use the 0040 Matter 1944 (	and Direct !	iet			
Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: National	and Plant L al Wetland F	LIST: Plant List, versior	n 2.4.0 (https://wetland_pla	ants.usace.army.mil). U.S.	Army Corps of
Engineers, Engineer Research and Development Center, Cold Regions Research a	and Enginee	ring Laboratory,	Hanover, NH, and BONA	P, Chapel Hill, NC. (2012)	

Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm the abser	ice of indicators.)
Depth	Matrix		Red	dox Feat	ures			
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks
0-8	10YR 2/1	90	10YR 5/8	5	C	М	Silty Clay Loam	
	1011(2,1	00	1011C 6/0	F				
			101R 5/2	5	D	IVI		
8-16	10YR 2/1	95	10YR 5/8	5	С	М	Silty Clay Loam	
*Type: C = 0	Concentration, D :	= Depleti	on, RM = Reduce	ed Matrix	i, MS = N	/lasked S	and Grains. **Locati	on: PL = Pore Lining, M = Matrix
Hydric Sc	il Indicators:						Indicators for Prob	lematic Hydric Soils:
Hist	tosol (A1)		Sar	dy Gleye	ed Matrix	(S4)	Iron-Manganes	e Masses (F12) ( <b>LRR K, L, M</b> )
Hist	tic Epipedon (A2)		Sar	idy Redo	ox (S5)		Very Shallow D	ark Surface (F22)
Bla	ck Histic (A3)		Stri	pped Ma	trix (S6)		Other (explain i	n remarks)
Hyc	lrogen Sulfide (A4	4)	Dar	k Surfac	e (S7)			
Stra	atified Layers (A5)	)	Loa	my Mucl	ky Minera	al (F1)		
2 cr	m Muck (A10)		Loa	my Gley	ed Matrix	x (F2)		
Dep	leted Below Dark	surface	e (A11) Dep	leted Ma	atrix (F3)			
Thio	ck Dark Surface (	A12)	X Rec	lox Dark	Surface	(F6)	*Indicators of hyd	Irophytic vegetation and wetland
Sar	ndy Mucky Minera	al (S1)	X Dep	leted Da	ark Surfa	ce (F7)	hydrology must	be present, unless disturbed or
5 cr	m Mucky Peat or	Peat (S3	) Rec	lox Depr	essions	(F8)		problematic
Restrictive	l aver (if observe	od).				1		
Type <sup>.</sup>		cuj.					Hydric soil prese	nt? V
Denth (inche	<i>be)</i> .				-		liyulic soli prese	<u> </u>
Deptil (mone					-			
HYDROLO	DGY							
Wetland Hy	drology Indicato	ors:						
Primary Indi	cators (minimum	of one is	required; check	all that a	pply)		Secondary In	dicators (minimum of two required)
Surface	Water (A1)		•	Aquatic	Fauna (B	(13)	Surface	e Soil Cracks (B6)
High Wa	ater Table (A2)			True Aq	uatic Plar	nts (B14)	Drainag	je Patterns (B10)
Saturatio	on (A3)			Hydroge	en Sulfide	Odor (C	1) Dry-Sea	ason Water Table (C2)
Water N	larks (B1)			Oxidized	l Rhizosp	heres on	Living Roots Crayfis	n Burrows (C8)
Sedimer	nt Deposits (B2)			(C3)			Saturat	ion Visible on Aerial Imagery (C9)
Drift Dep	oosits (B3)			Presenc	e of Red	uced Iron	(C4) Stunted	l or Stressed Plants (D1)
Algal Ma	at or Crust (B4)			Recent I	ron Redu	uction in T	illed Soils X Geomo	rphic Position (D2)
Iron Dep	osits (B5)			(C6)		(0-)	X FAC-Ne	eutral Test (D5)
Inundation	on Visible on Aeria	al Imager	y (B7)	Thin Mu	ck Surfac	ce (C7)		
Sparsely	/ vegetated Conca	ave Surra	се (В8)	Gauge c	or well Da	ata (D9) Democrito	N N	
vvaler-S	tained Leaves (B9	)		Other (E	xpiain in	Remarks	)	
Field Obser	vations:			N/				
Surface wat	er present?	Yes	No	X	Depth (i	inches):		diastary of watland
Valer table	present?	Yes		<u>×</u>	Deptn (I	incnes):	II II	$\alpha$
Saturation p	resent?	res	NO			inches):	'	iydrology present?
Decer'					la a fa			
Describe red	corded data (strea	am gauge	e, monitoring well	, aeriai p	notos, p	revious li	nspections), if available:	
Remarks:								
Saturation	and/or a water	r tahle v	vere not able to	he ob	served	as the	water was frozen at th	he time of the site visit
Saturation					501 VGU,			
1								

WETLAND DETERMINA	ATION D	ATA FORM	I - Midwest Reg	ion	
Project/Site 85th Street Interchange	City/0	County:	Lincoln County	Sampling Date:	11/13/18
Applicant/Owner: 85th Street Business District Joint Venture Gro	up	State:	South Dakota	Sampling Point:	11-2U
Investigator(s): Rebecca Beduhn		Secti	on, Township, Rang	ge: T100N	S18R50W
Landform (hillslope, terrace, etc.): backslope		Local	relief (concave, con	ivex, none):	None
Slope (%): 4 Lat: 43.47571024		Long:	-96.80404252	Datum: UTM I	NAD 83 Zone 14N
Soil Map Unit Name Egan-Worthing complex, 0 to 6 percent slopes			NWI Classif	ication:	PEM1Cx
Are climatic/hydrologic conditions of the site typical for this time of t	he year?		Y (If no, ex	plain in remarks)	
Are vegetation , soil , or hydrology	significant	ly disturbed?			
Are vegetation , soil , or hydrology	naturally p	oroblematic?	Are "r	normal circumstances	" present? Yes
SUMMARY OF FINDINGS			(If nee	eded, explain any ans	wers in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? N		Is the sa	ampled area withir	n a wetland?	Ν
Indicators of wetland hydrology present? N		lf yes, op	tional wetland site I	ID:	
Remarks: (Explain alternative procedures here or in a separate repr	ort )				
	511.)				
VEGETATION Lise scientific names of plants					
	Abcoluto	Dominan	Indicator Domi	nance Test Workshr	
Tree Stratum (Plot size: 30' Radius )	% Cover	t Species	Status Num	her of Dominant Speci	
1			that a	are OBL, FACW, or FA	.C: 1 (A)
2		·······	т	otal Number of Domina	ant
3				Species Across all Stra	ta: <u> </u>
4			Perc	ent of Dominant Speci	es
5			that a	are OBL, FACW, or FA	.C: <u>100.00%</u> (A/B)
	0	= Total Cover			4
<u>Sapling/Shrub stratum</u> (Plot size: <u>15' Radius</u> )			Preva	Mence Index Worksn	leet
2				species 0 x	(1= 0
3			FACV	V species 0 x	2 = 0
4		·	FAC s	species 100 x	3 = 300
5	,	·······	FACL	J species 0 x	4 = 0
	0	= Total Cover	UPL s	species 0 x	5 = 0
Herb stratum (Plot size: 5' Radius )			Colun	nn totals 100 (/	A) <u>300</u> (B)
1 Poa pratensis Kentucky Blue Grass	100	Y	FAC Preva	lence Index = B/A =	3.00
		······································	Hydro	ophytic Vegetation I	ndicators:
5		·		apid test for hydrophy	
6		······································		revalence index is $\leq 3$	.0*
7			[	Iorphological adaptati	ons* (provide
8			SI	upporting data in Rem	arks or on a
9			Se	eparate sheet)	
10			P	roblematic hydrophyti	c vegetation*
-	100	= Total Cover	·(e	explain)	
Woody vine stratum (Plot size: 30' Radius )			*Indic	ators of hydric soil and we	tland hydrology must be
				present, unless disturbe	d or problematic
		- Total Caver		egetation	
	0	= Total Cover	p	resent? Y	
Remarks: (Include photo numbers here or on a separate sheet)			I		
Note: This data sheet has been adapted to use the 2012 National Weth	and Plant L	_ist:			
Robert vv. Lichvar and John T. Kartesz. 2009. North American Digital Flora: Nation Engineers, Engineer Research and Development Center, Cold Regions Research	aı vvetland F and Enginee	riant List, versioi ring Laboratory,	n ∠.4.∪ (nttps://wetland_ Hanover, NH, and BON	piants.usace.army.mil). U. VAP, Chapel Hill, NC. (201	<ol> <li>Army Corps of</li> <li>2)</li> </ol>

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth	<u>Matrix</u>		Rec	lox Featu	ures				
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks	
0-12	10YR 3/1	100					Silty Clay Loam		
*Type: C = 0	Concentration, D :	= Depleti	on, RM = Reduce	ed Matrix	, MS = N	lasked S	and Grains. **Loc	ation: PL = Pore Lining, M = Matrix	
Hydric So	il Indicators:						Indicators for Pr	oblematic Hydric Soils:	
Hist	tosol (A1)		San	dy Gleye	ed Matrix	(S4)	Iron-Mangane	ese Masses (F12) ( <b>LRR K, L, M</b> )	
Hist	tic Epipedon (A2)		San	idy Redo	x (S5)		Very Shallow	Dark Surface (F22)	
Blac	ck Histic (A3)		Stri	pped Ma	trix (S6)		Other (explain	n in remarks)	
Hyc	Irogen Sulfide (A4	4)	Dar	k Surface	e (S7)				
Stra	atified Layers (A5	)	Loa	my Muck	y Minera	al (F1)			
2 cr	m Muck (A10)	0.7	Loa	my Gleye	ed Matrix	(F2)			
	Neted Below Dark	Surface	e (A11) Dep	eted Ma	trix (F3)		··		
	CK Dark Surface (	A12)		IOX Dark	Surface	(F6)	*Indicators of h	ydrophytic vegetation and wetland	
Sar	ndy Mucky Minera	II (51) Deet (82		leted Da	rk Surra		nyarology mu	st be present, unless disturbed or	
5 CI	II MUCKY Pear Of	real (55			essions (	(го)		problematic	
Restrictive	Layer (if observe	ed):							
Type:							Hydric soil pres	sent? <u>N</u>	
Depth (inche	es):				,				
HYDROLO Wetland Hy Primary Indi X Surface	DGY drology Indicato cators (minimum Water (A1)	ors: of one is	required; check a	all that an Aquatic I	<u>oply)</u> Fauna (B	13)	<u>Secondary</u> Surfa	Indicators (minimum of two required) ce Soil Cracks (B6)	
High Wa	iter Table (A2)			True Aqu	uatic Plar	nts (B14)	Drain	age Patterns (B10)	
Saturatio	on (A3) Jorka (B1)			Hydroge	n Sulfide	Odor (C	l) Dry-S	Season Water Table (C2)	
	arks (DT) at Denosits (B2)			(C3)	Rnizosp	neres on	Living Roots Cray	isii Bullows (Co) ation Visible on Aerial Imagery (C9)	
Drift Der	osits (B3)			Presence	e of Redu	uced Iron	(C4) Stunt	ed or Stressed Plants (D1)	
Algal Ma	at or Crust (B4)			Recent I	ron Redu	ction in T	illed Soils Geor	norphic Position (D2)	
Iron Dep	osits (B5)			(C6)			FAC-	Neutral Test (D5)	
Inundatio	on Visible on Aeria	al Imager	/ (B7)	Thin Muo	ck Surfac	e (C7)			
Sparsely	Vegetated Conca	ave Surfa	ce (B8)	Gauge o	r Well Da	ata (D9)			
Water-S	tained Leaves (B9	)		Other (E	xplain in	Remarks	)		
Field Obser Surface wate Water table	vations: er present? present?	Yes Yes	No No	X X	Depth (i Depth (i	nches): nches):		Indicators of wetland	
(includes ca	pillary fringe)	168		^	Deptii (I	10165).	I		
	prinding minigo)		monitoring well	oorial n	hotos n		enactions) if available		
Describe rec	corded data (strea	am gauge	e, monitoring well	, aenai p	notos, pr	evious ir	ispections), il available		
Remarks:									
Saturation	and/or a water	r table v	vere not able to	be obs	served,	as the	water was frozen at	the time of the site visit.	
US Army C	orps of Engine	ers						Midwest Region	

WETLAND DETERMIN	ATION D	ATA FORM	I - Midwest Regio	n	
Project/Site 85th Street Interchange	City/0	County:	Lincoln County	Sampling Date:	11/13/18
Applicant/Owner: 85th Street Business District Joint Venture Gr	oup	State:	South Dakota	Sampling Point:	11-2W
Investigator(s): Rebecca Beduhn		Section	on, Township, Range:	T100NS1	8R50W
Landform (hillslope, terrace, etc.): toeslope		Local r	relief (concave, conve	x, none): (	Concave
Slope (%): 0 Lat: 43.47571184		Long:	-96.80400468	Datum: UTM NA	AD 83 Zone 14N
Soil Map Unit Name Egan-Worthing complex, 0 to 6 percent slopes	5		NWI Classifica	ition: PE	M1Cx
Are climatic/hydrologic conditions of the site typical for this time of	the year?		Y (If no, expla	ain in remarks)	
Are vegetation , soil , or hydrology	significant	ly disturbed?			
Are vegetation , soil , or hydrology	naturally p	oroblematic?	Are "noi	mal circumstances" p	oresent? Yes
SUMMARY OF FINDINGS			(If neede	ed, explain any answe	ers in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? Y		Is the sa	ampled area within a	wetland?	Y
Indicators of wetland hydrology present? Y		lf yes, op	tional wetland site ID:	Wetland 11	
	port.)				
	,				
Typhj					
VEGETATION Use scientific names of plants					
	Absolute	Dominan	Indicator Domina	nce Test Workshee	t
<u>Tree Stratum</u> (Plot size: 30' Radius )	% Cover	t Species	Status Numbe	r of Dominant Species	i
1			that are	OBL, FACW, or FAC:	(A)
2			Tota	I Number of Dominant	
3			Spe	cies Across all Strata:	<u> </u>
4			Percen	t of Dominant Species	100.00% (A/P)
5		= Total Cover		OBL, FACW, OF FAC.	100.00% (A/B)
Sapling/Shrub stratum (Plot size: 15' Radius )			Prevale	nce Index Workshe	et
1			Total %	Cover of:	
2			OBL spe	ecies 85 x 1	= 85
3			FACW s	species 15 x 2	= 30
4			FAC spe	ecies 0 x 3	= 0
5		<u></u>	FACU s	pecies 0 x 4	= 0
Herb stratum (Plot size: 5' Padius )	0	= I otal Cover	UPL spe	totals $\frac{100}{100}$ (A)	= 0 (B)
1 Turba anguatifalia Narrow Loof Cot Tail	70	V		$\frac{100}{100}$ (A)	<u> </u>
Scirnus atrovirens Dark-Green Bulrush	15				1.15
3 Phragmites australis Common Reed	15		FACW Hvdrop	hvtic Vegetation Ind	icators:
4			Rap	id test for hydrophytic	c vegetation
5			X Don	ninance test is >50%	
6			X Prev	/alence index is ≤3.0*	k.
7			Mor	phological adaptation	s* (provide
			sup	porting data in Remar	ks or on a
9 <u></u>		<u> </u>		arate sneet)	vo notation*
10	100	= Total Cover	P10	blain)	vegetation
Woody vine stratum (Plot size: 30' Radius )			(>,p	re of hydric coil and wate	nd bydrology must be
1			Indicato	present, unless disturbed (	or problematic
2			Hyd	rophytic	-
	0	= Total Cover	veg	etation	
			pres		-
Remarks: (Include photo numbers here or on a separate sheet)					
Note: This data sheet has been adapted to use the 2012 National We	tland Plant I	ist <sup>.</sup>			
Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: Natio Engineers, Engineer Research and Development Center. Cold Regions Research	nal Wetland F	Plant List, version pring Laboratory	n 2.4.0 (https://wetland_pla Hanover, NH. and BONAF	nts.usace.army.mil). U.S. P. Chapel Hill. NC (2012)	Army Corps of

Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm the abs	sence of indicators.)
Depth	Matrix		Red	dox Feat	ures			·
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks
0-8	10YR 2/2	85	10YR 5/8	10	С	М	Silty Clay Loam	
	1011(2)2	00	1011C 6/0	- 10 F		N/		
		-	1018 3/2	5	D	IVI		
8-16	10YR 2/1	95	10YR 5/8	5	С	М	Silty Clay Loam	
*Type: C = 0	Concentration, D :	= Depleti	on, RM = Reduce	ed Matrix	, MS = N	lasked S	and Grains. **Loc	ation: PL = Pore Lining, M = Matrix
Hydric Sc	il Indicators:						Indicators for Pr	oblematic Hydric Soils:
Hist	tosol (A1)		Sar	dy Gleye	ed Matrix	: (S4)	Iron-Mangan	ese Masses (F12) ( <b>LRR K, L, M</b> )
Hist	tic Epipedon (A2)		Sar	idy Redo	x (S5)		Very Shallow	Dark Surface (F22)
Bla	ck Histic (A3)		Stri	pped Ma	trix (S6)		Other (explai	n in remarks)
Hyc	Irogen Sulfide (A4	4)	Dar	k Surfac	e (S7)			
Stra	atified Layers (A5)	)	Loa	my Mucł	ky Minera	al (F1)		
2 cr	m Muck (A10)		Loa	my Gley	ed Matrix	(F2)		
Dep	oleted Below Dark	Surface	e (A11) Dep	leted Ma	atrix (F3)			
Thio	ck Dark Surface (	A12)	X Rec	lox Dark	Surface	(F6)	*Indicators of I	nydrophytic vegetation and wetland
Sar	ndy Mucky Minera	l (S1)	X Dep	leted Da	ark Surfa	ce (F7)	hydrology mu	st be present, unless disturbed or
5 cr	m Mucky Peat or	Peat (S3	) Rec	lox Depr	essions (	(F8)		problematic
Restrictive	l aver (if observ	əd).						
Type:		54).					Hydric soil pre	sent? Y
Depth (inche	es).				-		inguine con pre	
2 op (					•			
HYDROLO	DGY							
Wetland Hy	drology Indicato	ors:						
Primary Indi	<u>cators (minimum</u>	of one is	required; check	all that a	<u>pply)</u>		Secondary	Indicators (minimum of two required)
X Surface	Water (A1)			Aquatic	Fauna (B	13)	Surfa	ace Soil Cracks (B6)
High Wa	ater Table (A2)			True Aq	uatic Plar	nts (B14)	Drain	nage Patterns (B10)
Saturatio	on (A3) Jorka (B1)			Hydroge	n Sulfide	Odor (C	I) Dry-3	Season Water Table (C2)
Sodimor	arks (BT)				i Rnizosp	neres on	Living Roots Cray	ration Visible on Aprial Imagony (CQ)
Drift Der	(B2)			Presenc	e of Redu	iced Iron	(C4) Stun	ted or Stressed Plants (D1)
Algal Ma	at or Crust (B4)			Recent I	ron Redu	iction in T	illed Soils X Geo	morphic Position (D2)
Iron Der	osits (B5)			(C6)	lonnoud		X FAC	-Neutral Test (D5)
Inundati	on Visible on Aeria	I Imager	/ (B7)	Thin Mu	ck Surfac	e (C7)		
Sparsely	/ Vegetated Conca	ve Surfa	ce (B8)	Gauge o	or Well Da	ata (D9)		
Water-S	tained Leaves (B9	)		Other (E	xplain in	Remarks	)	
Field Obser	vations:							
Surface wat	er present?	Yes	X No		Depth (i	nches):	1	
Water table	present?	Yes	No	Х	Depth (i	nches):		Indicators of wetland
Saturation p	resent?	Yes	No	Х	Depth (i	nches):		hydrology present? Y
(includes ca	pillary fringe)				-			
Describe red	corded data (strea	am gauge	e, monitoring well	, aerial p	hotos, pi	revious ii	nspections), if available	e:
Remarks:								
Saturation	and/or a water	table v	vere not able to	be obs	served.	as the	water was frozen a	t the time of the site visit.
		- •			,			
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WETLAND DETERMINA	TION D	ATA FORM	I - Midwest R	egion			
Project/Site 85th Street Interchange	City/0	County:	Lincoln County	Sampling	Date:	11/13/18	5
Applicant/Owner: 85th Street Business District Joint Venture Grou	qr	State:	South Dakota	a Sampling	Point:	12-U	
Investigator(s): Rebecca Beduhn		Secti	on, Township, Ra	ange:	T100NS18R	50W	
Landform (hillslope, terrace, etc.): backslope		Local	relief (concave, c	convex, none):	Nc	one	
Slope (%): 4 Lat: 43.47545196		Long:	-96.80231414	Datum:	UTM NAD 8	33 Zone 1	14N
Soil Map Unit Name Baltic silty clay loam, ponded			NWI Clas	sification:	None	е	
Are climatic/hydrologic conditions of the site typical for this time of the	ne year?		Y (If no,	explain in remar	rks)		
Are vegetation , soil , or hydrology s	significantl	ly disturbed?					
Are vegetation , soil , or hydrology r	naturally p	oroblematic?	Are	e "normal circum	istances" pres	sent? Ye	es
SUMMARY OF FINDINGS			(If	needed, explain	any answers i	in remark	<s.)< td=""></s.)<>
Hydrophytic vegetation present? N							
Hydric soil present? N		Is the sa	ampled area wit	hin a wetland?	N		
Indicators of wetland hydrology present? N		lf yes, op	tional wetland sit	te ID:		_	
Remarks: (Explain alternative procedures here or in a separate repo	ort )						
VEGETATION Use scientific names of plants							
	Absolute	Dominan	Indicator Do	minance Test V	Vorksheet		
<u>Tree Stratum</u> (Plot size: 30' Radius )	% Cover	t Species	Status N	umber of Domina	int Species		
1			th	at are OBL, FAC	W, or FAC:	0	(A)
2				Total Number o	f Dominant		-
3				Species Across	all Strata:	1	(B)
4			P	ercent of Domina	nt Species		
5			that	at are OBL, FAC	N, or FAC:	0.00%	_(A/B)
Sonling/Shrub strature (Plot size: 15' Padius )	0	= I otal Cover	Dr	walanca Indax	Warkshoot		
1			Tot	tal % Cover of	WOIKSHEEL		
2			OB	L species	0 x 1 =	0	
3		······································	FA	CW species	0 x 2 =	0	-
4		·······	FA	C species	0 x 3 =	0	-
5			FA	CU species	0 x 4 =	0	_
-	0	Total Cover	UP	L species	0 x 5 =	0	_
Herb stratum (Plot size: 5' Radius )			Co	lumn totals	0 (A)	0	_(B)
1 Glycine max Soybeans	100	Y	NI Pre	evalence Index =	: B/A =		-
				due a hertie Mene	tation Indian		
			Hy	Babid tost for h	tation indica	cors:	
				 Dominance tes	t is >50%	getation	
6				Prevalence ind	ex is ≤3.0*		
7		······································		– Morphological	adaptations* (	provide	
8		·		supporting data	a in Remarks	or on a	
9				separate sheet	)		
10				Problematic hy	drophytic veg	etation*	
	100	= Total Cover	·	(explain)			
Woody vine stratum (Plot size: <u>30' Radius</u> )			*lr	ndicators of hydric s	oil and wetland h	ydrology m	iust be
		· ·		present, unles	s disturbed or pro	oblematic	
	0	- Total Covor		vegetation			
	0			present?	Ν		
Remarks: (Include photo numbers here or on a separate sheet)							
Note: This data sheet has been adapted to use the 2012 National Wetla	and Plant L		n 2 4 0 /httms://	nd plants us			
Engineers, Engineer Research and Development Center, Cold Regions Research a	and Enginee	ring Laboratory,	Hanover, NH, and E	BONAP, Chapel Hill,	NC. (2012)	y corps of	

Profile Des	cription: (Descri	ibe to th	e depth needed	to docu	ment the	indicat	or or confirm th	e absence	of indicators.)
Depth	Matrix		Red	dox Featu	ures				•
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture		Remarks
0-12	10VR 2/1	100			<u>,</u>		Silty Clay Loar	m	
0-12	1011(2/1	100							
*Type: C = 0	Concentration D :	= Denleti	on RM = Reduce	d Matrix	MS = M	lasked S	and Grains	**Location	· PL = Pore Lining M = Matrix
Type. C = C	il Indicatore:	- Depieti			, 1010 – 10	laskeu o	Indicators f		
			Son	du Clave	d Motrix	(84)	Indicators I		
			San			(54)		inganese iv	(asses (F12) (LKK K, L, W))
	ic Epipedon (AZ)		San	ay Reao	x (55)				Surface (F22)
Bla	ck Histic (A3)		Stri	pped Ma	trix (S6)		Other (e	explain in r	emarks)
Hyc	Irogen Sulfide (A4	+)	Dar	k Surface	e (S7)				
Stra	atified Layers (A5)	)	Loa	my Muck	ky Minera	al (F1)			
2 cr	n Muck (A10)		Loa	my Gley	ed Matrix	(F2)			
Dep	leted Below Dark	Surface	e (A11) Dep	leted Ma	atrix (F3)				
Thio	ck Dark Surface (	A12)	Rec	lox Dark	Surface	(F6)	*Indicator	rs of hydro	phytic vegetation and wetland
Sar	idy Mucky Minera	l (S1)	Dep	leted Da	rk Surfa	ce (F7)	hydrolog	gy must be	present, unless disturbed or
5 cr	n Mucky Peat or	Peat (S3	) Rec	lox Depre	essions (	F8)		p	oroblematic
	l aver (if abaamy	·	·						
Turner	Layer (II observe	eu):					l hudula a a		
Type:	<b>`</b>						Hydric so	li present	<u>e N</u>
Depth (Inche	es):								
Remarks:									
	JG I drology Indicate	rei							
		ns.							
Primary Indi	<u>cators (minimum</u>	ot one is	required; check	all that a	oply)		Seco	ndary Indic	cators (minimum of two required)
Surface	Water (A1)			Aquatic	Fauna (B	13)		Surface So	oil Cracks (B6)
High Wa	iter Table (A2)			True Aqu	uatic Plar	nts (B14)		Drainage I	Patterns (B10)
Saturatio	on (A3)			Hydroge	n Sulfide	Odor (C	)	Dry-Seaso	on Water Table (C2)
Water N	larks (B1)			Oxidized	Rhizosp	heres on	Living Roots	Crayfish B	surrows (C8)
Sedimer	nt Deposits (B2)			(C3)				Saturation	Visible on Aerial Imagery (C9)
Drift Dep	oosits (B3)			Presenc	e of Redu	uced Iron	(C4)	Stunted or	Stressed Plants (D1)
Algal Ma	at or Crust (B4)			Recent I	ron Redu	ction in T	illed Soils	Geomorph	nic Position (D2)
Iron Dep	osits (B5)			(C6)				FAC-Neut	ral Test (D5)
Inundati	on Visible on Aeria	I Imager	/ (B7)	Thin Mu	ck Surfac	e (C7)		-	
Sparsely	Vegetated Conca	ve Surfa	ce (B8)	Gauge o	r Well Da	ata (D9)			
Water-S	tained Leaves (B9	)		Other (E	xplain in	Remarks	)		
Field Obser	vations.			```	•		-	ſ	
Surface wat	er present?	Yee	No	x	Denth (i	nches).			
Water table	nresent?	Yee		<u> </u>	Denth (i	nchee).		Indi	cators of wetland
Saturation n	resent?	Vee		<u> </u>	Depth (i	nches).		hve	Irology present?
(includes co	nillary fringe)	165		^	Dehin (I	10165).		l	
Describe red	corded data (strea	am gauge	e, monitoring well	, aerial p	notos, pr	revious ir	nspections), if ava	allable:	
Domostra									
Remarks:					-				
Saturation	and/or a water	table v	vere not able to	be obs	served,	as the	water was froz	en at the	time of the site visit.

WETLAND DETERMIN	ATION D	ATA FORN	I - Midwest Re	egion	
Project/Site 85th Street Interchange	City/	County:	Lincoln County	Sampling Date:	11/13/18
Applicant/Owner: 85th Street Business District Joint Venture Gro	bup	State:	South Dakota	Sampling Point:	12-W
Investigator(s): Rebecca Beduhn		Secti	on, Township, Ra	ange: T100NS	318R50W
Landform (hillslope, terrace, etc.): toeslope		Local	relief (concave, c	onvex, none):	Concave
Slope (%): 1 Lat: 43.47547072	_	Long:	-96.80231417	Datum: UTM N	VAD 83 Zone 14N
Soil Map Unit Name Baltic silty clay loam, ponded			NWI Clas	sification:	None
Are climatic/hydrologic conditions of the site typical for this time of the site typical for	the year?	_	Y (If no,	explain in remarks)	
Are vegetation, soil, or hydrology	significant	ly disturbed?			
Are vegetation , soil , or hydrology	naturally p	oroblematic?	Are	e "normal circumstances"	" present? Yes
SUMMARY OF FINDINGS			(If r	needed, explain any ans	wers in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? Y		Is the sa	ampled area witl	hin a wetland?	Y
Indicators of wetland hydrology present? Y		∣f yes, op	tional wetland sit	e ID: Wetland 12	
Remarks: (Explain alternative procedures here or in a separate rep	ort.)				
	0111)				
VEGETATION Use scientific names of plants					
	Absolute	Dominan	Indicator Do	minance Test Workshe	et
<u>Tree Stratum</u> (Plot size: 30' Radius )	% Cover	t Species	Status <sub>Ni</sub>	umber of Dominant Specie	es
1			tha	at are OBL, FACW, or FA	C: 2 (A)
2				Total Number of Domina	nt
3				Species Across all Strat	a: <u> </u>
4			Pe	ercent of Dominant Specie	es
5	0	- Total Cavar	tha	at are OBL, FACVV, or FA	J: 100.00% (A/B)
Sanling/Shrub stratum (Plot size: 15' Radius )	0		Pre	valence Index Worksh	
1			Tot	al % Cover of:	
2			OB	L species 0 x	1 = 0
3			FAG	CW species 90 x	2 = 180
4			FAG	C species 10 x	3 = 30
5			FAG	CU species 0 x	4 = 0
Horb stratum (Dist size: 5' Dadius )	0	= I otal Cover		L species 0 x	5 = 0
	60	V		$\frac{1}{1}$	(b) <u>210</u> (b)
Prialaris arundinacea	30	<u> </u>	FACW Pre	valence index = b/A =	2.10
3 Poa pratensis Kentucky Blue Grass	10	·	FAC Hv	drophytic Vegetation Ir	dicators:
4 Glycine max Soybeans	10	N	NI	Rapid test for hydrophy	tic vegetation
5			X	Dominance test is >50%	6
6			X	Prevalence index is ≤3.	0*
7				Morphological adaptation	ons* (provide
		·		supporting data in Rem	arks or on a
<u> </u>				Broblematic bydropbyti	a vagatation*
	110	= Total Cover	· · · · ·	(explain)	vegetation
Woody vine stratum (Plot size: 30' Radius )	110		*10	diasters of hydric soil and wat	tland hydrology must be
1				present, unless disturbe	d or problematic
2		·		Hydrophytic	
	0	= Total Cover		vegetation	
Remarks: (Include photo numbers here or on a separate sheet)					
Note: This data sheet has been adapted to use the 2012 National Wet	land Plant I	_ist:			
Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: Nation	nal Wetland F	Plant List, version	n 2.4.0 (https://wetlar	nd_plants.usace.army.mil). U.S	S. Army Corps of
Engineers, Engineer Research and Development Center, Cold Regions Research	anu ⊏nginee	ung Laboratory,	nariover, INH, and B	UNAP, Unapel Hill, NC. (2012	-)

Profile Des	cription: (Descri	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm th	e absence o	of indicators.)
Depth	Matrix		Red	dox Feat	ures				·
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	<b>;</b>	Remarks
0-14	10YR 2/1	95	10YR 5/8	5	С	М	Silty Clay Loa	m	
*Type: C = (	Concentration D :	- Denleti	ion RM = Reduce	d Matrix		l Iaskad S	and Grains	**Location	PI = Pore Lining M = Matrix
Hydric Sc	il Indicators:	- Depiet			, WIO – N	hasked C	Indicators	for Problem	atic Hydric Soils:
His	tosol (A1)		Sar	ndv Gleve	ed Matrix	(S4)	Iron-Ma	anganese Ma	asses (F12) (I RR K. I. M)
His	tic Enipedon (A2)		Sar	ndy Redo	x (S5)	((0-1)	Verv St	nallow Dark S	Surface (F22)
Bla	ck Histic (A3)		Stri	pped Ma	r(00)		Other (	explain in rer	marks)
	Irogen Sulfide (A4	1)	Dar	k Surfac	e (S7)				
Stra	atified Lavers (A5)	)	Loa	mv Mucl	kv Minera	al (F1)			
2 ci	m Muck (A10)		Loa	my Glev	ed Matrix	x (F2)			
Der	leted Below Dark	Surface	e (A11) Der	pleted Ma	atrix (F3)	. ()			
	ck Dark Surface (	A12)		lox Dark	Surface	(F6)	*Indicato	rs of hydropl	nytic vegetation and wetland
Sar	dy Mucky Minera	í (S1)	Dep	pleted Da	ark Surfa	ce (F7)	hydrolog	gy must be p	present, unless disturbed or
5 ci	n Mucky Peat or	Peat (S3	5) Rec	lox Depr	essions	(F8)	, , ,	pro	oblematic
Poetrictivo	l avor (if obsorv	, ,	·	•		· /			
Type <sup>.</sup>	Layer (II Observe	<del>.</del>					Hydric so	il nrosont?	Y
Depth (inch	<i>be)</i> .				-		Tryanc 30	in present:	
	, <u> </u>				-				
	DGY drology Indicate								
Drimony Indi	actors (minimum	ns. of one is	required sheek	all that a	nnh ()		Casa	ndon (Indiaa	tors (minimum of two required)
Primary Indi		or one is	required; check		<u>ppiy)</u> Fauna (D	10)	<u>Seco</u>	ndary Indica	tors (minimum of two required
	vvaler (AT)				Fauna (B	013) nto (P14)		- Surface Sol	I Cracks (B0)
Saturati	$(\Delta 3)$			Hydroae	ualic Fiai an Sulfide	Odor(C)			Water Table (C2)
Water M	larks (B1)			Oxidized	l Rhizosn	heres on	l iving Roots	Cravfish Bu	rrows (C8)
Sedimer	nt Deposits (B2)			(C3)	11112000			Saturation \	/isible on Aerial Imagery (C9)
Drift Der	posits (B3)			Presenc	e of Red	uced Iron	(C4)	Stunted or St	Stressed Plants (D1)
Algal Ma	at or Crust (B4)		-	Recent I	Iron Redu	uction in T	illed Soils X	Geomorphic	Position (D2)
Iron Dep	osits (B5)			(C6)			X	FAC-Neutra	l Test (D5)
Inundati	on Visible on Aeria	I Imager	y (B7)	Thin Mu	ck Surfac	ce (C7)		-	
Sparsely	Vegetated Conca	ive Surfa	ce (B8)	Gauge of	or Well Da	ata (D9)			
Water-S	tained Leaves (B9	)		Other (E	xplain in	Remarks	)		
Field Obser	vations:								
Surface wat	er present?	Yes	No	Х	Depth (i	inches):	<u> </u>		
Water table	present?	Yes	No	<u>X</u>	Depth (i	inches):		Indica	ators of wetland
Saturation p	resent?	Yes	No	X	Depth (I	inches):		hydr	ology present? Y
(includes ca	piliary fringe)							L	
Describe red	corded data (strea	am gaug	e, monitoring well	, aerial p	photos, p	revious ii	nspections), if av	ailable:	
Remarks:									
Saturation	and/or a water	table v	vere not able to	be ob	served,	as the	water was froz	en at the ti	me of the site visit.

WETLAND DETERMINA	TION D	ATA FORM	l - Midwest Reg	ion	
Project/Site 85th Street Interchange	City/0	County:	Lincoln County	Sampling Date	e: 11/13/18
Applicant/Owner: 85th Street Business District Joint Venture Grou	qu	State:	South Dakota	Sampling Poin	t: 14-U
Investigator(s): Rebecca Beduhn		Section	on, Township, Rang	ge: T10	0NS13R51W
Landform (hillslope, terrace, etc.): backslope		Local	relief (concave, con	ivex, none):	None
Slope (%): 5 Lat: 43.47567538		Long:	-96.8109661	Datum: UT	M NAD 83 Zone 14N
Soil Map Unit Name Worthing silty clay loam, 0 to 1 percent slopes			NWI Classif	ication:	None
Are climatic/hydrologic conditions of the site typical for this time of the	ne year?		Y (If no, ex	plain in remarks)	
Are vegetation , soil , or hydrology s	significant	ly disturbed?			
Are vegetation , soil , or hydrology r	naturally p	oroblematic?	Are "	normal circumstan	ces" present? Yes
SUMMARY OF FINDINGS			(If nee	eded, explain any a	answers in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? N		Is the sa	ampled area withir	n a wetland?	Ν
Indicators of wetland hydrology present? N		lf yes, op	tional wetland site	ID:	
Remarks: (Explain alternative procedures here or in a separate repo	ort )				
rtemarks. (Explain alternative procedures here of in a separate repo	n.,				
VECETATION Lies acientific names of plants					
VEGETATION Use scientific frames of plants.	Abcoluto	Dominan	Indicator Domi	nance Test Work	sheet
Tree Stratum (Plot size: 30' Radius )	% Cover	t Species	Status Num	ber of Dominant Sr	
1		I	that a	are OBL, FACW, or	FAC: 1 (A)
2			т	otal Number of Don	ninant
3				Species Across all S	Strata: 1 (B)
4			Perc	ent of Dominant Sp	pecies
5			that a	are OBL, FACW, or	FAC: 100.00% (A/B)
-	0	= Total Cover		· · · · · · ·	
Sapling/Shrub stratum (Plot size: 15' Radius )			Preva	alence Index Worl	ksheet
2					x 1 = 0
3		<u> </u>	FACV	V species 0	$\frac{x^{2}}{x^{2}} = \frac{0}{0}$
4			FAC s	species 100	$x_3 = 300$
5			FACL	J species 0	x 4 = 0
	0	= Total Cover	UPL	species 0	x 5 = 0
Herb stratum (Plot size: 5' Radius )			Colun	nn totals 100	(A) <u>300</u> (B)
1 Poa pratensis Kentucky Blue Grass	100	Y	FAC Preva	lence Index = B/A	= 3.00
2					
			Hydro	ophytic Vegetatio	n Indicators:
4 <u></u>			K	apid test for hydro	
				revalence index is	<3 0*
7					tations* (provide
8		·		upporting data in F	Remarks or on a
9			S	eparate sheet)	
10			P	roblematic hydropl	nytic vegetation*
	100	= Total Cover	(6	explain)	
Woody vine stratum (Plot size: 30' Radius )			*Indic	cators of hydric soil and	t wetland hydrology must be
				present, unless dist	urbed or problematic
2		<u></u>	H	egetation	
	0	= I otal Cover	p	resent?	Y
Remarks: (Include photo numbers here or on a separate sheet)			! ·		
Note: This data sheet has been adapted to use the 2012 National Wetla	and Plant L	_ist:			
Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: Nationa Engineers, Engineer Research and Development Center, Cold Regions Research a	aı Wetland P and Enginee	riant List, version ring Laboratory,	n 2.4.0 (https://wetland_ Hanover, NH, and BON	plants.usace.army.mil, NAP, Chapel Hill, NC. (	U.S. Army Corps of 2012)

Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	indicat	or or confirm the abs	ence of indicators.)
Depth	<u>Matrix</u>		Rec	lox Featu	ures_			
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks
0-14	10YR 2/1	100					Silty Clay Loam	
*Type: C = 0	Concentration, D :	= Depleti	on, RM = Reduce	ed Matrix	, MS = N	lasked S	and Grains. **Loc	ation: PL = Pore Lining, M = Matrix
Hydric So	il Indicators:						Indicators for Pr	oblematic Hydric Soils:
Hist	tosol (A1)		San	dy Gleye	ed Matrix	(S4)	Iron-Mangane	ese Masses (F12) ( <b>LRR K, L, M</b> )
Hist	tic Epipedon (A2)		San	dy Redo	x (S5)		Very Shallow	Dark Surface (F22)
Blac	ck Histic (A3)		Stri	oped Ma	trix (S6)		Other (explain	n in remarks)
Hyc	Irogen Sulfide (A4	4)	Dar	k Surface	e (S7)			
Stra	atified Layers (A5)	)	Loa	my Muck	ky Minera	al (⊢1)		
2 cr	TI IVIUCK (A1U)	Curfa	Loa	iny Gleye	ea Matrix	(F2)		
	neteu Below Dark			netea Ma Iox Dark	uux (F3) Surfaaa	(F6)	*!	
	dy Mucky Minera	A12)		lotod Da	Surface	(F0) 50 (F7)	"Indicators of r	ydropnytic vegetation and wetland
5 cr	n Mucky Peat or	Peat (S3	) Bec	lox Denre		(17) (F8)	nyurology mu	problematic
0						10)		proziolitado
Restrictive	Layer (It observe	ea):					Lhudvie eeil eve	
Type: Donth (inch	);						Hydric soll pre	
Depth (inche								
HYDROLO Wetland Hy Primary Indi	DGY drology Indicato	ors: of one is	required: check :	all that a	oply)		Secondary	Indicators (minimum of two required)
Surface	Water (A1)			Aquatic I	Fauna (B	13)	Surfa	ce Soil Cracks (B6)
High Wa	ter Table (A2)			True Aqu	uatic Plar	, nts (B14)	Drain	age Patterns (B10)
Saturatio	on (A3)			Hydroge	n Sulfide	Odor (C1	) Dry-S	Season Water Table (C2)
Water M	larks (B1)			Oxidized	Rhizosp	heres on	Living Roots Cray	ish Burrows (C8)
Sedimer	nt Deposits (B2)			(C3)			Satur	ation Visible on Aerial Imagery (C9)
	osils (B3)			Presence Recent I	e of Real ron Redu	ction in T	(C4) Stuni	ed of Stressed Plants (DT)
Iron Dep	osits (B5)			(C6)	Ion Redu		FAC-	Neutral Test (D5)
Inundatio	on Visible on Aeria	I Imager	/ (B7)	Thin Mu	ck Surfac	e (C7)		
Sparsely	Vegetated Conca	ve Surfa	ce (B8)	Gauge o	r Well Da	ata (D9)		
Water-S	tained Leaves (B9	)		Other (E	xplain in	Remarks	)	
Field Obser	vations:							
Surface wat	er present?	Yes	No	X	Depth (i	nches):		
vvater table	present?	Yes		X	Depth (i	nches):		Indicators of wetland
(includes ca	pillary fringe)	res		^	Debru (I	nunes):		
Describe rec	prinding minigo)	om douid	monitoring well	aerial n	hotos n		enections) if available	
Describered		ani yauyo	e, morntoring wei	, acriai p	10:05, pi	evious ii		·
Remarks:								
Saturation	and/or a water	table v	vere not able to	be obs	served,	as the	water was frozen at	the time of the site visit.
US Army C	orps of Engine	ers						Midwest Region

Project/Site 83th Street Interchange         City/Courty         Lincoln County         Sampling Date:         111/3/18           Applicant/Owner:         Site Street Extenses District Joint Venture Group         State State State States District Joint Venture Group         State State State States District Joint Venture Group         State State States District Joint Venture Group         Concave           Sold Max Unit Name Worthing ally clay lean; 0 to 1 percent stopes         NVI ClassRicator:         PEMIABE           Ace classRoll for this time of the star of this time of the year?         Y         (If no. explain in remarks)           Are vegetation         , soll         , or hydrology         infantality problematic?         Are "normal circumstances" present?         Yes           Statum         (If no. explain in remarks.)         (If no. explain in remarks.)         Y         (If no. explain in remarks.)           Hydrology present?         Y         Is the sampled area within a wetland?         Y         (If no. explain in remarks.)           Status         Northina wetland site ID:         Wetland 14         (If no. explain in remarks.)           Imdicators of wetland hydrology present?         Y         Is the sampled area within a wetland?         Y           Indicators of wetland hydrology present?         Y         If yes, optional wetland site ID:         Wetland 14         (If no. explain in remarks.)	WETLAND DETERMINA	ATION D	ATA FORM	- Midwest Regio	on	
Applicant/Verver       §5th Street Business District Joint Verture Group       State:       South Dakoda       Sampler Note:       14-W         Investigation(5):       Extence Bedium)       Social Testing (Concave       T100NS13R51W         Landform (hillstope, terrace, etc.):       tooslope       Local relief (concave, convex, none):       Concave         Solid May Unit Name Worthing silly clay Joan; D. D. T percent Stopes       NWI Classification:       FEM1/ABF         Are usgetation       , or hydrology       significantly disturbed?       Are "normal circumstances" present? Yes         Are usgetation       , or hydrology       naturally problematic?       Are "normal circumstances" present? Yes         SUMMARY OF FINDINGS       Y       Is the sampled area within a wetland?       Y         Hydrotypic vegatation present?       Y       f yes, optional wetland site ID:       Wetland 14         Remarks: (Explain alternative procedures here or in a separate report.)       Status       Dominance Test Worksheet         Y       Y       f yeaching       Note of Dominant Species         1	Project/Site 85th Street Interchange	City/	County:	Lincoln County	Sampling Date:	11/13/18
Investigator(s): Rebocca Beduln       Section, Township, Range:       T100NS138811V         Landform (hillstope, terrace, etc.):       footslope       Local relief (concave, convex, none):       UTIN NAD 83 Zone 14N         Soll Map Unit Name Worthing sity day toam, 0 to 1 percent slopes       NWI Classification:       PEM1/ABF         Are vegetation       . soll       . or hydrology       significantly disturbed?       Are "normal circumstances" present? Yes         SUMMARY OF FINDINGS       . or hydrology       naturally problematic?       Are "normal circumstances" present? Yes         SUMMARY OF FINDINGS       . or hydrology       naturally problematic?       Are "normal circumstances" present? Yes         Hydrophytic vegetation present?       Y       Is the sampled area within a wetland?       Y         Hydrophytic vegetation present?       Y       If yes, optional wetland ste ID:       Wetland 14         Remarks: (Explain alternative procedures here or in a separate report.)       Status       Dominant Species       1         1               3               2	Applicant/Owner: 85th Street Business District Joint Venture Gro	up	State:	South Dakota	Sampling Point:	14-W
Landform (hillslope, lerrace, etc.):       footslope       Local relief (concave, convex, none):       Concave         Slope (%):       Lat:       43.47568483       Long:       -96.81100629       Datum:       UTM ADD 83 Zone 14N         Are climatichydrologic conditions of the site typical for this time of the year?       Y       (ff ne. explain in remarks)         Are vegetation       , onl       , or hydrology       inplicativit disturbed?       Are 'normal climatical disturbations         Are vegetation       , onl       , or hydrology       maturally problematic?       Are 'normal climatical disturbations         Hydrophytic vegetation present?       Y       Is the sampled area within a wetland?       Y         Hydrophytic vegetation remarks:       (ff needed. explain any answers in remarks.)       Hydrophytic vegetation remarks.)         VEGETATION Use scientific names of plants.       Dominance Test Worksheet       Y         I	Investigator(s): Rebecca Beduhn		Section	on, Township, Range	: T100NS1	3R51W
Slope (%): 3       Lat:       43.47568483       Long:       -96.81100829       Deatum:       TM NAD 83 Zone 14N         Soil Map Unit Name Worthing sity clay loam, 0 to 1 percent slopes       NWI Classification:       PEM1/ABF         Are climatichydrologic conditions of the site typical for this time of the year?       Y       (If no, explain in remarks)         Are vogetation       , or hydrology       astimilation remarks:       (If no, explain in remarks)         Hydrophytic vogetation present?       Y       Y       Is the sampled area within a watand?       Y         Hydrophytic vogetation present?       Y       If yes, optional wetland site ID:       Wetland 14         Remarks: (Explain alternative procedures here or in a separate report.)       % Cover t Species       Status       Dominant forcumant Species         1	Landform (hillslope, terrace, etc.): footslope	_	Local r	elief (concave, conve	ex, none): C	Concave
Soil Map Unit Name Working silty day Joan, 0 to 1 percent slopes       NWU Classificantity disclor:       PEM1/ABF         Are climatic/hydrologic conditions of the site typical for this time of the year?       Y       (if no explain in remarks)         Are vegetation       , soil       , or hydrology       naturally problematic?       Are 'normal circumstances' present? Yes         SUMMARY OF FININGS       (if needed, explain any answers in remarks.)       Y       Y         Hydrophylic vegetation present?       Y       Y       Is the sampled area within a wetland?       Y         Hydrophylic vegetation site mative procedures here or in a separate report.)       Is the sampled area within a wetland?       Y       Y         Remarks: (Explain alternative procedures here or in a separate report.)       Wetgetation present?       Y       If yes, optional wetland site ID:       Wetland 14       Wetland 14         2	Slope (%):         3         Lat:         43.47568483		Long:	-96.81100629	Datum: UTM NA	D 83 Zone 14N
Are clanaticitydologic conditions of the site typical for this time of the year? <u>v</u> (ff no, explain in remarks) Are vegetation, or hydrology	Soil Map Unit Name Worthing silty clay loam, 0 to 1 percent slopes			NWI Classific	ation: PEM	11/ABF
Are vegetation	Are climatic/hydrologic conditions of the site typical for this time of t	he year?	_	Y (If no, expl	ain in remarks)	
Are vegetation       soll       or hydrology       naturally problematic?       Are "normal circumstances" present? Yes         SUMMARY OF FINDINGS       (If needed, explain any answers in remarks.)       (If needed, explain any answers in remarks.)         Hydrophylic vegetation present?       Y       Y       Is the sampled area within a wetland?       Y         Hydrophylic vegetation present?       Y       Y       f yes, optional wetland site ID:       Wetland 14         Remarks: (Explain alternative procedures here or in a separate report.)       Absolute       Dominan       Indicator         Y       Y       Y       f yes, optional wetland site ID:       Wetland 14         Tree Stratum       (Plot size:       30' Radius.)       Absolute       Dominan       Indicator         1	Are vegetation, soil, or hydrology	significant	ly disturbed?			
SUMMARY OF FINDINGS       (If needed, explain any answers in remarks.)         Hydrophytic vegetation present?       Y         Hydrophytic vegetation present?       Y         Indicators of wetland hydrology present?       Y         Remarks: (Explain alternative procedures here or in a separate report.)         VEGETATION Use scientific names of plants.         Tree Stratum       (Plot size: 30 Radius )       Absolute McCover       Dominan Indicator       Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)         2                4	Are vegetation , soil , or hydrology	naturally p	oroblematic?	Are "no	ormal circumstances" p	resent? Yes
Hydrophytic vegetation present?       Y         Hydric soil present?       Y         Indicators of wetland hydrology present?       Y         Remarks: (Explain alternative procedures here or in a separate report.)         VEGETATION Use scientific names of plants.         Tree Stratum (Plot size: 30' Radius )         1          2          3          4          5          6          7          9          1          2          0       = Total Cover         7          2          3          0       = Total Cover         1          2          3          4          5          4          5          4          5          6          7          7          1	SUMMARY OF FINDINGS			(If need	led, explain any answe	rs in remarks.)
Hydric soil present?       Y       Is the sampled area within a wetland?       Y         Remarks: (Explain alternative procedures here or in a separate report.)       If yes, optional wetland site ID:	Hydrophytic vegetation present? Y					
Indicators of wetland hydrology present?       Y       If yes, optional wetland site ID:       Wetland 14         Remarks: (Explain alternative procedures here or in a separate report.)       VEGETATION Use scientific names of plants.       Dominance Test Worksheet       Number of Dominant Spacies         1	Hydric soil present? Y		Is the sa	ampled area within a	a wetland?	Y
Remarks: (Explain alternative procedures here or in a separate report.)         VEGETATION Use scientific names of plants.         Image: Statum (Plot size: 30' Radius )         1          2          3          4          5          3          4          5          3          4          5          3          4          5          5          5          4          5          5          6          7          6          7          6          7          6          7          1          1          2          3          4	Indicators of wetland hydrology present? Y		lf yes, op	tional wetland site ID	: Wetland 14	
VEGETATION Use scientific names of plants.         Tree Stratum       (Plot size: 30' Radius )       Absolute Stratum       Dominant Species Status       Number of Dominant Species that are OBL, FACW, or FAC: 1 (A) Total Number of Dominant Species that are OBL, FACW, or FAC: 1 (B)         2   <	Remarks: (Explain alternative procedures here or in a separate repo	ort.)				
VEGETATION Use scientific names of plants.         Image: Transmission of the size:       30' Radius )       Moninani Species         1		,				
VEGETATION Use scientific names of plants.         Tree Stratum       (Plot size:       30' Radius       Absolute       Dominan       Indicator       Number of Dominant Species         3						
Tree Stratum       (Plot size:       30' Radius       Absolute       Dominan       Indicator         1         Status       Status       Number of Dominant Species         2          Status       Total Number of Dominant Species         4           Total Number of Dominant Species         5        0       = Total Cover       Prevalence Index Worksheet         1             2             2              3              2              2              4               5                 1       Phalaris arundinacea        Reed Canary Grass       90       Y       FACW       FACW </td <td>VEGETATION Use scientific names of plants.</td> <td></td> <td></td> <td></td> <td></td> <td></td>	VEGETATION Use scientific names of plants.					
Tree Stratum       (Plot size: 30' Radius )       % Cover t Species Status       Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)         1		Absolute	Dominan	Indicator Domina	ance Test Worksheet	
1	<u>Tree Stratum</u> (Plot size: 30' Radius )	% Cover	t Species	Status Numbe	er of Dominant Species	
2        Total Number of Dominant         3        Species Across all Strata:       1         5        0       = Total Cover         5        0       = Total Cover         7        0       = Total Cover         9        0       = Total Cover         9        0       = Total Cover         9        0       = Total Cover         1         0         2         0         4            5         0         6            1       Phalaris arundinacea        Red Canary Grass         9             10       N       OBL       Prevalence Index Worksheet          100       N Cover            100             101       N       OBL           102	1			that are	e OBL, FACW, or FAC:	1 (A)
3        Species Across all Strata:       1       (B)         4         Species Across all Strata:       1       (B)         5        0       = Total Cover       Trevalence Index Worksheet       Total % Cover of:         2          CBL species       10       x 1 =       10         4          CBL species       0       x 3 =       0         5           Cover       FACU species       0       x 4 =       0         1       Phalaris arundinacea        Read Canary Grass       90       Y       FACW       Prevalence Index is S 0*       X 4 =       0       Column totals       100       (A)       190       (B)         1       Phalaris arundinacea        Read Canary Grass       90       Y       FACW       Prevalence Index is S 3.0*       Morpholytic Vegetation Indicators:         4	2			Tot	al Number of Dominant	
4        Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)         5        0       =Total Cover         2        Cover of:       OBL species       10       x1 =       10         4        Cover of:       OBL species       0       x3 =       0         5        Cover of:       OBL species       0       x3 =       0         5        Cover of:       OBL species       0       x4 =       0         1       Phalaris arundinacea        O       =Total Cover       Column totals       100       (A)       190       (B)         2       Typha angustifolia        Narrow-Leaf Cat-Tail       10       N       OBL       Hydrophytic Vegetation Indicators:       Rapid test for hydrophytic vegetation         5            Norphological adaptations* (provide supporting data in Remarks or on a separate sheet)       Norphological adaptations* (provide supporting data in Remarks or on a separate sheet)         10				Sp	ecies Across all Strata:	<u>1</u> (B)
3				Percei	nt of Dominant Species	100 00% (A/P)
Sapling/Shrub straturr       (Plot size:       15' Radius       )         1          O       Prevalence Index Worksheet         2         O       Solution       OBL species       10       x 1 =       10         3           OBL species       0       x 1 =       10         4           FACU species       0       x 3 =       0         5          FACU species       0       x 4 =       0         1       Phalaris arundinacea        Reed Canary Grass       90       Y       FACW       Prevalence Index = B/A =       1.90         1       Phalaris arundinacea        Reed Canary Grass       90       Y       FACW       Prevalence Index = B/A =       1.90         2       Typha angustifolia        Narrow-Leaf Cat-Tail       10       N       OBL         3             Column totals       100       (A)       190       (B)         2        <		0	= Total Cover		SOBL, FACW, OFFAC.	100.00% (A/B)
1234567789109101010111213141516171010101010111213141516171010101010101010101010101010101010101011121314151617181910101112 <t< td=""><td>- Sapling/Shrub stratum (Plot size: 15' Radius )</td><td>0</td><td></td><td>Prevale</td><td>ence Index Workshee</td><td>t</td></t<>	- Sapling/Shrub stratum (Plot size: 15' Radius )	0		Prevale	ence Index Workshee	t
23456778910910	1 '			Total %	Cover of:	-
3          FACW species $90$ $x 2 =$ $180$ 4           FACW species $0$ $x 3 =$ $0$ 5           FACU species $0$ $x 4 =$ $0$ 1       Phalaris arundinacea        Reed Canary Grass $90$ Y       FACW       Prevalence Index = B/A = $1.90$ 2       Typha angustifolia        Narrow-Leaf Cat-Tail $10$ N       OBL         3            Rapid test for hydrophytic vegetation         4             Rapid test for hydrophytic vegetation         5                 6	2			OBL sp	ecies <u>10</u> x 1	= 10
45 $0$ Herb stratum(Plot size:5' Radius1Phalaris arundinacea2Typha angustifolia3 $0$ 3 $0$ 4567891091010101010101010101010101010101010100= Total Cover100	3			FACW	species 90 x 2	= 180
5        0       = Total Cover       FACU species       0       x 4 =       0         Herb stratum       (Plot size:       5' Radius       )       0       = Total Cover       UPL species       0       x 4 =       0         1       Phalaris arundinacea        Reed Canary Grass       90       Y       FACW       Prevalence Index = B/A =       1.90         2       Typha angustifolia        Narrow-Leaf Cat-Tail       10       N       OBL         3           Hydrophytic Vegetation Indicators:         4           Rapid test for hydrophytic vegetation         5           Norphological adaptations* (provide supporting data in Remarks or on a separate sheet)          9            Problematic hydrophytic vegetation*         100                100                100	4			FAC sp	ecies $0 \times 3$	= 0
Herb stratum(Plot size:5' Radius) $O$ = rotal CoverOPL species $O$ $x S = $ $O$ $x S = $ $O$ $x S = $ $O$ $C$ 1Phalaris arundinaceaReed Canary Grass90YFACWPrevalence Index = B/A = 1.902Typha angustifoliaNarrow-Leaf Cat-Tail10NOBLHydrophytic Vegetation Indicators:3Rapid test for hydrophytic vegetation5XDominance test is >50%6XPrevalence index is $\leq 3.0^*$ 7Norphological adaptations* (provide supporting data in Remarks or on a separate sheet)910200000000 <t< td=""><td>5</td><td></td><td>- Total Caver</td><td> FACU s</td><td>species <math>0 \times 4</math></td><td>= 0</td></t<>	5		- Total Caver	FACU s	species $0 \times 4$	= 0
Instruction       Instruction <thinstruction< th=""> <thinstruction< th=""></thinstruction<></thinstruction<>	Herb stratum (Plot size <sup>,</sup> 5' Radius )	0	- Total Cover	Column	100 (A)	- <u> </u>
1       1	1 Phalaris arundinacea Reed Canary Grass	90	V	EACW Prevale	$\frac{100}{100} (1)$	1.90
3            Rapid test for hydrophytic vegetation         4          Rapid test for hydrophytic vegetation       X         5          X       Dominance test is >50%       X         6          X       Prevalence index is ≤3.0*       X         7           Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)       separate sheet)       Problematic hydrophytic vegetation*       (explain)         10        100       = Total Cover             2        0       = Total Cover        Hydrophytic vegetation*          0       = Total Cover       0       = Total Cover	2 Typha angustifolia Narrow-Leaf Cat-Tail	10		OBI		1.50
4        Rapid test for hydrophytic vegetation         5        X       Dominance test is >50%         6        X       Prevalence index is ≤3.0*         7        Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)         9        Problematic hydrophytic vegetation*         10        100 = Total Cover         Yeresalence index is ≤3.0*       Problematic hydrophytic vegetations* (provide supporting data in Remarks or on a separate sheet)         10        100 = Total Cover         Yeresalence index is zero       30' Radius )       *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic         1        0       = Total Cover         0       = Total Cover       Hydrophytic vegetation	3			Hydrop	ohytic Vegetation Ind	icators:
5	4			Raj	pid test for hydrophytic	vegetation
6          7          8          9          10          10          10          10          10          10          10          10          10          10          10          10          10          10          10          10          10          100       = Total Cover         Woody vine stratum       (Plot size: 30' Radius )         1          2          0       = Total Cover         0       = Total Cover	5			X Doi	minance test is >50%	
7        Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)         9        supporting data in Remarks or on a separate sheet)         10        Problematic hydrophytic vegetation* (explain)         10        100 = Total Cover         10        0 = Total Cover         10        Hydrophytic volta and wetland hydrology must be present, unless disturbed or problematic         2        0 = Total Cover	6			X_Pre	valence index is ≤3.0*	
8      supporting data in Remarks or on a separate sheet)       9      separate sheet)       10         10         10         10         11         12         13         14         15         16         17         18         19         100     = Total Cover        100     = Total Cover				Mo	rphological adaptations	s* (provide
10      Problematic short)       10      100     = Total Cover       Woody vine stratum     (Plot size: 30' Radius )     30' Radius )     *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic       2      0     = Total Cover	8 <u></u> -			sup	porting data in Remar	ks or on a
Woody vine stratum     (Plot size: 30' Radius )       1        2        0     = Total Cover       0     = Total Cover	10				blematic hydronhytic y	vegetation*
Woody vine stratum       (Plot size: 30' Radius )       *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic         2        Hydrophytic vegetation         0       = Total Cover       vegetation		100	= Total Cover	(ex	plain)	egetation
1      present, unless disturbed or problematic       2      0     = Total Cover	Woody vine stratum (Plot size: 30' Radius )			*Indicat	tors of hydric soil and wetlag	ad hydrology must be
2 Hydrophytic vegetation	1			indicat	present, unless disturbed o	r problematic
0 = Total Cover vegetation	2			Hye	drophytic	
procent? V		0	= Total Cover	veç	jetation	
				pre		
Remarks: (Include photo numbers here or on a separate sheet)	Remarks: (Include photo numbers here or on a separate sheet)		actoted an	on water		
Center of pasifilis unvegetatedopen water.		i is unve	yeialeu0p	CII WALEI.		
Note: This data sheet has been adapted to use the 2012 National Wetland Plant List:	Note: This data sheet has been adapted to use the 2012 National Wet	and Plant I	List:			
Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: National Wetland Plant List, version 2.4.0 (https://wetland_plants.usace.army.mil). U.S. Army Corps of	Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: Nation.	al Wetland F and Enginee	Plant List, version ering Laboratory	n 2.4.0 (https://wetland_pl Hanover, NH, and BONA	ants.usace.army.mil). U.S. / P. Chapel Hill. NC. (2012)	Army Corps of

Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	indicat	or or confirm the	e absence o	f indicators.)
Depth	Matrix		Re	dox Feat	ures				
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture		Remarks
0-10	10YR 3/1	95	10YR 4/6	5	С	М	Silty Clay Loar	n	
10-16	10YR 3/1	100					Silty Clay Loar	n	
+= 0									
*Type: C = C	Concentration, D	= Deplet	on, RM = Reduc	ed Matrix	x, MS = №	lasked S	and Grains.	**Location: P	L = Pore Lining, M = Matrix
Hist			Sa	ndy Glevy	ad Matriv	(\$4)	Indicators f	or Proplema	atic Hydric Solis: sees (F12) (I RR K I M)
Hist	tic Eninedon (A2)		Sa	ndy Bedo		(04)	Very Sh	allow Dark S	(F2) (ERR R, E, M)
Bla	ck Histic (A3)		Stri	pped Ma	trix (S6)		Other (e	explain in rem	arks)
Hyd	Irogen Sulfide (A	4)	Dai	rk Surfac	e (S7)			1	,
Stra	atified Layers (A5	)	Loa	amy Mucl	ky Minera	al (F1)			
2 cr	m Muck (A10)		Loa	amy Gley	ed Matrix	(F2)			
Dep	leted Below Dark	Surface	e (A11)De	pleted Ma	atrix (F3)				
Thio	ck Dark Surface (	A12)	X Re	dox Dark	Surface	(F6)	*Indicator	s of hydroph	ytic vegetation and wetland
Sar	idy Mucky Minera	al (S1) De et (C2	Del	pleted Da	ark Surfa	ce (F7)	hydrolog	ly must be pr	esent, unless disturbed or
5 CI	п миску Peat or	Peat (53	5) <u> </u>	dox Depr	essions (	(F8)		pro	Diematic
Restrictive	Layer (if observ	ed):							
Type:					-		Hydric so	il present?	<u> </u>
Depth (Inche	es):				-				
Remarks:									
	OGY								
Wetland Hy	drology Indicate	ors:							
Primary Indi	cators (minimum	of one is	required: check	all that a	(vlaa		Secor	ndarv Indicate	ors (minimum of two required)
X Surface	Water (A1)			Aquatic	Fauna (B	13)	<u></u>	Surface Soil	Cracks (B6)
High Wa	ter Table (A2)			True Aq	uatic Plar	nts (B14)		Drainage Pat	tterns (B10)
Saturatio	on (A3)			Hydroge	en Sulfide	Odor (C1	)	Dry-Season	Water Table (C2)
Water N	larks (B1)			Oxidized	l Rhizosp	heres on	Living Roots	Crayfish Bur	rows (C8)
Sedimer	nt Deposits (B2)			(C3)	o of Podu	upped Iron	(CA)	Saturation Vi	Isible on Aerial Imagery (C9)
	at or Crust (B4)				ron Redu	iction in T	illed Soils X	Geomorphic	Position (D2)
Iron Dep	osits (B5)			(C6)			X	FAC-Neutral	Test (D5)
Inundati	on Visible on Aeria	al Imager	y (B7)	Thin Mu	ck Surfac	e (C7)			、 <i>,</i>
Sparsely	Vegetated Conca	ave Surfa	ce (B8)	Gauge o	or Well Da	ata (D9)			
Water-S	tained Leaves (B9	)		Other (E	xplain in	Remarks	)		
Field Obser	vations:	\ <i>`</i>	×						
Surface wat	er present?	Yes	X No		Depth (i	nches):	1	Indian	tore of wotherd
Saturation n	present?	res Ves		<u>×</u>	Depth (i	nches):		hvdro	logy present? V
(includes ca	pillarv fringe)	163				nenes).		nyaro	
Describe rec	corded data (stre	am dalio	e, monitoring wel	l, aerial r	hotos n	revious ir	spections) if ava	ailable:	
Describered		ani guug	o, monitoring wor	i, donar p	, notoo, pi		iopooliono), ii uvo		
Demerke									
Ceturetien	and/or a water	toble	vere net ehle t					on of the the	<b>6 1 1 1 1 1 1 1 1</b>
• • • • • • • • • • • • • •	annor a Wate						Notor Moc tra-		
Saturation		lable	vere not able to		servea,	as the v	water was froze	en al trie ur	ne of the site visit.
Saturation		lable	vere not able to		served,	as the v	water was froze	en al the th	ne of the site visit.

WETLAND DETERMINA	TION D	ATA FORM	I - Midwest R	egion			
Project/Site 85th Street Interchange	City/0	County:	Lincoln County	Sampling	J Date:	11/13/18	
Applicant/Owner: 85th Street Business District Joint Venture Gro	up	State:	South Dakota	a Sampling	Point:	15-U	
Investigator(s): Rebecca Beduhn		Secti	on, Township, Ra	ange:	T100NS14F	₹51W	
Landform (hillslope, terrace, etc.): backslope		Local	relief (concave, o	convex, none):	N	one	
Slope (%): 4 Lat: 43.47532942		Long:	-96.81180722	Datum:	UTM NAD	83 Zone 14	4N
Soil Map Unit Name Worthing silty clay loam, 0 to 1 percent slopes			NWI Clas	ssification:	Nor	ie	
Are climatic/hydrologic conditions of the site typical for this time of the	he year?		Y (If no,	explain in remai	rks)		
Are vegetation , soil , or hydrology	significant	ly disturbed?					
Are vegetation , soil , or hydrology	naturally p	roblematic?	Are	e "normal circum	nstances" pre	sent? Ye	s
SUMMARY OF FINDINGS			(If	needed, explain	any answers	in remarks	s.)
Hydrophytic vegetation present? Y							
Hydric soil present? N		Is the sa	ampled area wit	hin a wetland?	٩	١	
Indicators of wetland hydrology present? N		lf yes, op	tional wetland si	te ID:			
Pemarks: (Explain alternative procedures here or in a separate repo	ort)						
	л.,						
<b>VEGETATION</b> Use scientific names of plants.	A.L	D.		minanco Tost V	Norkchoot		
Tree Stratum (Plot size: 30' Radius )	Absolute % Cover	Dominan t Species	Status		nt Species		
1		t opooloo	th	at are OBL. FAC	W. or FAC:	1 (	(A)
				Total Number o	of Dominant		(
3				Species Across	s all Strata:	1 (	(B)
4			P	ercent of Domina	ant Species		
5			th	at are OBL, FAC	W, or FAC:	100.00% (	(A/B)
	0	= Total Cover	·				
Sapling/Shrub stratum (Plot size: 15' Radius )			Pre		Worksheet		
2		·			0 x 1 =	0	
3			FA	CW species	$\frac{0}{0} \times 2 =$	0	
4			FA	C species	$\frac{100}{100} \times 3 =$	300	
5			FA	CU species	0 x 4 =	0	
	0	= Total Cover	UP	L species	0 x 5 =	0	
Herb stratum (Plot size: 5' Radius )			Co	lumn totals	100 (A)	300 (	(B)
1 Poa pratensis Kentucky Blue Grass	100	Y	FAC Pre	evalence Index =	= B/A =	3.00	
2							
			Hy	drophytic Vege	tation Indica	ators:	
4 <u></u>			<u> </u>	_Rapid test for r	iyaropnytic ve	egetation	
6			\ <u>^</u>	Prevalence ind	lex is <3.0*		
7				- Morphological	adaptations*	(provido	
8	,			supporting data	a in Remarks	or on a	
9		·		separate sheet	t)		
10				Problematic hy	drophytic veç	getation*	
	100	= Total Cover		(explain)			
Woody vine stratum (Plot size: 30' Radius )			*lı	ndicators of hydric s	oil and wetland i	hydrology mu:	ist be
				present, unles	s disturbed or p	roblematic	
				Hydrophytic			
	0	= I otal Cover		present?	Y		
Remarks: (Include photo numbers here or on a separate sheet)				-			
nomento, (moleco proto numbers nere or on a separate sileet)							
Note: This data sheet has been adapted to use the 2012 National Wetla	and Plant L	ist:					
Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: National Engineers, Engineer Research and Development Center, Cold Regions Research a	al Wetland F and Enginee	riant List, version ring Laboratory,	n 2.4.0 (https://wetla Hanover, NH, and E	nd_plants.usace.arr 30NAP, Chapel Hill,	ny.mil). U.S. Am , NC. (2012)	ny Corps of	

Profile Dese	cription: (Descr	ibe to th	e depth needed	to docu	ment the	indicat	or or confirm the abs	ence of indicators.)
Depth	<u>Matrix</u>		Rec	lox Featu	ures_			
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks
0-10	10YR 2/1	100					Silty Clay Loam	
*Type: C = C	Concentration, D :	= Depleti	on, RM = Reduce	ed Matrix	, MS = N	lasked S	and Grains. **Loc	ation: PL = Pore Lining, M = Matrix
Hydric So	il Indicators:						Indicators for Pr	oblematic Hydric Soils:
Hist	tosol (A1)		San	dy Gleye	ed Matrix	(S4)	Iron-Mangan	ese Masses (F12) ( <b>LRR K, L, M</b> )
Hist	tic Epipedon (A2)		San	dy Redo	x (S5)		Very Shallow	Dark Surface (F22)
Blac	ck Histic (A3)		Stri	oped Ma	trix (S6)		Other (explai	n in remarks)
Hyd	Irogen Sulfide (A4	4)	Dar	k Surface	e (S7)			
Stra	atified Layers (A5)	)	Loa	my Muck	ky Minera	al (⊢1)		
2 cr	II IVIUCK (A1U)	Curfa	Loa	iny Gleye	ea Matrix	(F2)		
	neteu Below Dark			netea Ma Iox Dark	Surface	(F6)	*!	
	dy Mucky Minera	A12)		lotod Da	Surface	(F0) 50 (F7)	"Indicators of r	hydrophytic vegetation and wetland
5 cr	n Mucky Peat or	Peat (S3	) Bec	lox Denre		(17) (F8)	nyurology mu	problematic
0			,			10)		problemade
Restrictive	Layer (It observe	ea):						
Type: Dopth (incho	);						Hydric soli pre	sent? N
Depth (inche								
HYDROLO Wetland Hy	DGY drology Indicate	ors:						
Primary Indi	cators (minimum	of one is	required: check	all that a	(vlac		Secondary	Indicators (minimum of two required)
Surface	Water (A1)			Aquatic I	Fauna (B	13)	Surfa	ace Soil Cracks (B6)
High Wa	iter Table (A2)			True Aqu	uatic Plar	nts (B14)	Drair	nage Patterns (B10)
Saturatio	on (A3)			Hydroge	n Sulfide	Odor (C1	) Dry-S	Season Water Table (C2)
Water M	larks (B1)			Oxidized	Rhizosp	heres on	Living Roots Cray	fish Burrows (C8)
Sedimer	nt Deposits (B2)			(C3)	(		Satu	ration Visible on Aerial Imagery (C9)
Drift Dep	oosits (B3)			Presence	e of Redu	Iced Iron	(C4) Stun	ted or Stressed Plants (D1)
	(D4)			(C6)	ron Redu		EAC	Neutral Test (D5)
Inundatio	on Visible on Aeria	l Imager	/ (B7)	Thin Mu	ck Surfac	e (C7)		
Sparsely	Vegetated Conca	ve Surfa	ce (B8)	Gauge o	r Well Da	ata (D9)		
Water-S	tained Leaves (B9	)		Other (E	xplain in l	Remarks	)	
Field Obser	vations:							
Surface wate	er present?	Yes	No	Х	Depth (i	nches):		
Water table	present?	Yes	No	X	Depth (i	nches):		Indicators of wetland
Saturation p	resent?	Yes	No	Х	Depth (i	nches):		nyarology present? N
(includes ca	piliary iringe)							
Describe rec	corded data (strea	am gauge	e, monitoring well	, aerial p	hotos, pr	evious ir	ispections), if available	2:
Remarks:								
Saturation	and/or a water	table v	vere not able to	be obs	served,	as the	water was frozen a	the time of the site visit.
US Army C	orps of Engine	ers						Midwest Region

WETLAND DETERMINA	TION D	ATA FORM	I - Midwest Regio	on	
Project/Site 85th Street Interchange	City/0	County:	Lincoln County	Sampling Date:	11/13/18
Applicant/Owner: 85th Street Business District Joint Venture Grou	qu	State:	South Dakota	Sampling Point:	15-W
Investigator(s): Rebecca Beduhn		Section	on, Township, Range	: T100NS1	4R51W
Landform (hillslope, terrace, etc.): toeslope		Local r	relief (concave, conv	ex, none): (	Concave
Slope (%): 1 Lat: 43.47533006		Long:	-96.81184058	Datum: UTM NA	AD 83 Zone 14N
Soil Map Unit Name Worthing silty clay loam, 0 to 1 percent slopes			NWI Classific	ation:	√one
Are climatic/hydrologic conditions of the site typical for this time of the	ne year?	_	Y (If no, exp	lain in remarks)	
Are vegetation, soil, or hydrologys	significant	ly disturbed?			
Are vegetation , soil , or hydrology r	naturally p	oroblematic?	Are "no	ormal circumstances" j	present? Yes
SUMMARY OF FINDINGS			(If need	led, explain any answe	ers in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? Y		Is the sa	ampled area within	a wetland?	Y
Indicators of wetland hydrology present? Y		lf yes, op	tional wetland site ID	): Wetland 15	
Remarks: (Explain alternative procedures here or in a separate repo	ort.)				
	,				
VEGETATION Lise scientific names of plants					
	Absolute	Dominan	Indicator Domin	ance Test Workshee	t
Tree Stratum (Plot size: 30' Radius )	% Cover	t Species	Status Numb	er of Dominant Species	•
1 '			that ar	e OBL, FACW, or FAC	1 (A)
2			Tot	al Number of Dominant	t
3			Sp	ecies Across all Strata:	<u> </u>
			Perce	nt of Dominant Species	
<u> </u>		TILO	that ar	e OBL, FACW, or FAC:	<u>100.00%</u> (A/B)
Sonling/Shrub strature (Plot size: 15' Padius )	0	= I otal Cover	Broyal	onco Indox Worksho	
1			Total %	Cover of	21
2			OBL sp	pecies 0 x 1	= 0
3			FACW	species 100 x 2	= 200
4			FAC sp	becies 0 x 3	= 0
5			FACU	species <u>0</u> x4	= 0
	0	= Total Cover	UPL sp	ecies 0 x 5	= 0
Herb stratum (Plot size: <u>5' Radius</u> )			Colum	1 totals 100 (A)	<u>200</u> (B)
1 Phalaris arundinacea Reed Canary Grass	100	Y	FACW Prevale	ence Index = B/A =	2.00
		<u> </u>	Hydro	obytic Vegetation Ind	licators:
4		<u> </u>	Ra	pid test for hydrophytic	c vegetation
5			X Do	minance test is >50%	
6			X Pre	valence index is ≤3.0'	ŧ
7			Mo	rphological adaptation	s* (provide
8			su	oporting data in Remai	rks or on a
			se	parate sheet)	
10	100	- Total Cover	Pro	blematic hydrophytic v	vegetation*
Woody vine stratum (Plot size: 30' Radius )	100		— <sup>(ex</sup>	.piairi)	
1			*Indica	tors of hydric soil and wetla present unless disturbed	nd hydrology must be
2			Ну	drophytic	, problemade
	0	= Total Cover	ve	getation	
			pre	sent? Y	-
Remarks: (Include photo numbers here or on a separate sheet)					
		:			
Note: This data sneet has been adapted to use the 2012 National Wetla Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: National	and Plant L al Wetland P	LIST: Plant List, versior	n 2.4.0 (https://wetland p	lants.usace.army.mil). U.S.	Army Corps of
Engineers, Engineer Research and Development Center, Cold Regions Research a	and Enginee	ring Laboratory,	Hanover, NH, and BONA	P, Chapel Hill, NC. (2012)	

Depth (Inches)	cription: (Descr		e depth needed	to docu	ment the	e indicat	or or confirm the ab	sence of indicators.)
(Inches)	Matrix		Re	dox Feat	ures			
(	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks
0-14	10YR 2/2	95	7.5YR 4/6	5	С	М	Silty Clay Loam	
				1				
*Type: C = 0	Concentration, D :	= Depleti	on, RM = Reduc	ed Matrix	, MS = N	lasked S	and Grains. **Loo	cation: PL = Pore Lining, M = Matrix
Hydric So	oil Indicators:						Indicators for P	roblematic Hydric Soils:
Hist	tosol (A1)		Sar	ndy Gleye	ed Matrix	(S4)	Iron-Mangan	ese Masses (F12) ( <b>LRR K, L, M</b> )
Hist	tic Epipedon (A2)		Sar	ndy Redo	x (S5)		Very Shallov	v Dark Surface (F22)
Bla	ck Histic (A3)		Stri	pped Ma	trix (S6)		Other (expla	in in remarks)
Hyc	Irogen Sulfide (A4	4)	Dai	k Surfac	e (S7)			
Stra	atified Layers (A5	)	Loa	Imy Much	ky Minera	al (⊢1)		
2 cr	m Muck (A10)	. C		imy Gley	ed Matrix	(F2)		
Dep	Dieted Below Dark			bieted ivia	Surface	(E6)	*I. I'. ( f	
	dy Mucky Minera	A12)		Jox Daik	Surface	(FU) CO (F7)	*Indicators of	nydropnytic vegetation and wetland
5 cr	n Mucky Peat or	Peat (S3		lox Depr	essions (	(F8)	nyurology mu	problematic
						.1 0)		problemate
Restrictive	Layer (If observe	ea):						
Type: Donth (inch)					-		Hydric soli pre	
Deptil (Inche								
HYDROLO	DGY							
Wetland Hy	drology Indicato	ors:						
Primary Indi	<u>cators (minimum</u>	of one is	required; check	all that a	pply)		Secondary	Indicators (minimum of two required)
Surface	Water (A1)			Aquatic	Fauna (B	13)	Surf	ace Soil Cracks (B6)
High Wa	ater Table (A2)			True Aq	uatic Plar	nts (B14)	Drai	nage Patterns (B10)
Saturation Mater M	on (A3) Jorka (B1)			Hydroge	n Sulfide	Odor (C1	) Dry-	fieb Burrowe (C2)
Sedimer	nt Deposits (B2)				r Rnizosp	neres on	Living Rools Ciay	uration Visible on Aerial Imagery (C9)
Drift Der	posits (B3)			Presenc	e of Redu	iced Iron		
	at or Crust (B4)			-			((,4) ()()	ited or Stressed Plants (1)1)
Algal Ma				Recent I	ron Redu	ction in T	illed Soils X Geo	morphic Position (D2)
Algal Ma	osits (B5)			Recent I (C6)	ron Redu	iction in T	illed Soils X Geo X FAC	morphic Position (D2) C-Neutral Test (D5)
Algal Ma Iron Dep Inundati	oosits (B5) on Visible on Aeria	l Imagery	/ (B7)	Recent I (C6) Thin Mu	ron Redu ck Surfac	iction in T e (C7)	illed Soils X Geo X FAC	morphic Position (D2) -Neutral Test (D5)
Algal Ma Iron Dep Inundation Sparsely	posits (B5) on Visible on Aeria / Vegetated Conca	al Imagery ave Surfac	/ (B7)	Recent I (C6) Thin Mu Gauge c	ron Redu ck Surfac or Well Da	iction in T e (C7) ata (D9)	illed Soils X Geo X FAC	morphic Position (D2) -Neutral Test (D5)
Algal Ma Iron Dep Inundation Sparsely Water-S	vosits (B5) on Visible on Aeria Vegetated Conca tained Leaves (B9	l Imagery ave Surfac )	/ (B7)	Recent I (C6) Thin Mu Gauge c Other (E	ron Redu ck Surfac or Well Da xplain in	iction in T e (C7) ata (D9) Remarks	illed Soils X Geo X FAC	morphic Position (D2) S-Neutral Test (D5)
Algal Ma Iron Dep Inundatio Sparsely Water-S Field Obser	vations: (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9	il Imagery ave Surfa )	(B7) ce (B8)	Recent I (C6) Thin Mu Gauge c Other (E	ron Redu ck Surfac or Well Da xplain in	iction in T e (C7) ata (D9) Remarks	)	morphic Position (D2) S-Neutral Test (D5)
Algal Ma Iron Dep Inundati Sparsely Water-S Field Obser Surface wat	vations: (B5) on Visible on Aeria Vegetated Conca tained Leaves (B9 vations: er present?	Il Imagery ave Surfac ) Yes	(B7) ce (B8)	Recent I (C6) Thin Mu Gauge c Other (E	ron Redu ck Surfac r Well Da xplain in Depth (i	nction in T e (C7) ata (D9) Remarks nches):	)	morphic Position (D2) -Neutral Test (D5)
Algal Ma Iron Dep Inundati Sparsely Water-S <b>Field Obsen</b> Surface wat Water table	void of data (D4) positis (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 vations: er present? present?	il Imagery ive Surfac ) Yes Yes	/ (B7) ce (B8) No No	Recent I (C6) Thin Mu Gauge c Other (E X X	ron Redu ck Surfac or Well Da xplain in Depth (i Depth (i	ata (D9) Remarks nches): nches):	)	Indicators of wetland
Algal Ma Iron Dep Inundati Sparsely Water-S Field Obser Surface wat Water table Saturation p	voosits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 vations: er present? present? nillary fringe)	al Imagery ive Surfac ) Yes Yes Yes	/ (B7) ce (B8) No No No	Recent I (C6) Thin Mu Gauge c Other (E X X X	ron Redu ck Surfac r Well Da xplain in Depth (i Depth (i	nches): nches):	)	Indicators of wetland hydrology present?
Algal Ma Iron Dep Inundati Sparsely Water-S <b>Field Obser</b> Surface wat Water table Saturation p (includes ca	vegetated Conca tained Leaves (B9 vations: er present? present? pillary fringe)	al Imagery ave Surfac ) Yes Yes Yes	( (B7) ce (B8) No No No	Recent I (C6) Thin Mu Gauge c Other (E X X X	ron Redu ck Surfac or Well Da xplain in Depth (i Depth (i	iction in T e (C7) ata (D9) Remarks nches): nches): nches):	)	Indicators of wetland hydrology present?
Algal Ma Iron Dep Inundati Sparsely Water-S <b>Field Obser</b> Surface wat Water table Saturation p (includes ca Describe rec	void of data (D-4) posits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 vations: er present? present? pillary fringe) corded data (strea	al Imagery ave Surfac ) Yes Yes Yes am gauge	/ (B7) ce (B8) No No No No	Recent I (C6) Thin Mu Gauge c Other (E X X X	ron Redu ck Surfac or Well Da xplain in Depth (i Depth (i Depth (i hotos, pi	revious ir	(C4) Star illed Soils X Geo X FAC	Indicators of wetland hydrology present?
Algal Ma Iron Dep Inundati Sparsely Water-S <b>Field Obser</b> Surface wat Water table Saturation p (includes ca Describe rec	void of data (D-4) posits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 vations: er present? present? pillary fringe) corded data (strea	al Imagery ave Surfac ) Yes Yes Yes am gauge	/ (B7) ce (B8) No No e, monitoring wel	Recent I (C6) Thin Mu Gauge c Other (E X X X	ron Redu ck Surfac or Well Da xplain in Depth (i Depth (i Depth (i hotos, pi	action in T e (C7) ata (D9) Remarks nches): nches): nches): nches):	(C4) Stull illed Soils X Geo X FAC	Indicators of wetland hydrology present?
Algal Ma Iron Dep Inundati Sparsely Water-S <b>Field Obser</b> Surface wat Water table Saturation p (includes ca Describe red Remarks: Saturation	and/or a water	al Imagery ve Surfac ) Yes Yes Yes am gauge	/ (B7) ce (B8) No No e, monitoring wel	Recent I (C6) Thin Mu Gauge c Other (E X X X I, aerial p	ron Redu ck Surfac or Well Da xplain in Depth (i Depth (i Depth (i hotos, pi	ata (D9) Remarks nches): nches): nches): revious ir	(C4) Star illed Soils X Geo X FAC ) ispections), if available	Indicators of wetland hydrology present? Y
Algal Ma Iron Dep Inundati Sparsely Water-S <b>Field Obser</b> Surface wat Water table Saturation p (includes ca Describe red Remarks: Saturation	and/or a water	I Imagery ive Surfac ) Yes Yes am gauge	( (B7) ce (B8) No No e, monitoring wel	Recent I (C6) Thin Mu Gauge c Other (E X X I, aerial p	ron Redu ck Surfac or Well Da xplain in Depth (i Depth (i Depth (i hotos, pi hotos, pi	ata (D9) Remarks nches): nches): nches): revious ir	(C4) Sitil illed Soils X Geo X FAC ) ispections), if availabl water was frozen a	Indicators of wetland hydrology present? Y e:
Algal Ma Iron Dep Inundati Sparsely Water-S <b>Field Obser</b> Surface wat Water table Saturation p (includes ca Describe red Remarks: Saturation	vegetated Conca vegetated Conca tained Leaves (B9 vations: er present? present? pillary fringe) corded data (streat	I Imagery ve Surfac ) Yes Yes Am gauge	v (B7) ce (B8) No No e, monitoring wel vere not able to	Recent I (C6) Thin Mu Gauge c Other (E X X X	ron Redu ck Surfac or Well Da xplain in Depth (i Depth (i Depth (i hotos, pu served,	ata (D9) Remarks nches): nches): nches): revious ir as the v	(C4) Situ illed Soils X Geo X FAC ispections), if availabl water was frozen a	Indicators of wetland hydrology present? Ye:

WETLAND DETERMINA	TION D	ATA FORM	I - Midwest Re	egion			
Project/Site 85th Street Interchange	City/0	County:	Lincoln County	Sampling	J Date:	11/13/18	}
Applicant/Owner: 85th Street Business District Joint Venture Gro	up	State:	South Dakota	a Sampling	Point:	16-U	
Investigator(s): Rebecca Beduhn		Secti	on, Township, Ra	ange:	T100NS13R	.51W	
Landform (hillslope, terrace, etc.): Backslope		Local	relief (concave, c	convex, none):	No	one	
Slope (%): 5 Lat: 43.47577956		Long:	-96.81437875	Datum:	UTM NAD 8	83 Zone 1	14N
Soil Map Unit Name Egan-Worthing complex, 0 to 6 percent slopes			NWI Clas	sification:	Non	e	
Are climatic/hydrologic conditions of the site typical for this time of the	he year?	-	Y (If no,	explain in remai	rks)		
Are vegetation, soil, or hydrology	significant	ly disturbed?					
Are vegetation , soil , or hydrology	naturally p	oroblematic?	Are	e "normal circum	nstances" pres	sent? Y	es
SUMMARY OF FINDINGS			(If r	needed, explain	any answers	in remark	ks.)
Hydrophytic vegetation present? N							
Hydric soil present? N		Is the sa	ampled area wit	hin a wetland?	N	1	
Indicators of wetland hydrology present? N		lf yes, op	tional wetland sit	te ID:		_	
Remarks: (Explain alternative procedures here or in a separate repo	ort.)						
	,						
VEGETATION Use scientific names of plants.							
	Absolute	Dominan	Indicator Do	minance Test V	Norksheet		
<u>Tree Stratum</u> (Plot size: <u>30' Radius</u> )	% Cover	t Species	Status N	umber of Domina	ant Species		
1			tha	at are OBL, FAC	W, or FAC:	0	(A)
				Total Number o	f Dominant		
		······································		Species Acros	s all Strata:	1	_(B)
4 5		···········	P	ercent of Domina	Int Species	0.00%	(Δ/B)
	0	= Total Cover			W, 011 AO.	0.0070	_(,,,,,)
- Sapling/Shrub stratum (Plot size: 15' Radius )	•		Pre	evalence Index	Worksheet		
1 '			Tot	al % Cover of:			
2			OB	L species	0 x 1 =	0	
3			FA	CW species	0 x 2 =	0	_
4			FA	C species	0 x 3 =	0	-
5		- Total Caver		CU species	$0 \times 4 =$	0	-
Herb stratum (Plot size: 5' Badius )	0	= Total Cover	UP	L species	$= \frac{0}{0} (A)$		- (B)
1 Glucino max	100	V	NI Pro		(/ ()		_(D)
2	100	·		- valence muex	- D/A -		-
3		······································	Hy	drophytic Vege	tation Indica	tors:	
4	,	·		Rapid test for h	nydrophytic ve	getation	
5				Dominance tes	st is >50%		
6				Prevalence ind	lex is ≤3.0*		
				Morphological	adaptations*	(provide	
				supporting data	a in Remarks	or on a	
9 <u></u>					.) (drophytic ycc	votation*	
	100	= Total Cover	. <u></u>	(explain)	ulophytic veg	elalion	
- Woody vine stratum (Plot size: 30' Radius )			*!r	-		avdrology m	aust bo
1			п	present, unles	and wettand i ss disturbed or pr	oblematic	iusi be
2		·······		Hydrophytic			
	0	= Total Cover		vegetation	N		
				present?	<u> </u>		
Remarks: (Include photo numbers here or on a separate sheet)							
Note: This data sheet has been adapted to use the 2012 National Wet	and Plant I	_ist:					
Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: Nation	al Wetland F	Plant List, versio	n 2.4.0 (https://wetlar	nd_plants.usace.arr	ny.mil). U.S. Arm	ny Corps of	;
Engineers, Engineer Research and Development Center, Cold Regions Research	ana Enginee	ring Laboratory,	Hanover, NH, and B	suivaP, Chapel Hill,	, NC. (2012)		

Profile Desc	ription: (Descr	ibe to th	e depth needed	l to docu	ment the	e indicat	or or confirm	the abse	nce of indicators.)
Depth	Matrix		Re	dox Feat	ures				
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Text	ure	Remarks
0-14	10YR 3/1	100					Silty Clay L	oam	
							,,		
*Type: C = C	oncentration D :	= Depleti	on RM = Reduc	ed Matrix	MS = M	lasked S	and Grains	**Locat	ion: PL = Pore Lining M = Matrix
Hydric Soi	Indicators:	Boploti			, 100 10		Indicato	rs for Pro	blematic Hydric Soils:
Hist	$\Delta col(A1)$		50	ndy Clev	ad Matrix	(\$4)	Indicato	Manganes	
	o Eninadan (AQ)					(34)			$\frac{1}{2} = \frac{1}{2} \left( \frac{1}{2} \left( \frac{1}{2} \frac{1}{2} \frac{1}{2} \right) \left( \frac{1}{2} \frac{1}{2$
	c Epipedon (AZ)			nay Read	)X (33)		Very	Shallow L	
Blac	K HISTIC (A3)		St	ipped Ma	trix (S6)		Othe	er (explain	in remarks)
Hydr	rogen Sulfide (A4	+)	Da	rk Surfac	e (S7)				
Strat	tified Layers (A5)	)	Lo	amy Mucl	ky Minera	ai (⊢1)			
2 cm	n Muck (A10)		Lo	amy Gley	ed Matrix	(F2)			
Depl	leted Below Dark	Surface	e (A11) De	pleted Ma	atrix (F3)				
Thic	k Dark Surface (	A12)	Re	dox Dark	Surface	(F6)	*Indica	ators of hy	drophytic vegetation and wetland
Sand	dy Mucky Minera	l (S1)	De	pleted Da	ark Surfa	ce (F7)	hydro	ology must	be present, unless disturbed or
5 cm	Mucky Peat or	Peat (S3	)	dox Depr	essions (	(F8)			problematic
Postrictivo I	avor (if obsorv	od):							
		eu).					Hydric	soil prose	nt? N
Type:							пушис	SOIL DIESE	
Type:					-		-		
Type: Depth (inche Remarks:	s):				-				
Type: Depth (inche Remarks:	s):				-				
Type: Depth (inche Remarks: <b>HYDROLO</b>	s):				-				
Type: Depth (inche Remarks: HYDROLO Wetland Hyd	s): DGY drology Indicato	prs:							
Type: Depth (inche Remarks: HYDROLO Wetland Hyd Primary Indic	s): DGY drology Indicato ators (minimum	ors: of one is	required; check	all that a	pply)		<u>Se</u>	econdary Ir	ndicators (minimum of two required
Type: Depth (inche Remarks: HYDROLO Wetland Hyd Primary Indic Surface V	s): DGY drology Indicato sators (minimum Water (A1)	ors: of one is	required; check	<u>all that a</u> Aquatic	- - - - - - - - - - - - - - - - - - -	13)	<u>Se</u>	econdary Ir	ndicators (minimum of two required
Type: Depth (inche Remarks: HYDROLO Wetland Hyo Primary Indic Surface V High Wat	s): GGY drology Indicator bators (minimum Water (A1) ter Table (A2)	ors: of one is	required; check	<u>all that a</u> Aquatic True Aq	<u>pply)</u> Fauna (B uatic Plar	13) nts (B14)	<u>Se</u>	econdary Ir Surfac Draina	ndicators (minimum of two required e Soil Cracks (B6) ge Patterns (B10)
Type: Depth (inche Remarks: HYDROLO Wetland Hyo Primary Indic Surface V High Wat Saturatio	s): GGY drology Indicato sators (minimum Vater (A1) ter Table (A2) n (A3)	ors: of one is	required; check	<u>all that a</u> Aquatic True Aq Hydroge	<u>pply)</u> Fauna (B uatic Plar n Sulfide	13) nts (B14) Odor (C <sup>2</sup>	<u>Se</u>	econdary II Surfac Draina Dry-Se	ndicators (minimum of two required e Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2)
Type: Depth (inche Remarks: HYDROLO Wetland Hyo Primary Indic Surface V High Wat Saturatio Water Ma	S): GGY drology Indicator sators (minimum Nater (A1) ter Table (A2) n (A3) arks (B1)	ors: of one is	required; check	all that a Aquatic True Aq Hydroge Oxidized	<u>pply)</u> Fauna (B uatic Plar n Sulfide I Rhizosp	13) hts (B14) Odor (C' heres on	Se - - Living Roots	econdary Ir Surfac Draina Dry-Se Crayfis	ndicators (minimum of two required e Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) h Burrows (C8)
Type: Depth (inche Remarks: HYDROLO Wetland Hyo Primary Indic Surface V High Wat Saturatio Water Ma Sediment	s): GGY drology Indicator sators (minimum Nater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2)	ors: of one is	required; check	all that a Aquatic True Aq Hydroge Oxidizeo (C3)	<u>pply)</u> Fauna (B uatic Plar en Sulfide I Rhizosp	13) hts (B14) Odor (C <sup>7</sup> heres on	Se - - Living Roots	econdary Ir Surfac Draina Dry-Se Crayfis Satura	ndicators (minimum of two required e Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) h Burrows (C8) tion Visible on Aerial Imagery (C9)
Type: Depth (inche Remarks: HYDROLO Wetland Hyd Primary Indic Surface V High Wat Saturatio Water Ma Sediment Drift Dep	s): GGY drology Indicator sators (minimum Nater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3)	ors: of one is	required; check	all that a Aquatic True Aq Hydroge Oxidized (C3) Presenc	<u>pply)</u> Fauna (B uatic Plar en Sulfide I Rhizosp e of Redu	13) hts (B14) Odor (C <sup>7</sup> heres on uced Iron	Se - - - - - - - - - - - - - - - - - - -	econdary Ir Surfac Draina Dry-Se Crayfis Satura Stunte	ndicators (minimum of two required e Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) h Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1)
Type: Depth (inche Remarks: Remarks: HYDROLO Wetland Hyd Primary Indic Surface V High Wat Saturatio Water Ma Sedimen Drift Dep Algal Mat	s): GGY drology Indicator cators (minimum Nater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4)	ors: of one is	required; check	all that a Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent	<u>pply)</u> Fauna (B uatic Plar en Sulfide d Rhizosp e of Redu Iron Redu	13) nts (B14) Odor (C <sup>2</sup> heres on uced Iron uction in T	Se I) Living Roots (C4) illed Soils	econdary Ir Surfac Draina Dry-Se Crayfis Satura Stunte Geomo	ndicators (minimum of two required e Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) th Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2)
Type: Depth (inche Remarks: Remarks: HYDROLO Wetland Hyd Primary Indic Surface V High Wat Saturatio Water Ma Sedimen Drift Dep Algal Mat Iron Depo	s): GGY brology Indicator cators (minimum Nater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5)	ors: of one is	required; check	all that a Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent I (C6)	<u>pply)</u> Fauna (B uatic Plar en Sulfide I Rhizosp e of Redu Iron Redu	13) nts (B14) Odor (C <sup>-</sup> heres on uced Iron uction in T	Se I) Living Roots (C4) illed Soils	econdary Ir Surfac Draina Dry-Se Crayfis Satura Sturte Geomo FAC-N	ndicators (minimum of two required e Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) th Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2) eutral Test (D5)
Type: Depth (inche Remarks: Remarks: HYDROLO Wetland Hyd Primary Indic Surface V High Wat Saturatio Water Ma Sediment Drift Dep Algal Mat Iron Depo Inundatio	s): GGY brology Indicator cators (minimum Nater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) n Visible on Aeria	ors: of one is	required; check	all that a Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu	<u>pply)</u> Fauna (B uatic Plar en Sulfide I Rhizosp e of Redu ron Redu ck Surfac	13) nts (B14) Odor (C <sup>-</sup> heres on uced Iron uction in T ae (C7)	Se I) Living Roots (C4) illed Soils	econdary Ir Surfac Draina Dry-Se Crayfis Satura Sturte Geomo FAC-N	ndicators (minimum of two required e Soil Cracks (B6) ge Patterns (B10) vason Water Table (C2) th Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2) eutral Test (D5)
Type: Depth (inche Remarks: Remarks: HYDROLO Wetland Hyd Primary Indic Surface V High Wat Saturatio Water Ma Sediment Drift Dep Algal Mat Iron Depo Inundatio Sparsely	s): <b>DGY</b> <b>drology Indicato</b> <u>sators (minimum</u> Nater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) n Visible on Aeria Vegetated Conca	ors: of one is al Imagen	y (B7) ce (B8)	all that a Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge o	<u>pply)</u> Fauna (B uatic Plar en Sulfide d Rhizosp e of Redu lron Redu ck Surfac or Well Da	13) nts (B14) Odor (C <sup>-</sup> heres on uced Iron uction in T ate (C7) ata (D9)	Se I) Living Roots (C4) IIIIed Soils	econdary Ir Surfac Draina Dry-Se Crayfis Satura Sturte Geomo FAC-N	ndicators (minimum of two required e Soil Cracks (B6) ge Patterns (B10) hason Water Table (C2) h Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2) eutral Test (D5)
Type: Depth (inche Remarks: Remarks: HYDROLO Wetland Hyd Primary Indic Surface V High Wat Saturatio Water Ma Sediment Drift Dep Algal Mat Iron Depo Inundatio Sparsely Water-St	s): <b>DGY</b> drology Indicator ators (minimum Nater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) n Visible on Aeria Vegetated Conca ained Leaves (B9	ors: of one is al Imager ive Surfa	y (B7) ce (B8)	all that a Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge c Other (E	<u>pply)</u> Fauna (B autic Plar on Sulfide d Rhizosp e of Redu ron Redu ck Surfac or Well Da ixplain in	13) hts (B14) Odor (C <sup>-</sup> heres on uced Iron uction in T ee (C7) ata (D9) Remarks	Se I) Living Roots (C4) 'illed Soils	econdary Ir Surfac Draina Dry-Se Crayfis Satura Stunte Geomo FAC-N	ndicators (minimum of two required e Soil Cracks (B6) ge Patterns (B10) bason Water Table (C2) bh Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2) eutral Test (D5)
Type: Depth (inche Remarks: Remarks: HYDROLO Wetland Hyo Primary Indic Surface V High Wat Saturatio Water Ma Saturatio Urift Depo Algal Mat Iron Depo Inundatio Sparsely Water-St Field Observ	s): DGY drology Indicato ators (minimum Nater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) n Visible on Aeria Vegetated Conca ained Leaves (B9 vations:	ors: of one is al Imager ave Surfa	y (B7) ce (B8)	all that a Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge c Other (E	<u>pply)</u> Fauna (B uatic Plar en Sulfide I Rhizosp e of Redu ron Redu ck Surfac or Well Da Explain in	13) hts (B14) Odor (C <sup>-</sup> heres on uced Iron uction in T ace (C7) ata (D9) Remarks	Se Living Roots (C4) iilled Soils	econdary Ir Surfac Draina Dry-Se Crayfis Satura Stunte Geomo FAC-N	ndicators (minimum of two required e Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) h Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2) eutral Test (D5)
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Type: Depth (inche Remarks: Remarks: Remarks: Remarks: Contemport Wetland Hype Primary Indic Surface V High Wat Saturatio Water Ma Sedimen Saturatio Drift Depo Algal Mat Iron Depo Algal Mat Iron Depo Saturation pr Surface wate Water table p Saturation pr (includes cap	s): DGY drology Indicato ators (minimum Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) n Visible on Aeria Vegetated Conca ained Leaves (B9 vations: er present? oresent? oresent? osilary fringe)	ors: of one is of one is ve Surfa ) Yes Yes Yes	y (B7) ce (B8) No No No	all that a Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge c Other (E X X X	pply) Fauna (B uatic Plar In Sulfide I Rhizosp e of Redu Iron Redu ck Surfac or Well Da ixplain in Depth (i Depth (i	13) hts (B14) Odor (C' heres on uced Iron uced Iron uced Iron ata (D9) Remarks nches): nches): nches):	Se - - - - - - - - - - - - -	econdary Ir Surfac Draina Dry-Se Crayfis Satura Stunte Geomo FAC-N	ndicators (minimum of two required e Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) th Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2) eutral Test (D5) ndicators of wetland hydrology present?N
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Type: Depth (inche: Remarks: Remarks: HYDROLO Wetland Hyc Primary Indic Surface V High Wat Saturatio Water Ma Sediment Drift Dep Algal Mat Iron Depo Inundatio Sparsely Water-St Field Observ Surface wate Water table p Saturation pr (includes cap Describe reco	s): GGY drology Indicator cators (minimum Nater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) n Visible on Aeria Vegetated Conca ained Leaves (B9 vations: er present? esent? ordesent? orded data (streaget)	ors: of one is of one is ave Surfa ve Surfa ) Yes Yes Yes Yes	y (B7) ce (B8) No e, monitoring we	Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge c Other (E X X X	pply) Fauna (B uatic Plar en Sulfide d Rhizosp e of Redu iron Redu ck Surfac or Well Da ixplain in Depth (i Depth (i Depth (i	13) hts (B14) Odor (C' heres on uced Iron uction in T ee (C7) ata (D9) Remarks nches): nches): nches): nches):	Se 1) Living Roots (C4) (C4) illed Soils ) nspections), if	econdary II Surfac Draina Dry-Se Crayfis Satura Stunte Geomo FAC-N	ndicators (minimum of two required e Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) th Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2) eutral Test (D5) ndicators of wetland hydrology present?N
Type: Depth (inche: Remarks: Remarks: HYDROLO Wetland Hyd Primary Indic Surface V High Wat Saturatio Water Ma Sediment Drift Dep Algal Mat Iron Depo Inundatio Sparsely Water-St Field Observ Surface wate Water table p Saturation pr (includes cap Describe reco	s): GGY drology Indicator cators (minimum Nater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) n Visible on Aeria Vegetated Conca ained Leaves (B9 vations: er present? esent? oresent? oresent? oresent? oresent? oresent? orded data (streated to be a matter and/or a matter	ors: of one is of one is al Imagery ave Surfa ) Yes Yes Yes Yes am gauge	y (B7) ce (B8) w (B7) ce (B8) were not able to	Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge c Other (E X X II, aerial p	pply) Fauna (B uatic Plar en Sulfide d Rhizosp e of Redu ron Redu ck Surfac or Well Da ixplain in Depth (i Depth (i Depth (i	13) hts (B14) Odor (C <sup>-</sup> heres on uced Iron uced Iron iction in T e (C7) ata (D9) Remarks nches): nches): nches): revious in revious in	Se 1) Living Roots (C4) (C4) illed Soils ) nspections), if	econdary Ir Surfac Draina Dry-Se Crayfis Satura Stunte Geomo FAC-N	hdicators (minimum of two required e Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) th Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2) eutral Test (D5)

WETLAND DETERMINA	TION D	ATA FORM	I - Midwest Regio	n	
Project/Site 85th Street Interchange	City/0	County:	Lincoln County	Sampling Date:	11/13/18
Applicant/Owner: 85th Street Business District Joint Venture Grou	qu	State:	South Dakota	Sampling Point:	16-W
Investigator(s): Rebecca Beduhn		Sectio	on, Township, Range:	T100NS1	3R51W
Landform (hillslope, terrace, etc.): toeslope		Local r	relief (concave, conve	x, none): C	oncave
Slope (%): Lat: 43.47580546		Long:	-96.81432842	Datum: UTM NA	D 83 Zone 14N
Soil Map Unit Name Egan-Worthing complex, 0 to 6 percent slopes			NWI Classifica	ation: N	one
Are climatic/hydrologic conditions of the site typical for this time of the	ne year?		Y (If no, expla	ain in remarks)	
Are vegetation , soil , or hydrology s	significant	ly disturbed?			
Are vegetation , soil , or hydrology r	naturally p	oroblematic?	Are "nor	mal circumstances" p	resent? Yes
SUMMARY OF FINDINGS			(If neede	ed, explain any answe	rs in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? Y		Is the sa	ampled area within a	wetland?	Y
Indicators of wetland hydrology present? Y		If yes, op	tional wetland site ID:	Wetland 16	
Pemarke: (Evoluin alternative procedures here or in a separate repo	ort )				
	n.)				
VECETATION Lies acientific names of plants					
VEGETATION Use scientific names of plants.	Abaaluta	Dominon	Indiantor Domina	unca Tast Worksheat	
Tree Stratum (Plot size: 30' Radius )	% Cover	t Species	Status Numbe	r of Dominant Species	
1	-	I	that are	OBL, FACW, or FAC:	3 (A)
2			Tota	I Number of Dominant	( )
3			Spe	cies Across all Strata:	3 (B)
4			Percen	t of Dominant Species	
5			that are	OBL, FACW, or FAC:	100.00% (A/B)
	0	= Total Cover		<u> </u>	
Sapling/Shrub stratum (Plot size: 15 Radius )			Prevale	nce index worksnee	τ
2			OBL spe	coveror. ecies 25 x 1	= 25
		·	FACW s	species $\frac{20}{75} \times 2$	= 150
4		·	FAC spe	ecies 0 x 3	= 0
5		·	FACU s	pecies 0 x 4	= 0
	0	= Total Cover	UPL spe	cies 0 x 5	= 0
Herb stratum (Plot size: 5' Radius )			Column	totals 100 (A)	<u>175</u> (B)
1 Phalaris arundinacea Reed Canary Grass	50	Y	FACW Prevaler	nce Index = B/A =	1.75
2 Equisetum hyemale Tall Scouring-Rush	25	Y	FACW		
3 Typha angustifolia Narrow-Leaf Cat-Tail	25	Y	OBL Hydrop	hytic Vegetation Indi	cators:
5				ia lest for hydrophylic	vegetation
6		<u> </u>		valence index is $\leq 3.0^*$	
7				nhological adaptation	s* (provide
8			sup	porting data in Remar	ks or on a
9			sepa	arate sheet)	
10			Prot	olematic hydrophytic v	egetation*
	100	= Total Cover	(exp	lain)	
Woody vine stratum (Plot size: <u>30' Radius</u> )			*Indicato	ors of hydric soil and wetlar	nd hydrology must be
			Hvd	present, unless disturbed o	r problematic
2	0	- Total Cavar		etation	
	0	= Total Cover	pres	sent? Y	
Remarks: (Include photo numbers here or on a separate sheet)					
Note: This data sheet has been adapted to use the 2012 National Wetla	and Plant L	_ist:	-040/		
Engineers, Engineer Research and Development Center, Cold Regions Research a	ai vvetland P and Enginee	riant List, versior ring Laboratory,	a∠.4.0 (nttps://wetland_pla Hanover, NH, and BONAF	ns.usace.army.mil). U.S. A ?, Chapel Hill, NC. (2012)	anny Corps of

US Army Corps of Engineers

Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm the	absence	of indicators.)
Depth	Matrix		Ree	Redox Features					
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture		Remarks
0-4	10YR 2/1	100					Silty Clay Loam	า	
4-18	10YR 2/1	95	7.5YR 4/6	5	С	М	Silty Clay Loam	ı	
				1					
*Type: C = 0	Concentration, D :	= Depleti	on, RM = Reduce	ed Matrix	k, MS = N	/lasked S	and Grains. *	*Location:	PL = Pore Lining, M = Matrix
Hydric So	oil Indicators:						Indicators for	or Problem	natic Hydric Soils:
His	tosol (A1)		Sar	ndy Gleye	ed Matrix	(S4)	Iron-Mar	nganese Ma	asses (F12) ( <b>LRR K, L, M</b> )
His	tic Epipedon (A2)		Sar	ndy Redo	ox (S5)		Very Sha	allow Dark	Surface (F22)
Bla	ck Histic (A3)		Stri	pped Ma	itrix (S6)		Other (ex	xplain in re	marks)
Hyc	Irogen Sulfide (A4	1)	Dar	k Surfac	e (S7)				
	atified Layers (A5)	)			ky Minera	al (F1)			
	TI MUCK (A1U)	Surface		imy Gley	ed Matrix	X (FZ)			
Dep	neleu below Dark ok Dark Surface (			Jeleu Ma Joy Dark	Surface	(F6)	*ladiaatara	a of budrow	butic version and waterd
Sar	dy Mucky Minera	(S1)		oleted Da	ark Surfa	(F7)	hydrology	s of nyarop v must be r	nylic vegetation and wettand
5 ci	n Mucky Peat or	Peat (S3		lox Denr		(F8)	Tydrology	y musi be p pr	oblematic
0 0 0			<u> </u>			(10)		P.	obiomado
Restrictive	Layer (If observe	ea):					Liveria aci	l	×
Type: Donth (inch)					-		Hydric Soli	i present?	<u> </u>
Depth (Inche	=s).				-				
HYDROL	DGY								
Wetland Hy	drology Indicato	ors:							
Primary Indi	<u>cators (minimum</u>	of one is	required; check	all that a	pply)		<u>Secon</u>	idary Indica	ators (minimum of two required)
Surface	Water (A1)			Aquatic	Fauna (B	813)		Surface So	il Cracks (B6)
High Wa	ater Table (A2)			True Aq	uatic Plar	nts (B14)		Drainage P	atterns (B10)
Saturation Water M	on (A3) Jorka (B1)			Hydroge	en Sulfide	Odor (C	)	Dry-Seasor	Water Table (C2)
Sedimer	arks (DT) at Denosits (B2)			(C3)	a Rnizosp	oneres on		Saturation V	Visible on Aerial Imagery (C9)
Drift Der	(B3)			Presenc	e of Redu	uced Iron	(C4)	Stunted or St	Stressed Plants (D1)
Algal Ma	at or Crust (B4)			Recent I	Iron Redu	uction in T	illed Soils X	Geomorphi	c Position (D2)
Iron Dep	osits (B5)			(C6)			X	FAC-Neutra	al Test (D5)
Inundati	on Visible on Aeria	al Imager	/ (B7)	Thin Mu	ck Surfac	ce (C7)			
Sparsely	/ Vegetated Conca	ave Surfa	ce (B8)	Gauge c	or Well Da	ata (D9)			
Water-S	tained Leaves (B9	)		Other (E	xplain in	Remarks	)		
Field Obser	vations:								
Surface wat	er present?	Yes	No	X	Depth (i	inches):			, <b>,</b> ,, .
Water table	present?	Yes	No	<u>X</u>	Depth (i	inches):		Indic	ators of wetland
Saturation p	resent?	Yes	No	X	Depth (I	inches):		hydr	rology present? Y
(includes ca								1-61	
Describe red	corded data (strea	am gauge	e, monitoring well	l, aerial p	photos, p	revious ii	ispections), if ava	ilable:	
Remarks:									
Saturation	and/or a water	r table v	vere not able to	be ob	served	as the	water was froze	en at the t	ime of the site visit.
					<b></b> .				

WETLAND DETERMINA	TION D	ATA FORM	l - Midwest Re	gion		
Project/Site 85th Street Interchange	City/0	County:	Lincoln County	Sampling Da	ate: 11/13/1	8
Applicant/Owner: 85th Street Business District Joint Venture Grou	q	State:	South Dakota	Sampling Po	oint: 17-U	
Investigator(s): Rebecca Beduhn		Section	on, Township, Rai	nge: T	100NS13R51W	
Landform (hillslope, terrace, etc.): backslope		Local	relief (concave, co	onvex, none):	None	
Slope (%): 4 Lat: 43.47571582		Long:	-96.81768613	Datum: L	JTM NAD 83 Zone	: 14N
Soil Map Unit Name Worthing silty clay loam, 0 to 1 percent slopes			NWI Class	sification:	None	
Are climatic/hydrologic conditions of the site typical for this time of the	ne year?	-	Y (If no, e	explain in remarks)	)	
Are vegetation, soil, or hydrologys	significant	ly disturbed?				
Are vegetation , soil , or hydrology r	naturally p	roblematic?	Are	"normal circumsta	ances" present?`	Yes
SUMMARY OF FINDINGS			(If n	eeded, explain an	y answers in rema	rks.)
Hydrophytic vegetation present? N						
Hydric soil present? N		Is the sa	ampled area with	in a wetland?	N	
Indicators of wetland hydrology present? N		lf yes, op	tional wetland site	e ID:		
Remarks: (Explain alternative procedures here or in a separate repo	rt)					
VEGETATION Use scientific names of plants						
	Absoluto	Dominan	Indicator Don	ninance Test Wo	rksheet	
Tree Stratum (Plot size: 30' Radius )	% Cover	t Species	Status Nu	mber of Dominant	Species	
1 '			that	t are OBL, FACW,	or FAC: 0	(A)
2				Total Number of Do	ominant	_ ` `
3				Species Across al	l Strata: 1	(B)
			Pe	rcent of Dominant	Species	
5		<u></u>	that	t are OBL, FACW,	or FAC: 0.00%	_(A/B)
Sanling/Shrub stratum (Plat size: 15' Padius )	0	= I otal Cover	Bro	valanca Indax W/	orkabaat	
1			Tota	al % Cover of:	JINSHEEL	
2			OBL	_ species 0	) x 1 = 0	
3			FAC	W species 0	$x_{2} = 0$	_
4			FAC	species 0	x 3 = 0	_
5			FAC	CU species 0	x 4 = 0	
	0	= Total Cover	UPL	species 0	x 5 = 0	— "、
Herb stratum (Plot size: 5' Radius )			Colu	umn totals 0	$(A) \qquad 0$	_(B)
1 Glycine max Soybeans	100	Y	NI Prev	/alence Index = B/	/A =	_
			Hvd	ronhytic Vegetat	ion Indicators:	
4		·		Rapid test for hvd	rophytic vegetation	n
5				Dominance test is	s >50%	-
6				Prevalence index	is ≤3.0*	
7				Morphological ada	aptations* (provide	;
8				supporting data in	Remarks or on a	
				separate sheet)		
10	100	- Total Covor		Problematic hydro	ophytic vegetation*	
Woody vine stratum (Plot size: 30' Radius )	100		<u> </u>			
1			*Inc	present unless di	and wetland hydrology isturbed or problematic	must be
2		·		Hydrophytic		
	0	= Total Cover		vegetation		
				present?	<u>N</u>	
Remarks: (Include photo numbers here or on a separate sheet)			<b>_</b>			
Nate: This data about has been adouted to we the 0040 Matter 1944 if	nd Direct !	late				
Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: National	and Plant L al Wetland P	list. Plant List, versioi	n 2.4.0 (https://wetland	d_plants.usace.army.r	nil). U.S. Army Corps (	of
Engineers, Engineer Research and Development Center, Cold Regions Research a	nd Enginee	ring Laboratory,	Hanover, NH, and BC	ONAP, Chapel Hill, NC	C. (2012)	

Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	indicat	or or confirm the abser	nce of indicators.)
Depth	Matrix		Rec	lox Featu	ures_			
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks
0-14	10YR 3/1	100					Silty Clay Loam	
								1
*Type: C = 0	Concentration, D :	= Depleti	on, RM = Reduce	d Matrix	, MS = N	lasked S	and Grains. **Locat	ion: PL = Pore Lining, M = Matrix
Hydric So Hist	i <b>l Indicators:</b> osol (A1) ic Epipedon (A2)		San	dy Gleye	ed Matrix x (S5)	(S4)	Indicators for Prol Iron-Manganes Very Shallow D	olematic Hydric Soils: e Masses (F12) (LRR K, L, M) ark Surface (E22)
Blac	ck Histic (A3)		Strip	oped Mat	trix (S6)		Other (explain i	n remarks)
Hyc	lrogen Sulfide (A4	4)	 Dar	, k Surface	e (S7)			,
Stra	tified Layers (À5	)	Loa	my Muck	y Minera	al (F1)		
2 cr	n Muck (A10)		Loa	my Gleye	ed Matrix	(F2)		
Dep	leted Below Dark	Surface	(A11) Dep	leted Ma	atrix (F3)			
Thio	ck Dark Surface (	A12)	Red	lox Dark	Surface	(F6)	*Indicators of hyd	drophytic vegetation and wetland
Sar	dy Mucky Minera	l (S1)	Dep	leted Da	rk Surfac	ce (F7)	hydrology must	be present, unless disturbed or
5 cr	n Mucky Peat or	Peat (S3	) Red	lox Depre	essions (	F8)		problematic
Restrictive	Layer (if observe	əd):						
Туре:							Hydric soil prese	nt? N
Depth (inche	es):							
HYDROLO Wetland Hy Primary Indi	DGY drology Indicato cators (minimum	ors: of one is	required; check a	all that a	oply)		Secondary Ir	dicators (minimum of two required)
Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio	Water (A1) tter Table (A2) on (A3) arks (B1) tt Deposits (B2) posits (B3) tt or Crust (B4) osits (B5) on Visible on Aeria v Vegetated Conca	ll Imager <u>y</u> ive Surfa	/ (B7)	Aquatic I True Aqu Hydroge Oxidized (C3) Presence Recent I (C6) Thin Muc Gauge o	Fauna (B uatic Plar n Sulfide l Rhizosp e of Redu ron Redu ck Surfac r Well Da	13) Odor (C1 heres on iced Iron ction in T e (C7) ata (D9)	I) Surface Drainag Dry-Se Living Roots Crayfis (C4) Stunted (C4) Stunted FAC-N	e Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) h Burrows (C8) ion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) rphic Position (D2) eutral Test (D5)
Water-S	tained Leaves (B9	)		Other (E	xplain in	Remarks	)	
Field Obser Surface wate Water table Saturation p (includes ca	vations: er present? present? pillary fringe)	Yes Yes Yes	No No No	X X X	Depth (i Depth (i Depth (i	nches): nches): nches):	In	ndicators of wetland nydrology present? <u>N</u>
Describe rec	corded data (strea	am gauge	e, monitoring well	, aerial p	hotos, pr	evious ir	nspections), if available:	
Remarka								
Saturation	and/or a water	table v	vere not able to	be obs	served,	as the v	water was frozen at t	ne time of the site visit.
US Army C	orps of Engine	ers						ivildwest Region

ProjectSite 85th Street Interchange       City/Courty:       Lincoln County       Sampling Date:       11/13/18         Applicant/Owner:       SBM Street Basiness Diatricit Jeint Venture Group       State:       Sauch Dakto       Sampling Point:       17.4V         Investigator(s):       Rebecca Beduhn       Local relief (concerve, convex, none);       Concerve       Concerve       TIONNS 13R5 fW         Sold Map Unit Name Worthing sity (Jay Joan, 10: 0 1 percent slopes       NVII (Classificator):       None       None         Are unsets/intercologic conditions of the site typical for this time of the year?       Y       (If ne, speliai in remarks)       None         Are exegetation       , soil       , or hydrology       significantly disturbed?       Are 'normal circumstances' present? Yes         SUMMARY OF FINDINGS       (If ne, speliai in remarks.)       Hydrology present?       Y       If seampled area within a wetland?       Y         Hydrology present?       Y       Is the sampled area within a wetland?       Y       If yes, optional wetland site ID:       Wetland 17         Remarks: (Explain alternative procedures here or in a separate report.)       Status       Indicator       Percent of Dominant       Model area within a wetland?       Y         1	WETLAND DETERMIN	ATION D	ATA FORM	I - Midwest Regi	on	
Applicant/Owner:       8th: Stere Eusiness District Joint Venture Group       Site:       South Datakata       Sample point:       17.W         Intersityator(s):       Astrona Concentrations       South Concentrations       ToolNS13851W         Landform (hillslope, terrace, etc.):       43.4766712       Long:       -96.8761364       Datum:       None         Sold Map Unit Mane Worthing sity dotand. to 1 percent slopes       MVVI Classification:       None         Are elimatichydrologic conditions of the site bycal for this time of the year?       Y       (If no, explain in remarks.)         Hydrophytic vegetation       , or hydrology       naturally problematic?       Are "normal circumstances" present?       Yes         SUMMARY OF FINDINGS       Y       Is the sampled area within a wotland?       Y       Y         Hydrophytic vegetation present?       Y       If yes, optional wetland site ID:       Wetland 17         Remarks: (Explain alternative procedures here or in a separate report.)       Status       Number of Dominant Species         1	Project/Site 85th Street Interchange	City/0	County:	Lincoln County	Sampling Date:	11/13/18
Investigator(s): Rebecca Beduin Section, Township, Range: T100NS13RS1W Landrom (Initialize, terraice, etc.): Soli Map Unit Name Vorking sitty clay learn, 0 to 1 percent slopes VWI Classification: None Are vegetation soli or hydrology naturally problematic? Are 'operation in control to 1 percent slopes VWI Classification: None Are vegetation soli or hydrology naturally problematic? Are 'normal circumstances' present? Yes SUMMARY OF FINDINGS (If needed, explain any answers in remarks.) Hydrology present? Y I to explain in emarks (If needed, explain any answers in remarks.) Hydrology present? Y I to explain any answers in remarks.) Hydrology present? Y I to explain any answers in remarks.)  Wetlend hydrology present? Y I to explain any answers in remarks.)  Wetlend to find the side typical for the set operation of the s	Applicant/Owner: 85th Street Business District Joint Venture Gr	oup	State:	South Dakota	Sampling Point:	17-W
Landform (Nillalope, terrace, etc.):  tespipe Local reliaf (concave, corvex, none): Concave Concave Concave Concave Local reliaf (concave, corvex, none): Concave UTM ADD 83 Zone 14N Origination Soft Map Unit Name Worthing sity clay loan, 0 to 1 percent slopes NWI Classification: None Ver climatichydrologic conditions of the site typical for this time of the year? Y (If needed, explain in remarks) Y SUMMARY OF FINDINGS (If needed, explain any answers in remarks.) Hydrophytic vegetationY Hydric soil present? Y Hydric fylto size: 30 Radius )  D Memarks: (Explain atternative procedures here or in a separate report.)  VEGETATION Use scientific names of plants.  Tea Stratum (Pict size: 30 Radius )  Prevalence Index Worksheet Total %Cover (Species 15 As 1 = 45 FACW, or FAC: 100.00% (A/B) Total %Cover Deminant Species 55 X 2 = 110 FACU species 0 X 4 = 0 FACU	Investigator(s): Rebecca Beduhn		Section	on, Township, Range	: T100NS1	13R51W
Slope (%): 1       Lat:       43.4756712       Long:       -96.81761364       Datum:       TM NADB 32 Cane 14N         Soli Map Unit Name Worthing sity clay loam. 0 to 1 percent slopes       NWI Classification:       None         Are characthydrologic conditions of the site typical for this time of the year?       Y       (fin coptiant in remarks)         Are vegetation       , ori hydrology       institutely problematic?       Are "normal circumstances" present?       Yes         SUMMARY OF FINDINGS       (fin needed, explain any answers in remarks.)       (fin needed, explain any answers in remarks.)       Yes         Hydrophytic vegetation present?       Y       Y       Is the sampled area within a wetland?       Y         Indicators of wetland hydrology present?       Y       Y       Is the sampled area within a wetland?       Y         Remarks: (Explain alternative procedures here or in a separate report.)       % Cover       Species       Status       Number of Dominant Species         1       -       -       -       -       -       -       Number of Dominant Species         1       -       -       -       -       -       -       -       -         2       -       -       -       -       -       -       -       -         2 <t< td=""><td>Landform (hillslope, terrace, etc.): toeslope</td><td></td><td>Local</td><td>relief (concave, conv</td><td>ex, none):</td><td>Concave</td></t<>	Landform (hillslope, terrace, etc.): toeslope		Local	relief (concave, conv	ex, none):	Concave
Soli Map With Name Workings silv clay loam, 0 to 1 percent slopes       NWI Classifications       None         Are climatic/hydrologic conditions of the site typical for this time of the year?       Y       (If no, explain in remarks)         Are vegetation	Slope (%): 1 Lat: 43.4756712		Long:	-96.81761364	Datum: UTM N/	AD 83 Zone 14N
Are elimatichydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks.) Are vegetation, soil, or hydrology	Soil Map Unit Name Worthing silty clay loam, 0 to 1 percent slopes	3		NWI Classific	ation:	None
Are vegetation	Are climatic/hydrologic conditions of the site typical for this time of	the year?		Y (If no, exp	lain in remarks)	
Are vegatation	Are vegetation , soil , or hydrology	significant	ly disturbed?			
SUMMARY OF FINDINGS       (ff needed, explain any answers in remarks.)         Hydric sol present?       Y         Indicators of wetland hydrology present?       Y         Indicators of wetland hydrology present?       Y         Remarks: (Explain alternative procedures here or in a separate report.)         VEGETATION Use scientific names of plants.         Image: Stratum       (Plot size: 30' Radius )         1	Are vegetation , soil , or hydrology	naturally p	problematic?	Are "no	ormal circumstances"	present? Yes
Hydrophytic vegetation present?       Y       Y         Hydrophytic vegetation present?       Y       Y         Indicators of welland hydrology present?       Y       Is the sampled area within a wotland?       Y         Remarks: (Explain alternative procedures here or in a separate report.)       VEGETATION Use scientific names of plants.       Dominant       Indicator       Number of Dominant         Tree Stratum       (Plot size: 30'Radius )       Absolute       Dominant       Indicator       Number of Dominant         2                4                3                4                 2 <td>SUMMARY OF FINDINGS</td> <td></td> <td></td> <td>(If need</td> <td>ded, explain any answ</td> <td>ers in remarks.)</td>	SUMMARY OF FINDINGS			(If need	ded, explain any answ	ers in remarks.)
Hydric soil present?       Y       Is the sampled area within a wetland?       Y         Indicators of wetland hydrology present?       Y       If yes, optional wetland site ID:Y       Y         Remarks: (Explain alternative procedures here or in a separate report.)       Mosolule       Dominan       Indicator         Tree Stratum       (Plot size: 30' Radius )       Absolule       Dominan       Indicator         1               3                4  <	Hydrophytic vegetation present? Y					
Indicators of wetland hydrology present?       Y       If yes, optional wetland site ID:Wetland 17	Hydric soil present? Y		Is the sa	ampled area within	a wetland?	Y
Remarks: (Explain alternative procedures here or in a separate report.)         VEGETATION Use scientific names of plants.         Tree Stratum (Plot size: 30' Radius )         1	Indicators of wetland hydrology present? Y		∣f yes, op	tional wetland site ID	): Wetland 17	
VEGETATION Use scientific names of plants.         Tree Stratum       (Plot size: 30' Radius )       Absolute Dominan Indicator       Dominance Test Worksheet         1	Pemarks: (Evolain alternative procedures here or in a separate rer	port )				
VEGETATION Use scientific names of plants.         Tree Stratum       (Plot size: 30' Radius )       Absolute % Cover       Dominan Indicator       Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)         1             Status       Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)       Total Number of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)         3              Species Across all Strata: 3 (B)       Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)         1		JUIT.)				
VEGETATION Use scientific names of plants.         Image: Statum (Plot size: 30' Radius )         1						
VEGE TATION Use scientific names of plants.         Image: transmission of the transmission of the transmission of the transmission of transmissin or transmission of transmission of transmission of transmission						
Absolute     Dominant     Indicator       1	VEGETATION Use scientific names of plants.			Domin		4
International (include	Tree Stratum (Plot size: 30' Radius )	Absolute % Cover	Dominan t Species	Status	ance rest worksnee	
2                    Species Across all Strata:       3       (B)         4             Species Across all Strata:       3       (B)         5              Species Across all Strata:       3       (B)       Percent of Dominant Species	1		t opooloo	that ar	e OBL. FACW. or FAC	; : 3 (A)
3        Species Across all Strata:       3       (B)         4        0       = Total Cover       The operation of the operation operating and operation operation operation operating and ope	2			Tot	al Number of Dominan	t(*,)
4          Percent of Dominant Species         5        0       = Total Cover       Pervalence Index Worksheet         7         O       = Total Cover         9         O       = Total Cover         Pervalence Index Worksheet       Total % Cover of:       OBL species       45       x 1 =       45         7            FACW species       0       x 3 =       0         8	3			Sr	ecies Across all Strata	: 3 (B)
5        0       = Total Cover       that are OBL, FACW, or FAC: 100.00% (A/B)         1        0       = Total Cover       Prevalence Index Worksheet         2         OBL species       45       x1 =       45         4          OBL species       0       x3 =       0         5           OBL species       0       x3 =       0         4            OBL species       0       x3 =       0         5            Column totals       100       (A)       155       (B)         1       Phalaris arundinacea        Reed Canary Grass       50       Y       FACW       Prevalence Index to x5 =       0       Column totals       100       (A)       155       (B)         2       Typha angustifolia        Narrow-Leaf Cat-Tail       25       Y       OBL       Hydrophytic Vegetation Indicators:       Rajid test for hydrophytic vegetation for hydrophytic vegetation for hydrophytic vegetation         4 <t< td=""><td>4</td><td></td><td></td><td>Perce</td><td>nt of Dominant Species</td><td>3</td></t<>	4			Perce	nt of Dominant Species	3
0       = Total Cover         Sapling/Shrub straturr       (Plot size: 15' Radius )          1           2           3           4           5           0       = Total Cover       IPC valence Index Worksheet         FACU species       0       x 3 = 0         FACU species       0       x 4 = 0         UPL species       0       x 4 = 0         UPL species       0       x 4 = 0         UPL species       0       x 4 = 0         Column totals       100       (A)         1       Phalaris arundinacea            Column totals       100         3       Scirpus attrovirens        O       Y         3       Scirpus attrovirens        O       Y       OBL         4       Persicaria lapathifolia        O       Y       OBL         4       Persicaria lapathifolia        O       Y       OBL         9	5			that ar	e OBL, FACW, or FAC	: <u>100.00%</u> (A/B)
Sapiling/Shrub stratum       (Plot size:       15 Radius       )         1         Total % Cover of:         2         G       FACW species       45 x 1 =       45         4          FACW species       0 x 3 =       0         5        0       =Total Cover       FACU species       0 x 4 =       0         1       Phalaris arundinacea        Reed Canary Grass       50       Y       FACW       FACW       Prevalence Index Worksheet         2       Typha angustifolia         0       =Total Cover       UPL species       0 x 4 =       0         1       Phalaris arundinacea        Reed Canary Grass       50       Y       FACW       Prevalence Index = B/A =       1.55         2       Typha angustifolia        Dark-Green Bulrush       20       Y       OBL       Rapid test for hydrophytic vegetation         3       Scirpus atrovirens          Rapid test for hydrophytic vegetation         4           Rapid test for hydrophytic vegetation         5		0	= Total Cover			
1        Iotal % Cover of:         2        OBL species       45       x 1 =       45         4        FACW species       55       x 2 =       110         5         FACW species       0       x 4 =       0         FACU species       0       x 4 =       0       0       Total Cover       VL species       0       x 4 =       0         1       Phalaris arundinacea        Reed Canary Grass       50       Y       FACW       FACW       Pervalence Index = B/A =       1.55         2       Typha angustifolia        Narrow-Leaf Cat-Tail       25       Y       OBL       Prevalence Index = B/A =       1.55         3       Scirpus atrovirens        Dark-Green Bulrush       20       Y       OBL       Hydrophytic Vegetation Indicators:         4       Persicaria lapathifolia        Dock-Leaf Smartweed       5       N       FACW       Rapid test for hydrophytic vegetation         5            X       Prevalence index is <3.0*	<u>Sapling/Shrub stratum</u> (Plot size: <u>15' Radius</u> )			Preval	ence Index Workshee	et
2         OBL species $43 \times 1 - 43$ 3        FACW species $55 \times 2 = 110$ FAC species $0 \times 3 = 0$ FAC species $0 \times 3 = 0$ FACU species $0 \times 4 = 0$ UPL species $0 \times 5 = 0$ Column totals $100$ Phalaris arundinacea              2       Typha angustifolia         3       Scirpus atrovirens         3       Scirpus atrovirens             6              8              9          10          10          10          10          10          10          11          12          10          100          100          100          100          0       = Total					Cover of:	- 45
3 $3$ $3$ $3$ $3$ $5$ $7$					species $\frac{45}{55} \times 2$	$= \frac{45}{110}$
5        0       = Total Cover       FACU species       0       x 4 =       0         1       Phalaris arundinacea        Reed Canary Grass       50       Y       FACW       Prevalence Index = B/A =       1.55         2       Typha angustifolia        Narrow-Leaf Cat-Tail       25       Y       OBL         3       Scirpus atrovirens        Dark-Green Bulrush       20       Y       OBL         4       Persicaria lapathifolia        Dock-Leaf Smartweed       5       N       FACW         5            Rapid test for hydrophytic vegetation         6             Rapid test for hydrophytic vegetation         7            Norphological adaptations* (provide supporting data in Remarks or on a separate sheet)         10 </td <td>4</td> <td></td> <td></td> <td> FAC st</td> <td>becies <math>\frac{300}{2} \times 3</math></td> <td><math>i = \frac{110}{0}</math></td>	4			FAC st	becies $\frac{300}{2} \times 3$	$i = \frac{110}{0}$
Image: Network of the stratum       (Plot size:       5' Radius       0       = Total Cover       UPL species       0       x 5 =       0         1       Phalaris arundinacea	5		·	FACU	species 0 x 4	= 0
Herb stratum       (Plot size:       5' Radius       )       Column totals       100       (A)       155       (B)         1       Phalaris arundinacea        Reed Canary Grass       50       Y       FACW       Prevalence Index = B/A =       1.55         2       Typha angustifolia        Narrow-Leaf Cat-Tail       25       Y       OBL       Hydrophytic Vegetation Indicators:         3       Scirpus atrovirens        Dark-Green Bulrush       20       Y       OBL       Hydrophytic Vegetation Indicators:         4       Persicaria lapathifolia        Dock-Leaf Smartweed       5       N       FACW       Rapid test for hydrophytic vegetation         5            Rapid test for hydrophytic vegetation         6             Rapid test for hydrophytic vegetations*       (provide supporting data in Remarks or on a separate sheet)         10            Problematic hydrophytic vegetation*       (explain)         1		0	= Total Cover	UPL sp	vecies 0 x 5	0 = 0
1       Phalaris arundinacea        Reed Canary Grass       50       Y       FACW       Prevalence Index = B/A =	Herb stratum (Plot size: 5' Radius )			Colum	n totals 100 (A)	155 (B)
2       Typha angustifolia        Narrow-Leaf Cat-Tail       25       Y       OBL         3       Scirpus atrovirens        Dark-Green Bulrush       20       Y       OBL         4       Persicaria lapathifolia        Dock-Leaf Smartweed       5       N       FACW       Rapid test for hydrophytic vegetation         5          X       Dominance test is >50%       X         6          X       Dominance test is >50%       X         7           Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)       Norphological adaptations* (provide supporting data in Remarks or on a separate sheet)         10 <t< td=""><td>1 Phalaris arundinacea Reed Canary Grass</td><td>50</td><td>Y</td><td>FACW Prevale</td><td>ence Index = B/A =</td><td>1.55</td></t<>	1 Phalaris arundinacea Reed Canary Grass	50	Y	FACW Prevale	ence Index = B/A =	1.55
3       Scirpus atrovirens        Dark-Green Bulrush       20       Y       OBL       Hydrophytic Vegetation Indicators:         4       Persicaria lapathifolia        Dock-Leaf Smartweed       5       N       FACW       Rapid test for hydrophytic vegetation         5          X       Dominance test is >50%       X         6          X       Prevalence index is ≤3.0*         7          Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)         9             supporting data in Remarks or on a separate sheet)         10	2 Typha angustifolia Narrow-Leaf Cat-Tail	25	Y	OBL		
4       Persicaria lapathifolia        Dock-Leaf Smartweed       5       N       FACW       Rapid test for hydrophytic vegetation         5          X       Dominance test is >50%         6          X       Prevalence index is ≤3.0*         7          Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)         9              10              10               10        100       = Total Cover       Problematic hydrophytic vegetation*          2        0       = Total Cover       Hydrophytic vegetation present;          0       = Total Cover       0       = Total Cover       Hydrophytic vegetation problematic         Hydrophytic               2        0       = Total Cover       Hydrophytic vegetation present?       Y         Remarks: (Include photo numbers here or on a separate sheet)      <	3 Scirpus atrovirens Dark-Green Bulrush	20	Y	OBL Hydro	ohytic Vegetation Ind	licators:
5        X       Dominance test is >50%         6        X       Prevalence index is ≤3.0*         7        Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)         9        Problematic hydrophytic vegetation* (explain)         10        100       =Total Cover         2        0       =Total Cover         9         Hydrophytic vegetation* (explain)         *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic       Hydrophytic vegetation present?         2        0       =Total Cover       Y         Remarks: (Include photo numbers here or on a separate sheet)       Y       Y	4 Persicaria lapathifolia Dock-Leaf Smartweed	5	<u>N</u>	FACW Ra	pid test for hydrophytic	c vegetation
0         A       Prevalence index is \$3.0         7         Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)         9          separate sheet)         10         Problematic hydrophytic vegetation* (explain)         1        100       = Total Cover       *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic         2        0       = Total Cover       Hydrophytic vegetation present?         Vegetation             0       = Total Cover       Y       Y	5				minance test is $>50\%$	*
note	7		·			± / • •
9         supporting data in remarks of on a separate sheet)         10        separate sheet)       Problematic hydrophytic vegetation* (explain)         10        100       = Total Cover       Problematic hydrophytic soil and wetland hydrology must be present, unless disturbed or problematic         1        0       = Total Cover       Hydrophytic vegetation problematic         2        0       = Total Cover       Hydrophytic vegetation problematic         9        0       = Total Cover       Y	8		<u> </u>	Mo	rphological adaptation	is^ (provide
10        Problematic hydrophytic vegetation* (explain)         100       = Total Cover       Problematic hydrophytic vegetation* (explain)         1           2           0       = Total Cover       Hydrophytic vegetation present, unless disturbed or problematic         No       = Total Cover       Hydrophytic vegetation present?         Y       Remarks: (Include photo numbers here or on a separate sheet)	9			se	parate sheet)	
Woody vine stratum       (Plot size: 30' Radius )         1          2          0       = Total Cover         (explain)         *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic         Hydrophytic         vegetation         present?       Y	10			Pro	blematic hydrophytic	vegetation*
Woody vine stratum       (Plot size: 30' Radius )       *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic         2         Hydrophytic vegetation present?         0       = Total Cover       Y         Remarks: (Include photo numbers here or on a separate sheet)		100	= Total Cover	(ex	plain)	0
1      present, unless disturbed or problematic       2      0     = Total Cover       0     = Total Cover     yegetation       present?     Y	<u>Woody vine stratum</u> (Plot size: <u>30' Radius</u> )			*Indica	tors of hydric soil and wetle	and hydrology must be
2 Hydrophytic vegetation present? Y	1				present, unless disturbed	or problematic
0     = Total Cover     Vegetation       present?     Y       Remarks: (Include photo numbers here or on a separate sheet)	2			Hy	drophytic	
Remarks: (Include photo numbers here or on a separate sheet)		0	= Total Cover		etation esent? Y	
Remarks: (include photo numbers here or on a separate sheet)				pro		
	remarks: (include photo numbers here of on a separate sheet)					
Note: This data sheet has been adapted to use the 2012 National Wetland Plant List:	Note: This data sheet has been adapted to use the 2012 National We	tland Plant L	List:			
Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: National Wetland Plant List, version 2.4.0 (https://wetland_plants.usace.army.mil). U.S. Army Corps of	Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: Natio Engineers, Engineer Research and Development Center, Cold Regions Research	onal Wetland F	Plant List, version pring Laboratory	n 2.4.0 (https://wetland_p Hanover, NH_and RON/	ants.usace.army.mil). U.S.	Army Corps of

Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm the	absence of i	ndicators.)
Depth	Matrix		Red	dox Feat	ures				,
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture		Remarks
0-4	7.5YR 2.5/2	100					Silty Clay Loam	1	
4-16	10VR 2/1	95	10YR 3/6	5	C	М	Silty Clay Loam		
4-10	1011(2/1	50	1011( 0/0	5	0	IVI			
*T		Denlati			MC - 1			*! +:	– Dana Linina, M. – Matrix
"Type: C = C		= Deplet	ion, RIVI = Reduce	ed Matrix	, MS = N	lasked S	and Grains.	"Location: PL	= Pore Lining, IVI = Matrix
Hydric Sc			Sor		od Motrix	(84)	Indicators to	or Problematic	C HYORIC SOIIS:
	losol (AT) tia Eninadan (A2)					(54)		ganese masse	$F(r) = (\mathbf{LKK}, \mathbf{L}, \mathbf{W})$
	uc Epipedon (A2)			nnod Mo	$\frac{1}{100}$		Very Sha	niow Dark Sur	
	uk Hislic (AS) Irogon Sulfido (A)	1)		ppeu ivia	uix (30)			cpiain in remai	KS)
	tified Lovers (AF	+ <i>)</i>		K Surrac	e (57) w Minor	ol (E1)			
	m Muck (A10)	)	Loa	my Clov	od Motrix	ai (Fi) v (E2)			
2 ci	IT MUCK (ATU)	Surface		Iny Gley	eu Main	X (FZ)			
	Deleu Below Dark	( Sunace ( \ 10)		leteu Ma	Surface	(E6)	+1. 1. 1.	<b>6</b> 111	
	dy Mucky Minora	AIZ)				(F0) 00 (E7)	^ Indicators	s of nyaropnyti	c vegetation and wetland
5 ci	n Mucky Peat or	II (31) Deat (93					nyarology	nust be pres	ent, unless disturbed of
5 Cl	II MUCKY Feat Of	real (55		lox Debi	65510115 (	(F0)		proble	mauc
Restrictive	Layer (if observe	ed):							
Туре:					-		Hydric soil	present?	Y
Depth (inche	es):				-				
HYDROL(	DGY	ors:							
		// <b>5.</b> 		- 11 41 4 -			0	1	
Primary Indi	cators (minimum	of one is	required; check	<u>ali that a</u>	<u>ppiy)</u>		Secon	dary Indicators	(minimum of two required)
X Surface	Water (A1)			Aquatic	Fauna (B	(D44)		Surface Soil Cr	acks (B6)
High Wa	ater Table (A2)			I rue Aq	uatic Plar	nts (B14)		Drainage Patte	rns (B10) ator Tabla (C2)
Water M	larks (B1)				I Bhizosh		Living Roots (	Cravfish Burrov	$\frac{1}{2} = \frac{1}{2} = \frac{1}$
Sedimer	nt Deposits (B2)			(C3)	i Miizosp	neres on		Saturation Visit	ble on Aerial Imagery (C9)
Drift Der	posits (B3)			Presenc	e of Redu	uced Iron	(C4)	Stunted or Stre	ssed Plants (D1)
Algal Ma	at or Crust (B4)			Recent I	ron Redu	uction in T	illed Soils X	Geomorphic Po	osition (D2)
Iron Dep	osits (B5)			(C6)			XI	· FAC-Neutral Te	est (D5)
Inundati	on Visible on Aeria	I Imager	y (B7)	Thin Mu	ck Surfac	ce (C7)			
Sparsely	Vegetated Conca	ive Surfa	ce (B8)	Gauge o	or Well Da	ata (D9)			
Water-S	tained Leaves (B9	)		Other (E	xplain in	Remarks	)		
Field Obser	vations:								
Surface wat	er present?	Yes	X No		Depth (i	inches):	2		
Water table	present?	Yes	No	X	Depth (i	inches):		Indicato	rs of wetland
Saturation p	resent?	Yes	No	X	Depth (i	inches):		hydrolo	gy present? Y
(includes ca	pillary fringe)								
Describe rec	corded data (strea	am gaug	e, monitoring well	, aerial p	hotos, p	revious ir	nspections), if avai	lable:	
Remarks:									
Saturation	and/or a water	table v	vere not able to	be obs	served.	as the v	water was froze	n at the time	e of the site visit.
		-			,				

WETLAND DETERMINA	TION D	ATA FORM	I - Midwest Regio	n		
Project/Site 85th Street Interchange	City/0	County:	Lincoln County	Sampling Date:	11/13/18	3
Applicant/Owner: 85th Street Business District Joint Venture Grou	р	State:	South Dakota	Sampling Point:	18-U	
Investigator(s): Rebecca Beduhn		Section	on, Township, Range:	T100	NS14R51W	
Landform (hillslope, terrace, etc.): backslope		Local r	relief (concave, conve	ex, none):	None	
Slope (%): 3 Lat: 43.4754002		Long:	-96.8171921	Datum: UTM	I NAD 83 Zone	14N
Soil Map Unit Name Worthing silty clay loam, 0 to 1 percent slopes			NWI Classifica	ation:	None	
Are climatic/hydrologic conditions of the site typical for this time of th	e year?	-	Y (If no, expla	ain in remarks)		
Are vegetation, soil, or hydrologys	ignificant	ly disturbed?				
Are vegetation, soil, or hydrology n	aturally p	oroblematic?	Are "noi	rmal circumstance	es" present? Y	′es
SUMMARY OF FINDINGS			(If need	ed, explain any ar	swers in remar	ks.)
Hydrophytic vegetation present? N						
Hydric soil present? N		Is the sa	ampled area within a	wetland?	N	
Indicators of wetland hydrology present? N		lf yes, op	tional wetland site ID:			
Remarks: (Explain alternative procedures here or in a separate report	rt.)					
	,					
VEGETATION Use scientific names of plants.						
4	Absolute	Dominan	Indicator Domina	nce Test Works	neet	
Tree Stratum (Plot size: 30' Radius )	% Cover	t Species	Status Numbe	r of Dominant Spe	cies	
1			that are	OBL, FACW, or F	AC: 0	(A)
2			Tota	al Number of Domi	nant	
				ecies Across all Sti	rata: 1	_(B)
4 <u></u> 5 <u></u>			Percent	It of Dominant Spe	Cies	(Δ/B)
	0	= Total Cover			AO. 0.0070	_(,,,,,)
			Prevale	nce Index Works	sheet	
1			Total %	Cover of:		
2			OBL spe	ecies 0	x 1 =0	_
3			FACW s	species 0	x 2 = 0	_
4			FAC spe	ecies 0	x 3 = 0	_
5	0	- Total Cover	FACU S	pecies <u> </u>	$x_4 = 0$	-
Herb stratum (Plot size: 5' Radius )	0		Column	totals 0	(A) 0	(B)
1 Zea mays Corn	100	Y	NI Prevale	nce index = $B/A$ =	· · · · · · · · · · · · · · · · · · ·	_(=)
2	100	· · · · ·				-
3			Hydrop	hytic Vegetation	Indicators:	
4			Rap	id test for hydrop	hytic vegetation	
5			Don	ninance test is >5	0%	
			Prev	valence index is ≤	3.0*	
		<u> </u>	Mor	phological adapta	itions* (provide	
9			sup	porting data in Re arate sheet)	marks or on a	
10			Prol	blematic hydrophy	tic vegetation*	
	100	= Total Cover	(exp	plain)	lie regetation	
Woody vine stratum (Plot size: 30' Radius )			*Indicate	ors of hydric soil and y	wetland hydrology n	nust be
1				present, unless distur	oed or problematic	
2			Hyd	Irophytic		
	0	= Total Cover	veg	etation sent?	N	
Pomarka: (Include photo pumbers here or en a constate abs-4)			pie		<u> </u>	
Note: This data sheet has been adapted to use the 2012 National Wetla	nd Plant L	_ist:				_
Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: Nationa Engineers, Engineer Research and Development Center, Cold Regions Research and	I Wetland P nd Enginee	Plant List, version ring Laboratory,	n 2.4.0 (https://wetland_pla Hanover, NH, and BONAF	nts.usace.army.mil). P, Chapel Hill, NC. (20	U.S. Army Corps of 012)	t

Damth	cription: (Descri	nr or ea	e depth needed	to docu	ment the	indicat	or or confirm th	e absence	of indicators.)
Depth	Matrix		Red	dox Featu	ures				
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	:	Remarks
0-12	5YR 3/1	100					Silty Clay Loa	m	
							, ,		
**								**1 '.	
$^{1}$ ype: C = C	Concentration, D =	= Depleti	on, RM = Reduce	ed Matrix	, MS = N	lasked S	and Grains.	**Location	: PL = Pore Lining, M = Matrix
Hydric So	oil Indicators:		0			(0.4)	Indicators	for Proble	matic Hydric Soils:
HISI	iosol (A1)		Sar	idy Gleye	ed Matrix	(54)		Inganese IV	(LRR K, L, M)
HISI	ic Epipedon (A2)		Sar	idy Redo	x (S5)		very Sr	allow Dark	
	CK HISTIC (A3)		Stri	pped Ma	trix (S6)			explain in re	emarks)
Hyd	Irogen Suitide (A2	+)	Dar	K Surrace	e (57) Minara				
	aulieu Layers (Ab)	)			y Minera	(FI) (F2)			
2 cr	n Muck (ATU)	Curfage		my Gley		(FZ)			
	Delea Below Dark			leted Ma	Surface		<b>41</b> 11 1	<i>.</i>	
	ok Dark Surface (	HIZ) I (81)				(FO) 20 (E7)	^Indicato	rs of hydro	phytic vegetation and wetland
	n Mucky Millera	1 (31) Doot (82		lov Dopr	nk Sunat		Πγατοιοξ	Jy must be	present, unless disturbed of
5 Cl	II MUCKY Feat OI	real (33				F0)		P	lobiematic
Restrictive	Layer (if observe	ed):							
Туре:							Hydric so	il present	? <u>N</u>
Depth (inche	es):								
HYDROLO	DGY drology Indicate	are.							
Drimony Indi	actors (minimum	of one is	required, sheek	all that a	مماري		Casa	مرامم رام مازم	eters (minimum of two required)
<u>Primary Indi</u>	<u>Vator (A1)</u>	or one is	required, check	Agustia	<u>ppiy)</u> Equipo (B	12)	<u>Seco</u>	Surface St	alors (minimum of two required)
High Wa	water $(AT)$				rauna (D Jatic Plan	13) Its (R14)		Drainade R	Patterns (B10)
Saturatio	on (A3)			Hydrode	n Sulfide	Odor(C1)	)	Drv-Seaso	an Water Table (C2)
Water M	larks (B1)			Oxidized	Rhizosp	heres on	/ Livina Roots	Cravfish B	urrows (C8)
Sedimer	nt Deposits (B2)			(C3)				Saturation	Visible on Aerial Imagery (C9)
Drift Dep	oosits (B3)			Presenc	e of Redu	iced Iron	(C4)	Stunted or	Stressed Plants (D1)
Algal Ma	at or Crust (B4)			Recent I	ron Redu	ction in T	illed Soils	Geomorph	ic Position (D2)
				$\langle O O \rangle$				• • • • • • • • •	
Iron Dep	osits (B5)			(C6)				FAC-Neut	ral Test (D5)
Iron Dep	osits (B5) on Visible on Aeria	I Imagery	/ (B7)	(C6) Thin Mu	ck Surfac	e (C7)		FAC-Neut	ral Test (D5)
Iron Dep Inundation Sparsely	oosits (B5) on Visible on Aeria v Vegetated Conca	l Imagery	(B7) ce (B8)	(C6) Thin Mu Gauge o	ck Surfac r Well Da	e (C7) ita (D9)		FAC-Neut	ral Test (D5)
Iron Dep Inundation Sparsely Water-S	oosits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9	l Imagery ve Surfac )	(B7)	(C6) Thin Mu Gauge o Other (E	ck Surfac r Well Da xplain in	e (C7) ita (D9) Remarks	)	FAC-Neut	ral Test (D5)
Iron Dep Inundation Sparsely Water-S Field Obser	oosits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 vations:	I Imagery ve Surfac	(B7)	(C6) Thin Mu Gauge o Other (E	ck Surfac r Well Da xplain in I	e (C7) ita (D9) Remarks	)	FAC-Neut	ral Test (D5)
Iron Dep Inundation Sparsely Water-S Field Obser Surface wate	oosits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 vations: er present?	l Imagery ve Surfac ) Yes	v (B7)	(C6) Thin Muo Gauge o Other (E	ck Surfac r Well Da xplain in Depth (ii	e (C7) ata (D9) Remarks nches):	)	FAC-Neuti	ral Test (D5)
Iron Dep Inundation Sparsely Water-S Field Obser Surface wate Water table	oosits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 vations: er present? present?	l Imagery ve Surfac ) Yes Yes	(B7) ce (B8) No No	(C6) Thin Mu Gauge o Other (E X X	ck Surfac r Well Da xplain in Depth (ii Depth (i	e (C7) ita (D9) Remarks nches): nches):	)	FAC-Neuti	cators of wetland
Iron Dep Inundation Sparsely Water-S Field Obser Surface wate Water table Saturation p	osits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 vations: er present? present? resent? pillary fringe)	l Imagery ve Surfac ) Yes Yes Yes	v (B7) ce (B8) No No No	(C6) Thin Mud Gauge o Other (E X X X	ck Surfac r Well Da xplain in Depth (i Depth (i Depth (i	e (C7) ata (D9) Remarks nches): nches): nches):	)	FAC-Neuti	ral Test (D5) cators of wetland irology present?N
Iron Dep Inundation Sparsely Water-S <b>Field Obser</b> Surface water Water table Saturation p (includes ca	oosits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 vations: er present? present? pillary fringe)	l Imagery ve Surfac ) Yes Yes Yes	(B7) ce (B8) No No No	(C6) Thin Muc Gauge o Other (E X X X	ck Surfac r Well Da xplain in Depth (i Depth (i Depth (i	e (C7) ata (D9) Remarks nches): nches): nches):		FAC-Neutr	ral Test (D5) cators of wetland irology present? <u>N</u>
Iron Dep Inundation Sparsely Water-S <b>Field Obser</b> Surface water Water table Saturation p (includes ca Describe reco	oosits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 vations: er present? present? present? pillary fringe) corded data (strea	I Imagery ve Surfac ) Yes Yes Yes	v (B7) ce (B8) No No No No	(C6) Thin Mud Gauge o Other (E X X X , aerial p	ck Surfac r Well Da xplain in Depth (i Depth (i Depth (i hotos, pr	e (C7) ita (D9) Remarks nches): nches): nches): evious ir	spections), if av	FAC-Neutr	ral Test (D5) cators of wetland irology present? <u>N</u>
Iron Dep Inundation Sparsely Water-S <b>Field Obser</b> Surface water Water table Saturation p (includes ca Describe rec	oosits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 vations: er present? present? pillary fringe) corded data (strea	l Imageny ve Surfar ) Yes Yes Yes	v (B7) ce (B8) No No No No No	(C6) Thin Mu Gauge o Other (E X X X , aerial p	ck Surfac r Well Da xplain in Depth (ii Depth (i Depth (i hotos, pr	e (C7) ita (D9) Remarks nches): nches): nches): evious ir	spections), if av	FAC-Neutr	ral Test (D5) cators of wetland irology present? <u>N</u>
Iron Dep Inundation Sparsely Water-S <b>Field Obser</b> Surface wate Water table Saturation p (includes ca Describe reco Remarks:	osits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 vations: er present? present? pillary fringe) corded data (strea	l Imageny ve Surfac ) Yes Yes am gauge	(B7) ce (B8) No No No e, monitoring well	(C6) Thin Mu Gauge o Other (E X X X , aerial p	ck Surfac r Well Da xplain in Depth (ii Depth (ii Depth (ii hotos, pr	e (C7) Ita (D9) Remarks nches): nches): nches): evious ir	spections), if av	FAC-Neuti	ral Test (D5) cators of wetland irology present? <u>N</u>
Iron Dep Inundation Sparsely Water-S <b>Field Obser</b> Surface water Water table Saturation p (includes ca Describe reconstruction Remarks: Saturation	osits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 vations: er present? present? pillary fringe) corded data (streated) and/or a water	I Imageny ve Surfar ) Yes Yes am gauge	v (B7) ce (B8) No No e, monitoring well	(C6) Thin Mu Gauge o Other (E X X X , aerial p	ck Surfac r Well Da xplain in Depth (ii Depth (ii Depth (ii hotos, pr	e (C7) tta (D9) Remarks nches): nches): revious ir as the v	ispections), if av	FAC-Neutri India hyd ailable: en at the	ral Test (D5) cators of wetland lrology present? <u>N</u> time of the site visit.
Iron Dep Inundation Sparsely Water-S <b>Field Obser</b> Surface wate Water table Saturation p (includes ca Describe reco Remarks: Saturation	oosits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 vations: er present? present? pillary fringe) corded data (streat and/or a water	I Imageny ve Surfar ) Yes Yes im gauge	v (B7) ce (B8) No No e, monitoring well vere not able to	(C6) Thin Mu Gauge o Other (E X X X , aerial p	ck Surfac r Well Da xplain in Depth (i Depth (i Depth (i hotos, pr served,	e (C7) tta (D9) Remarks nches): nches): revious ir as the v	ispections), if avai	FAC-Neutring	cators of wetland Irology present? <u>N</u>
Iron Dep Inundation Sparsely Water-S <b>Field Obser</b> Surface wate Water table Saturation p (includes ca Describe reco Remarks: Saturation	nosits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 vations: er present? present? pillary fringe) corded data (streat and/or a water	I Imagen ve Surfar ) Yes Yes am gauge	v (B7) ce (B8) No No e, monitoring well vere not able to	(C6) Thin Mu Gauge o Other (E X X X , aerial p	ck Surfac r Well Da xplain in Depth (ii Depth (i Depth (i hotos, pr	e (C7) Ita (D9) Remarks nches): nches): revious ir as the v	spections), if av	FAC-Neutring	cators of wetland irology present? <u>N</u>

WETLAND DETERMINA	ATION D	ATA FORM	I - Midwest Regio	วท	
Project/Site 85th Street Interchange	City/0	County:	Lincoln County	Sampling Date:	11/25/18
Applicant/Owner: 85th Street Business District Joint Venture Gro	oup	State:	South Dakota	Sampling Point:	18-W
Investigator(s): Rebecca Beduhn		Section	on, Township, Range	: T100NS1	3R51W
Landform (hillslope, terrace, etc.): toeslope		Local	relief (concave, conv	ex, none): C	Concave
Slope (%): 0 Lat: 43.47544078		Long:	-96.81721188	Datum: UTM NA	D 83 Zone 14N
Soil Map Unit Name Worthing silty clay loam, 0 to 1 percent slopes			NWI Classific	ation: N	lone
Are climatic/hydrologic conditions of the site typical for this time of t	he year?		Y (If no, expl	ain in remarks)	
Are vegetation , soil , or hydrology	significant	ly disturbed?			
Are vegetation , soil , or hydrology	naturally p	roblematic?	Are "no	ormal circumstances" p	resent? Yes
SUMMARY OF FINDINGS			(If need	led, explain any answe	rs in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? Y		Is the sa	ampled area within	a wetland?	Y
Indicators of wetland hydrology present? Y		lf yes, op	tional wetland site ID	: Wetland 18	
Pemarks: (Explain alternative procedures here or in a separate rep	ort)				
	011.)				
VEGETATION Ose scientific names of plants.	Abaaluta	Deminen	Indianter Domin	anco Tost Workshoot	
Tree Stratum (Plot size: 30' Radius )	% Cover	t Species	Status Numb	or of Dominant Species	
1			that ar	e OBL, FACW, or FAC:	1 (A)
2			Tot	al Number of Dominant	( )
3			Sp	ecies Across all Strata:	1 (B)
4			Perce	nt of Dominant Species	
5			that ar	e OBL, FACW, or FAC:	100.00% (A/B)
	0	= Total Cover		<u> </u>	
Sapling/Shrub stratum (Plot size: 15' Radius )			Prevale	ence Index Workshee	t
2				$\frac{1}{2}$	= 75
3			FACW	species $\frac{70}{20}$ x 2	$= \frac{73}{40}$
4		·	FAC sp	becies $5 \times 3$	= 15
5			FACU	species 0 x 4	= 0
	0	= Total Cover	UPL sp	ecies 0 x 5	= 0
Herb stratum (Plot size: 5' Radius )			Columr	totals 100 (A)	130 (B)
1 Typha angustifolia Narrow-Leaf Cat-Tail	75	Y	OBL Prevale	nce Index = B/A =	1.30
2 Phalaris arundinacea Reed Canary Grass	15	N	FACW		
3 Rumex crispus Curly Dock	5	<u> </u>	FAC Hydrop	hytic Vegetation Indi	cators:
4 Persicaria lapatnirolia Dock-Lear Smartweed	5	<u> </u>		pid test for hydrophytic	vegetation
6				valence index is $\leq 3.0^{\circ}$	
7				rphological adaptation	s* (provide
8			sup	porting data in Remar	ks or on a
9			sep	barate sheet)	
10			Pro	blematic hydrophytic v	egetation*
	100	= Total Cover	(ex	plain)	
<u>Woody vine stratum</u> (Plot size: <u>30' Radius</u> )			*Indica	tors of hydric soil and wetlar	nd hydrology must be
				present, unless disturbed o	r problematic
		<u></u>		urophytic petation	
	0	= I otal Cover	pre	esent? Y	
Remarks: (Include photo numbers here or on a separate sheet)			I ·		
Note: This data sheet has been adapted to use the 2012 National Wetl	and Plant L	_ist:	0.4.0.4		
Robert w. Lichvar and John T. Kartesz. 2009. North American Digital Flora: Nation Engineers, Engineer Research and Development Center, Cold Regions Research	ar vvetland F and Enginee	riant List, versioi ring Laboratory,	n ∠.4.0 (nttps://wetland_pl Hanover, NH, and BONA	ants.usace.army.mii). U.S. / .P, Chapel Hill, NC. (2012)	urmy Corps of

Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm the ab	sence of indicators.)
Depth	Matrix		Red	dox Feat	ures			
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks
0-16	10YR 2/2	90	2.5YR 4/6	10	С	М	Silty Clay Loam	
*Turne: C = (	Concentration D	– Doplati	l ion DM – Doduor	d Motriy		lookod S	and Craina **La	action: DL = Doro Lining M = Motrix
Type. C = C		- Depieti			., IVIS – IV	laskeu a	Indicators for D	roblematic Hydric Soile:
	tosol (A1)		Sar	dy Cleve	ad Matrix	(\$4)	Indicators for P	
	tic Eninedon (A2)					(34)		P Dark Surface (E22)
	nc Epipedon (A2) ek Histic (A3)			nned Ma	triv (SG)			in in remarks)
	trogen Sulfide (A)	1)	011	hhen wa	a (S7)			
	atified Lavers (A5)	+ <i>)</i> \		K Suriac	e (37) w Miner	al (E1)		
2	m Muck ( $\Delta 10$ )	)	Loa	my Glev	od Matrix	x (E2)		
	Neted Below Dark	Surface	(A11) Der	lated Ma	atrix (F3)	x (I Z)		
	ck Dark Surface (	A12)		lox Dark	Surface	(F6)	*Indiaators of	hydrophytic vogotation and watland
Sar	ndv Mucky Minera	(S1)	Der	pleted Da	ark Surfa	(F7)	hydrology mi	ist be present unless disturbed or
5 ci	n Mucky Peat or	Peat (S3	a) Rec	lox Depr	essions (	(F8)	nyarology m	problematic
				lox Bopi		()		P. 02.0
Restrictive	Layer (If observe	ea):						
Type:					-		Hydric soli pre	
Depth (Inche	es):				-			
Remarks:								
HYDROL	JGY							
Wetland Hy	drology Indicato	ors:						
Primary Indi	<u>cators (minimum</u>	of one is	required; check	all that a	<u>pply)</u>		Secondary	y Indicators (minimum of two required)
Surface	Water (A1)			Aquatic	Fauna (B	13)	Surf	ace Soil Cracks (B6)
High Wa	ater Table (A2)			True Aq	uatic Plar	nts (B14)	Drai	nage Patterns (B10)
Saturation Water M	on (A3) Jorke (B1)			- Hydroge	n Suillae Phizoon	Daor (C	Living Booto	fish Burrows (C8)
Sedime	nt Denosits (B2)			(C3)	плигозр		Sati	ration Visible on Aerial Imagery (C9)
Drift Der	posits (B3)			Presenc	e of Redu	uced Iron	(C4) Stur	nted or Stressed Plants (D1)
Algal Ma	at or Crust (B4)			Recent I	ron Redu	uction in T	illed Soils X Geo	morphic Position (D2)
Iron Dep	osits (B5)			(C6)			X FAC	-Neutral Test (D5)
Inundati	on Visible on Aeria	al Imager	y (B7)	Thin Mu	ck Surfac	ce (C7)		( ),
Sparsel	Vegetated Conca	ave Surfa	ce (B8)	Gauge c	or Well Da	ata (D9)		
Water-S	tained Leaves (B9	)		Other (E	xplain in	Remarks	)	
Field Obse	vations:							
Surface wat	er present?	Yes	No	X	Depth (i	inches):		
Water table	present?	Yes	No	Х	Depth (i	inches):		Indicators of wetland
Saturation p	resent?	Yes	No	Х	Depth (i	inches):		hydrology present? Y
(includes ca	pillary fringe)							
Describe re	corded data (strea	am gaug	e, monitoring well	l, aerial p	hotos, p	revious ii	nspections), if availabl	e:
Remarks:								
Saturation	and/or a water	r table v	vere not able to	be ob	served,	as the	water was frozen a	t the time of the site visit.

WETLAND DETERMINA	TION D	ATA FORM	l - Midwest Regi	on					
Project/Site 85th Street Interchange City/		County:	Lincoln County	Sampling Date:	11/13/18				
Applicant/Owner: 85th Street Business District Joint Venture Grou	р	State:	South Dakota	Sampling Point:	19-U				
Investigator(s): Rebecca Beduhn		Section	Section, Township, Range: T100NS13R51W		313R51W				
Landform (hillslope, terrace, etc.): footslope		Local	relief (concave, conv	/ex, none):	ione): None				
Slope (%): 5 Lat: 43.47567347		Long:	-96.82195162	Datum: UTM N	AD 83 Zone 14N				
Soil Map Unit Name Chancellor-Tetonka complex, 0 to 2 percent slop	bes		NWI Classifi	cation:	None				
Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)									
Are vegetation, soil, or hydrologysi	ignificantl	ly disturbed?							
Are vegetation , soil , or hydrology n	aturally p	roblematic?	Are "n	ormal circumstances	" present? Yes				
SUMMARY OF FINDINGS			(If nee	ded, explain any ans	wers in remarks.)				
Hydrophytic vegetation present? N									
Hydric soil present? N		Is the sampled area within a wetland? N							
Indicators of wetland hydrology present? N		If yes, optional wetland site ID:							
Remarks: (Explain alternative procedures here or in a separate report.)									
VEGETATION Use scientific names of plants.									
٩	bsolute	Dominan	Indicator Domin	nance Test Workshe	et				
Tree Stratum (Plot size: 30' Radius )	% Cover	t Species	Status Numb	per of Dominant Specie	es				
1			that a	re OBL, FACW, or FA	C: 0 (A)				
2			To	tal Number of Domina	nt				
			S	pecies Across all Strat	a: <u> </u>				
4		<u> </u>	Perce	ent of Dominant Specie	€ € 0.00% (Δ/Β)				
	0	= Total Cover			5. <u>0.0070</u> (AB)				
			Preva	lence Index Worksh	eet				
1			Total 9	% Cover of:					
2			OBL s	pecies <u>0</u> x	1 = 0				
3			FACW	species 0 x	2 = 0				
4			FAC s	pecies <u>0</u> x	3 = 0				
5		- Total Caver	FACU	species 0 x	4 = 0				
Herb stratum (Plot size: 5' Radius )	0	= Total Cover	OPL S Colum	pecies $0 x$	5 = 0				
	100	V	NI Proval	= B/A =	()(B)				
2	100	·							
3		·	Hydro	phytic Vegetation In	dicators:				
4			Ra	apid test for hydrophy	tic vegetation				
5			Do	ominance test is >50%	6				
6			Pr	evalence index is ≤3.	0*				
			Mo	orphological adaptation	ons* (provide				
			su	pporting data in Rem	arks or on a				
9 <u></u>			se	oblematic bydropbyti	e vegetation*				
	100	= Total Cover	(e;	xplain)	2 vegetation				
<u>Woody vine stratum</u> (Plot size: 30' Radius )			`	tors of hydric soil and wet	tland hydrology must be				
1			indica	present, unless disturbed	d or problematic				
2			Ну	/drophytic					
	0	= Total Cover	Ve	getation					
			pr						
Remarks: (include photo numbers here or on a separate sneet)									
Note: This data sheet has been adapted to use the 2012 National Wetlan	nd Plant L	_ist:							
Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: National Wetland Plant List, version 2.4.0 (https://wetland_plants.usace.army.mil). U.S. Army Corps of Engineers, Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory, Hanover, NH, and BONAP, Chapel Hill, NC. (2012)									
Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	indicat	or or confirm t	he absend	ce of indicators.)
-------------------	----------------------------------	-----------	-------------------	----------------------	------------------------	-----------------	---------------------	-------------	-------------------------------------
Depth	Matrix		Rec	lox Featu	ures				-
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Textu	re	Remarks
0-15	10YR 2/1	100					Silty Clay Lo	am	
*Type: C = 0	Concentration, D :	= Depleti	on, RM = Reduce	ed Matrix	, MS = N	lasked S	and Grains.	**Locatio	n: PL = Pore Lining, M = Matrix
Hydric Sc	il Indicators:						Indicators	for Probl	ematic Hydric Soils:
Hist	osol (A1)		San	dy Gleye	ed Matrix	(S4)	Iron-N	langanese	Masses (F12) ( <b>LRR K, L, M</b> )
Hist	ic Epipedon (A2)		San	dy Redo	x (S5)		Very S	Shallow Da	rk Surface (F22)
Bla	ck Histic (A3)		Strip	oped Ma	trix (S6)		Other	(explain in	remarks)
Hyc	Irogen Sulfide (A4	1) \	Dar	k Surface	e (S7) w Minora				
	m Muck (A10)	)			d Motris	ai (FI) (E2)			
	h Muck (ATU) Jeted Relow Dark	Surface	(A11) Loa	leted Ma	eu Maul) atrix (E2)	(i ∠)			
	ck Dark Surface (	A12)	Rec	lox Dark	Surface	(F6)	*Indicat	ors of hydr	ophytic vegetation and wetland
Sar	dy Mucky Minera	al (S1)	Der	leted Da	rk Surfa	ce (F7)	hvdrol	ogy must h	e present, unless disturbed or
5 cr	n Mucky Peat or	Peat (S3	) Rec	lox Depr	essions (	(F8)		-9,	problematic
Restrictive	l aver (if observ	, ,	,	•		,			
Type <sup>.</sup>		cuj.					Hydric s	oil presen	t? N
Depth (inche	es):						i i julio e		
(									
Wetland Hy	drology Indicate	ors:							
Primary Indi	cators (minimum	of one is	required: check	all that a	oply)		Sec	ondary Ind	licators (minimum of two required)
Surface	Water (A1)			Aquatic	Fauna (B	13)	<u></u>	Surface	Soil Cracks (B6)
High Wa	iter Table (A2)			True Aqu	uatic Plar	nts (B14)		Drainage	Patterns (B10)
Saturatio	on (A3)			Hydroge	n Sulfide	Odor (C1	)	Dry-Sea	son Water Table (C2)
Water N	arks (B1)			Oxidized	Rhizosp	heres on	Living Roots	Crayfish	Burrows (C8)
Sedimer	nt Deposits (B2)			(C3)			(C1) —	Saturatio	on Visible on Aerial Imagery (C9)
	DOSITS (B3) at or Crust (B4)			Presence Recent I	e of Redu ron Redu	iced Iron	(C4) illed Soils		or Stressed Plants (D1)
Iron Der	osits (B5)			(C6)	Ion Redu			FAC-Nei	utral Test (D5)
Inundati	on Visible on Aeria	al Imager	/ (B7)	Thin Mu	ck Surfac	e (C7)			
Sparsely	Vegetated Conca	ave Surfa	ce (B8)	Gauge o	r Well Da	ata (D9)			
Water-S	tained Leaves (B9	)		Other (E	xplain in	Remarks	)		
Field Obser	vations:								
Surface wat	er present?	Yes	No	<u>X</u>	Depth (i	nches):		Inc	lingtons of motional
Water table	present?	Yes	NO No	X 	Depth (I	nches):		inc	dicators of wetland
(includes ca	nillary fringe)	res		^		nches).		11	
	orded data (strea	am dalia	monitoring well	aerial n	hotos n	avious ir	spections) if a	vailable:	
Describered		ani yauy	s, monitoring wei	, acriai p	10003, pi	evious ii	вресногіз), п а		
Remarks:									
Saturation	and/or a water	r table v	vere not able to	be obs	served,	as the v	water was fro	zen at th	e time of the site visit.
US Army C	orps of Engine	ers						_	Midwest Region

WETLAND DETERMINA		ATA FORM	I - Midwest Regio	n	
Project/Site 85th Street Interchange	City/0	County:	Lincoln County	Sampling Date:	11/25/18
Applicant/Owner: 85th Street Business District Joint Venture Grou	ıp	State:	South Dakota	Sampling Point:	19-W
Investigator(s): Rebecca Beduhn		Section	on, Township, Range:	T100NS13	3R51W
Landform (hillslope, terrace, etc.): toeslope		Local	relief (concave, conve	x, none): C	oncave
Slope (%): 1 Lat: 43.4756402		Long:	-96.82199103	Datum: UTM NA	D 83 Zone 14N
Soil Map Unit Name Chancellor-Tetonka complex, 0 to 2 percent slop	pes		NWI Classifica	ation: N	one
Are climatic/hydrologic conditions of the site typical for this time of the	ie year?	-	Y (If no, expla	ain in remarks)	
Are vegetation, soil, or hydrologys	ignificant	ly disturbed?			
Are vegetation , soil , or hydrology r	naturally p	oroblematic?	Are "noi	rmal circumstances" p	resent? Yes
SUMMARY OF FINDINGS			(If neede	ed, explain any answe	rs in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? Y		Is the sa	ampled area within a	wetland?	Y
Indicators of wetland hydrology present? Y		lf yes, op	tional wetland site ID:	Wetland 19	
Remarks: (Explain alternative procedures here or in a separate repo	rt.)				
	,				
VEGETATION Use scientific names of plants					
	Absolute	Dominan	Indicator Domina	nce Test Worksheet	
Tree Stratum (Plot size: 30' Radius )	% Cover	t Species	Status Numbe	r of Dominant Species	
1 /			that are	OBL, FACW, or FAC:	2 (A)
2			Tota	al Number of Dominant	
3			Spe	cies Across all Strata:	2 (B)
4			Percen	t of Dominant Species	
<u> </u>		TILO	that are	OBL, FACW, or FAC:	<u>100.00%</u> (A/B)
Sonling/Shrub strature (Plot size: 15' Padius )	0	= I otal Cover	Broyala	noo Indox Workshoo	4
1			Total %	Cover of	1
2			OBL spe	ecies 80 x 1 ;	= 80
3			FACW s	species 20 x 2 :	= 40
4			FAC spe	ecies 0 x 3 =	= 0
5			FACU s	pecies 0 x 4 =	= 0
	0	= Total Cover	UPL spe	$\frac{1}{2}$ cies $\frac{0}{100}$ x 5 =	= 0
Herb stratum (Plot size: 5' Radius )		.,	Column	totals <u>100</u> (A)	<u>120</u> (B)
1 I ypha angustifolia Narrow-Leaf Cat-Tail	80	Y		$1 \text{ Ce Index} = B/A = \frac{1}{2}$	1.20
2 Phalans arununacea Reed Canary Grass	20	<u> </u>	Hydron	hytic Vegetation Indi	cators:
4			Rap	id test for hydrophytic	vegetation
5			X Don	ninance test is >50%	5
6			X Prev	valence index is ≤3.0*	
7			Mor	phological adaptations	s* (provide
8			sup	porting data in Remark	(s or on a
		<u> </u>	sepa	arate sheet)	
10	100	- Total Covor	Prot	olematic hydrophytic v	egetation*
Woody vine stratum (Plot size: 30' Radius )	100		(exp	nanny	
1			*Indicato	ors of hydric soil and wetlan	d hydrology must be
2			Hyd	Irophytic	prosionidae
	0	= Total Cover	veg	etation	
			pres	sent? Y	
Remarks: (Include photo numbers here or on a separate sheet)					
		:			
<b>Note:</b> This data sneet has been adapted to use the 2012 National Wetla Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: National	ina Plant L Al Wetland P	_IST: Plant List, versioi	n 2.4.0 (https://wetland_ pla	nts.usace.army.mil). U.S. A	Army Corps of
Engineers, Engineer Research and Development Center, Cold Regions Research a	nd Enginee	ring Laboratory,	Hanover, NH, and BONAF	<sup>2</sup> , Chapel Hill, NC. (2012)	

Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm the abse	nce of indicators.)
Depth	Matrix		Ree	dox Feat	ures			
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks
0-16	10YR 2/2	95	2.5YR 4/6	5	С	М	Silty Clay Loam	
						1		
*Type: C = 0	Concentration, D :	= Depleti	on, RM = Reduce	ed Matrix	, MS = N	lasked S	and Grains. **Locat	tion: PL = Pore Lining, M = Matrix
Hydric So	il Indicators:						Indicators for Pro	blematic Hydric Soils:
Hist	tosol (A1)		Sar	ndy Gleye	ed Matrix	: (S4)	Iron-Manganes	e Masses (F12) ( <b>LRR K, L, M</b> )
Hist	tic Epipedon (A2)		Sar	ndy Redo	x (S5)		Very Shallow D	Dark Surface (F22)
Bla	ck Histic (A3)		Stri	pped Ma	trix (S6)		Other (explain	in remarks)
Hyc	Irogen Sulfide (A4	1)	Dar	k Surfac	e (S7)			
	atified Layers (A5	)	Loa	my Much	(y Minera	al (F1)		
	TI MUCK (A1U)	Surface		imy Gley	ed Matrix	K (FZ)		
Dep	neleu below Dark ok Dark Surface (	Δ12)		leted Ma lov Dark	Surface	(E6)	*Indiantara of hy	drankutia varatatian and watland
Sar	dy Mucky Minera	- 12) I (S1)		oleted Da	ourlace	(F7)	hvdrology must	be present unless disturbed or
5 cr	n Mucky Peat or	Peat (S3	) Ber	lox Depr	essions (	(F8)	nyurology musi	problematic
			<u> </u>					P. 02.0
Restrictive	Layer (It observe	ea):					Lhudrie esil press	
Type: Donth (inch)					-		Hydric soli prese	
Deptil (Inche					-			
HYDROLO	DGY							
Wetland Hy	drology Indicato	ors:						
Primary Indi	<u>cators (minimum</u>	of one is	required; check	all that a	<u>pply)</u>		Secondary I	ndicators (minimum of two required)
X Surface	Water (A1)			Aquatic	Fauna (B	13)	Surfac	e Soil Cracks (B6)
High Wa	ater Table (A2)			True Aq	uatic Plar	nts (B14)	Draina	ge Patterns (B10)
Saturation Mator M	on (A3) Jorke (B1)			Hydroge	n Sulfide	Odor (C	I) Dry-Se	eason Water Table (C2)
Sedimer	nt Deposits (B2)				i Rnizosp	meres on	Living Roots Clayis	tion Visible on Aerial Imagery (C9)
Drift Der	posits (B3)			Presenc	e of Redu	uced Iron	(C4) Stunte	d or Stressed Plants (D1)
Algal Ma	at or Crust (B4)			Recent I	ron Redu	iction in T	illed Soils X Geomo	orphic Position (D2)
Iron Dep	osits (B5)			(C6)			X FAC-N	eutral Test (D5)
Inundati	on Visible on Aeria	I Imager	y (B7)	Thin Mu	ck Surfac	ce (C7)		
Sparsely	Vegetated Conca	ve Surfa	ce (B8)	Gauge o	or Well Da	ata (D9)		
Water-S	tained Leaves (B9	)		Other (E	xplain in	Remarks	)	
Field Obser	vations:				_			
Surface wat	er present?	Yes	X No		Depth (i	nches):	2	
Water table	present?	Yes	No No	<u> </u>	Depth (i	nches):	'	holicators of wetland
Saturation p	nillary fringe)	res				ncnes):		nydrology present?
Describ	pinary minge)		- monitorio	00	hoter	novie :- '	apportions) if sur-li-bit	
Describe rec	corded data (strea	am gauge	e, monitoring wei	, aeriai p	notos, p	revious ir	ispections), il available:	
Remarks:								
Saturation	and/or a water	table v	vere not able to	be obs	served	as the	water was frozen at t	he time of the site visit.
		•••••			,			

WETLAND DETERMINA	TION D	ATA FORM	I - Midwest	Region				
Project/Site 85th Street Interchange	City/0	County:	Lincoln Coun	ity s	Sampling	Date:	11/13/18	3
Applicant/Owner: 85th Street Business District Joint Venture Group	up	State:	South Dake	ota S	Sampling	Point:	20-U	
Investigator(s): Rebecca Beduhn		Secti	on, Township,	Range:		T100NS13F	₹51W	
Landform (hillslope, terrace, etc.): backslope		Local	relief (concave	e, convex,	none):	N	one	
Slope (%): 4 Lat: 43.47542369		Long:	-96.8219903	2 I	Datum:	UTM NAD	83 Zone	14N
Soil Map Unit Name Chancellor-Tetonka complex, 0 to 2 percent slo	pes		NWI CI	lassificatio	on:	Nor	ie	
Are climatic/hydrologic conditions of the site typical for this time of the	ne year?		Y (lf n	io, explain	in remai	rks)		
Are vegetation, soil, or hydrologys	significant	ly disturbed?						
Are vegetation , soil , or hydrology	naturally p	roblematic?	ŀ	Are "norm	al circum	nstances" pre	sent? Y	′es
SUMMARY OF FINDINGS			(	(If needed	, explain	any answers	in remar	ks.)
Hydrophytic vegetation present? N								
Hydric soil present? N		Is the sa	ampled area v	within a w	vetland?	1	1	
Indicators of wetland hydrology present? N		lf yes, op	tional wetland	site ID:			_	
Remarks: (Explain alternative procedures here or in a separate repo	ort )							
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,							
VEGETATION Use scientific names of plants								
	Absolute	Dominan	Indicator [	Dominan	ce Test V	Vorksheet		
Tree Stratum (Plot size: 30' Radius )	% Cover	t Species	Status	Number	of Domina	nt Species		
1				that are C	BL, FAC	W, or FAC:	0	(A)
2				Total I	Number o	f Dominant		
3				Speci	es Acros	s all Strata:	1	(B)
4				Percent of	of Domina	int Species		
<u> </u>		TILO		that are C	BL, FAC	N, or FAC:	0.00%	_(A/B)
Sonling/Shrub stratum (Plot size: 15' Padius )	0	= I otal Cover		Provaland	o Indox	Workshoot		
1				Total % C	over of	WOINSHEEL		
2				OBL spec	ies	0 x 1 =	0	
3			F	FACW sp	ecies	0 x 2 =	0	
4			F	FAC spec	ies	0 x 3 =	0	_
5			F	FACU spe	cies	0 x 4 =	0	_
	0	= Total Cover		UPL speci	es _	$0 \times 5 =$	0	
Herb stratum (Plot size: 5' Radius )			C	Column to	tals _	0 (A)	0	_(B)
1 Zea mays Corn	100	<u> </u>	<u>NI</u> F	Prevalenc	e Index =	= B/A =		_
				Hydrophy	tic Vogo	tation Indica	atore	
4		·	'	Rapid	test for h	vdrophytic v	egetation	
5				Domir	ance tes	t is >50%	- 9	
6				Preva	lence ind	ex is ≤3.0*		
7				Morph	ological	adaptations*	(provide	
8				suppo	rting data	a in Remarks	or on a	
9				separa	ate sheet	)		
10	100	- Total Caver		Proble	ematic hy in)	drophytic veg	jetation*	
Woody vine stratum (Plot size: 30' Padius )	100	= I otal Cover	-	(expla	in)			
1				*Indicators	of hydric s	oil and wetland	nydrology m	nust be
2				Hydro	ophytic		Iobiematic	
	0	= Total Cover		veget	ation			
				prese	nt?	N		
Remarks: (Include photo numbers here or on a separate sheet)			<b>ı</b>					
		· .						
<b>Note:</b> This data sheet has been adapted to use the 2012 National Wetla Robert W. Lichvar and John T. Kartesz. 2009. North American Diaital Flora: National	and Plant L al Wetland F	LIST: Plant List, version	n 2.4.0 (https://we	etland plants	s.usace.arr	ny.mil). U.S. Arr	ny Corps of	f
Engineers, Engineer Research and Development Center, Cold Regions Research a	and Enginee	ring Laboratory,	Hanover, NH, an	d BONAP, (	Chapel Hill,	NC. (2012)		

Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	indicat	or or confirm	the absend	e of indicators.)
Depth	Matrix		Red	lox Featu	ures				•
(Inches)	Color (moist)	%	Color (moist)	%	Tvpe*	Loc**	Textu	ire	Remarks
0.12	10VP 2/2	100	- ( )		,,		Silty Clay Lo	am	
0-12	1011 2/2	100						Jaill	
*Tvpe: C = 0	Concentration. D :	= Depleti	on. RM = Reduce	d Matrix	. MS = N	lasked S	and Grains.	**Locatio	n: PL = Pore Lining, M = Matrix
Hydric Sc	oil Indicators:	2 00.00	,		,		Indicator	s for Probl	ematic Hydric Soils:
Hist	tosol (A1)		San	dv Gleve	ed Matrix	(S4)	Iron-N	Vanganese	Masses (F12) (I RR K. I. M)
Hist	tic Epipedon (A2)		San	dv Redo	x (S5)	(01)	Verv	Shallow Da	rk Surface (F22)
Bla	ck Histic (A3)		Stri	nned Ma	r(00)		Other	(explain in	remarks)
	lrogen Sulfide (Δ	1)	Dar	k Surfaci	e (S7)			(cypiairi iri	remarks)
	atified Lavers (A5)	+ <i>)</i>		my Muck	(U) W Minera	al (E1)			
	m Muck ( $\Delta 10$ )	,	Loa	my Glevi	od Matrix	(F2)			
	Neted Below Dark	Surface	(A11) Der	lotod Mc	triv (E3)	(12)			
	ok Dark Surface (	( Sunace A 1 2 )		lov Dark	Surface	(E6)	*!		
	dy Mucky Minora	AIZ)				(10) 00 (E7)	"Indica	tors of nyar	opnytic vegetation and wetland
	idy Mucky Millera	II (31) Deet (82					nyaro	logy must b	e present, unless disturbed of
<sup>5 Cl</sup>	n Mucky Peat or	Peal (53		lox Depre	essions (	(F0)			problematic
Restrictive	Layer (if observe	ed):							
Туре:					_		Hydric s	soil presen	t? N
Depth (inche	es):				-				
Pomorko:									
Remarks.									
HYDROLO	DGY								
Wetland Hy	drology Indicato	ors:							
Primary Indi	<u>cators (minimum</u>	of one is	required; check	all that a	pply)		Sec	condary Ind	icators (minimum of two required)
Surface	Water (A1)			Aquatic	Fauna (B	13)		Surface	Soil Cracks (B6)
High Wa	ater Table (A2)			True Aqu	uatic Plar	nts (B14)		Drainage	Patterns (B10)
Saturatio	on (A3)			Hydroge	n Sulfide	Odor (C1	1)	Dry-Seas	son Water Table (C2)
Water N	larks (B1)			Oxidized	l Rhizosp	heres on	Living Roots	Crayfish	Burrows (C8)
Sedimer	nt Deposits (B2)			(C3)				Saturatio	n Visible on Aerial Imagery (C9)
Drift Dep	oosits (B3)			Presenc	e of Redu	uced Iron	(C4)	Stunted	or Stressed Plants (D1)
Algal Ma	at or Crust (B4)			Recent I	ron Redu	ction in T	illed Soils	Geomor	phic Position (D2)
Iron Dep	osits (B5)			(C6)				FAC-Net	utral Test (D5)
Inundati	on Visible on Aeria	I Imager	/ (B7)	Thin Mu	ck Surfac	e (C7)			
Sparsely	Vegetated Conca	ve Surfa	ce (B8)	Gauge o	or Well Da	ata (D9)			
Water-S	tained Leaves (B9	)		Other (E	xplain in	Remarks	)		
Field Obser	vations:								
Surface wat	er present?	Yes	No	Х	Depth (i	nches):			
Water table	present?	Yes	No	Х	Depth (i	nches):		Inc	licators of wetland
Saturation p	resent?	Yes	No	Х	Depth (i	nches):		hy	/drology present? N
(includes ca	pillary fringe)				· ·	-			
Describe red	corded data (strea	am gauge	e. monitorina well	. aerial n	hotos. n	revious ir	spections), if a	available:	
		9449	,	,	, p		F = = = = = = ; , , , , , , , , , , , , ,		
Remarks:									
Saturation	and/or a water	table v	vere not able to	be obs	served	as the v	water was fro	ozen at th	e time of the site visit
Jacaration									

WETLAND DETERMINA	TION D	ATA FORM	I - Midwest Regio	'n	
Project/Site 85th Street Interchange	City/0	County:	Lincoln County	Sampling Date:	11/13/18
Applicant/Owner: 85th Street Business District Joint Venture Grou	up	State:	South Dakota	Sampling Point:	20-W
Investigator(s): Rebecca Beduhn		Sectio	on, Township, Range	T100NS1	3R51W
Landform (hillslope, terrace, etc.): toeslope		Local r	relief (concave, conve	x, none):(	Concave
Slope (%): 1 Lat: 43.47542369		Long:	-96.82199032	Datum: UTM NA	AD 83 Zone 14N
Soil Map Unit Name Chancellor-Tetonka complex, 0 to 2 percent slo	pes		NWI Classifica	ation:	√one
Are climatic/hydrologic conditions of the site typical for this time of the	ne year?	_	Y (If no, expla	ain in remarks)	
Are vegetation, soil, or hydrologys	significant	ly disturbed?			
Are vegetation , soil , or hydrology r	naturally p	roblematic?	Are "no	rmal circumstances"	present? Yes
SUMMARY OF FINDINGS			(If need	ed, explain any answe	ers in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? Y		Is the sa	ampled area within a	wetland?	Y
Indicators of wetland hydrology present? Y		lf yes, op	tional wetland site ID	Wetland 20	
Remarks: (Explain alternative procedures here or in a separate repo	ort.)				
	,				
VEGETATION Use scientific names of plants					
	Absolute	Dominan	Indicator Domina	nce Test Workshee	t
Tree Stratum (Plot size: 30' Radius )	% Cover	t Species	Status Numbe	r of Dominant Species	
1 /			that are	BOBL, FACW, or FAC:	1 (A)
2			Tota	al Number of Dominant	1
3			Spe	ecies Across all Strata:	<u> </u>
4			Percer	t of Dominant Species	
5	0	- Total Cavar	that are	OBL, FACW, or FAC:	<u>100.00%</u> (A/B)
Sanling/Shrub stratum (Plot size: 15' Radius )	0	= Total Cover	Provala	nce Index Workshe	ot
1			Total %	Cover of:	70
2		<u> </u>	OBL sp	ecies 0 x 1	= 0
3			FACW	species 100 x 2	= 200
4			FAC sp	ecies 0 x 3	= 0
5			FACU s	pecies 0 x 4	= 0
Llash stratum (Dist size) 5' Dadius )	0	= Total Cover	UPL sp	$\frac{100}{100}$	= 0
Herb stratum (Piot size: 5 Radius )	100	X	Column	100 (A)	<u>200</u> (B)
1 Phalaris arundinacea Reed Canary Grass	100	Y	FACW Prevale	nce Index = B/A =	2.00
3			Hydrop	hytic Vegetation Ind	licators:
4		·	Rap	id test for hydrophytic	c vegetation
5			X Dor	ninance test is >50%	C C
6			X Pre	valence index is ≤3.0'	t
7			Mor	phological adaptation	ıs* (provide
			sup	porting data in Remai	rks or on a
<u>9</u>		<u> </u>		arate sneet)	
	100	= Total Cover	Pro (exr	blematic hydrophytic y blain)	vegetation
Woody vine stratum (Plot size: 30' Radius )	100		()		
<u> </u>			"Indicate	present, unless disturbed (	or problematic
2			Нус	Irophytic	· ·
	0	= Total Cover	veg	etation	
			pre	sent? Y	-
Remarks: (Include photo numbers here or on a separate sheet)					
Note: This data sheet has been adapted to use the 2012 National Wetla	and Plant I	ist <sup>.</sup>			
Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: National	al Wetland F	Plant List, versior	n 2.4.0 (https://wetland_pla	ants.usace.army.mil). U.S.	Army Corps of
Engineers, Engineer Research and Development Center, Cold Regions Research a	and Enginee	rıng Laboratory,	Hanover, NH, and BONA	<sup>2</sup> , Chapel Hill, NC. (2012)	

	cription: (Descr	ibe to th	e depth needed	l to docu	ment the	e indicat	or or confirm the	e absence of indicators.)	
Depth	Matrix		Re	edox Feat	ures				
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks	
0-6	10YR 2/2	100					Silty Clay Loan	1	
6-18	10YR 2/2	95	7.5YR 4/6	5	С	М	Silty Clay Loan	1	
*Type: C = (	Concentration D	I = Depleti	ion RM = Reduc	ed Matrix	MS = M	lasked S	and Grains *	$^{*}$ location: PL = Pore Lining M = M	atrix
Hvdric Sc	bil Indicators:	Dopiot			., 110 11		Indicators fo	or Problematic Hydric Soils:	
Hist	tosol (A1)		Sa	ndy Gleye	ed Matrix	: (S4)	Iron-Mar	nganese Masses (F12) ( <b>LRR K, L, N</b>	1)
Hist	tic Epipedon (A2)		Sa	ndy Redo	ox (S5)		Very Sha	allow Dark Surface (F22)	
Bla	ck Histic (A3)		St	ipped Ma	trix (S6)		Other (e	xplain in remarks)	
Hyc	Irogen Sulfide (A	4)	Da	rk Surfac	e (S7)				
	atified Layers (A5	)	Lo	amy Mucl	ky Minera	al (F1)			
2 ci	himuck (ATU) bleted Below Dark	Surface	Δ11) Lo	oleted M	eu Main atrix (F3)	( [ 2 )			
	ck Dark Surface (	A12)	X Re	dox Dark	Surface	(F6)	*Indicator	s of hydrophytic vegetation and wet	and
Sar	ndy Mucky Minera	al (S1)	De	pleted Da	ark Surfa	ce (F7)	hydrolog	y must be present, unless disturbed	or
5 cr	m Mucky Peat or	Peat (S3	3) Re	dox Depr	essions (	(F8)	, ,	problematic	
Restrictive	Laver (if observe	ed):							
Туре:	2	,					Hydric soi	I present? Y	
Depth (inche	es):				-				
HYDROLO	DGY								
Wetland Hy	drology Indicato	ors:					0		·
Primary Indi	<u>cators (minimum</u>	of one is	s required; check	all that a	pply) Fauna (P	12)	Secon	idary Indicators (minimum of two rec	uired)
A Surface	ater Table (A2)			True Ag	гацпа (в uatic Plar	nts (B14)		Drainage Patterns (B10)	
Saturatio	on (A3)			Hydroge	en Sulfide	Odor (C	)	Dry-Season Water Table (C2)	
Water N	larks (B1)			Oxidized	l Rhizosp	heres on	Living Roots	Crayfish Burrows (C8)	
Sedimer	nt Deposits (B2)			_(C3)			<u> </u>	Saturation Visible on Aerial Imagery (	C9)
Drift Dep	oosits (B3)			_Presenc	e of Redu	uced Iron		Stunted or Stressed Plants (D1)	
	osits (B5)			(C6)	ION Neur			FAC-Neutral Test (D5)	
Inundati	on Visible on Aeria	al Imager	y (B7)	Thin Mu	ck Surfac	e (C7)			
Sparsely	/ Vegetated Conca	ave Surfa	ce (B8)	Gauge o	or Well Da	ata (D9)			
Water-S	tained Leaves (B9	)	_	Other (E	xplain in	Remarks	)		
Field Obser	vations:	N/	×				6		
o (	er present?	Yes	X NO		Depth (i	nches):	2	Indicators of wetland	
Surface wat	procent?	v / vi ·	INU		Depth (i	nunes).		hydrology present?	
Surface wat Water table Saturation p	present? resent?	Yes	No	~ ~	Depin o	ncnes):			
Surface wat Water table Saturation p (includes ca	present? resent? pillary fringe)	Yes	No			ncnes):			_
Surface wat Water table Saturation p (includes ca Describe red	present? resent? pillary fringe) corded data (strea	Yes	No e, monitoring we	II, aerial p	photos, p	ncnes): revious ir	nspections), if ava	ilable:	_
Surface wat Water table Saturation p (includes ca Describe red	present? resent? pillary fringe) corded data (strea	Yes Yes	e, monitoring we	II, aerial p	bepth (i	ncnes): revious ir	nspections), if ava	ilable:	_
Surface wat Water table Saturation p (includes ca Describe red	present? resent? pillary fringe) corded data (strea	Yes Yes	e, monitoring we	II, aerial p	photos, p	ncnes): revious ir	nspections), if ava	ilable:	_
Surface wat Water table Saturation p (includes ca Describe red Remarks:	present? resent? pillary fringe) corded data (strea	Yes	e, monitoring we	II, aerial p	photos, p	revious ir	nspections), if ava	ilable:	
Surface wat Water table Saturation p (includes ca Describe red Remarks: Saturation	present? resent? pillary fringe) corded data (strea and/or a water	Yes Yes am gauge	e, monitoring we	II, aerial p	served,	revious ir as the v	nspections), if ava	ilable:	_
Surface wat Water table Saturation p (includes ca Describe red Remarks: Saturation	present? resent? pillary fringe) corded data (strea and/or a water	Yes Yes	e, monitoring we	II, aerial p	beptin (i	revious ir	nspections), if ava	ilable:	_

WETLAND DETERMINA	ATION D	ATA FORN	1 - Midwest Re	egion			
Project/Site 85th Street Interchange	City/	County:	Lincoln County	Sampling	Date:	11/13/18	
Applicant/Owner: 85th Street Business District Joint Venture Gro	up	State:	South Dakota	a Sampling	Point:	21-U	
Investigator(s): Rebecca Beduhn		Secti	on, Township, Ra	ange:	T100NS13R	51W	
Landform (hillslope, terrace, etc.): backslope		Local	relief (concave, c	onvex, none):	Nc	ne	
Slope (%): 5 Lat: 43.47544156	_	Long:	-96.82459694	Datum:	UTM NAD 8	3 Zone 1	4N
Soil Map Unit Name Chancellor-Viborg silty clay loams			NWI Clas	sification:	None	э	
Are climatic/hydrologic conditions of the site typical for this time of t	he year?	-	Y (If no,	explain in remar	ks)		
Are vegetation, soil, or hydrology	significant	ly disturbed?					
Are vegetation , soil , or hydrology	naturally p	oroblematic?	Are	e "normal circum	stances" pres	ent? Ye	es
SUMMARY OF FINDINGS			(If r	needed, explain	any answers i	in remark	(s.)
Hydrophytic vegetation present? N							
Hydric soil present? N		Is the sa	ampled area wit	hin a wetland?	Ν		
Indicators of wetland hydrology present? N		∣f yes, op	otional wetland sit	e ID:		_	
Remarks: (Explain alternative procedures here or in a separate rep	ort)						
	,						
VEGETATION Use scientific names of plants							
	Absolute	Dominan	Indicator Do	minance Test V	Vorksheet		
Tree Stratum (Plot size: 30' Radius )	% Cover	t Species	Status Ni	umber of Domina	nt Species		
1			tha	at are OBL, FAC	N, or FAC:	0	(A)
2				Total Number of	f Dominant		•
3				Species Across	all Strata:	1	(B)
4			P	ercent of Domina	nt Species		
5		TILO	tha	at are OBL, FAC\	N, or FAC:	0.00%	(A/B)
Sonling/Shrub stratum (Plot size: 15' Padius )	0	= I otal Cover	Bro	valanca Indax	Workshoot		
1 (FIOLSIZE. 15 Radius )			Tot	al % Cover of	WOIKSHEEL		
2			OB	L species	0 x 1 =	0	
3			FA	CW species	0 x 2 =	0	-
4			FA	C species	0 x 3 =	0	-
5			FA	CU species	0 x 4 =	0	_
	0	= Total Cover	UP	L species	$0 \times 5 =$	0	-
Herb stratum (Plot size: 5' Radius )			Col	lumn totals	<u> </u>	0	-(B)
1 Zea mays Corn	100	<u> </u>	NI Pre	evalence Index =	B/A =		-
				dronhytic Vege	tation Indica	tore:	
4				Rapid test for h	vdrophytic ve	detation	
5				Dominance tes	t is >50%	3	
6				Prevalence ind	ex is ≤3.0*		
7				- Morphological a	adaptations* (	provide	
8				supporting data	a in Remarks of	or on a	
				separate sheet	)		
10	100	- Total Cavar		Problematic hy	drophytic vege	etation*	
Woody vine stratum (Plot size: 30' Radius )	100	= Total Cover	—				
1			*Ir	ndicators of hydric so	oil and wetland h	ydrology mu oblematic	ust be
2				Hydrophytic			
· ·	0	= Total Cover	-	vegetation			
				present?	N		
Remarks: (Include photo numbers here or on a separate sheet)							
Nata This data shout has been adopted to a 10 0040 M C. 1997	and DL 11	i					
Note: This data sheet has been adapted to use the 2012 National Wetl Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: Nation	ang Piant L Ial Wetland F	∟ıst: Plant List, versioi	n 2.4.0 (https://wetlar	nd_plants.usace.arn	ny.mil). U.S. Arm	y Corps of	
Engineers, Engineer Research and Development Center, Cold Regions Research	and Enginee	ring Laboratory,	Hanover, NH, and B	ONAP, Chapel Hill,	NC. (2012)		

Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm th	e absence	e of indicators.)
Depth	Matrix		Red	dox Featu	ures				•
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	•	Remarks
0-12	10YR 3/1	100					Silty Clay Loa	m	
*Turner C = (	Concentration D	– Domini		d Matrix		lookod C	and Crains	**L a cation	N DL - Dere Lining M - Metrix
	Undicators:	= Depiet	on, $RW = Reduce$	a waux	, 1015 = 10	lasked S	and Grains.	for Proble	i: PL = Pore Lining, M = Matrix
Hist	tosol (A1)		Sar	dv Gleve	ed Matrix	(S4)	Iron-Ma	indanese I	Masses (F12) (I RR K, I , M)
Hist	tic Epipedon (A2)		Sar	idv Redo	x (S5)	(01)	Verv Sh	nallow Darl	k Surface (F22)
Bla	ck Histic (A3)		Stri	pped Ma	trix (S6)		Other (e	explain in r	emarks)
Hyd	lrogen Sulfide (A4	4)	Dar	k Surface	e (S7)			•	
Stra	atified Layers (A5)	)	Loa	my Mucł	ky Minera	al (F1)			
2 cr	n Muck (A10)		Loa	my Gley	ed Matrix	(F2)			
Dep	leted Below Dark	Surface	e (A11)Dep	leted Ma	atrix (F3)	(=0)			
Thio	ck Dark Surface (	A12)	Rec	lox Dark	Surface	(F6)	*Indicato	rs of hydro	phytic vegetation and wetland
Sar	ndy Mucky Minera	ll (51) Poot (52		leted Da	rk Surra		nyarolog	gy must be	e present, unless disturbed or
		real (55			25510115 (	(го)			Jobiematic
Restrictive	Layer (if observe	ed):							2 N
Type: Donth (inch)	<u>);</u>						Hydric so	ii present	? <u>N</u>
Wetland Hv	drology Indicate	ors:							
Primary Indi	cators (minimum	of one is	required: check	all that a	(vlac		Seco	ndary Indi	cators (minimum of two required)
Surface	Water (A1)			Aquatic	Fauna (B	13)	<u></u>	Surface S	oil Cracks (B6)
High Wa	iter Table (A2)			True Aq	uatic Plar	nts (B14)		Drainage	Patterns (B10)
Saturatio	on (A3)			Hydroge	n Sulfide	Odor (C1	)	Dry-Seas	on Water Table (C2)
Water M	larks (B1)			Oxidized	Rhizosp	heres on	Living Roots	Crayfish E	Burrows (C8)
Sedimer	nt Deposits (B2)			(C3)	o of Pod	upped Iron	(C4)	Saturation	r Visible on Aerial Imagery (C9)
	ot or Crust (B4)			Recent I	ron Redu	iction in T	(C4) illed Soils	Geomorp	hic Position (D2)
Iron Dep	osits (B5)			(C6)	ion read			FAC-Neu	tral Test (D5)
Inundati	on Visible on Aeria	I Imager	y (B7)	Thin Mu	ck Surfac	e (C7)		-	
Sparsely	Vegetated Conca	ive Surfa	ce (B8)	Gauge o	r Well Da	ata (D9)			
Water-S	tained Leaves (B9	)		Other (E	xplain in	Remarks	)		
Field Obser	vations:			N/	D				
Surface wat	er present?	Yes	No	X	Depth (i	nches):		المصا	icators of wotland
Saturation n	present?	Yes	No	<u>×</u>	Depth (i	nches):		hv	drology present? N
(includes ca	pillary fringe)	105			Deptil (i	nones).			
Describe red	corded data (strea	am gaug	e, monitoring well	, aerial p	hotos, p	revious ir	nspections), if av	ailable:	
Remarks:				_					
Saturation	and/or a water	table v	vere not able to	be obs	served,	as the	water was froz	en at the	time of the site visit.
	orne of Frankright	0.55							Miduce toi-
US Army C	orps of Engine	ers							ivildwest Region

WETLAND DETERMINA	TION D	ATA FORM	I - Midwest Regio	'n	
Project/Site 85th Street Interchange	City/0	County:	Lincoln County	Sampling Date:	11/25/18
Applicant/Owner: 85th Street Business District Joint Venture Gro	up	State:	South Dakota	Sampling Point:	21-W
Investigator(s): Rebecca Beduhn		Section	on, Township, Range	T100NS1	3R51W
Landform (hillslope, terrace, etc.): toeslope		Local	relief (concave, conve	x, none): C	Concave
Slope (%): 1 Lat: 43.47546259		Long:	-96.82460011	Datum: UTM NA	D 83 Zone 14N
Soil Map Unit Name Chancellor-Viborg silty clay loams			NWI Classifica	ation: N	lone
Are climatic/hydrologic conditions of the site typical for this time of the	he year?	_	Y (If no, expla	ain in remarks)	
Are vegetation, soil, or hydrology	significant	ly disturbed?			
Are vegetation , soil , or hydrology	naturally p	roblematic?	Are "no	rmal circumstances" p	vresent? Yes
SUMMARY OF FINDINGS			(If need	ed, explain any answe	rs in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? Y		Is the sa	ampled area within a	wetland?	Υ
Indicators of wetland hydrology present? Y		lf yes, op	tional wetland site ID	Wetland 21	
Remarks: (Explain alternative procedures here or in a separate repo	ort.)				
	,				
VEGETATION Use scientific names of plants					
	Absolute	Dominan	Indicator Domina	Ince Test Worksheet	
<u>Tree Stratum</u> (Plot size: 30' Radius )	% Cover	t Species	Status Numbe	r of Dominant Species	
1			that are	OBL, FACW, or FAC:	1 (A)
2			Tota	al Number of Dominant	
3			Spe	cies Across all Strata:	<u> </u>
			Percer	t of Dominant Species	100.000/ (A/P)
	0	= Total Cover		ODL, FACW, OF FAC.	100.00% (A/B)
Sapling/Shrub stratum (Plot size: 15' Radius )	0		Prevale	nce Index Workshee	t
1			Total %	Cover of:	-
2			OBL sp	ecies 10 x 1	= 10
3			FACW	species 90 x 2	= 180
4			FAC sp	ecies 0 x 3	= 0
<u> </u>		<u></u>	FACU s	pecies 0 x 4	= 0
Herb stratum (Plot size: 5' Padius )	0	= I otal Cover	OPL spe	totals $100$ (A)	= 0 (B)
1 Pholorin arundinaaaa Pood Conory Cross	00	V		$\frac{100}{100}$	<u> </u>
2 Typha angustifolia Narrow-Leaf Cat-Tail	90				1.90
3	10		Hydrop	hytic Vegetation Ind	icators:
4			Rap	oid test for hydrophytic	vegetation
5			X Dor	ninance test is >50%	
6			X Pre	valence index is ≤3.0*	
7			Mor	phological adaptation	s* (provide
			sup	porting data in Remar	ks or on a
<u>9</u>				arate sneet)	vogotation*
	100	= Total Cover	FIO	blain)	egetation
- Woody vine stratum (Plot size: 30' Radius )			*Indicat	are of hydric soil and watlay	ad bydrology must bo
1			Indicat	present, unless disturbed o	r problematic
2			Нус	Irophytic	
	0	= Total Cover	veg	etation	
			pre		
Remarks: (Include photo numbers here or on a separate sheet)					
Note: This data sheet has been adapted to use the 2012 National Wet	and Plant I	_ist:			
Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: Nation	al Wetland F	Plant List, version	n 2.4.0 (https://wetland_pla	nts.usace.army.mil). U.S. /	Army Corps of
Engineers, Engineer Research and Development Center, Cold Regions Research a	anu ⊏nginee	nny Lavoratory,	nanover, INH, and BONAI	-, Griaper mill, NC. (2012)	

Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm t	the absence	of indicators.)
Depth	<u>Matrix</u>		Re	dox Feat	ures				
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Textu	re	Remarks
0-6	10YR 2/2	100					Silty Clay Lo	am	
6-16	10YR 2/2	90	10YR 4/6	10	С	М	Silty Clay Lo	am	
*Type: C = 0	Concentration, D	= Depleti	ion, RM = Reduc	ed Matrix	a, MS = №	lasked S	and Grains.	**Location:	PL = Pore Lining, M = Matrix
Hydric So	il Indicators:		_				Indicators	for Probler	natic Hydric Soils:
His <sup>-</sup>	tosol (A1)		Sa	ndy Gleye	ed Matrix	: (S4)	Iron-N	langanese M	asses (F12) ( <b>LRR K, L, M</b> )
His	tic Epipedon (A2)		Sa	ndy Redo	x (S5)		Very S	Shallow Dark	Surface (F22)
	CK HISTIC (A3)	• •	Str	pped Ma	trix (S6)		Other	(explain in re	emarks)
	irogen Suilide (A4	+)	Da	rk Surrac	e (S7) w Minor				
2 0	m Muck (A10)	)	Loa		ed Matrix	ai (F1) 2 (E2)			
2 Ci	Neted Below Dark	Surface	(A11) De	niny Giey	eu Main atriv (F3)	( ( 1 <i>Z</i> )			
	ck Dark Surface (	A12)	X Re	dox Dark	Surface	(F6)	*Indicat	ore of hydror	phytic vegetation and wetland
Sar	dv Muckv Minera	l (S1)	De	oleted Da	ark Surfa	(F7)	hvdrol	oav must be	present. unless disturbed or
5 ci	n Mucky Peat or	, Peat (S3	3) Re	dox Depr	essions (	(F8)	,	p	roblematic
Restrictive	l aver (if observ	, ,	·	•		,		•	
Type <sup>.</sup>							Hydric s	oil present?	<b>Y</b>
Depth (inche	es).				-		nguno e		<u>.</u>
	,				-				
HYDROL( Wetland Hy	DGY drology Indicato	ors:							
Primary Indi	<u>cators (minimum</u>	of one is	s required; check	all that a	pply)		Sec	ondary Indic	ators (minimum of two required)
X Surface	Water (A1)			Aquatic	Fauna (B	13)		Surface So	bil Cracks (B6)
High Wa	iter Table (A2)			I rue Aq	uatic Plar	its (B14) $Odor (C'$	0	Drainage F	Patterns (B10)
Water M	larks (B1)				l Rhizosn	heres on	Living Roots	Cravfish B	urrows (C8)
Sedimer	nt Deposits (B2)			(C3)	i ttil200p			Saturation	Visible on Aerial Imagery (C9)
Drift Dep	osits (B3)			Presenc	e of Redu	uced Iron	(C4)	Stunted or	Stressed Plants (D1)
Algal Ma	at or Crust (B4)			Recent	ron Redu	iction in T	illed Soils	C Geomorph	ic Position (D2)
Iron Dep	osits (B5)			(C6)			$\rightarrow$	FAC-Neutr	al Test (D5)
Inundati	on Visible on Aeria	I Imager	y (B7)	Thin Mu	ck Surfac	e (C7)			
Sparsely	Vegetated Conca	ve Surfa	ce (B8)	Gauge o	or Well Da	ata (D9) Demonito	<b>`</b>		
vvater-S	aineo Leaves (B9	)		Uther (E	xpiain in	Remarks	)		
Field Obser	vations:	Vaa	V No		Danth /i	nahaa).	2		
Water table	nresent?	T US		Y	Depth (i	nches):	۷	India	ators of wetland
Saturation n	resent?	Yes	No	$\frac{1}{X}$	Depth (i	nches).		hvd	rology present? Y
(includes ca	pillary fringe)	100							
Describe red	orded data (strea	am daud	e monitorina wel	l aerial r	hotos p	revious ir	spections) if a	vailable:	
		9449	,	,	, P		, i u		
Remarks:									
Saturation	and/or a water	table v	vere not able t	o be ob	served,	as the	water was fro	zen at the	time of the site visit.

WETLAND DETERMINA	ATION D	ATA FORM	1 - Midwest F	Region			
Project/Site 85th Street Interchange	City/	County:	Lincoln Count	y Samplir	ng Date:	11/13/18	}
Applicant/Owner: 85th Street Business District Joint Venture Gro	oup	State:	South Dako	ota Samplin	ig Point:	23-U	
Investigator(s): Rebecca Beduhn		Secti	on, Township, F	Range:	T100NS18F	350W	
Landform (hillslope, terrace, etc.): backslope		Local	relief (concave,	convex, none):	N	lone	
Slope (%): 4 Lat: 43.48202808	_	Long:	-96.79798958	B Datum:	UTM NAD	83 Zone 1	14N
Soil Map Unit Name Egan silty clay loam, 3 to 6 percent slopes			NWI Cla	assification:	Nor	ne	
Are climatic/hydrologic conditions of the site typical for this time of t	he year?		Y (If no	o, explain in rem	iarks)		
Are vegetation, soil, or hydrology	significant	ly disturbed?					
Are vegetation , soil , or hydrology	naturally p	oroblematic?	A	re "normal circu	ımstances" pre	sent? Y	'es
SUMMARY OF FINDINGS			(1	f needed, explai	in any answers	in remark	ks.)
Hydrophytic vegetation present? N							
Hydric soil present? N		Is the sa	ampled area w	ithin a wetland	1?	N	
Indicators of wetland hydrology present? N		If yes, op	tional wetland s	site ID:			
Remarks: (Explain alternative procedures here or in a separate rep	ort.)						
	,						
VEGETATION Use scientific names of plants							
	Absolute	Dominan	Indicator D	ominance Test	t Worksheet		
Tree Stratum (Plot size: 30' Radius )	% Cover	t Species	Status	Number of Domi	nant Species		
1			t	hat are OBL, FA	CW, or FAC:	0	(A)
2				Total Number	of Dominant		-
3				Species Acro	oss all Strata:	1	(B)
4				Percent of Domi	nant Species	/	
5		TILO	t	hat are OBL, FA	CW, or FAC:	0.00%	_(A/B)
Sapling/Shrub stratum (Plat size: 15' Padius )	0	= I otal Cover		rovalanco Indo	w Workshoot		
1				otal % Cover of	. worksheet		
2			0	BL species	0 x 1 =	0	
3		·	F.	ACW species	0 x 2 =	0	-
4			E.	AC species	0 x 3 =	0	_
5			F.	ACU species	<u> </u>	0	_
	0	= Total Cover	· U	PL species	$0 \times 5 =$	0	
Herb stratum (Plot size: 5' Radius )			C	olumn totals	<u> </u>	0	_(B)
1 Zea mays Corn	100	<u> </u>	<u>NI</u> P	revalence Index	(= B/A =		-
			<u> </u>	vdronhytic Ver	notation Indic	atore	
4		······································		Rapid test for	r hvdrophytic v	egetation	
5				Dominance to	est is >50%	- 3	
6				Prevalence ir	ndex is ≤3.0*		
7				Morphologica	al adaptations*	(provide	
8				supporting da	ata in Remarks	or on a	
				separate she	et)		
10	100	- Total Caver		Problematic I	nydrophytic veg	getation*	
Woody vine stratum (Plot size: 30' Radius )	100	- Total Cover	—				
1				Indicators of hydric	soil and wetland less disturbed or r	hydrology m	iust be
		·		Hydrophytic	;		
	0	= Total Cover		vegetation			
				present?	<u>N</u>		
Remarks: (Include photo numbers here or on a separate sheet)							
Nate: This data about has been adapted to use the CO40 Nation 1944	and Direct !	iot					
Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: National	anu Piant L nal Wetland F	List. Plant List, versio	n 2.4.0 (https://weti	land_plants.usace.a	army.mil). U.S. Arı	my Corps of	F
Engineers, Engineer Research and Development Center, Cold Regions Research	and Enginee	ring Laboratory,	Hanover, NH, and	I BONAP, Chapel H	lill, NC. (2012)		

Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm the	e absence of	f indicators.)
Depth	Matrix		Re	dox Feat	ures				·
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture		Remarks
0-12	5YR 3/1	100					Silty Clay Loan	n	
*Type: C = (	Concentration D :	- Depleti	ion PM - Peduc	d Matrix		lasked S	and Grains '	**Location: P	L - Pore Lining M - Matrix
Hydric Sc	il Indicators:	- Depieti			., 1010 – 10	laskeu C	Indicators f	or Problema	
His	tosol (A1)		Sar	ndv Gleve	ed Matrix	(S4)	Iron-Mai	nanese Mas	$(\mathbf{F}_{12})$ ( <b>I RR K   M</b> )
His	tic Eninedon (A2)		Sar	ndy Redo	x (S5)	(04)	Very Sh	allow Dark S	(F22)
Bla	rk Histic (Δ3)		Stri	nned Ma	$r_{\rm riv}(S6)$		Other (e	vnlain in rem	arks)
	lrogen Sulfide (Δ	1)		k Surfac	e (S7)				
Stra	atified Lavers (A5)	• <i>)</i>		my Mucl	kv Miner:	al (F1)			
2 0	m Muck (A10)	/	Los	my Glev	ed Matrix	x (F2)			
2 ci	leted Below Dark	Surface	e (A11)	oleted Ma	atrix (F3)	· (• -)			
	ck Dark Surface (	A12)	Rec	lox Dark	Surface	(F6)	*Indicator	s of hydrophy	utic vegetation and wetland
Sar	ndv Muckv Minera	l (S1)	Der	pleted Da	ark Surfa	(F7)	hvdrolog	v must be pr	esent, unless disturbed or
5 ci	n Muckv Peat or	Peat (S3	3) Red	dox Depr	essions (	(F8)	,	prol	blematic
	Lover (if choom	(				( /			
Tuno	Layer (if observe	ea):					Uudria aai	I procent?	Ν
Type.					-		Hydric Sol	i present?	
Deptil (Inche	=s).				-				
L									
HYDROL	DGY								
Wetland Hy	drology Indicato	ors:							
Primary Indi	cators (minimum	of one is	required; check	all that a	<u>pply)</u>		Secor	ndary Indicate	ors (minimum of two required)
Surface	Water (A1)			Aquatic	Fauna (B	313)		Surface Soil	Cracks (B6)
High Wa	ater Table (A2)			True Aq	uatic Plar	nts (B14)		Drainage Pat	terns (B10)
Saturatio	on (A3)			Hydroge	en Sulfide	Odor (C	1)	Dry-Season V	Water Table (C2)
Water N	larks (B1)			Oxidized	l Rhizosp	heres on	Living Roots	Crayfish Burr	rows (C8)
Sedimer	nt Deposits (B2)			(C3)	(		· · · · ·	Saturation Vi	sible on Aerial Imagery (C9)
Drift Dep	oosits (B3)			Presenc	e of Redu	uced Iron	(C4)	Stunted or St	ressed Plants (D1)
Algai Ma	at or Crust (B4)			Recent I	ron Reau	iction in I			Position (D2)
Inundati	on Visible on Aeria	l Imager	(B7)	Thin Mu	ck Surfac	e(C7)		FAC-Neutral	Test (D5)
Sparsel	Vegetated Conca	ive Surfa	ce (B8)	Gauge c	or Well Da	ata (D9)			
Water-S	tained Leaves (B9	)		Other (E	xplain in	Remarks	)		
Field Obeo	vations:	,			P		, 		
Surface wat	er present?	Yes	No	х	Depth (i	inches) <sup>.</sup>			
Water table	present?	Yes	No		Depth (i	inches):		Indicat	tors of wetland
Saturation p	resent?	Yes	No	Х	Depth (i	inches):		hydro	logy present? N
, (includes ca	pillary fringe)				<u> </u>	,		-	
Describe red	corded data (strea	am gaug	e, monitorina wel	l, aerial n	hotos. p	revious ii	nspections). if ava	ilable:	
		5 5		P	· , P.		, ,,		
Damardua									
Remarks:					· · · ·				
Saturation	and/or a water	table v	vere not able to	b be ob	served,	as the	water was froze	en at the tin	ne of the site visit.

WETLAND DETERMINAT		ATA FORM	I - Midwest Regio	n	
Project/Site 85th Street Interchange	City/0	County:	Lincoln County	Sampling Date:	11/13/18
Applicant/Owner: 85th Street Business District Joint Venture Group	p	State:	South Dakota	Sampling Point:	23-W
Investigator(s): Rebecca Beduhn		Section	on, Township, Range:	T100NS18	8R50W
Landform (hillslope, terrace, etc.): toeslope		Local	relief (concave, conve	x, none): <u> </u>	oncave
Slope (%): 1 Lat: 43.48205159		Long:	-96.79794228	Datum: UTM NA	D 83 Zone 14N
Soil Map Unit Name Egan silty clay loam, 3 to 6 percent slopes			NWI Classifica	ition: N	one
Are climatic/hydrologic conditions of the site typical for this time of the	e year?	-	Y (If no, expla	in in remarks)	
Are vegetation, soil, or hydrology si	gnificant	ly disturbed?			
Are vegetation, soil, or hydrology na	aturally p	oroblematic?	Are "nor	mal circumstances" p	resent? Yes
SUMMARY OF FINDINGS			(If neede	əd, explain any answe	rs in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? Y		Is the sa	ampled area within a	wetland?	Y
Indicators of wetland hydrology present? Y		lf yes, op	tional wetland site ID:	Wetland 23	
Remarks: (Explain alternative procedures here or in a separate report	t.)				
	,				
VEGETATION Use scientific names of plants.					
A	bsolute	Dominan	Indicator Domina	nce Test Worksheet	
Tree Stratum (Plot size: 30' Radius ) %	6 Cover	t Species	Status Numbe	r of Dominant Species	
1 Populus deltoides Eastern Cottonwood	10	Y	FAC that are	OBL, FACW, or FAC:	3 (A)
2			Tota	Number of Dominant	
				cies Across all Strata:	<u> </u>
4 5			Percen	t of Dominant Species	100.00% (A/B)
	10	= Total Cover			100.00 % (A/B)
			Prevale	nce Index Workshee	t
1			Total %	Cover of:	
2			OBL spe	cies <u>30</u> x 1 :	= <u>30</u>
3			FACW s	pecies 40 x 2 :	= 80
			FAC spe	cies <u>30</u> x 3 :	= <u>90</u>
5	0	- Total Cover		pecies $0 \times 4$	=
Herb stratum (Plot size: 5' Radius )	0		Column	totals $100$ (A)	- <u> </u>
1 Phalaris arundinacea Reed Canary Grass	40	Y	FACW Prevaler	the lindex = $B/A =$	2.00
2 Typha angustifolia Narrow-Leaf Cat-Tail	20	Y	OBL		2.00
3 Rumex crispus Curly Dock	10	N	FAC Hydrop	hytic Vegetation Indi	cators:
4 Poa pratensis Kentucky Blue Grass	10	Ν	FAC Rap	id test for hydrophytic	vegetation
5 Zea mays Corn	10	N	NI X Dom	ninance test is >50%	
6 Carex stricta Uptight Sedge	10	<u>N</u>		/alence index is ≤3.0*	
		<u> </u>	Mor	phological adaptations	s* (provide
9			sep	orting data in Remark arate sheet)	ks or on a
10			Prot	plematic hydrophytic y	egetation*
	100	= Total Cover	(exp	lain)	ogotation
Woody vine stratum (Plot size: 30' Radius )			*Indicate	ors of hydric soil and wetlar	d hvdrology must be
1			p	present, unless disturbed of	r problematic
2			Hyd	rophytic	
	0	= Total Cover	nres	sent? Y	
Remarke: (Include photo numbers here or on a congrate chect)			proc		
incinaires. (include proto numbers here of on a separate sheet)					
Note: This data sheet has been adapted to use the 2012 National Wetlar	nd Plant L	_ist:			
Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: National Engineers, Engineer Research and Development Center, Cold Regions Research and	Wetland F d Enginee	riant List, version ring Laboratory,	n 2.4.0 (https://wetland_pla Hanover, NH, and BONAF	nts.usace.army.mil). U.S. A ?, Chapel Hill, NC. (2012)	Army Corps of

Depin         Matrix         Eddox Features           (inches)         Color (moist)         %         Type         Loc**         Texture         Remarks           0.4         SYR 3/1         00         10YR 5/8         5         C         M         Silly Clay Loam           4.16         10YR 2/1         90         10YR 5/2         5         D         M         Image: Color (moist)         %         Type: Color (moist)         %	Profile Des	cription: (Descr	ibe to th	e depth need	ed to docu	ment the	e indicat	or or confirm th	e absence of indicators.)	
(Inches)       Color (moist)       %       Color (moist)       %       Texture       Remarks         0-4       6YR 3/1       00       Sity Clay Learn       Sity Clay Learn         4-16       10YR 2/1       90       10YR 5/8       5       C       M       Sity Clay Learn         4-16       10YR 2/1       90       10YR 5/2       5       D       M       Image: Classical Cl	Depth	Matrix		<u> </u>	Redox Feat	tures				
0-4       SYR 3/1       100       IUYR 5/8       S       C       M       Slity Clay Loam         4-16       10YR 2/1       00       10YR 5/2       5       D       M       Slity Clay Loam	(Inches)	Color (moist)	%	Color (mois	t) %	Type*	Loc**	Texture	e Remarks	
4-16         10YR 2/1         90         10YR 5/8         5         C         M         Sity Clay Learn	0-4	5YR 3/1	100					Silty Clay Loa	m	
Instrument       Instrument <td>4-16</td> <td>10YR 2/1</td> <td>90</td> <td>10YR 5/8</td> <td>5</td> <td>С</td> <td>М</td> <td>Silty Clay Loa</td> <td>m</td> <td></td>	4-16	10YR 2/1	90	10YR 5/8	5	С	М	Silty Clay Loa	m	
Image: Construction of the sterior		1011(2/1	50	101TC 5/0	5		N4			
Type: C = Concentration. D = Depletion. RM = Reduced Matrix. MS = Masked Sand Grains.       "Location: PL = Pore Lining, M = Matrix         Type: C = Concentration. D = Depletion. RM = Reduced Matrix. MS = Masked Sand Grains.       "Location: PL = Pore Lining, M = Matrix         "Histoci (A1)				10YR 5/2	5	D	IVI			
Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location. PL = Pore Lining, M = Matri         Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location. PL = Pore Lining, M = Matri         Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location. PL = Pore Lining, M = Matri         Histos Epipedon 1(2)       Sandy Gleyed Matrix (S4)         Black Histic (A3)       Stripped Matrix (S6)         Black Histic (A3)       Charged Matrix (F2)         Depleted Below Dark Surface (11)       Depleted Matrix (F2)         Sandy Mucky Mineral (S1)       Depleted Matrix (F2)         Sandy Mucky Mereal (S1)       Depleted Dark Surface (F7)         *Indicators of hydrophytic vegetation and wetlant         hydrology must be present, unless disturbed or         problematic         Restrictive Layer (if observed):         Type:         Type:         Depleted Matrix (F2)         Redox Dark Surface (F1)         Hydric soil present?         Y-         Depletion (notes):         Type:         Depletion (A1)         Sandy Mucky Mineral (S1)         X = Sandy Mucky Mineral (S1)         Y=         Depletion (A1)         Sandy Mucky Mineral (S1)										
Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.       **Location: PL = Pore Lining, M = Matri         Hydric Soil Indicators:       Indicators for Problematic Hydric Soils:       Indicators for Problematic Hydric Soils:         Hydric Soil Indicators:       Sandy Redxo (Si)       Indicators for Problematic Hydric Soils:       Indicators for Problematic Hydric Soils:         Hydrogon Suffice (A2)       Sandy Redxo (Si)       Other (explain in remarks)       Other (explain in remarks)         Black Histic (A3)       Dark Surface (A12)       X Redxo Dark Surface (F6)       *Indicators of hydrophytic vegetation and wetlant hydrology must be present, unless disturbed or problematic         Restrictive Layer (if observed):       Type:       Hydric soil present?       Y         Pelied Matrix (F3)       Redxo Depressions (F8)       *Unology must be present, unless disturbed or problematic         Restrictive Layer (if observed):       Type:       Hydric soil present?       Y         Pelied Matrix (F3)       Secondary Indicators (minimum of two required thore (F1)       Drainage Patterns (B10)       Drainage Patterns (B10)         Surface Water (A1)       Aquatic Feana (B13)       Drainage Patterns (B10)       Drainage Patterns (B10)       Drainage Patterns (B10)         Sauration (A3)       Hydroge Matrix (C4)       Drainage Patterns (B10)       Drainage Patterns (B10)       Drainage Patterns (B10)       Drainage										
Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.       **Location: PL = Pore Lining, M = Matri         Hydrics Soil Indicators:       Indicators for Problematic Hydric Soils:         Histos (A1)       Sandy Redox (S5)         Black Histic (A3)       Stripped Matrix (S6)         Dark Surface (S7)       Other (explain in remarks)         Stratilied Layers (A5)       Loamy Gleyed Matrix (F2)         Depleted Below Dark Surface (A1)       Depleted Matrix (F3)         Thrick Dark Surface (S1)       Depleted Matrix (F3)         Sandy Mucky Mineral (S1)       Depleted Matrix (F3)         Thrick Dark Surface (A1)       Depleted Dark Surface (F7)         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F7)         Secondary Indicators:       Problematic         Primary Indicators (Intimum of one is required: check all that apply)       Secondary Indicators (Intimum of two required Surface (F1)         Yee:										
Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.       "Location: PL = Pore Lining, M = Matri         Type: C = Concentration, D = Depletion, RM = Reduced Matrix, KS = Masked Sand Grains.       "Location: PL = Pore Lining, M = Matri         Type: C = Concentration, D = Depletion, RM = Reduced Matrix, (S4)       Indicators of Problematic Hydric Solis: Indicators for Problematic Hydric Solis: Inon-Manganese Masses (F12) (LRR K, L, M)         Black Histic (A3)       Stripped Matrix (S6)       Other (explain in remarks)         Depleted Matrix (F3)       Depleted Matrix (F2)       Other (explain in remarks)         Depleted Matrix (F2)       Depleted Matrix (F3)       Indicators of hydrophytic vegetation and vellam hydrology must be present, unless disturbed or problematic         Restrictive Layer (if observed): Type:       Papeleted Dark Surface (F7)       Indicators of hydrophytic vegetation and vellam hydrology must be present, unless disturbed or problematic         Restrictive Layer (if observed): Type:       Hydric soil present?       Y         Depleted Matrix (F3)       Secondary Indicators (minimum of two requir Hydric soil present?       Y         Restrictive Layer (if observed): Type:       Type: C = Oray Matrix (F3)       Surface Oray Mater Table (C2)         YPre       Hydric soil present?       Y         Depleted Matrix (F3)       Surface Solito Corays (B6)       Surface Solito Corays (B6)         Metrand Hydrology Indicators:       T										
Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.       **Location: PL = Pore Lining, M = Matrix         Hydric Soil Indicators:       Indicators for Problematic Hydric Soils:       Iron-Marganese Masses (F12) (LRR K, L, M)         Histos (A1)       Sandy Redox (S5)       Other (explain in remarks)         Histos (A2)       Sandy Redox (S5)       Other (explain in remarks)         Hydrogen Suffide Layers (A5)       Loamy Gleyed Matrix (F3)       Other (explain in remarks)         Thick Dark Surface (A1)       Depleted Matrix (F3)       *Indicators of hydrophytic vegetation and wetlant hydrology must be present, unless disturbed or problematic         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F7)       *Indicators of hydrophytic vegetation and wetlant hydrology must be present, unless disturbed or problematic         Type:       Deplet (inches):       Y       Peleted Dark Surface (F1)       *Indicators (minimum of two required)         Yper:       Image:       Hydrogen Suffac Q407 (1)       Aquatic Fauna (B13)       Surface Soil Cracks (B6)         Startation (A3)       Hydrogen Suffac Q407 (1)       Oudzed Matrix (F3)       Surface Soil Cracks (B6)         Startation (A3)       Hydrogen Suffac Q407 (1)       Dry-Season Vater Table (C2)       Oudzed Matrix (P3)         Startation (A3)       Hydrogen Suffac Q407 (2)       Surface Soil Cracks (B6)       Surface Soil Cracks (B6) <td></td>										
Type:       Concentration, D = Depletion, N = Reduced Matrix, NS = Masked Sand Grans.       Totactors:         Hydric Soil:       Indicators:       Indicators:       Indicators:         Histosol (A1)       Sandy Gleyed Matrix (S4)       Iron-Manganese Masses (F12) (LRR K, L, M)         Histosol (A1)       Sandy Redox (S5)       Other (explain in remarks)         Black Histic (A3)       Stripped Matrix (F2)       Other (explain in remarks)         Depleted Matrix (F2)       Depleted Matrix (F2)       Other (explain in remarks)         Sandy Redox Dark Surface (A12)       X Redox Dark Surface (F6)       *Indicators:         Their Construction of the Perfore Linning Worky Mineral (F1)       Depleted Matrix (F2)       Totack Surface (F2)         Sandy Mucky Mineral (S1)       Depleted Matrix (F2)       *Indicators:       *Indicators:         Thick Dark Surface (A12)       X Redox Dark Surface (F6)       *Indicators:       *Indicators:         Restrictive Layer (If obsorved):       Type:       Hydric soil present?       Y         Pepleted Dark Surface (F2)       Cash Surface Soil Cracks (B6)       Darinage Patterns (B10)       Disturbut Patter Patt	+T 0 (		Dutit						***	Martin
Hydroc Soli Indicators:       Indicators for Propendiatic Hydro Solis:         Histo Epipedon (A2)       Sandy Redox (S5)         Black Histic (A3)       Stripped Matrix (S6)         Stratified Layers (A5)       Loamy Mucky Mineral (F1)         2 cm Muck (A10)       Depleted Matrix (F2)         Depleted Below Dark Surface (A11)       Depleted Matrix (F2)         Stratified Layers (A5)       Loamy Mucky Mineral (F1)         Sandy Mucky Mineral (S1)       X Redox Dark Surface (F6)         Sandy Mucky Mineral (S1)       X Redox Dark Surface (F6)         Thrick Dark Surface (A12)       X Redox Dark Surface (F7)         Type:       problematic         Perfective Layer (If observed):       Y         Type:       Perfective Layer (If observed):         Type:       Aquatic Faura (B13)         Saturation (A3)       Hydrology Indicators:         Primary Indicators (minimum of one is required, check all that apply)       Secondary Indicators (minimum of two required):         Saturation (A3)       Hydrology Suffect OC (C1)       Dro-Seasen Water Table (C2)         Graph Mater (B1)       Oxidized Rhizospheres on Living Roots       Carryfis Burrows (C8)         Geoder Deposits (B3)       Presence of Reduced Iron (C4)       Sturtation Visible on Aerial Imagery (C9)         Mada Mat or Crust (B4)       Recent	*Type: C = C	Concentration, D	= Deplet	ion, RM = Red	uced Matrix	x, MS = N	lasked S	and Grains.	**Location: PL = Pore Lining, M	= Matrix
Histos Epipedon (A2)       Sandy Gleyed Matrix (S4)      ron-Masganese (F12) (LKK K, I, M)         Histos Epipedon (A2)       Sandy Redox (S5)      Onthesize (F22)      Onthesize (F22)         Black Histic (A3)       Stripped Matrix (S8)      Onthesize (F22)      Onthesize (F22)      Onthesize (F22)         Stratified Layers (A5)       Loamy Mucky Mineral (F1)      Onthesize (F37)      Onthesize (F37)      Onthesize (F37)         Depieted Matrix (F3)       Depieted Matrix (F3)      Onthesize (F47)      Onthesize (F47)      Onthesize (F47)         Sandy Redox Dark Surface (F37)       X Redox Dark Surface (F6)      Ndriger matrix (F3)      Ndriger matrix (F3)      Ndriger matrix (F3)         Restrictive Layer (if observed):       Typ:	Hydric Sc	bil indicators:					. (04)	Indicators	for Problematic Hydric Solis:	
Histic Epipedon (A2)       Sarday Redox (S3)       Very Shallow Dark Surface (F2)         Black Histic (A3)       Dark Surface (S7)       Other (explain in remarks)         Hydrogen Sulfide (A4)       Dark Surface (S7)         Stratified Layers (A10)       Learny Gleyed Matrix (F3)         Thick Dark Surface (A12)       X Redox Dark Surface (F6)       *Indicators of hydrophytic vegetation and wetlant         Sandy Mucky Mineral (S1)       X Depleted Dark Surface (F7)       hydrology must be present, unless disturbed or problematic         Restrictive Layer (If observed):       Ye       Hydric soil present?       Y         Depth (inches):       Hydric soil present?       Y         Remarks:       Surface Water (A1)       Aquatic Fauna (B13)       Surface Soil Cracka (B6)         Yipe Water Marks (B1)       Oxidezed Phatsopens on Ling Roots       Crayfish Burrows (C8)       Saturation (Valer Matrix (S1)         Saturation (A3)       Presence of Reduced Iron (C4)       Saturation Valer Table (C2)       Saturation Valer Table (C2)         Orit Deposits (B3)       Presence of Reduced Iron (C4)       Saturation Valer Table (C2)       Saturation Valer Table (C2)         Wetland Hydrology Indicators:       (C3)       Saturation Valer Table (C2)       Saturation Valer Table (C2)         Wetland Hydrology Indicators:       (C3)       Saturation (C4)       Saturation Va	HIS	tosol (A1) tia Enimadam (A0)			Sandy Gley	ed Matrix	(54)		anganese Masses (F12) (LRR K,	L, IVI)
Black Fistic (A)       Simpled Matrix (So)	HIS	tic Epipedon (AZ)			Sandy Red	DX (55)		very Si	nallow Dark Surface (F22)	
Pryorogen Sunda (v4)	Bia	CK HISTIC (A3)		;	stripped ivia	$\operatorname{Atrix}(S6)$			explain in remarks)	
Stratilied Layers (AS)	Hyc	arogen Sulfide (A4	+)		Jark Surfac	ce (S7)				
		atified Layers (A5)	)		.oamy iviuc	ky winer	ai (F1)			
Depleted below Dark Sufface (A12)       Redox Dark Sufface (F6)       *Indicators of hydrophytic vegetation and wetlam hydrology must be present, unless disturbed or problematic         Sandy Mucky Mineral (S1)       X Depleted Dark Sufface (F7)       *Indicators of hydrophytic vegetation and wetlam hydrology must be present, unless disturbed or problematic         Restrictive Layer (if observed):       Y       Hydric soil present?       Y         Depleted Dark Sufface (F8)       Hydric soil present?       Y         Depth (inches):       Redox Depressions (F8)       problematic         Remarks:       Hydric soil present?       Y         Method Hydrology Indicators:       Y	2 CI	m Muck (A10)	0		oamy Gley	/ed Matri	X (FZ)			
Index Dark Suitade (A12)       X       Netdox Suitade (PG)       Index of Provide Suitade (PG)         Sandy Mucky Mieral (S1)       X       Depleted Dark Suitade (PG)       hydrology must be present, unless disturbed or problematic         Restrictive Layer (If observed):       Type:       Hydric soil present?       Y         Depth (inches):       Hydric soil present?       Y         Betting the suitable of the suit						atrix (F3)	(56)			
		ck Dark Surface (	ATZ)				(FO)	*Indicato	rs of hydrophytic vegetation and	wetland
	Sar	idy Mucky Minera	II (51) De et (02		Depleted Da	ark Surta		nyarolo	gy must be present, unless distui	bed or
Restrictive Layer (if observed):       Type:	5 CI	m Mucky Peat or	Peat (53	5) <u> </u>	kedox Depi	ressions	(F8)		problematic	
Type:	Restrictive	Layer (if observe	əd):							
Depth (inches):	Туре:					_		Hydric so	il present? Y	
Remarks:         Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)         X Surface Water (A1)       Aquatic Fauna (B13)       Surface Soil Cracks (B6)         High Water Table (A2)       True Aquatic Plants (B14)       Drainage Patterns (B10)         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Dry-Season Water Table (C2)         Water Marks (B1)       Oxidized Rhizospheres on Living Roots       Saturation Visible on Aerial Imagery (C9)         Sediment Deposits (B2)       (C3)       Saturation Visible on Aerial Imagery (C9)         Iron Deposits (B3)       Presence of Reduced Iron (C4)       Saturation Visible on Aerial Imagery (C9)         Iron Deposits (B3)       C6(5)       Saturation Visible on Aerial Imagery (B7)       Thin Muck Surface (C7)         Sparsely Vegetated Concave Surface (B8)       Gauge or Well Data (D9)       X Depth (inches):       1         Water table present?       Yes       No       X Depth (inches):       1         Field Observations:       Yes       No       X Depth (inches):       1         Cincludes capillary fringe)       No       X Depth (inches):       1       Indicators of wetland hydrology present?       Y         Describe recorded data (stream gauge, monintoring well, aerial photos, previous inspections), if available:	Depth (inche	es):				_				
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two required; Secondary Indicators (minimum of two required; Surface Water (A1)         A Surface Water (A1)       Aquatic Fauna (B13)         High Water Table (A2)       True Aquatic Plants (B14)         Sediment Deposits (B2)       (C3)         Drift Deposits (B3)       Presence of Reduced Iron (C4)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils         Iron Deposits (B5)       (C6)         Inudation Visible on Aerial Imagery (B7)       Thin Muck Surface (C7)         Sparsely Vegetated Concave Surface (B8)       Gauge or Well Data (D9)         Water table present?       Yes         No       X       Depth (inches):         Sutration present?       Yes         No       X       Depth (inches):         Sutration present?       Yes         No       X       Depth (inches):         Includes capillary finge)       Depth (inches):       Indicators of wetland hydrology present?         Saturation present?       Yes       No       X       Depth (inches):       Indicators of wetland hydrology present?         Generation present?       Yes       No       X <t< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></t<>										
Primary Indicators:       Primary Indicators:       Surface Water (A1)       Aquatic Fauna (B13)       Surface Water (A1)         Y Surface Water (A1)       Aquatic Plants (B14)       Drainage Patterns (B10)         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Dry-Season Water Table (C2)         Water Marks (B1)       Oxidized Rhizospheres on Living Roots       Crayfish Burrows (C8)         Sediment Deposits (B2)       (C3)       Saturation (C4)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils       X Geomorphic Position (D2)         Inon Deposits (B5)       (C6)       X face (C7)         Sparsely Vegetated Concave Surface (B8)       Gauge or Well Data (D9)         Water rable present?       Yes       No         X Depth (inches):       1       Indicators of wetland hydrology present?         Yes       No       X Depth (inches):       1         Include tale present?       Yes       No       X Depth (inches):       1         Includes capillary fringe)       No       X Depth (inches):       1       Indicators of wetland hydrology present?       Y         Saturation present?       Yes       No       X Depth (inches):       1       Indicators of wetland hydrology present?       Y         Saturation precorded data (stream gauge, monitoring well, aer	HYDROL(	DGY								
Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two required; check all that apply)         X Surface Water (A1)       Aquatic Fauna (B13)       Surface Soil Cracks (B6)         High Water Table (A2)       True Aquatic Plants (B14)       Drainage Patterns (B10)         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Dry-Season Water Table (C2)         Water Marks (B1)       Oxidized Rhizospheres on Living Roots       Crayfish Burrows (C8)         Sediment Deposits (B2)       (C3)       Saturation in Tilled Soils       Cayfish Burrows (C9)         Joint Deposits (B5)       (C6)       Sturate or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils       Geomorphic Position (D2)         Inon Deposits (B5)       (C6)       X       FAC-Neutral Test (D5)         Inundation Visible on Aerial Imagery (B7)       Thin Muck Surface (C7)       X       FAC-Neutral Test (D5)         Surface water present?       Yes       No       X       Depth (inches):       1         Surface water present?       Yes       No       X       Depth (inches):       1       hydrology present?       Y         Gauge or Well Data (D9)       Other (Explain in Remarks)       Mod X       Depth (inches):       1       hydrology present?       Y			ns:							
X Surface Water (A1)       Aquatic Fauna (B13)       Surface Soll Cracks (B6)         High Water Table (A2)       True Aquatic Plants (B14)       Drainage Patterns (B10)         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Dry-Season Water Table (C2)         Water Marks (B1)       Oxidized Rhizospheres on Living Roots       Crayfish Burrows (C8)         Sediment Deposits (B2)       (C3)       Saturation Visible on Aerial Imagery (C9)         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils       X Geomorphic Position (D2)         Inon Deposits (B5)       (C6)       X FAC-Neutral Test (D5)         Inundation Visible on Aerial Imagery (B7)       Thin Muck Surface (C7)       Sparsely Vegetated Concave Surface (B8)         Surface water present?       Yes       No       Depth (inches):       1         Water table present?       Yes       No       X Depth (inches):       1         Mater table present?       Yes       No       X Depth (inches):       1         Undicators of wetland       hydrology present?       Y         Saturation present?       Yes       No       X Depth (inches):       1         Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspec	Primary Indi	cators (minimum	of one is	s required; che	<u>ck all that a</u>	apply)		Seco	indary Indicators (minimum of two	o required)
High Water Table (A2)       The Aquate Plants (B14)       Dranage Patterns (B10)         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Dry-Season Water Table (C2)         Water Marks (B1)       Oxidized Rhizospheres on Living Roots       Saturation Visible on Aerial Imagery (C9)         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils       X Geomorphic Position (D2)         Iron Deposits (B5)       (C6)       X FAC-Neutral Test (D5)         Inudation Visible on Aerial Imagery (B7)       Thin Muck Surface (C7)       Sparsely Vegetated Concave Surface (B8)       Gauge or Well Data (D9)         Water table present?       Yes       No       Depth (inches):       1         Water table present?       Yes       No       Depth (inches):       1         Mater table present?       Yes       No       Depth (inches):       1         Inclicators of wetland hydrology present?       Yes       No       X Depth (inches):       1         Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Remarks:         Saturation and/or a water table were not able to be observed, as the water was frozen at the time of the site visit.	X Surface	Water (A1)		_	Aquatic	Fauna (B	313)		Surface Soil Cracks (B6)	
Saturation (A3)       Hydrogen Sunde Odor (C1)       Dry-Season Water Table (C2)         Water Marks (B1)       Oxidized Rhizospheres on Living Roots       Crayfish Burrows (C8)         Sediment Deposits (B3)       Presence of Reduced Iron (C4)       Saturation Visible on Aerial Imagery (C9)         Iron Deposits (B4)       Recent Iron Reduction in Tilled Soils       X Geomorphic Position (D2)         Iron Deposits (B5)       (C6)       X FAC-Neutral Test (D5)         Inundation Visible on Aerial Imagery (B7)       Thin Muck Surface (C7)       Saturation Visible on Aerial Imagery (B7)         Sparsely Vegetated Concave Surface (B8)       Gauge or Well Data (D9)       Other (Explain in Remarks)         Field Observations:       Surface water present?       Yes       No         Surface water present?       Yes       No       Z Depth (inches):       1         Water table present?       Yes       No       Z Depth (inches):       1         Uincludes capillary fringe)       Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Y         Remarks:       Saturation and/or a water table were not able to be observed, as the water was frozen at the time of the site visit.	High Wa	ater Table (A2)		_	I rue Aq	Juatic Plai	nts (B14)	· · · ·	Drainage Patterns (B10)	
Water Marks (B1)       Cold/2ed (Mizospheres on Fund (Rots)       Cold/2ed (Mizospheres on Fund (Rots)       Cold/2ed (Mizospheres on Fund (Rots)         Sediment Deposits (B2)       (C3)       Saturation Visible on Aerial Imagery (C9)         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Saturation Visible on Aerial Imagery (C9)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils       X Geomorphic Position (D2)         Iron Deposits (B5)       (C6)       X FAC-Neutral Test (D5)         Inundation Visible on Aerial Imagery (B7)       Thin Muck Surface (C7)       Sparsely Vegetated Concave Surface (B8)         Gauge or Well Data (D9)       Other (Explain in Remarks)       Indicators of wetland         Surface water present?       Yes       No       Depth (inches):       1         Water table present?       Yes       No       X Depth (inches):       1         Saturation present?       Yes       No       X Depth (inches):       1         Cincludes capillary fringe)       Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:         Remarks:       Saturation and/or a water table were not able to be observed, as the water was frozen at the time of the site visit.		JII (AJ) Iarke (B1)		_		d Phizoer		Living Poots	Cravitish Burrows (C8)	
Drift Deposits (B3)       Presence of Reduced Iron (C4)       Stundard relation of Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils       Stundard relation of Stressed Plants (D1)         Iron Deposits (B5)       (C6)       X       Geomorphic Position (D2)         Inundation Visible on Aerial Imagery (B7)       Thin Muck Surface (C7)       Sparsely Vegetated Concave Surface (B8)       Gauge or Well Data (D9)         Water-Stained Leaves (B9)       Other (Explain in Remarks)       Indicators of wetland         Field Observations:       Surface water present?       Yes       No       Depth (inches):       1         Saturation present?       Yes       No       X       Depth (inches):       1       Indicators of wetland         Mater table present?       Yes       No       X       Depth (inches):       1       Indicators of wetland         Saturation present?       Yes       No       X       Depth (inches):       1       hydrology present?       Y         Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Saturation and/or a water table were not able to be observed, as the water was frozen at the time of the site visit.	Sedimer	nt Denosits (B2)			(C3)	u Rhizosp	neres on		Saturation Visible on Aerial Imag	erv (C9)
Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils       X Geomorphic Position (D2)         Iron Deposits (B5)       (C6)       X FAC-Neutral Test (D5)         Inundation Visible on Aerial Imagery (B7)       Thin Muck Surface (C7)       Gauge or Well Data (D9)         Water-Stained Leaves (B9)       Other (Explain in Remarks)         Field Observations:       Surface water present?       Yes         Surface water present?       Yes       No       Depth (inches):       1         Water table present?       Yes       No       X Depth (inches):       1         Gincludes capillary fringe)       No       X Depth (inches):       Y         Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Remarks:         Saturation and/or a water table were not able to be observed, as the water was frozen at the time of the site visit.	Drift Der	(B2)		_	Presend	ce of Red	uced Iron	(C4)	Stunted or Stressed Plants (D1)	cry (00)
Iron Deposits (B5)       (C6)       X FAC-Neutral Test (D5)         Inundation Visible on Aerial Imagery (B7)       Thin Muck Surface (C7)       Gauge or Well Data (D9)         Sparsely Vegetated Concave Surface (B8)       Gauge or Well Data (D9)       Other (Explain in Remarks)         Field Observations:       Surface water present?       Yes       No         Surface water present?       Yes       No       Depth (inches):       1         Water table present?       Yes       No       X Depth (inches):       Indicators of wetland hydrology present?         Saturation present?       Yes       No       X Depth (inches):       Y         (includes capillary fringe)       Depth (inches):       Y         Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:         Remarks:       Saturation and/or a water table were not able to be observed, as the water was frozen at the time of the site visit.	Algal Ma	at or Crust (B4)		_	Recent	Iron Redu	uction in T	illed Soils X	Geomorphic Position (D2)	
Inundation Visible on Aerial Imagery (B7)       Thin Muck Surface (C7)         Sparsely Vegetated Concave Surface (B8)       Gauge or Well Data (D9)         Water-Stained Leaves (B9)       Other (Explain in Remarks)         Field Observations:       Surface water present?       Yes         Surface water present?       Yes       No       Depth (inches):       1         Water table present?       Yes       No       X       Depth (inches):       1         Saturation present?       Yes       No       X       Depth (inches):       1       hydrology present?       Y         (includes capillary fringe)       Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Remarks:         Saturation and/or a water table were not able to be observed, as the water was frozen at the time of the site visit.	Iron Dep	oosits (B5)			(C6)			X	FAC-Neutral Test (D5)	
Sparsely Vegetated Concave Surface (B8)       Gauge or Well Data (D9)         Water-Stained Leaves (B9)       Other (Explain in Remarks)         Field Observations:       Surface water present?       Yes       X       No       Depth (inches):       1       Indicators of wetland hydrology present?       Y         Water table present?       Yes       No       X       Depth (inches):       1       Indicators of wetland hydrology present?       Y         Saturation present?       Yes       No       X       Depth (inches):       Y       Y         (includes capillary fringe)       No       X       Depth (inches):       Y       Y         Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Remarks:         Saturation and/or a water table were not able to be observed, as the water was frozen at the time of the site visit.	Inundati	on Visible on Aeria	I Imager	y (B7)	Thin Mu	ick Surfac	ce (C7)		_	
Water-Stained Leaves (B9)       Other (Explain in Remarks)         Field Observations:       Surface water present?       Yes       X       No       Depth (inches):       1       Indicators of wetland hydrology present?       Y         Water table present?       Yes       No       X       Depth (inches):       1       Indicators of wetland hydrology present?       Y         Saturation present?       Yes       No       X       Depth (inches):       1       hydrology present?       Y         (includes capillary fringe)       No       X       Depth (inches):       1       hydrology present?       Y         Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Remarks:         Saturation and/or a water table were not able to be observed, as the water was frozen at the time of the site visit.	Sparsely	Vegetated Conca	ive Surfa	ce (B8)	Gauge	or Well Da	ata (D9)			
Teld Observations:         Surface water present?       Yes       X       No       Depth (inches):       1       Indicators of wetland         Water table present?       Yes       No       X       Depth (inches):       1       Indicators of wetland         Saturation present?       Yes       No       X       Depth (inches):       1       Indicators of wetland         Gincludes capillary fringe)       No       X       Depth (inches):       1       Indicators of wetland         Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Y       Y         Remarks:       Saturation and/or a water table were not able to be observed, as the water was frozen at the time of the site visit.	Water-S	tained Leaves (B9	)	_	Other (E	Explain in	Remarks	)		
Surface water present?       Yes       X       No       Depth (inches):       1       Indicators of wetland         Water table present?       Yes       No       X       Depth (inches):       Indicators of wetland       hydrology present?       Y         Saturation present?       Yes       No       X       Depth (inches):       Indicators of wetland       hydrology present?       Y         (includes capillary fringe)       No       X       Depth (inches):       Indicators of wetland       hydrology present?       Y         Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Remarks:       Saturation and/or a water table were not able to be observed, as the water was frozen at the time of the site visit.	Field Obser	vations:								
Water table present?       Yes       No       X       Depth (inches):       Indicators of wetland hydrology present?       Y         Saturation present?       Yes       No       X       Depth (inches):       Indicators of wetland hydrology present?       Y         (includes capillary fringe)       Depth (inches):       Indicators of wetland hydrology present?       Y         Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Remarks:         Remarks:       Saturation and/or a water table were not able to be observed, as the water was frozen at the time of the site visit.	Surface wat	er present?	Yes	X No	)	Depth (i	inches):	1		
Saturation present?       Yes       No       X       Depth (inches):       hydrology present?       Y         (includes capillary fringe)       Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Previous inspections), if available:       Previous inspections), if available:         Remarks:       Saturation and/or a water table were not able to be observed, as the water was frozen at the time of the site visit.	Water table	present?	Yes	No	x X	Depth (	inches):		Indicators of wetland	
(includes capillary fringe) Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Saturation and/or a water table were not able to be observed, as the water was frozen at the time of the site visit.	Saturation p	resent?	Yes	No	X	Depth (	inches):		hydrology present?	Υ
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Saturation and/or a water table were not able to be observed, as the water was frozen at the time of the site visit.	(includes ca	pillary fringe)								
Remarks: Saturation and/or a water table were not able to be observed, as the water was frozen at the time of the site visit.	Describe red	corded data (strea	am gaug	e, monitoring v	vell, aerial p	ohotos, p	revious ii	nspections), if av	ailable:	
Saturation and/or a water table were not able to be observed, as the water was frozen at the time of the site visit.	Remarks:									
	Saturation	and/or a water	table v	vere not able	e to be ob	served,	as the	water was froz	en at the time of the site vis	it.

WETLAND DETERMINA	TION D	ATA FORM	I - Midwest F	Region			
Project/Site 85th Street Interchange	City/0	County:	Lincoln Count	ty Sam	pling Date:	11/13/18	
Applicant/Owner: 85th Street Business District Joint Venture Group	up	State:	South Dako	ota Sam	pling Point:	24-U	
Investigator(s): Rebecca Beduhn		Secti	on, Township, F	Range:	T100NS18	8R50W	
Landform (hillslope, terrace, etc.): backslope		Local	relief (concave,	, convex, nor	ie):	None	
Slope (%): 4 Lat: 43.48167052		Long:	-96.79932355	5 Datu	Im: UTM NA	D 83 Zone 14	4N
Soil Map Unit Name Chancellor-Tetonka complex, 0 to 2 percent slo	pes		NWI Cla	assification:	N	one	
Are climatic/hydrologic conditions of the site typical for this time of the	he year?	-	Y (If no	o, explain in r	emarks)		
Are vegetation, soil, or hydrologys	significant	ly disturbed?					
Are vegetation , soil , or hydrology	naturally p	oroblematic?	A	Are "normal c	ircumstances" p	resent? Yes	S
SUMMARY OF FINDINGS			(1	lf needed, ex	plain any answe	rs in remarks	s.)
Hydrophytic vegetation present? N							
Hydric soil present? N		Is the sa	ampled area w	ithin a wetla	and?	Ν	
Indicators of wetland hydrology present? N		lf yes, op	tional wetland s	site ID:			
Remarks: (Explain alternative procedures here or in a separate repo	ort)						
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						
VEGETATION Use scientific names of plants							
	Absolute	Dominan	Indicator D	ominance T	est Worksheet		
Tree Stratum (Plot size: 30' Radius )	% Cover	t Species	Status	Number of Do	ominant Species		
1			t	that are OBL,	FACW, or FAC:	0 (	(A)
2				Total Num	ber of Dominant		
3				Species A	cross all Strata:	1 (	(B)
4				Percent of Do	ominant Species		
<u> </u>		TILO	t	that are OBL,	FACW, or FAC:	0.00% (	(A/B)
Sonling/Shrub stratum (Plot size: 15' Padius )	0	= I otal Cover		)rovalanco Ir	adax Warkshoo	+	
1				otal % Cover		L	
2			o	BL species	0 x 1	= 0	
3			F	ACW specie	s 0 x 2	= 0	
4			F	AC species	0 x 3	= 0	
5			F.	ACU species	3 <u>0</u> x 4 :	= 0	
	0	= Total Cover	U U	JPL species	<u>0</u> x 5 :	= 0	(-)
Herb stratum (Plot size: 5' Radius )			C	column totals	<u> </u>	(	(B)
1 Zea mays Corn	100	<u>Y</u>	<u>NI</u> P	revalence In	dex = B/A =		
		···········		lydronbytic '	Vegetation Indi	cators:	
4		·	''	Rapid test	t for hydrophytic	vegetation	
5		·		Dominanc	e test is >50%	- <b>J</b>	
6	,	·		Prevalenc	e index is ≤3.0*		
7				Morpholog	gical adaptations	s* (provide	
8				supporting	g data in Remarl	ks or on a	
9				separate s	sheet)		
10	100	- Total Caver		Problemation	tic hydrophytic v	egetation*	
Woody vine stratum (Plot size: 30' Padius )	100	= I otal Cover		(explain)			
1				*Indicators of hypresent	ydric soil and wetlan	nd hydrology mus	ist be
2		······································		Hydrophy	/tic	Problematic	
	0	= Total Cover		vegetatio	n		
				present?	N		
Remarks: (Include photo numbers here or on a separate sheet)			<u> </u>				
		· .					
Note: This data sheet has been adapted to use the 2012 National Wetla Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: National	and Plant L <i>al Wetland F</i>	_ist: Plant List, versio	n 2.4.0 (https://wet	tland_plants.usa	ace.army.mil). U.S. /	Army Corps of	
Engineers, Engineer Research and Development Center, Cold Regions Research a	and Enginee	ring Laboratory,	Hanover, NH, and	BONAP, Chap	el Hill, NC. (2012)	, ,	

Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm the abse	ence of indicators.)
Depth	Matrix		Re	dox Feat	ures			
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks
0-12	10YR 2/1	100					Silty Clay Loam	
						1		
*Type: C = 0	Concentration, D	= Depleti	ion, RM = Reduce	ed Matrix	, MS = N	lasked S	and Grains. **Loca	ation: PL = Pore Lining, M = Matrix
Hydric So	il Indicators:						Indicators for Pro	blematic Hydric Soils:
His	tosol (A1)		Sar	ndy Gleye	ed Matrix	: (S4)	Iron-Mangane	se Masses (F12) ( <b>LRR K, L, M</b> )
His	tic Epipedon (A2)		Sar	ndy Redo	x (S5)		Very Shallow	Dark Surface (F22)
Bla	ck Histic (A3)		Stri	pped Ma	trix (S6)		Other (explain	in remarks)
Hyc	Irogen Sulfide (A4	1)	Dar	k Surfac	e (S7)			
	m Muck (A10)	)	Loa		cy Motri	al (F1) « (E2)		
	II MUCK (ATU)	Surface		iny Gley	ed Matrix	K (FZ)		
	rk Dark Surface (	Δ12)		lov Dark	Surface	(E6)	*Indiactors of b	draphytic vegetation and watland
Sar	dy Mucky Minera	(S1)	Der	pleted Dank	ounace ark Surfa	(F7)	hydrology mus	t be present unless disturbed or
5 ci	n Mucky Peat or	Peat (S3	() Rec	lox Depr	essions	(F8)	nyarology maa	problematic
		<u>, , , , , , , , , , , , , , , , , , , </u>	,	•		· · ·		•
	Layer (II Observe	eu).					Hydric soil pres	ent? N
Denth (inche	<i>se).</i>				-		riyune son pres	<u> </u>
Boptil (illoin					•			
HYDROL	DGY							
Wetland Hy	drology Indicato	ors:						
Primary Indi	<u>cators (minimum</u>	of one is	required; check	all that a	<u>pply)</u>		Secondary	Indicators (minimum of two required)
Surface	Water (A1)			Aquatic	Fauna (B	13)	Surfac	ce Soil Cracks (B6)
High Wa	iter Table (A2)			I rue Aq	uatic Plai	Odor(C)		age Patterns (B10)
Water M	larks (B1)			Oxidized	l Rhizosn	beres on	Living Roots Cravfi	sh Burrows (C8)
Sedimer	nt Deposits (B2)			(C3)			Satura	ation Visible on Aerial Imagery (C9)
Drift Dep	oosits (B3)			Presenc	e of Redu	uced Iron	(C4) Stunte	ed or Stressed Plants (D1)
Algal Ma	at or Crust (B4)			Recent I	ron Redu	ction in T	illed Soils Geom	orphic Position (D2)
Iron Dep	osits (B5)			(C6)			FAC-I	Neutral Test (D5)
Inundati	on Visible on Aeria	al Imager	y (B7)	Thin Mu	ck Surfac	xe (C7)		
Sparsely Wotor S	Vegetated Conca	ave Surra	се (В8)	Gauge C	or Well Da	ata (D9) Bomorko	)	
Field Obser	Laneu Leaves (DS	7				I CILIDINS	/	
Field Obsei	vations:	Ves	No	x	Denth (i	nches).		
Water table	present?	Yes	No		Depth (i	nches):		Indicators of wetland
Saturation p	resent?	Yes	No		Depth (i	nches):		hydrology present? N
, (includes ca	pillary fringe)				<u> </u>	,		
Describe red	corded data (strea	am gaug	e, monitoring well	, aerial p	hotos, p	revious ir	nspections), if available	
	Υ.	0 0	C C				. ,.	
Demorkey								
Remarks:	and/6 =	tabl.	una matalita (			a a 41		the time of the state of the
Saturation	and/or a water	table v	vere not able to		served,	as the	water was trozen at	the time of the site visit.

WETLAND DETERMINA	TION D	ATA FORM	- Midwest Reg	ion		
Project/Site 85th Street Interchange	City/0	County:	Lincoln County	Sampling Date	:: <u>11/13/1</u> 8	8
Applicant/Owner: 85th Street Business District Joint Venture Grou	up	State:	South Dakota	Sampling Point	.: 24-W	
Investigator(s): Rebecca Beduhn		Section	on, Township, Rang	ge: T100	DNS18R50W	
Landform (hillslope, terrace, etc.): toeslope		Local r	elief (concave, cor	ivex, none):	Concave	
Slope (%): 2 Lat: 43.48169364		Long:	-96.79935367	Datum: UT	M NAD 83 Zone	14N
Soil Map Unit Name Chancellor-Tetonka complex, 0 to 2 percent slo	pes		NWI Classi	fication:	None	
Are climatic/hydrologic conditions of the site typical for this time of the	ne year?	-	Y (If no, ex	plain in remarks)		
Are vegetation, soil, or hydrologys	significant	ly disturbed?				
Are vegetation, soil, or hydrology r	naturally p	oroblematic?	Are "	normal circumstand	ces" present?	ſes
SUMMARY OF FINDINGS			(If ne	eded, explain any a	inswers in remar	rks.)
Hydrophytic vegetation present? N						
Hydric soil present? Y		Is the sa	ampled area within	n a wetland?	Y	
Indicators of wetland hydrology present? Y		lf yes, op	tional wetland site	ID: Wetland	24	
Remarks: (Explain alternative procedures here or in a separate repo	ort.)					
	,					
VEGETATION Use scientific names of plants.						
	Absolute	Dominan	Indicator Domi	inance Test Works	sheet	
Tree Stratum (Plot size: 30' Radius )	% Cover	t Species	Status Num	ber of Dominant Sp	ecies	
1			that	are OBL, FACW, or	FAC: 0	(A)
			T	otal Number of Dom	linant	
			`	Species Across all S	trata: 1	_(B)
4 <u></u> 5		<u> </u>	Perc	cent of Dominant Sp	EAC: 0.00%	(Δ/R)
	0	= Total Cover			1.40. 0.0070	_(~)
– Sapling/Shrub stratum (Plot size: 15' Radius )			Preva	alence Index Work	sheet	
1 '			Total	% Cover of:		
2			OBL	species 0	x 1 =0	
3			FACV	V species 0	x 2 = 0	
4			FAC	species 0	x 3 = 0	_
5		Tatal Carrier	FACU	J species 0	x 4 = 0	_
Herb stratum (Plot size: 5' Padius )	0	= I otal Cover	UPL S	species <u> </u>	$\frac{x5}{(1)} = \frac{0}{0}$	(B)
	100	V	NI Brove	$\frac{1}{10000000000000000000000000000000000$	_(A)	_(D)
2 Com	100			alence muex – D/A		-
3			Hydr	ophytic Vegetatio	n Indicators:	
4				apid test for hydror	phytic vegetation	ı
5			[	ominance test is >	50%	
6			P	revalence index is	≤3.0*	
7			N	lorphological adapt	ations* (provide	
			s	upporting data in R	emarks or on a	
<u>9</u>			s	eparate sneet)		
	100	= Total Cover	P	roblematic hydropr	lytic vegetation*	
Woody vine stratum (Plot size: 30' Radius )	100		(			
1			*Indio	cators of hydric soil and present, unless distu	wetland hydrology r urbed or problematic	nust be
2			—— н	lydrophytic	ince of providing and	
	0	= Total Cover	v	egetation		
			p	resent?	<u>N</u>	
Remarks: (Include photo numbers here or on a separate sheet)						
The corn in the we	etland wa	as stunted a	nd stressed.			
Note: This data sheet has been adopted to use the 2012 National Water	and Plant !	iet:				
Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: National	anu Piant L al Wetland F	_เจเ. Plant List, versior	n 2.4.0 (https://wetland_	plants.usace.army.mil)	. U.S. Army Corps o	f
Engineers, Engineer Research and Development Center, Cold Regions Research a	and Enginee	ring Laboratory,	Hanover, NH, and BOI	NAP, Chapel Hill, NC. (2	2012)	

Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm the	absence of ind	icators.)
Depth	Matrix		Red	dox Feat	ures				
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture		Remarks
0-4	10YR 2/1	100					Silty Clay Loam	ı	
4-14	10YR 2/1	95	7.5YR 4/6	5	С	М	Silty Clay Loam	ı	
*Type: C = 0	Concentration, D :	= Deplet	ion, RM = Reduce	ed Matrix	, MS = N	/lasked S	and Grains. *	*Location: PL = F	Pore Lining, M = Matrix
Hydric So	oil Indicators:						Indicators for	or Problematic F	lydric Soils:
His	tosol (A1)		Sar	ndy Gleye	ed Matrix	(S4)	Iron-Mar	iganese Masses	(F12) ( <b>LRR K, L, M</b> )
His	tic Epipedon (A2)		Sar	ndy Redo	ox (S5)		Very Sha	allow Dark Surfac	e (F22)
Bla	ck Histic (A3)		Stri	pped Ma	ıtrix (S6)		Other (ex	xplain in remarks	)
Hyo	drogen Sulfide (A4	4)	Dar	k Surfac	e (S7)				
Stra	atified Layers (A5	)	Loa	my Mucl	ky Minera	al (F1)			
2 ci	m Muck (A10)	. C	Loa	my Gley	ed Matrix	x (F2)			
Dep 	Dieted Below Dark			leted IVIa	Surface	(E6)	*I. I'. (	<b>6 1 1 1 1 1 1</b>	1. P
	dy Mucky Minera	A12) al (S1)			Sunace	(F0) ce (E7)	*Indicators	s of nydropnytic v	egetation and wetland
5 ci	m Mucky Peat or	Peat (S3		lox Denr		(F8)	Tydrology	problem	atic
			<u> </u>		03310113	(10)		problem	
Restrictive	Layer (if observe	ed):					l hadala a a li	\	/
Type: Donth (inch)					-		Hydric soli	present?	,
Deptri (inche	=\$).				-				
HYDROLO	DGY								
Wetland Hy	drology Indicato	ors:							
Primary Indi	cators (minimum	of one is	required; check	all that a	pply)		<u>Secon</u>	dary Indicators (r	<u>minimum of two required)</u>
Surface	Water (A1)			Aquatic	Fauna (B	13)		Surface Soil Crac	ks (B6)
High Wa	ater Table (A2)			True Aq	uatic Plar	nts (B14)		Drainage Patterns	(B10)
Saturation Water M	DN (A3) Iarks (B1)			Hydroge	n Sulfide	boros on	) Living Poots	Dry-Season Wate	(C8)
Sedimer	nt Deposits (B2)			(C3)	i Rhizosp	neres on		Saturation Visible	on Aerial Imagery (C9)
Drift Dep	posits (B3)			Presenc	e of Red	uced Iron	(C4)	Stunted or Stress	ed Plants (D1)
Algal Ma	at or Crust (B4)			Recent I	Iron Redu	uction in T	illed Soils X	Geomorphic Posit	ion (D2)
Iron Dep	oosits (B5)			(C6)				FAC-Neutral Test	(D5)
Inundati	on Visible on Aeria	al Imager	y (B7)	Thin Mu	ck Surfac	ce (C7)			
Sparsely	Vegetated Conca	ave Surfa	ce (B8)	Gauge	or Well Da	ata (D9)	х х		
Water-S	tained Leaves (B9	)		Other (E	xplain in	Remarks	)		
Field Obser	rvations:		× ···						
Surrace wat	er present?	res Voc			Depth (I	inches):	1	Indicatore	ofwetland
Saturation n	present?	Tes		<u> </u>	Depth (i	inches):		hvdrology	present? V
(includes ca	pillary fringe)	163				inches).		nyarology	
Describe red	corded data (strea	am daula	e monitoring well	aerial n	hotos n	rovious ir	spections) if ava	ilable:	
Describered		in gaug	e, monitoring wei	, achai p	notos, p		13900110113), 11 444	liable.	
Remarks:									
Saturation	and/or a water	r table v	vere not able to	be ob	served,	as the	water was froze	en at the time c	f the site visit.

WETLAND DETERMINA	TION D	ATA FORM	I - Midwest Regi	on	
Project/Site 85th Street Interchange	City/	County:	Lincoln County	Sampling Date:	11/13/18
Applicant/Owner: 85th Street Business District Joint Venture Gro	up	State:	South Dakota	Sampling Point:	25-U
Investigator(s): Rebecca Beduhn		Secti	on, Township, Rang	e: T100NS	313R51W
Landform (hillslope, terrace, etc.): backslope		Local	relief (concave, conv	/ex, none):	None
Slope (%): 4 Lat: 43.48420737		Long:	-96.80725087	Datum: UTM N	IAD 83 Zone 14N
Soil Map Unit Name Baltic silty clay loam, ponded			NWI Classifi	cation:	None
Are climatic/hydrologic conditions of the site typical for this time of the	he year?		Y (If no, exp	lain in remarks)	
Are vegetation, soil, or hydrology	significant	ly disturbed?			
Are vegetation , soil , or hydrology	naturally p	oroblematic?	Are "n	ormal circumstances'	present? Yes
SUMMARY OF FINDINGS			(If nee	ded, explain any answ	vers in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? N		Is the sa	ampled area within	a wetland?	N
Indicators of wetland hydrology present? N		lf yes, op	tional wetland site I	D:	
Remarks: (Explain alternative procedures here or in a separate repo	ort.)				
	,				
VEGETATION Use scientific names of plants.					
	Absolute	Dominan	Indicator Domin	ance Test Workshe	et
<u>Tree Stratum</u> (Plot size: <u>30'</u> Radius )	% Cover	t Species	Status Numb	per of Dominant Specie	2S
1			that a	re OBL, FACW, or FAC	C: 0 (A)
2			To	tal Number of Domina	nt
		· ·	S	pecies Across all Strat	a: <u> </u>
4 5			Perce	ent of Dominant Specie	·S - 0.00% (Δ/B)
	0	= Total Cover			. <u>0.0070</u> (A/D)
- Sapling/Shrub stratum (Plot size: 15' Radius )	<u> </u>		Preva	ence Index Worksho	eet
1 ,			Total %	% Cover of:	
2			OBL s	pecies <u>0</u> x	1 = 0
3			FACW	species 10 x	2 = 20
4			FAC s	pecies <u>0</u> x	3 = 0
5		- Total Caver	FACU	species 0 x	4 = 0
Herb stratum (Plot size: 5' Radius )	0	= Total Cover	OPL S	$\frac{10}{x}$	5 = 0
	00	V	NI Proval	ence index = $B/A =$	200
2 Phalaris arundinacea Reed Canary Grass	10	·	FACW		2.00
3			Hydro	phytic Vegetation In	dicators:
4		·	Ra	apid test for hydrophy	tic vegetation
5			Do	ominance test is >50%	ó
6			X Pr	evalence index is ≤3.0	)*
		······· ·	Mo	orphological adaptatic	ns* (provide
8			su	pporting data in Rema	arks or on a
10			Se	parate sneet) oblematic hydrophytic	vegetation*
	100	= Total Cover	(e:	xplain)	, vegetation
Woody vine stratum (Plot size: 30' Radius )			`	tors of hydric soil and wet	land hydrology must be
1			Indice	present, unless disturbed	and hydrology must be
2			Ну	drophytic	
	0	<ul> <li>Total Cover</li> </ul>	ve	getation	
			pr		
Remarks: (Include photo numbers here or on a separate sheet)					
Note: This data sheet has been adapted to use the 2012 National Wetla	and Plant L	_ist:			
Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: Nationa Engineers, Engineer Research and Development Center. Cold Regions Research a	al Wetland F and Enainee	Plant List, version ring Laboratory.	n 2.4.0 (https://wetland_p Hanover, NH. and BON	olants.usace.army.mil). U.S AP, Chapel Hill. NC. (2012	3. Army Corps of ?)

Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm th	ne absence	e of indicators.)
Depth	Matrix		Re	dox Feat	ures				,
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	e	Remarks
0-14	10YR 3/1	100	· · · · ·				Silty Clay Loa	m	
0-14	1011( 3/1	100							
*Type: C = (	Concentration D :	= Denleti	ion RM = Reduce	d Matrix	MS = M	lasked S	and Grains	**Location	PI = Pore Lining M = Matrix
Hydric Sc	il Indicators:	Depict			., 100 – 10				matic Hydric Soils:
			Sor	dy Clove	od Matrix	(94)			
	.USUI (AT) ia Eninadan (AQ)					(34)		anyanese i hallaw Dari	(LRRR, L, W)
	ic Epipedon (AZ)				ix (35)			nallow Dari	k Sullace (F22)
Bla	CK Histic (A3)		Stri	pped Ma	trix (S6)		Other (	explain in r	emarks)
Hyc	lrogen Sulfide (A4	1)	Dar	k Surfac	e (S7)				
Stra	atified Layers (A5)	)	Loa	my Mucł	ky Minera	al (F1)			
2 cr	n Muck (A10)		Loa	my Gley	ed Matrix	x (F2)			
Dep	leted Below Dark	Surface	e (A11) Dep	pleted Ma	atrix (F3)				
Thie	ck Dark Surface (	A12)	Red	lox Dark	Surface	(F6)	*Indicato	ors of hydro	phytic vegetation and wetland
Sar	dy Mucky Minera	l (S1)	Dep	pleted Da	ark Surfa	ce (F7)	hydrolo	gy must be	present, unless disturbed or
5 cr	n Mucky Peat or	Peat (S3	3) Red	lox Depr	essions (	(F8)		1	problematic
Postrictivo	l avor (if obsorv	od):				1			
Type	Layer (II Observe	eu).					Hydric of	ul procont	<b>2</b> N
Type.					-		nyune se	n present	<u>د ام</u>
Depth (Inche					-				
Remarks:									
	JGY								
Wotland Hy	drology Indicate	vre ·							
		// <b>5.</b> 		- 11 41 4 -			0		
Primary Indi	<u>cators (minimum</u>	of one is	s required; check	<u>ali that a</u>	ppiy)		Seco	ondary Indi	cators (minimum of two required)
Surface	Water (A1)			Aquatic	Fauna (B	(13)		_Surface S	oil Cracks (B6)
High Wa	iter Table (A2)			True Aq	uatic Plar	nts (B14)		Drainage	Patterns (B10)
Saturatio	on (A3)			Hydroge	n Sulfide	Odor (C	1)	Dry-Seas	on Water Table (C2)
Water N	arks (B1)			Oxidized	l Rhizosp	heres on	Living Roots	Crayfish E	Burrows (C8)
Sedimer	t Deposits (B2)			(C3)				Saturation	Visible on Aerial Imagery (C9)
Drift Dep	osits (B3)			Presenc	e of Redu	uced Iron	(C4)	_Stunted o	r Stressed Plants (D1)
Algal Ma	it or Crust (B4)			Recent I	ron Redu	uction in T	illed Soils	Geomorp	hic Position (D2)
Iron Dep	osits (B5)		(2-)	(C6)		()		FAC-Neu	tral Test (D5)
Inundati	on Visible on Aeria	I Imager	y (B7)	Thin Mu	ck Surfac	ce (C7)			
Sparsely	Vegetated Conca	ive Surfa	ce (B8)	Gauge o	or Well Da	ata (D9)			
Water-S	tained Leaves (B9	)		Other (E	xplain in	Remarks	)		
Field Obser	vations:								
Surface wat	er present?	Yes	No	Х	Depth (i	inches):			
Water table	present?	Yes	No	X	Depth (i	inches):		Indi	cators of wetland
Saturation p	resent?	Yes	No	X	Depth (i	inches):		hy	drology present? N
(includes ca	pillary fringe)								
Describe red	orded data (strea	am gaug	e, monitoring well	, aerial p	hotos, pi	revious ii	nspections), if av	/ailable:	
	,		C C		•••				
Remarks:									
Saturation	and/or a water	table v	vere not able to	be obs	served	as the	water was froz	zen at the	time of the site visit.
					,				

WETLAND DETERMIN	ATION D	ATA FORM	l - Midwest Regi	on	
Project/Site 85th Street Interchange	City/0	County:	Lincoln County	Sampling Date:	11/13/18
Applicant/Owner: 85th Street Business District Joint Venture Gro	oup	State:	South Dakota	Sampling Point:	25-W
Investigator(s): Rebecca Beduhn		Section	on, Township, Range	: T100NS1	13R51W
Landform (hillslope, terrace, etc.): toeslope		Local	relief (concave, conv	ex, none):	Concave
Slope (%): 1 Lat: 43.48415732		Long:	-96.80718817	Datum: UTM N/	AD 83 Zone 14N
Soil Map Unit Name Baltic silty clay loam, ponded			NWI Classific	ation:	None
Are climatic/hydrologic conditions of the site typical for this time of t	he year?		Y (If no, exp	lain in remarks)	
Are vegetation , soil , or hydrology	significant	ly disturbed?			
Are vegetation , soil , or hydrology	naturally p	oroblematic?	Are "ne	ormal circumstances"	present? Yes
SUMMARY OF FINDINGS			(If nee	ded, explain any answ	ers in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? Y		Is the sa	ampled area within	a wetland?	Y
Indicators of wetland hydrology present? Y		lf yes, op	tional wetland site I	): Wetland 25	
Remarks: (Explain alternative procedures here or in a separate rep	ort)				
	010.)				
VEGETATION Lise scientific names of plants					
	Abcoluto	Dominan	Indicator Domin	ance Test Workshee	t
Tree Stratum (Plot size: 30' Radius )	% Cover	t Species	Status Numb	er of Dominant Species	
1			that a	e OBL, FACW, or FAC	, : 1 (A)
2			То	tal Number of Dominan	tt
3			S	ecies Across all Strata	: <u> </u>
4			Perce	nt of Dominant Species	\$
5			that a	e OBL, FACW, or FAC	: <u>100.00%</u> (A/B)
Conling/Chruth stratum (Distaire) 151 Dedius	0	= I otal Cover	Drevel		
Sapling/Shrub straturr (Plot size: 15 Radius )			Total 9	ence index worksne	et
2		<u> </u>	OBL si	pecies 10 x 1	= 10
3			FACW	species 90 x 2	r = 180
4			FAC s	becies 0 x 3	i = 0
5			FACU	species 0 x 4	. = 0
	0	= Total Cover	UPL sp	becies 0 x 5	. = 0
Herb stratum (Plot size: 5' Radius )			Colum	n totals <u>100</u> (A)	190 (B)
1 Phalaris arundinacea Reed Canary Grass	80	Y	FACW Preval	ence Index = B/A =	1.90
2 Spartina pectinata Freshwater Cord Grass	10	<u> </u>	FACW		
3 Typha angustifolia Narrow-Leaf Cat-Tail	10	<u> </u>		onytic Vegetation Inc	licators:
4 5				minance test is >50%	b vegetation
				evalence index is ≤3.0	*
7				prohological adaptation	us* (provide
8			su	porting data in Rema	rks or on a
9			se	oarate sheet)	
10			Pro	oblematic hydrophytic	vegetation*
	100	= Total Cover	(e)	plain)	
Woody vine stratum (Plot size: <u>30' Radius</u> )			*Indica	tors of hydric soil and wetla	and hydrology must be
			н	present, unless disturbed	or problematic
۲ <u>ــــــــــــــــــــــــــــــــــــ</u>	0	= Total Cover	ve	getation	
	0		pre	esent? Y	
Remarks: (Include photo numbers here or on a separate sheet)			I		
Note: This data sheet has been adapted to use the 2012 National Wet	and Plant L	_ist:	n 2 1 0 (https://watand	lante usaco ormu mil\ 110	Army Corps of
Engineers, Engineer Research and Development Center, Cold Regions Research	and Enginee	ring Laboratory,	Hanover, NH, and BONA	AP, Chapel Hill, NC. (2012)	Anny Corps Or

Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm th	e absence	of indicators.)
Depth	Matrix		Ree	dox Feat	ures				·
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture		Remarks
0-2	10YR 3/1	100	. ,		-		Silty Clav Loar	m	
2_16	10VR 3/1	90	10VR //6	5	C	N/	Silty Clay Loa	m	
2-10	10111.0/1	30							
			10YR 5/1	5	С	M			
*Type: C = (	Concentration, D :	= Depleti	ion, RM = Reduce	ed Matrix	k, MS = N	Aasked S	and Grains.	**Location:	PL = Pore Lining, M = Matrix
Hydric So	oil Indicators:						Indicators f	for Problem	natic Hydric Soils:
His	tosol (A1)		Sar	ndy Gleye	ed Matrix	k (S4)	Iron-Ma	nganese M	asses (F12) ( <b>LRR K, L, M</b> )
His	tic Epipedon (A2)		Sar	ndy Redo	ox (S5)		Very Sh	allow Dark	Surface (F22)
Bla	ck Histic (A3)		Stri	pped Ma	trix (S6)		Other (e	explain in re	marks)
Hyo	drogen Sulfide (A4	1)	Dar	k Surfac	e (S7)				
Stra	atified Layers (A5)	)	Loa	my Mucl	ky Miner	al (F1)			
2 c	m Muck (A10)		Loa	imy Gley	ed Matriz	x (F2)			
Dep	oleted Below Dark	Surface	e (A11) Dep	pleted Ma	atrix (F3)	)			
Thi	ck Dark Surface (	A12)	X Red	dox Dark	Surface	(F6)	*Indicator	rs of hydrop	hytic vegetation and wetland
Sar	ndy Mucky Minera	l (S1)	X Dep	pleted Da	ark Surfa	ce (F7)	hydrolog	gy must be p	present, unless disturbed or
5 c	m Mucky Peat or	Peat (S3	6) Red	dox Depr	ressions	(F8)		pr	oblematic
Restrictive	Laver (if observe	ed):				1			
Type:							Hvdric so	il present?	Y
Depth (inch	əe).				-		i i julio oo		<u> </u>
					-				
HYDROL	OGY								
Wetland Hy	drology Indicato	ors:							
Primary Indi	<u>cators (minimum</u>	of one is	required; check	all that a	pply)		Seco	ndary Indica	ators (minimum of two required)
Surface	Water (A1)			Aquatic	Fauna (B	313)		Surface So	il Cracks (B6)
High Wa	ater Table (A2)			True Aq	uatic Pla	nts (B14)		Drainage P	atterns (B10)
Saturati	on (A3)			Hydroge	en Sulfide	e Odor (C	1)	Dry-Seasor	n Water Table (C2)
Water M	larks (B1)			Oxidized	d Rhizosp	pheres on	Living Roots	Crayfish Bu	irrows (C8)
Sedime	nt Deposits (B2)			(C3)				Saturation	Visible on Aerial Imagery (C9)
Drift De	posits (B3)			Presenc	e of Red	uced Iron	(C4)	Stunted or	Stressed Plants (D1)
Algal Ma	at or Crust (B4)			Recent I	Iron Redu	uction in T	illed Soils X	Geomorphi	c Position (D2)
Iron Dep	oosits (B5)		· (DZ)	(C6)		(07)	X	FAC-Neutra	al Test (D5)
		ii imager	у (В7)		ck Surfac	ce (C7)			
Sparsel	y vegetated Conca	ve Suria	се (ва)	Gauge C	or vveli Da Tvolajo in	ata (D9) Demorko	<b>`</b>		
vvater-S	nameu Leaves (B9	)		Other (E	xpiain in	Remarks	1	I	
Field Obse	rvations:	V-	<b>N</b> 1 .	v	Denth (	in alt = 1			
Surface wat	er present?	Yes		<u>×</u>	Depth (	incnes):		India	ators of watland
Vvater table	present?	Yes		X	Depth (	inches):		indic	ators of wetland $\nabla$
Saturation p	nesent?	res				inches):		nyu	ology present?
					1				
Describe re	corded data (strea	am gaug	e, monitoring well	l, aerial p	photos, p	revious li	nspections), if ava	allable:	
Remarks:									
Saturation	and/or a water	tahla v	vere not able t		served	as the	water was froz	en at the t	ime of the site visit
Jaiuralion	anu/or a waler				seiveu,	ลร แเช		ธาลเมษเ	

WETLAND DETERMINA	TION D	ATA FORM	I - Midwest Reg	ion	
Project/Site 85th Street Interchange	City/0	County:	Lincoln County	Sampling Date:	11/13/18
Applicant/Owner: 85th Street Business District Joint Venture Grou	qu	State:	South Dakota	Sampling Point:	26-U
Investigator(s): Rebecca Beduhn		Secti	on, Township, Rang	je: T100N	IS13R51W
Landform (hillslope, terrace, etc.): backslope		Local	relief (concave, con	vex, none):	None
Slope (%): 4 Lat: 43.4806836		Long:	-96.80646345	Datum: UTM	NAD 83 Zone 14N
Soil Map Unit Name Chancellor-Tetonka complex, 0 to 2 percent slo	pes		NWI Classif	ication:	None
Are climatic/hydrologic conditions of the site typical for this time of the	ne year?		Y (If no, ex	plain in remarks)	
Are vegetation , soil , or hydrology s	significant	ly disturbed?			
Are vegetation , soil , or hydrology r	naturally p	roblematic?	Are "r	normal circumstance	s" present? Yes
SUMMARY OF FINDINGS			(If nee	eded, explain any ans	wers in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? N		Is the sa	ampled area withir	a wetland?	Ν
Indicators of wetland hydrology present? N		lf yes, op	tional wetland site I	D:	
Pemarke: (Explain alternative procedures here or in a separate repo	ort )				
Internative procedures here of in a separate repo	n.)				
<b>VEGETATION</b> Use scientific names of plants.	AL	D.	In the Comi	nanco Tost Worksh	oot
Tree Stratum (Plot size: 30' Radius )	Absolute % Cover	Dominan t Species	Status		iee
1		1 000000	that a	are OBL. FACW, or F/	AC: 1 (A)
2				otal Number of Domin	ant
3			S	species Across all Stra	ata: 1 (B)
4			Perc	ent of Dominant Spec	ies
5			that a	are OBL, FACW, or FA	AC: 100.00% (A/B)
	0	= Total Cover			
Sapling/Shrub stratum (Plot size: 15' Radius )			Preva	Ilence Index Works	neet
2		·			x 1 = 0
3			FACV	V species 0	$x^2 = 0$
4			FAC s	species 100	$x_3 = 300$
5			FACU	J species 0	x 4 = 0
	0	= Total Cover	UPL s	species 0	к 5 = 0
Herb stratum (Plot size: 5' Radius )			Colun	nn totals 100 (	(A) <u>300</u> (B)
1 Poa pratensis Kentucky Blue Grass	100	Y	FAC Preva	lence Index = B/A =	3.00
2					
			Hydro	ophytic Vegetation I	ndicators:
4 <u></u>				apid test for hydroph	
6				revalence index is </td <td>/0 3 O*</td>	/0 3 O*
7				lorphological adaptat	ions* (provide
8				upporting data in Rer	narks or on a
9		·	Se	eparate sheet)	
10			P	roblematic hydrophyt	ic vegetation*
	100	= Total Cover	(e	xplain)	
Woody vine stratum (Plot size: 30' Radius )			*Indic	ators of hydric soil and w	etland hydrology must be
				present, unless disturbe	ed or problematic
2			H	yaropnytic egetation	
	0	= I otal Cover	p	resent? Y	
Remarks: (Include photo numbers here or on a separate sheet)			·		
Note: This data sheet has been adapted to use the 2012 National Wetla	and Plant L	ist:			
Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: National Engineers, Engineer Research and Development Center, Cold Regions Research a	aı Wetland P and Enginee	riant List, version ring Laboratory,	n 2.4.0 (https://wetland_ Hanover, NH, and BON	plants.usace.army.mil). U IAP, Chapel Hill, NC. (20 <sup>.</sup>	.S. Army Corps of 12)

Profile Des	cription: (Descri	ibe to th	e depth needed	to docu	ment the	indicat	or or confirm the	absence o	f indicators.)
Depth	Matrix		Red	lox Featu	ures				·
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture		Remarks
0-16	10YR 3/1	100					Silty Clay Loan	n	
0.0									
*Type: C = (	Concentration D :	= Depleti	on RM = Reduce	d Matrix	MS = M	lasked S	and Grains *	**Location · F	PL = Pore Lining M = Matrix
Hydric Sc	il Indicators:	Depicti			, 1010 - 10		Indicators fr	or Problem:	tic Hydric Soils:
	tocol (A1)		Son	dy Clove	od Matrix	(\$4)	Indicators in		
	lusui (AT) Ha Eninadan (AQ)		San			(34)		Iganese Ma	SSES $(F12)$ (LRR R, L, W)
	lic Epipedon (AZ)			ay Read	x (55)				
Bla	ck Histic (A3)		Stri	oped Ma	trix (S6)		Other (e	xplain in ren	harks)
Hyd	Irogen Sulfide (A4	1)	Dar	k Surface	e (S7)				
Stra	atified Layers (A5)	)	Loa	my Mucł	vy Minera	al (F1)			
2 ci	m Muck (A10)		Loa	my Gley	ed Matrix	(F2)			
Dep	oleted Below Dark	Surface	e (A11) Dep	leted Ma	atrix (F3)				
Thie	ck Dark Surface (	A12)	Rec	lox Dark	Surface	(F6)	*Indicators	s of hydroph	ytic vegetation and wetland
Sar	ndy Mucky Minera	l (S1)	Dep	leted Da	irk Surfa	ce (F7)	hydrolog	y must be pr	esent, unless disturbed or
5 ci	m Mucky Peat or	Peat (S3	) Rec	lox Depre	essions (	(F8)		pro	blematic
	Lover (if choore	- 	·	-					
Tuner	Layer (II Observe	eu).					Liveria aci	l menonet?	N
Type:	<u>,</u>				-		Hydric sol	i present?	<u> </u>
Depth (inche	es):								
Remarks:									
HIDROLO	JGY								
Wetland Hy	drology Indicato	ors:							
Primary Indi	<u>cators (minimum</u>	of one is	required; check a	all that a	pply)		Secon	ndary Indicat	ors (minimum of two required)
Surface	Water (A1)			Aquatic	Fauna (B	13)		Surface Soil	Cracks (B6)
High Wa	ater Table (A2)			True Aqu	uatic Plar	nts (B14)		Drainage Pa	tterns (B10)
Saturatio	on (A3)			Hydroge	n Sulfide	Odor (C <sup>2</sup>	l)	Dry-Season	Water Table (C2)
Water N	larks (B1)			Oxidized	l Rhizosp	heres on	Living Roots	Crayfish Bur	rows (C8)
Sedimer	nt Deposits (B2)			(C3)				Saturation V	isible on Aerial Imagery (C9)
Drift Dep	oosits (B3)			Presenc	e of Redu	uced Iron	(C4)	Stunted or S	tressed Plants (D1)
Algal Ma	at or Crust (B4)			Recent I	ron Redu	ction in T	illed Soils	Geomorphic	Position (D2)
Iron Dep	osits (B5)			(C6)				FAC-Neutral	Test (D5)
Inundati	on Visible on Aeria	I Imager	y (B7)	Thin Mu	ck Surfac	e (C7)			
Sparsely	Vegetated Conca	ve Surfa	ce (B8)	Gauge o	r Well Da	ata (D9)			
Water-S	tained Leaves (B9	)		Other (E	xplain in	Remarks	)		
Field Obse	vations:								
Surface wat	er present?	Yes	No	Х	Depth (i	nches):			
Water table	present?	Yes	No	X	Depth (i	nches):		Indica	tors of wetland
Saturation p	resent?	Yes	No	X	Depth (i	nches):		hydro	ology present? N
(includes ca	pillary fringe)			-	(	//			
Describe reg	orded data (stree	m dould	a monitoring well	aerial n	botos n		spections) if ava	ilable:	
Describered		in gauge	e, monitoring wen	, acriai p	110103, pi		1396610113), 11 ava		
_									
Remarks:									
Saturation	and/or a water	table v	vere not able to	be obs	served,	as the	water was froze	en at the tir	me of the site visit.

WETLAND DETERMINA	TION D	ATA FORM	- Midwest Regio	n	
Project/Site 85th Street Interchange	City/0	County:	Lincoln County	Sampling Date:	11/13/18
Applicant/Owner: 85th Street Business District Joint Venture Grou	qu	State:	South Dakota	Sampling Point:	26-W
Investigator(s): Rebecca Beduhn		Section	on, Township, Range	: T100NS <sup>2</sup>	13R51W
Landform (hillslope, terrace, etc.): toeslope		Local r	elief (concave, conve	ex, none):	Concave
Slope (%): 0 Lat: 43.48065988		Long:	-96.80647575	Datum: UTM N/	AD 83 Zone 14N
Soil Map Unit Name Chancellor-Tetonka complex, 0 to 2 percent slop	pes		NWI Classifica	ation:	None
Are climatic/hydrologic conditions of the site typical for this time of the	ne year?	_	Y (If no, expl	ain in remarks)	
Are vegetation, soil, or hydrologys	significant	ly disturbed?			
Are vegetation , soil , or hydrology r	naturally p	oroblematic?	Are "no	rmal circumstances"	present? Yes
SUMMARY OF FINDINGS			(If need	ed, explain any answ	ers in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? Y		Is the sa	ampled area within a	a wetland?	Y
Indicators of wetland hydrology present? Y		lf yes, op	tional wetland site ID	: Wetland 26	
Remarks: (Explain alternative procedures here or in a separate repo	ort.)				
	,				
VEGETATION Lise scientific names of plants					
	Absolute	Dominan	Indicator Domina	ance Test Workshee	t
Tree Stratum (Plot size: 30' Radius )	% Cover	t Species	Status Numbe	er of Dominant Species	-
1 '			that are	BOBL, FACW, or FAC	: 1 (A)
2			Tota	al Number of Dominan	t
3			Sp	ecies Across all Strata	: <u>1</u> (B)
4			Percer	t of Dominant Species	; ;
5	0	- Total Caver	that are	BUBL, FACW, or FAC	: <u>100.00%</u> (A/B)
Sanling/Shrub stratum (Plot size: 15' Radius )	0	= Total Cover	Provala	ance Index Workshe	ot
1			Total %	Cover of:	51
2			OBL sp	ecies 0 x 1	= 0
3			FACW	species 100 x 2	= 200
4			FAC sp	ecies 0 x 3	. = 0
5			FACU s	pecies <u>0</u> x4	= 0
Llerh stratum (Dist size) El Dadius )	0	= Total Cover	UPL sp	ecies $0 \times 5$	= 0
Herb stratum (Plot size: 5 Radius )	400	X		100 (A)	<u>200</u> (В)
1 Phalaris arundinacea Reed Canary Grass	100	<u> </u>	FACW Prevale	nce index = B/A =	2.00
3		<u> </u>	Hydron	hytic Vegetation Inc	licators:
4			Rap	bid test for hydrophyti	c vegetation
5			X Dor	ninance test is >50%	0
6			X Pre	valence index is ≤3.0	*
7			Mor	rphological adaptation	ıs* (provide
			sup	porting data in Rema	rks or on a
9 <u></u>			sep	arate sneet)	
	100	= Total Cover	Pro	plematic hydrophytic	vegetation
Woody vine stratum (Plot size: 30' Radius )	100				
1			^Indicate	present, unless disturbed	or problematic
2			Нус	Irophytic	
	0	= Total Cover	veg	etation	
			pre	sent? Y	-
Remarks: (Include photo numbers here or on a separate sheet)					
Note: This data sheet has been adapted to use the 2012 National Wotld	and Plant I	iet <sup>.</sup>			
Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: National	al Wetland F	Plant List, version	n 2.4.0 (https://wetland_pla	ants.usace.army.mil). U.S.	Army Corps of
Engineers, Engineer Research and Development Center, Cold Regions Research a	and Enginee	ring Laboratory,	Hanover, NH, and BONA	P, Chapel Hill, NC. (2012)	

Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm the	e absence of	indicators.)
Depth	Matrix		Rec	dox Feat	ures				· · · · ·
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture		Remarks
0-12	10YR 3/1	95	10YR 4/6	5	С	М	Silty Clay Loar	n	
*Type: C = (	Concentration D :	= Depleti	on RM = Reduce	ed Matrix	MS = M	lasked S	and Grains	**Location <sup>.</sup> PL	= Pore Lining M = Matrix
Hydric Sc	oil Indicators:	Dopiot	,		,		Indicators f	or Problemat	ic Hydric Soils:
His	tosol (A1)		Sar	dy Gleye	ed Matrix	(S4)	Iron-Ma	nganese Mass	ses (F12) ( <b>LRR K, L, M</b> )
His	tic Epipedon (A2)		Sar	idy Redo	x (S5)		Very Sh	allow Dark Su	rface (F22)
Bla	ck Histic (A3)		Stri	pped Ma	trix (S6)		Other (e	xplain in rema	arks)
Hyo	Irogen Sulfide (A4	4)	Dar	k Surfac	e (S7)				
Stra	atified Layers (A5)	)	Loa	my Mucł	ky Minera	al (F1)			
2 CI	n Muck (A10)	Surface	Loa	my Gley	ed Matrix	K (F2)			
Dep	rk Dark Surface (	Δ12)		lov Dark	Surface	(E6)	*Indiaator	o of hydrophy	tic vocatation and watland
Sar	ndv Mucky Minera	(S1)	Der	oleted Da	ounace ark Surfa	(F7)	hydrolog	s of fiyurophy v must be pre	sent unless disturbed or
5 ci	m Mucky Peat or	Peat (S3	) Rec	lox Depr	essions (	(F8)	njarolog	prob	lematic
Restrictive	Laver (if observe	ed):	·	-		<u> </u>			
Type:							Hydric soi	I present?	Y
Depth (inche	es):				-		-	-	
Remarks <sup>.</sup>					_				
	JGT drology Indicate	ne.							
Primary Indi	cators (minimum	of one is	required: check	all that a	nnlv)		Secor	ndary Indicato	rs (minimum of two required)
X Surface	Water (A1)			Aquatic	Fauna (B	13)		Surface Soil C	racks (B6)
High Wa	ater Table (A2)			True Aq	uatic Plar	nts (B14)		Drainage Patt	erns (B10)
Saturatio	on (A3)			Hydroge	n Sulfide	Odor (C	l)	Dry-Season W	/ater Table (C2)
Water N	larks (B1)			Oxidized	l Rhizosp	heres on	Living Roots	Crayfish Burro	ows (C8)
Sedimer	nt Deposits (B2)			(C3)		مر مر ا	(64)	Saturation Vis	ible on Aerial Imagery (C9)
	osiis (B3)			Presenc Recent I	e of Real ron Real	uction in T	(C4) Tilled Soils X	Geomorphic F	Position (D2)
Iron Der	osits (B5)			(C6)	Ion Keut			FAC-Neutral 1	Test (D5)
Inundati	on Visible on Aeria	I Imager	/ (B7)	Thin Mu	ck Surfac	ce (C7)			
Sparsely	/ Vegetated Conca	ve Surfa	ce (B8)	Gauge o	or Well Da	ata (D9)			
Water-S	tained Leaves (B9	)		Other (E	xplain in	Remarks	)		
Field Obser	vations:				<b>D</b> (1) (1)				
Surface wat	er present?	Yes			Depth (i	nches):	2	Indicate	are of wotland
Saturation n	resent?	Yes	No	<u> </u>	Depth (i	nches):	<u> </u>	hydrol	ogy present? Y
(includes ca	pillary fringe)	100			Bopur (i	noneo).		inguior	
Describe red	corded data (strea	am gauge	e, monitoring well	, aerial p	hotos, p	revious ir	nspections), if ava	ailable:	
Remarks:									
Saturation	and/or a water	table v	vere not able to	be obs	served.	as the	water was froze	en at the tim	e of the site visit.
					,				

WETLAND DETERMINA	TION D	ATA FORM	I - Midwest R	egion			
Project/Site 85th Street Interchange	City/0	County:	Lincoln County	Sampling	J Date:	11/13/18	}
Applicant/Owner: 85th Street Business District Joint Venture Group	up	State:	South Dakota	a Sampling	Point:	27-U	
Investigator(s): Rebecca Beduhn		Section	on, Township, Ra	ange:	T100NS18R	150W	
Landform (hillslope, terrace, etc.): backslope		Local	relief (concave, c	convex, none):	N	one	
Slope (%): 6 Lat: 43.48033145		Long:	-96.80608575	Datum:	UTM NAD	83 Zone 1	14N
Soil Map Unit Name Wentworth silty clay loam, 0 to 2 percent slopes	s		NWI Clas	sification:	Nor	ie	
Are climatic/hydrologic conditions of the site typical for this time of the	he year?	-	Y (If no,	explain in remai	rks)		
Are vegetation, soil, or hydrologys	significant	ly disturbed?					
Are vegetation , soil , or hydrology	naturally p	oroblematic?	Are	e "normal circum	nstances" pre	sent? Y	'es
SUMMARY OF FINDINGS			(If	needed, explain	any answers	in remark	ks.)
Hydrophytic vegetation present? N							
Hydric soil present? N		Is the sa	ampled area wit	hin a wetland?	Ν	1	
Indicators of wetland hydrology present? N		lf yes, op	tional wetland si	te ID:			
Remarks: (Explain alternative procedures here or in a separate repo	ort)						
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						
VEGETATION Use scientific names of plants							
	Absolute	Dominan	Indicator Do	minance Test V	Norksheet		
Tree Stratum (Plot size: 30' Radius )	% Cover	t Species	Status N	umber of Domina	ant Species		
1			th	at are OBL, FAC	W, or FAC:	0	(A)
2				Total Number o	of Dominant		-
3				Species Across	s all Strata:	1	(B)
4			P	ercent of Domina	ant Species		
<u> </u>		TILO	th	at are OBL, FAC	W, or FAC:	0.00%	_(A/B)
Sonling/Shrub stratum (Plot size: 15' Padius )	0	= I otal Cover	Dr	avalonco Indox	Workshoot		
1			Tot	tal % Cover of	WUIKSHEEL		
2			OE	BL species	0 x 1 =	0	
3			FA	CW species	0 x 2 =	0	-
4			FA	C species	0 x 3 =	0	_
5			FA	CU species	0 x 4 =	0	_
	0	= Total Cover	UP	L species	$0 \times 5 =$	0	
Herb stratum (Plot size: 5' Radius )			Co	lumn totals	<u> </u>	0	_(B)
1 Zea mays Corn	100	<u>Y</u>	NI Pre	evalence Index =	= B/A =		-
		<u> </u>		drophytic Vege	tation Indica	ators:	
4		<u> </u>		Rapid test for h	nvdrophytic ve	egetation	
5		<u> </u>		Dominance tes	st is >50%	- 3	
6				Prevalence ind	lex is ≤3.0*		
7				Morphological	adaptations*	(provide	
8				supporting data	a in Remarks	or on a	
9				_separate sheet	()		
10	100	- Total Caver		Problematic hy	drophytic vec	jetation*	
Woody vine stratum (Plot size: 30' Padius )	100	= I otal Cover		(explain)			
1			*11	ndicators of hydric s	oil and wetland h	nydrology m	าust be
2		<u> </u>		Hydrophytic		oblematic	
	0	= Total Cover	· · · · · · · · · · · · · · · · · · ·	vegetation			
	-			present?	<u>N</u>		
Remarks: (Include photo numbers here or on a separate sheet)			•				
Note: This data sheet has been adapted to use the 2012 National Wetla Robert W. Lichvar and John T. Kartesz. 2009. North American Diaital Flora. National	and Plant L al Wetland F	_ıst: Plant List. versi∩i	n 2.4.0 (https://wetla	nd plants.usace.arr	my.mil). U.S. Arr	ny Corps of	F
Engineers, Engineer Research and Development Center, Cold Regions Research a	and Enginee	ring Laboratory,	Hanover, NH, and E	BONAP, Chapel Hill,	, NC. (2012)		

Profile Descrip	otion: (Descri	be to th	e depth neede	d to docu	ment the	e indicat	or or confirm	the absen	ce of indicators.)
Depth	Matrix		R	edox Feat	ures				
(Inches) C	Color (moist)	%	Color (moist)	%	Type*	Loc**	Textu	ire	Remarks
0-14	10YR 2/2	100					Silty Clay Lo	bam	
*Type: C = Con	centration, D =	= Depleti	on, RM = Redu	ced Matrix	k, MS = N	/lasked S	and Grains.	**Location	on: PL = Pore Lining, M = Matrix
Hydric Soil Ir	ndicators:						Indicator	s for Prob	lematic Hydric Soils:
Histosc	ol (A1)		S	andy Gley	ed Matrix	(S4)	Iron-I	Manganese	e Masses (F12) ( <b>LRR K, L, M</b> )
Histic E	Epipedon (A2)		s	andy Redo	ox (S5)		Very	Shallow Da	ark Surface (F22)
Black F	Histic (A3)		S	tripped Ma	atrix (S6)		Othe	<sup>-</sup> (explain ir	n remarks)
Hydrog	gen Sulfide (A4	)	D	ark Surfac	e (S7)				
Stratifie	ed Layers (Å5)	1	L	oamy Muc	ky Minera	al (F1)			
2 cm M	1uck (A10)		L	bamy Glev	ed Matrix	x (F2)			
Deplete	ed Below Dark	Surface	e (A11) D	epleted M	atrix (F3)				
Thick E	Dark Surface (/	A12)	~R	edox Dark	Surface	(F6)	*Indica	tors of hvd	rophytic vegetation and wetland
Sandy	Mucky Minera	l (S1)	D	epleted Da	ark Surfa	ce (F7)	hydro	logy must l	be present, unless disturbed or
5 cm M	lucky Peat or I	Peat (S3	)R	edox Depi	ressions	(F8)	5	0,	problematic
Bestrictive Lev	if abaamia	, ,	,			, I			
	yer (il observe	eu):					Undrig		
Type:					-		Hydric	son prese	
Depth (inches):									
Remarks:									
Remarks:						<u> </u>			
Remarks:	Y				-				
Remarks: HYDROLOG Wetland Hydro	Y blogy Indicato	rs:			<u>-</u>				
Remarks: HYDROLOG Wetland Hydro Primary Indicato	Y blogy Indicato ors (minimum o	<b>rs:</b> of one is	required; chec	k all that a	- 	<u> </u>	Se	condary In	dicators (minimum of two required
Remarks: HYDROLOG Wetland Hydro Primary Indicato Surface Wat	Y blogy Indicato ors (minimum o ter (A1)	rs: of one is	required; chec	k all that a	<u>-</u> apply) Fauna (B	13)	<u>Se</u>	condary Ind Surface	dicators (minimum of two required Soil Cracks (B6)
Remarks: HYDROLOG Wetland Hydro Primary Indicato Surface Wat High Water	Y blogy Indicato ors (minimum tter (A1) Table (A2)	rs: of one is	required; chec	<u>k all that a</u> Aquatic True Aq	<u>-</u> apply) Fauna (B juatic Plar	113) hts (B14)		condary Ind Surface Drainag	dicators (minimum of two required Soil Cracks (B6) e Patterns (B10)
Remarks: HYDROLOG Wetland Hydro Primary Indicato Surface Wat High Water Saturation (/	Y blogy Indicato ors (minimum tter (A1) Table (A2) A3)	rs: of one is	required; chec	<u>k all that a</u> Aquatic True Aq Hydroge	<u>-</u> <u>apply)</u> Fauna (B juatic Plar en Sulfide	13) nts (B14) Odor (C1	<u>Se</u> -	condary Ind Surface Drainag Dry-Sea	dicators (minimum of two required Soil Cracks (B6) e Patterns (B10) ison Water Table (C2)
Remarks: HYDROLOG Wetland Hydro Primary Indicato Surface Wat High Water Saturation (/ Water Marks	Y blogy Indicato ors (minimum tter (A1) Table (A2) A3) s (B1)	rs: of one is	required; chec	k all that a Aquatic True Aq Hydroge Oxidized	<u>-</u> Fauna (B juatic Plar en Sulfide d Rhizosp	13) hts (B14) Odor (C1 oheres on	Se - - - - - - - - - - - - - - - - - - -	condary In Surface Drainag Dry-Sea Crayfish	dicators (minimum of two required Soil Cracks (B6) e Patterns (B10) ison Water Table (C2) i Burrows (C8)
Remarks: HYDROLOG Wetland Hydro Primary Indicato Surface Wat High Water Saturation (/ Water Marks Sediment De	Y blogy Indicato ors (minimum o tter (A1) Table (A2) A3) s (B1) reposits (B2)	rs: of one is	required; chec	k all that a Aquatic True Aq Hydroge Oxidized (C3)	<u>- pply)</u> Fauna (B juatic Plar en Sulfide d Rhizosp	13) hts (B14) Odor (C1 oheres on	Se - - - - - - - - - - - - - - - - - - -	condary In Surface Drainag Dry-Sea Crayfish Saturati	dicators (minimum of two required Soil Cracks (B6) e Patterns (B10) ison Water Table (C2) i Burrows (C8) on Visible on Aerial Imagery (C9)
Remarks: HYDROLOG Wetland Hydro Primary Indicato Surface Wat High Water Saturation (/ Water Marks Sediment Do Drift Deposit	Y blogy Indicato ors (minimum of ter (A1) Table (A2) A3) s (B1) reposits (B2) ts (B3)	rs: of one is	required; chec	k all that a Aquatic True Aq Hydroge Oxidized (C3) Presend	- Fauna (B uatic Plar en Sulfide d Rhizosp ce of Redu	113) hts (B14) Odor (C1 oheres on uced Iron	Se 	condary Ind Surface Drainag Dry-Sea Crayfish Saturati Stunted	dicators (minimum of two required Soil Cracks (B6) e Patterns (B10) ison Water Table (C2) i Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1)
Remarks: HYDROLOG Wetland Hydro Primary Indicato Surface Wate High Water Saturation (/ Water Marks Sediment De Drift Deposit Algal Mat or	Y blogy Indicato ors (minimum of ter (A1) Table (A2) A3) s (B1) veposits (B2) ts (B3) r Crust (B4)	rs: of one is	required; chec	k all that a Aquatic True Aq Hydroge Oxidized (C3) Presend Recent	- Fauna (B juatic Plar en Sulfide d Rhizosp ce of Redu Iron Redu	113) hts (B14) Odor (C1 oheres on uced Iron uction in T	Se 	condary Ind Surface Drainag Dry-Sea Crayfish Saturati Stunted Geomol	dicators (minimum of two required Soil Cracks (B6) e Patterns (B10) ason Water Table (C2) a Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) rphic Position (D2)
Remarks: HYDROLOG Wetland Hydro Primary Indicato Surface Wat High Water Saturation (/ Water Marks Sediment De Drift Deposit Algal Mat or Iron Deposit	Y blogy Indicato ors (minimum of ter (A1) Table (A2) A3) s (B1) reposits (B2) ts (B3) r Crust (B4) ts (B5)	rs: of one is	required; chec	k all that a Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6)	- Fauna (B Juatic Plar en Sulfide d Rhizosp ce of Redu Iron Redu	113) nts (B14) Odor (C1 oheres on uced Iron uction in T	Se 	condary Ind Surface Drainag Dry-Sea Crayfish Saturati Stunted Geomol FAC-Ne	dicators (minimum of two required Soil Cracks (B6) e Patterns (B10) ison Water Table (C2) in Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) rphic Position (D2) eutral Test (D5)
Remarks: HYDROLOG Wetland Hydro Primary Indicato Surface Wat High Water Saturation (/ Water Marks Sediment De Drift Deposit Algal Mat or Iron Deposit Inundation V	Y blogy Indicato ors (minimum of ter (A1) Table (A2) A3) s (B1) reposits (B2) ts (B3) r Crust (B4) ts (B5) Visible on Aeria	rs: of one is	required; chec	k all that a Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6) Thin Mu	- Fauna (B Juatic Plar en Sulfide d Rhizosp ce of Redu Iron Redu Iron Redu	113) nts (B14) Odor (C1 oheres on uced Iron uction in T ce (C7)	Se I) Living Roots (C4) illed Soils	condary Ind Surface Drainag Dry-Sea Crayfish Saturati Stunted Geomoi FAC-Ne	dicators (minimum of two required Soil Cracks (B6) e Patterns (B10) ison Water Table (C2) in Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) phic Position (D2) eutral Test (D5)
Remarks: HYDROLOG Wetland Hydro Primary Indicato Surface Wat High Water Saturation (/ Water Marks Sediment De Drift Deposit Algal Mat or Iron Deposit Inundation V Sparsely Ve	Y blogy Indicato ors (minimum of ter (A1) Table (A2) A3) s (B1) reposits (B2) ts (B3) r Crust (B4) ts (B5) Visible on Aeria egetated Conca	rs: of one is I Imagen ve Surfa	y (B7) ce (B8)	k all that a Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6) Thin Mu Gauge o	- Fauna (B Juatic Plar en Sulfide d Rhizosp ce of Redu Iron Redu Iron Redu Iron Well Da	113) Ints (B14) Odor (C1 oheres on uced Iron uction in T ce (C7) ata (D9)	Se 	condary Ind Surface Drainag Dry-Sea Crayfish Saturati Stunted Geomol FAC-Ne	dicators (minimum of two required Soil Cracks (B6) e Patterns (B10) ison Water Table (C2) in Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) phic Position (D2) eutral Test (D5)
Remarks: HYDROLOG Wetland Hydro Primary Indicato Surface Wai High Water Saturation (/ Water Marks Sediment De Drift Deposit Algal Mat or Iron Deposit Inundation V Sparsely Ve Water-Stain	Y blogy Indicato ors (minimum tter (A1) Table (A2) A3) s (B1) leposits (B2) ts (B3) r Crust (B4) ts (B5) visible on Aeria legetated Conca legetated Conca legetated Conca legetated Conca	rs: of one is l Imagery ve Surfac	y (B7) ce (B8)	k all that a Aquatic True Aq Hydroge (C3) Present (C6) Thin Mu Gauge o Other (E	<u>apply)</u> Fauna (B juatic Plar en Sulfide d Rhizosp ce of Redu Iron Redu ick Surfac or Well Da Explain in	a13) hts (B14) Odor (C1 oheres on uced Iron uction in T ce (C7) ata (D9) Remarks	Se I) Living Roots (C4) iilled Soils J	condary In Surface Drainag Dry-Sea Crayfish Saturati Stunted Geomo FAC-Ne	dicators (minimum of two required Soil Cracks (B6) e Patterns (B10) ison Water Table (C2) in Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) rphic Position (D2) utral Test (D5)
Remarks: HYDROLOG Wetland Hydro Primary Indicato Surface Wat High Water Saturation (/ Water Marks Sediment De Drift Deposit Algal Mat or Iron Deposit Inundation V Sparsely Ve Water-Staine Field Observat	Y blogy Indicato ors (minimum tter (A1) Table (A2) A3) s (B1) leposits (B2) ts (B3) r Crust (B4) ts (B5) /isible on Aeria egetated Conca hed Leaves (B9) tions:	rs: of one is I Imagen ve Surfac )	y (B7)	k all that a Aquatic True Aq Hydroge (C3) Presend Recent (C6) Thin Mu Gauge o Other (E	- Fauna (B juatic Plar en Sulfide d Rhizosp ce of Redu Iron Redu ick Surfac or Well Da Explain in	113) hts (B14) Odor (C1 oheres on uced Iron uced Iron uction in T ce (C7) ata (D9) Remarks	Se I) Living Roots (C4) iilled Soils J	condary In Surface Drainag Dry-Sea Crayfish Saturati Stunted Geomol FAC-Ne	dicators (minimum of two required Soil Cracks (B6) e Patterns (B10) isson Water Table (C2) a Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) rphic Position (D2) eutral Test (D5)
Remarks: HYDROLOG Wetland Hydro Primary Indicato Surface War High Water Saturation (/ Water Marks Sediment De Drift Deposit Algal Mat or Iron Deposit Inundation V Sparsely Ve Water-Staine Field Observat Surface water p	Y blogy Indicato ors (minimum iter (A1) Table (A2) A3) s (B1) reposits (B2) its (B3) r Crust (B4) its (B5) visible on Aeria egetated Conca hed Leaves (B9) tions: present?	rs: of one is l Imageny ve Surfac ) Yes	y (B7)	k all that a Aquatic True Aq Hydroge (C3) Presend Recent (C6) Thin Mu Gauge o Other (E	- Pepply) Fauna (B Juatic Plan en Sulfide d Rhizosp ce of Redu Iron Redu ick Surfac or Well Da Explain in	113) hts (B14) Odor (C1 oheres on uced Iron uced Iron uced (C7) ata (D9) Remarks inches):	Se Living Roots (C4) illed Soils )	condary In Surface Drainag Dry-Sea Crayfish Saturati Stunted Geomol FAC-Ne	dicators (minimum of two required Soil Cracks (B6) e Patterns (B10) ison Water Table (C2) a Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) rphic Position (D2) eutral Test (D5)
Remarks: HYDROLOG Wetland Hydro Primary Indicato Surface Wat High Water Saturation (/ Water Marks Sediment De Drift Deposit Algal Mat or Iron Deposit Inundation V Sparsely Ve Water-Stain Field Observat Surface water p Water table pres	Y blogy Indicato ors (minimum of ter (A1) Table (A2) A3) s (B1) reposits (B2) its (B3) r Crust (B4) its (B5) Visible on Aeria bigetated Conca hed Leaves (B9) tions: present? besont?	rs: of one is of one is l Imageny ve Surfac ) Yes Yes	y (B7) ce (B8)  No No	k all that a Aquatic True Aq Hydroge (C3) Presend (C6) Thin Mu Gauge o Other (E X X		113) hts (B14) Odor (C1 oheres on uced Iron uced Iron uced (C7) ata (D9) Remarks inches): inches):	Se Living Roots (C4) iilled Soils	condary In Surface Drainag Dry-Sea Crayfish Saturati Stunted Geomol FAC-Ne	dicators (minimum of two required Soil Cracks (B6) e Patterns (B10) ison Water Table (C2) b Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) rphic Position (D2) eutral Test (D5) dicators of wetland
Remarks: HYDROLOG Wetland Hydro Primary Indicato Surface Wat High Water Saturation (/ Water Marks Sediment Do Drift Deposit Algal Mat or Iron Deposit Algal Mat or Iron Deposit Algal Mat or Field Observat Surface water p Water table pressing Saturation pressing	Y blogy Indicato ors (minimum of ter (A1) Table (A2) A3) s (B1) reposits (B2) ts (B3) r Crust (B4) ts (B5) Visible on Aeria egetated Conca led Leaves (B9) tions: present? esent? ent?	rs: of one is of one is l Imagery ve Surfac ) Yes Yes Yes Yes	y (B7) ce (B8) No No No No	k all that a Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6) Thin Mu Gauge o Other (E X X X		113) hts (B14) Odor (C1 oheres on uced Iron uction in T ce (C7) ata (D9) Remarks inches): inches): inches):	Se 	condary Ind Surface Drainag Dry-Sea Crayfish Saturati Stunted Geomol FAC-Ne	dicators (minimum of two required Soil Cracks (B6) e Patterns (B10) ason Water Table (C2) a Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) phic Position (D2) eutral Test (D5) dicators of wetland ydrology present?
Remarks: HYDROLOG Wetland Hydro Primary Indicato Surface Wat High Water Saturation (/ Water Marks Sediment Do Drift Deposit Algal Mat or Iron Deposit Inundation V Sparsely Ve Water-Stain Field Observat Surface water p Water table preson Saturation preson (includes capilla	Y blogy Indicato ors (minimum of ter (A1) Table (A2) A3) s (B1) reposits (B2) ts (B3) r Crust (B4) ts (B5) Visible on Aeria egetated Conca led Leaves (B9) tions: present? esent? ent? ary fringe)	rs: of one is of one is l Imagery ve Surfac ) Yes Yes Yes Yes	y (B7) ce (B8) No No No No	k all that a Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6) Thin Mu Gauge o Other (E X X X		113) hts (B14) Odor (C1 oheres on uced Iron uced Iron uction in T ce (C7) ata (D9) Remarks inches): inches): inches):	Se 	condary Ind Surface Drainag Dry-Sea Crayfish Saturati Stunted Geomol FAC-Ne	dicators (minimum of two required Soil Cracks (B6) e Patterns (B10) ason Water Table (C2) a Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) phic Position (D2) eutral Test (D5) dicators of wetland ydrology present?N
Remarks: HYDROLOG Wetland Hydro Primary Indicato Surface Wat High Water Saturation (/ Water Marks Sediment Do Drift Deposit Algal Mat or Iron Deposit Inundation V Sparsely Ve Water-Stain Field Observat Surface water p Water table prese Saturation prese (includes capilla Describe record	Y plogy Indicato ors (minimum of ter (A1) Table (A2) A3) s (B1) reposits (B2) ts (B3) r Crust (B4) ts (B5) visible on Aeria egetated Conca led Leaves (B9) tions: present? ent? ent? ent? ent? ent of the first of the firs	rs: of one is of one is I Imagery ve Surfa yes Yes Yes Yes Yes	y (B7) ce (B8) No No No No No	k all that a Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6) Thin Mu Gauge o Other (E X X X	- Fauna (B Juatic Plar en Sulfide d Rhizosp ce of Redu Iron Redu Iron Redu ick Surfac or Well Da Explain in Depth (i Depth (i Depth (i Depth (i	113) hts (B14) Odor (C1 oheres on uced Iron uction in T ce (C7) ata (D9) Remarks inches): inches): inches): revious ir	Se 	condary Ind Surface Drainag Dry-Sea Crayfish Saturati Stunted Geomoi FAC-Ne	dicators (minimum of two required Soil Cracks (B6) e Patterns (B10) ison Water Table (C2) in Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) phic Position (D2) eutral Test (D5) dicators of wetland ydrology present?N
Remarks: HYDROLOG Wetland Hydro Primary Indicato Surface War High Water Saturation (/ Water Marks Sediment Do Drift Deposit Algal Mat or Iron Deposit Inundation V Sparsely Ve Water-Staine Field Observat Surface water p Water table press Saturation press (includes capilla Describe record	Y blogy Indicato ors (minimum of ter (A1) Table (A2) A3) s (B1) reposits (B2) its (B3) r Crust (B4) its (B5) Visible on Aeria bits (B5) bits (B5) visible on Aeria bits (B5) bits (B2) ded Leaves (B9) ded data (streat	rs: of one is of one is I Imageny ve Surfac yes Yes Yes Yes im gauge	y (B7) ce (B8) No No No No No No No No	k all that a Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6) Thin Mu Gauge o Other (E X X X		113) hts (B14) Odor (C1 oheres on uced Iron uced Iron uced Iron ata (D9) Remarks inches): inches): inches): revious ir	Se 1) Living Roots (C4) iilled Soils ) hspections), if	condary In Surface Drainag Dry-Sea Crayfish Saturati Stunted Geomol FAC-Ne	dicators (minimum of two required Soil Cracks (B6) e Patterns (B10) isson Water Table (C2) a Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) phic Position (D2) eutral Test (D5) dicators of wetland ydrology present? N
Remarks: HYDROLOG Wetland Hydro Primary Indicato Surface Wat High Water Saturation (/ Water Marks Sediment Do Drift Deposit Algal Mat or Iron Deposit Inundation V Sparsely Ve Water-Staino Field Observat Surface water p Water table prese Saturation prese (includes capilla Describe record Remarks:	Y plogy Indicato ors (minimum of ter (A1) Table (A2) A3) s (B1) reposits (B2) ts (B3) r Crust (B4) ts (B5) Visible on Aeria egetated Conca led Leaves (B9) tions: present? ent? ent? ary fringe) ded data (streat	rs: of one is of one is I Imagen ve Surfac Yes Yes Yes Yes Yes	(B7) (B7) (ce (B8) (based on the second on t	k all that a Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6) Thin Mu Gauge o Other (E X X X a	- Fauna (B Juatic Plar en Sulfide d Rhizosp ce of Redu Iron Redu Iron Redu ick Surfac or Well Da Explain in Depth (i Depth (i Depth (i Depth (i	113) hts (B14) Odor (C1 oheres on uced Iron uction in T ce (C7) ata (D9) Remarks inches): inches): inches): revious ir	Se 	condary Ind Surface Drainag Dry-Sea Crayfish Saturati Stunted Geomoi FAC-Ne	dicators (minimum of two required Soil Cracks (B6) e Patterns (B10) ison Water Table (C2) in Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) phic Position (D2) eutral Test (D5) dicators of wetland ydrology present?N
Remarks: HYDROLOG Wetland Hydro Primary Indicato Surface Wat High Water Saturation (/ Water Marks Sediment Do Drift Deposit Algal Mat or Iron Deposit Inundation V Sparsely Ve Water-Stain Field Observat Sufface water p Water table press Saturation pressed (includes capilla Describe record Remarks: Saturation an	Y plogy Indicato ors (minimum of ter (A1) Table (A2) A3) s (B1) reposits (B2) ts (B3) r Crust (B4) ts (B5) visible on Aeria egetated Conca ted Leaves (B9) tions: present? ent? ent? ent? ary fringe) ded data (streat md/or a water	rs: of one is of one is I Imagery ve Surfac Yes Yes Yes im gauge	y (B7) ce (B8) ce (B8) ce, monitoring we	k all that a Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6) Thin Mu Gauge o Other (E X X X ell, aerial p		a13) hts (B14) Odor (C1 oheres on uced Iron uced Iron uction in T ce (C7) ata (D9) Remarks inches): inches): revious ir	Se 	condary In Surface Drainag Dry-Sea Crayfish Saturati Stunted Geomor FAC-Ne	dicators (minimum of two required Soil Cracks (B6) e Patterns (B10) ison Water Table (C2) in Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) phic Position (D2) eutral Test (D5) dicators of wetland ydrology present?N
Remarks: HYDROLOG Wetland Hydro Primary Indicato Surface Wai High Water Saturation (/ Water Marks Sediment Do Drift Deposit Algal Mat or Iron Deposit Inundation V Sparsely Ve Water-Staino Field Observat Surface water p Water table pressing Saturation presses (includes capilla Describe record Remarks: Saturation an	Y plogy Indicato ors (minimum of iter (A1) Table (A2) A3) s (B1) reposits (B2) ts (B3) r Crust (B4) ts (B5) visible on Aeria egetated Conca ied Leaves (B9) tions: present? ent? ent? ent? ary fringe) ded data (stread	rs: of one is of one is I Imagery ve Surfar ) Yes Yes Yes m gauge	y (B7) ce (B8) ce (B8) ce, monitoring weights	k all that a Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6) Thin Mu Gauge o Other (E X X all, aerial p		a13) onts (B14) odor (C1 oheres on uced Iron uced Iron uction in T ce (C7) ata (D9) Remarks inches): inches): inches): revious ir as the v	Se 	condary In Surface Drainag Dry-Sea Crayfish Saturati Stunted Geomor FAC-Ne In h available:	dicators (minimum of two required Soil Cracks (B6) e Patterns (B10) ison Water Table (C2) n Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) phic Position (D2) autral Test (D5) dicators of wetland ydrology present?N

WETLAND DETERMINA	TION D	ATA FORM	I - Midwest Regio	on	
Project/Site 85th Street Interchange	City/0	County:	Lincoln County	Sampling Date:	11/13/18
Applicant/Owner: 85th Street Business District Joint Venture Grou	h	State:	South Dakota	Sampling Point:	27-W
Investigator(s): Rebecca Beduhn		Section	on, Township, Range	: T100NS1	8R50W
Landform (hillslope, terrace, etc.): toeslope		Local r	relief (concave, conv	ex, none):(	Concave
Slope (%): 1 Lat: 43.48033383		Long:	-96.80604542	Datum: UTM NA	AD 83 Zone 14N
Soil Map Unit Name Wentworth silty clay loam, 0 to 2 percent slopes	6		NWI Classific	ation:	√one
Are climatic/hydrologic conditions of the site typical for this time of the	ne year?	_	Y (If no, exp	lain in remarks)	
Are vegetation, soil, or hydrologys	significant	ly disturbed?			
Are vegetation , soil , or hydrology r	naturally p	roblematic?	Are "no	ormal circumstances" j	present? Yes
SUMMARY OF FINDINGS			(If need	ded, explain any answe	ers in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? Y		Is the sa	ampled area within	a wetland?	Y
Indicators of wetland hydrology present? Y		lf yes, op	tional wetland site ID	): Wetland 27	
Remarks: (Explain alternative procedures here or in a separate repo	ort )				
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
VEGETATION Use scientific names of plants					
	Absoluto	Dominan	Indicator Domin	ance Test Workshee	t
Tree Stratum (Plot size: 30' Radius )	% Cover	t Species	Status Numb	er of Dominant Species	•
1 /			that ar	e OBL, FACW, or FAC	1 (A)
2			Tot	al Number of Dominan	1
3			Sp	ecies Across all Strata:	<u> </u>
4			Perce	nt of Dominant Species	i
5			that ar	e OBL, FACW, or FAC:	100.00% (A/B)
Conling/Chrub stratum (Dist size: 15' Badius )	0	= I otal Cover	Broyal	anaa Indax Warkaha	
<u>Sapiing/Shrub stratur</u> (Piot size: 15 Radius )			Total %	Cover of:	A
2		<u> </u>		pecies 0 x 1	= 0
3		<u> </u>	FACW	species 100 x 2	= 200
4			FAC sp	becies 0 x 3	= 0
5			FACU	species 0 x 4	= 0
-	0	= Total Cover	UPL sp	ecies <u>0</u> x5	= 0
Herb stratum (Plot size: 5' Radius )			Columr	1 totals 100 (A)	<u>200</u> (B)
1 Phalaris arundinacea Reed Canary Grass	100	Υ	FACW Prevale	ence Index = B/A =	2.00
				abutia Vagatatian Ind	liantara
		<u> </u>	Hydrop	pid test for hydrophytic	Icators:
5		<u> </u>		minance test is >50%	vegetation
6		·		evalence index is ≤3.0 <sup>°</sup>	*
7				rphological adaptation	s* (provide
8			sup	porting data in Remai	rks or on a
9			se	oarate sheet)	
10			Pro	blematic hydrophytic	vegetation*
	100	= Total Cover	(ex	plain)	
Voody vine stratum (Plot size: 30 Radius)			*Indica	tors of hydric soil and wetla	nd hydrology must be
2		<u> </u>	Hv	drophytic	or problematic
	0	= Total Cover	veg	getation	
	v		pre	sent? Y	_
Remarks: (Include photo numbers here or on a separate sheet)			I		
Note: This data sheet has been adapted to use the 2012 National Wetla	and Plant L	list:	n 2 4 0 (https://wetland.p	lants usace army mil) 11 S	Army Corps of
Engineers, Engineer Research and Development Center, Cold Regions Research a	and Enginee	ring Laboratory,	Hanover, NH, and BONA	P, Chapel Hill, NC. (2012)	y 001p0 01

Profile Des	cription: (Descr	ibe to th	e depth needeo	d to docu	ment the	e indicat	or or confirm the	absence of	f indicators.)
Depth	. <u>Matrix</u>		<u>R</u> e	edox Feat	ures				,
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture		Remarks
0-14	10YR 2/2	95	10YR 4/6	5	С	М	Silty Clay Loam	ı	
*Turne: C = (	Concentration D	– Doplati	l ion DM – Doduk	ad Matrix		lookod S	and Craina *	*Leastion: D	L - Doro Lipipa M - Motrix
Type. C = C	Uncernation, D	- Depieti	ion, Rivi – Reduc		., IVIS – IV	laskeu a	anu Grains.	Location. P	tie Hydrie Seile:
			64	ndy Clev	ad Matrix	(\$4)	Indicators in		
	tic Eninedon (A2)			indy Bede	50 Matrix vy (95)	(04)		Iganese Mas Mow Dark Si	(F22)
Bla	nc Epipedon (A2) ok Histic (A3)			rinned Ma	triv (S6)		Other (ex	vnlain in rem	arks
	Irogen Sulfide (A)	1)	0	nppeu ivia ark Surfac	a (97)				arts)
Stre	atified I avers (A5	• <i>)</i>	Da	amv Muel	ky Miner	al (F1)			
2 0	m Muck ( $A10$ )	,		amy Glev	ed Matrix	x (F2)			
	leted Below Dark	Surface	(A11)	enleted Ma	atrix (F3)	x (1 2)			
	ck Dark Surface (	A12)	X Re	dox Dark	Surface	(F6)	*Indicators	of hydrophy	tic vegetation and wetland
Sar	dv Mucky Minera	al (S1)	De	epleted Da	ark Surfa	(F7)	hydrology	/ must be pri	esent unless disturbed or
<u> </u>	n Muckv Peat or	Peat (S3	3) Re	dox Depr	essions (	(F8)	nyarology	prol	blematic
		(				( ,		I	
Restrictive	Layer (If observe	ea):							X
Type:					-		Hydric Soli	present?	<u> </u>
Depth (Inche					-				
HYDROL	DGY								
Wetland Hy	drology Indicato	ors:							
Primary Indi	cators (minimum	of one is	required; check	all that a	(ylqq		Secon	darv Indicato	ors (minimum of two required)
X Surface	Water (A1)			Aquatic	Fauna (B	(13)	<u></u>	Surface Soil	Cracks (B6)
High Wa	iter Table (A2)			 True Aq	uatic Plar	nts (B14)		Drainage Pat	terns (B10)
Saturatio	on (A3)			 Hydroge	n Sulfide	Odor (C	1)	Dry-Season \	Water Table (C2)
Water M	larks (B1)			Oxidized	l Rhizosp	heres on	Living Roots	Crayfish Burr	rows (C8)
Sedimer	nt Deposits (B2)			(C3)				Saturation Vi	sible on Aerial Imagery (C9)
Drift Dep	oosits (B3)			Presenc	e of Redu	uced Iron	(C4)	Stunted or St	ressed Plants (D1)
Algal Ma	at or Crust (B4)			Recent I	ron Redu	uction in T	illed Soils X	Geomorphic	Position (D2)
Iron Dep	osits (B5)			-(C6)		(07)	X	FAC-Neutral	Test (D5)
Inundati	on visible on Aeria	ai imager	у (В7)			ce (C7)			
Sparsely Wotor S	vegetated Conca	ave Suria		- Gauge C	or vveli Da Sveloje je	ala (D9) Bomorko	<b>\</b>		
		)			лріант ін	Remarks	)		
Field Obsei	vations:	Vaa	Y No		Denth /	inchoc);	0.5		
Water table	nresent?	T US Vee		Y	Depth (i	inches):	0.5	Indicat	tors of wetland
Saturation p	resent?	Yes	No	×	Depth (i	inches):		hvdro	logy present? Y
(includes ca	pillary fringe)	100		X	-	nionooj.		inguio	
Describe rea	orded data (stree	am daula	e monitoring we	ll periol r	botos n	revious i	espections) if avai	ilable:	
Describered		ani gaugi	e, monitoring we	ii, acriai p	notos, p	ievious ii			
Remarks:									
Saturation	and/or a water	r table v	vere not able	to be ob	served.	as the	water was froze	n at the tin	ne of the site visit.
					,				

WETLAND DETERMINA	TION D	ATA FORM	I - Midwest R	egion			
Project/Site 85th Street Interchange	City/0	County:	Lincoln County	Sampling	Date: 1	1/13/18	
Applicant/Owner: 85th Street Business District Joint Venture Gro	up	State:	South Dakota	a Sampling	Point:	28-U	
Investigator(s): Rebecca Beduhn		Secti	on, Township, R	ange:	T100NS13R5	1W	
Landform (hillslope, terrace, etc.): backslope		Local	relief (concave, o	convex, none):	Nor	ne	
Slope (%): 4 Lat: 43.48742262		Long:	-96.80667704	Datum:	UTM NAD 83	3 Zone 14	4N
Soil Map Unit Name Egan-Worthing complex, 0 to 6 percent slopes			NWI Clas	ssification:	None		
Are climatic/hydrologic conditions of the site typical for this time of the	he year?	-	Y (If no,	, explain in remar	ˈks)		
Are vegetation, soil, or hydrology	significant	ly disturbed?					
Are vegetation , soil , or hydrology	naturally p	oroblematic?	Ar	e "normal circum	istances" prese	ent? Yes	S
SUMMARY OF FINDINGS			(If	needed, explain	any answers ir	ı remarks	s.)
Hydrophytic vegetation present? N							
Hydric soil present? N		Is the sa	ampled area wit	thin a wetland?	N		
Indicators of wetland hydrology present?		lf yes, op	tional wetland si	ite ID:			
Remarks: (Explain alternative procedures here or in a separate repo	ort.)						
	,						
VEGETATION Use scientific names of plants.							
	Absolute	Dominan	Indicator Do	ominance Test V	Vorksheet		
<u>Tree Stratum</u> (Plot size: <u>30' Radius</u> )	% Cover	t Species	Status N	lumber of Domina	int Species		
1			th	hat are OBL, FAC	N, or FAC:	0 (	(A)
2				Total Number o	f Dominant		
				Species Across	all Strata:	1 (	(B)
4 5			P	Percent of Domina	Int Species	0.00% (	(
	0	= Total Cover		iat are ODL, I AC	N, 011AC. 0	.00% (	(A/D)
- Sapling/Shrub stratum (Plot size: 15' Radius )	0		Pr	evalence Index	Worksheet		
1			То	otal % Cover of:			
2		·	OE	BL species	0 x 1 =	0	
3			FA	CW species	0 x 2 =	0	
4			FA	C species	0 x 3 =	0	
5		TILO	FA	ACU species	$0 \times 4 =$	0	
Herb stratum (Plot size: 5' Radius )	0	= I otal Cover	UF	<sup>2</sup> L species	$\frac{0}{0}$ (A)	(	(B)
	100	V			- R/A -	(	(0)
2	100	·			- D/A		
3			Ну	/drophytic Vege	tation Indicate	ors:	
4		·······		Rapid test for h	vdrophytic veg	jetation	
5				Dominance tes	t is >50%		
6				Prevalence ind	ex is ≤3.0*		
				Morphological	adaptations* (p	orovide	
		······································		supporting data	in Remarks o	r on a	
9 <u></u>		······································			) Idrophytic yczo	tation*	
	100	= Total Cover		(explain)	diophytic vege	lation	
- Woody vine stratum (Plot size: 30' Radius )			*1		oil and watland by	drology muy	uat ha
<u> </u>				present, unles	s disturbed or prol	blematic	ist be
2				Hydrophytic	·		
	0	= Total Cover		vegetation	NI		
				present?	<u>IN</u>		
Remarks: (Include photo numbers here or on a separate sheet)							
Note: This data sheet has been adapted to use the 2012 National Wet	and Plant I	_ist:					
Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: Nation	al Wetland F	Plant List, version	n 2.4.0 (https://wetla	and_plants.usace.arm	ny.mil). U.S. Army	Corps of	
Linguisers, Linguiser Research and Development Center, Cold Regions Research	unu Liiginee	ing Laboratory,	, המווטיפו, ואח, מווט נ	сопла , опарет АШ,	1.0. (2012)		

Profile Des	cription: (Descr	ibe to th	e depth r	eeded	to docu	ment the	indicat	or or confirm th	ne absence	e of indicators.)
Depth	Matrix		•	Re	dox Feat	ures		-		•
(Inches)	Color (moist)	%	Color (r	noist)	%	Type*	Loc**	Texture	e	Remarks
0-14	10YR 2/1	100						Silty Clay Loa	m	
								,,		
*Type: C = C	Concentration, D :	= Depleti	ion, RM =	Reduc	ed Matrix	a, MS = №	lasked S	and Grains.	**Locatior	n: PL = Pore Lining, M = Matrix
Hydric So	il Indicators:							Indicators	for Proble	matic Hydric Soils:
Hist	tosol (A1)		_	Sa	ndy Gleye	ed Matrix	(S4)	Iron-Ma	anganese N	Masses (F12) ( <b>LRR K, L, M</b> )
Hist	tic Epipedon (A2)			Sa	ndy Redo	ox (S5)		Very SI	hallow Darl	k Surface (F22)
Blad	ck Histic (A3)		-	Str	pped Ma	trix (S6)		Other (	explain in r	emarks)
Hyc	lrogen Sulfide (A4	4)	_	Da	rk Surfac	e (S7)				
Stra	atified Layers (A5	)	-	Loa	amy Mucl	ky Minera	al (F1)			
2 cr	n Muck (A10)		-	Loa	amy Gley	ed Matrix	(F2)			
Dep	leted Below Dark	Surface	e (A11)	De	pleted Ma	atrix (F3)	-			
Thio	ck Dark Surface (	A12)	• • •	Re	dox Dark	Surface	(F6)	*Indicato	ors of hvdro	phytic vegetation and wetland
Sar	dy Mucky Minera	ıl (S1)	-	De	pleted Da	ark Surfa	ce (F7)	hydrolo	gy must be	present, unless disturbed or
5 cr	n Mucky Peat or	Peat (S3	5)	Re	dox Depr	essions (	(F8)	,	U,	problematic
Postrictivo	l avor (if obcorv	, ,	,				,			
Type	Layer (II Observe	eu).						Hydria og	ul procont	<b>2</b> N
Type.						-		Hyunc sc	n present	f <u>IN</u>
Depth (Inche						-				
1										
HYDROLO	DGY									
Wetland Hy	drology Indicato	ors:								
Primary Indi	<u>cators (minimum</u>	of one is	required;	check	all that a	pply)		Seco	ondary Indi	cators (minimum of two required)
Surface	Water (A1)				Aquatic	Fauna (B	13)		Surface S	oil Cracks (B6)
High Wa	iter Table (A2)				True Aq	uatic Plar	nts (B14)		Drainage	Patterns (B10)
Saturatio	on (A3)				Hydroge	en Sulfide	Odor (C	1)	Dry-Sease	on Water Table (C2)
Water M	larks (B1)				Oxidized	l Rhizosp	heres on	Living Roots	Crayfish E	Burrows (C8)
Sedimer	nt Deposits (B2)				(C3)			<u> </u>	Saturation	Visible on Aerial Imagery (C9)
Drift Dep	oosits (B3)				Presenc	e of Redi	Iced Iron	(C4)	Stunted o	r Stressed Plants (D1)
Algal Ma	at or Crust (B4)				Recent I	ron Redu	iction in 1	illed Solls		hic Position (D2)
Iron Dep	OSIIS (B5) on Visible on Asric	Imagan	(P7)		(C0) Thin Mu	ak Surfaa	a (C7)		-FAC-Neur	Iral Test (D5)
Sparsol		u imager wo Surfo	y (D7)			CK Suriac	e(C7)			
	toined Leaves (PO				Other (E	i vveli Da	ala (D9) Bomorko	<b>\</b>		
		/				лріант Ш	- CIIIdIKS	/	-	
Field Ubser	vations:	Vaa		No	×	Denth /	nchoc);			
Water table	nresent?	Vee		No	<u>~</u>	Depth (i	nches)		Indi	icators of wetland
Saturation n	present?	Vec		No	<u>- x</u>	Depth (i	nchee).		hve	drology present?
(includes ca	nillary fringe)	163		NO			nones).		i i y	
Describe rec	prinding minigo)		o monitor			botos p		enectione) if ou	vailable:	
Describered		ani yauy	e, monitor	ing wei	i, aeriai p	notos, p	evious ii	ispections), if av	allable.	
Remarks:										
Saturation	and/or a water	table v	vere not	able t	he ob	served	as the	water was froz	zen at the	time of the site visit
									at all	

WETLAND DETERMINA	TION D	ATA FORM	- Midwest Regio	n	
Project/Site 85th Street Interchange	City/0	County:	Lincoln County	Sampling Date:	11/13/18
Applicant/Owner: 85th Street Business District Joint Venture Grou	qu	State:	South Dakota	Sampling Point:	28-W
Investigator(s): Rebecca Beduhn		Sectio	on, Township, Range:	T100NS13	3R51W
Landform (hillslope, terrace, etc.): toeslope		Local r	elief (concave, conve	x, none): C	oncave
Slope (%): 0 Lat: 43.48736524		Long:	-96.80667104	Datum: UTM NA	2 83 Zone 14N
Soil Map Unit Name Egan-Worthing complex, 0 to 6 percent slopes			NWI Classifica	ation: No	one
Are climatic/hydrologic conditions of the site typical for this time of the	ne year?		Y (If no, expla	ain in remarks)	
Are vegetation , soil , or hydrology s	significant	ly disturbed?			
Are vegetation , soil , or hydrology r	naturally p	roblematic?	Are "noi	rmal circumstances" pr	resent? Yes
SUMMARY OF FINDINGS			(If need	ed, explain any answer	rs in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? Y		Is the sa	ampled area within a	wetland?	Y
Indicators of wetland hydrology present? Y		If yes, op	tional wetland site ID:	Wetland 28	
Remarks: (Explain alternative procedures here or in a separate repo	ort )				
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
VEGETATION Liss scientific names of plants					
	Abcoluto	Dominon	Indicator Domina	nce Test Worksheet	
Tree Stratum (Plot size: 30' Radius )	% Cover	t Species	Status Number	or of Dominant Species	
1		•	that are	OBL, FACW, or FAC:	1 (A)
2		·	Tota	al Number of Dominant	、
3			Spe	cies Across all Strata:	1 (B)
4			Percen	t of Dominant Species	
5			that are	OBL, FACW, or FAC:	100.00% (A/B)
	0	= I otal Cover	Drevela		
Sapling/Shrub stratur (Plot size: 15 Radius )			Total %	Cover of:	
2				ecies 0 x1=	= 0
			FACW s	species $60 \times 2 =$	= 120
4			FAC spe	ecies 0 x 3 =	= 0
5			FACU s	pecies 0 x 4 =	= 0
-	0	= Total Cover	UPL spe	ecies 0 x 5 =	= 0
<u>Herb stratum</u> (Plot size: <u>5' Radius</u> )			Column	totals <u>60</u> (A)	<u>120</u> (B)
1 Phalaris arundinacea Reed Canary Grass	60	<u>Y</u>	FACW Prevaler	nce Index = B/A =	2.00
2 Glycine max Soybeans	10	<u> </u>	NI	hutia Vasatatian Indi	
			Hydrop	nytic vegetation indic	vegetation
				ninance test is >50%	vegetation
6			X Prev	valence index is ≤3.0*	
7			Mor	phological adaptations	* (provide
8			sup	porting data in Remark	is or on a
9			sepa	arate sheet)	
10			Prol	plematic hydrophytic ve	egetation*
	70	= Total Cover	(exp	ilain)	
Voody vine stratum (Plot size: 30 Radius)			*Indicate	ors of hydric soil and wetland	d hydrology must be
2			Hvd	resent, unless disturbed or	problematic
	0	= Total Cover	veg	etation	
	Ũ		pres	sent? Y	
Remarks: (Include photo numbers here or on a separate sheet)			I		
Note: This data sheet has been adapted to use the 2012 National Wetla	and Plant L	list: Nant List Version	240 (https://wetland_pla	ants usace army mil) II S A	rmy Corps of
Engineers, Engineer Research and Development Center, Cold Regions Research a	and Enginee	ring Laboratory,	Hanover, NH, and BONAF	<sup>2</sup> , Chapel Hill, NC. (2012)	

28-W

Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm the a	absence of indicators.)
Depth	<u>Matrix</u>		Ree	dox Feat	ures			
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks
0-12	10YR 2/1	95	7.5YR 4/6	5	С	М	Silty Clay Loam	
*Type: C = (	Concentration. D =	= Depleti	on. RM = Reduce	ed Matrix	. MS = N	lasked S	and Grains. **L	ocation: PL = Pore Lining. M = Matrix
Hydric Sc	oil Indicators:				,		Indicators for	Problematic Hydric Soils:
His	tosol (A1)		Sar	ndy Gleye	ed Matrix	(S4)	Iron-Mang	anese Masses (F12) ( <b>LRR K, L, M</b> )
His	tic Epipedon (A2)		Sar	ndy Redo	ox (S5)		Very Shall	ow Dark Surface (F22)
Bla	ck Histic (A3)		Stri	pped Ma	trix (S6)		Other (exp	olain in remarks)
Hyc	Irogen Sulfide (A4	1)	Dar	k Surfac	e (S7)			
	m Muck (A10)	)	Loa	my iviuci my Glev	ky Minera	al (F1) x (F2)		
2 ci	pleted Below Dark	Surface	(A11) Der	oleted Ma	atrix (F3)	x (i 2)		
	ck Dark Surface (	A12)	X Red	lox Dark	Surface	(F6)	*Indicators	of hydrophytic vegetation and wetland
Sar	ndy Mucky Minera	í (S1)	Dep	pleted Da	ark Surfa	ce (F7)	hydrology	must be present, unless disturbed or
5 ci	m Mucky Peat or	Peat (S3	) Rec	lox Depr	essions (	(F8)		problematic
Restrictive	Layer (if observe	ed):						
Туре:					_		Hydric soil p	present? Y
Depth (inche	es):				_			
Remarks:								
HYDROLO	DGY							
Wetland Hy	drology Indicato	ors:						
Primary Indi	cators (minimum	of one is	required; check	all that a	pply)	40)	Seconda	ary Indicators (minimum of two required
X Surface	vvater (A1) ster Table (A2)				Fauna (B uatic Plar	13) hts (B14)	SI	ufface Soll Cracks (B6)
Saturatio	on (A3)			Hvdroae	en Sulfide	Odor (C1	I)D	rv-Season Water Table (C2)
Water N	larks (B1)			Oxidized	l Rhizosp	heres on	Living Roots C	rayfish Burrows (C8)
Sedimer	nt Deposits (B2)			(C3)				aturation Visible on Aerial Imagery (C9)
Drift Dep	posits (B3)			Presenc	e of Redu	uced Iron	(C4) St	tunted or Stressed Plants (D1)
Algal Ma	at or Crust (B4)			Recent I	ron Redu	iction in T	illed Soils X G	eomorphic Position (D2)
Iron Dep	osits (B5) on Visiblo on Aoria	Imagor	(P7)	(C6) Thin Mu	ok Surfor	o (C7)	F/	AC-Neutral Test (D5)
Sparsely	Vegetated Conca	i inager ive Surfa	се (B8)	Gauge o	or Well Da	e (C7) ata (D9)		
Water-S	tained Leaves (B9	)		Other (E	xplain in	Remarks	)	
Field Obser	vations:	,					, 	
Surface wat	er present?	Yes	X No		Depth (i	nches):	1	
Water table	present?	Yes	No	Х	Depth (i	nches):		Indicators of wetland
Saturation p	resent?	Yes	No	Х	Depth (i	nches):		hydrology present? Y
(includes ca	pillary tringe)							
Describe red	corded data (strea	am gauge	e, monitoring well	, aerial p	photos, p	revious ir	spections), if availa	able:
Remarks:								
Saturation	and/or a water	table v	vere not able to	be ob	served,	as the	water was frozen	at the time of the site visit.

WETLAND DETERMINA	TION D	ATA FORM	I - Midwest	Region				
Project/Site 85th Street Interchange	City/0	County:	Lincoln Coun	ity Sa	ampling Date:	11/13/18		
Applicant/Owner: 85th Street Business District Joint Venture Gro	up	State:	South Dake	ota Sa	ampling Point:	29-U		
Investigator(s): Rebecca Beduhn		Secti	on, Township,	Range:	T100NS	13R51W		
Landform (hillslope, terrace, etc.): backslope		Local	relief (concave	e, convex, n	ione):	None		
Slope (%): 6 Lat: 43.48981066		Long:	-96.8062432	25 Da	atum: UTM N	AD 83 Zone 14N		
Soil Map Unit Name Wentworth-Chancellor silty clay loams, 0 to 2 p	ercent slo	pes	NWI CI	lassificatior	ו:	None		
Are climatic/hydrologic conditions of the site typical for this time of t	he year?		Y (lf n	io, explain i	n remarks)			
Are vegetation, soil, or hydrology	significant	ly disturbed?						
Are vegetation , soil , or hydrology	naturally p	roblematic?	A	Are "norma	l circumstances"	present? Yes		
SUMMARY OF FINDINGS			(	(If needed,	explain any ansv	vers in remarks.)		
Hydrophytic vegetation present? N								
Hydric soil present? N		Is the sampled area within a wetland? N						
Indicators of wetland hydrology present? N		If yes, optional wetland site ID:						
Remarks: (Explain alternative procedures here or in a separate repo	ort.)							
	,							
VEGETATION Use scientific names of plants.								
	Absolute	Dominan	Indicator C	Dominance	e Test Workshe	ət		
<u>Tree Stratum</u> (Plot size: <u>30' Radius</u> )	% Cover	t Species	Status	Number of	Dominant Specie	S		
1				that are OB	L, FACW, or FAC	: <u> </u>		
2				Total Nu	umber of Dominar	nt		
		·		Specie	s Across all Strata	a: <u>1</u> (B)		
4 5				Percent of	Dominant Specie	s		
	0	= Total Cover			E, I AOW, OF I AC	. <u>0.0070</u> (A		
- Sapling/Shrub stratum (Plot size: 15' Radius )	<u> </u>		F	Prevalence	Index Workshe	et		
1 '			г	Total % Cov	ver of:			
2			(	OBL specie	s <u>0</u> x	1 = 0		
3			F	FACW spec	cies 0 x 2	2 = 0		
4			F	FAC specie	s <u>0</u> x	3 = 0		
5		- Total Caver		-ACU spec	$\frac{0}{2}$	4 = 0		
Herb stratum (Plot size <sup>,</sup> 5' Radius )	0	= Total Cover		Column tota	s = 0 x	3 = 0		
	100	V	NI	Drevalence	Index = B/A =			
2	100	·		Tevalence				
3			F	Hydrophyti	ic Vegetation In	dicators:		
4				Rapid to	est for hydrophyt	ic vegetation		
5				Domina	ince test is >50%	)		
6				Prevale	nce index is ≤3.0	)*		
				Morpho	logical adaptatio	ns* (provide		
				support	ing data in Rema	arks or on a		
<u> </u>			-	Separat	e sneer) natic hydronhytic	vegetation*		
	100	= Total Cover		(explain	naic nyuropriyiic i)	vegetation		
- Woody vine stratum (Plot size: 30' Radius )			-		f bydric soil and wat	and bydrology must l		
1				prese	ent, unless disturbed	or problematic		
2				Hydrop	ohytic			
	0	= Total Cover		vegeta	tion			
				presen	ur N			
Remarks: (Include photo numbers here or on a separate sheet)								
	Zea mays       Corm       100       Y       NI         Prevalence Index = B/A =							
Note: This data sheet has been adapted to use the 2012 National Wet	and Plant I	_ist:						
Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: Nation Engineers, Engineer Research and Development Center. Cold Regions Research	al Wetland P and Enginee	Plant List, version ring Laboratorv	n 2.4.0 (https://we Hanover. NH. an	etland_plants.u d BONAP. Cl	usace.army.mil). U.S napel Hill. NC. (2012	:. Army Corps of )		
Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm the abse	nce of indicators.)
---------------------	---------------------------------	-----------	-------------------	-------------	---------------------------	----------------------	----------------------------	-------------------------------------
Depth	Matrix		Re	dox Feat	ures			
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks
0-12	10YR 2/2	100					Silty Clay Loam	
*Type: C = 0	Concentration, D	= Depleti	ion, RM = Reduce	ed Matrix	a, MS = №	lasked S	and Grains. **Loca	tion: PL = Pore Lining, M = Matrix
Hydric So	oil Indicators:		C et		ad Matrix	(04)	Indicators for Pro	blematic Hydric Soils:
HIS Liet	iosol (A1) tia Eninadan (A2)		Sar	idy Gleye		(54)		Se Masses (F12) (LRR K, L, M)
	nc Epipedon (AZ)			nned Ma	1X (33) triv (86)			in remarks)
	Irogen Sulfide (A)	1)	011	k Surfac	e (S7)			in remarks)
Stra	atified Lavers (A5	)	Loa	mv Mucl	kv Minera	al (F1)		
2 cr	n Muck (A10)	,	Loa	imy Glev	ed Matrix	(F2)		
Dep	leted Below Darl	surface	e (A11) Der	pleted Ma	atrix (F3)	( )		
Thie	ck Dark Surface (	A12)	Red	dox Dark	Surface	(F6)	*Indicators of hy	drophytic vegetation and wetland
Sar	ndy Mucky Minera	al (S1)	Dep	pleted Da	ark Surfa	ce (F7)	hydrology must	be present, unless disturbed or
5 cr	m Mucky Peat or	Peat (S3	i) Red	dox Depr	essions (	(F8)		problematic
Restrictive	Layer (if observ	ed):						
Туре:							Hydric soil prese	ent? N
Depth (inche	es):				-			
HYDROLO	DGY							
Wetland Hy	drology Indicate	ors:						
Primary Indi	<u>cators (minimum</u>	of one is	required; check	all that a	pply)		Secondary In	ndicators (minimum of two required)
Surface	Water (A1)			Aquatic	Fauna (B	13)	Surfac	e Soil Cracks (B6)
High Wa	ater Table (A2)			I rue Aq	uatic Plar	its (B14) $Odor (C'$	1) Draina	ge Patterns (B10)
Water M	larks (B1)			Oxidized	l Rhizosn	heres on	Living Roots Cravfis	sh Burrows (C8)
Sedimer	nt Deposits (B2)			(C3)	. 1 11200p		Satura	tion Visible on Aerial Imagery (C9)
Drift Dep	oosits (B3)			Presenc	e of Redu	uced Iron	(C4) Stunte	d or Stressed Plants (D1)
Algal Ma	at or Crust (B4)			Recent I	ron Redu	iction in T	Tilled Soils Geome	orphic Position (D2)
Iron Dep	osits (B5)		(5-7)	(C6)		()	FAC-N	leutral Test (D5)
Inundati	on Visible on Aeria	al Imager	y (B7)	Thin Mu	ck Surfac	e (C7)		
Sparsely Water S	vegetated Conca	ave Surra	се (В8)	Gauge C	or vveli Da Ivolojn in	ata (D9) Romarka	<b>)</b>	
		')			.хріант ін	I Cernarks	)	
Surface wat	valions: er present?	Yee	No	x	Denth /i	nches).		
Water table	present?	Yes	No	- <u>X</u>	Depth (i	nches):	———	ndicators of wetland
Saturation p	resent?	Yes	No	X	Depth (i	nches):		hydrology present? N
(includes ca	pillary fringe)				<u> </u>	,		<u> </u>
Describe red	corded data (strea	am gaug	e, monitoring wel	l, aerial p	hotos, pi	revious ir	nspections), if available:	
Remarks:								
Saturation	and/or a water	r table v	vere not able to	be obs	served,	as the	water was frozen at t	he time of the site visit.

WETLAND DETERMINA	ATION D	ATA FORM	- Midwest Regio	n			
Project/Site 85th Street Interchange	City/0	County:	Lincoln County	Sampling Date:	11/13/18		
Applicant/Owner: 85th Street Business District Joint Venture Gro	up	State:	South Dakota	Sampling Point:	29-W		
Investigator(s): Rebecca Beduhn		Sectio	on, Township, Range:	T100NS1	8R50W		
Landform (hillslope, terrace, etc.): toeslope		Local r	elief (concave, conve	x, none): C	Concave		
Slope (%): 1 Lat: 43.48981246		Long:	-96.80621945	Datum: UTM NA	D 83 Zone 14N		
Soil Map Unit Name Wentworth-Chancellor silty clay loams, 0 to 2 p	percent slo	pes	NWI Classifica	ition: N	lone		
Are climatic/hydrologic conditions of the site typical for this time of t	he year?		Y (If no, expla	ain in remarks)			
Are vegetation , soil , or hydrology	significantl	ly disturbed?					
Are vegetation , soil , or hydrology	naturally p	roblematic?	Are "nor	mal circumstances" p	resent? Yes		
SUMMARY OF FINDINGS			(If neede	əd, explain any answe	ers in remarks.)		
Hydrophytic vegetation present? Y							
Hydric soil present? Y		Is the sampled area within a wetland?					
Indicators of wetland hydrology present? Y	If yes, optional wetland site ID: Wetland 29						
Remarks: (Evolain alternative procedures here or in a separate rep	ort)						
	011.)						
VECETATION Lies scientific names of plants							
VEGETATION Ose scientific names of plants.	Abaaluta	Dominon	Indicator Domina	unce Test Worksheet			
Tree Stratum (Plot size: 30' Radius )	% Cover	t Species	Status Numbe	r of Dominant Species			
1	-	I	that are	OBL, FACW, or FAC:	1 (A)		
2			Tota	I Number of Dominant	( )		
3			Spe	cies Across all Strata:	1 (B)		
4			Percen	t of Dominant Species			
5			that are	OBL, FACW, or FAC:	100.00% (A/B)		
	0	= Total Cover	Davada		4		
Sapling/Shrub stratum (Plot size: 15 Radius )			Prevale	Cover of:	ί <b>τ</b>		
2		<u> </u>		coveror.	= 0		
3		<u> </u>	FACW s	species $100 \times 2$	= 200		
4			FAC spe	ecies 0 x 3	= 0		
5			FACU s	pecies 0 x 4	= 0		
	0	= Total Cover	UPL spe	cies <u>0</u> x 5	= 0		
<u>Herb stratum</u> (Plot size: <u>5' Radius</u> )			Column	totals <u>100</u> (A)	<u>200</u> (B)		
1 Phalaris arundinacea Reed Canary Grass	90	Y	FACW Prevaler	nce Index = B/A =	2.00		
2 Spartina pectinata Freshwater Cord Grass	10	<u>N</u>	FACW				
			Hydrop	nytic vegetation indi	cators:		
5				ninance test is >50%	vegetation		
6			X Prev	valence index is ≤3.0*			
7			Mor	phological adaptation:	s* (provide		
8			sup	porting data in Remar	ks or on a		
9			sepa	arate sheet)			
10			Prol	plematic hydrophytic v	egetation*		
	100	= Total Cover	(exp	lain)			
Woody vine stratum (Plot size: <u>30' Radius</u> )			*Indicato	ors of hydric soil and wetlar	nd hydrology must be		
			Hvd	present, unless disturbed o	r problematic		
²	0	= Total Cover	veg	etation			
	0		pres	sent? Y			
Remarks: (Include photo numbers here or on a separate sheet)			I				
Note: This data sheet has been adapted to use the 2012 National Wetl	and Plant L		2 1 0 /https://watand		Army Corpo of		
Engineers, Engineer Research and Development Center, Cold Regions Research	and Engineer	ring Laboratory,	Hanover, NH, and BONAF	P, Chapel Hill, NC. (2012)	anny Corps Of		

Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm the abser	nce of indicators.)
Depth	Matrix		Ree	dox Feat	ures			
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks
0-12	10YR 2/2	95	7.5YR 4/6	5	С	М	Silty Clay Loam	
						1		
*Type: C = 0	Concentration, D :	= Depleti	on, RM = Reduce	ed Matrix	, MS = N	lasked S	and Grains. **Locat	ion: PL = Pore Lining, M = Matrix
Hydric Sc	il Indicators:						Indicators for Prob	lematic Hydric Soils:
Hist	tosol (A1)		Sar	ndy Gleye	ed Matrix	(S4)	Iron-Manganes	e Masses (F12) ( <b>LRR K, L, M</b> )
Hist	tic Epipedon (A2)		Sar	ndy Redo	x (S5)		Very Shallow D	ark Surface (F22)
Bla	ck Histic (A3)		Stri	pped Ma	trix (S6)		Other (explain i	n remarks)
Hyc	Irogen Sulfide (A4	4)	Dar	k Surfac	e (S7)			
Stra	atified Layers (A5)	)	Loa	my Mucł	ky Minera	al (F1)		
2 cr	m Muck (A10)	o (	Loa	my Gley	ed Matrix	k (F2)		
Dep	oleted Below Dark	Surface	e (A11) Dep	Deted Ma	atrix (F3)			
	ck Dark Surface (	A12)		lox Dark	Surrace	(F6)	*Indicators of hyd	drophytic vegetation and wetland
	ndy Mucky Minera	II (31) Doot (82		leted Da	ark Suria		nyarology must	problematic
5 CI	п миску Реаг ог	Peal (53	)		essions	(F8)		problematic
Restrictive	Layer (if observe	ed):						
Type:					-		Hydric soil prese	nt? Y
Depth (inche	es):				-			
Remarks:								
HYDROLO	DGY							
Wetland Hy	drology Indicato	ors:						
Primary Indi	<u>cators (minimum</u>	of one is	required; check	all that a	<u>pply)</u>		Secondary In	dicators (minimum of two required)
X Surface	Water (A1)			Aquatic	Fauna (B	13)	Surface	e Soil Cracks (B6)
High Wa	ater Table (A2)			True Aq	uatic Plar	nts (B14)	Draina	ge Patterns (B10)
Saturatio	on (A3) Jorka (B1)			Hydroge	n Sulfide	Odor (C	Dry-Se	ason Water Table (C2)
Sedimer	arks (DT)				i Rnizosp	neres on	Living Roots Crayins	ion Visible on Aerial Imageny (CQ)
Drift Der	(B2)			Presenc	e of Redi	iced Iron	(C4) Stunter	f or Stressed Plants (D1)
Algal Ma	at or Crust (B4)			Recent I	ron Redu	uction in T	illed Soils X Geomo	rphic Position (D2)
Iron Dep	osits (B5)			(C6)			X FAC-N	eutral Test (D5)
Inundati	on Visible on Aeria	l Imager	y (B7)	Thin Mu	ck Surfac	e (C7)		
Sparsely	/ Vegetated Conca	ve Surfa	ce (B8)	Gauge o	or Well Da	ata (D9)		
Water-S	tained Leaves (B9	)		Other (E	xplain in	Remarks	)	
Field Obser	vations:			-				
Surface wat	er present?	Yes	X No		Depth (i	nches):	1	
Water table	present?	Yes	No	Х	Depth (i	nches):	Ir	ndicators of wetland
Saturation p	resent?	Yes	No	X	Depth (i	nches):		nydrology present? Y
(includes ca	pillary tringe)							
Describe rec	corded data (strea	am gauge	e, monitoring well	, aerial p	hotos, p	revious ir	nspections), if available:	
Remarks:								
Saturation	and/or a water	table v	vere not able to	be obs	served	as the	water was frozen at t	he time of the site visit
					<b>.</b> ,			

WETLAND DETERMI	NATION D	ATA FORN	I - Midwest	Region				
Project/Site 85th Street Interchange	City/	County:	Lincoln Cour	nty S	Sampling Date:		07/25/19	)
Applicant/Owner: 85th Street Business District Joint Venture G	Group	State:	South Dak	kota S	Sampling	Point:	34-1U	
Investigator(s): Rebecca Beduhn		Secti	on, Township,	, Range:		T100NS08	R50W	
Landform (hillslope, terrace, etc.): backslope		Local	relief (concave	e, convex,	none):	Ν	lone	
Slope (%):         5         Lat:         43.49082		Long:	-96.77695	5 [	Datum:	UTM NAD	83 Zone	14N
Soil Map Unit Name Alcester silty clay loam, channeled			NWI C	Classificatio	on:	No	ne	
Are climatic/hydrologic conditions of the site typical for this time of	of the year?		Y (If r	no, explain	in remar	ks)		
Are vegetation, soil, or hydrology	significant	tly disturbed?						
Are vegetation, soil, or hydrology	naturally p	oroblematic?		Are "norm	al circum	stances" pre	esent? Y	′es
SUMMARY OF FINDINGS				(If needed	, explain	any answers	s in remar	ks.)
Hydrophytic vegetation present? N								
Hydric soil present? N		Is the sampled area within a wetland? N						
Indicators of wetland hydrology present? N	If yes, optional wetland site ID:							
Remarks: (Explain alternative procedures here or in a separate report.)								
VEGETATION Use scientific names of plants.								
	Absolute	Dominan	Indicator	Dominand	ce Test V	Vorksheet		
<u>Tree Stratum</u> (Plot size: <u>30' Radius</u> )	% Cover	t Species	Status	Number c	of Domina	nt Species		
				that are O	BL, FACV	N, or FAC:	0	_(A)
				Total N	Number of	Dominant	0	
		· ·		Speci	es Across		2	- <sup>(B)</sup>
5		· ·		that are O	BL. FAC	nt Species	0.00%	(A/B)
·	0	- Total Cover			,		0.0070	_(,,,,,,)
Sapling/Shrub stratum (Plot size: 15' Radius )		1		Prevalenc	e Index	Worksheet		
1				Total % Co	over of:			
2				OBL speci	ies	0 x 1 =	0	_
3				FACW spe	ecies	0 x 2 =	0	_
4		· ·		FAC speci	es _	$20 \times 3 =$	60	_
5		- Total Cover		LIPI speci		$\frac{05}{0}$ x 4 =	0	-
Herb stratum (Plot size: 5' Radius )				Column to	tals	85 (A)	320	(B)
1 Melilotus alba White Sweet Clover	45	Y	FACU	Prevalence	e Index =	B/A =	3.76	_(=)
2 Euphorbia virgata Leafy Spurge	20	Y	NI		•		0.1.0	-
3 Poa pratensis Kentucky Blue Grass	15	Ν	FAC	Hydrophy	tic Vege	tation Indic	ators:	
4 Monarda fistulosa Oswego-Tea	10	Ν	FACU	Rapid	test for h	ydrophytic v	regetation	
5 Medicago sativa Alfalfa	5	N	FACU	Domin	nance tes	t is >50%		
6 Panicum virgatum Wand Panic Grass	5	<u>N</u>	FAC	Preva	lence ind	ex is ≤3.0*		
7 Solidago rigida Hard-Leaf Flat-Top-Gold	1 5	<u>N</u>	FACU	Morph	ological a	adaptations*	(provide	
8		· ·		separa	rting data	i in Remarks	s or on a	
10		· ·	.	 Proble	matic hv	/ dronhvtic ve	aetation*	
	105	= Total Cover		(expla	in)		getation	
Woody vine stratum (Plot size: 30' Radius )		1		*Indicators	of hydric so	nil and wetland	hydrology n	nust he
1				pre	sent, unles	s disturbed or	problematic	lust be
2				Hydro	phytic			
	0	= Total Cover		vegeta	ation	N		
				hiese		í N		
Remarks: (Include photo numbers here or on a separate sheet)								
Note: This data sheet has been adapted to use the 2012 National W	etland Plant I	List:						
Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: Nat Engineers, Engineer Research and Development Contor, Cold Regions Research	tional Wetland I	Plant List, version	n 2.4.0 (https://w	etland_plants	S.usace.arn	ny.mil). U.S. Ar	my Corps of	f
Engineer Research and Development Center, Cold Regions Research	on and Enginee	ning Laboratory,	nanover, Ivi i, di	IN DOIVAF, C	snaper i iill,	110. (2012)		

34-1U

Profile Desc	cription: (Descr	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm the abse	nce of indicators.)
Depth	Matrix		Rec	dox Feat	ures			
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks
0-6	10YR 3/2	100					Silty Loam	
6-12	10YR 4/4	100					Silty Loam	
0.1								
*Type: C = C	Concentration D :	= Denleti	on RM = Reduce	d Matrix	MS = M	lasked S	and Grains **Locat	ion: PL = Pore Lining M = Matrix
Hydric So	il Indicators:	- Depieti			, 100 – 10		Indicators for Pro	plematic Hydric Soils:
Hist	osol (A1)		Sar	dv Gleve	ed Matrix	(S4)	Iron-Manganes	e Masses (F12) (LRR K. L. M)
Hist	ic Eninedon (A2)		Sar	dv Redo	x (S5)	. (04)	Very Shallow F	(F2)
Black Histic (A3)							Other (explain	in remarks)
Hydrogen Sulfide (ΔΔ)								in romano)
Stra	tified Lavers (A5)	)	Loa	my Mucl	v Minera	al (F1)		
2 cm	n Muck (A10)	/	Loa	my Glev	ed Matrix	(F2)		
	leted Below Dark	Surface	(A11) Der	leted Ma	atrix (F3)	(, _)		
Thic	k Dark Surface (	A12)	Rec	lox Dark	Surface	(F6)	*Indicators of hy	drophytic vegetation and wetland
Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) hydrology must be present, unless disturbed or								
5 cr	n Muckv Peat or	Peat (S3	) Rec	lox Depr	essions (	(F8)		problematic
		od).	,			- /		
	Layer (II observe	eu):					Hydric soil pres	ant? N
Depth (inche	<i>ie).</i>				•		riyune son prese	
Boptin (mone					-			
HYDROLO	JGY							
Wetland Hy	drology Indicato	ors:						
Primary Indi	cators (minimum	of one is	required; check	all that a	pply)		Secondary I	ndicators (minimum of two required)
Surface	Water (A1)			Aquatic	Fauna (B	13)	Surfac	e Soil Cracks (B6)
High Wa	ter Table (A2)			True Aq	uatic Plar	nts (B14)	Draina	ge Patterns (B10)
Saturatio	on (A3)			Hydroge	n Sulfide	Odor (C1	Dry-Se	ason Water Table (C2)
Water M	arks (B1)			Oxidized	Rhizosp	heres on	Living Roots Crayfis	h Burrows (C8)
Drift Dor	it Deposits (BZ)			(C3) Brocono	o of Podu	upped Iron	(C4) Satura	d or Stropped Plonts (D1)
	t or Crust (B4)			Presenc	ron Redu	uced from		or Stressed Plants (DT)
	osite (B5)			(C6)	IOII Redu		FAC-N	eutral Test (D5)
	on Visible on Aeria	l Imagen	/ (B7)	Thin Mu	ck Surfac	e (C7)		
Sparsely	Vegetated Conca	ve Surfa	ce (B8)	Gauge c	or Well Da	ata (D9)		
Water-S	tained Leaves (B9	)		Other (E	xplain in	Remarks	)	
Field Obser	vations:	,			•		, 	
Surface wate	er present?	Yes	No	х	Depth (i	nches).		
Water table	present?	Yes	No		Depth (i	nches):	I	ndicators of wetland
Saturation p	resent?	Yes	No	X	Depth (i	nches):		hydrology present? N
(includes ca	pillary fringe)				- · ·	,		<u> </u>
Describe rec	orded data (strea	am daude	e. monitorina well	. aerial p	hotos, p	revious ir	spections), if available:	
		0 - 9			, 1		. ,,	
Remarks:								

WETLAND DETERMINA	TION D	ATA FORN	I - Midwest Reg	jion			
Project/Site 85th Street Interchange	City/	County:	Lincoln County	Sampling Date:	07/25/19		
Applicant/Owner: 85th Street Business District Joint Venture Grou	ıp	State:	South Dakota	Sampling Point:	34-1W		
Investigator(s): Rebecca Beduhn		Section	on, Township, Ran	ge: T100NS	608R50W		
Landform (hillslope, terrace, etc.): toeslope		Local	relief (concave, cor	Concave			
Slope (%): 1 Lat: 43.490844		Long:	-96.776793	Datum: UTM N	AD 83 Zone 14N		
Soil Map Unit Name Alcester silty clay loam, channeled			NWI Classi	fication:	None		
Are climatic/hydrologic conditions of the site typical for this time of the	ie year?		Y (If no, ex	plain in remarks)			
Are vegetation, soil, or hydrologys	ignificant	ly disturbed?					
Are vegetation , soil , or hydrology n	aturally p	oroblematic?	Are "	normal circumstances"	present? Yes		
SUMMARY OF FINDINGS			(If ne	eded, explain any ansv	vers in remarks.)		
Hydrophytic vegetation present? Y							
Hydric soil present? Y		Is the sampled area within a wetland?					
Indicators of wetland hydrology present? Y	If yes, optional wetland site ID: Wetland 34						
Remarks: (Explain alternative procedures here or in a separate repo	rt.)						
	,						
VEGETATION Use scientific names of plants							
	Absolute	Dominan	Indicator Dom	inance Test Workshe	et		
Tree Stratum (Plot size: 30' Radius )	% Cover	t Species	Status Num	ber of Dominant Specie	is.		
1			that	are OBL, FACW, or FAC	): 1 (A)		
2			т	otal Number of Dominar	nt		
3				Species Across all Strata	a: <u>1</u> (B)		
4			Perc	cent of Dominant Specie	S		
5		Tatal O	that	are OBL, FACW, or FAC	): <u>100.00%</u> (A/B)		
Sanling/Shrub stratum (Plot size: 15' Padius )	0	= Total Cover	Brow	alanca Indax Warkshi	oot		
1			Total	% Cover of:			
2			OBL	species 80 x	1 = 80		
3			FAC	N species 40 x	2 = 80		
4			FAC	species 0 x	3 = 0		
5			FACU	J species 0 x	4 = 0		
	0	= Total Cover	UPL	species 0 x	5 = 0		
Herb stratum (Plot size: 5' Radius )			Colur	nn totals <u>120</u> (A	.) <u>160</u> (B)		
1 Typha angustifolia Narrow-Leaf Cat-Tail	70	<u> </u>	OBL Preva	alence Index = B/A =	1.33		
2 Salix Interior Sandbar Willow	20	<u> </u>	FACW	anhytic Vegetation In	diastora		
A Eleocharis obtusa Reed Canary Glass	10	·		Panid test for hydronhyt	ric vegetation		
5 Solidago gigantea Late Goldenrod	10		FACW X C	Ominance test is >50%	, o		
6			X F	revalence index is ≤3.0	)*		
7			N	/lorphological adaptatio	ns* (provide		
8			s	upporting data in Rema	arks or on a		
9			s	eparate sheet)			
10	100	Tatal O	F	roblematic hydrophytic	vegetation*		
Weady vine stratum (Plot size: 20' Rediue )	120	= Total Cover	(	explain)			
1			*Indi	cators of hydric soil and wetl	and hydrology must be		
2				Ivdrophytic			
	0	- Total Cover	v	egetation			
	-		p	resent? Y	_		
Remarks: (Include photo numbers here or on a separate sheet)			1				
Note: This data sheet has been adapted to use the 2012 National Wetla Robert W. Lichvar and John T. Kartesz, 2009. North American Digital Flora: National	ind Plant L Wetland F	List: Plant List. version	n 2.4.0 (https://wetland	plants.usace.armv.mil) U.S	S. Army Corps of		
Engineers, Engineer Research and Development Center, Cold Regions Research and	nd Enginee	ering Laboratory,	Hanover, NH, and BOI	NAP, Chapel Hill, NC. (2012	)		

Depth	Matrix		Ree	dox Feat	ures			
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks
0-6	10YR 2/2	100					Silty Loam	
6-16	10YR 4/2	90	7.5YR 4/6	10	С	М	Silty Loam	
*Type: C = C	Concentration, D	= Depleti	on, RM = Reduce	ed Matrix	, MS = N	/lasked S	and Grains. **Locati	on: PL = Pore Lining, M = Matrix
Hydric So	il Indicators:						Indicators for Prob	lematic Hydric Soils:
Hist	tosol (A1)		Sar	ndy Gleye	ed Matrix	(S4)	Iron-Manganese	Masses (F12) ( <b>LRR K, L, M</b> )
Hist	tic Epipedon (A2)		Sar	ndy Redo	ox (S5)		Very Shallow Da	ark Surface (F22)
Blac	ck Histic (A3)		Stri	pped Ma	trix (S6)		Other (explain ir	n remarks)
Hyd	Irogen Sulfide (A	4)	Dar	k Surfac	e (S7)			
Stra	atified Layers (A5	)	Loa	my Mucl	ky Miner	al (F1)		
2 cr	n Muck (A10)	0 (		my Gley	ed Matri	x (F2)		
	Dieted Below Dari	(Surface	(A11) <u>X</u> Dep		atrix (F3)		<b>.</b>	
	ck Dark Surface (	A12)		JOX Dark	Surface	(F6)	*Indicators of hyd	rophytic vegetation and wetland
5 or	ndy Mucky Minera	II (SI) Doot (S2		leted Da	ark Suria	Ce (F7) (E9)	nyarology must i	present, unless disturbed or
5 CI	II MUCKY Peat Of	Peal (55		iox Debi	essions	(ГО)		problematic
Restrictive	Layer (if observ	ed):						
Type:					-		Hydric soil prese	nt? <u>Y</u>
Depth (Inche	es):				-			
Remarks:								
HYDROLO	DGY							
Wetland Hy	drology Indicate	ors:						
Primary Indi	cators (minimum	of one is	required; check	all that a	pply)		Secondary Inc	dicators (minimum of two required)
Surface	Water (A1)			Aquatic	Fauna (B	313)	Surface	Soil Cracks (B6)
High Wa	iter Table (A2)			True Aq	uatic Plai	nts (B14)	Drainag	e Patterns (B10)
X Saturatio	on (A3) Iorko (B1)			Hydroge	n Suifide	boron on	I) Dry-Sea	Son Water Table (C2)
Sedimer	nt Deposits (B2)				i Kilizosp	neres on	Saturati	on Visible on Aerial Imagery (C9)
Drift Der	osits (B3)			Presenc	e of Red	uced Iron	(C4) Stunted	or Stressed Plants (D1)
Algal Ma	at or Crust (B4)			Recent I	ron Redu	uction in T	Tilled Soils X Geomo	phic Position (D2)
Iron Dep	osits (B5)			(C6)			X FAC-Ne	eutral Test (D5)
Inundatio	on Visible on Aeria	al Imager	y (B7)	Thin Mu	ck Surfac	ce (C7)		
Sparsely	Vegetated Conca	ave Surfa	ce (B8)	Gauge of	or Well Da	ata (D9)		
Water-S	tained Leaves (B9	9)		Other (E	xplain in	Remarks	)	
Field Obser	vations:				_			
Surface wate	er present?	Yes	No No	<u>X</u>	Depth (i	inches):		diagtana af watland
Vvater table	present?	Yes		X	Depth (	inches):		dicators of wetland
Saturation p	nillary fringe)	res	<u> </u>			inches):	n	ydrology present?
	pillary milige)				hataa n		annantiana) if available.	
Describe rec	corded data (strea	am gauge	e, monitoring wei	, aenai p	notos, p	revious ir	hspections), il available:	
Remarks:								

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

WETLAND DETERMIN	ATION D	ATA FORM	I - Midwest Reg	jion				
Project/Site 85th Street Interchange	City/	County:	Lincoln County	Sampling	Date:	07/25/19		
Applicant/Owner: 85th Street Business District Joint Venture Gro	oup	State:	South Dakota	Sampling	Point:	34-2U		
Investigator(s): Rebecca Beduhn		Section	on, Township, Rang	ge:	T100NS08F	50W		
Landform (hillslope, terrace, etc.): backslope		Local	relief (concave, cor	ivex, none):	ne): None			
Slope (%): 5 Lat: 43.493374		Long:	-96.77785	B5 Datum: UTM NA		83 Zone 14N		
Soil Map Unit Name Alcester silty clay loam, channeled			NWI Classif	fication:	Nor	ie		
Are climatic/hydrologic conditions of the site typical for this time of	the year?	_	Y (If no, ex	plain in remarl	ks)			
Are vegetation, soil, or hydrology	significant	ly disturbed?						
Are vegetation , soil , or hydrology	naturally p	oroblematic?	Are "	normal circum	stances" pre	sent? Yes		
SUMMARY OF FINDINGS			(If ne	eded, explain a	any answers	in remarks.)		
Hydrophytic vegetation present? N								
Hydric soil present? N		Is the sampled area within a wetland? N						
Indicators of wetland hydrology present? N	If yes, optional wetland site ID:							
 Remarks: (Explain alternative procedures here or in a separate rep	ort.)							
VEGETATION Lies scientific names of plants								
	Abcoluto	Dominan	Indicator Domi	inance Test W	/orksheet			
Tree Stratum (Plot size: 30' Radius )	% Cover	t Species	Status Num	ber of Domina	nt Species			
1			that	are OBL, FACV	V, or FAC:	1 (A)		
2			т	otal Number of	Dominant			
3				Species Across	all Strata:	2 (B)		
4			Perc	cent of Domina	nt Species			
5			that	are OBL, FACV	V, or FAC:	50.00% (A/B)		
Copling/Shruh stratum (Distrator 15' Dadius )	0	= I otal Cover	Brove	alanaa Inday \	Norkohaat			
Sapling/Shrub stratum (Plot size: 15 Radius )			Total	% Cover of	worksneet			
2			OBL	species	0 x 1 =	0		
3			FAC	V species	0 x 2 =	0		
4			FAC	species	35 x 3 =	105		
5			FACL	J species	40 x 4 =	160		
	0	= Total Cover	UPL	species	0 x 5 =	0		
Herb stratum (Plot size: 5' Radius )			Colur	nn totals	75 (A)	<u>265</u> (B)		
1 Poa pratensis Kentucky Blue Grass	35	Y	FAC Preva	alence Index =	B/A =	3.53		
2 Bromus inermis Smooth Brome	30	Y	FACU		ation Indian			
3 Euphorbia Virgata Leaty Spurge	15	<u> </u>		opnytic veget	ation indica	itors:		
	10			ominance test	tis >50%	getation		
6			P	revalence inde	ex is ≤3.0*			
7			[	lorphological a	adaptations*	(provide		
8			s	upporting data	in Remarks	or on a		
9			s	eparate sheet)				
10			P	roblematic hyd	drophytic veg	jetation*		
	90	= Total Cover	(e	explain)				
(Plot size: <u>30 Radius</u> )			*Indie	cators of hydric so	il and wetland	nydrology must be		
2			———  —— <sub>H</sub>	present, unless	s disturbed or p	robiematic		
	0	= Total Cover	v	egetation				
	v		p	resent?	N			
Remarks: (Include photo numbers here or on a separate sheet)			1					
Note: This data sheet has been adapted to use the 2012 National Wet	land Plant I	List: Plant List version	n 2 4 0 (https://watland	nlants usace arm	wmil) IIS Arr	ny Corps of		
Engineers, Engineer Research and Development Center, Cold Regions Research	and Enginee	ring Laboratory,	Hanover, NH, and BOI	VAP, Chapel Hill,	NC. (2012)	.,		

Depth (Inches)Matrix Color (moist)Redox Features Color (moist)Remarks0-810YR 3/2100Silty Loam8-910YR 4/4100Silty Loam9Image: Silty LoamRecks									
(Inches)Color (moist)%Color (moist)%Type*Loc**TextureRemarks0-810YR 3/2100Silty Loam8-910YR 4/4100Silty Loam9Rocks									
0-8         10YR 3/2         100         Silty Loam           8-9         10YR 4/4         100         Silty Loam           9         Image: Constraint of the second									
8-9         10YR 4/4         100         Silty Loam           9           Rocks									
9 Rocks									
*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Mat									
Hydric Soil Indicators: Indicators for Problematic Hydric Soils:									
Histosol (A1) Sandy Gleved Matrix (S4) Iron-Manganese Masses (F12) (LRR K, L, M)									
Histic Epipedon (A2) Sandy Redox (S5) Very Shallow Dark Surface (F22)									
Black Histic (A3) Stripped Matrix (S6) Other (explain in remarks)									
Hydrogen Sulfide (A4) Dark Surface (S7)									
Stratified Layers (A5) Loamy Mucky Mineral (F1)									
2 cm Muck (A10) Loamy Gleyed Matrix (F2)									
Depleted Below Dark Surface (A11) Depleted Matrix (F3)									
Thick Dark Surface (A12) Redox Dark Surface (F6) *Indicators of hydrophytic vegetation and wetlar									
Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) hydrology must be present, unless disturbed o									
5 cm Mucky Peat or Peat (S3) Redox Depressions (F8) problematic									
Restrictive Laver (if observed):									
Type: Rocks Hydric soil present? N									
Depth (inches): 9									
HYDROLOGY									
HYDROLOGY Wetland Hydrology Indicators:									
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required: check all that apply) Secondary Indicators (minimum of two requi									
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)         Surface Water (A1)         Aquatic Fauna (B13)    Surface Soil Cracks (B6)									
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)         Surface Water (A1)         High Water Table (A2)             Surface Vater (A1)             Surface Soil Cracks (B6)             Drainage Patterns (B10)									
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)         Surface Water (A1)         High Water Table (A2)         True Aquatic Plants (B14)         Saturation (A3)									
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two required; check all that apply)         Surface Water (A1)       Aquatic Fauna (B13)       Surface Soil Cracks (B6)         High Water Table (A2)       True Aquatic Plants (B14)       Drainage Patterns (B10)         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Dry-Season Water Table (C2)         Water Marks (B1)       Oxidized Rhizospheres on Living Roots       Crayfish Burrows (C8)									
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two required; check all that apply)         Surface Water (A1)       Aquatic Fauna (B13)       Surface Soil Cracks (B6)         High Water Table (A2)       True Aquatic Plants (B14)       Drainage Patterns (B10)         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Dry-Season Water Table (C2)         Water Marks (B1)       Oxidized Rhizospheres on Living Roots       Crayfish Burrows (C8)         Sediment Deposits (B2)       (C3)       Saturation Visible on Aerial Imagery (C3)									
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two required; check all that apply)         Surface Water (A1)       Aquatic Fauna (B13)       Surface Soil Cracks (B6)         High Water Table (A2)       True Aquatic Plants (B14)       Drainage Patterns (B10)         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Dry-Season Water Table (C2)         Water Marks (B1)       Oxidized Rhizospheres on Living Roots       Crayfish Burrows (C8)         Sediment Deposits (B2)       (C3)       Saturation (C4)       Stunted or Stressed Plants (D1)									
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two required; check all that apply)         Surface Water (A1)       Aquatic Fauna (B13)       Surface Soil Cracks (B6)         High Water Table (A2)       True Aquatic Plants (B14)       Drainage Patterns (B10)         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Dry-Season Water Table (C2)         Water Marks (B1)       Oxidized Rhizospheres on Living Roots       Crayfish Burrows (C8)         Sediment Deposits (B2)       (C3)       Saturation Visible on Aerial Imagery (C4)         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils       Geomorphic Position (D2)									
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two required; check all that apply)         Surface Water (A1)       Aquatic Fauna (B13)       Surface Soil Cracks (B6)         High Water Table (A2)       True Aquatic Plants (B14)       Drainage Patterns (B10)         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Dry-Season Water Table (C2)         Water Marks (B1)       Oxidized Rhizospheres on Living Roots       Crayfish Burrows (C8)         Sediment Deposits (B2)       (C3)       Saturation Visible on Aerial Imagery (C4)         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils       Geomorphic Position (D2)         Iron Deposits (B5)       (C6)       FAC-Neutral Test (D5)									
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two required; check all that apply)         Surface Water (A1)       Aquatic Fauna (B13)       Surface Soil Cracks (B6)         High Water Table (A2)       True Aquatic Plants (B14)       Drainage Patterns (B10)         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Dry-Season Water Table (C2)         Water Marks (B1)       Oxidized Rhizospheres on Living Roots       Crayfish Burrows (C8)         Sediment Deposits (B2)       (C3)       Saturation Visible on Aerial Imagery (C4)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils       Geomorphic Position (D2)         Iron Deposits (B5)       (C6)       FAC-Neutral Test (D5)         Inundation Visible on Aerial Imagery (B7)       Thin Muck Surface (C7)									
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two required; check all that apply)         Surface Water (A1)       Aquatic Fauna (B13)       Surface Soil Cracks (B6)         High Water Table (A2)       True Aquatic Plants (B14)       Drainage Patterns (B10)         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Dry-Season Water Table (C2)         Water Marks (B1)       Oxidized Rhizospheres on Living Roots       Crayfish Burrows (C8)         Sediment Deposits (B2)       (C3)       Saturation Visible on Aerial Imagery (C4)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils       Geomorphic Position (D2)         Iron Deposits (B5)       (C6)       FAC-Neutral Test (D5)         Inundation Visible on Aerial Imagery (B7)       Thin Muck Surface (C7)       FAC-Neutral Test (D5)									
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two required; check all that apply)         Surface Water (A1)       Aquatic Fauna (B13)       Surface Soil Cracks (B6)         High Water Table (A2)       True Aquatic Plants (B14)       Drainage Patterns (B10)         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Dry-Season Water Table (C2)         Water Marks (B1)       Oxidized Rhizospheres on Living Roots       Crayfish Burrows (C8)         Sediment Deposits (B2)       (C3)       Saturation Visible on Aerial Imagery (C1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils       Geomorphic Position (D2)         Iron Deposits (B5)       (C6)       FAC-Neutral Test (D5)         Inundation Visible on Aerial Imagery (B7)       Thin Muck Surface (C7)       FAC-Neutral Test (D5)         Water-Stained Leaves (B9)       Other (Explain in Remarks)       Other (Explain in Remarks)									
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two required; check all that apply)         Surface Water (A1)       Aquatic Fauna (B13)       Surface Soil Cracks (B6)         High Water Table (A2)       True Aquatic Plants (B14)       Drainage Patterns (B10)         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Dry-Season Water Table (C2)         Water Marks (B1)       Oxidized Rhizospheres on Living Roots       Crayfish Burrows (C8)         Sediment Deposits (B2)       (C3)       Saturation Visible on Aerial Imagery (C1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils       Geomorphic Position (D2)         Iron Deposits (B5)       (C6)       FAC-Neutral Test (D5)         Inundation Visible on Aerial Imagery (B7)       Thin Muck Surface (C7)       FAC-Neutral Test (D5)         Water-Stained Leaves (B9)       Other (Explain in Remarks)       Field Observations:									
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two required; check all that apply)         Surface Water (A1)       Aquatic Fauna (B13)       Surface Soil Cracks (B6)         High Water Table (A2)       True Aquatic Plants (B14)       Drainage Patterns (B10)         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Dry-Season Water Table (C2)         Water Marks (B1)       Oxidized Rhizospheres on Living Roots       Crayfish Burrows (C8)         Sediment Deposits (B2)       (C3)       Sturted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils       Geomorphic Position (D2)         Iron Deposits (B5)       (C6)       FAC-Neutral Test (D5)         Inundation Visible on Aerial Imagery (B7)       Thin Muck Surface (C7)       FAC-Neutral Test (D5)         Sparsely Vegetated Concave Surface (B8)       Gauge or Well Data (D9)       FAC-Neutral Test (D5)         Water-Stained Leaves (B9)       Other (Explain in Remarks)       Field Observations:         Surface water present?       Yes       No       X       Depth (inches):									
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two required; check all that apply)         Surface Water (A1)       Aquatic Fauna (B13)       Surface Soil Cracks (B6)         High Water Table (A2)       True Aquatic Plants (B14)       Drainage Patterns (B10)         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Dry-Season Water Table (C2)         Water Marks (B1)       Oxidized Rhizospheres on Living Roots       Crayfish Burrows (C8)         Sediment Deposits (B2)       (C3)       Saturation Visible on Aerial Imagery (C2)         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils       Geomorphic Position (D2)         Iron Deposits (B5)       (C6)       FAC-Neutral Test (D5)         Inundation Visible on Aerial Imagery (B7)       Thin Muck Surface (C7)       Sparsely Vegetated Concave Surface (B8)         Water-Stained Leaves (B9)       Other (Explain in Remarks)       Indicators of wetland         Field Observations:       No       X       Depth (inches):       Indicators of wetland         Water table present?       Yes       No       X       Depth (inches):       Indicators of wetland									
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two required; check all that apply)         Surface Water (A1)       Aquatic Fauna (B13)       Surface Soil Cracks (B6)         High Water Table (A2)       True Aquatic Plants (B14)       Drainage Patterns (B10)         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Dry-Season Water Table (C2)         Water Marks (B1)       Oxidized Rhizospheres on Living Roots       Crayfish Burrows (C8)         Sediment Deposits (B2)       (C3)       Saturation Visible on Aerial Imagery (C2)         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils       Geomorphic Position (D2)         Iron Deposits (B5)       (C6)       FAC-Neutral Test (D5)         Inundation Visible on Aerial Imagery (B7)       Thin Muck Surface (C7)       Sparsely Vegetated Concave Surface (B8)         Water-Stained Leaves (B9)       Other (Explain in Remarks)       Indicators of wetland hydrology present?         Field Observations:       No       X       Depth (inches):       Indicators of wetland hydrology present?         Saturation present?       Yes       No       X       Depth (inches):									
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two required; check all that apply)         Surface Water (A1)       Aquatic Fauna (B13)       Surface Soil Cracks (B6)         High Water Table (A2)       True Aquatic Plants (B14)       Drainage Patterns (B10)         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Dry-Season Water Table (C2)         Water Marks (B1)       Oxidized Rhizospheres on Living Roots       Crayfish Burrows (C8)         Sediment Deposits (B2)       (C3)       Saturation Visible on Aerial Imagery (C1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils       Geomorphic Position (D2)         Iron Deposits (B5)       (C6)       FAC-Neutral Test (D5)         Inundation Visible on Aerial Imagery (B7)       Thin Muck Surface (C7)       Saturation Leaves (B9)         Water-Stained Leaves (B9)       Other (Explain in Remarks)       Indicators of wetland hydrology present?         Field Observations:       No       X       Depth (inches):       Indicators of wetland hydrology present?         Saturation present?       Yes       No       X       Depth (inches):       No									
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two requests)         Surface Water (A1)       Aquatic Fauna (B13)       Surface Soil Cracks (B6)         High Water Table (A2)       True Aquatic Plants (B14)       Drainage Patterns (B10)         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Dry-Season Water Table (C2)         Water Marks (B1)       Oxidized Rhizospheres on Living Roots       Crayfish Burrows (C8)         Sediment Deposits (B2)       (C3)       Saturation Visible on Aerial Imagery (C1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils       Geomorphic Position (D2)         Iron Deposits (B5)       (C6)       FAC-Neutral Test (D5)         Inundation Visible on Aerial Imagery (B7)       Thin Muck Surface (C7)       Sparsely Vegetated Concave Surface (B8)         Water Table present?       Yes       No       X       Depth (inches):         Surface water present?       Yes       No       X       Depth (inches):         Water table present?       Yes       No       X       Depth (inches):       Indicators of wetland hydrology present?       N         Surface water present?       Yes       No       X       Depth (inches):									
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two required; check all that apply)         Surface Water (A1)       Aquatic Fauna (B13)       Surface Soil Cracks (B6)         High Water Table (A2)       True Aquatic Plants (B14)       Drainage Patterns (B10)         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Dry-Season Water Table (C2)         Water Marks (B1)       Oxidized Rhizospheres on Living Roots       Crayfish Burrows (C8)         Sediment Deposits (B2)       (C3)       Saturation (C4)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils       Geomorphic Position (D2)         Iron Deposits (B5)       (C6)       FAC-Neutral Test (D5)         Inundation Visible on Aerial Imagery (B7)       Thin Muck Surface (C7)       FAC-Neutral Test (D5)         Surface water present?       Yes       No       X       Depth (inches):       Indicators of wetland         Surface water present?       Yes       No       X       Depth (inches):       Indicators of wetland         Mater table present?       Yes       No       X       Depth (inches):       Indicators of wetland         Includes capillary fringe)       No       X       Depth (inches):									
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two requestion of the secondary Indicators (minimum of two requestion of two requestion of two requestions (B1)         Primary Indicators (Mathematication of the secondary Indicators (Mathematication (Mathematicatii									
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two required; check all that apply)         Surface Water (A1)       Aquatic Fauna (B13)       Surface Soil Cracks (B6)         High Water Table (A2)       True Aquatic Plants (B14)       Drainage Patterns (B10)         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Dry-Season Water Table (C2)         Water Marks (B1)       Oxidized Rhizospheres on Living Roots       Crargish Burrows (C8)         Sediment Deposits (B2)       (C3)       Saturation Nisible on Aerial Imagery (C: C3)         Orifit Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils       Geomorphic Position (D2)         Iron Deposits (B5)       (C6)       FAC-Neutral Test (D5)         Inundation Visible on Aerial Imagery (B7)       Thin Muck Surface (C7)       Sparsely Vegetated Concave Surface (B8)         Gauge or Well Data (D9)       Other (Explain in Remarks)       Indicators of wetland hydrology present?         Field Observations:       Surface water present?       Yes       No         Surface water present?       Yes       No       X       Depth (inches):       Indicators of wetland hydrology p									
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two requestions)         Surface Water (A1)       Aquatic Fauna (B13)       Surface Soil Cracks (B6)         High Water Table (A2)       True Aquatic Plants (B14)       Drainage Patterns (B10)         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Dry-Season Water Table (C2)         Crayfish Burrows (C8)       C(3)       Presence of Reduced Iron (C4)       Saturation Visible on Aerial Imagery (C2)         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Saturation Visible on Aerial Imagery (B7)       Thin Muck Surface (C7)         Gauge or Well Data (D9)       Other (Explain in Remarks)       Gauge or Well Data (D9)       FAC-Neutral Test (D5)         Water table present?       Yes       No       X       Depth (inches):       Indicators of wetland hydrology present?       N         Saturation present?       Yes       No       X       Depth (inches):       Indicators of wetland hydrology present?       N         Mater table present?       Yes       No       X       Depth (inches):       Indicators of wetland hydrology present?       N         Surface water present?       Yes       No       X       Depth (inches									

WETLAND DETERMIN	ATION D	ATA FORN	I - Midwest	Region				
Project/Site 85th Street Interchange	City/	County:	Lincoln Count	ty S	Sampling Date:		07/25/19	)
Applicant/Owner: 85th Street Business District Joint Venture Gro	oup	State:	South Dake	ota S	ampling	Point:	34-2W	
Investigator(s): Rebecca Beduhn		Section	on, Township, I	Range:		T100NS08	R50W	
Landform (hillslope, terrace, etc.): toeslope		Local	relief (concave	, convex,	none):	Co	oncave	
Slope (%): 1 Lat: 43.493374		Long:	-96.77785	[	Datum:	UTM NAE	83 Zone <sup>·</sup>	14N
Soil Map Unit Name Egan silty clay loam, 3 to 6 percent slopes			NWI CI	assificatio	n:	No	ne	
Are climatic/hydrologic conditions of the site typical for this time of	the year?		Y (If no	o, explain	in remai	rks)		
Are vegetation , soil , or hydrology	significant	ly disturbed?						
Are vegetation , soil , or hydrology	naturally p	oroblematic?	A	Are "norm	al circum	nstances" pr	esent? Y	'es
SUMMARY OF FINDINGS			(1	If needed,	explain	any answer	s in remarl	ks.)
Hydrophytic vegetation present? Y								
Hydric soil present? Y		Is the sampled area within a wetland?						
Indicators of wetland hydrology present? Y	If yes, optional wetland site ID: Wetland 34							
Remarks: (Explain alternative procedures here or in a separate rep	port.)							
	,011.)							
VEGETATION Lies scientific names of plants								
VEGETATION Ose scientific names of plants.	Abcoluto	Dominan	Indicator <b>F</b>	Oominand	o Tost V	Vorksheet		
Tree Stratum (Plot size: 30' Radius )	% Cover	t Species	Status	Number o	f Domina	ant Species		
1			1	that are O	BL, FAC	W, or FAC:	2	(A)
2				Total N	lumber o	f Dominant		- ` `
3				Specie	es Across	s all Strata:	2	(B)
4				Percent o	f Domina	nt Species		
5			1	that are O	BL, FAC	W, or FAC:	100.00%	(A/B)
Continue (Charle starture (Distribute 15) Dediver	0	= Total Cover				Wester to a t		
Sapling/Shrub stratum (Plot size: 15 Radius )						worksneet		
2				ORI sneci		0 x 1 =	0	
3		······································	F	ACW speed	ecies —	$\frac{0}{40}$ x 2 =	80	-
4			F	AC speci	es –	50 x 3 =	150	-
5			F	ACU spe	cies	0 x 4 =	0	-
	0	= Total Cover	· ι	JPL speci	es	0 x 5 =	0	
Herb stratum (Plot size: 5' Radius )			C	Column to	tals _	90 (A)	230	(B)
1 Hordeum jubatum Fox-Tail Barley	35	Y	FAC F	Prevalence	e Index =	= B/A =	2.56	_
2 Echinochloa crus-galli Large Barnyard Grass	20	Y	FACW					
3 Rumex crispus Curly Dock	15	<u> </u>	FAC	lydrophy	tic Vege	tation Indic	ators:	
4 Cyperus esculentus Chula	10	<u> </u>		Kapiu X Domin	ance tes	t is 50%	regetation	
6	10			X Preval	ence ind	ex is ≤3.0*		
7			[	Morph		adaptations	* (provide	
8				suppor	rting data	a in Remark	s or on a	
9				separa	ate sheet	)		
10				Proble	matic hy	drophytic ve	getation*	
	90	= Total Cover	· I_	(explai	in)			
Woody vine stratum (Plot size: 30' Radius )				*Indicators	of hydric s	oil and wetland	l hydrology m	nust be
1 <u></u>				pre:	sent, unles	s disturbed or	problematic	
2		Total Cover		vegeta	ation			
	0	= Total Cover		prese	nt?	Y		
Remarks: (Include photo numbers here or on a separate sheet)			I					
Note: This data sheet has been adapted to use the 2012 National Wet	tland Plant L	_ist:	m Q 4 Q //s//s //	Hond -	196		······	
Engineers, Engineer Research and Development Center, Cold Regions Research	nal vvetland F and Enginee	ring Laboratory,	Hanover, NH, and	d BONAP, C	.usace.am Chapel Hill,	NC. (2012)	my Corps of	

Profile Desc	cription: (Descr	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm the abser	nce of indicators.)
Depth	Matrix		Re	dox Feat	ures			
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks
0-4	10YR 2/2	100					Silty Loam	
4-8	10YR 4/2	90	7.5YR 4/6	10	С	М	Silty Loam	
8-18	10YR 4/2	100					Silty Loam	
*Type: C = C	Concentration, D :	= Depleti	on, RM = Reduce	ed Matrix	., MS = N	lasked S	and Grains. **Locati	on: PL = Pore Lining, M = Matrix
Hydric So	il Indicators:						Indicators for Prob	lematic Hydric Soils:
Hist	tosol (A1)		Sar	ndy Gleye	ed Matrix	: (S4)	Iron-Manganes	e Masses (F12) (LRR K, L, M)
Hist	tic Epipedon (A2)		Sar	ndy Redo	ox (S5)		Very Shallow D	ark Surface (F22)
Black Histic (A3) Stripped Matrix (S6) Other (explain in remarks)							n remarks)	
Hyd	Irogen Sulfide (A4	4)	Dar	k Surfac	e (S7)			
Stra	atified Layers (A5)	)	Loa	my Mucl	ky Minera	al (F1)		
2 cr	m Muck (A10)		Loa	my Gley	ed Matrix	k (F2)		
Dep	leted Below Dark	Surface	e (A11) X Dep	pleted Ma	atrix (F3)			
Thic	ck Dark Surface (	A12)	Rec	lox Dark	Surface	(F6)	*Indicators of hyd	lrophytic vegetation and wetland
San	idy Mucky Minera	ll (S1)	Det	pleted Da	ark Surfa	ce (F7)	hydrology must	be present, unless disturbed or
5 cr	n Mucky Peat or	Peat (S3	) <u> </u>	lox Depr	essions (	(F8)		problematic
Restrictive	Layer (if observe	ed):						
Туре:					_		Hydric soil prese	nt? Y
Depth (inche	es):				-			
Remarks:								
HYDROLO	DGY							
Wetland Hy	drology Indicato	ors:						
Primary Indi	cators (minimum	of one is	required; check	all that a	pply)		Secondary In	dicators (minimum of two required)
X Surface	Water (A1)			Aquatic	Fauna (B	13)	Surface	e Soil Cracks (B6)
X High Wa	ater Table (A2)			True Aq	uatic Plar	nts (B14)	Drainag	e Patterns (B10)
X Saturatio	on (A3)			Hydroge	n Sulfide	Odor (C1	) Dry-Sea	ason Water Table (C2)
Water M	larks (B1)			Oxidized	l Rhizosp	heres on	Living Roots Crayfis	n Burrows (C8)
Sedimer	nt Deposits (B2)			(C3)	(		Saturat	ion Visible on Aerial Imagery (C9)
Drift Dep	DOSITS (B3)			Presenc	e of Redu	uced Iron	(C4) Stunted	or Stressed Plants (D1)
	at of Crust (B4)			Recent I	ron Reau	Iction in 1		rphic Position (D2)
	on Visible on Aeria	l Imagen	/ (B7)	Thin Mu	ck Surfac	e (C7)		eutral lest (DS)
Sparsely	Vegetated Conca	ive Surfa	ce (B8)	Gauge c	or Well Da	$\frac{1}{2}$ (C7) ata (D9)		
Water-S	tained Leaves (B9	)		Other (E	xplain in	Remarks	)	
Field Obser	vations				•		· T	
Surface wate	er present?	Yes	X No		Depth (i	nches):	0.5	
Water table	present?	Yes	X No		Depth (i	nches):	0 Ir	dicators of wetland
Saturation p	resent?	Yes	X No		Depth (i	nches):	0	nydrology present? Y
(includes ca	pillary fringe)							
Describe rec	corded data (strea	am gauge	e, monitoring wel	, aerial p	hotos, pi	revious ir	nspections), if available:	
Remarks:								

WETLAND DETERMINA	TION D	ATA FORM	I - Midwest R	egion		
Project/Site 85th Street Interchange	City/0	County:	Lincoln County	Sampling	J Date:	11/13/18
Applicant/Owner: 85th Street Business District Joint Venture Grou	up	State:	South Dakota	a Sampling	Point:	38U
Investigator(s): Rebecca Beduhn		Secti	on, Township, Ra	ange:	T100NS18F	₹50W
Landform (hillslope, terrace, etc.): backslope		Local	relief (concave, c	convex, none):	N	one
Slope (%): 5 Lat: 43.47555403		Long:	-96.79834045	Datum:	UTM NAD	83 Zone 14N
Soil Map Unit Name Huntimer silty clay loam, 0 to 2 percent slopes			NWI Clas	sification:	Nor	ie
Are climatic/hydrologic conditions of the site typical for this time of the	ne year?		Y (If no,	explain in rema	rks)	
Are vegetation, soil, or hydrologys	significant	ly disturbed?				
Are vegetation , soil , or hydrology r	naturally p	oroblematic?	Are	e "normal circum	nstances" pre	sent? Yes
SUMMARY OF FINDINGS			(If ı	needed, explain	any answers	in remarks.)
Hydrophytic vegetation present? Y						
Hydric soil present? N		Is the sa	ampled area wit	hin a wetland?	1	1
Indicators of wetland hydrology present? N		lf yes, op	tional wetland sit	te ID:		
Remarks: (Explain alternative procedures here or in a separate repo	ort )					
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					
VEGETATION Use scientific names of plants						
	Absolute	Dominan	Indicator Do	minance Test \	Norksheet	
Tree Stratum (Plot size: 30' Radius )	% Cover	t Species	Status N	umber of Domina	ant Species	
1 /			tha	at are OBL, FAC	W, or FAC:	1 (A)
2				Total Number o	of Dominant	
3				Species Acros	s all Strata:	1 (B)
4			P	ercent of Domina	ant Species	
<u> </u>		TILO	tha	at are OBL, FAC	W, or FAC:	<u>100.00%</u> (A/B
Sonling/Shrub stratum (Plot size: 15' Padius )	0	= I otal Cover	Dro	valanco Indox	Workshoot	
1			Tot	al % Cover of	WOIKSHEEL	
2			OB	L species	0 x 1 =	0
3			FA	CW species	0 x 2 =	0
4			FA	C species	100 x 3 =	300
5			FA	CU species	0 x 4 =	0
	0	= Total Cover	UP	L species	$0 \times 5 =$	0
Herb stratum (Plot size: 5' Radius )			Co	lumn totals	<u>100</u> (A)	<u>300</u> (B)
1 Poa pratensis Kentucky Blue Grass	100	<u>Y</u>	FAC Pre	evalence Index =	= B/A =	3.00
		·		drophytic Vege	tation Indic:	ators:
4		·		Rapid test for I	hvdrophvtic v	egetation
5		·	<u> </u>	Dominance tes	st is >50%	-9
6		·	<u> </u>	Prevalence ind	lex is ≤3.0*	
7				Morphological	adaptations*	(provide
8				supporting data	a in Remarks	or on a
9				separate sheet	t)	
10	100	- Total Caver	<u> </u>	Problematic hy	drophytic vec	jetation*
Woody vine stratum (Plot size: 30' Padius )	100	= I otal Cover		(explain)		
1			*Ir	ndicators of hydric s	oil and wetland l	nydrology must be
2		······································		Hydrophytic		Toblematic
	0	= Total Cover		vegetation		
				present?	Y	
Remarks: (Include photo numbers here or on a separate sheet)			•			
		· .				
<b>Note:</b> This data sheet has been adapted to use the 2012 National Wetla Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: National	and Plant L al Wetland F	_ist: Plant List, versio	n 2.4.0 (https://wetlai	nd_plants.usace.arr	my.mil). U.S. Arr	ny Corps of
Engineers, Engineer Research and Development Center, Cold Regions Research a	and Enginee	ring Laboratory,	Hanover, NH, and E	BONAP, Chapel Hill	, NC. (2012)	

Depth (Inches)       Matrix Color (moist)       Redox Features Color (moist)       Type*       Loc**       Texture       Remarks         0-12       10YR 3/1       100       Silty Clay Loam       Silty Clay Loam <td< th=""><th></th></td<>	
(Inches)       Color (moist)       %       Type*       Loc**       Texture       Remarks         0-12       10YR 3/1       100       Silty Clay Loam       Silty Clay Loam       Silty Clay Loam       Silty Clay Loam         Image: Silty Clay Loam       Image: Silty Clay Loam       Image: Silty Clay Loam       Image: Silty Clay Loam       Image: Silty Clay Loam         Image: Silty Clay Loam       Image: Silty Clay Loam       Image: Silty Clay Loam       Image: Silty Clay Loam       Image: Silty Clay Loam         Image: Silty Clay Loam       Image: Silty Clay Loam       Image: Silty Clay Loam       Image: Silty Clay Loam       Image: Silty Clay Loam         Image: Silty Clay Loam       Image: Silty Clay Loam       Image: Silty Clay Loam       Image: Silty Clay Loam       Image: Silty Clay Loam       Image: Silty Clay Loam         Image: Silty Clay Loam       Image: Silty Clay Loam       Image: Silty Clay Loam       Image: Silty Clay Loam       Image: Silty Clay Loam       Image: Silty Clay Loam         Image: Silty Clay Loam       Image: Silty Clay Loam       Image: Silty Clay Loam       Image: Silty Clay Loam       Image: Silty Clay Loam       Image: Silty Clay Loam         Image: Silty Clay Loam       Image: Silty Clay Loam       Image: Silty Clay Loam       Image: Silty Clay Loam       Image: Silty Clay Loam       Image: Silty Clay Loam       Image: Silty Clay Loam <t< td=""><td></td></t<>	
0-12       10YR 3/1       100       Silty Clay Loam         Image: Constraint of the second s	
*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.       **Location: PL = Pore Lining, M = M         Hydric Soil Indicators:	
*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.       **Location: PL = Pore Lining, M = M         Hydric Soil Indicators:	
Image: Standy Gleyed Matrix (S4)       Image: Standy Gleyed Matrix (S4)         Image: Histosol (A1)       Sandy Gleyed Matrix (S4)         Histosol (A1)       Sandy Gleyed Matrix (S4)         Histosol (A1)       Sandy Redox (S5)	
*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.       **Location: PL = Pore Lining, M = M         Hydric Soil Indicators:       Indicators:       Indicators for Problematic Hydric Soils:         Histosol (A1)       Sandy Gleyed Matrix (S4)       Iron-Manganese Masses (F12) (LRR K, L, H)         Histic Epipedon (A2)       Sandy Redox (S5)       Very Shallow Dark Surface (F22)	
*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.       **Location: PL = Pore Lining, M = M         *Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.       **Location: PL = Pore Lining, M = M         Hydric Soil Indicators:       Indicators for Problematic Hydric Soils:         Histosol (A1)       Sandy Gleyed Matrix (S4)         Histic Epipedon (A2)       Sandy Redox (S5)	
*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.       **Location: PL = Pore Lining, M = M         Hydric Soil Indicators:       Indicators for Problematic Hydric Soils:         Histosol (A1)       Sandy Gleyed Matrix (S4)         Histic Epipedon (A2)       Sandy Redox (S5)	
*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.       **Location: PL = Pore Lining, M = N         Hydric Soil Indicators:       Indicators for Problematic Hydric Soils:         Histosol (A1)       Sandy Gleyed Matrix (S4)         Histic Epipedon (A2)       Sandy Redox (S5)	
*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.       **Location: PL = Pore Lining, M = N         Hydric Soil Indicators:       Indicators for Problematic Hydric Soils:         Histosol (A1)       Sandy Gleyed Matrix (S4)         Histic Epipedon (A2)       Sandy Redox (S5)	
*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.       **Location: PL = Pore Lining, M = N         Hydric Soil Indicators:       Indicators for Problematic Hydric Soils:         Histosol (A1)       Sandy Gleyed Matrix (S4)         Histic Epipedon (A2)       Sandy Redox (S5)	
*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.       **Location: PL = Pore Lining, M = N         Hydric Soil Indicators:	
Hydric Soil Indicators:       Indicators for Problematic Hydric Soils:         Histosol (A1)       Sandy Gleyed Matrix (S4)       Iron-Manganese Masses (F12) (LRR K, L, I)         Histic Epipedon (A2)       Sandy Redox (S5)       Very Shallow Dark Surface (F22)	atrix
Histosol (A1)Sandy Gleyed Matrix (S4)Iron-Manganese Masses (F12) (LRR K, L,Histic Epipedon (A2)Sandy Redox (S5)Very Shallow Dark Surface (F22)	
Histic Epipedon (A2) Sandy Redox (S5) Very Shallow Dark Surface (F22)	<b>/</b> )
Black Histic (A3) Stripped Matrix (S6) Other (explain in remarks)	
Hydrogen Sulfide (A4) Dark Surface (S7)	
Stratified Layers (A5) Loamy Mucky Mineral (F1)	
2 cm Muck (A10) Loamy Gleyed Matrix (F2)	
Depleted Below Dark Surface (A11) Depleted Matrix (F3)	
Thick Dark Surface (A12) Redox Dark Surface (F6) *Indicators of hydrophytic vegetation and wet	and
Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) hydrology must be present, unless disturbed	or
5 cm Mucky Peat or Peat (S3) Redox Depressions (F8) problematic	
Poetrictive Laver /if observed):	
Type: Hydric soil prosent?	
Depth (inches):	
HYDROLOGY	
Wetland Hydrology Indicators:	
Primary Indicators (minimum of one is required; check all that apply) Secondary Indicators (minimum of two re	quired)
Surface water (AT) Aquatic Fauha (B13) Sufface Soll Cracks (B6)	
Surrace water (A1)       Aquatic Fauna (B13)       Surrace Soil Cracks (B6)         High Water Table (A2)       True Aquatic Plants (B14)       Drainage Patterns (B10)	
Surrace water (A1)       Aquatic Fauna (B13)       Surrace Soil Cracks (B6)         High Water Table (A2)       True Aquatic Plants (B14)       Drainage Patterns (B10)         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Dry-Season Water Table (C2)	
Surrace water (A1)       Aquatic Fauna (B13)       Surrace Soil Cracks (B6)         High Water Table (A2)       True Aquatic Plants (B14)       Drainage Patterns (B10)         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Dry-Season Water Table (C2)         Water Marks (B1)       Oxidized Rhizospheres on Living Roots       Crayfish Burrows (C8)	
Surrace water (A1)       Aquatic Fauna (B13)       Surrace Soil Cracks (B6)         High Water Table (A2)       True Aquatic Plants (B14)       Drainage Patterns (B10)         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Dry-Season Water Table (C2)         Water Marks (B1)       Oxidized Rhizospheres on Living Roots       Crayfish Burrows (C8)         Sediment Deposits (B2)       (C3)       Saturation Visible on Aerial Imagery	C9)
Surrace water (A1)       Aquatic Fauna (B13)       Surrace Soil Cracks (B6)         High Water Table (A2)       True Aquatic Plants (B14)       Drainage Patterns (B10)         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Dry-Season Water Table (C2)         Water Marks (B1)       Oxidized Rhizospheres on Living Roots       Crayfish Burrows (C8)         Sediment Deposits (B2)       (C3)       Saturation (C4)       Stunted or Stressed Plants (D1)	C9)
Surrace water (A1)Aquatic Fauna (B13)Surrace Soil Cracks (B6)High Water Table (A2)True Aquatic Plants (B14)Drainage Patterns (B10)Saturation (A3)Hydrogen Sulfide Odor (C1)Dry-Season Water Table (C2)Water Marks (B1)Oxidized Rhizospheres on Living RootsCrayfish Burrows (C8)Sediment Deposits (B2)(C3)Saturation Visible on Aerial ImageryDrift Deposits (B3)Presence of Reduced Iron (C4)Stunted or Stressed Plants (D1)Algal Mat or Crust (B4)Recent Iron Reduction in Tilled SoilsGeomorphic Position (D2)	C9)
Surrace water (A1)Aquatic Fauna (B13)Surrace Soil Cracks (B6)High Water Table (A2)True Aquatic Plants (B14)Drainage Patterns (B10)Saturation (A3)Hydrogen Sulfide Odor (C1)Dry-Season Water Table (C2)Water Marks (B1)Oxidized Rhizospheres on Living RootsCrayfish Burrows (C8)Sediment Deposits (B2)(C3)Saturation Visible on Aerial ImageryDrift Deposits (B3)Presence of Reduced Iron (C4)Stunted or Stressed Plants (D1)Algal Mat or Crust (B4)Recent Iron Reduction in Tilled SoilsGeomorphic Position (D2)Iron Deposits (B5)(C6)FAC-Neutral Test (D5)	C9)
Surrace water (A1)Aquatic Fauna (B13)Surrace Soil Cracks (B6)High Water Table (A2)True Aquatic Plants (B14)Drainage Patterns (B10)Saturation (A3)Hydrogen Sulfide Odor (C1)Dry-Season Water Table (C2)Water Marks (B1)Oxidized Rhizospheres on Living RootsCrayfish Burrows (C8)Sediment Deposits (B2)(C3)Saturation Visible on Aerial ImageryDrift Deposits (B3)Presence of Reduced Iron (C4)Stunted or Stressed Plants (D1)Algal Mat or Crust (B4)(C6)FAC-Neutral Test (D5)Inundation Visible on Aerial Imagery (B7)Thin Muck Surface (C7)	C9)
Surrace water (AT)       Aquatic Fauna (B13)       Surrace Soil Cracks (B6)         High Water Table (A2)       True Aquatic Plants (B14)       Drainage Patterns (B10)         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Dry-Season Water Table (C2)         Water Marks (B1)       Oxidized Rhizospheres on Living Roots       Crayfish Burrows (C8)         Sediment Deposits (B2)       (C3)       Saturation (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils       Geomorphic Position (D2)         Iron Deposits (B5)       (C6)       FAC-Neutral Test (D5)         Inundation Visible on Aerial Imagery (B7)       Thin Muck Surface (C7)       FAC-Neutral Test (D5)         Sparsely Vegetated Concave Surface (B8)       Gauge or Well Data (D9)       Face the table of	C9)
Surrace water (A1)Aquatic Fauna (B13)Surrace Soil Cracks (B6)High Water Table (A2)True Aquatic Plants (B14)Drainage Patterns (B10)Saturation (A3)Hydrogen Sulfide Odor (C1)Dry-Season Water Table (C2)Water Marks (B1)Oxidized Rhizospheres on Living RootsCrayfish Burrows (C8)Sediment Deposits (B2)(C3)Saturation Visible on Aerial ImageryDrift Deposits (B3)Presence of Reduced Iron (C4)Stunted or Stressed Plants (D1)Algal Mat or Crust (B4)Recent Iron Reduction in Tilled SoilsGeomorphic Position (D2)Iron Deposits (B5)(C6)FAC-Neutral Test (D5)Inundation Visible on Aerial Imagery (B7)Thin Muck Surface (C7)FAC-Neutral Test (D5)Water-Stained Leaves (B9)Other (Explain in Remarks)Other (Explain in Remarks)	C9)
Surrace water (AT)       Aquatic Fauna (B13)       Surrace Soil Cracks (B6)         High Water Table (A2)       True Aquatic Plants (B14)       Drainage Patterns (B10)         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Dry-Season Water Table (C2)         Water Marks (B1)       Oxidized Rhizospheres on Living Roots       Crayfish Burrows (C8)         Sediment Deposits (B2)       (C3)       Saturation (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils       Geomorphic Position (D2)         Iron Deposits (B5)       (C6)       FAC-Neutral Test (D5)         Inundation Visible on Aerial Imagery (B7)       Thin Muck Surface (C7)       FAC-Neutral Test (D5)         Sparsely Vegetated Concave Surface (B8)       Other (Explain in Remarks)       Other (Explain in Remarks)	C9)
Surrace water (A1)       Aquatic Fauna (B13)       Surrace Soil Cracks (B6)         High Water Table (A2)       True Aquatic Plants (B14)       Drainage Patterns (B10)         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Dry-Season Water Table (C2)         Water Marks (B1)       Oxidized Rhizospheres on Living Roots       Crayfish Burrows (C8)         Sediment Deposits (B2)       (C3)       Saturation (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils       Geomorphic Position (D2)         Iron Deposits (B5)       (C6)       FAC-Neutral Test (D5)         Inundation Visible on Aerial Imagery (B7)       Thin Muck Surface (C7)       FAC-Neutral Test (D5)         Water-Stained Leaves (B9)       Other (Explain in Remarks)       Other (Explain in Remarks)	C9)
Surrace water (AT)       Aquatic Fauna (B13)       Surrace Soil Cracks (B6)         High Water Table (A2)       True Aquatic Plants (B14)       Drainage Patterns (B10)         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Dry-Season Water Table (C2)         Water Marks (B1)       Oxidized Rhizospheres on Living Roots       Crayfish Burrows (C8)         Sediment Deposits (B2)       (C3)       Saturation (C4)         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils       Geomorphic Position (D2)         Iron Deposits (B5)       (C6)       FAC-Neutral Test (D5)         Inundation Visible on Aerial Imagery (B7)       Thin Muck Surface (C7)       FAC-Neutral Test (D5)         Water-Stained Leaves (B9)       Other (Explain in Remarks)       Indicators of wetland         Field Observations:       Yes       No       X       Depth (inches):       Indicators of wetland         Water table present?       Yes       No       X       Depth (inches):       Indicators of wetland	C9)
Surface water (A1)Aquatic Fauna (B13)Surface Soil Cracks (B6)High Water Table (A2)True Aquatic Plants (B14)Drainage Patterns (B10)Saturation (A3)Hydrogen Sulfide Odor (C1)Dry-Season Water Table (C2)Water Marks (B1)Oxidized Rhizospheres on Living RootsCrayfish Burrows (C8)Sediment Deposits (B2)(C3)Saturation Visible on Aerial ImageryDrift Deposits (B3)Presence of Reduced Iron (C4)Stunted or Stressed Plants (D1)Algal Mat or Crust (B4)Recent Iron Reduction in Tilled SoilsGeomorphic Position (D2)Inon Deposits (B5)(C6)FAC-Neutral Test (D5)Inundation Visible on Aerial Imagery (B7)Thin Muck Surface (C7)Sparsely Vegetated Concave Surface (B8)Gauge or Well Data (D9)Water-Stained Leaves (B9)Other (Explain in Remarks)Field Observations:YesNoX Depth (inches):Indicators of wetland hydrology present?Water table present?YesNoX Depth (inches):Indicators of wetland hydrology present?NoX Depth (inches):No	C9)
Surface valuer (A1)       Aquatic Fauna (B13)       Surface Soil Cracks (B6)         High Water Table (A2)       True Aquatic Plants (B14)       Drainage Patterns (B10)         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Dry-Season Water Table (C2)         Water Marks (B1)       Oxidized Rhizospheres on Living Roots       Crayfish Burrows (C8)         Sediment Deposits (B2)       (C3)       Saturation (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils       Geomorphic Position (D2)         Iron Deposits (B5)       (C6)       FAC-Neutral Test (D5)         Inundation Visible on Aerial Imagery (B7)       Thin Muck Surface (C7)       Sparsely Vegetated Concave Surface (B8)         Water stained Leaves (B9)       Other (Explain in Remarks)       Indicators of wetland hydrology present?         Field Observations:       Yes       No       X       Depth (inches):       Indicators of wetland hydrology present?         Saturation present?       Yes       No       X       Depth (inches):       N       N         Mater table present?       Yes       No       X       Depth (inches):       N       N         Saturation present?       Yes       No       X       Depth (inches):       N       N         Cincludes capill	C9)
Surface water (A1)       Aquatic Patina (B13)       Surface Soil Cracks (B6)         High Water Table (A2)       True Aquatic Plants (B14)       Drainage Patterns (B10)         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Dry-Season Water Table (A2)         Water Marks (B1)       Oxidized Rhizospheres on Living Roots       Crayfish Burrows (C8)         Sediment Deposits (B2)       (C3)       Saturation Visible on Aerial Imagery         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils       Geomorphic Position (D2)         Iron Deposits (B5)       (C6)       FAC-Neutral Test (D5)         Inundation Visible on Aerial Imagery (B7)       Thin Muck Surface (C7)       Sparsely Vegetated Concave Surface (B8)         Water Astained Leaves (B9)       Other (Explain in Remarks)       Indicators of wetland         Field Observations:       No       X       Depth (inches):       Indicators of wetland         Saturation present?       Yes       No       X       Depth (inches):       Indicators of wetland         Mater table present?       Yes       No       X       Depth (inches):       No       No         Saturation present?       Yes       No       X       Depth (inches):	C9)
Surrace water (A1)       Aquatic Fauna (B13)       Surface Soil Cracks (B6)         High Water Table (A2)       True Aquatic Plants (B14)       Drainage Patterns (B10)         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Dry-Season Water Table (C2)         Water Marks (B1)       Oxidized Rhizospheres on Living Roots       Crayfish Burrows (C8)         Sediment Deposits (B2)       (C3)       Saturation Visible on Aerial Imagery         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils       Geomorphic Position (D2)         Iron Deposits (B5)       (C6)       FAC-Neutral Test (D5)         Inundation Visible on Aerial Imagery (B7)       Thin Muck Surface (C7)       FAC-Neutral Test (D5)         Water-Stained Leaves (B9)       Other (Explain in Remarks)       Indicators of wetland hydrology present?         Field Observations:       No       X       Depth (inches):       Indicators of wetland hydrology present?         Saturation present?       Yes       No       X       Depth (inches):       No         Gauge cribe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Remarks:	C9)
Surrace water (A1)       Aquate Fauna (B13)       Surrace Soil Cracks (B6)         High Water Table (A2)       True Aquatic Pauna (B13)       Drainage Patterns (B10)         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Dry-Season Water Table (C2)         Water Marks (B1)       Oxidized Rhizospheres on Living Roots       Crayfish Burrows (C8)         Sediment Deposits (B2)       (C3)       Saturation Visible on Aerial Imagery         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils       Geomorphic Position (D2)         Iron Deposits (B5)       (C6)       FAC-Neutral Test (D5)         Inundation Visible on Aerial Imagery (B7)       Thin Muck Surface (C7)       Sparsely Vegetated Concave Surface (B8)         Water-Stained Leaves (B9)       Other (Explain in Remarks)       Indicators of wetland hydrology present?         Field Observations:       No       X       Depth (inches):       Indicators of wetland hydrology present?       N         Saturation present?       Yes       No       X       Depth (inches):       Indicators of wetland hydrology present?       N         Mater table present?       Yes       No       X       Depth (inches):       N       N       X       Depth (inches):       N	C9)
Surrace water (A1)       Aquate Fauna (B13)       Surrace Soil Cracks (B6)         High Water Table (A2)       True Aquatic Plants (B14)       Drainage Patterns (B10)         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Dry-Season Water Table (C2)         Water Marks (B1)       Oxidized Rhizospheres on Living Roots       Crayfish Burrows (C8)         Sediment Deposits (B2)       (C3)       Saturation Visible on Aerial Imagery         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Sturted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils       Geomorphic Position (D2)         Iron Deposits (B5)       (C6)       FAC-Neutral Test (D5)         Inudation Visible on Aerial Imagery (B7)       Thin Muck Surface (C7)       Saturation Present?         Surface water present?       Yes       No       X       Depth (inches):         Sufface water present?       Yes       No       X       Depth (inches):       Indicators of wetland hydrology present?       N         Gauge capillary fringe)       Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Remarks:         Saturation and/or a water table were not able to be observed, as the water was frozen at the time of the site visit.	C9)

WETLAND DETERMINA	TION D	ATA FORM	- Midwest Regio	n	
Project/Site 85th Street Interchange	City/0	County:	Lincoln County	Sampling Date:	11/13/18
Applicant/Owner: 85th Street Business District Joint Venture Grou	qu	State:	South Dakota	Sampling Point:	38-W
Investigator(s): Rebecca Beduhn		Section	on, Township, Range:	T100NS1	8R50W
Landform (hillslope, terrace, etc.): toeslope		Local r	elief (concave, conve	x, none): C	Concave
Slope (%): 0 Lat: 43.47552919		Long:	-96.79833825	Datum: UTM NA	D 83 Zone 14N
Soil Map Unit Name Huntimer silty clay loam, 0 to 2 percent slopes			NWI Classifica	ation: N	one
Are climatic/hydrologic conditions of the site typical for this time of the	ne year?	_	Y (If no, expla	ain in remarks)	
Are vegetation, soil, or hydrologys	significant	ly disturbed?			
Are vegetation , soil , or hydrology r	naturally p	oroblematic?	Are "nor	mal circumstances" p	resent? Yes
SUMMARY OF FINDINGS			(If neede	ed, explain any answe	rs in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? Y		Is the sa	ampled area within a	wetland?	Υ
Indicators of wetland hydrology present? Y		lf yes, op	tional wetland site ID:	Wetland 38	
Remarks: (Explain alternative procedures here or in a separate repo	ort )				
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
VEGETATION Liss scientific names of plants					
	Abcoluto	Dominon	Indicator Domina	nce Test Worksheet	
Tree Stratum (Plot size: 30' Radius )	% Cover	t Species	Status Numbe	r of Dominant Species	
1			that are	OBL, FACW, or FAC:	1 (A)
2			Tota	I Number of Dominant	
3			Spe	cies Across all Strata:	1 (B)
4			Percen	t of Dominant Species	
5			that are	OBL, FACW, or FAC:	100.00% (A/B)
Comline (Chrysh stratum (Dist size) 151 Dadius )	0	= I otal Cover	Drevela		4
<u>Sapiing/Shrub stratur</u> (Plot size: 15 Radius )			Total %	Cover of:	ι
2			OBL spe	ecies 0 x 1	= 0
3			FACW s	species 70 x 2	= 140
4			FAC spe	ecies 30 x 3	= 90
5			FACU s	pecies 0 x 4	= 0
	0	= Total Cover	UPL spe	ecies 0 x 5	= 0
<u>Herb stratum</u> (Plot size: <u>5' Radius</u> )			Column	totals <u>100</u> (A)	230 (B)
1 Phalaris arundinacea Reed Canary Grass	70	<u>Y</u>	FACW Prevaler	nce Index = B/A =	2.30
2 Poa pratensis Kentucky Blue Grass	15	<u> </u>	FAC	hutio Veretetion Indi	a a ta va
<u> </u>	5		FAC Hydrop	id test for hydrophytic	
5	<u> </u>			ninance test is >50%	vegetation
6			X Prev	valence index is ≤3.0*	
7			Mor	phological adaptation:	s* (provide
8			sup	porting data in Remar	ks or on a
9			sepa	arate sheet)	
10	100	<u></u>	Prot	plematic hydrophytic v	'egetation*
Weedwyine stratum (Plot size: 20' Podius )	100	= I otal Cover	(exp	iain)	
(Plot size: <u>30 Radius</u> )			*Indicato	ors of hydric soil and wetlar	nd hydrology must be
2			Hvd	rophytic	T problematic
	0	= Total Cover	veg	etation	
	C C		pres	sent? Y	
Remarks: (Include photo numbers here or on a separate sheet)			1		
Note: This data sheet has been adapted to use the 2012 National Wetla Robert W. Lichvar and John T. Kartesz, 2009, North American Digital Flora: National	and Plant L	_ist: Plant List_version	n 2 4 0 (https://wetland_pla	ints usace army mil) 11.S	Army Corps of
Engineers, Engineer Research and Development Center, Cold Regions Research a	and Enginee	ring Laboratory,	Hanover, NH, and BONAF	<sup>2</sup> , Chapel Hill, NC. (2012)	

Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm the	e absence of	indicators.)
Depth	Matrix		Re	dox Feat	ures				,
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture		Remarks
0-6	10YR 2/1	90	10YR 5/8	5	С	М	Silty Clay Loan	n	
			10YR 5/2	5	П	м	, ,		
6.00	10VD 2/4	05	1011C 5/2	5	0				
6-20	10YR 2/1	95	10YR 5/8	5	U U	IVI	Slity Clay Loan	n	
+T. 0								**! (' DI	Description M. Mathe
$^{1}$ ype: C = 0	Concentration, D	= Deplet	on, RM = Reduce	ed Matrix	k, MS = №	lasked S	and Grains.	**Location: PL	= Pore Lining, M = Matrix
Hydric So	bil Indicators:		0				Indicators f	or Problemat	C Hydric Soils:
HIS	tosol (A1)		Sar	ndy Gleye	ed Matrix	(S4)		nganese Mass	es (F12) ( <b>LRR K, L, M</b> )
HIS	tic Epipedon (A2)		Sar	nay Reac	DX (S5)		very Sn	allow Dark Su	Tace (F22)
Bia	CK HISTIC (A3)		Stri	pped Ma	itrix (S6)		Other (e	explain in rema	rks)
Hyd	arogen Suifide (A4	4)		K Surfac	e (S7)				
	auneu Layers (A5	)	Loa			al (F1)			
<u> </u>	ni Wuck (ATU)	Curfa			eu watri)	K (F∠)			
	ore Dark Surface (	A SULIACE			auix (F3) Surface	(E6)	41. <sup>11</sup> 1	a affector to the	
	ck Dark Sunace (	AIZ)				(F0) 00 (E7)	^Indicator	s of hydrophyt	ic vegetation and wetland
5ai	m Musky Post or	II (01) Deet (82			ark Suria		nyarolog	ly must be pres	sent, unless disturbed or
50	m Mucky Peat or	Peat (53	)	lox Depr	essions	(F8)		probl	ematic
Restrictive	Layer (if observe	ed):							
Туре:					_		Hydric soi	il present?	Y
Depth (inch	es):				_				
Remarks:									
HYDROL	DGY								
wetland Hy	drology indicate	ors:					_		
Primary Ind	icators (minimum	of one is	required; check	all that a	pply)		<u>Secor</u>	ndary Indicator	s (minimum of two required
Surface	Water (A1)			Aquatic	Fauna (B	13)		Surface Soil C	racks (B6)
High Wa	ater Table (A2)			I rue Aq	uatic Plar	nts (B14)	· · · · ·	Drainage Patte	erns (B10)
Saturati	on (A3) Aarka (P1)			Hyaroge	n Suitide	Odor (C	l)	Dry-Season W	ater Table ( $C2$ )
Sedime	nt Denosits (B2)				i Knizosp	meres on		Saturation Visi	ws (Co) ble on Δerial Imagery (C9)
Drift De	posits (B3)			Presence	e of Redu	uced Iron	(C4)	Stunted or Stre	essed Plants (D1)
Algal Ma	at or Crust (B4)			Recent	Iron Redu	iction in T	illed Soils X	Geomorphic P	osition (D2)
Iron Dep	posits (B5)			(C6)			X	FAC-Neutral T	est (D5)
Inundati	on Visible on Aeria	al Imager	/ (B7)	Thin Mu	ck Surfac	e (C7)			( - )
Sparsel	y Vegetated Conca	ave Surfa	ce (B8)	Gauge d	or Well Da	ata (D9)			
Water-S	Stained Leaves (B9	)		Other (E	xplain in	Remarks	)		
Field Obse	rvations:								
Surface wat	er present?	Yes	No	Х	Depth (i	nches):			
Water table	present?	Yes	No	Х	Depth (i	nches):		Indicato	rs of wetland
Saturation p	present?	Yes	No	Х	Depth (i	nches):		hydrolo	ogy present? Y
(includes ca	pillary fringe)								
Describe re	corded data (strea	am gaug	e, monitoring wel	l, aerial p	photos, p	revious ii	nspections), if ava	ailable:	
Remarks									
Soturation	and/or a water	r toble :	voro not chie t	a ha ah	conved	ac tha	water was fra-	on at the tire	o of the cite vicit
Saturation	i anu/or a walei			מט שע כ	served,	ลร เทย	water was noze	en at the tim	

WETLAND DETERMIN	ATION D	ATA FORM	1 - Midwest	Region				
Project/Site 85th Street Interchange	City/	County:	Lincoln Coun	nty S	Sampling I	Date:	11/13/18	3
Applicant/Owner: 85th Street Business District Joint Venture Gr	oup	State:	South Dake	ota S	ampling F	Point:	39U	
Investigator(s): Rebecca Beduhn		Secti	on, Township,	Range:		T100NS18F	850W	
Landform (hillslope, terrace, etc.): backslope		Local	relief (concave	e, convex,	none):	N	one	
Slope (%): 3 Lat: 43.47555085		Long:	-96.8023091	2 C	Datum:	UTM NAD	83 Zone '	14N
Soil Map Unit Name Egan-Worthing complex, 0 to 6 percent slopes	s		NWI C	lassificatio	on:	Nor	ne	
Are climatic/hydrologic conditions of the site typical for this time of	the year?		Y (lf n	no, explain	in remark	(s)		
Are vegetation, soil, or hydrology	significant	ly disturbed?						
Are vegetation , soil , or hydrology	naturally p	oroblematic?	ŀ	Are "norma	al circums	stances" pre	sent? Y	es
SUMMARY OF FINDINGS			(	(If needed,	explain a	iny answers	in remark	ks.)
Hydrophytic vegetation present? Y								
Hydric soil present? N		Is the s	ampled area v	within a w	etland?	1	1	
Indicators of wetland hydrology present? N		lf yes, op	otional wetland	site ID:				
Remarks: (Explain alternative procedures here or in a separate rep	port.)							
<b>VEGETATION</b> Use scientific names of plants.								
	Absolute	Dominan	Indicator [	Dominanc	e Test W	orksheet		
<u>Tree Stratum</u> (Plot size: <u>30' Radius</u> )	% Cover	t Species	Status	Number o	f Dominan	t Species		
				that are O	BL, FACW	/, or FAC:	1	(A)
2		·		Total N Space	lumber of	Dominant	1	(P)
<u> </u>		·		Dereent e	f Dominon		I	_(D)
5		······································		that are O	BL. FACW	l. or FAC:	100.00%	(A/B)
	0	= Total Cover	-		, -			_(```='
<u>Sapling/Shrub stratum</u> (Plot size: 15' Radius )			F	Prevalenc	e Index V	Vorksheet		
1			1	Total % Co	over of:			
2			(	OBL speci	es	0 x 1 =	0	_
3			F	FACW spe	ecies	0 x 2 =	0	_
4		·	<sup>_</sup>		es <u> </u>	$\frac{100}{0} \times 3 =$	300	-
		= Total Cover	'	IPI speci		$\frac{0}{0}$ x 5 =	0	-
Herb stratum (Plot size: 5' Radius )				Column to	tals	100 (A)	300	(B)
1 Poa pratensis Kentucky Blue Grass	100	Y	FAC F	Prevalence	e Index =	B/A =	3.00	_``
2		i						-
3			ŀ	Hydrophy	tic Vegeta	ation Indica	ators:	
4				Rapid	test for hy	/drophytic v	egetation	
5				X Domin	ance test	is >50%		
<u>6</u>		<u> </u>		X Preval	ence inde	x is ≤3.0*		
				Morph	ological a	daptations*	(provide	
0		<u> </u>		separa	rting data	In Remarks	or on a	
10		·		Scpure	matic hvd	Ironhytic ver	retation*	
	100	= Total Cover	-	(explai	n)		jotation	
Woody vine stratum (Plot size: 30' Radius )			_	*Indicators	of hydric soi	il and wetland	hydrology m	ust be
1				pres	sent, unless	disturbed or p	roblematic	
2				Hydro	phytic			
	0	= Total Cover	-	vegeta	ation at2	V		
				preser	11 ?	<u> </u>		
Remarks: (Include photo numbers here or on a separate sheet)								
Note: This data sheet has been adapted to use the 2012 National We	tland Plant I	List:						
Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: Natio Engineers, Engineer Research and Development Center. Cold Regions Research	onal Wetland F h and Enginee	Plant List, versio pring Laboratory.	n 2.4.0 (https://we Hanover, NH. an	etland_plants nd BONAP. C	usace.army Chapel Hill. N	y.mil). U.S. Arr VC. (2012)	ny Corps of	

Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm the	absence o	f indicators.)
Depth	Matrix		Red	dox Featu	ures				·
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture		Remarks
0-14	10YR 2/1	100	. /				Silty Clay I oam		
<b>9</b> 1 T								·	
*Type: C = 0	Concentration, D :	= Depleti	on, RM = Reduce	ed Matrix	, MS = N	lasked S	and Grains. *	*Location: P	L = Pore Lining, M = Matrix
Hydric Sc	il Indicators:						Indicators for	or Problema	itic Hydric Soils:
Hist	tosol (A1)		Sar	dy Gleye	ed Matrix	: (S4)	Iron-Man	nganese Mas	sses (F12) ( <b>LRR K, L, M</b> )
Hist	tic Epipedon (A2)		Sar	idy Redo	x (S5)		Very Sha	allow Dark S	urface (F22)
Bla	ck Histic (A3)		Stri	pped Ma	trix (S6)		Other (ex	xplain in rem	arks)
Hyd	lrogen Sulfide (A4	4)	Dar	k Surfac	e (S7)				
Stra	atified Layers (A5)	)	Loa	my Mucł	ky Minera	al (F1)			
2 cr	m Muck (A10)		Loa	my Gley	ed Matrix	(F2)			
Dep	leted Below Dark	Surface	e (A11) Dep	leted Ma	atrix (F3)				
Thio	ck Dark Surface (	A12)	Rec	lox Dark	Surface	(F6)	*Indicators	s of hydroph	ytic vegetation and wetland
Sar	idy Mucky Minera	l (S1)	Dep	leted Da	irk Surfa	ce (F7)	hydrology	y must be pr	esent, unless disturbed or
5 cr	n Mucky Peat or	Peat (S3	) Rec	lox Depr	essions (	(F8)		pro	blematic
Restrictive	l aver (if observ	ed).				1			
Type		<i>cu</i> ).					Hydric soil	l nrosont?	Ν
Denth (inche	<i>sc).</i>				•		Tryane son	presenti	
Deptil (mont									
HYDROLO	DGY								
Wetland Hy	drology Indicate	ors:							
Primary Indi	cators (minimum	of one is	required; check	all that a	pply)		Secon	dary Indicat	ors (minimum of two required)
Surface	Water (A1)		·	Aquatic	Fauna (B	13)		Surface Soil	Cracks (B6)
High Wa	ter Table (A2)			True Aqu	uatic Plar	nts (B14)		Drainage Pat	tterns (B10)
Saturatio	on (A3)			Hydroge	n Sulfide	Odor (C	1)	Dry-Season	Water Table (C2)
Water N	larks (B1)			Oxidized	l Rhizosp	heres on	Living Roots	Crayfish Buri	rows (C8)
Sedimer	nt Deposits (B2)			(C3)				Saturation Vi	sible on Aerial Imagery (C9)
Drift Dep	oosits (B3)			Presenc	e of Redu	uced Iron	(C4)	Stunted or S	tressed Plants (D1)
Algal Ma	at or Crust (B4)			Recent I	ron Redu	iction in T	illed Soils	Geomorphic	Position (D2)
Iron Dep	osits (B5)		(22)	(C6)		()		FAC-Neutral	Test (D5)
Inundation	on Visible on Aeria	I Imager	y (B7)	Thin Mu	ck Surfac	e (C7)			
Sparsely	Vegetated Conca	ve Surfa	ce (B8)	Gauge o	or Well Da	ata (D9)	<b>、</b>		
vvater-S	tained Leaves (B9	)		Utner (E	xpiain in	Remarks	)		
Field Obser	vations:				<b>–</b>		Т		
Surface wat	er present?	Yes	No	<u> </u>	Depth (i	nches):		In the	have of mothers d
Water table	present?	Yes	No	<u>X</u>	Depth (I	nches):		Indica	tors of wetland
Saturation p	resent?	res	No	X	Depth (I	ncnes):		nyaro	N N
(includes ca	piliary innge)								
Describe red	corded data (strea	am gaug	e, monitoring well	, aerial p	hotos, pi	revious II	nspections), if ava	ilable:	
Remarka:									
Soturotion	and/ar a water	table	uara natable t	ho et		00 th c	water was fra	n of the tim	no of the site visit
Saturation	and/or a water	lable V	vere not able to		served,	as ine	water was troze	en at the th	ne of the site visit.

WETLAND DETERMINA	ATION D	ATA FORM	I - Midwest Regio	n	
Project/Site 85th Street Interchange	City/0	County:	Lincoln County	Sampling Date:	11/13/18
Applicant/Owner: 85th Street Business District Joint Venture Gro	up	State:	South Dakota	Sampling Point:	39¥V
Investigator(s): Rebecca Beduhn		Section	on, Township, Range:	T100NS1	8R50W
Landform (hillslope, terrace, etc.): toeslope		Local ı	relief (concave, conve	x, none): C	Concave
Slope (%): 0 Lat: 43.47556126		Long:	-96.80230874	Datum: UTM NA	D 83 Zone 14N
Soil Map Unit Name Egan-Worthing complex, 0 to 6 percent slopes			NWI Classifica	ition: N	one
Are climatic/hydrologic conditions of the site typical for this time of t	he year?		Y (If no, expla	in in remarks)	
Are vegetation , soil , or hydrology	significant	ly disturbed?			
Are vegetation , soil , or hydrology	naturally p	oroblematic?	Are "nor	mal circumstances" p	resent? Yes
SUMMARY OF FINDINGS			(If neede	ed, explain any answe	rs in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? Y		Is the sa	ampled area within a	wetland?	Y
Indicators of wetland hydrology present? Y		lf yes, op	tional wetland site ID:	Wetland 39	
Remarks: (Explain alternative procedures here or in a separate rem	ort )				
	511.)				
VECETATION Lies scientific names of plants					
	Abaaluta	Dominon	Indiantor Domina	nca Tast Worksheat	
Tree Stratum (Plot size: 30' Radius )	% Cover	t Species	Status Numbe	r of Dominant Species	
1 /			that are	OBL, FACW, or FAC:	3 (A)
2			Tota	I Number of Dominant	
3			Spe	cies Across all Strata:	3 (B)
4			Percen	t of Dominant Species	
5			that are	OBL, FACW, or FAC:	100.00% (A/B)
Sonling/Chrub stratum (Dist size: 15' Dadius )	0	= I otal Cover	Drovolo	naa Inday Warkahaa	4
<u>Saping/Shrub stratun</u> (Plot size. <u>15 Radius</u> )			Total %	Cover of:	ι
			OBL spe	ecies 60 x 1	= 60
3			FACW s	pecies 20 x 2	= 40
4			FAC spe	ecies 20 x 3	= 60
5			FACU s	pecies 0 x 4	= 0
	0	= Total Cover	UPL spe	cies 0 x 5	= 0
Herb stratum (Plot size: 5' Radius )			Column	totals <u>100</u> (A)	<u>160</u> (B)
1 Typha angustifolia Narrow-Leaf Cat-Tail	60	<u> </u>	OBL Prevaler	ice Index = B/A =	1.60
2 Phalaris arundinacea Reed Canary Grass	20	Y	FACV	butic Vegetation Indi	inatora:
4	20	·	Ran	id test for hydrophytic	vegetation
5			X Dom	ninance test is >50%	· · · · · · · · · · · · · · · · · · ·
6			X Prev	/alence index is ≤3.0*	
7			Mor	phological adaptations	s* (provide
8			sup	porting data in Remark	ks or on a
			sepa	arate sheet)	
10	100	<u></u>	Prot	plematic hydrophytic v	egetation*
Woody vine stratum (Plot size: 30' Padius )	100	= I otal Cover	(exp	lain)	
			*Indicato	ors of hydric soil and wetlan	nd hydrology must be
2		<u> </u>	Hvd	rophytic	
	0	= Total Cover	veg	etation	
			pres	sent? Y	
Remarks: (Include photo numbers here or on a separate sheet)			1		
	. =:				
Note: This data sheet has been adapted to use the 2012 National Wetl Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: Nation	and Plant L al Wetland P	List: Plant List. versior	n 2.4.0 (https://wetland_pla	nts.usace.armv.mil) 11.S	Army Corps of
Engineers, Engineer Research and Development Center, Cold Regions Research	and Enginee	ring Laboratory,	Hanover, NH, and BONAF	, Chapel Hill, NC. (2012)	,,- 0,

Profile Des	cription: (Descri	ibe to th	e depth needed	to docu	ment the	e indicat	tor or confirm th	e absence of	indicators.)
Depth	Matrix		Re	dox Feat	ures				,
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture		Remarks
0-12	10YR 2/1	90	10YR 4/6	5	C	М	Silty Clay Loar	m	
• • =			10VP 5/1	5	с С	M			
			1011 3/1	5	C	IVI			
*Type: C = (	Concentration, D =	= Depleti	on, RM = Reduc	ed Matrix	α, MS = Ν	lasked S	Sand Grains.	**Location: Pl	_ = Pore Lining, M = Matrix
Hydric So	oil Indicators:						Indicators f	or Problema	tic Hydric Soils:
His	tosol (A1)		Sa	ndy Gleye	ed Matrix	: (S4)	Iron-Ma	nganese Mas	ses (F12) ( <b>LRR K, L, M</b> )
His	tic Epipedon (A2)		Sa	ndy Redo	ox (S5)		Very Sh	allow Dark Su	urface (F22)
Bla	ck Histic (A3)		Str	pped Ma	trix (S6)		Other (e	explain in rema	arks)
Hyd	drogen Sulfide (A4	4)	Da	rk Surfac	e (S7)				
Stra	atified Layers (A5)	)	Loa	amy Mucl	ky Minera	al (F1)			
2 ci	m Muck (A10)	~ ~		amy Gley	ed Matrix	k (F2)			
Dep	bleted Below Dark	Surface	e (A11)De	pleted Ma	atrix (F3)				
	ck Dark Surface (	A12)		dox Dark	Surface	(F6)	*Indicator	rs of hydrophy	tic vegetation and wetland
Sar	ndy Mucky Minera	I (S1)		pleted Da	ark Surfa	ce (F7)	hydrolog	y must be pre	esent, unless disturbed or
5 CI	m Mucky Peat or	Peat (S3	)Re	dox Depr	essions (	(F8)		proc	Diematic
Restrictive	Layer (if observe	ed):							
Туре:					_		Hydric so	il present?	Y
Depth (inche	es):				_				
HYDROL	OGY								
Wetland Hy	drology Indicato	ors:							
Primary Indi	cators (minimum	of one is	required; check	all that a	<u>pply)</u>		Seco	ndary Indicato	ors (minimum of two required)
X Surface	Water (A1)			Aquatic	Fauna (B	13)		Surface Soil (	Cracks (B6)
High Wa	ater Table (A2)			True Aq	uatic Plar	nts (B14)		Drainage Patt	terns (B10)
Saturatio	on (A3)			Hydroge	en Sulfide	Odor (C	1) 	Dry-Season V	Vater Table (C2)
Vvater IV	arks (B1)				i Rhizosp	heres on	Living Roots	Crayfish Burro	DWS (CO) Sible on Aprial Imagory (CO)
	(B3)				e of Redu	iced Iron		Stunted or St	ressed Plants (D1)
Algal Ma	at or Crust (B4)			Recent I	ron Redu	iction in T	Tilled Soils X	Geomorphic I	Position (D2)
Iron Der	osits (B5)			(C6)	Ton Road			FAC-Neutral	Test (D5)
Inundati	on Visible on Aeria	I Imager	y (B7)	Thin Mu	ck Surfac	ce (C7)		-	
Sparsely	y Vegetated Conca	ive Surfa	ce (B8)	Gauge c	or Well Da	ata (D9)			
Water-S	tained Leaves (B9	)		Other (E	xplain in	Remarks	s)		
Field Obser	rvations:								
Surface wat	er present?	Yes	X No		Depth (i	nches):	1		
Water table	present?	Yes	No	X	Depth (i	nches):		Indicat	ors of wetland
Saturation p	resent?	Yes	No	Х	Depth (i	nches):		hydro	logy present? Y
(includes ca	pillary fringe)								
Describe ree	corded data (strea	am gauge	e, monitoring wel	l, aerial p	hotos, p	revious i	nspections), if ava	ailable:	
Remarks:									
Saturation	and/or a water	table v	vere not able t	be obs	served,	as the	water was froz	en at th <mark>e tin</mark>	ne of the site visit.

WETLAND DETERMINA	TION D	ATA FORM	l - Midwest Reg	jion	
Project/Site 85th Street Interchange	City/0	County:	Lincoln County	Sampling Date	e: 11/13/18
Applicant/Owner: 85th Street Business District Joint Venture Gro	up	State:	South Dakota	Sampling Poin	t: 40IJ
Investigator(s): Rebecca Beduhn		Secti	on, Township, Ran	ge: T10	0NS13R51W
Landform (hillslope, terrace, etc.): backslope		Local	relief (concave, cor	ivex, none):	None
Slope (%): 3 Lat: 43.47560931		Long:	-96.80758242	Datum: UT	M NAD 83 Zone 14N
Soil Map Unit Name Egan-Worthing complex, 0 to 6 percent slopes			NWI Classi	fication:	None
Are climatic/hydrologic conditions of the site typical for this time of the	he year?		Y (If no, ex	plain in remarks)	
Are vegetation , soil , or hydrology	significant	ly disturbed?			
Are vegetation , soil , or hydrology	naturally p	oroblematic?	Are "	normal circumstan	ces" present? Yes
SUMMARY OF FINDINGS			(If ne	eded, explain any a	answers in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? N		Is the sa	ampled area withi	n a wetland?	Ν
Indicators of wetland hydrology present? N		lf yes, op	tional wetland site	ID:	
Remarks: (Explain alternative procedures here or in a separate repo	ort )				
	511.7				
VEGETATION Use scientific names of plants					
	Abcoluto	Dominan	Indicator Dom	inance Test Work	sheet
Tree Stratum (Plot size: 30' Radius )	% Cover	t Species	Status Num	ber of Dominant Sr	bries
1		I	that	are OBL, FACW, or	FAC: 1 (A)
2			т	otal Number of Don	ninant
3				Species Across all S	Strata: 1 (B)
4			Perc	cent of Dominant Sp	becies
5			that	are OBL, FACW, or	FAC: 100.00% (A/B)
	0	= Total Cover			
Sapling/Shrub stratum (Plot size: 15' Radius )			Preva	alence Index Worl	ksheet
2				% COVEL OI.	x 1 = 0
	,	······································	FAC\	V species 0	$\frac{x^{2}}{x^{2}} = \frac{0}{0}$
4			FAC	species 100	$x_3 = 300$
5		·	FACI	J species 0	x 4 = 0
	0	= Total Cover	UPL	species 0	x 5 = 0
Herb stratum (Plot size: 5' Radius )			Colur	nn totals 100	(A) <u>300</u> (B)
1 Poa pratensis Kentucky Blue Grass	100	Y	FAC Preva	alence Index = B/A	= 3.00
2					
		······· ·	Hydr	ophytic Vegetatio	n Indicators:
4 5				apid test for hydro	
6				Prevalence index is	SO // ≤3 0*
7					tations* (provide
8	,	······································	N	upporting data in F	Remarks or on a
9		·······	s	eparate sheet)	
10			F	Problematic hydrop	hytic vegetation*
	100	= Total Cover	(	explain)	
Woody vine stratum (Plot size: 30' Radius )			*Indi	cators of hydric soil and	d wetland hydrology must be
				present, unless dist	urbed or problematic
2			F	regetation	
	0	= I otal Cover	p p	resent?	Y
Remarks: (Include photo numbers here or on a separate sheet)			·		
Note: This data sheet has been adapted to use the 2012 National Wetle	and Plant L	_ist:			
Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: Nation Engineers, Engineer Research and Development Center, Cold Regions Research a	al Wetland F and Enginee	riant List, version ring Laboratory,	n 2.4.0 (https://wetland_ Hanover, NH, and BOI	_plants.usace.army.mil NAP, Chapel Hill, NC. (	). U.S. Army Corps of (2012)

Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm th	e absence	of indicators.)
Depth	Matrix		Red	lox Feat	ures				,
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	e	Remarks
0.16	10VP 2/1	100			. ,		Silty Clay Loa	m	
0-10	1011( 2/1	100						111	
*T	l Democratica Du	Devilet					land Oneine	**!	
Type: C = C		- Depieti	on, $Rivi = Reduce$	a mainx	, IVIS = IV	lasked S	and Grains.	Location	PL = Pore Lining, M = Matrix
Hydric Sc	oil Indicators:					(0.1)	Indicators	for Proble	matic Hydric Soils:
His	tosol (A1)		Sar	idy Gleye	ed Matrix	(S4)	Iron-Ma	anganese N	lasses (F12) ( <b>LRR K, L, M</b> )
His	tic Epipedon (A2)		Sar	idy Redo	ix (S5)		Very Sh	nallow Dark	Surface (F22)
Bla	ck Histic (A3)		Stri	pped Ma	trix (S6)		Other (e	explain in r	emarks)
Hyo	drogen Sulfide (A4	4)	Dar	k Surfac	e (S7)				
Stra	atified Layers (A5)	)	Loa	my Mucł	ky Minera	al (F1)			
2 ci	m Muck (A10)		Loa	my Gley	ed Matrix	k (F2)			
Dep	pleted Below Dark	Surface	e (A11) Dep	leted Ma	atrix (F3)				
Thi	ck Dark Surface (	A12)	Rec	lox Dark	Surface	(F6)	*Indicato	rs of hvdro	phytic vegetation and wetland
Sar	ndy Mucky Minera	l (S1)	Dep	leted Da	ark Surfa	ce (F7)	hvdrolog	av must be	present. unless disturbed or
5 c	m Muckv Peat or	, Peat (S3		lox Depr	essions (	(F8)		: ۱	problematic
			, <u> </u>			/			
Restrictive	Layer (If observe	ea):							
Type:					-		Hydric so	oil present	? <u>N</u>
Depth (inche	es):				-				
Remarks:									
HYDROL	DGY								
Wetland Hy	drology Indicato	ors:							
Primarv Indi	cators (minimum	of one is	required: check	all that a	(vlaa		Seco	ndarv Indic	ators (minimum of two required
Surface	Water (A1)		<u> </u>	Aquatic	Fauna (B	13)	<u></u>	Surface Se	oil Cracks (B6)
High Wa	ater Table (A2)				uatic Plar	nts (R14)		Drainage I	Patterns (B10)
Saturati	n(A3)			Hydroge	n Sulfide	Odor (C	1)	Drv-Seaso	on Water Table (C2)
Water M	larks (B1)			Oxidized	l Rhizosn	heres on	Living Roots	Cravfish B	Surrows (C8)
Sedime	nt Deposits (B2)			(C3)				Saturation	Visible on Aerial Imagery (C9)
Drift Dei	(B3)			Presenc	e of Redi	iced Iron	(C4)	Stunted or	Stressed Plants (D1)
Algal Ma	at or Crust (B4)			Recent I	ron Redu	iction in T	illed Soils	Geomorph	nic Position (D2)
Iron Der	osits (B5)			(C6)	lonnouc			FAC-Neut	ral Test (D5)
Inundati	on Visible on Aeria	l Imager	v (B7)	Thin Mu	ck Surfac	e (C7)		-	
Sparsel	Vegetated Conca	ve Surfa	ce (B8)	Gauge o	or Well Da	ata (D9)			
Water-S	tained Leaves (B9	)		Other (F	xolain in	Remarks	)		
Field Oberg		/				rtomanto	/		
Field UDSel		Var	Ma	v	Donth /	nohoc);			
Surface wat	er present?	Yes			Depth (i	nches).		Indi	actors of watland
vvalei labie	present?	res		~~~~		nunes):		Indi	ralogy procent?
(includes co	nillary fringe)	165		^		nunes).			
Describe re	corded data (strea	am gauge	e, monitoring well	, aerial p	hotos, p	revious ir	nspections), if av	ailable:	
Remarks:									
Saturation	and/or a water	table v	vere not able to	be obs	served,	as the	water was froz	en at the	time of the site visit.

WETLAND DETERMINA	TION D	ATA FORM	I - Midwest Regio	'n	
Project/Site 85th Street Interchange	City/0	County:	Lincoln County	Sampling Date:	11/13/18
Applicant/Owner: 85th Street Business District Joint Venture Grou	up	State:	South Dakota	Sampling Point:	40₩
Investigator(s): Rebecca Beduhn		Section	on, Township, Range:	T100NS1	3R51W
Landform (hillslope, terrace, etc.): toeslope		Local	relief (concave, conve	x, none): (	Concave
Slope (%): 0 Lat: 43.47559263		Long:	-96.80758207	Datum: UTM NA	D 83 Zone 14N
Soil Map Unit Name Egan-Worthing complex, 0 to 6 percent slopes			NWI Classifica	ation: N	lone
Are climatic/hydrologic conditions of the site typical for this time of the	ne year?	_	Y (If no, expla	ain in remarks)	
Are vegetation, soil, or hydrologys	significant	ly disturbed?			
Are vegetation , soil , or hydrology r	naturally p	roblematic?	Are "no	rmal circumstances" p	present? Yes
SUMMARY OF FINDINGS			(If need	ed, explain any answe	ers in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? Y		Is the sa	ampled area within a	wetland?	Y
Indicators of wetland hydrology present? Y		lf yes, op	tional wetland site ID:	Wetland 40	
Remarks: (Explain alternative procedures here or in a separate repo	ort.)				
	,				
VEGETATION Use scientific names of plants					
	Absolute	Dominan	Indicator Domina	nce Test Worksheet	•
Tree Stratum (Plot size: 30' Radius )	% Cover	t Species	Status Numbe	er of Dominant Species	
1 '			that are	OBL, FACW, or FAC:	2 (A)
2			Tota	al Number of Dominant	· · · · ·
3			Spe	ecies Across all Strata:	<u>2</u> (B)
4			Percer	t of Dominant Species	
<u> </u>		<u></u>	that are	OBL, FACW, or FAC:	<u>100.00%</u> (A/B)
Sonling/Shrub stratum (Plot size: 15' Padius )	0	= I otal Cover	Broyala	neo Indox Workshov	
1			Total %	Cover of	μ.
2			OBL sp	ecies 20 x 1	= 20
3			FACW s	species 80 x 2	= 160
4			FAC sp	ecies 0 x 3	= 0
5			FACU s	pecies 0 x 4	= 0
	0	= Total Cover	UPL spe	$\frac{1}{2}$ ecies $\frac{0}{100}$ x 5	= 0 (D)
Herb stratum (Plot size: 5 Radius )			Column	totals <u>100</u> (A)	<u>180</u> (B)
1 Phalaris arundinacea Reed Canary Grass	80	Y	FACW Prevale	nce Index = B/A =	1.80
2 Carex stricta Optight Sedge	20	ř	UBL	hytic Vegetation Ind	icators:
4		<u> </u>	Ran	oid test for hydrophytic	vegetation
5			X Don	ninance test is >50%	
6			X Pre	valence index is ≤3.0*	2
7			Mor	phological adaptation	s* (provide
8			sup	porting data in Remar	ks or on a
			sep	arate sheet)	
10	100	- Total Cavar	Pro	olematic hydrophytic \	/egetation*
Woody vine stratum (Plot size: 30' Radius )	100	= Total Cover	(ext	nam)	
1			*Indicate	ors of hydric soil and wetlan	nd hydrology must be
2			Нус	Irophytic	problemado
	0	= Total Cover	veg	etation	
			pre	sent? Y	•
Remarks: (Include photo numbers here or on a separate sheet)					
		1			
<b>Note:</b> This data sheet has been adapted to use the 2012 National Wetla Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: National	and Plant L al Wetland P	LIST: Plant List, versior	n 2.4.0 (https://wetland_ pla	ants.usace.army.mil). U.S.	Army Corps of
Engineers, Engineer Research and Development Center, Cold Regions Research a	and Enginee	ring Laboratory,	Hanover, NH, and BONA	P, Chapel Hill, NC. (2012)	

Depth (Inches)		De to the	depth needed	to docu	ment the	mulcat	or or confirm the	absence o	r indicators.)
(Inches)	Matrix		 <u>Re</u>	dox Feat	ures				·
( /	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture		Remarks
0-18	10YR 2/1	95	10YR 5/8	5	C	М	Silty Clay Loan	n	
0.0				<u> </u>	•				
		<b></b>							
				ļ					
		1							
*Type: C = 0	Concentration, D =	<ul> <li>Depletio</li> </ul>	n, RM = Reduce	ed Matrix	, MS = N	lasked S	and Grains. *	*Location: F	L = Pore Lining, M = Matrix
Hydric So	oil Indicators:						Indicators for	or Problema	itic Hydric Soils:
His	tosol (A1)		Sar	ndy Gleye	ed Matrix	: (S4)	Iron-Mar	nganese Ma	sses (F12) ( <b>LRR K, L, M</b> )
His	tic Epipedon (A2)		Sar	ndy Redo	x (S5)		Very Sha	allow Dark S	urface (F22)
Bla	ck Histic (A3)		Stri	pped Ma	trix (S6)		Other (e:	xplain in rem	arks)
Hyd	drogen Sulfide (A4	)	Dar	k Surfac	e (S7)			-	-
Stra	atified Layers (A5)	)	Loa	my Mucł	ky Minera	al (F1)			
2 ci	m Muck (A10)		Loa	my Glev	ed Matrix	(F2)			
Dep	pleted Below Dark	Surface (	(A11) Der	pleted Ma	atrix (F3)				
	ck Dark Surface (A	A12)	X Red	dox Dark	Surface	(F6)	*Indicators	s of hydroph	vtic vegetation and wetland
Sar	ndy Mucky Minera	.l (S1)	Der	pleted Da	rk Surfa	ce (F7)	hvdrolog	v must be pr	esent. unless disturbed or
5 ci	m Muckv Peat or F	Peat (S3)	Red	dox Depr	essions (	(F8)		pro	blematic
De stri stive	, 	( - /				- /			
Restrictive	Layer (If observe	<b>∌α):</b>					Undela a al		X
Type:							Hydric sol	i present?	<u> </u>
Depth (Inche	es):								
HYDROL	OGY								
Wetland Hy	drology Indicato	rs:							
Primary Indi	cators (minimum o	<u>of one is r</u>	equired; check	all that a	pply)		Secon	dary Indicat	ors (minimum of two required
Surface	Water (A1)			Aquatic	_ /-		06001		
High Wa	ater Table (A2)				Fauna (B	13)		Surface Soil	Cracks (B6)
	on (A3)			True Aq	Fauna (B uatic Plar	13) nts (B14)		Surface Soil Drainage Pa	Cracks (B6) tterns (B10)
Saturatio				True Aqu Hydroge	Fauna (B uatic Plar n Sulfide	13) nts (B14) Odor (C1	) <u></u>	Surface Soil Drainage Pa Dry-Season	Cracks (B6) iterns (B10) Water Table (C2)
Saturatio	larks (B1)		_	True Aqu Hydroge Oxidized	Fauna (B uatic Plar n Sulfide I Rhizosp	13) nts (B14) Odor (C1 heres on	I) Living Roots	Surface Soil Drainage Pa Dry-Season Crayfish Buri	Cracks (B6) tterns (B10) Water Table (C2) rows (C8)
Saturatio	larks (B1) nt Deposits (B2)		_	True Aqu Hydroge Oxidized (C3)	Fauna (B uatic Plar n Sulfide I Rhizosp	13) nts (B14) Odor (C1 heres on	I) Living Roots	Surface Soil Drainage Pa Dry-Season Crayfish Buri Saturation Vi	Cracks (B6) tterns (B10) Water Table (C2) rows (C8) sible on Aerial Imagery (C9)
Saturatio Water M Sedimer Drift Dep	farks (B1) nt Deposits (B2) posits (B3)		=	True Aqu Hydroge Oxidized (C3) Presenc	Fauna (B uatic Plar n Sulfide I Rhizosp e of Redu	13) hts (B14) Odor (C1 heres on uced Iron	I) Living Roots	Surface Soil Drainage Pa Dry-Season Crayfish Burn Saturation Vi Stunted or S	Cracks (B6) tterns (B10) Water Table (C2) rows (C8) sible on Aerial Imagery (C9) tressed Plants (D1)
Saturatio Water M Sedimer Drift Dep Algal Ma	farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)			True Aqu Hydroge Oxidized (C3) Presenc Recent I	Fauna (B uatic Plar n Sulfide I Rhizosp e of Redu ron Redu	13) nts (B14) Odor (C1 heres on uced Iron uction in T	(C4)	Surface Soil Drainage Pa Dry-Season Crayfish Buri Saturation Vi Stunted or S Geomorphic	Cracks (B6) tterns (B10) Water Table (C2) rows (C8) sible on Aerial Imagery (C9) tressed Plants (D1) Position (D2) Test (D5)
Saturation Water M Sedimen Drift Dep Algal Ma Iron Dep	farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5)	Imagan	(P7)	True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6)	Fauna (B uatic Plar n Sulfide I Rhizosp e of Redu ron Redu	13) nts (B14) Odor (C1 heres on uced Iron uction in T	(C4)	Surface Soil Drainage Pa Dry-Season Crayfish Burn Saturation Vi Stunted or S Geomorphic FAC-Neutral	Cracks (B6) tterns (B10) Water Table (C2) rows (C8) sible on Aerial Imagery (C9) tressed Plants (D1) Position (D2) Test (D5)
Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundati	farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria	I Imagery	(B7)	True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu	Fauna (B uatic Plar n Sulfide I Rhizosp e of Redu ron Redu ck Surfac	13) odor (C1 heres on uced Iron uction in T ce (C7) oto (D0)	(C4)	Surface Soil Drainage Pa Dry-Season Crayfish Burn Saturation Vi Stunted or S Geomorphic FAC-Neutral	Cracks (B6) tterns (B10) Water Table (C2) rows (C8) sible on Aerial Imagery (C9) tressed Plants (D1) Position (D2) Test (D5)
Saturation Water M Sedimen Drift Dep Algal Ma Iron Dep Inundati Sparsely	farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria y Vegetated Conca	l Imagery ve Surface	(B7) → (B8)	True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge C	Fauna (B uatic Plar n Sulfide l Rhizosp e of Redu ron Redu ck Surfac or Well Da	13) Odor (C1 heres on uced Iron uction in T ee (C7) ata (D9) Remarks	I) Living Roots (C4) iilled Soils X X	Surface Soil Drainage Pa Dry-Season Crayfish Burr Saturation Vi Stunted or S Geomorphic FAC-Neutral	Cracks (B6) tterns (B10) Water Table (C2) rows (C8) sible on Aerial Imagery (C9) tressed Plants (D1) Position (D2) Test (D5)
Saturation Water M Sedimen Drift Dep Algal Ma Iron Dep Inundati Sparsely Water-S	farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria y Vegetated Conca stained Leaves (B9)	l Imagery ve Surface )	(B7) ∋ (B8)	True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge c Other (E	Fauna (B uatic Plar n Sulfide l Rhizosp e of Redu ron Redu ck Surfac or Well Da xplain in	13) Odor (C1 heres on uced Iron uction in T ce (C7) ata (D9) Remarks	I) Living Roots (C4) iilled Soils X X	Surface Soil Drainage Pa Dry-Season Crayfish Burr Saturation V Stunted or S Geomorphic FAC-Neutral	Cracks (B6) tterns (B10) Water Table (C2) rows (C8) sible on Aerial Imagery (C9) tressed Plants (D1) Position (D2) Test (D5)
Saturation Water M Sedimen Drift Dep Algal Ma Iron Dep Inundati Sparsely Water-S	farks (B1) farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria y Vegetated Conca itained Leaves (B9) rvations: or proceed?	I Imagery ve Surface )	(B7) ∋ (B8)	True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge o Other (E	Fauna (B uatic Plar n Sulfide I Rhizosp e of Redu ron Redu ck Surfac or Well Da xplain in	13) odor (C1 heres on uced Iron uction in T ce (C7) ata (D9) Remarks	(C4) illed Soils X X	Surface Soil Drainage Pa Dry-Season Crayfish Burn Saturation Vi Stunted or S Geomorphic FAC-Neutral	Cracks (B6) tterns (B10) Water Table (C2) rows (C8) sible on Aerial Imagery (C9) tressed Plants (D1) Position (D2) Test (D5)
Saturation Water M Sedimen Drift Dep Algal Ma Iron Dep Inundati Sparsely Water-S Field Obsen Surface wat	Arks (B1) Arks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria y Vegetated Conca itained Leaves (B9) <b>rvations:</b> er present?	I Imagery ve Surface ) Yes	(B7) ∋ (B8) 	True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge C Other (E	Fauna (B uatic Plar n Sulfide I Rhizosp e of Redu ron Redu ck Surfac or Well Da xplain in Depth (i	13) odor (C1 heres on uced Iron uction in T ce (C7) ata (D9) Remarks nches): nches):	(C4) illed Soils X X	Surface Soil Drainage Pa Dry-Season Crayfish Burr Saturation Vi Stunted or S Geomorphic FAC-Neutral	Cracks (B6) tterns (B10) Water Table (C2) rows (C8) sible on Aerial Imagery (C9) tressed Plants (D1) Position (D2) Test (D5)
Saturation Water M Sedimen Drift Dep Algal Ma Iron Dep Inundati Sparsely Water-S Field Obsen Surface wat Water table	farks (B1) farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria y Vegetated Conca itained Leaves (B9) <b>rvations:</b> er present? present?	I Imagery ve Surface ) Yes Yes	(B7) ∋ (B8) 	True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge C Other (E X X	Fauna (B uatic Plar n Sulfide I Rhizosp e of Redu ron Redu ck Surfac or Well Da xplain in Depth (i Depth (i	13) ots (B14) Odor (C1 heres on uced Iron uction in T ce (C7) ata (D9) Remarks nches): nches):	(C4) illed Soils X X )	Surface Soil Drainage Pa Dry-Season Crayfish Burr Saturation Vi Stunted or S Geomorphic FAC-Neutral	Cracks (B6) tterns (B10) Water Table (C2) rows (C8) sible on Aerial Imagery (C9) tressed Plants (D1) Position (D2) Test (D5) tors of wetland
Saturation Water M Sedimen Drift Dep Algal Ma Iron Dep Inundati Sparsely Water-S Field Obsen Surface wat Water table Saturation p	Arks (B1) farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria y Vegetated Conca titained Leaves (B9) rvations: er present? present? present? present?	l Imagery ve Surface ) Yes Yes Yes	(B7) ⇒ (B8) No No No	True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge c Other (E X X X	Fauna (B uatic Plar n Sulfide I Rhizosp e of Redu ron Redu ck Surfac or Well Da xplain in Depth (i Depth (i	13) ots (B14) Odor (C1 heres on uced Iron action in T action in T action (D9) Remarks nches): nches): nches):	(C4) illed Soils X X )	Surface Soil Drainage Pa Dry-Season Crayfish Burr Saturation Vi Stunted or S Geomorphic FAC-Neutral	Cracks (B6) tterns (B10) Water Table (C2) rows (C8) sible on Aerial Imagery (C9) tressed Plants (D1) Position (D2) Test (D5) tors of wetland logy present? Y
Saturation Water M Sedimen Drift Dep Algal Ma Iron Dep Inundati Sparsely Water-S Field Obsen Surface wat Water table Saturation p (includes ca	farks (B1) farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria y Vegetated Conca trained Leaves (B9) rvations: er present? present? present? pillary fringe)	l Imagery ve Surface ) Yes Yes Yes	(B7) ⇒ (B8) No No No	True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge c Other (E X X X	Fauna (B uatic Plar n Sulfide I Rhizosp e of Redu ron Redu ck Surfac or Well Da xplain in Depth (i Depth (i	13) ots (B14) Odor (C1 heres on uced Iron action in T e (C7) ata (D9) Remarks nches): nches): nches):	(C4) (C4) (I) (I) (C4) (I) (I) (I) (I) (I) (I) (I) (I) (I) (I	Surface Soil Drainage Pa Dry-Season Crayfish Burn Saturation Vi Stunted or S Geomorphic FAC-Neutral	Cracks (B6) tterns (B10) Water Table (C2) rows (C8) sible on Aerial Imagery (C9) tressed Plants (D1) Position (D2) Test (D5) tors of wetland logy present? Y
Saturation Water M Sedimen Drift Dep Algal Ma Iron Dep Inundati Sparsely Water-S <b>Field Obsen</b> Surface wat Water table Saturation p (includes ca Describe rec	farks (B1) farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria y Vegetated Conca itained Leaves (B9) rvations: er present? present? present? pillary fringe) corded data (strea	I Imagery ve Surface ) Yes Yes Yes m gauge,	(B7) ∋ (B8) No No No No No	True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge c Other (E X X X	Fauna (B uatic Plar n Sulfide I Rhizosp e of Redu ron Redu ck Surfac or Well Da xplain in Depth (i Depth (i Depth (i	13) Odor (B14) Odor (C1 heres on uced Iron uced Iron iction in T ee (C7) ata (D9) Remarks nches): nches): nches): revious ir	) Living Roots (C4) iilled Soils X X ) hspections), if ava	Surface Soil Drainage Pa Dry-Season Crayfish Burn Saturation Vi Stunted or S Geomorphic FAC-Neutral Indica hydro	Cracks (B6) tterns (B10) Water Table (C2) rows (C8) sible on Aerial Imagery (C9) tressed Plants (D1) Position (D2) Test (D5) tors of wetland logy present? Y
Saturation Water M Sedimen Drift Dep Algal Ma Iron Dep Inundati Sparsely Water-S <b>Field Obsen</b> Surface wat Water table Saturation p (includes ca Describe red	Arks (B1) farks (B1) for Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria y Vegetated Conca itained Leaves (B9) <b>rvations:</b> er present? present? present? present? pillary fringe) corded data (strea	I Imagery ve Surface ) Yes Yes um gauge,	(B7) ∋ (B8) No No No No No	True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge o Other (E X X X	Fauna (B uatic Plar n Sulfide I Rhizosp e of Redu ron Redu ck Surfac or Well Da xplain in Depth (i Depth (i Depth (i hotos, pi	13) odor (C1 heres on uced Iron uction in T ce (C7) ata (D9) Remarks nches): nches): nches): revious ir	(C4) (C4) illed Soils X X ) nspections), if ava	Surface Soil Drainage Pa Dry-Season Crayfish Burn Saturation Vi Stunted or S Geomorphic FAC-Neutral Indica hydro	Cracks (B6) tterns (B10) Water Table (C2) rows (C8) sible on Aerial Imagery (C9) tressed Plants (D1) Position (D2) Test (D5) tors of wetland logy present? Y
Saturation Water M Sedimen Drift Dep Algal Ma Iron Dep Inundati Sparsely Water-S Field Obsen Surface wat Water table Saturation p (includes ca Describe reconstruction Remarks:	farks (B1) farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria y Vegetated Conca tained Leaves (B9) rvations: er present? present? present? present? pillary fringe) corded data (strea	I Imagery ve Surface ) Yes Yes Yes im gauge,	(B7) ∋ (B8) No No No No No	True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge c Other (E X X X	Fauna (B uatic Plar n Sulfide I Rhizosp e of Redu ron Redu ck Surfac or Well Da xplain in Depth (i Depth (i hotos, pl	13) ots (B14) Odor (C1 heres on uced Iron action in T e (C7) ata (D9) Remarks nches): nches): nches): revious ir	(C4) (C4) (I) (C4) (C4) (C4) (C4) (C4) (C4) (C4) (C4	Surface Soil Drainage Pa Dry-Season Crayfish Burn Saturation Vi Stunted or S Geomorphic FAC-Neutral Indica hydrc	Cracks (B6) tterns (B10) Water Table (C2) rows (C8) sible on Aerial Imagery (C9) tressed Plants (D1) Position (D2) Test (D5) tors of wetland logy present? Y
Saturation Water M Sedimen Drift Dep Algal Ma Iron Dep Inundati Sparsely Water-S Field Obsen Surface wat Water table Saturation p (includes ca Describe reconstruction Remarks:	farks (B1) farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria y Vegetated Conca itained Leaves (B9) <b>rvations:</b> er present? present? present? pillary fringe) corded data (strea	I Imagery ve Surface ) Yes _ Yes _ im gauge, table we	(B7) ⇒ (B8) (B8) No N	True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge c Other (E X X X	Fauna (B uatic Plar n Sulfide I Rhizosp e of Redu ron Redu ck Surfac r Well Da xplain in Depth (i Depth (i Depth (i hotos, pu served,	13) Odor (C1 heres on uced Iron iction in T e (C7) ata (D9) Remarks nches): nches): nches): revious ir as the v	(C4) (C4) iilled Soils X X ) nspections), if ava	Surface Soil Drainage Pa Dry-Season Crayfish Burn Saturation Vi Stunted or S Geomorphic FAC-Neutral Indica hydro	Cracks (B6) Iterns (B10) Water Table (C2) rows (C8) sible on Aerial Imagery (C9) Itressed Plants (D1) Position (D2) Test (D5) tors of wetland blogy present? Y ne of the site visit.
Saturation Water M Sedimen Drift Dep Algal Ma Iron Dep Inundati Sparsely Water-S Field Obsen Surface wat Water table Saturation p (includes ca Describe red Remarks: Saturation	larks (B1) harks (B1) ht Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria y Vegetated Conca itained Leaves (B9) <b>rvations:</b> er present? present? present? pillary fringe) corded data (stread	I Imagery ve Surface ) Yes Yes m gauge, table we	(B7) ∋ (B8) No No No No  monitoring wel  ∋re not able to	True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge c Other (E X X X , aerial p	Fauna (B uatic Plar n Sulfide I Rhizosp e of Redu ron Redu ck Surfac r Well Da xplain in Depth (i Depth (i Depth (i hotos, pl hotos, pl	13) Odor (C1 heres on uced Iron uction in T e (C7) ata (D9) Remarks nches): nches): nches): revious ir	(C4) (C4) iilled Soils X X ) nspections), if ava	Surface Soil Drainage Pa Dry-Season Crayfish Burn Saturation Vi Stunted or S Geomorphic FAC-Neutral Indica hydro	Cracks (B6) Iterns (B10) Water Table (C2) rows (C8) sible on Aerial Imagery (C9) Itressed Plants (D1) Position (D2) Test (D5) tors of wetland logy present? Y ne of the site visit.
Saturation Water M Sedimen Drift Dep Algal Ma Iron Dep Inundati Sparsely Water-S Field Obsen Surface wat Water table Saturation p (includes ca Describe red Remarks: Saturation	larks (B1) harks (B1) ht Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria y Vegetated Conca itained Leaves (B9) <b>rvations:</b> er present? present? present? pillary fringe) corded data (strea	I Imagery ve Surface ) Yes Yes im gauge, table we	(B7) ∋ (B8) No No No No  monitoring wel  ere not able to	True Aq Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge c Other (E X X X	Fauna (B uatic Plar n Sulfide I Rhizosp e of Redu ron Redu ck Surfac or Well Da xplain in Depth (i Depth (i Depth (i hotos, pu	13) Odor (C1 heres on uced Iron uction in T ce (C7) ata (D9) Remarks nches): nches): nches): revious ir	(C4) (C4) iilled Soils X X ) nspections), if ava	Surface Soil Drainage Pa Dry-Season Crayfish Burn Saturation Vi Stunted or S Geomorphic FAC-Neutral Indica hydro	Cracks (B6) tterns (B10) Water Table (C2) rows (C8) sible on Aerial Imagery (C9) tressed Plants (D1) Position (D2) Test (D5) tors of wetland logy present? Y ne of the site visit.

WETLAND DETERMINA	TION D	ATA FORM	I - Midwest R	Region			
Project/Site 85th Street Interchange	City/0	County:	Lincoln County	/ Sampling	g Date:	11/13/18	
Applicant/Owner: 85th Street Business District Joint Venture Grou	up	State:	South Dakot	ta Sampling	J Point:	41-U	
Investigator(s): Rebecca Beduhn		Secti	on, Township, R	Range:	T100NS13R	.51W	
Landform (hillslope, terrace, etc.): backslope		Local	relief (concave,	convex, none):	No	one	
Slope (%): 5 Lat: 43.47544064		Long:	-96.81592679	Datum:	UTM NAD 8	83 Zone 14	4N
Soil Map Unit Name Worthing silty clay loam, 0 to 1 percent slopes			NWI Cla	ssification:	Non	e	
Are climatic/hydrologic conditions of the site typical for this time of the	ne year?		Y (If no	, explain in rema	ırks)		
Are vegetation, soil, or hydrologys	significant	ly disturbed?					
Are vegetation , soil , or hydrology r	naturally p	oroblematic?	Ai	re "normal circur	nstances" pres	sent? Ye	:S
SUMMARY OF FINDINGS			(If	f needed, explair	any answers	in remarks	s.)
Hydrophytic vegetation present? N							
Hydric soil present? N		Is the sa	ampled area wi	ithin a wetland?	<u> </u>	1	
Indicators of wetland hydrology present? N		lf yes, op	tional wetland s	site ID:		_	
Remarks: (Explain alternative procedures here or in a separate repo	ort)						
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						
VEGETATION Use scientific names of plants							
	Absolute	Dominan	Indicator D	ominance Test	Worksheet		
<u>Tree Stratum</u> (Plot size: 30' Radius )	% Cover	t Species	Status	Number of Domin	ant Species		
1			tł	hat are OBL, FAC	W, or FAC:	0 (	(A)
2				Total Number of	of Dominant		
3				Species Acros	s all Strata:	1 (	(B)
4			F	Percent of Domin	ant Species		(
5		- Total Caver	tr	hat are OBL, FAC	W, or FAC:	0.00% (	(A/B)
Sanling/Shrub stratum (Plot size: 15' Radius )	0	= Total Cover	D.	rovalonco Indov	Workshoot		
1			Тс	otal % Cover of:	WORKSHEEL		
2		······································	0	BL species	0 x 1 =	0	
3		·	FA	ACW species	0 x 2 =	0	
4			FA	AC species	0 x 3 =	0	
5			F#	ACU species	0 x 4 =	0	
	0	= Total Cover	UI	PL species	$\frac{0}{0} \times 5 =$	0	
Herb stratum (Plot size: 5 Radius )	100				0 (A)	(	(B)
1 Glycine max Soybeans	100	Y	Pr	revalence Index	= B/A =		
3			——————————————————————————————————————	vdronhytic Veg	etation Indica	tors.	
4			[	Rapid test for	hvdrophytic ve	egetation	
5				 Dominance te	st is >50%	5	
6				Prevalence in	Jex is ≤3.0*		
7				Morphological	adaptations* (	(provide	
8				supporting dat	a in Remarks	or on a	
		······· ·		separate shee	(t)		
10	100	- Total Covor		Problematic h	ydrophytic veg	etation*	
Woody vine stratum (Plot size: 30' Radius )	100		<u> </u>				
1			*	Indicators of hydric: present_unle	soil and wetland h ess disturbed or pr	ydrology mu roblematic	ist be
2				Hydrophytic			
	0	= Total Cover		vegetation			
				present?	<u>N</u>		
Remarks: (Include photo numbers here or on a separate sheet)							
Note: This data about has been adapted to use the 2010 Notice (124) the	and Diant !	iot:					
Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: National	anu Piant L al Wetland F	List. Plant List, versioi	n 2.4.0 (https://wetla	and_plants.usace.ar	my.mil). U.S. Arm	iy Corps of	
Engineers, Engineer Research and Development Center, Cold Regions Research a	and Enginee	ring Laboratory,	Hanover, NH, and	BONAP, Chapel Hil	I, NC. (2012)		

Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm the absen	ce of indicators.)
Depth	<u>Matrix</u>		Rec	dox Feat	ures			
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks
0-12	5YR 3/1	100					Silty Clay Loam	
*Type: C = (	Concentration, D	= Depleti	on, RM = Reduce	ed Matrix	, MS = N	lasked S	and Grains. **Location	on: PL = Pore Lining, M = Matrix
Hydric So	oil Indicators:		0			(0.1)	Indicators for Prob	lematic Hydric Soils:
His	tosol (A1)		Sar	idy Gleye	ed Matrix	(S4)	Iron-Manganese	Masses (F12) ( <b>LRR K, L, M</b> )
His	tic Epipedon (A2)		Sar	idy Redo	x (S5)		Very Shallow Da	ark Surface (F22)
	CK HISTIC (A3)	4)		pped Ma	trix (S6)		Other (explain in	remarks)
	tified Lovers (A5	+) \		K Surrac	e (57) w Miner	J (⊑1)		
2 0	m Muck ( $\Delta 10$ )	/		my Glev	ed Matrix	(F2)		
2 CI	leted Below Dark	Surface	(A11) Der	leted Ma	atrix (F3)	( <i>L</i> )		
	ck Dark Surface (	A12)		lox Dark	Surface	(F6)	*Indicators of hud	conhytic vegetation and wetland
Sar	dv Muckv Minera	al (S1)	Der	leted Da	rk Surfa	(F7)	hvdrology must b	be present. unless disturbed or
5 ci	n Mucky Peat or	, Peat (S3	) Rec	lox Depr	essions (	F8)		problematic
Postrictivo	l avor (if obsorv	, ,	,			,		•
Type:	Layer (II Observ	eu).					Hydric soil preser	at2 N
Denth (inche	<i>se).</i>				-		riyune son preser	
Deptil (mont								
Wetland Hy	drology Indicate	vre.						
Drimory Indi	cators (minimum	of one is	required: check	all that a	nnly)		Secondary In	diastors (minimum of two required)
<u>Surface</u>	Water (A1)		required, check	Aquatic	<u>ppiy)</u> Fauna (B	13)	Surface	Soil Cracks (B6)
High Wa	iter Table (A2)			True Ag	uatic Plar	nts (B14)	Drainag	e Patterns (B10)
Saturatio	on (A3)			Hydroge	n Sulfide	Odor (C	1) Dry-Sea	son Water Table (C2)
Water M	larks (B1)			Oxidized	l Rhizosp	heres on	Living Roots Crayfish	Burrows (C8)
Sedimer	nt Deposits (B2)			(C3)			Saturati	on Visible on Aerial Imagery (C9)
Drift Dep	oosits (B3)			Presenc	e of Redu	iced Iron	(C4) Stunted	or Stressed Plants (D1)
Algal Ma	at or Crust (B4)			Recent I	ron Redu	ction in T	Tilled Soils Geomor	phic Position (D2)
Iron Dep	iosits (B5) an Visible an Aaris	Imagan	(P7)	(C6) Thin Mu	ok Surfoo	a (C7)	FAC-Ne	utral Test (D5)
Sparsely		ar innayer: ave Surfa	(B7)		r Well Da	e (C7) ata (D9)		
Water-S	tained Leaves (B9	)		Other (E	xplain in	Remarks	)	
Field Obser	vations:	,					,	
Surface wat	er present?	Yes	No	х	Depth (i	nches):		
Water table	present?	Yes	No	X	Depth (i	nches):	In	dicators of wetland
Saturation p	resent?	Yes	No	Х	Depth (i	nches):	h	ydrology present? N
(includes ca	pillary fringe)							
Describe ree	corded data (strea	am gaug	e, monitoring well	, aerial p	hotos, pr	evious ir	nspections), if available:	
Remarke								
Saturation	and/or a water	r tahlo v	vere not able to	he ob	served	as the	water was frozen at th	e time of the site visit
Jaturation				00:00	Sciveu,	us uit	water was nozen at th	
	orne of Engine	orc						Midwort Dogion
US ATTINY C	or ha or Eußine	612						windwest Region

Projectiol Bibles Bible Street Interchange       City/Courty:       Lincoln Courty       Sampling Point:       11/3/18         Applicant/Courty:       Rebecca Beduhn       Section, Township, Range:       T100NIS12851W         Landform (Initial-Operation Status)       Section, Township, Range:       T100NIS12851W         Solid Nacio       Section, Township, Range:       T100NIS12851W         Solid Nacio       Last (Initial Concerned Stopes)       None         Solid Nacio       Ast 7940036       Long:       Get 352008       Dominant       None         Are vogetation       _ort hydrology       significantly disturbed?       None       None       None         Are vogetation       _ort hydrology       significantly disturbed?       None       None       None         SUMMARY OF FINDINGS      Y       Is the sampled area within a vottand?       Y         Hydrologing vogetation generat?       Y       Is the sampled area within a vottand?       Y         Project Stratum       (Plot size:       30 Radius:       Norther of Dominant Species       Norther of Dominant Species         VEGETATION – Use scientific names of plants.	WETLAND DETERMINA	TION D	ATA FORM	I - Midwest Regi	on	
Applicant/Vorme:       Bit Bread Business District Joint Vonture Group       Sector. Torwnship, Range, T100NS13851W         Landorm (hillslops, terrace, etc.):       tossbpe       Local relief (concave, convex, none):       UTM NAD B3 Zone 14N         Stope (%):       Lut.       43.4756036       Long:       -30.81562208       Datum:       UTM NAD B3 Zone 14N         Stope (%):       Lut.       43.4756036       Long:       -30.81562208       Datum:       UTM NAD B3 Zone 14N         Are clination/vorting situ (algo can, 0 to 1 percology)       splitant/visitured?       Y       (ft no, explain in remarks)         Are vegetation	Project/Site 85th Street Interchange	City/0	County:	Lincoln County	Sampling Date:	11/13/18
Investigators):         Refere an Bealanh         Section:         Township, Range:         TITOWNSHD, Range:         TITOW	Applicant/Owner: 85th Street Business District Joint Venture Gro	up	State:	South Dakota	Sampling Point:	41-W
Landform (illialope, terrace, etc.);       testage       Local relief (concave, conver, none);       Concave         Soil Map Unit Name Worthing silty clay loam, 0 to 1 percent slopes       NWI Classification;       None         Are dimatichydedigic conditions of the site spipal for this time of the year?       Y       (if me, explain in remarks)         Are vegetation	Investigator(s): Rebecca Beduhn		Section	on, Township, Range	: T100NS	13R51W
Stope (%): 1       Lat:       43.47264038       Long:       -98.8150208       Datu::       Non         Add ball with sum withoring sill you gloan 0. b 1 percent stopes       Non (If no, explain in remarks).       Non         Are climatichhydrologic conditions of the site typical for this time of the year?       Y       (If no, explain in remarks).         Are vegetation, or hydrology       isignificantly disturbed?       Are "normal circumstances" present?       Yes         SUMMARY OF FINDINGS       Y       Y       Is the sampled area within a wetland?       Y         Hydro phylic vegetation present?       Y       Y       If yes, optional wetland site ID       Wetland 41         Remarks:       (Explain alternative procedures here or in a separate report.)       If yes, optional wetland site ID       Wetland 41       (R)         VEGETATION Use scientific names of plants.       Dominance Test Worksheet       (R)       Total Number of Dominant Species: It are OBL; FACW, or FAC:       1       (A)         3	Landform (hillslope, terrace, etc.): toeslope		Local	relief (concave, conv	ex, none):	Concave
Soil Map With Name Workings ally clay loam, 0 to 1 percent aloges       NVI Classification:       Nome         Are climatohydrologic conditions of the site typical of this time of the year?       Yean       (if no, copian in remarks)         Are vegetation       _ soil       _ or hydrology       naturally problematic?       Are "normal circumstances" present?       Yes         Hydrologity regetation regent?       Y       Is the sampled area within a wetland?       Y         Hydrology present?       Y       Is the sampled area within a wetland?       Y         Indicators of wetland hydrology present?       Y       Is the sampled area within a wetland?       Y         Indicators of wetland hydrology present?       Y       Is the sampled area within a wetland?       Y         Image: Status       (Plot size: 30 Radius.)       Absolute       Dominane       Indicator         Tree Stratum       (Plot size: 30 Radius.)       0       = Total Cover       Prevalence Index Worksheet         1	Slope (%): 1 Lat: 43.47546036		Long:	-96.81592608	Datum: UTM N	AD 83 Zone 14N
Are climatolyydrologic conditions of the site typical for the time of the year?       Y       (If no. explain in remarks)         Are vegetationisol, or hydrologyinturally problematic?       Are "normal circumstances" present? Yes (If no. explain any answers in remarks.)         SUMMARY OF FINDINGS       Is the sampled area within a wotland? Y       Y         Hydrophytic vegetation present?       Y       If yes, optional wetland site ID.       Y         Hydrophytic vegetation remarks.)       Y       If yes, optional wetland site ID.       Y	Soil Map Unit Name Worthing silty clay loam, 0 to 1 percent slopes			NWI Classific	ation:	None
Are vegetation	Are climatic/hydrologic conditions of the site typical for this time of the	he year?	-	Y (If no, exp	lain in remarks)	
Are vegetation	Are vegetation, soil, or hydrology	significant	ly disturbed?			
SUMMARY OF FINDINGS       (If needed, explain any answers in remarks.)         Hydro splain any answers in remarks.)       Hydro splain any answers in remarks.)         Hydro splain atternative orgonous interval in the sampled area within a wetland?       Y         Indicators of wetland hydrology present?       Y         Remarks: (Explain atternative procedures here or in a separate report.)       Is the sampled area within a wetland?       Y         VEGETATION Use scientific names of plants.       Dominant findicator       Mosolute       Dominant findicator         1              2              3              3              3              2               3                3	Are vegetation , soil , or hydrology	naturally p	oroblematic?	Are "no	ormal circumstances"	present? Yes
Hydric soil present?       Y       Y         Indicators of welland hydrology present?       Y       Y         Remarks: (Explain alternative procedures here or in a separate report.)       Is the sampled area within a wetland?       Y         YEGETATION Use scientific names of plants.       Dominant Indicator       Number of Dominant Species         1	SUMMARY OF FINDINGS			(If need	ded, explain any answ	vers in remarks.)
Hydric soli present?       Y       Is the sampled area within a wetland?       Y         Remarks: (Explain alternative procedures here or in a separate report.)       f yes, optional wetland site ID:	Hydrophytic vegetation present? Y					
Indicators of wetland hydrology present?       Y       f yes, optional wetland site ID:	Hydric soil present? Y		Is the sa	ampled area within	a wetland?	Y
Remarks: (Explain alternative procedures here or in a separate report.)         VEGETATION Use scientific names of plants.         Tee Stratum       (Plot size:	Indicators of wetland hydrology present? Y		lf yes, op	tional wetland site ID	): Wetland 41	
VEGETATION Use scientific names of plants.         Tree Stratum (Plot size: <u>30 Radius</u> )         2	Remarks: (Explain alternative procedures here or in a separate repo	ort.)				
VEGETATION Use scientific names of plants.         Tree Stratum       (Plot size: _30 'Radius_)       Absolute % Cover       Dominan ( Species % Cover       Indicator ( Species % Cover       Dominance Test Worksheet Number of Dominant Species that are OBL_FACW, or FAC1(A)         3		,				
VEGETATION Use scientific names of plants.         Tree Stratum       (Plot size:						
Tree Stratum       (Plot size:       30' Radius       Absolute       Dominan       Indicator         1	VEGETATION Use scientific names of plants					
Tree Stratum       (Plot size: 30 Radius )       % Cover       Species       Status that are OBL, FACW, or FAC: 1 (A) Total Number of Dominant Species that are OBL, FACW, or FAC: 1 (B)       (A)         2		Absolute	Dominan	Indicator Domin	ance Test Workshee	ət
1	<u>Tree Stratum</u> (Plot size: 30' Radius )	% Cover	t Species	Status Numb	er of Dominant Specie	S
2	1			that ar	e OBL, FACW, or FAC	): <u> </u>
3        Species Across all Strats:       1       (B)         4	2			Tot	al Number of Dominar	nt
4	3			Sŗ	ecies Across all Strata	a: <u>1</u> (B)
3        0       = Total Cover       Initial all Coll., FACW, di FAC.       100.00% (MB)         1        0       = Total Cover       Prevalence Index Worksheet       Total % Cover of:       0         2         0       = Total Cover       CBL species       0       x 1 =       0         4           CBL species       0 x 1 =       0         5        0       = Total Cover       FAC species       0 x 1 =       0         FAC species       0 x 1 =       0       Column totals       100       X 1 =       0         1       Phalaris arundinacea       -       Red Canary Grass       100       Y       FACW       Prevalence Index Worksheet         2        -       -       -       Column totals       100       (A)       200       (B)         2        -       -       -       -       -       -       Column totals       100       X       Prevalence index is \$3.0*         4        -       -       -       -       -       -       -       -       -       -       -       -       - </td <td></td> <td></td> <td></td> <td>Perce</td> <td>nt of Dominant Specie</td> <td>S</td>				Perce	nt of Dominant Specie	S
Sapling/Shrub stratur       (Plot size:       15 Radius       )         1		0	= Total Cover		e OBL, FACVV, OF FAC	л <u>тоо.00%</u> (А/В)
1	Sapling/Shrub stratum (Plot size: 15' Radius )	0		Preval	ence Index Workshe	et
2         OBL species       0       x 1 =       0         3          FACW species       0       x 3 =       0         5           FACU species       0       x 4 =       0         1       Phalaris arundinacea        0       = Total Cover       UPL species       0       x 5 =       0         2            Column totals       100       (A)       200       (B)         2             Column totals       100       (A)       200       (B)         2             Column totals       100       (A)       200       (B)         3             Column totals       100       (A)       200       (B)         5	1			Total %	6 Cover of:	
3	2			OBL sp	becies 0 x <sup>2</sup>	1 = 0
4        FAC species       0       x 3 =       0         5        0       = Total Cover       FACU species       0       x 4 =       0         1       Phalaris arundinacea        Reed Canary Grass       100       Y       FACW       FACU species       0       x 5 =       0         2            Hydrophytic Vegetation Indicators:         4            Hydrophytic Vegetation Indicators:         5            Hydrophytic Vegetation Indicators:         6            Hydrophytic Vegetation Indicators:         8            Rapid test for hydrophytic vegetation         10            Separate sheet)         10             Separate sheet)         10            Separate sheet)	3			FACW	species 100 x 2	2 = 200
5        0       = Total Cover       FACU species       0       x 5 =       0         1       Phalaris arundinacea        Reed Canary Grass       100       Y       FACW       FACW         2            Column totals       100       (A)       200       (B)         4             Hydrophytic Vegetation Indicators:         5  <	4			FAC sp	becies 0 x 3	3 = 0
Herb stratum       (Plot size:5' Radius)       0       = lotal Cover       UPL speciesX S =       0       x S =       0       (B)         1       Phalaris arundinacea        Reed Canary Grass       100       Y       FACW       Prevalence Index = B/A =       2.00       (B)         2 <td< td=""><td>5</td><td></td><td>TILO</td><td> FACU</td><td>species 0 x 4</td><td>4 = 0</td></td<>	5		TILO	FACU	species 0 x 4	4 = 0
1       Phalaris arundinacea	Herb stratum (Plot size: 5' Padius )	0	= I otal Cover	UPL sp	vectors $\frac{100}{100}$ (A	b = 0
1       Privalence index – D/A – 2.00         2          3          4          5          6          7          8          9          10          10          10          10          10          10          10          10          10          2          0       = Total Cover         11          12          0       = Total Cover         11          0       = Total Cover         12          0       = Total Cover         12          0       = Total Cover </td <td>1 Phalaria arundinanaa Pood Canary Crana</td> <td>100</td> <td>V</td> <td>EACW/ Broyold</td> <td><math display="block">\frac{100}{100}</math></td> <td>200 (B)</td>	1 Phalaria arundinanaa Pood Canary Crana	100	V	EACW/ Broyold	$\frac{100}{100}$	200 (B)
3        Hydrophytic Vegetation Indicators:         4        Rapid test for hydrophytic vegetation         5           6           7           8           9           10           10           2           0       = Total Cover          Woody vine stratum       (Plot size: 30' Radius )          1           2           0       = Total Cover          Woody vine stratum       (Plot size: 30' Radius )          1            2            0       = Total Cover       Hydrophytic vegetation problematic         Hydrophytic            2            0       = Total Cover       Hydrophytic vegetation problematic         Hydrophytic       vegetation problematicon problematicon problematic problematic pre	2 Reed Canary Grass	100		FACIO	file filles - D/A -	2.00
4        Rapid test for hydrophytic vegetation         5        Commance test is >50%         6        Commance test is >50%         7        Commance test is >50%         8        Commance test is >30*         9        Commance test is >50%         10        Commance test is >50%         10        Commander test is >50%         11        Commander test is >50%         12        Commander test is >50%         13        Commander test is >50%         14           15        Commander test is -50%         16            2            0       = Total Cover       Hydrophytic vegetation present; unless disturbed or problematic         Hydrophytic            0       = Total Cover       Hydrophytic vegetation present?         Y	3			Hydro	ohytic Vegetation In	dicators:
5          6          7          8          9          10	4			Ra	pid test for hydrophyt	ic vegetation
6        X       Prevalence index is \$3.0*         7        Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)         9           10           2           0       = Total Cover       Problematic hydrophytic vegetation* (explain)         *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic       Hydrophytic vegetation problematic         2        0       = Total Cover       Hydrophytic vegetation problematic         Note: This data sheet has been adapted to use the 2012 National Wetland Plant List; version 2.4.0 (https://wetland_plants.usace.army.mil). U.S. Army Corps of Foreignering Legendration Harrise multiplication and Beagendra and Beagend	5			X Do	minance test is >50%	2
7          8          9          10          10          10          10          10          10          10          10          10          10          10          10          100       = Total Cover         Problematic hydrophytic vegetation*         (explain)         *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic         Hydrophytic         2          0       = Total Cover         Hydrophytic       vegetation         present; unless disturbed or problematic         Hydrophytic       vegetation         present?       Y         Remarks: (Include photo numbers here or on a separate sheet)         Note: This data sheet has been adapted to use the 2012 National Wetland Plant List:         Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: National Wetland Plant List; version 2.4.0 (https://wetland_plants.usace.army.mil). U.S. Army Corps of Engineering Laboratony Hancur	6			X Pre	evalence index is ≤3.0	)*
8          9          10          10          10          10          10          10          10          10          10          10          100       = Total Cover         Problematic hydrophytic vegetation*         (explain)         *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic         1          2          0       = Total Cover         Hydrophytic       vegetation         present?       Y         Remarks: (Include photo numbers here or on a separate sheet)         Note: This data sheet has been adapted to use the 2012 National Wetland Plant List.         Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flore: National Wetland Plant List, version 2.4.0 (https://wetland_plants.usace.army.mil). U.S. Army Corps of Engineers Research and Development Center Cold Begingers Research and Engineering Laboratory. Hanver, NH. and BONAP. Changel Hill N.C. (2012)	7			Mc	rphological adaptation	ns* (provide
9				su	oporting data in Rema	arks or on a
10       = Total Cover	9 <u></u>		·		blomatia budranbutia	vogatation*
Woody vine stratum       (Plot size: 30' Radius )          *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic         2        0       = Total Cover       Hydrophytic vegetation present?       Y         Remarks: (Include photo numbers here or on a separate sheet)       0       = Total Cover       Y       Y		100	= Total Cover	(ex	olain)	vegetation
1          2          0       = Total Cover         Hydrophytic       vegetation         present, unless disturbed or problematic         Hydrophytic       vegetation         present?       Y	- Woody vine stratum (Plot size: 30' Radius )			*Indica	tors of bydric soil and woth	and hydrology must be
2        Hydrophytic vegetation present?         Q       = Total Cover       Present?         Present?       Y         Remarks: (Include photo numbers here or on a separate sheet)         Note: This data sheet has been adapted to use the 2012 National Wetland Plant List:         Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: National Wetland Plant List; version 2.4.0 (https://wetland_plants.usace.army.mil). U.S. Army Corps of Engineers Engineer Besearch and Development Center. Cold Regions Research and Engineering Laboratory. Hanover, NH and BONAP. Changel Hill, NC. (2012)	1			Indica	present, unless disturbed	or problematic
0       = Total Cover       vegetation present?         Y       Present?       Y         Remarks: (Include photo numbers here or on a separate sheet)       Note: This data sheet has been adapted to use the 2012 National Wetland Plant List:       Present?       Y         Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: National Wetland Plant List:       Present?       Note: This data sheet has been adapted to use the 2012 National Wetland Plant List:         Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: National Wetland Plant List;       Presenter Methand_plants.usace.army.mil). U.S. Army Corps of Engineers         Engineers       Engineers       Research and Dovelopment Center. Cold Regions Research and Engineering Laboratory. Hanover, NH and BONAP. Channel Hill NC (2012)	2			Hy	drophytic	
present ?       Y         Remarks: (Include photo numbers here or on a separate sheet)		0	= Total Cover	Ve	jetation	
Remarks: (Include photo numbers here or on a separate sheet) Note: This data sheet has been adapted to use the 2012 National Wetland Plant List: Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: National Wetland Plant List, version 2.4.0 (https://wetland_plants.usace.army.mil). U.S. Army Corps of Engineers. Engineer Research and Development Center. Cold Regions Research and Engineering Laboratory, Hangver, NH, and BONAP, Chanel Hill, NC. (2012)				pre		
<b>Note:</b> This data sheet has been adapted to use the 2012 National Wetland Plant List: Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: National Wetland Plant List, version 2.4.0 (https://wetland_plants.usace.army.mil). U.S. Army Corps of Engineers: Engineer Research and Development Center. Cold Regions Research and Engineering Laboratory, Hangver, NH, and BONAP, Changel Hill, NC. (2012)	Remarks: (Include photo numbers here or on a separate sheet)					
Note: This data sheet has been adapted to use the 2012 National Wetland Plant List: Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: National Wetland Plant List, version 2.4.0 (https://wetland_plants.usace.army.mil). U.S. Army Corps of Engineers. Engineer Research and Development Center. Cold Regions Research and Engineering Laboratory, Hangver, NH, and BONAP, Changel Hill, NC. (2012)						
Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: National Wetland Plant List, version 2.4.0 (https://wetland_plants.usace.army.mil). U.S. Army Corps of Engineers. Engineers Engineers Engineer Research and Development Center. Cold Regions Research and Engineering Laboratory. Hangver, NH, and BONAP. Changel Hill, NC. (2012).	Note: This data sheet has been adapted to use the 2012 National Wet	and Plant I	_ist:			
	Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: Nation Engineers, Engineer Research and Development Center, Cold Regions, Possorch -	al Wetland F	Plant List, version	n 2.4.0 (https://wetland_p Hanover_NH_and BON/	ants.usace.army.mil). U.S	Army Corps of

Profile Des	cription: (Descri	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm th	e absence o	of indicators.)
Depth	Matrix		Red	dox Feat	ures				
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture		Remarks
0-16	10YR 2/2	90	2.5YR 4/6	10	С	М	Silty Clay Loar	n	
*Type: C = (	Concentration D -	- Depleti	ion PM - Peduce	d Matrix	MS - N	laskad S	and Grains	**Location: E	PL - Pore Liping M - Matrix
Hydric Sc	il Indicators:	- Depieti			, wio – w	laskeu o	Indicators f	or Problem	atic Hydric Soils:
His	$(\Delta 1)$		Sar	dv Gleve	ed Matrix	(S4)	Indicators I	nganese Ma	sses (F12) (I RR K I M)
His	tic Eninedon (A2)		Sar	idy Cicy. Idv Redc	x (S5)	(04)	Verv Sh	allow Dark S	Surface (F22)
Bla	ck Histic (A3)		Stri	nned Ma	rix (S6)		Other (e	anow Dank C Avolain in ren	narks)
	Irogen Sulfide (A4	L)	Dar	k Surfac	e (S7)				land)
Stra	atified Lavers (A5)	r) )	Loa	my Mucl	kv Miner:	al (F1)			
2 ci	m Muck (A10)	,	L 0a	my Glev	ed Matrix	x (F2)			
Der	leted Below Dark	Surface	e (A11) Der	leted Ma	atrix (F3)	. (1 _)			
	ck Dark Surface (	A12)		lox Dark	Surface	(F6)	*Indicator	s of hydroph	vtic vegetation and wetland
Sar	dv Muckv Minera	l (S1)	Der	leted Da	ark Surfa	ce (F7)	hvdroloc	v must be p	resent, unless disturbed or
5 ci	n Muckv Peat or	Peat (S3	3) Rec	lox Depr	essions	(F8)	,	pro	blematic
• • •		(	,			(* -)		1	
Tuno	Layer (If observe	ea):					Uvdria aa	il procent?	V
Type.					-		Hyunc so	ii present?	
Deptil (Inche					-				
	DGY								
		ns. of one is	required, check	all that a			0		
Primary Indi	<u>cators (minimum</u>	of one is	requirea; cneck		ppiy)		Secol	ndary Indicat	tors (minimum of two required)
	vvaler (AT)				Fauna (B	o13) etc (P14)		Surface Soli	Cracks (Bb)
 Saturati	(A2)			Hydroge	ualic Piar on Sulfido	Odor (C'			Water Table (C2)
Water M	larks (B1)			Oxidized	1 Rhizosn	heres on	Living Roots	Cravfish Bur	$\frac{1}{1000} \frac{1}{1000} \frac{1}{1000$
Sedimer	nt Deposits (B2)			(C3)	1112000			Saturation V	isible on Aerial Imagery (C9)
Drift Der	osits (B3)			Presenc	e of Redu	uced Iron	(C4)	Stunted or S	stressed Plants (D1)
Algal Ma	at or Crust (B4)		-	Recent I	Iron Redu	uction in T	illed Soils X	Geomorphic	Position (D2)
Iron Dep	osits (B5)			(C6)			X	FAC-Neutral	Test (D5)
Inundati	on Visible on Aeria	I Imager	y (B7)	Thin Mu	ck Surfac	ce (C7)		-	
Sparsely	Vegetated Conca	ive Surfa	ce (B8)	Gauge of	or Well Da	ata (D9)			
Water-S	tained Leaves (B9	)		Other (E	xplain in	Remarks	)		
Field Obser	vations:								
Surface wat	er present?	Yes	No	Х	Depth (i	inches):			
Water table	present?	Yes	No	<u>X</u>	Depth (i	inches):		Indica	itors of wetland
Saturation p	resent?	Yes	No	X	_Depth (i	inches):		hydro	ology present? Y
(includes ca	piliary tringe)							<u> </u>	
Describe rea	corded data (strea	am gaug	e, monitoring well	, aerial p	photos, p	revious ir	nspections), if ava	ailable:	
Remarks:									
Saturation	and/or a water	table v	vere not able to	be ob	served,	as the	water was froz	en at the ti	me of the site visit.
1									

WETLAND DETERMINA	TION D	ATA FORM	l - Midwes	t Regior	1			
Project/Site 85th Street Interchange	City/0	County:	Lincoln Cou	unty	Sampling	Date:	11/13/18	3
Applicant/Owner: 85th Street Business District Joint Venture Grou	q	State:	South Da	akota S	Sampling F	Point:	42- U	
Investigator(s): Rebecca Beduhn		Section	on, Township	o, Range:		T100NS13R	.51W	
Landform (hillslope, terrace, etc.): backslope		Local	relief (concav	ve, convex	, none):	No	one	
Slope (%): 5 Lat: 43.48979865		Long:	-96.80643	98	Datum:	UTM NAD 8	33 Zone 1	14N
Soil Map Unit Name Wentworth-Chancellor silty clay loams, 0 to 2 pe	ercent slo	pes	NWI	Classificat	ion:	Non	е	
Are climatic/hydrologic conditions of the site typical for this time of the	ne year?	_	Y (If	no, explai	n in remar	ˈks)		
Are vegetation, soil, or hydrologys	significantl	y disturbed?						
Are vegetation , soil , or hydrology r	naturally p	roblematic?		Are "norr	nal circum	stances" pres	ent? Y	'es
SUMMARY OF FINDINGS				(If neede	d, explain	any answers	in remarl	ks.)
Hydrophytic vegetation present? N								
Hydric soil present? N		Is the sa	ampled area	within a	wetland?	N		
Indicators of wetland hydrology present? N		lf yes, op	tional wetlan	nd site ID:			_	
Remarks: (Explain alternative procedures here or in a separate repo	ort.)							
	,							
VEGETATION Use scientific names of plants								
	Absolute	Dominan	Indicator	Dominar	nce Test V	Vorksheet		
Tree Stratum (Plot size: 30' Radius )	% Cover	t Species	Status	Number	of Domina	nt Species		
1 '		·		that are (	OBL, FAC	N, or FAC:	0	(A)
2				Total	Number of	f Dominant		-
3				Spec	cies Across	all Strata:	1	(B)
4				Percent	of Domina	nt Species		(
5		<u></u>		that are (	OBL, FAC\	N, or FAC:	0.00%	(A/B)
Sanling/Shrub strature (Plot size: 15' Padius )	0	= I otal Cover	-	Broyalon	co Indov	Workshoot		
				Total % (	Cover of:	WUIKSHEEL		
2		······································		OBL spec	cies	0 x 1 =	0	
3				FACW sp	becies	0 x 2 =	0	-
4				FAC spee	cies	0 x 3 =	0	_
5				FACU sp	ecies	0 x 4 =	0	_
	0	= Total Cover	•	UPL spec	cies _	$0 \times 5 =$	0	-
Herb stratum (Plot size: 5' Radius )				Column t		0 (A)	0	_(B)
1 Glycine max Soybeans	100	Y	NI	Prevalen	ce Index =	B/A =		-
				Hydroph	vtic Vogo	tation Indica	tors:	
4		·		Rapio	d test for h	vdrophytic ve	aetation	
5				Domi	nance tes	t is >50%	3	
6				Preva	alence ind	ex is ≤3.0*		
7				Morp	hological a	adaptations* (	provide	
8				supp	orting data	in Remarks	or on a	
				sepa	rate sheet	)		
10	100	- Total Cover		Probl	ematic hy	drophytic veg	etation*	
Woody vine stratum (Plot size: 30' Radius )	100				airi)			
1				Indicator*	s of hydric so resent unles	oil and wetland h s disturbed or pr	ydrology m	nust be
				Hydr	ophytic		biomato	
	0	- Total Cover		vege	tation			
				pres	ent?	<u>N</u>		
Remarks: (Include photo numbers here or on a separate sheet)								
Nate: This data about has been adouted to we the OO40 Matter 1944 if	nd Diant'	iati						
Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: National	and Plant L al Wetland P	.เรเ. Plant List, versioi	n 2.4.0 (https://v	wetland_plan	ts.usace.arn	ny.mil). U.S. Arm	y Corps of	
Engineers, Engineer Research and Development Center, Cold Regions Research a	nd Enginee	ring Laboratory,	Hanover, NH, a	and BONAP,	Chapel Hill,	NC. (2012)		

Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm the absen	ce of indicators.)
Depth	Matrix		Rec	dox Featu	ures			
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks
0-14	10YR 2/1	100					Silty Clay Loam	
*Type: C = 0	Concentration, D :	= Depleti	on, RM = Reduce	ed Matrix	, MS = N	lasked S	and Grains. **Location	on: PL = Pore Lining, M = Matrix
Hydric Sc	oil Indicators:						Indicators for Prob	lematic Hydric Soils:
His	tosol (A1)		San	dy Gleye	ed Matrix	(S4)	Iron-Manganese	Masses (F12) ( <b>LRR K, L, M</b> )
His	tic Epipedon (A2)		San	idy Redo	x (S5)		Very Shallow Da	rk Surface (F22)
Bla	ck Histic (A3)		Stri	pped Ma	trix (S6)		Other (explain in	remarks)
Hyd	drogen Sulfide (A4	4)	Dar	k Surface	e (S7)			
Stra	atified Layers (A5	)	Loa	my Mucł	ky Minera	al (F1)		
2 ci	m Muck (A10)		Loa	my Gley	ed Matrix	(F2)		
Dep	pleted Below Dark	Surface	e (A11) Dep	leted Ma	atrix (F3)			
Thi	ck Dark Surface (	A12)		lox Dark	Surface	(F6)	*Indicators of hyd	rophytic vegetation and wetland
Sar	ndy Mucky Minera	al (S1)	Dep	leted Da	rk Surfa	ce (F7)	hydrology must b	be present, unless disturbed or
5 ci	m Mucky Peat or	Peat (S3	) Rec	lox Depre	essions (	(F8)		problematic
Restrictive	Layer (if observe	ed):						
Туре:							Hydric soil preser	nt? <u>N</u>
Depth (inche	es):							
HYDROL	OGY							
Wetland Hy	drology Indicate	ors:						
Primary Indi	cators (minimum	of one is	required: check	all that a	oply)		Secondary Inc	dicators (minimum of two required)
Surface	Water (A1)			Aquatic	Fauna (B	13)	Surface	Soil Cracks (B6)
High Wa	ater Table (A2)			True Aqu	uatic Plar	nts (B14)	Drainag	e Patterns (B10)
Saturatio	on (A3)			Hydroge	n Sulfide	Odor (C	1) Dry-Sea	son Water Table (C2)
Water N	larks (B1)			Oxidized	Rhizosp	heres on	Living Roots Crayfish	Burrows (C8)
Sedimer	nt Deposits (B2)			(C3)			Saturati	on Visible on Aerial Imagery (C9)
Drift Dep	posits (B3)			Presenc	e of Redu	uced Iron	(C4) Stunted	or Stressed Plants (D1)
Algal Ma	at or Crust (B4)			Recent I	ron Redu	iction in T	illed Soils Geomor	phic Position (D2)
Iron Dep	OSIIS (B5) on Visible on Acris	Imagon	( (B7)	(C6) Thin Mu	ok Surfoo	o (C7)	FAC-Ne	utral Test (D5)
Sparsely	Vegetated Conca	ave Surfa	ce (B8)	Gauge o	r Well Da	e (C7) ata (D9)		
Water-S	tained Leaves (B9	)		Other (E	xplain in	Remarks	)	
Field Obser	vations:	,					, 	
Surface wat	er present?	Yes	No	х	Depth (i	nches):		
Water table	present?	Yes	No	Х	Depth (i	nches):	In	dicators of wetland
Saturation p	resent?	Yes	No	Х	Depth (i	nches):	h	ydrology present? N
(includes ca	pillary fringe)							
Describe red	corded data (strea	am gauge	e, monitoring well	, aerial p	hotos, pi	revious ir	nspections), if available:	
Remarks:								
Saturation	and/or a water	table v	vere not able to	be obs	served	as the	water was frozen at th	e time of the site visit
Catalation					Jerveu,			
		<u></u>						Miduce to a feat
US Army C	orps or Engine	ers						ivildwest Region

WETLAND DETERMINA	TION D	ATA FORM	I - Midwest Regio	n	
Project/Site 85th Street Interchange	City/0	County:	Lincoln County	Sampling Date:	11/13/18
Applicant/Owner: 85th Street Business District Joint Venture Grou	qu	State:	South Dakota	Sampling Point:	42-W
Investigator(s): Rebecca Beduhn		Section	on, Township, Range:	T100NS	S13R51W
Landform (hillslope, terrace, etc.): toeslope		Local	relief (concave, conve	x, none): C	oncave
Slope (%): 1 Lat: 43.48979897		Long:	-96.80641708	Datum: UTM NA	D 83 Zone 14N
Soil Map Unit Name Wentworth-Chancellor silty clay loams, 0 to 2 pe	ercent slo	pes	NWI Classifica	tion: N	one
Are climatic/hydrologic conditions of the site typical for this time of the	ne year?	_	Y (If no, expla	in in remarks)	
Are vegetation, soil, or hydrologys	significantl	y disturbed?			
Are vegetation , soil , or hydrology r	naturally p	roblematic?	Are "nor	mal circumstances" p	resent? Yes
SUMMARY OF FINDINGS			(If neede	explain any answe	rs in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? Y		Is the sa	ampled area within a	wetland?	Y
Indicators of wetland hydrology present? Y		If yes, op	tional wetland site ID:	Wetland 42	
Remarks: (Explain alternative procedures here or in a separate repo	ort )				
	<i></i> ,				
VEGETATION Use scientific names of plants					
	Absolute	Dominan	Indicator Domina	nce Test Worksheet	
Tree Stratum (Plot size: 30' Radius )	% Cover	t Species	Status Number	r of Dominant Species	
1 '			that are	OBL, FACW, or FAC:	1 (A)
2			Tota	I Number of Dominant	
3			Spe	cies Across all Strata:	1 (B)
4			Percent	t of Dominant Species	
<u> </u>		<u></u>	that are	OBL, FACW, or FAC:	<u>100.00%</u> (A/B)
Sonling/Shrub strature (Plot size: 15' Padius )	0	= I otal Cover	Provolo	noo Indox Workshoo	+
1			Total %	Cover of	L
2		·	OBL spe	cies 0 x 1 ;	= 0
3			FACW s	pecies 100 x 2	= 200
4			FAC spe	cies 0 x 3	= 0
5			FACU sp	becies 0 x 4 :	= 0
	0	= Total Cover	UPL spe	cies $0 \times 5$	= 0 (D)
Herb stratum (Plot size: 5' Radius )			Column	totais <u>100</u> (A)	<u>200</u> (B)
1 Phalaris arundinacea Reed Canary Grass	100	Y	FACW Prevaler	ice Index = B/A =	2.00
2 <u></u>			Hydroph	ovtic Vegetation Indi	cators.
4			Rapi	id test for hydrophytic	vegetation
5			X Dom	inance test is >50%	0
6			X Prev	/alence index is ≤3.0*	
7			Mor	phological adaptations	s* (provide
8			supp	porting data in Remark	ks or on a
			sepa	arate sheet)	
	100	- Total Cover	Prot	ilematic hydrophytic v	egetation*
Woody vine stratum (Plot size: 30' Radius )	100		(CAP		
1			*Indicato	rs of hydric soil and wetlan present. unless disturbed o	r problematic
2			Hyd	rophytic	-
	0	Total Cover	vege	etation	
			pres	ent? Y	
Remarks: (Include photo numbers here or on a separate sheet)					
Note: This data shoot has been adopted to use the 2012 Netional Wate	and Plant I	ict:			
Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: National	al Wetland P	liat. Plant List, versior	n 2.4.0 (https://wetland_pla	nts.usace.army.mil). U.S. A	Army Corps of
Engineers, Engineer Research and Development Center, Cold Regions Research a	and Enginee	ring Laboratory,	Hanover, NH, and BONAP	', Chapel Hill, NC. (2012)	

Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm	the absence	e of indicators.)
Depth	Matrix		Re	dox Feat	ures				
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Textu	ire	Remarks
0-12	10YR 2/1	95	7.5YR 4/6	5	C	М	Silty Clay Lo	pam	
							, ,		
*Type: C = 0	Concentration, D :	= Depleti	on, RM = Reduce	ed Matrix	, MS = N	lasked S	and Grains.	**Location	: PL = Pore Lining, M = Matrix
Hydric So	il Indicators:						Indicator	s for Proble	matic Hydric Soils:
His	tosol (A1)		Sar	ndy Gleye	ed Matrix	: (S4)	Iron-N	Manganese N	/lasses (F12) ( <b>LRR K, L, M</b> )
His	tic Epipedon (A2)		Sar	ndy Redo	x (S5)		Very	Shallow Dark	(Surface (F22)
Bla	ck Histic (A3)		Stri	pped Ma	trix (S6)		Other	· (explain in r	emarks)
Hyd	lrogen Sulfide (A4	4)	Dar	k Surfac	e (S7)				
Stra	atified Layers (A5	)	Loa	my Mucl	ky Minera	al (F1)			
2 ci	m Muck (A10)		Loa	my Glev	ed Matrix	(F2)			
Dep	oleted Below Dark	Surface	e (A11) Dei	pleted Ma	atrix (F3)	. /			
	ck Dark Surface (	A12)	XRed	dox Dark	Surface	(F6)	*Indica	tors of hvdro	phytic vegetation and wetland
Sar	ndy Mucky Minera	í (S1)	Der	pleted Da	ark Surfa	ce (F7)	hvdro	loav must be	present, unless disturbed or
5 ci	m Muckv Peat or	, Peat (S3	) Red	lox Depr	essions (	(F8)	<b>,</b>	r	problematic
	, 	· .D.	/	1		- 7		•	
Restrictive	Layer (If observe	ea):					11		<b>6</b> Y
Type:					-		Hydric	soli present	<u> Y</u>
Depth (Inche	es):				-				
HYDROL	DGY								
wetland Hy	drology indicato	ors:							
Primary Indi	<u>cators (minimum</u>	of one is	required; check	all that a	<u>pply)</u>		Se	condary Indic	cators (minimum of two required
Surface	Water (A1)			Aquatic	Fauna (B	13)		Surface S	oil Cracks (B6)
High Wa	ater Table (A2)			True Aq	uatic Plar	nts (B14)		Drainage	Patterns (B10)
Saturatio	on (A3)			Hydroge	n Sulfide	Odor (C	1)	Dry-Seaso	on Water Table (C2)
Water N	larks (B1)			Oxidized	l Rhizosp	heres on	Living Roots	Crayfish B	Burrows (C8)
Sedimer	nt Deposits (B2)			(C3)				Saturation	Visible on Aerial Imagery (C9)
Drift Dep	posits (B3)			Presenc	e of Redu	uced Iron	(C4)	Stunted or	r Stressed Plants (D1)
Algal Ma	at or Crust (B4)			Recent I	ron Redu	iction in T	illed Soils	X Geomorph	nic Position (D2)
Iron Dep	osits (B5) an Misible an Asric	Imagan	( (D7)	(C6)	al Cumfaa	a (07)		X FAC-Neut	ral Test (D5)
		ii imager	у (В7)		ck Surfac	xe (C7)			
Sparsely	/ vegetated Conca	ve Suria	се (ва)		or vveli Da	ata (D9) Demonito	<b>`</b>		
vvater-S	tamed Leaves (B9	)		Juner (E	.xpiain in	Remarks	1		
Field Obser	vations:	.,							
Surface wat	er present?	Yes	No	<u> </u>	Depth (i	nches):			
Water table	present?	Yes	No	<u> </u>	Depth (i	nches):		inai	cators of wetland
Saturation p	resent?	Yes	No	X	Depth (I	nches):		nyo	arology present? Y
(includes ca	pillary fringe)								
Describe red	corded data (strea	am gauge	e, monitoring wel	, aerial p	hotos, p	revious ii	nspections), if a	available:	
Remarks:									
Saturation	and/or a water	table v	vere not able to	be ob	served	as the	water was fro	ozen at the	time of the site visit
Caturation					scived,	43 110			

WETLAND DETERMINA	TION D	ATA FORM	l - Midwest Reg	jion	
Project/Site 85th Street Interchange	City/0	County:	Lincoln County	Sampling Da	ate: 11/13/18
Applicant/Owner: 85th Street Business District Joint Venture Gro	up	State:	South Dakota	Sampling Po	oint: 43-U
Investigator(s): Rebecca Beduhn		Secti	on, Township, Ran	ge: T	100NS13R51W
Landform (hillslope, terrace, etc.): backslope		Local	relief (concave, cor	nvex, none):	Concave
Slope (%): 3 Lat: 43.4770612		Long:	-96.80650158	Datum: l	JTM NAD 83 Zone 14N
Soil Map Unit Name Worthing silty clay loam, 0 to 1 percent slopes			NWI Classi	fication:	None
Are climatic/hydrologic conditions of the site typical for this time of the	he year?		Y (If no, ex	plain in remarks	)
Are vegetation , soil , or hydrology	significant	ly disturbed?			
Are vegetation , soil , or hydrology	naturally p	oroblematic?	Are "	normal circumsta	ances" present? Yes
SUMMARY OF FINDINGS			(If ne	eded, explain an	y answers in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? N		Is the sa	ampled area withi	n a wetland?	Ν
Indicators of wetland hydrology present? N		lf yes, op	tional wetland site	ID:	
Remarks: (Explain alternative procedures here or in a separate repo	nt)				
	лс. <i>)</i>				
VECETATION Lies acientific names of plants					
VEGETATION Use scientific flames of plants.	Abaaluta	Deminen	Indiantan Dom	inanco Tost Wo	rkshoot
Tree Stratum (Plot size: 30' Radius )	% Cover	t Species	Status Num	abor of Dominant	Spagios
1			that	are OBL, FACW,	or FAC: 1 (A)
2		······································	T	otal Number of D	ominant
3		·······		Species Across a	ll Strata: 1 (B)
4			Per	cent of Dominant	Species
5			that	are OBL, FACW,	or FAC: 100.00% (A/B)
	0	= Total Cover	·		
Sapling/Shrub stratum (Plot size: 15' Radius )			Prev	alence Index We	orksheet
2		······································		% Cover of:	$1 \times 1 = 0$
3		······································	EAC	N species (	$\frac{y}{x^2} = 0$
4			FAC	species 10	$\frac{1}{300} \times 3 = 300$
5			FAC	J species (	x 4 = 0
	0	= Total Cover	UPL	species (	x 5 = 0
Herb stratum (Plot size: 5' Radius )			Colur	mn totals 10	00 (A) <u>300</u> (B)
1 Poa pratensis Kentucky Blue Grass	100	Y	FAC Preva	alence Index = B	/A = 3.00
2					
			Hydr	ophytic Vegetat	tion Indicators:
4 <u></u>				capid test for hyd	
6				Prevalence index	is <3.0*
7					antationa* (provida
8		·	N	upporting data in	Remarks or on a
9			s	eparate sheet)	
10			F	Problematic hydro	ophytic vegetation*
	100	= Total Cover	(	explain)	
Woody vine stratum (Plot size: 30' Radius )			*Indi	cators of hydric soil a	and wetland hydrology must be
				present, unless d	isturbed or problematic
			F	regetation	
	0	= I otal Cover		oresent?	Y
Remarks: (Include photo numbers here or on a separate sheet)			·		
Note: This data sheet has been adapted to use the 2012 National Wetla	and Plant L	_ist:			
Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: National Engineers, Engineer Research and Development Center, Cold Regions Research a	al Wetland F and Enginee	riant List, version ring Laboratory,	n 2.4.0 (https://wetland_ Hanover, NH, and BO	_plants.usace.army.r NAP, Chapel Hill, NC	mil). U.S. Army Corps of C. (2012)

Depth			e deplin needed					ne abount	
	Matrix		Re	dox Featu	ures				
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Textur	e	Remarks
0-14	10YR 2/1	100					Silty Clay Lo	am	
							y		
*Type: C = C	Concentration, D =	= Depleti	on, RM = Reduce	ed Matrix	, MS = N	lasked S	and Grains.	**Locatior	n: PL = Pore Lining, M = Matrix
Hydric So	il Indicators:						Indicators	for Proble	matic Hydric Soils:
Hist	osol (A1)		Sar	ndy Gleye	ed Matrix	(S4)	Iron-M	anganese I	Masses (F12) ( <b>LRR K, L, M</b> )
Hist	ic Epipedon (A2)		Sar	ndv Redo	x (S5)	( )	Verv S	Shallow Dar	k Surface (F22)
Blac	ck Histic (A3)		Stri	pped Ma	trix (S6)		Other	(explain in i	remarks)
Hvd	Irogen Sulfide (A4	L)	Dar	k Surface	e (S7)			(+	,
Stra	atified Lavers (A5)	)	 	my Muck	v Miners	al (F1)			
2 cr	m Muck ( $\Delta 10$ )	,	Los	my Glev	ed Matriv	(F2)			
2 en	leted Below Dark	Surface	(A11) Der	lated Ma	atriv (E3)	(12)			
тыс	k Dark Surface (			hox Dark	Surface	(F6)	*11:	oro of hereby	phytic vogotation and wetler
	dy Mucky Minera	1/91)				(F7)	huicau	ors or nyard	procept upless disturbed or
5 an	n Musky Post or	Deet (62)					Tiyurut	yy musi be	problematic
5 CI	II MUCKY Peat Of	Pear (55		lox Depro	essions (	F0)			problematic
Restrictive	Layer (if observe	ed):							
Туре:							Hydric s	oil present	? N
Depth (inche	es):								
Pomorko:									
HYDROLC	DGY								
HYDROLC Wetland Hyd	DGY drology Indicato	ors:							
HYDROLC Wetland Hy Primary Indic	DGY drology Indicato cators (minimum	o <b>rs:</b> of one is	required; check	all that a	oply)		Sec	ondary Indi	cators (minimum of two required
HYDROLC Wetland Hy Primary India Surface	DGY drology Indicato cators (minimum Water (A1)	ors: of one is	required; check	all that a	oply) Fauna (B	13)	Sec	ondary Indi Surface S	cators (minimum of two required Soil Cracks (B6)
HYDROLC Wetland Hyd Primary Indio Surface V High Wa	DGY drology Indicato cators (minimum Water (A1) tter Table (A2)	ors: of one is	required; check	all that a Aquatic	<u>oply)</u> Fauna (B uatic Plar	13) 1ts (B14)	<u>Sec</u>	ondary Indi Surface S Drainage	<u>cators (minimum of two required</u> Soil Cracks (B6) Patterns (B10)
HYDROLC Wetland Hyd Primary India Surface V High Wa Saturatio	DGY drology Indicato cators (minimum Water (A1) tter Table (A2) on (A3)	o <b>rs:</b> of one is	required; check	<u>all that a</u> Aquatic True Aqu Hydroge	<u>oply)</u> Fauna (B uatic Plar n Sulfide	13) its (B14) Odor (C1	<u>Sec</u>	ondary Indi Surface S Drainage Dry-Seas	<u>cators (minimum of two required</u> Soil Cracks (B6) Patterns (B10) on Water Table (C2)
HYDROLC Wetland Hyd Primary India Surface V High Wa Saturatio Water Ma	DGY drology Indicato cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1)	ors: of one is	required; check	<u>all that a</u> Aquatic True Aqu Hydroge Oxidized	oply) Fauna (B uatic Plar n Sulfide I Rhizosp	13) hts (B14) Odor (C1 heres on	Sec 	ondary Indi Surface S Drainage Dry-Seas Crayfish B	<u>cators (minimum of two required</u> Soil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8)
HYDROLC Wetland Hyd Primary India Surface V High Wa Saturatio Water Ma Sedimen	DGY drology Indicato cators (minimum Water (A1) tter Table (A2) on (A3) arks (B1) tt Deposits (B2)	ors: of one is	required; check	all that a Aquatic True Aqu Hydroge Oxidized (C3)	<u>oply)</u> Fauna (B uatic Plar n Sulfide I Rhizosp	13) hts (B14) Odor (C1 heres on	Sec  I) Living Roots	ondary Indi Surface S Drainage Dry-Seas Crayfish B Saturation	<u>cators (minimum of two required</u> Soil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9)
HYDROLC Wetland Hyd Surface V High Wa Saturatio Water M Sedimen Drift Dep	DGY drology Indicato cators (minimum Water (A1) tter Table (A2) on (A3) larks (B1) tt Deposits (B2) posits (B3)	o <b>rs:</b> of one is	required; check	all that a Aquatic True Aqu Hydroge Oxidized (C3) Presenc	<u>oply)</u> Fauna (B Jatic Plar n Sulfide I Rhizosp e of Redu	13) hts (B14) Odor (C1 heres on uced Iron	Sec 	ondary Indi Surface S Drainage Dry-Seas Crayfish B Saturation Stunted o	cators (minimum of two required Soil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1)
HYDROLC Wetland Hyd Primary India Surface <sup>1</sup> High Wa Saturatio Water Ma Sedimen Drift Dep Algal Ma	DGY drology Indicato cators (minimum Water (A1) ther Table (A2) on (A3) larks (B1) th Deposits (B2) posits (B3) th or Crust (B4)	ors: of one is	required; check	all that a Aquatic True Aqu Hydroge Oxidized (C3) Presenc Recent I	<u>oply)</u> Fauna (B uatic Plar n Sulfide l Rhizosp e of Redu ron Redu	13) hts (B14) Odor (C1 heres on uced Iron ction in T	Sec 	ondary Indi Surface S Drainage Dry-Seas Crayfish E Saturation Stunted o Geomorp	<u>cators (minimum of two required</u> Soil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) ir Stressed Plants (D1) hic Position (D2)
HYDROLC Wetland Hy Primary India Surface <sup>1</sup> High Wa Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Dep	DGY drology Indicato cators (minimum Water (A1) ther Table (A2) on (A3) larks (B1) at Deposits (B2) posits (B3) th or Crust (B4) posits (B5)	ors: of one is	required; check	all that a Aquatic True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6)	<u>oply)</u> Fauna (B uatic Plar n Sulfide I Rhizosp e of Redu ron Redu	13) hts (B14) Odor (C1 heres on uced Iron ction in T	Sec I) Living Roots (C4) illed Soils	ondary Indi Surface S Drainage Dry-Seas Crayfish E Saturation Stunted o Geomorp FAC-Neu	cators (minimum of two required Soil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) r Stressed Plants (D1) hic Position (D2) tral Test (D5)
HYDROLC Wetland Hy Primary India Surface <sup>1</sup> High Wa Saturatic Water Ma Sedimen Drift Dep Algal Ma Iron Dep Inundatic	DGY drology Indicato cators (minimum Water (A1) ther Table (A2) on (A3) larks (B1) at Deposits (B2) posits (B3) th or Crust (B4) losits (B5) on Visible on Aeria	o <b>rs:</b> of one is	required; check	all that a Aquatic True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu	oply) Fauna (B uatic Plar n Sulfide I Rhizosp e of Redu ron Redu ck Surfac	13) hts (B14) Odor (C1 heres on uced Iron ction in T e (C7)	I) Living Roots (C4) illed Soils	ondary Indi Surface S Drainage Dry-Seas Crayfish F Saturation Stunted o Geomorp FAC-Neu	cators (minimum of two required Soil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) hic Position (D2) tral Test (D5)
HYDROLC Wetland Hy Primary India Surface <sup>1</sup> High Wa Saturatic Water Ma Sedimen Drift Dep Algal Ma Iron Dep Inundatic Sparsely	DGY drology Indicato cators (minimum Water (A1) ther Table (A2) on (A3) larks (B1) at Deposits (B2) posits (B3) at or Crust (B4) losits (B5) on Visible on Aeria v Vegetated Conca	o <b>rs:</b> of one is I Imagery ve Surfac	required; check	all that a Aquatic True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge o	oply) Fauna (B Jatic Plar n Sulfide I Rhizosp e of Redu ron Redu ck Surfac r Well Da	13) Its (B14) Odor (C1 heres on uced Iron ction in T e (C7) ata (D9)	I) Living Roots (C4) Tilled Soils	ondary Indi Surface S Drainage Dry-Seas Crayfish F Saturation Stunted o Geomorp FAC-Neu	<u>cators (minimum of two required</u> Goil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) hic Position (D2) tral Test (D5)
HYDROLC Wetland Hy Primary India Surface <sup>1</sup> High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatic Sparsely Water-St	DGY drology Indicato cators (minimum Water (A1) tter Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) tt or Crust (B4) osits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9)	i <mark>rs:</mark> of one is l Imagery ve Surfac	required; check	all that a Aquatic True Aqu Hydroge Oxidized (C3) Presence Recent I (C6) Thin Mu Gauge o Other (E	oply) Fauna (B Jatic Plar n Sulfide I Rhizosp e of Redu ron Redu ck Surfac r Well Da xplain in	13) odor (C1 heres on uced Iron ction in T e (C7) ata (D9) Remarks	Sec Living Roots (C4) iilled Soils	ondary Indi Surface S Drainage Dry-Seas Crayfish E Saturation Stunted o Geomorp FAC-Neu	cators (minimum of two required Goil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) hic Position (D2) tral Test (D5)
HYDROLC Wetland Hy Primary India Surface ' High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatic Sparsely Water-St Field Obser	DGY drology Indicato cators (minimum Water (A1) tter Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3) tt or Crust (B4) osits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 vations:	l Imagery ve Surfac	required; check	all that a Aquatic True Aqu Hydroge Oxidized (C3) Presence Recent I (C6) Thin Mu Gauge o Other (E	oply) Fauna (B Jatic Plar n Sulfide I Rhizosp e of Redu ron Redu ck Surfac r Well Da xplain in	13) ots (B14) Odor (C1 heres on iced Iron iction in T e (C7) ata (D9) Remarks	Sec Living Roots (C4) iilled Soils	ondary Indi Surface S Drainage Dry-Seas Crayfish E Saturation Stunted o Geomorp FAC-Neu	cators (minimum of two required Goil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) ir Stressed Plants (D1) hic Position (D2) tral Test (D5)
HYDROLC Wetland Hy Primary India Surface ' High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatic Sparsely Water-St Field Obser Surface wate	DGY drology Indicato cators (minimum Water (A1) tter Table (A2) on (A3) arks (B1) arks (B1) at Deposits (B2) posits (B3) tt or Crust (B4) osits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 vations: er present?	l Imagery ve Surfac ) Yes	required; check	all that a Aquatic True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge o Other (E	oply) Fauna (B Jatic Plar n Sulfide Rhizosp e of Redu ron Redu ck Surfac r Well Da xplain in	13) ots (B14) Odor (C1 heres on iced Iron iction in T e (C7) ata (D9) Remarks nches):	Sec Living Roots (C4) illed Soils	ondary Indi Surface S Drainage Dry-Seas Crayfish E Saturation Stunted o Geomorp FAC-Neu	cators (minimum of two required Goil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) r Stressed Plants (D1) hic Position (D2) tral Test (D5)
HYDROLC Wetland Hy Primary India Surface ' High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatic Sparsely Water-St Field Obser Surface wate Water table	DGY drology Indicato cators (minimum Water (A1) tter Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3) tt or Crust (B4) osits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 vations: er present? present?	I Imagery ve Surfac ) Yes Yes	required; check	all that a Aquatic True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge o Other (E X	oply) Fauna (B Jatic Plar n Sulfide I Rhizosp e of Redu ron Redu ck Surfac r Well Da xplain in Depth (i Depth (i	13) ots (B14) Odor (C1 heres on iced Iron iction in T e (C7) ata (D9) Remarks nches): nches):	Sec Living Roots (C4) iilled Soils )	ondary Indi Surface S Drainage Dry-Seas Crayfish E Saturation Stunted o Geomorp FAC-Neu	cators (minimum of two required Goil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) hic Position (D2) tral Test (D5)
HYDROLC Wetland Hy Primary India Surface V High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatic Sparsely Water-St Field Obser Surface wate Water table p	DGY drology Indicato cators (minimum Water (A1) tter Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4) osits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 vations: er present? present?	I Imagery ve Surfac ) Yes Yes Yes Yes	required; check	all that a Aquatic True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Muc Gauge o Other (E X X X	pply) Fauna (B Jatic Plar n Sulfide Rhizosp e of Redu ron Redu ck Surfac r Well Da xplain in Depth (i Depth (i	13) ots (B14) Odor (C1 heres on icced Iron ction in T e (C7) ata (D9) Remarks nches): nches): nches):	Sec I) Living Roots (C4) illed Soils )	ondary Indi Surface S Drainage Dry-Seas Crayfish E Saturation Stunted o Geomorp FAC-Neu	cators (minimum of two required Soil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) hic Position (D2) tral Test (D5)
HYDROLC Wetland Hy Primary India Surface V High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatic Sparsely Water-St Field Obser Surface wate Water table p Saturation pr (includes cap	DGY drology Indicato cators (minimum Water (A1) ther Table (A2) on (A3) arks (B1) ht Deposits (B2) bosits (B3) ht or Crust (B4) osits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 vations: er present? present? present? pillary fringe)	I Imagery ve Surfac ) Yes Yes Yes	required; check	all that a Aquatic True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Muc Gauge o Other (E X X X	pply) Fauna (B Jatic Plar n Sulfide Rhizosp e of Redu ron Redu ck Surfac r Well Da xplain in Depth (i Depth (i	13) odor (C1 heres on uced Iron ction in T e (C7) ata (D9) Remarks nches): nches): nches):	Sec I) Living Roots (C4) illed Soils )	ondary Indi Surface S Drainage Dry-Seas Crayfish E Saturation Stunted o Geomorp FAC-Neu	cators (minimum of two required Soil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) hic Position (D2) tral Test (D5)
HYDROLC Wetland Hy Primary India Surface ' High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatic Sparsely Water-St Field Obser Surface wate Water table p Saturation pr (includes cap Describe rec	DGY drology Indicato cators (minimum Water (A1) tter Table (A2) on (A3) arks (B1) at Deposits (B2) oosits (B3) at or Crust (B4) oosits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 vations: er present? present? present? present? pillary fringe) corded data (streat	I Imagery ve Surfac ) Yes Yes Yes	required; check	all that a Aquatic True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge o Other (E X X X	oply) Fauna (B Jatic Plar n Sulfide I Rhizosp e of Redu ron Redu ck Surfac r Well Da xplain in Depth (i Depth (i Depth (i	13) ots (B14) Odor (C1 heres on iced Iron iced Iron iced Iron e (C7) ata (D9) Remarks nches): nches): nches): nches):	Sec Sec Living Roots (C4) (C4) ) nspections), if a	ondary Indi Surface S Drainage Dry-Seas Crayfish E Saturation Stunted o Geomorp FAC-Neu Indi hy	cators (minimum of two required Goil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) hic Position (D2) tral Test (D5)
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HYDROLC Wetland Hy Primary India Surface V High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatic Sparsely Water-St Field Obser Surface water Water table p Saturation pr (includes cap Describe rec Remarks:	DGY drology Indicato cators (minimum Water (A1) tter Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3) tt or Crust (B4) osits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 vations: er present? present? present? pillary fringe) corded data (streat	I Imagery ve Surfac ) Yes Yes Yes im gauge	required; check	all that a Aquatic True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Muc Gauge o Other (E X X X	oply) Fauna (B Jatic Plar n Sulfide Rhizosp e of Redu ron Redu ck Surfac r Well Da xplain in Depth (i Depth (i hotos, pr	13) hts (B14) Odor (C1 heres on uced Iron ction in T e (C7) ata (D9) Remarks nches): nches): nches): revious ir	Sec Sec Living Roots (C4) (C4) illed Soils ) nspections), if a	ondary Indi Surface S Drainage Dry-Seas Crayfish E Saturation Stunted o Geomorp FAC-Neu Ind hy	cators (minimum of two required Goil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) hic Position (D2) tral Test (D5)
HYDROLC Wetland Hy Primary India Surface ' High Wa Saturatic Water M. Sedimen Drift Dep Algal Ma Iron Dep Inundatic Sparsely Water-St Field Obser Surface water Water table p Saturation pr (includes cap Describe rec Remarks: Saturation	DGY drology Indicato cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) arks (B1) th Deposits (B2) posits (B3) th or Crust (B4) osits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 vations: er present? present? present? present? pillary fringe) corded data (streat	I Imagery ve Surfac ) Yes Yes Yes am gauge	required; check	all that a Aquatic True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Muc Gauge o Other (E X X X 1, aerial p	pply) Fauna (B Jatic Plar n Sulfide Rhizosp e of Redu ron Redu ck Surfac r Well Da xplain in Depth (i Depth (i Depth (i hotos, pr	13) ots (B14) Odor (C1 heres on uced Iron ction in T e (C7) ata (D9) Remarks nches): nches): nches): revious ir	Sec Sec Living Roots (C4) (C4) illed Soils ) nspections), if a water was fro	ondary Indi Surface S Drainage Dry-Seas Crayfish E Saturation Stunted o Geomorp FAC-Neu Indi hy	cators (minimum of two required Soil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) hic Position (D2) tral Test (D5)

WETLAND DETERMIN	ATION D	ATA FORM	I - Midwest Regio	on	
Project/Site 85th Street Interchange	City/0	County:	Lincoln County	Sampling Date:	11/13/18
Applicant/Owner: 85th Street Business District Joint Venture Gro	bup	State:	South Dakota	Sampling Point:	43-W
Investigator(s): Rebecca Beduhn		Secti	on, Township, Range	: T100NS	313R51W
Landform (hillslope, terrace, etc.): toeslope		Local	relief (concave, conve	ex, none):	Concave
Slope (%): 0 Lat: 43.47706164	_	Long:	-96.80645197	Datum: UTM N	IAD 83 Zone 14N
Soil Map Unit Name Worthing silty clay loam, 0 to 1 percent slopes			NWI Classific	ation: P	EM1Cd
Are climatic/hydrologic conditions of the site typical for this time of the site typical for	the year?	_	Y (If no, expl	ain in remarks)	
Are vegetation, soil, or hydrology	significant	ly disturbed?			
Are vegetation , soil , or hydrology	naturally p	oroblematic?	Are "no	rmal circumstances"	present? Yes
SUMMARY OF FINDINGS			(If need	led, explain any ansv	vers in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? Y		Is the sa	ampled area within a	a wetland?If	Y
Indicators of wetland hydrology present? Y		yes, opti	onal wetland site ID: \	Netland 43	
Remarks: (Explain alternative procedures here or in a separate rep	ort)				
	011.)				
VECETATION Lies scientific names of plants					
	Abcoluto	Dominan	Indicator Domina	ance Test Workshe	et
Tree Stratum (Plot size: 30' Radius )	% Cover	t Species	Status Number	er of Dominant Specie	
1		•	that are	e OBL, FACW, or FA	C: 2 (A)
2		·	Tota	al Number of Domina	nt
3			Sp	ecies Across all Strata	a: <u> </u>
4			Percer	nt of Dominant Specie	s
5			that are	∋ OBL, FACW, or FAC	C: 100.00% (A/B)
Conling/Chruth stratum (Distaire) (15) Dedius	0	= I otal Cover	Drevela	anaa laday Markah	
Sapling/Shrub straturr (Plot size: 15 Radius )			Total %	Ince Index Worksne	et
2				ecies 0 x	1 = 0
3		'	FACW	species 100 x	2 = 200
4		·	FAC sp	ecies 0 x	3 = 0
5			FACU s	species 0 x	4 = 0
	0	= Total Cover	UPL sp	ecies 0 x	5 = 0
<u>Herb stratum</u> (Plot size: <u>5' Radius</u> )			Column	totals <u>100</u> (A	ν) <u>200</u> (B)
1 Phalaris arundinacea Reed Canary Grass	70	Y	FACW Prevale	nce Index = B/A =	2.00
2 Spartina pectinata Freshwater Cord Grass	30	<u> </u>	FACW	h tie Verstetien In	diastara
			Hydrop	nytic vegetation in	dicators:
5				minance test is >50%	
6		'	X Pre	valence index is ≤3.0	0*
7		·		rphological adaptatic	ons* (provide
8			sup	porting data in Rem	arks or on a
9			sep	arate sheet)	
10			Pro	blematic hydrophytic	vegetation*
	100	= Total Cover	(ex	plain)	
(Plot size: <u>30 Radius</u> )			*Indicat	ors of hydric soil and wet	land hydrology must be
2			Hve	drophytic	l or problematic
·	0	= Total Cover	veg	jetation	
	v		pre	sent? Y	_
Remarks: (Include photo numbers here or on a separate sheet)			I		
Note: This data sheet has been adapted to use the 2012 National Wet	land Plant L	List: Plant List version	n 2 4 0 (https://wetland_pl	ants usace army mil) 115	S Army Corps of
Engineers, Engineer Research and Development Center, Cold Regions Research	and Enginee	ering Laboratory,	Hanover, NH, and BONA	P, Chapel Hill, NC. (2012	!)

Profile Des	cription: (Descri	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm the	absence of indicators.)	
Depth	Matrix		Re	dox Feat	ures				
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remark	S
0-16	10YR 2/1	95	10YR 5/8	5	С	М	Silty Clay I oam		
0.0				<u> </u>	<u> </u>				
*Type: C = 0	Concentration, D =	= Depleti	ion, RM = Reduce	ed Matrix	κ, MS = Ν	/lasked S	and Grains.	Location: PL = Pore Lining,	M = Matrix
Hydric Sc	oil Indicators:						Indicators fo	r Problematic Hydric Soils	5:
Hist	tosol (A1)		Sar	ndy Gleye	ed Matrix	(S4)	Iron-Man	ganese Masses (F12) ( <b>LRR</b>	K, L, M)
Hist	tic Epipedon (A2)		Sar	ndy Redo	ox (S5)		Very Sha	llow Dark Surface (F22)	
Bla	ck Histic (A3)		Stri	pped Ma	trix (S6)		Other (ex	plain in remarks)	
Hyd	lrogen Sulfide (A4	l)	Dar	k Surfac	e (S7)				
Stra	atified Layers (A5)	)	Loa	my Mucl	ky Minera	al (F1)			
2 cr	m Muck (A10)		Loa	amy Gley	ed Matrix	x (F2)			
Dep	oleted Below Dark	Surface	e (A11) Der	pleted Ma	atrix (F3)				
Thie	ck Dark Surface (	A12)	X Red	dox Dark	Surface	(F6)	*Indicators	of hydrophytic vegetation a	nd wetland
Sar	ndy Mucky Minera	l (S1)	Dep	pleted Da	ark Surfa	ce (F7)	hydrology	must be present, unless dis	sturbed or
5 cr	m Mucky Peat or	Peat (S3	s) Red	dox Depr	essions	(F8)		problematic	
Restrictive	l aver (if observe	ed):				1			
Type:							Hydric soil	present? Y	
Depth (inche	<i>se).</i>				-		ingano con		
Boptil (mont					-				
HYDROLO	DGY								
Wetland Hy	drology Indicato	rs:							
Primary Indi	cators (minimum	of one is	required; check	all that a	pply)		Secon	dary Indicators (minimum of	two required)
Surface	Water (A1)			Aquatic	Fauna (B	313)		Surface Soil Cracks (B6)	
High Wa	ater Table (A2)			True Aq	uatic Plar	nts (B14)		Drainage Patterns (B10)	
Saturatio	on (A3)			Hydroge	en Sulfide	odor (C	1) [	Dry-Season Water Table (C2)	
Water N	larks (B1)			Oxidized	d Rhizosp	heres on	Living Roots	Crayfish Burrows (C8)	
Sedimer	nt Deposits (B2)			(C3)				Saturation Visible on Aerial Im	agery (C9)
Drift Dep	posits (B3)			Presenc	e of Redu	uced Iron	(C4)	Stunted or Stressed Plants (D	1)
Algal Ma	at or Crust (B4)			Recent I	Iron Redu	liction in I	illed Soils X (	Seomorphic Position (D2)	
Iron Dep	OSIIS (B5) on Visible on Asrie	Imagan	(P7)	(C6) Thin Mu	ak Surfac	a (C7)	<u> </u>	-AC-Neutral Test (D5)	
Sparsol		n imager vo Surfo	у (Б7)			ce (C7)			
Water-S	tained Leaves (BQ	ve Sulla		Other (E	volain in	ala (D9) Romarks	)		
	tanieu Leaves (D9	/				Remains	/		
Field Obser	vations:	Vaa	No	×	Donth /	inchoo);			
Water table	nresent?	Vee		<u> </u>	Depth (i	inches).		Indicators of wetland	
Saturation p	resent?	Yes	No		Depth (i	inches):		hydrology present?	Y
(includes ca	pillary fringe)	103	No	Λ		monos <i>j</i> .		nyarology procent:	
Describe rea	porded data (atrac	maour	e monitoring wal		botco n		espections) if avai	lable:	
Describered		ini yauy	e, monitoring wei	i, aciiai p	110105, p	ievious ii	ispections), il avai		
Remarks:									
Saturation	and/or a water	table v	vere not able to	be obs	served,	as the	water was froze	n at the time of the site	visit.

Appendix B Site Photographs


Photo 1 Wetland 1 – Shallow Marsh



Photo 2 Wetland 1 – Shallow Marsh





Photo 3 Wetland 2 – Shallow Marsh



Photo 4 Wetland 2 – Shallow Marsh





Photo 5 Wetland 3 – Fresh (Wet) Meadow



Photo 6 Wetland 3 – Fresh (Wet) Meadow





Photo 7 Wetland 4 – Seasonally Flooded Basin



Photo 8 Wetland 4 – Seasonally Flooded Basin





Photo 9 Wetland 5 – Seasonally Flooded Basin



Photo 10 Wetland 5 – Seasonally Flooded Basin





Photo 11 Wetland 6 – Shallow Marsh



Photo 12 Wetland 6 – Shallow Marsh





Photo 13 Wetland 7 – Seasonally Flooded Basin



Photo 14 Wetland 7 – Seasonally Flooded Basin





Photo 15 Wetland 8 – Fresh (Wet) Meadow



Photo 16 Wetland 8 – Fresh (Wet) Meadow





Photo 17 Wetland 9 – Seasonally Flooded Basin



Photo 18 Wetland 9 – Seasonally Flooded Basin





Photo 19 Wetland 10 – Seasonally Flooded Basin



Photo 20 Wetland 10 – Seasonally Flooded Basin





Photo 21 Wetland 11 – Shallow Marsh



Photo 22 Wetland 11– Shallow Marsh





Photo 23 Wetland 12 – Fresh (Wet) Meadow



Photo 24 Wetland 12 – Fresh (Wet) Meadow

\*Wetland 13 was previously delineation and, therefore, does not have corresponding pictures.





Photo 25 Wetland 14 – Shallow Open Water



Photo 26 Wetland 14 – Shallow Open Water





Photo 27 Wetland 15 – Fresh (Wet) Meadow Ditch Portion



Photo 28 Wetland 15 – Fresh (Wet) Meadow (extends to the south outside of the project area and changes to Seasonally Flooded Basin





Photo 29 Wetland 16 – Fresh (Wet) Meadow



Photo 30 Wetland 16 – Fresh (Wet) Meadow





Photo 31 Wetland 17 – Fresh (Wet) Meadow



Photo 32 Wetland 17 – Fresh (Wet) Meadow





Photo 33 Wetland 18 – Fresh (Wet) Meadow



Photo 34 Wetland 18 – Fresh (Wet) Meadow





Photo 35 Wetland 19 – Shallow Marsh



Photo 36 Wetland 19 – Shallow Marsh





Photo 37 Wetland 20 – Fresh (Wet) Meadow



Photo 38 Wetland 20 – Fresh (Wet) Meadow





Photo 39 Wetland 21 – Fresh (Wet) Meadow



Photo 40 Wetland 21 – Fresh (Wet) Meadow





Photo 41 Wetland 22 – Fresh (Wet) Meadow



Photo 42 Wetland 22 – Fresh (Wet) Meadow





Photo 43 Wetland 23 – Shallow Marsh



Photo 44 Wetland 23 – Shallow Marsh





Photo 45 Wetland 24 – Seasonally Flooded Basin



Photo 46 Wetland 24 – Seasonally Flooded Basin





Photo 47 Wetland 25 – Fresh (Wet) Meadow



Photo 48 Wetland 25 – Fresh (Wet) Meadow





Photo 49 Wetland 26 – Fresh (Wet) Meadow



Photo 50 Wetland 26 – Fresh (Wet) Meadow





Photo 51 Wetland 27 – Fresh (Wet) Meadow



Photo 52 Wetland 27 – Fresh (Wet) Meadow





Photo 53 Wetland 28 – Fresh (Wet) Meadow



Photo 54 Wetland 28 – Fresh (Wet) Meadow





Photo 55 Wetland 29 – Fresh (Wet) Meadow



Photo 56 Wetland 29 – Fresh (Wet) Meadow





Photo 57 Wet Ditch A – Fresh (Wet) Meadow



Photo 58 Wet Ditch B – Shallow Marsh





Photo 59 Wet Ditch C



Photo 60 Wet Ditch D





Photo 61 Wet Ditch E



Photo 62 Wet Ditch F





Photo 63 Wetland 34



Photo 64 Wetland 34





Photo 65 Wetland 36 (Level 1) Field Verified



Photo 66 Wetland 36 (Level 1) Field Verified





Climate



Note regarding subsequent/missing values



Note regarding subsequent/missing values
# Appendix D

Hydrogeomorphic Functional Assessment Workbooks

					Function								
Wetland	Wetland Size	HGM	<u>Prairie</u> <u>Pothole</u> Function	Water Storage	Groundwater Recharge	Retain Particulates	Dissolved Substances	Carbon Cycling	Provide Faunal Habitat	Alternate Formula	Total ECI <sup>1</sup>		
Name	(acres) <sup>3</sup>	(acres) <sup>3</sup> Method	(acres) <sup>3</sup> Method	3 Method <u>Slope</u> <u>Function</u>	Mod. Groundwater Flow	Vel. Reduc. Surf. Water	Elemental & Nutrient Cycling	Retention of particulates	Organic Carbon Export	Maint of Plant Comm.	Habitat Dispersion	Total T CI	Total FCU
1	1.04	Prairie Pothole		0.72	0.59	0.59	0.77	0.67	0.68	0.44	4.46	4.64	
2	2.03	Slope		0.81	0.86	0.53	0.59	0.81	0.62	0.57	4.79	9.71	
3	5.28	Slope		0.84	0.89	0.49	0.71	0.75	0.67	0.56	4.92	25.57	
4	16.93	Slope		0.65	0.40	0.53	0.41	0.51	0.32	0.30	3.12	52.78	
5	1.49	Prairie Pothole		0.94	0.76	0.65	0.61	0.61	0.68	0.60	4.85	7.23	
6	9.12	Prairie Pothole		0.94	0.82	0.82	0.79	0.74	0.81	0.60	5.52	50.33	
8	0.24	Prairie Pothole		0.94	0.81	0.61	0.60	0.57	0.65	0.55	4.73	1.13	
9	0.25	Prairie Pothole		0.94	0.81	0.60	0.56	0.52	0.61	0.53	4.57	1.14	
10	2.52	Slope		0.69	0.46	0.48	0.45	0.51	0.44	0.36	3.38	8.46	
11	11.50	Slope		0.77	0.85	0.52	0.68	0.81	0.62	0.52	4.77	54.87	
12	5.53	Prairie Pothole		0.65	0.63	0.20	0.54	0.44	0.52	0.38	3.36	18.65	
14	1.27	Prairie Pothole		0.93	0.74	0.78	0.77	0.67	0.72	0.64	5.25	6.67	
15	2.90	Slope		0.76	0.66	0.48	0.53	0.64	0.53	0.48	4.07	11.80	
16	0.48	Slope		0.77	0.68	0.52	0.26	0.77	0.67	0.56	4.22	2.02	
17	28.38	Slope		0.77	0.85	0.46	0.68	0.75	0.67	0.52	4.70	133.57	
18	17.00	Slope		0.81	0.87	0.48	0.68	0.75	0.62	0.53	4.72	80.31	
19	7.18	Slope		0.78	0.70	0.48	0.65	0.66	0.56	0.48	4.30	30.87	
20	36.26	Slope		0.69	0.45	0.48	0.44	0.50	0.38	0.35	3.26	118.44	
21	1.24	Slope		0.73	0.61	0.48	0.48	0.60	0.47	0.41	3.78	4.69	
23	10.62	Slope		0.81	0.87	0.48	0.70	0.75	0.62	0.54	4.76	50.53	
24	0.46	Prairie Pothole		0.70	0.42	0.55	0.41	0.51	0.32	0.30	3.20	1.47	
25	4.57	Slope		0.81	0.87	0.48	0.70	0.75	0.62	0.56	4.78	22.00	
26	2.86	Prairie Pothole		0.94	0.85	0.73	0.72	0.63	0.71	0.50	5.08	14.52	
27	3.44	Prairie Pothole		0.81	0.87	0.48	0.68	0.75	0.62	0.53	4.72	16.06	
28	1.00	Prairie Pothole		0.94	0.85	0.58	0.58	0.53	0.63	0.50	4.61	4.59	
29	2.13	Prairie Pothole		0.94	0.78	0.69	0.67	0.62	0.65	0.56	4.91	10.44	
34	25.90	Slope		0.68	0.61	0.41	0.70	0.74	0.82	0.44	4.39	113.77	
38	0.03	Slope		0.35	0.63	0.49	0.76	0.68	0.53	0.54	3.98	0.12	
39	0.02	Slope		0.35	0.62	0.49	0.74	0.68	0.53	0.51	3.91	0.08	
40	0.17	Slope		0.35	0.66	0.49	0.75	0.69	0.53	0.53	4.00	0.68	
41	0.17	Slope		0.35	0.47	0.39	0.74	0.56	0.45	0.42	3.37	0.57	
42	0.09	Slope		0.35	0.61	0.49	0.72	0.68	0.53	0.49	3.87	0.35	
43	0.11	Slope		0.35	0.62	0.49	0.74	0.68	0.53	0.51	3.91	0.43	

1. FCI = Functional Capacity Index

2. FCU = Functional Capacity Units

3. Size includes the estimated area of the entire wetland for HGM calculations, which includes the wetland area outside of the project limits. This area is not being proposed for approval.

#### USER NOTE: Do not enter any data in this worksheet. All data and calculations are entered for you using previously entered information. If any of this information is incorrect, enter the correct information in the appropriate worksheet.

85th Street Interchange
Lincoln County, South Dakota
Wetland #1

	Variable	Data entered	Data entered						
		wetland perimeter (feet):	838.00						
	V <sub>GRASSCONT</sub>	grassland along perimeter (feet):	838.00	1.00					
		percent continuity:	100.00						
		grassland width (feet) at 12 points:							
		Point 1:	50.00						
		Point 2:	50.00						
		Point 3:	50.00						
		Point 4:	50.00						
ion		Point 5:	50.00	1.00					
	Vantagement	Point 6:	50.00						
tat	• GRASSWIDTH	Point 7:	50.00						
get		Point 8:	50.00						
/eå		Point 9:	50.00						
		Point 10:	50.00						
		Point 11:	50.00						
		Point 12:	50.00						
		mean width (feet):	50.00						
		(see vegetation worksheet for species entered)							
		sum of species:	4.00						
	VVEGCOMP	sum of C values:	sum of C values: 11.00						
		mean coefficient of conservatism:	mean coefficient of conservatism: 2.75						
		FQI:	5.50						

	V <sub>RECHARGE</sub>	Soil Recharge Potential Subindex:	0.50	0.50		
		Eastern Prairie Potholes				
	V	mean depth to B horizon (inches):		0.52		
	* SED	Western Prairie Potholes		0.35		
		mean depth to B horizon (inches):	4.00			
		SQI scores for 4 samples:				
		sample 1:	1.50			
	Vaar	sample 2:	1.50	0.04		
	* SQI	sample 3:	2.00	0.04		
		sample 4:	2.00			
		average SQI score:	1.75			
		Indirect Measurements				
		Litter Depth for 4 samples:				
		sample 1:	0.00			
		sample 2:	0.00			
		sample 3:	0.00			
		sample 4:	0.00			
		Average Litter Depth (inches):	0.00			
		ADI for 4 samples:				
ii		Sample 1 hue:	7.50			
20		value:	2.50			
•1		chroma:	2.00			
		ADI:	8.00			
		Sample 2 hue:	7.50			
		value:	3.00			
	V <sub>SOM</sub>	chroma:	1.00	0.21		
	5014	ADI:	8.00			
		Sample 3 hue:	7.50			
		value:	2.50			
		chroma:	2.00			
		ADI:	8.00			
		Sample 4 hue:	7.50			
		value:	2.50			
		chroma:	2.00			
		ADI:	8.00			
		average ADI:	8.00			
		Direct Measurements				
		% organic carbon for 0-15cm depth:				
		% organic carbon for 15-30cm depth:				
		mean percentage:	1.65			
		% organic carbon:	1.35			

		historic invert elevation in relation to wetland maximum depth:	1518.50		
		present (or constructed) invert elevation:	1518 50		
		elevation of the edge of the historic wetland:	1518.50		
phic	V <sub>OUT</sub>	elevation of a representative deepest portion of the wetland:	1518.00	1.00	
		if evaluating pit or fill, enter % volume of pit/fill vs. wetland	0.00		
		ratio of the constructed elevation to the natural outlet elevation:	1.00		
IOI					
OUC	V	depth of surface drainage invert:		1.00	
ge	• SUBOUT	$\frac{1}{1}$		1.00	
<b>S</b> ÕJ		type & effect of surface alteration(s):			
<b>d</b> 1		% of historic catchment area still contributing runoff:			
Hy	V <sub>SOURCE</sub>	additions of water from other sources:		1.00	
		change in wetland regime class?			
		wetland perimeter (feet):	838.00		
	V <sub>EDGE</sub>	wetland area (acres):	1.04	0.35	
		Shoreline Development Index:	1.11		
	V <sub>CATCHWET</sub>	wetland area (acres):	1.04		
		catchment area (acres):	2.92	0.38	
		ratio of catchment size to wetland size:	2.81		
		total acre size of the present day catchment:	263.00		
		acres of catchment for each curve number:			
		98		-	
		90			
		79			
		77			
		72			
		/5			
ISt	V <sub>UPUSE</sub>	/3		0.00	
Ipi		71			
an		72	2 02		
Γ		69	2.92		
Š		79			
)e		74			
cal		69			
lsc		61			
nnc		weighted average score for upland land use:	0.82		
La		distance to nearest wetland(feet):	58.00		
		distance to 2nd nearest wetland:	147.00		
	V	distance to 3rd nearest wetland:	206.00	0.96	
	<ul> <li>WETPROX</li> </ul>	distance to 4th nearest wetland:	290.00	0.90	
		distance to 5th nearest wetland			
		mean distance (feet):	291.80		
	V <sub>WETAREA</sub>	acres of palustrine wetlands within a 1-mile radius:	126.00	0.28	
	V <sub>BASINS</sub>	number of palustrine wetlands within a 1-mile radius:	71.00	0.33	
	<b>X</b> 7	miles of goods and linear attributes within a 1 mile rediver	15.00	0.00	

Function	FCI	FCU
1. Water Storage	0.72	0.75
2. Groundwater Recharge	0.59	0.61
3. Retain Particlulates	0.59	0.62
4. Remove, Convert, and Sequester Dissolved Substances	0.77	0.80
5. Plant Community Resilience and Carbon Cycling	0.67	0.70
6a. Provide Faunal Habitat	0.68	0.71
6b. Provide Faunal Habitat (Alternate Formula)	0.44	0.45

	South I	Version 4.0	Re	ev. 6/6/01				
		Va	riable S	core Fie	ld Form			
Field Office -		WAA lo	d		Wetland	d 2	Reference Site? (Y/N)	
County	Lincoln	Wetlan	<mark>d Acres (</mark> p	ore-)	2.0	Wetland type (NWI)	PEM1C	
Date	11/13/2018	Wetlan	<mark>d Acres (</mark> p	oost-)	2.0	Wetland type (FSA)		
Owner/Op	85th St BDJVG	Planne	d Activity ·					
Yellow Flag?	lf yes, v	vhat?					Observe	ers
Red Flag?	lf yes, v	vhat?					Rebecca	a Beduhn
						Rationale for Post-	Variabl	e Score
Variable	Measure	ment or	Conditio	on Resul	t	Project Changes	Existing	Projected
V <sub>detritus</sub>	Detritus thickness (in	.), pre-proj	ect		0		0.25	0.25
Veed	Sediment thickness (	in.) in wetla	and, pre-pr	oject	1		0.75	0.75
- Sed	Other observations						0.10	0.10
Vcom	Dominant texture in u			SiCL		1.00	1.00	
3011	Color in upper 12":	Value	2.5	Chroma -	1			
	Pores			SQI	2			
V <sub>pore</sub>	Structure			SQI	2		0.75	0.75
	Rupture Resistance			SQI	2			
	Summary SQI Ra	ating			6			
	Puffer continuity (%)			Pre-	POST-			
V <sub>buffer</sub>	Width of norm was h	ouffor (ft )		90	90			
	Continuity/Width R	ating $(R_i)$ -		40	40			
	Buffer condition			0.5	0.5		0 17	0 17
	Perm veg part			10	10		0.11	0.11
	Tilled part			Nono	Nono			
	Buffer Condition Rati	ng (B <sub>2</sub> )						
V			ad (% of da	minonto)	10		0.10	0.10
♥ pratio	Native species prese				10		0.10	0.10
		• • •		Pre-	Post-			
N	Percent of wetland ar			100	100		4 00	1.00
Vpcover	% ground cover -		Rating -	1	1		1.00	1.00
	% ground cover		Dating	0	0			
	% ground cover -	U tact or dist	Raung -	l Int	I act			
<b>V</b> .	Describe variability or	n wetland s	surface (hu		aci neanders)		1 00	1 00
■ micro	N/A						1.00	1.00
	Watershed source all	terations ()	<u>(/N)?</u>	Y				
Vsource	If Y, what?	Road					0.75	0.75
Source	Percent of area affe	ected		10				
X	Alteration present?	N	Туре				4.00	4.00
V <sub>subalt</sub>							1.00	1.00
V <sub>surfalt</sub>	Alteration present?	N	Type				1.00	1.00
	Deminante			0/ 5				
	Dominant use of up	pland (3 ma	aximum)	% of area				
V <sub>upuse</sub>	Conventional tillage r	ow crop		25	0.1		0.10	0.10
	ramsieau			/5	0.1			

SLOPE MODEL FUNCTIONAL ASSESSMENT WORKSHEET								
		Version 4.0	(Rev. 6/6/0	J1)				
DATE	#######################################		REMARKS					
WETLAND ID	Wetland 2		ASSESSMENT TYPE		Delineation			
OBSERVERS	Rebecca B	eduhn	WETLAND TY	PE NWI	PEM1C			
CONDITIONS			WETLAND TY	PE FSA				
PROJECT NAME	85th Street	Interchange	OWNER/OPE	RATOR	85th St BDJ	VG		
PLANNED ACTIVITY								
YELLOW FLAG		RED FLAG -						
WETLAND ACRES E	2.0	WETLAND A	CRES P	2.0				
			SCC Eviating					
	ABLE		Existing	Predicted				
Sedimentation in the W	$\frac{1}{1}$		0.25	0.25				
Sedimentation in the Wo			0.75	0.75				
	m)		1.00	1.00				
Soli Pores (V <sub>pore</sub> )		$(\mathbf{M}_{\mathbf{I}})$	0.75	0.75				
Buller Condition, Conun	luity, & wiath	(V <sub>buffer</sub> )	0.17	0.17				
		S (V <sub>pratio</sub> )	0.10	0.10				
Vegetation Density (V <sub>pcc</sub>		1.00	1.00					
Microtopographic Comp	olexity (V <sub>micro</sub> )		1.00	1.00				
Source Area of Flow (V	source)	<u> </u>	0.75	0.75				
Subsurface Hydrology A	lterations (V <sub>si</sub>	ubalt)	1.00	1.00				
Surface Hydrology Alter	ations (V <sub>surfalt</sub> )		1.00	1.00				
Upland Use (V <sub>upuse</sub> )			0.10	0.10				
					FOL	ГОЦ		
EXISTING Mad. Orgundulator Flow		FCU	PRED			FC0		
Mod. Groundwater Flow	0.81	1.04	Mod. Groundy		0.81	1.01		
Vel. Reduc. Surf. Water	0.80	1.75	Vel. Reduc. Si	urr. water	0.86	1.72		
Elemental & Nutr. Cycling	0.53	1.08	Elemental & N	lutr. Cycling	0.53	1.07		
Retention of Particulates	0.59	1.19	Retention of P		0.59	1.17		
Organic Carbon Export	0.81	1.05			0.81	1.63		
Maint. of Plant Comm.	0.62	1.25		Comm.	0.62	1.23		
Habitat Interspersion	0.57				0.57			
ELINCTIONS								
Med. Oreuredwater Flow			RCENT (Yes or No) IF 10 TO 20% LOSS OF F					
Nod. Groundwater Flow	-0.02	-1.4	YES					
Vel. Reduc. Surf. Water	-0.02	-1.4	YES					
Ret, Conv. Elem. & Cmpd.	-0.02	-1.4	YES					
Retention of Particulates	-0.02	-1.4	YES	<u> </u>				
Organic Carbon Export	-0.02	-1.4	YES					
Maint. of Plant Comm.	-0.02	-1.4	YES					
Habitat Interspersion	-0.02	-1.4	YES					

	South Dakota Slope HGM Model, Version 4.0 Rev. 6/6/01										
		Va	riable S	core Fie	ld Form						
Field Office -		WAA lo	d		Wetlan	d 3	Reference Site? (Y/N)				
County	Lincoln	Wetlan	<mark>d Acres (</mark> p	ore-)	5.2	Wetland type (NWI)	PEM1B				
Date	11/13/2018	Wetlan	<mark>d Acres (</mark> p	ost-)	5.2	Wetland type (FSA)					
Owner/Op	85th St BDJVG	Planne	d Activity -								
Yellow Flag?	lf yes, v	vhat?					Observe	ers			
Red Flag?	lf yes, v	vhat?					Rebecca	a Beduhn			
						Rationale for Post-	Variabl	e Score			
Variable	Measure	ment or	Conditio	on Resul	t	Project Changes	Existing	Projected			
V <sub>detritus</sub>	Detritus thickness (in	.), pre-proj	ect		0		0.25	0.25			
V	Sediment thickness (	in.) in wetla	and, pre-pr	oject	0		1.00	1.00			
▼ sed	Other observations						1.00	1.00			
V	Dominant texture in u	pper 18"			SiCL		0.75	0.75			
• som	Color in upper 12":	Value	2	Chroma -	2		0.70	0.70			
	Pores			SQI	2						
Vnore	Structure			SQI	2		0.75	0.75			
pore	Rupture Resistance			SQI	2						
	Summary SQI Ra	ating			6						
	Duffer e stimuite (0()			Pre-	Post-						
V <sub>buffer</sub>	Buffer continuity (%)			43	43						
	Continuity/Width R	ouner (π.) -		21	21						
	Buffer condition	ating (D <sub>1</sub> ) -		0.1	0.1		0.16	0.16			
				•	•		0.10	0.10			
	Perm. veg. part			20	20						
	Tilled part			None None							
	Buller Condition Rati	ng (В <sub>2</sub> )		0.25	0.25						
<b>V</b> <sub>pratio</sub>	Native species prese	nt in wetlar	nd (% of do	minants)	25		0.25	0.25			
				Pre-	Post-						
	Percent of wetland ar	ea intact		100	100		4.00	4.00			
V <sub>pcover</sub>	% ground cover -	120	Rating -	1	1		1.00	1.00			
	Percent of wetland an		Detina	0	0						
	// ground cover -	U Utact or diet	turbed?	l Int	I act						
<b>V</b> .	Describe variability or	n wetland	surface (hu	mmocks m	aci neanders)		1 00	1 00			
■ micro	N/A						1.00	1.00			
	Watershed source all	terations ()	<u>(/N)?</u>	N							
Vsource	If Y, what?						1.00	1.00			
Source	Percent of area affe	ected									
X	Alteration present?	N	Туре				4.00	4.00			
V <sub>subalt</sub>							1.00	1.00			
V <sub>surfalt</sub>	Alteration present?	Ν	Type				1.00	1.00			
	Dominant was of			0/ -	le de						
	Conventional tillage	nand (3 ma	aximum)	% of area							
V <sub>upuse</sub>	Formstood	ow crop		60	0.1		0.10	0.10			
				40	0.1						

SLOPE MODEL FUNCTIONAL ASSESSMENT WORKSHEET								
		Version 4.0	<b>)</b> (Rev. 6/6/0	J1)				
DATE	###########		REMARKS					
WETLAND ID	Wetland 3		ASSESSMENT TYPE		Delineation			
OBSERVERS	Rebecca B	eduhn	WETLAND TY	PE NWI	PEM1B			
CONDITIONS			WETLAND TY	PE FSA				
PROJECT NAME	85th Street	Interchange	OWNER/OPE	RATOR	85th St BDJ	VG		
PLANNED ACTIVITY								
YELLOW FLAG		RED FLAG -						
WETLAND ACRES E	5.2	WETLAND A	CRES P	5.2				
			SCO	DRE				
VARIA	ABLE		Existing	Predicted				
Detritus (V <sub>detritus</sub> )			0.25	0.25				
Sedimentation in the We	etland (V <sub>sed</sub> )		1.00	1.00				
Soil Organic Matter (V <sub>so</sub>	m)		0.75	0.75				
Soil Pores (V <sub>pore</sub> )			0.75	0.75				
Buffer Condition, Contin	uity, & Width	(V <sub>buffer</sub> )	0.16	0.16				
Ratio of Native to Non-N	0.25	0.25						
Vegetation Density (V <sub>pcc</sub>	over)		1.00	1.00				
Microtopographic Complexity (V <sub>micro</sub> )			1.00	1.00				
Source Area of Flow (V <sub>source</sub> )			1.00	1.00				
Subsurface Hydrology A	Alterations (V <sub>si</sub>	<sub>ubalt</sub> )	1.00	1.00				
Surface Hydrology Alter	ations (V <sub>surfalt</sub> )		1.00	1.00				
Upland Use (V <sub>upuse</sub> )			0.10	0.10				
	CALCU	LATION OF F	UNCTIONAL	CAPACITY				
EXISTING	FCI	FCU	PRED	ICTED	FCI	FCU		
Mod. Groundwater Flow	0.84	4.39	Mod. Groundv	vater Flow	0.84	4.39		
Vel. Reduc. Surf. Water	0.89	4.63	Vel. Reduc. S	urf. Water	0.89	4.63		
Elemental & Nutr. Cycling	0.49	2.56	Elemental & N	lutr. Cycling	0.49	2.56		
Retention of Particulates	0.71	3.69	Retention of P	articulates	0.71	3.69		
Organic Carbon Export	0.75	3.90	Organic Carbo	on Export	0.75	3.90		
Maint. of Plant Comm.	0.67	3.47	Maint. of Plant	t Comm.	0.67	3.47		
Habitat Interspersion	0.56	2.94	Habitat Intersp	persion	0.56	2.94		
	CHANGE	IN FCU's	MIN EFFECT	JUSTIFICAT	ION OF MINIM	1AL EFFECT		
FUNCTIONS	NUMERICAL	PERCENT	(Yes or No)	IF 10 TO 2	0% LOSS OF I			
Mod. Groundwater Flow	0.00	0.0	YES					
Vel. Reduc. Surf. Water	0.00	0.0	YES					
Ret, Conv. Elem. & Cmpd.	0.00	0.0	YES					
Retention of Particulates	0.00	0.0	YES					
Organic Carbon Export	0.00	0.0	YES					
Maint. of Plant Comm.	0.00	0.0	YES					
Habitat Interspersion	0.00	0.0	YES					

	South [	Version 4.0	Re	ev. 6/6/01				
		Va	riable So	core Fie	ld Form			
Field Office -		WAA lo	1		Wetland	d 4	Reference Site? (Y/N)	
County	Lincoln	Wetlan	<mark>d Acres (</mark> p	ore-)	16.9	Wetland type (NWI)	PEM1A	
Date	11/13/2018	Wetlan	<mark>d Acres (</mark> p	ost-)	16.9	Wetland type (FSA)		
Owner/Op	85th St BDJVG	Planne	d Activity -					
Yellow Flag?	lf yes, v	vhat?					Observe	ers
Red Flag?	lf yes, v	vhat?					Rebecca	a Beduhn
						Rationale for Post-	Variabl	e Score
Variable	Measure	ment or	Conditio	on Resul	t	Project Changes	Existing	Projected
V <sub>detritus</sub>	Detritus thickness (in	ect		0		0.25	0.25	
<b>V</b> .	Sediment thickness (	in.) in wetla	and, pre-pro	oject	1		0.75	0.75
▼ sed	Other observations						0.75	0.75
V	Dominant texture in u	pper 18"			SiCL		1 00	1 00
- 5011	Color in upper 12":	Value	2	Chroma -	1			
	Pores			SQI	2			
V <sub>pore</sub>	Structure			SQI	2		0.75	0.75
••••	Rupture Resistance			SQI	2			
	Summary SQI Ra	ating			6			
	Puffer continuity (%)			Pre-	Post-			
V <sub>buffer</sub>	Width of norm was h	ouffor (ft )		0.0 1 17	0.0 1 17			
	Continuity/Width R	ating $(R_i)$ -		4.17	4.17			
	Buffer condition						0.00	0.00
	Perm, veg, part			0	0			
	Tilled part			None	None			
	Buffer Condition Ratio	ng (B <sub>2</sub> )		0	0			
Variatio	Native species prese	nt in wetlar	nd (% of do	minants)	0		0.10	0.10
	····· P····			Dro	Boot		0.10	0.10
	Percent of wetland ar	ea intact		100	100			
V	% ground cover -	<u>40</u>	Rating -	0.1	0.1		0 10	0 10
- pcover	Percent of wetland ar	ea tilled		0.1	0.1		0.10	0.10
	% ground cover -		Rating -	0.1	0.1			
	Is the wetland area in	tact or dist	urbed?	distu	irbed			
<b>V</b> <sub>micro</sub>	Describe variability or	n wetland s	surface (hu	mmocks, m	neanders)		0.10	0.10
	Watershed source al	terations (\	(/N)?	Y				
V <sub>source</sub>	If Y, what?	Road		-			0.75	0.75
	Percent of area affe	ected		20				
V <sub>subalt</sub>	Alteration present?	N	Type				1.00	1.00
V	Alteration present?	N	Туре				1.00	4.00
Vsurfalt		·		·			1.00	1.00
	Dominant use of up	oland (3 ma	aximum)	% of area	Index			
V	Conventional Tillage	Row Crop		88	0.1		0.10	0.10
• upuse	Farmstead			12	0.1		0.10	0.10

SLOPE MODEL FUNCTIONAL ASSESSMENT WORKSHEET								
		Version 4.0	J (Rev. 6/6/0	J1)				
DATE	#######################################		REMARKS					
WETLAND ID	Wetland 4		ASSESSMENT TYPE		Delineation			
OBSERVERS	Rebecca B	eduhn	WETLAND TY	PE NWI	PEM1A			
CONDITIONS			WETLAND TY	PE FSA				
PROJECT NAME	85th Street	Interchange	OWNER/OPE	RATOR	85th St BDJ	VG		
PLANNED ACTIVITY								
YELLOW FLAG		RED FLAG -						
WETLAND ACRES E	16.9	WETLAND A	ACRES P	16.9				
			SCO	DRE				
VARI	ABLE		Existing	Predicted				
Detritus (V <sub>detritus</sub> )			0.25	0.25				
Sedimentation in the W	etland (V <sub>sed</sub> )		0.75	0.75				
Soil Organic Matter (V <sub>so</sub>	<sub>m</sub> )		1.00	1.00				
Soil Pores (V <sub>pore</sub> )			0.75	0.75				
Buffer Condition, Contin	uity, & Width	(V <sub>buffer</sub> )	0.00	0.00				
Ratio of Native to Non-N	s (V <sub>pratio</sub> )	0.10	0.10					
Vegetation Density (V <sub>pcc</sub>	<sub>over</sub> )		0.10	0.10				
Microtopographic Comp	o <mark>lexity (V<sub>micro</sub>)</mark>		0.10	0.10				
Source Area of Flow (V	<sub>source</sub> )		0.75	0.75				
Subsurface Hydrology A	<mark>Alterations (V<sub>s</sub></mark>	<sub>ubalt</sub> )	1.00	1.00				
Surface Hydrology Alter	ations (V <sub>surfalt</sub> )		1.00	1.00				
Upland Use (V <sub>upuse</sub> )			0.10	0.10				
	CALCU	LATION OF F	UNCTIONAL	CAPACITY				
EXISTING	FCI	FCU	PRED	ICTED	FCI	FCU		
Mod. Groundwater Flow	0.65	11.02	Mod. Groundv	vater Flow	0.65	11.02		
Vel. Reduc. Surf. Water	0.40	6.76	Vel. Reduc. Si	urf. Water	0.40	6.76		
Elemental & Nutr. Cycling	0.53	9.02	Elemental & N	lutr. Cycling	0.53	9.02		
Retention of Particulates	0.41	6.90	Retention of P	articulates	0.41	6.90		
Organic Carbon Export	0.51	8.66	Organic Carbo	on Export	0.51	8.66		
Maint. of Plant Comm.	0.32	5.35	Maint. of Plant	t Comm.	0.32	5.35		
Habitat Interspersion	0.30	5.07	Habitat Intersp	persion	0.30	5.07		
	CHANGE	IN FCU's	MIN EFFECT	JUSTIFICAT	ION OF MININ	1AL EFFECT		
FUNCTIONS	NUMERICAL	PERCENT	(Yes or No)	IF 10 TO 2	0% LOSS OF I	-UNCTION		
Mod. Groundwater Flow	0.00	0.0	YES					
Vel. Reduc. Surf. Water	0.00	0.0	YES					
Ret, Conv. Elem. & Cmpd.	0.00	0.0	YES					
Retention of Particulates	0.00	0.0	YES					
Organic Carbon Export	0.00	0.0	YES					
Maint. of Plant Comm.	0.00	0.0	YES					
Habitat Interspersion	0.00	0.0	YES					

#### USER NOTE: Do not enter any data in this worksheet. All data and calculations are entered for you using previously entered information. If any of this information is incorrect, enter the correct information in the appropriate worksheet.

85th Street Interchange
Lincoln County, South Dakota
Wetland #5

	Variable	Data entered		Subindex
		wetland perimeter (feet):	951.00	
	V <sub>GRASSCONT</sub>	grassland along perimeter (feet):	0.00	0.00
		percent continuity:	0.00	
		grassland width (feet) at 12 points:		
		Point 1:	0.00	
		Point 2:	0.00	
		Point 3:	0.00	
		Point 4:	0.00	
u		Point 5:	0.00	
io	V	Point 6:	0.00	0.00
tal	<ul> <li>GRASSWIDTH</li> </ul>	Point 7:	0.00	0.00
get		Point 8:	0.00	
eg/		Point 9:	0.00	
		Point 10:	0.00	
		Point 11:	0.00	
		Point 12:	0.00	
		mean width (feet):	0.00	
		(see vegetation worksheet for species entered)		
		sum of species:	8.00	
	VVEGCOMP	sum of C values:	17.00	0.34
		mean coefficient of conservatism:	2.13	
		FQI:	6.01	

	V <sub>RECHARGE</sub>	Soil Recharge Potential Subindex:	1.00	1.00
		Eastern Prairie Potholes		
	V	mean depth to B horizon (inches):		1.00
	V SED	Western Prairie Potholes		1.00
		mean depth to B horizon (inches):	16.00	
		SQI scores for 4 samples:		
		sample 1:	1.50	
	Vaar	sample 2:	1.50	0.01
	• SQI	sample 3:	1.50	0.01
		sample 4:	1.50	
		average SQI score:	1.50	
		Indirect Measurements		
		Litter Depth for 4 samples:		
		sample 1:	0.00	
		sample 2:	0.00	
		sample 3:	0.00	
		sample 4:	0.00	
		Average Litter Depth (inches):	0.00	
		ADI for 4 samples:		
il		Sample 1 hue:	7.50	
So		value:	3.00	
		chroma:	1.00	
		ADI:	8.00	
		Sample 2 hue:	7.50	
		value:	2.50	
	V <sub>SOM</sub>	chroma:	1.00	0.22
	5014	ADI:	7.00	
		Sample 3 hue:	7.50	
		value:	3.00	
		chroma:	1.00	
		ADI:	8.00	
		Sample 4 hue:	7.50	
		value:	2.50	
		chroma:	1.00	
		ADI:	7.00	
		average ADI:	7.50	
		% organic carbon for U-15cm depth:		
		% organic carbon for 15-30cm depth:		
		mean percentage:	1 4 1	
		% organic carbon:	1.41	

		historic invert elevation in relation to wetland maximum depth:	1524.00	
		nresent (or constructed) invert elevation:	1524.00	
		elevation of the edge of the historic wetland:	1524.00	
	V <sub>OUT</sub>	elevation of a representative deepest portion of the wetland:	1523.50	1.00
c		if evaluating pit or fill, enter % volume of pit/fill vs. wetland (av. $25\% = 25$ ), otherwise enter 0.	0.00	
rphi		ratio of the constructed elevation to the natural outlet elevation:	1.00	
10		denth of surface drainage invert:		
on	VSUBOUT	distance from WAA edge:		1.00
ge	500001	location/spacing of subsurface tile within the WAA:		
ro		type & effect of surface alteration(s):		
yd	<b>X</b> 7	% of historic catchment area still contributing runoff:		1.00
Η̈́	<b>V</b> SOURCE	additions of water from other sources:		1.00
		change in wetland regime class?		
		wetland perimeter (feet):	951.00	
	V <sub>EDGE</sub>	wetland area (acres):	1.49	0.22
		Shoreline Development Index:	1.05	
		wetland area (acres):	1.49	
	V <sub>CATCHWET</sub>	catchment area (acres):	6.49	0.69
		ratio of catchment size to wetland size:	4.36	
		total acre size of the present day catchment:	6.49	
		acres of catchment for each curve number:		
		98		
		90	( 10	
		/9	6.49	
		77		
		72		
e	V <sub>UPUSE</sub>	73		
sn		71		0.52
pu		72		
'al		74		
Ţ		69		
Ś		79		
pe		74		
ca		69		
Landso		61		
		weighted average score for upland land use:	79.00	
		distance to nearest wetland(feet):	86.00	
		distance to 2nd nearest wetland:	178.00	
		distance to 2nd means tructland.	206.00	
	VWETPROX	distance to 5rd hearest wetland.	200.00	1.00
	<b>V</b> <sub>WETPROX</sub>	distance to 3rd nearest wetland: distance to 4th nearest wetland:	293.00	1.00
	V <sub>WETPROX</sub>	distance to 5rd nearest wetland: distance to 4th nearest wetland: distance to 5th nearest wetland:	200.00 293.00 412.00	1.00
	V <sub>WETPROX</sub>	distance to 5rd nearest wetland: distance to 4th nearest wetland: distance to 5th nearest wetland: mean distance (feet):	200.00 293.00 412.00 235.00	1.00
	V <sub>WETPROX</sub>	distance to 3rd nearest wetland: distance to 4th nearest wetland: distance to 5th nearest wetland: mean distance (feet): acres of palustrine wetlands within a 1-mile radius:	200.00 293.00 412.00 235.00 126.00	0.28
	V <sub>WETPROX</sub> V <sub>WETAREA</sub> V <sub>BASINS</sub>	distance to 3rd hearest wetland: distance to 4th nearest wetland: distance to 5th nearest wetland: mean distance (feet): acres of palustrine wetlands within a 1-mile radius: number of palustrine wetlands within a 1-mile radius:	200.00 293.00 412.00 235.00 126.00 71.00	0.28 0.33

Function	FCI	FCU
1. Water Storage	0.94	1.40
2. Groundwater Recharge	0.76	1.13
3. Retain Particlulates	0.65	0.97
4. Remove, Convert, and Sequester Dissolved Substances	0.61	0.91
5. Plant Community Resilience and Carbon Cycling	0.61	0.91
6a. Provide Faunal Habitat	0.68	1.02
6b. Provide Faunal Habitat (Alternate Formula)	0.60	0.90

#### USER NOTE: Do not enter any data in this worksheet. All data and calculations are entered for you using previously entered information. If any of this information is incorrect, enter the correct information in the appropriate worksheet.

85th Street Interchange
Lincoln County, South Dakota
Wetland #6

	Variable	Data entered		Subindex
		wetland perimeter (feet):	6573.00	
	<b>V</b> <sub>GRASSCONT</sub>	grassland along perimeter (feet):	5340.00	0.81
		percent continuity:	81.24	
		grassland width (feet) at 12 points:		
		Point 1:	50.00	
		Point 2:	50.00	
		Point 3:	50.00	
		Point 4:	0.00	
u		Point 5:	50.00	
iio	V	Point 6:	50.00	0.68
tal	<ul> <li>GRASSWIDTH</li> </ul>	Point 7:	50.00	0.00
get		Point 8:	0.00	
'eg		Point 9:	0.00	
		Point 10:	0.00	
		Point 11:	50.00	
		Point 12:	50.00	
		mean width (feet):	33.33	
		(see vegetation worksheet for species entered)		
		sum of species:	7.00	
	VVEGCOMP	sum of C values:	15.00	0.32
		mean coefficient of conservatism:	2.14	
		FQI:	5.67	

	V <sub>RECHARGE</sub>	Soil Recharge Potential Subindex:	0.50	0.50
		Eastern Prairie Potholes		
	V	mean depth to B horizon (inches):		1.00
	V SED	Western Prairie Potholes		1.00
		mean depth to B horizon (inches):	18.00	
		SQI scores for 4 samples:		
		sample 1:	1.50	
	V	sample 2:	1.50	0.03
	* SQI	sample 3:	1.50	0.05
		sample 4:	2.00	
		average SQI score:	1.63	
		Indirect Measurements		
		Litter Depth for 4 samples:		
		sample 1:	0.00	
		sample 2:	0.00	
		sample 3:	0.00	
		sample 4:	0.00	
		Average Litter Depth (inches):	0.00	
		ADI for 4 samples:		
Soil		Sample 1 hue:	10.00	
		value:	2.00	
•1		chroma:	1.00	
		ADI:	6.00	
		Sample 2 hue:	10.00	
		value:	2.00	
	V <sub>SOM</sub>	chroma:	1.00	0.30
	5014	ADI:	6.00	
		Sample 3 hue:	10.00	-
		value:	2.00	
		chroma:	2.00	
		ADI:	7.00	
		Sample 4 hue:	10.00	
		value:	2.00	
		chroma:	2.00	
		ADI:	7.00	
		average ADI:	6.50	
		Direct Measurements		
		% organic carbon for 0-15cm depth:		
		% organic carbon for 15-30cm depth:		
		mean percentage:		
		% organic carbon:	1.65	

		historic invert elevation in relation to wetland maximum depth:	1524.00	
		nresent (or constructed) invert elevation:	1524.00	
		elevation of the edge of the historic wetland:	1525.00	
	V <sub>OUT</sub>	elevation of a representative deepest portion of the wetland:	1523.00	1.00
J		if evaluating pit or fill, enter % volume of pit/fill vs. wetland $(-25)(-25) + 1 + -1 + 0$	0.00	
ihd.		ratio of the constructed elevation to the natural outlet elevation:	1.00	
101				
0UL	Vannoum	depth of surface drainage invert:		1.00
ge	• SUBOUT	$\frac{1}{1}$		1.00
log		type & effect of surface alteration(s):		
/dı		% of historic catchment area still contributing runoff:		
Hy	V <sub>SOURCE</sub>	additions of water from other sources:		1.00
		change in wetland regime class?		
		wetland perimeter (feet):	6573.00	
	V <sub>EDGE</sub>	wetland area (acres):	9.12	1.00
	2202	Shoreline Development Index:	2.94	
		wetland area (acres):	9.12	
	<b>V</b> <sub>CATCHWET</sub>	catchment area (acres):	193.69	1.00
		ratio of catchment size to wetland size:	21.24	
		total acre size of the present day catchment:	193.69	
		acres of catchment for each curve number:		
		98		
		90		
		79	169.39	
		77		
		72		
		75		
ISe	V <sub>UPUSE</sub>	73		0.53
qu		71		
un		72	24.20	
Ľ		/4	24.30	
Š		09 70		
e		79		
ap		(4)		
SC		61		
Land		weighted average score for unland land use:	78 37	
		distance to nearest wetland(feet):	20.00	
		distance to 2nd nearest wetland:	85.00	
	<b>T</b> 7	distance to 3rd nearest wetland:	122.00	1.00
	V <sub>WETPROX</sub>	distance to 4th nearest wetland:	146.00	1.00
		distance to 5th nearest wetland:	365.00	
		mean distance (feet):	147.60	
	<b>V</b> <sub>WETAREA</sub>	acres of palustrine wetlands within a 1-mile radius:	126.00	0.28
	V <sub>BASINS</sub>	number of palustrine wetlands within a 1-mile radius:	71.00	0.33
			15.00	0.00
	VHAREDAC	miles of roads and linear attributes within a 1-mile radius:	13.00	0.00

Function	FCI	FCU
1. Water Storage	0.94	8.57
2. Groundwater Recharge	0.82	7.48
3. Retain Particlulates	0.82	7.44
4. Remove, Convert, and Sequester Dissolved Substances	0.79	7.25
5. Plant Community Resilience and Carbon Cycling	0.74	6.74
6a. Provide Faunal Habitat	0.81	7.36
6b. Provide Faunal Habitat (Alternate Formula)	0.60	5.48

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85th Street Interchange
Lincoln County, South Dakota
Wetland #8

	Variable	Data entered		Subindex
		wetland perimeter (feet):	450.00	
	V <sub>GRASSCONT</sub>	grassland along perimeter (feet):	0.00	0.00
		percent continuity:	0.00	
		grassland width (feet) at 12 points:		
		Point 1:	0.00	
		Point 2:	0.00	
		Point 3:	0.00	
		Point 4:	0.00	
n		Point 5:	0.00	
io	V	Point 6:	0.00	0.00
al	* GRASSWIDTH	Point 7:	0.00	0.00
gel		Point 8:	0.00	
'eg		Point 9:	0.00	
		Point 10:	0.00	
		Point 11:	0.00	
		Point 12:	0.00	
		mean width (feet):	0.00	
		(see vegetation worksheet for species entered)		
		sum of species:	5.00	
	VVEGCOMP	sum of C values:	7.00	0.16
		mean coefficient of conservatism:	1.40	
		FQI:	3.13	

	V <sub>RECHARGE</sub>	Soil Recharge Potential Subindex:	0.75	0.75
		Eastern Prairie Potholes		
	V	mean depth to B horizon (inches):		1.00
	* SED	Western Prairie Potholes		1.00
		mean depth to B horizon (inches):	16.00	
		SQI scores for 4 samples:		
		sample 1:	1.50	
	Vaar	sample 2:	1.50	0.01
	* SQI	sample 3:	1.50	0.01
		sample 4:	1.50	
		average SQI score:	1.50	
		Indirect Measurements		
		Litter Depth for 4 samples:		
		sample 1:	0.00	
		sample 2:	0.00	
		sample 3:	0.00	
		sample 4:	0.00	
	V <sub>SOM</sub>	Average Litter Depth (inches):	0.00	
		ADI for 4 samples:		
il		Sample 1 hue:	2.50	
20		value:	2.50	
•1		chroma:	2.00	
		ADI:	8.00	
		Sample 2 hue:	10.00	
		value:	2.00	
		chroma:	1.00	0.29
		ADI:	6.00	
		Sample 3 hue:	10.00	-
		value:	2.00	
		chroma:	1.00	
		ADI:	6.00	
		Sample 4 hue:	10.00	
		value:	2.00	
		chroma:	1.00	
		ADI:	6.00	
		average ADI:	6.50	
		Direct Measurements		
		% organic carbon for 0-15cm depth:		
		% organic carbon for 15-30cm depth:		
		mean percentage:	mean percentage:	
		% organic carbon:	1.63	

		Ξ					
		historic invert elevation in relation to wetland maximum depth:	1526.00				
		present (or constructed) invert elevation:	1526.00				
		elevation of the edge of the historic wetland:	1526.00				
	<b>X</b> 7		1525.00	1.00			
	VOUT	elevation of a representative deepest portion of the wetland:	1525.00	1.00			
		if evaluating pit or fill, enter % volume of pit/fill vs. wetland	0.00				
iic		(ex. 25%=25), otherwise enter 0:	0.00				
orpt		ratio of the constructed elevation to the natural outlet elevation:	1.00				
m		depth of surface drainage invert:					
60)	V <sub>SUBOUT</sub>	distance from WAA edge:		1.00			
0g		location/spacing of subsurface tile within the WAA:					
lre		type & effect of surface alteration(s):					
[yc	VSOURCE	% of historic catchment area still contributing runoff:		1.00			
H	SOURCE	additions of water from other sources:					
		change in wetland regime class?	150.00				
	N7	wetland perimeter (feet):	450.00	0.64			
	V <sub>EDGE</sub>	wetland area (acres):	0.24	0.64			
		Shoreline Development Index:	1.24				
	<b>V</b> <sub>CATCHWET</sub>	wetland area (acres):	0.24	1.00			
		catchment area (acres):	3.22	1.00			
		ratio of catchment size to wetland size:	13.42				
		total acre size of the present day catchment:	3.22				
		98					
		70	3 22				
		77	5.22				
		72					
		75					
e		73					
ns	V <sub>UPUSE</sub>	71		0.52			
pu		72					
'aı		74					
<b>I</b> 2		69					
8		79					
pe		74					
ca		69					
ds		61					
an		weighted average score for upland land use:	79.00				
L		distance to nearest wetland(feet):	284.00				
		distance to 2nd nearest wetland:	356.00				
				0.72			
	VWETPROX	distance to 3rd nearest wetland:	495.00	0.72			
	V <sub>WETPROX</sub>	distance to 3rd nearest wetland: distance to 4th nearest wetland:	495.00 557.00	0.72			
	V <sub>WETPROX</sub>	distance to 3rd nearest wetland: distance to 4th nearest wetland: distance to 5th nearest wetland:	495.00 557.00 778.00	0.72			
	V <sub>WETPROX</sub>	distance to 3rd nearest wetland: distance to 4th nearest wetland: distance to 5th nearest wetland: mean distance (feet):	495.00 557.00 778.00 494.00	0.72			
	V <sub>WETPROX</sub>	distance to 3rd nearest wetland: distance to 4th nearest wetland: distance to 5th nearest wetland: mean distance (feet): acres of palustrine wetlands within a 1-mile radius:	495.00 557.00 778.00 494.00 126.00	0.72			
	V <sub>WETPROX</sub>	distance to 3rd nearest wetland: distance to 4th nearest wetland: distance to 5th nearest wetland: mean distance (feet): acres of palustrine wetlands within a 1-mile radius: number of palustrine wetlands within a 1-mile radius:	495.00           557.00           778.00           494.00           126.00           70.00	0.72 0.28 0.32			

Function	FCI	FCU
1. Water Storage	0.94	0.22
2. Groundwater Recharge	0.81	0.19
3. Retain Particlulates	0.61	0.15
4. Remove, Convert, and Sequester Dissolved Substances	0.60	0.14
5. Plant Community Resilience and Carbon Cycling	0.57	0.14
6a. Provide Faunal Habitat	0.65	0.16
6b. Provide Faunal Habitat (Alternate Formula)	0.55	0.13

#### USER NOTE: Do not enter any data in this worksheet. All data and calculations are entered for you using previously entered information. If any of this information is incorrect, enter the correct information in the appropriate worksheet.

85th Street Interchange
Lincoln County, South Dakota
Wetland #9

	Variable	Data entered	Subindex	
		wetland perimeter (feet):	407.00	
	V <sub>GRASSCONT</sub>	grassland along perimeter (feet):	0.00	0.00
		percent continuity:	0.00	
		grassland width (feet) at 12 points:		
		Point 1:	0.00	
		Point 2:	0.00	
		Point 3:	0.00	
		Point 4:	0.00	
n		Point 5:	0.00	
iio	V <sub>GRASSWIDTH</sub>	Point 6:	0.00	0.00
at		Point 7:	0.00	0.00
get		Point 8:	0.00	
'eg		Point 9:	0.00	
		Point 10:	0.00	
		Point 11:	0.00	
		Point 12:	0.00	
		mean width (feet):	0.00	
		(see vegetation worksheet for species entered)		
		sum of species:	3.00	
	V <sub>VEGCOMP</sub>	sum of C values:	3.00	0.08
		mean coefficient of conservatism:	1.00	
		FQI:	1.73	

	V <sub>RECHARGE</sub>	Soil Recharge Potential Subindex:	1.00	1.00	
		Eastern Prairie Potholes			
	V	mean depth to B horizon (inches):		1.00	
	V SED	Western Prairie Potholes		1.00	
		mean depth to B horizon (inches):	14.00		
		SQI scores for 4 samples:			
		sample 1:	2.00		
	V	sample 2:	2.00	0.06	
	* SQI	sample 3:	2.00	0.00	
		sample 4:	2.00		
		average SQI score:	2.00		
		Indirect Measurements			
		Litter Depth for 4 samples:			
		sample 1:	0.00		
		sample 2:	0.00		
		sample 3:	0.00		
		sample 4:	0.00		
	V <sub>SOM</sub>	Average Litter Depth (inches):	0.00		
		ADI for 4 samples:			
il		Sample 1 hue:	10.00		
20		value:	3.00		
•1		chroma:	2.00		
		ADI:	9.00		
		Sample 2 hue:	10.00		
		value:	3.00		
		chroma:	2.00	0.16	
		ADI:	9.00		
		Sample 3 hue:	10.00		
		value:	3.00		
		chroma:	2.00		
		ADI:	9.00		
		Sample 4 hue:	10.00		
		value:	3.00		
		chroma:	2.00		
		ADI:	9.00		
		average ADI:	9.00		
		Direct Measurements			
		% organic carbon for 0-15cm depth:			
		% organic carbon for 15-30cm depth:			
		mean percentage:	1.10	_	
		% organic carbon:	1.19		

		historic invert elevation in relation to wetland maximum depth:	1527.00				
		nrecent (or constructed) invert alevation	1527.00				
		elevation of the edge of the historic wetland:	1527.00				
		elevation of the edge of the historic wetland.	1327.00				
	V <sub>OUT</sub>	elevation of a representative deepest portion of the wetland:	1526.50	1.00			
		if evaluating pit or fill, enter % volume of pit/fill vs. wetland	0.00				
iic		(ex. $25\%=25$ ), otherwise enter 0:	0.00				
orph		ratio of the constructed elevation to the natural outlet elevation:	1.00				
mc		depth of surface drainage invert:					
501	<b>V</b> <sub>SUBOUT</sub>	distance from WAA edge:		1.00			
ğ		location/spacing of subsurface tile within the WAA:					
lrc		type & effect of surface alteration(s):					
yd	Vacunar	% of historic catchment area still contributing runoff:		1.00			
H	* SOURCE	additions of water from other sources:		1.00			
		change in wetland regime class?					
		wetland perimeter (feet):	407.00				
	V <sub>EDGE</sub>	wetland area (acres):	0.25	0.33			
		Shoreline Development Index:	1.10				
	V <sub>CATCHWET</sub>	wetland area (acres):	0.25				
		catchment area (acres):	4.34	1.00			
		ratio of catchment size to wetland size:	17.36				
		total acre size of the present day catchment:	4.34				
		acres of catchment for each curve number:		_			
		98					
		0.0					
		90	4.2.4				
		90 79	4.34				
		90 79 77	4.34				
		90 79 77 72 75	4.34				
		90 79 77 72 75 72	4.34				
ISE	V <sub>UPUSE</sub>	90 79 77 77 72 75 73	4.34	0.52			
duse	V <sub>UPUSE</sub>	90 79 77 72 75 73 73 71	4.34	0.52			
anduse	V <sub>UPUSE</sub>	90 79 77 72 75 75 73 71 71 72	4.34	0.52			
Landuse	V <sub>UPUSE</sub>	90 79 77 72 72 75 73 73 71 71 72 74	4.34	0.52			
& Landuse	V <sub>UPUSE</sub>	90 79 77 72 72 75 73 73 71 71 72 74 69 79	4.34	0.52			
oe & Landuse	V <sub>UPUSE</sub>	90 79 77 72 72 75 73 73 71 71 71 72 72 74 9 9 74	4.34	0.52			
ape & Landuse	V <sub>UPUSE</sub>	90 79 77 72 72 75 73 73 73 71 71 72 72 74 69 79 74 69	4.34	0.52			
lscape & Landuse	V <sub>UPUSE</sub>	90 79 77 72 72 75 73 73 73 73 74 74 69 79 79 74 69 79	4.34	0.52			
ndscape & Landuse	V <sub>UPUSE</sub>	90 79 77 72 72 75 73 73 73 73 74 74 69 79 74 69 79 74 69 61 80 61 80 61 80 80 80 80 80 80 80 80 80 80 80 80 80	4.34	0.52			
Landscape & Landuse	V <sub>UPUSE</sub>	90 79 77 77 72 75 73 73 73 71 71 72 74 69 79 74 69 79 74 69 69 61 weighted average score for upland land use: distance to nearest wetland(feet):	4.34 79.00 293.00	0.52			
Landscape & Landuse	V <sub>UPUSE</sub>	90 79 77 77 72 75 73 73 73 73 74 74 69 74 69 79 74 69 69 69 69 69 69 69 69 69 69	4.34 79.00 293.00 330.00	0.52			
Landscape & Landuse	V <sub>UPUSE</sub>	90           79           77           72           75           73           71           73           71           72           73           73           74           69           79           74           69           74           69           74           69           61           weighted average score for upland land use:           61           weighted average score for upland land use:           distance to nearest wetland(feet):           distance to 2nd nearest wetland:           distance to 3rd nearest wetland:	4.34 79.00 293.00 330.00 365.00	0.52			
Landscape & Landuse	V <sub>UPUSE</sub>	90           79           77           72           75           73           71           72           73           71           72           73           74           69           74           69           61           weighted average score for upland land use:           61           weighted average score for upland land use:           distance to nearest wetland(feet):           distance to 2nd nearest wetland:           distance to 3rd nearest wetland:           distance to 4th nearest wetland:	4.34 79.00 293.00 330.00 365.00 545.00	0.52			
Landscape & Landuse	V <sub>UPUSE</sub>	90           79           77           77           72           75           73           71           73           71           72           73           71           73           74           69           79           74           69           69           61           weighted average score for upland land use:           61           weighted average score for upland land use:           distance to nearest wetland(feet):           distance to 2nd nearest wetland:           distance to 3rd nearest wetland:           distance to 4th nearest wetland:           distance to 5th nearest wetland:	4.34 79.00 293.00 330.00 365.00 545.00 637.00	0.52			
Landscape & Landuse	V <sub>UPUSE</sub>	90           79           77           77           77           77           77           77           77           77           77           77           77           77           77           77           77           73           73           73           73           73           73           73           73           74           69           74           69           61           weighted average score for upland land use:           1         distance to 2nd nearest wetland:           1         distance to 3rd nearest wetland:           1         distance to 5th nearest wetland:           1         distance to 5t	4.34 79.00 293.00 330.00 365.00 545.00 637.00 434.00	0.52			
Landscape & Landuse	V <sub>UPUSE</sub> V <sub>WETPROX</sub>	9079777772757373717274697974696961weighted average score for upland land use:distance to nearest wetland(feet):distance to 2nd nearest wetland:distance to 3rd nearest wetland:distance to 4th nearest wetland:distance to 5th nearest wetland:distance to 5th nearest wetland:mean distance (feet):acres of palustrine wetlands within a 1-mile radius:	4.34 79.00 293.00 330.00 365.00 545.00 637.00 434.00 125.00	0.52 0.79 0.28			
Landscape & Landuse	V <sub>UPUSE</sub> V <sub>WETPROX</sub>	90         79         77         72         75         73         71         72         73         71         72         73         74         69         79         74         69         74         69         74         69         61         weighted average score for upland land use:         distance to nearest wetland(feet):         distance to 2nd nearest wetland:         distance to 3rd nearest wetland:         distance to 4th nearest wetland:         distance to 5th nearest wetland:         distance to 5th nearest wetland:         mean distance (feet):         acres of palustrine wetlands within a 1-mile radius:         number of palustrine wetlands within a 1-mile radius:	4.34 79.00 293.00 330.00 365.00 545.00 637.00 434.00 125.00 70.00	0.52 0.79 0.28 0.32			
Landscape & Landuse	V <sub>UPUSE</sub> V <sub>WETPROX</sub> V <sub>WETAREA</sub> V <sub>BASINS</sub> V <sub>HABERAG</sub>	90         79         77         72         75         73         71         72         73         71         72         73         74         69         74         69         74         69         61         weighted average score for upland land use:         distance to nearest wetland(feet):         distance to 2nd nearest wetland:         distance to 3rd nearest wetland:         distance to 4th nearest wetland:         distance to 5th nearest wetland:         mean distance (feet):         acres of palustrine wetlands within a 1-mile radius:         number of palustrine wetlands within a 1-mile radius:         miles of roads and linear attributes within a 1-mile radius:	4.34 79.00 293.00 330.00 365.00 545.00 637.00 434.00 125.00 70.00 17.00	0.52 0.79 0.28 0.32 0.00			

Function	FCI	FCU
1. Water Storage	0.94	0.23
2. Groundwater Recharge	0.81	0.20
3. Retain Particlulates	0.60	0.15
4. Remove, Convert, and Sequester Dissolved Substances	0.56	0.14
5. Plant Community Resilience and Carbon Cycling	0.52	0.13
6a. Provide Faunal Habitat	0.61	0.15
6b. Provide Faunal Habitat (Alternate Formula)	0.53	0.13

South Dakota Slope HGM Model, Version 4.0 Rev. 6/6/01									
		Va	riable S	core Fie	ld Form				
Field Office -		WAA lo	d		Wetland	d 10	Reference Site? (Y/N)		
County	Lincoln	Wetlan	<mark>d Acres (</mark> p	ore-)	2.5	Wetland type (NWI)	PEM1A		
Date	11/13/2018	Wetlan	Wetland Acres (post-)			Wetland type (FSA)			
Owner/Op	85th St BDJVG	Planne	d Activity -						
Yellow Flag?	lf yes, v	/hat?					Observe	ers	
Red Flag?	lf yes, v	vhat?					Rebecca	a Beduhn	
						Rationale for Post-	Variabl	e Score	
Variable	Measure	ment or	Conditio	on Resul	t	Project Changes	Existing	Projected	
V <sub>detritus</sub>	Detritus thickness (in	.), pre-proj	ect		0		0.25	0.25	
Veed	Sediment thickness (	in.) in wetla	and, pre-pr	oject	1		0.75	0 75	
- seu	Other observations						0.10	0.70	
V <sub>som</sub>	Dominant texture in u	pper 18"			SiCL		0.75	0.75	
	Color in upper 12":	Value	3	Chroma -	1				
	Pores			SQI	2				
V <sub>pore</sub>	Structure			SQI	2		0.75	0.75	
		ating		SQI	2				
	Summary SQL Ra	<u>uny</u>		Pro-	0 Post-				
	Buffer continuity (%)			0	0				
	Width of perm. veg. b	ouffer (ft.) -		0	0				
	Continuity/Width Ra	ating $(B_1)$ -		0	0				
V <sub>buffer</sub>	Buffer condition			Ļ	Ŧ		0.00	0.00	
	Perm. veg. part			0	0				
	Tilled part			Con	Con				
	Buffer Condition Rati	<mark>ng (B<sub>2</sub>)</mark>		0	0				
V <sub>pratio</sub>	Native species prese	nt in wetlar	nd (% of do	minants)	25		0.25	0.25	
				Pre-	Post-				
	Percent of wetland ar	ea intact		50	50				
V <sub>pcover</sub>	% ground cover -	50	Rating -	0.5	0.5		0.33	0.33	
	Percent of wetland ar	ea tilled		80	80				
	% ground cover -	100	Rating -	0.1	0.1				
	Is the wetland area in	tact or dist	turbed?	distu	Irbed		0.40	0.40	
V <sub>micro</sub>	Describe variability of	n wetland s	surface (hu	leanders)		0.10	0.10		
	Nummocks	orations ()	Z/NI\2	V					
V	If Y what?	N	1/1 <b>N</b> ):	I			0.75	0.75	
▼ source	Percent of area affe	ected		5			0.70	0.75	
	Alteration present?	N	Type	5					
V <sub>subalt</sub>							1.00	1.00	
V <sub>surfalt</sub>	Alteration present?	N	Type				1.00	1.00	
	Dominant use of ur	land (3 ma	aximum)	% of area	Index				
	Conventional Tillage	Row Crop		100	0.1				
V <sub>upuse</sub>		- F					0.10	0.10	

SLOPE MODEL FUNCTIONAL ASSESSMENT WORKSHEET								
		Version 4.0	<b>)</b> (Rev. 6/6/0	J1)				
DATE	############		REMARKS					
WETLAND ID	Wetland 10	)	ASSESSMEN	T TYPE	Delineation			
OBSERVERS	Rebecca B	eduhn	WETLAND TY	PE NWI	PEM1A			
CONDITIONS			WETLAND TY	PE FSA				
PROJECT NAME	85th Street	Interchange	OWNER/OPE	RATOR	85th St BDJ	VG		
PLANNED ACTIVITY								
YELLOW FLAG		RED FLAG -						
WETLAND ACRES E	2.5	WETLAND A	CRES P	2.5				
			SCO	DRE				
VARI	ABLE		Existing	Predicted				
Detritus (V <sub>detritus</sub> )			0.25	0.25				
Sedimentation in the We	etland (V <sub>sed</sub> )		0.75	0.75				
Soil Organic Matter (V <sub>so</sub>	m)		0.75	0.75				
Soil Pores (V <sub>pore</sub> )			0.75	0.75				
Buffer Condition, Contin	uity, & Width	(V <sub>buffer</sub> )	0.00	0.00				
Ratio of Native to Non-N	lative Species	s (V <sub>pratio</sub> )	0.25	0.25				
Vegetation Density (V <sub>pcc</sub>	over)		0.33	0.33				
Microtopographic Comp	lexity (V <sub>micro</sub> )		0.10	0.10				
Source Area of Flow (V	<sub>source</sub> )		0.75	0.75				
Subsurface Hydrology A	<mark>Alterations (V<sub>s</sub></mark>	<sub>ubalt</sub> )	1.00	1.00				
Surface Hydrology Alter	ations (V <sub>surfalt</sub> )		1.00	1.00				
Upland Use (V <sub>upuse</sub> )			0.10	0.10				
	CALCU	LATION OF F		CAPACITY				
EXISTING	FCI	FCU	PRED	ICTED	FCI	FCU		
Mod. Groundwater Flow	0.69	1.74	Mod. Groundv	vater Flow	0.69	1.74		
Vel. Reduc. Surf. Water	0.46	1.14	Vel. Reduc. Si	urf. Water	0.46	1.14		
Elemental & Nutr. Cycling	0.48	1.19	Elemental & N	lutr. Cycling	0.48	1.19		
Retention of Particulates	0.45	1.12	Retention of P	articulates	0.45	1.12		
Organic Carbon Export	0.51	1.27	Organic Carbo	on Export	0.51	1.27		
Maint. of Plant Comm.	0.44	1.11	Maint. of Plant	t Comm.	0.44	1.11		
Habitat Interspersion	0.36	0.89	Habitat Intersp	persion	0.36	0.89		
	CHANGE	IN FCU's	MIN EFFECT	JUSTIFICAT	ION OF MININ	1AL EFFECT		
FUNCTIONS	NUMERICAL	PERCENT	(Yes or No)	IF 10 TO 2	0% LOSS OF I	-UNCTION		
Mod. Groundwater Flow	0.00	0.0	YES					
Vel. Reduc. Surf. Water	0.00	0.0	YES					
Ret, Conv. Elem. & Cmpd.	0.00	0.0	YES					
Retention of Particulates	0.00	0.0	YES					
Organic Carbon Export	0.00	0.0	YES					
Maint. of Plant Comm.	0.00	0.0	YES					
Habitat Interspersion	0.00	0.0	YES					

South Dakota Slope HGM Model, Version 4.0 Rev. 6/6/01												
	Variable Score Field Form											
Field Office -		WAA lo	d		Wetland	d 11	Reference Site? (Y/N)					
County	Lincoln	Wetlan	<mark>d Acres (</mark> p	ore-)	11.5	Wetland type (NWI)	PEM1B					
Date	11/13/2018	Wetlan	Wetland Acres (post-)			Wetland type (FSA)						
Owner/Op	85th St BDJVG	Planne	d Activity -									
Yellow Flag?	lf yes, v	vhat?					Observe	ers				
Red Flag?	lf yes, v					Rebecca	a Beduhn					
						Rationale for Post-	Variabl	e Score				
Variable	Measure	ment or	Conditio	on Resul	t	Project Changes	Existing	Projected				
V <sub>detritus</sub>	Detritus thickness (in	.), pre-proj	ect		0		0.25	0.25				
Veed	Sediment thickness (	in.) in wetla	and, pre-pro	oject	0		1 00	1 00				
- seu	Other observations						1.00	1.00				
V <sub>som</sub>	Dominant texture in u	pper 18" -			SiCL		1.00	1.00				
	Color in upper 12":	Value	2	Chroma -	1							
	Pores			SQI	2							
V <sub>pore</sub>	Structure			SQI	2		0.75	0.75				
		ating		SQI	2							
	Summary SQL Ra	atility		Dro	0 Post-							
	Buffer continuity (%)			41	41							
	Width of perm. veg. b	ouffer (ft.) -		25	25							
	Continuity/Width R	ating $(B_1)$ -		0.2	0.2							
V <sub>buffer</sub>	Buffer condition			Ļ	Ŧ		0.00	0.00				
	Perm. veg. part			0	0							
	Tilled part			None	None							
	Buffer Condition Ration	ng (B <sub>2</sub> )		0	0							
V <sub>pratio</sub>	Native species prese	nt in wetlar	nd (% of do	minants)	0		0.10	0.10				
				Pre-	Post-							
	Percent of wetland ar	ea intact		100	100							
V <sub>pcover</sub>	% ground cover -	100	Rating -	1	1		1.00	1.00				
	Percent of wetland ar	ea tilled		0	0							
	% ground cover -	0	Rating -	1	1							
N	Is the wetland area in	tact or dist	turbed?	Int	act		1.00	0.50				
V micro	Describe variability of	n welland s	suriace (nu	mmocks, m	ieanders)		1.00	0.50				
	Watershed source al	terations ()	<u>(/NI)2</u>	v								
Vcourco	If Y, what?	Roads, ho	ousina				0.50	0.50				
Source	Percent of area affe	ected	g	25								
	Alteration present?	N	Type				4.00					
V <sub>subalt</sub>		·					1.00	1.00				
V <sub>surfalt</sub>	Alteration present?	Ν	Type				1.00	1.00				
	Dominant upo of ur	land (2 m	avimum)	% of orga	Index							
	Conventional Tillago	row crop										
V <sub>upuse</sub>	Farmstead			00.0 22.2	0.1		0.10	0.10				
				00.0	0.1							
	]			1		1						

SLOPE MODEL FUNCTIONAL ASSESSMENT WORKSHEET								
		Version 4.0	<b>)</b> (Rev. 6/6/0	J1)				
DATE	############		REMARKS					
WETLAND ID	Wetland 11		ASSESSMEN	T TYPE	Delineation			
OBSERVERS	Rebecca B	eduhn	WETLAND TY	PE NWI	PEM1B			
CONDITIONS			WETLAND TY	PE FSA				
PROJECT NAME	85th Street	Interchange	OWNER/OPE	RATOR	85th St BDJ	VG		
PLANNED ACTIVITY								
YELLOW FLAG		RED FLAG -						
WETLAND ACRES E	11.5	WETLAND A	CRES P	11.5				
			SCO	DRE				
VARIA	ABLE		Existing	Predicted				
Detritus (V <sub>detritus</sub> )			0.25	0.25				
Sedimentation in the We	etland (V <sub>sed</sub> )		1.00	1.00				
Soil Organic Matter (V <sub>so</sub>	m)		1.00	1.00				
Soil Pores (V <sub>pore</sub> )			0.75	0.75				
Buffer Condition, Contin	uity, & Width	(V <sub>buffer</sub> )	0.00	0.00				
Ratio of Native to Non-N	lative Species	s (V <sub>pratio</sub> )	0.10	0.10				
Vegetation Density (V <sub>pcc</sub>	over)		1.00	1.00				
Microtopographic Comp	lexity (V <sub>micro</sub> )		1.00	0.50				
Source Area of Flow (V <sub>s</sub>	<sub>source</sub> )		0.50	0.50				
Subsurface Hydrology A	<mark>Alterations (V<sub>s</sub></mark>	<sub>ubalt</sub> )	1.00	1.00				
Surface Hydrology Alter	ations (V <sub>surfalt</sub> )		1.00	1.00				
Upland Use (V <sub>upuse</sub> )			0.10	0.10				
	CALCU	LATION OF F		CAPACITY				
EXISTING	FCI	FCU	PRED	ICTED	FCI	FCU		
Mod. Groundwater Flow	0.77	8.81	Mod. Groundv	vater Flow	0.77	8.81		
Vel. Reduc. Surf. Water	0.85	9.77	Vel. Reduc. Si	urf. Water	0.73	8.34		
Elemental & Nutr. Cycling	0.52	5.95	Elemental & N	lutr. Cycling	0.52	5.95		
Retention of Particulates	0.68	7.86	Retention of P	articulates	0.68	7.86		
Organic Carbon Export	0.81	9.34	Organic Carbo	on Export	0.77	8.86		
Maint. of Plant Comm.	0.62	7.09	Maint. of Plant	t Comm.	0.62	7.09		
Habitat Interspersion	0.52	6.04	Habitat Intersp	persion	0.53	6.04		
	CHANGE	IN FCU's	MIN EFFECT	JUSTIFICAT	ION OF MINIM	IAL EFFECT		
FUNCTIONS	NUMERICAL	PERCENT	(Yes or No)	IF 10 TO 2	0% LOSS OF I			
Mod. Groundwater Flow	0.00	0.0	YES					
Vel. Reduc. Surf. Water	-1.44	-14.7						
Ret, Conv. Elem. & Cmpd.	0.00	0.0	YES					
Retention of Particulates	0.00	0.0	YES					
Organic Carbon Export	-0.48	-5.1	YES					
Maint. of Plant Comm.	0.00	0.0	YES					
Habitat Interspersion	0.00	0.0	YES					

#### USER NOTE: Do not enter any data in this worksheet. All data and calculations are entered for you using previously entered information. If any of this information is incorrect, enter the correct information in the appropriate worksheet.

85th Street Interchange
Lincoln County, South Dakota
Wetland #12

	Variable	Data entered		Subindex
		wetland perimeter (feet):	2112.00	
	V <sub>GRASSCONT</sub>	grassland along perimeter (feet):	411.00	0.19
		percent continuity:	19.46	
		grassland width (feet) at 12 points:		
		Point 1:	10.00	
		Point 2:	0.00	
		Point 3:	0.00	
		Point 4:	0.00	
u		Point 5:	0.00	
iio	V	Point 6:	0.00	0.02
tal	GRASSWIDTH	Point 7:	0.00	0.02
get		Point 8:	0.00	
'eg		Point 9:	0.00	
		Point 10:	0.00	
		Point 11:	0.00	
		Point 12:	0.00	
		mean width (feet):	0.83	
		(see vegetation worksheet for species entered)		
		sum of species:	4.00	
	V <sub>VEGCOMP</sub>	sum of C values:	5.00	0.12
		mean coefficient of conservatism:	1.25	
		FQI:	2.50	

	V <sub>RECHARGE</sub>	Soil Recharge Potential Subindex:	0.75	0.75	
		Eastern Prairie Potholes			
	V	mean depth to B horizon (inches):		0.10	
	V <sub>SED</sub>	Western Prairie Potholes		0.10	
		mean depth to B horizon (inches):	0.75		
		SQI scores for 4 samples:			
	V	sample 1:	1.50		
		sample 2:	2.00	0.05	
	* SQI	sample 3:	2.00	0.05	
		sample 4:	2.00		
		average SQI score:	1.88		
		Indirect Measurements			
		Litter Depth for 4 samples:			
		sample 1:	0.00		
		sample 2:	0.00		
		sample 3:	0.00		
		sample 4:	0.00		
		Average Litter Depth (inches):	0.00		
Soil		ADI for 4 samples:			
	Soil		Sample 1 hue:	10.00	
			value:	2.00	
	Vsou	chroma:	1.00		
		ADI:	6.00		
		Sample 2 hue:	10.00		
		value:	2.00		
		chroma:	1.00	0.35	
	5014	ADI:	6.00		
		Sample 3 hue:	10.00	-	
		value:	2.00		
		chroma:	1.00		
		ADI:	6.00		
		Sample 4 hue:	10.00		
		value:	2.00		
		chroma:	1.00		
		ADI:	6.00		
		average ADI:	6.00		
		Direct Measurements			
		% organic carbon for 0-15cm depth:			
		% organic carbon for 15-30cm depth:			
		mean percentage:	1.00		
		% organic carbon:	1.82		

		а — — — — — — — — — — — — — — — — — — —		
		historic invert elevation in relation to wetland maximum depth:	1513.00	
		present (or constructed) invert elevation:	1513.00	
		elevation of the edge of the historic wetland:	1517.00	
		cievation of the edge of the instorie wetland.	1317.00	
	V <sub>OUT</sub>	elevation of a representative deepest portion of the wetland:	1516.00	1.00
		if evaluating pit or fill, enter % volume of pit/fill vs. wetland	0.00	
iic		(ex. 25%=25), otherwise enter 0:	0.00	
rph		ratio of the constructed elevation to the natural outlet elevation:	1.00	
no		depth of surface drainage invert:		
103	V <sub>SUBOUT</sub>	distance from WAA edge:		1.00
ge	562001	location/spacing of subsurface tile within the WAA:		
ro		type & effect of surface alteration(s):		
yd	<b>X</b> 7	% of historic catchment area still contributing runoff:		1.00
H	V SOURCE	additions of water from other sources:		1.00
<i>,</i> ,		change in wetland regime class?		
		wetland perimeter (feet):	2112.00	
	V <sub>EDGE</sub>	wetland area (acres):	5.53	0.58
	-	Shoreline Development Index:	1.21	
		wetland area (acres):	5.53	
	<b>V</b> <sub>CATCHWET</sub>	catchment area (acres):	28.26	0.84
		ratio of catchment size to wetland size:	5.11	
		total acre size of the present day catchment:	28.26	
		acres of catchment for each curve number:		
		98		
		90		
		79	28.26	
		77		
		72		
		75		
se	V	73		0.52
Ius	▼ UPUSE	71		0.32
nc		72		
La		74		
<b>k</b> ]		69		
e e		79		
bdı		74		
SCa				
ds		69		
p		69 61		
and		69 61 weighted average score for upland land use:	79.00	
Land		69 61 weighted average score for upland land use: distance to nearest wetland(feet):	79.00 82.00	
Land		69 61 weighted average score for upland land use: distance to nearest wetland(feet): distance to 2nd nearest wetland:	79.00 82.00 348.00	
Land	VWETPROX	69 61 weighted average score for upland land use: distance to nearest wetland(feet): distance to 2nd nearest wetland: distance to 3rd nearest wetland:	79.00 82.00 348.00 369.00	0.75
Land	V <sub>WETPROX</sub>	69 61 weighted average score for upland land use: distance to nearest wetland(feet): distance to 2nd nearest wetland: distance to 3rd nearest wetland: distance to 4th nearest wetland:	79.00 82.00 348.00 369.00 662.00	0.75
Land	V <sub>WETPROX</sub>	69 61 weighted average score for upland land use: distance to nearest wetland(feet): distance to 2nd nearest wetland: distance to 3rd nearest wetland: distance to 4th nearest wetland: distance to 5th nearest wetland:	79.00 82.00 348.00 369.00 662.00 874.00	0.75
Land	V <sub>WETPROX</sub>	69 61 weighted average score for upland land use: distance to nearest wetland(feet): distance to 2nd nearest wetland: distance to 3rd nearest wetland: distance to 4th nearest wetland: distance to 5th nearest wetland: mean distance (feet):	79.00 82.00 348.00 369.00 662.00 874.00 467.00	0.75
Land	V <sub>WETPROX</sub>	69 61 weighted average score for upland land use: distance to nearest wetland(feet): distance to 2nd nearest wetland: distance to 3rd nearest wetland: distance to 4th nearest wetland: distance to 5th nearest wetland: mean distance (feet): acres of palustrine wetlands within a 1-mile radius:	79.00 82.00 348.00 369.00 662.00 874.00 467.00 126.00	0.75
Land	V <sub>WETPROX</sub> V <sub>WETAREA</sub> V <sub>BASINS</sub>	69 61 weighted average score for upland land use: distance to nearest wetland(feet): distance to 2nd nearest wetland: distance to 3rd nearest wetland: distance to 4th nearest wetland: distance to 5th nearest wetland: mean distance (feet): acres of palustrine wetlands within a 1-mile radius: number of palustrine wetlands within a 1-mile radius:	79.00         82.00         348.00         369.00         662.00         874.00         467.00         126.00         71.00	0.75 0.28 0.33
Land	V <sub>WETPROX</sub> V <sub>WETAREA</sub> V <sub>BASINS</sub> V <sub>HABFRAG</sub>	69 61 weighted average score for upland land use: distance to nearest wetland(feet): distance to 2nd nearest wetland: distance to 3rd nearest wetland: distance to 4th nearest wetland: distance to 5th nearest wetland: mean distance (feet): acres of palustrine wetlands within a 1-mile radius: number of palustrine wetlands within a 1-mile radius: miles of roads and linear attributes within a 1-mile radius:	79.00         82.00         348.00         369.00         662.00         874.00         467.00         126.00         71.00         15.00	0.75 0.28 0.33 0.00

Function	FCI	FCU
1. Water Storage	0.65	3.62
2. Groundwater Recharge	0.63	3.50
3. Retain Particlulates	0.20	1.11
4. Remove, Convert, and Sequester Dissolved Substances	0.54	2.99
5. Plant Community Resilience and Carbon Cycling	0.44	2.45
6a. Provide Faunal Habitat	0.52	2.89
6b. Provide Faunal Habitat (Alternate Formula)	0.38	2.09
# **Summary Sheet**

### USER NOTE: Do not enter any data in this worksheet. All data and calculations are entered for you using previously entered information. If any of this information is incorrect, enter the correct information in the appropriate worksheet.

## **Project Name/Location:**

85th Street Interchange
Lincoln County, South Dakota
Wetland #14

	Variable	Data entered		Subindex
		wetland perimeter (feet):	1046.00	
	V <sub>GRASSCONT</sub>	grassland along perimeter (feet):	1046.00	1.00
		percent continuity:	100.00	
		grassland width (feet) at 12 points:		
		Point 1:	37.00	
		Point 2:	41.00	
		Point 3:	20.00	
		Point 4:	7.00	
u		Point 5:	50.00	
iio	V	Point 6:	50.00	0.77
tal	• GRASSWIDTH	Point 7:	5.00	0.77
get		Point 8:	50.00	
'eg		Point 9:	50.00	
		Point 10:	50.00	
		Point 11:	42.00	
		Point 12:	50.00	
		mean width (feet):	37.67	
		(see vegetation worksheet for species entered)		
		sum of species:	2.00	
	V <sub>VEGCOMP</sub>	sum of C values:	0.00	0.00
		mean coefficient of conservatism:	0.00	
		FQI:	0.00	

	V <sub>RECHARGE</sub>	Soil Recharge Potential Subindex:	0.10	0.10	
		Eastern Prairie Potholes			
	V	mean depth to B horizon (inches):		1.00	
	V SED	Western Prairie Potholes		1.00	
		mean depth to B horizon (inches):	16.00		
		SQI scores for 4 samples:			
		sample 1:	1.50		
	Vaar	sample 2:	1.50	0.04	
	• SQI	sample 3:	2.00	0.04	
		sample 4:	2.00		
		average SQI score:	1.75		
		Indirect Measurements			
		Litter Depth for 4 samples:			
		sample 1:	0.00		
		sample 2:	0.00		
		sample 3:	0.00		
		sample 4:	0.00		
		Average Litter Depth (inches):	0.00		
		ADI for 4 samples:			
il		Sample 1 hue:	10.00		
20			value:	3.00	
•1		chroma:	1.00		
		ADI:	8.00		
		Sample 2 hue:	10.00		
		value:	3.00		
	V <sub>SOM</sub>	chroma:	1.00	0.21	
	5014	ADI:	8.00		
		Sample 3 hue:	10.00	-	
		value:	3.00		
		chroma:	1.00		
		ADI:	8.00		
		Sample 4 hue:	10.00		
		value:	3.00		
		chroma:	1.00		
		ADI:	8.00		
		average ADI:	8.00		
		Direct Measurements			
		% organic carbon for 0-15cm depth:			
		% organic carbon for 15-30cm depth:			
		mean percentage:	1.65		
		% organic carbon:	1.35		

		historic invert elevation in relation to wetland maximum depth:	1513.00			
		nrecent (or constructed) invert elevation	1512.00			
		elevation of the edge of the historic wetland:	1513.00			
	V		1511.00	1.00		
	V OUT	elevation of a representative deepest portion of the wetland:	1511.00	1.00		
		if evaluating pit or fill, enter % volume of pit/fill vs. wetland	0.00			
nic		(ex. 25%=25), otherwise enter 0:	0.00			
orpł		ratio of the constructed elevation to the natural outlet elevation:	1.00			
m		depth of surface drainage invert:				
60]	<b>V</b> <sub>SUBOUT</sub>	distance from WAA edge:		1.00		
ğ		location/spacing of subsurface tile within the WAA:				
lre		type & effect of surface alteration(s):				
<b>y</b> c	VSOURCE	% of historic catchment area still contributing runoff:		1.00		
<b>—</b>	SOURCE	additions of water from other sources:				
		change in wetland regime class?				
	<b>X</b> 7	wetland perimeter (feet):	1046.00	0.67		
	V <sub>EDGE</sub>	wetland area (acres):	1.27	0.67		
		Shoreline Development Index:	1.25			
	V	wetland area (acres):	1.2/	1.00		
	♥ CATCHWET	ratio of outshment size to wetland size:	8.18	1.00		
		total agre size of the present day catchment:	10.20			
		acres of catchment for each curve number:	10.39			
		90				
		79	9.69			
		77				
		//				
		72				
		72 75				
se	V	72 75 73		0.52		
luse	V <sub>UPUSE</sub>	72 75 73 71		0.52		
nduse	V <sub>UPUSE</sub>	72 75 73 71 72		0.52		
Landuse	$\mathbf{V}_{\mathrm{UPUSE}}$	72 72 75 73 73 71 72 72 74	0.70	0.52		
k Landuse	V <sub>UPUSE</sub>	72 75 75 73 71 72 72 74 69	0.70	0.52		
e & Landuse	V <sub>UPUSE</sub>	72 75 73 73 71 71 72 72 74 69 79	0.70	0.52		
ıpe & Landuse	$\mathbf{V}_{\mathrm{UPUSE}}$	72 72 75 73 73 71 71 72 74 69 79 79	0.70	0.52		
scape & Landuse	V <sub>UPUSE</sub>	72 72 75 73 73 71 71 72 74 69 79 79 74 69	0.70	0.52		
idscape & Landuse	V <sub>UPUSE</sub>	$ \begin{array}{c}  & 77 \\  & 72 \\  & 75 \\  & 73 \\  & 73 \\  & 71 \\  & 72 \\  & 74 \\  & 69 \\  & 79 \\  & 74 \\  & 69 \\  & 79 \\  & 74 \\  & 69 \\  & 69 \\  & 61 $	0.70	0.52		
andscape & Landuse	V <sub>UPUSE</sub>	72 75 75 73 71 71 72 74 69 79 79 79 79 79 79 79 69 69 61 69 61 61 80 61 80 61 80 61 80 61 80 80 80 80 80 80 80 80 80 80 80 80 80	0.70	0.52		
Landscape & Landuse	V <sub>UPUSE</sub>	72 75 75 73 73 71 71 72 74 69 74 69 79 74 69 61 61 89 61 80 61 80 61 80 61 80 80 80 80 80 80 80 80 80 80 80 80 80	0.70 78.66 32.00	0.52		
Landscape & Landuse	V <sub>UPUSE</sub>	72 72 75 73 73 71 71 72 74 69 74 69 79 79 74 69 69 61 69 61 69 61 69 61 69 61 69 61 69 61 69 61 69 61 69 61 69 62 63 63 64 64 65 65 65 65 65 65 65 65 65 65 65 65 65	0.70 78.66 32.00 204.00 227.00	0.52		
Landscape & Landuse	V <sub>UPUSE</sub>	72         72         75         73         71         72         73         71         72         73         74         69         79         74         69         61         weighted average score for upland land use:         61         weighted average score for upland land use:         distance to nearest wetland(feet):         distance to 2nd nearest wetland:         distance to 3rd nearest wetland:         distance to 3rd nearest wetland:	0.70 78.66 32.00 204.00 327.00 352.00	0.52		
Landscape & Landuse	V <sub>UPUSE</sub>	72         72         75         73         73         71         72         74         69         74         69         61         weighted average score for upland land use:         61         weighted average score for upland land use:         61         weighted average score for upland land use:         1 </td <td>0.70 78.66 32.00 204.00 327.00 352.00 639.00</td> <td>1.00 1.00 1.00 0.67 1.00 0.52 0.52 0.94 0.94 0.32 0.35 0.79</td>	0.70 78.66 32.00 204.00 327.00 352.00 639.00	1.00 1.00 1.00 0.67 1.00 0.52 0.52 0.94 0.94 0.32 0.35 0.79		
Landscape & Landuse	V <sub>UPUSE</sub>	72         72         75         73         73         71         72         73         71         72         73         74         69         74         69         61         weighted average score for upland land use:         61         weighted average score for upland land use:         distance to nearest wetland(feet):         distance to 2nd nearest wetland:         distance to 3rd nearest wetland:         distance to 4th nearest wetland:         distance to 5th nearest wetland:         distance to 5th nearest wetland:         mean distance (feet):	0.70 78.66 32.00 204.00 327.00 352.00 639.00 310.80	0.52		
Landscape & Landuse	V <sub>UPUSE</sub> V <sub>WETPROX</sub>	72         72         75         73         73         71         72         73         71         72         73         73         74         69         79         74         69         69         61         weighted average score for upland land use:         61         weighted average score for upland land use:         61         weighted average score for upland land use:         distance to nearest wetland(feet):         distance to 2nd nearest wetland:         distance to 3rd nearest wetland:         distance to 3rd nearest wetland:         distance to 5th nearest wetland:         mean distance (feet):         acres of palustrine wetlands within a 1-mile radius:	0.70 78.66 32.00 204.00 327.00 352.00 639.00 310.80 140.00	0.52 0.94 0.32		
Landscape & Landuse	V <sub>UPUSE</sub> V <sub>WETPROX</sub>	72         72         75         73         71         72         73         71         72         73         71         72         73         73         74         69         74         69         74         69         61         weighted average score for upland land use:         distance to nearest wetland(feet):         distance to 2nd nearest wetland:         distance to 3rd nearest wetland:         distance to 4th nearest wetland:         distance to 5th nearest wetland:         distance to 5th nearest wetland:         mean distance (feet):         acres of palustrine wetlands within a 1-mile radius:         number of palustrine wetlands within a 1-mile radius:	0.70 78.66 32.00 204.00 327.00 352.00 639.00 310.80 140.00 75.00	0.52 0.94 0.32 0.35		
Landscape & Landuse	V <sub>UPUSE</sub> V <sub>WETPROX</sub> V <sub>WETAREA</sub> V <sub>BASINS</sub>	72         72         75         73         71         72         73         71         72         73         71         72         73         74         69         79         74         69         74         69         74         69         61         weighted average score for upland land use:         distance to nearest wetland(feet):         distance to 2nd nearest wetland:         distance to 3rd nearest wetland:         distance to 3rd nearest wetland:         distance to 5th nearest wetland:         distance to 5th nearest wetland:         mean distance (feet):         acres of palustrine wetlands within a 1-mile radius:         number of palustrine wetlands within a 1-mile radius:         miles of roads and linear attributes within a 1 mile radius:	0.70 78.66 32.00 204.00 327.00 352.00 639.00 310.80 140.00 75.00 5.00	0.52 0.94 0.32 0.35 0.79		

Function	FCI	FCU
1. Water Storage	0.94	1.19
2. Groundwater Recharge	0.74	0.95
3. Retain Particlulates	0.79	1.01
4. Remove, Convert, and Sequester Dissolved Substances	0.78	0.99
5. Plant Community Resilience and Carbon Cycling	0.67	0.86
6a. Provide Faunal Habitat	0.73	0.93
6b. Provide Faunal Habitat (Alternate Formula)	0.65	0.83

	South I	Dakota	lodel,	Version 4.0	Re	ev. 6/6/01		
		Va	riable S	core Fie	ld Form			
Field Office -		WAA lo	ł		Wetland	d 15	Reference Site? (Y/N)	
County	Lincoln	Wetlan	<mark>d Acres (</mark> p	ore-)	2.9	Wetland type (NWI)	PEM1A	
Date	11/13/2018	Wetlan	<mark>d Acres (</mark> p	ost-)	2.9	Wetland type (FSA)		
Owner/Op	85th St BDJVG	Planne	d Activity -					
Yellow Flag?	lf yes, v	vhat?					Observe	ers
Red Flag?	lf yes, v	vhat?					Rebecca	a Beduhn
						Rationale for Post-	Variabl	e Score
Variable	Measure	ment or	Conditio	on Result	t	Project Changes	Existing	Projected
V <sub>detritus</sub>	Detritus thickness (in	.), pre-proj	ect		0		0.25	0.25
Vari	Sediment thickness (	in.) in wetla	and, pre-pro	oject	1		0.75	0.75
- sed	Other observations						0.70	0.75
Vaam	Dominant texture in u	pper 18" -			SiCL		0.75	0 75
- som	Color in upper 12":	Value	2	Chroma -	2		0.10	0.10
	Pores			SQI	2			
Vpore	Structure			SQI	2		0.75	0.75
	Rupture Resistance			SQI	2			
	Summary SQI Ra	ating			6			
	Puffer continuity (%)			Pre-	Post-			
	Width of norm was h	ouffor (ft )		23	23			
	Continuity/Width R	ating $(\mathbf{R}_i)$ -		0.17	0.17			
Vhuffer	Buffer condition			0.03	0.05		0.07	0.07
- Dullei	Borm yog port				0			
				0	0			
	Illed part			Con	Con			
		ig (D <sub>2</sub> )		0.1	0.1		0.40	0.40
V <sub>pratio</sub>	Native species prese	nt in wetlar	nd (% of do	minants)	0		0.10	0.10
				Pre-	Post-			
	Percent of wetland ar	ea intact		70	70			
V <sub>pcover</sub>	% ground cover -	100	Rating -	1	1		0.73	0.73
	Percent of wetland ar	ea tilled		30	30			
	% ground cover -	30	Rating -	0.1 Dist	0.1			
V	Describe veriability of			Disit			0.50	0.50
<sup>♥</sup> micro					leanuers)		0.50	0.50
	Watershed source al	terations ()	(/NI)2	V				
V	If Y what?	Road	.,,.				0.75	0.75
- source	Percent of area affe	ected		5				0.10
	Alteration present?	N	Type	Ű				
V <sub>subalt</sub>							1.00	1.00
V <sub>surfalt</sub>	Alteration present?	N	Type				1.00	1.00
	Dominant uso of ur	land (2 m	avimum)	% of area	Index			
	Conventional Tillage	Row Crop		100 area				
V <sub>upuse</sub>				100	0.1		0.10	0.10
	]							

SLOPE MODEL FUNCTIONAL ASSESSMENT WORKSHEET								
		Version 4.0	J (Rev. 6/6/0	J1)				
DATE	#######################################		REMARKS					
WETLAND ID	Wetland 15	5	ASSESSMEN	T TYPE	Delineation			
OBSERVERS	Rebecca B	eduhn	WETLAND TY	PE NWI	PEM1A			
CONDITIONS			WETLAND TY	PE FSA				
PROJECT NAME	85th Street	Interchange	OWNER/OPE	RATOR	85th St BDJ	VG		
PLANNED ACTIVITY								
YELLOW FLAG		RED FLAG -						
WETLAND ACRES E	2.9	WETLAND A	ACRES P	2.9				
			SCO	DRE				
VARIA	ABLE		Existing	Predicted				
Detritus (V <sub>detritus</sub> )			0.25	0.25				
Sedimentation in the We	etland (V <sub>sed</sub> )		0.75	0.75				
Soil Organic Matter (V <sub>so</sub>	m)		0.75	0.75				
Soil Pores (V <sub>pore</sub> )			0.75	0.75				
Buffer Condition, Contin	uity, & Width	(V <sub>buffer</sub> )	0.07	0.07				
Ratio of Native to Non-N	lative Species	s (V <sub>pratio</sub> )	0.10	0.10				
Vegetation Density (V <sub>pcc</sub>	over)		0.73	0.73				
Microtopographic Comp	lexity (V <sub>micro</sub> )		0.50	0.50				
Source Area of Flow (V <sub>s</sub>	ource)		0.75	0.75				
Subsurface Hydrology A	Iterations (V <sub>s</sub>	<sub>ubalt</sub> )	1.00	1.00				
Surface Hydrology Alter	ations (V <sub>surfalt</sub> )		1.00	1.00				
Upland Use (V <sub>upuse</sub> )			0.10	0.10				
	CALCU	LATION OF F	UNCTIONAL	CAPACITY				
EXISTING	FCI	FCU	PRED	ICTED	FCI	FCU		
Mod. Groundwater Flow	0.76	2.21	Mod. Groundv	vater Flow	0.76	2.21		
Vel. Reduc. Surf. Water	0.66	1.92	Vel. Reduc. S	urf. Water	0.66	1.92		
Elemental & Nutr. Cycling	0.48	1.38	Elemental & N	lutr. Cycling	0.48	1.38		
Retention of Particulates	0.53	1.52	Retention of P	articulates	0.53	1.52		
Organic Carbon Export	0.64	1.86	Organic Carbo	on Export	0.64	1.86		
Maint. of Plant Comm.	0.53	1.53	Maint. of Plant	t Comm.	0.53	1.53		
Habitat Interspersion	0.48	1.38	Habitat Intersp	persion	0.48	1.38		
	CHANGE	IN FCU's	MIN EFFECT	JUSTIFICAT	ION OF MINIM	1AL EFFECT		
FUNCTIONS	NUMERICAL	PERCENT	(Yes or No)	IF 10 TO 2	0% LOSS OF I	-UNCTION		
Mod. Groundwater Flow	0.00	0.0	YES					
Vel. Reduc. Surf. Water	0.00	0.0	YES					
Ret, Conv. Elem. & Cmpd.	0.00	0.0	YES					
Retention of Particulates	0.00	0.0	YES					
Organic Carbon Export	0.00	0.0	YES					
Maint. of Plant Comm.	0.00	0.0	YES					
Habitat Interspersion	0.00	0.0	YES					

	South D	Dakota	lodel,	Version 4.0	Re	ev. 6/6/01		
		Va	riable S	core Fie	ld Form			
Field Office -		WAA lo	d		Wetland	d 16	Reference Site? (Y/N)	
County	Lincoln	Wetlan	<mark>d Acres (</mark> p	ore-)	0.5	Wetland type (NWI)	PEM1B	
Date	11/13/2018	Wetlan	<mark>d Acres (</mark> p	ost-)	0.5	Wetland type (FSA)		
Owner/Op	85th St BDJVG	Planne	d Activity -					
Yellow Flag?	lf yes, v	vhat?					Observe	ers
Red Flag?	lf yes, v	/hat?					Rebecca	a Beduhn
						Rationale for Post-	Variabl	e Score
Variable	Measure	ment or	Conditio	on Result	t	Project Changes	Existing	Projected
V <sub>detritus</sub>	Detritus thickness (in	.), pre-proj	ect		0		0.25	0.25
Vaad	Sediment thickness (	in.) in wetla	and, pre-pr	oject	0		0 10	0 10
- seu	Other observations						0.10	0.10
V <sub>som</sub>	Dominant texture in u	pper 18"			SiCL		1.00	1.00
	Color in upper 12":	Value	2	Chroma -	1			
	Pores			SQI	2			
V <sub>pore</sub>	Structure			SQI	2		0.75	0.75
		ting		SQI	2			
	Summary SQL Ra	ung		Dro	Deet			
	Buffer continuity (%)							
	Width of perm, yeg, b	ouffer (ft.) -		18	18			
	Continuity/Width Ra	ating $(B_1)$ -		0.2	0.2			
V <sub>buffer</sub>	Buffer condition				L.		0.14	0.14
	Perm. veg. part			0	0			
	Tilled part			None	None			
	Buffer Condition Rati	<mark>ng (B<sub>2</sub>)</mark>		0.1	0.1			
V <sub>pratio</sub>	Native species prese	nt in wetlar	nd (% of do	, minants)	25		0.25	0.25
				Pre-	Post-			
	Percent of wetland ar	ea intact		100	100			
V <sub>pcover</sub>	% ground cover -	100	Rating -	1	1		1.00	1.00
	Percent of wetland ar	ea tilled		0	0			
	% ground cover -	0	Rating -	1	1			
	Is the wetland area in	tact or dist	turbed?	Int	act			
V <sub>micro</sub>	Describe variability or	n wetland s	surface (hu	mmocks, m	neanders)		0.50	0.50
	Matarahad aguraa alt	arationa ()		X				
V	If X what?	Poode	r/IN)?	Ŷ			0.50	0.50
▼ source	Percent of area affe			50			0.50	0.50
	Alteration present?	N	Type					
V <sub>subalt</sub>			. ) P S				1.00	1.00
V <sub>surfalt</sub>	Alteration present?	N	Type				1.00	1.00
	Dominant use of ur	land (3 ma	aximum)	% of area	Index			
	Conventional Tillage	Row Cron		100	0.1			
V <sub>upuse</sub>				100	0.1		0.10	0.10

SLOPE MODEL FUNCTIONAL ASSESSMENT WORKSHEET								
		Version 4.0	J (Rev. 6/6/0	J1)				
DATE	#######################################		REMARKS					
WETLAND ID	Wetland 16	3	ASSESSMENT TYPE		Delineation			
OBSERVERS	Rebecca B	eduhn	WETLAND TY	PE NWI	PEM1B			
CONDITIONS			WETLAND TY	PE FSA				
PROJECT NAME	85th Street	Interchange	OWNER/OPE	RATOR	85th St BDJ	VG		
PLANNED ACTIVITY								
YELLOW FLAG		RED FLAG -						
WETLAND ACRES E	0.5	WETLAND A	ACRES P	0.5				
			SCO	DRE				
VARIA	ABLE		Existing	Predicted				
Detritus (V <sub>detritus</sub> )			0.25	0.25				
Sedimentation in the We	etland (V <sub>sed</sub> )		0.10	0.10				
Soil Organic Matter (V <sub>so</sub>	m)		1.00	1.00				
Soil Pores (V <sub>pore</sub> )			0.75	0.75				
Buffer Condition, Contin	uity, & Width	(V <sub>buffer</sub> )	0.14	0.14				
Ratio of Native to Non-N	lative Species	s (V <sub>pratio</sub> )	0.25	0.25				
Vegetation Density (V <sub>pcc</sub>	over)		1.00	1.00				
Microtopographic Comp	lexity (V <sub>micro</sub> )		0.50	0.50				
Source Area of Flow (V <sub>s</sub>	source)		0.50	0.50				
Subsurface Hydrology A	<mark>Alterations (V<sub>s</sub></mark>	<sub>ubalt</sub> )	1.00	1.00				
Surface Hydrology Alter	ations (V <sub>surfalt</sub> )		1.00	1.00				
Upland Use (V <sub>upuse</sub> )			0.10	0.10				
	CALCU	LATION OF F		CAPACITY				
EXISTING	FCI	FCU	PRED	ICTED	FCI	FCU		
Mod. Groundwater Flow	0.77	0.37	Mod. Groundv	vater Flow	0.77	0.37		
Vel. Reduc. Surf. Water	0.68	0.33	Vel. Reduc. S	urf. Water	0.68	0.33		
Elemental & Nutr. Cycling	0.52	0.25	Elemental & N	lutr. Cycling	0.52	0.25		
Retention of Particulates	0.26	0.12	Retention of P	articulates	0.26	0.12		
Organic Carbon Export	0.77	0.37	Organic Carbo	on Export	0.77	0.37		
Maint. of Plant Comm.	0.67	0.32	Maint. of Plant	t Comm.	0.67	0.32		
Habitat Interspersion	0.56	0.27	Habitat Intersp	persion	0.56	0.27		
	CHANGE	IN FCU's	MIN EFFECT	JUSTIFICAT	ION OF MINIM	1AL EFFECT		
FUNCTIONS	NUMERICAL	PERCENT	(Yes or No)	IF 10 TO 2	0% LOSS OF I			
Mod. Groundwater Flow	0.00	0.0	YES					
Vel. Reduc. Surf. Water	0.00	0.0	YES					
Ret, Conv. Elem. & Cmpd.	0.00	0.0	YES					
Retention of Particulates	0.00	0.0	YES					
Organic Carbon Export	0.00	0.0	YES					
Maint. of Plant Comm.	0.00	0.0	YES					
Habitat Interspersion	0.00	0.0	YES					

	South I	Dakota	Slope	HGM N	Model,	Version 4.0	Re	ev. 6/6/01
		Vai	riable S	core Fie	ld Form			
Field Office -		WAA Io	1		Wetland	d 17	Reference Site? (Y/N)	
County	Lincoln	Wetlan	<mark>d Acres (</mark> p	ore-)	28.4	Wetland type (NWI)	PEM1B	
Date	11/13/2018	Wetlan	<mark>d Acres (</mark> p	oost-)	28.4	Wetland type (FSA)		
Owner/Op	85th St BDJVG	Planne	d Activity					
Yellow Flag?	lf yes, v	vhat?					Observe	ers
Red Flag?	lf yes, v					Rebecca	a Beduhn	
						Rationale for Post-	Variabl	e Score
Variable	Measure	ment or	Conditio	on Resul	t	Project Changes	Existing	Projected
V <sub>detritus</sub>	Detritus thickness (in	.), pre-proj	ect		0		0.25	0.25
Veed	Sediment thickness (	in.) in wetla	and, pre-pr	oject	0		1 00	1 00
- seu	Other observations						1.00	1.00
Vsom	Dominant texture in u	pper 18"			SiCL		0.75	0.75
	Color in upper 12":	Value	2.5	Chroma -	2			
	Pores			SQI	2			
V <sub>pore</sub>	Structure			SQI	2		0.75	0.75
		ting		SQI	2			
	Summary SQI Ra	aung		Dro	0 Deet			
	Buffer continuity (%)				POSI-			
	Width of perm, yea, h	uffer (ft ) -		4	4 5			
	Continuity/Width R	ating (B₁) -		0	0			
V <sub>buffer</sub>	Buffer condition			L	J. J.		0.00	0.00
Danor	Perm veg part			0	0			
	Tilled part			Con	Con			
	Buffer Condition Rati	na (B <sub>2</sub> )			0.1			
V .	Native species prese	nt in wetler	nd (% of de	minante)	20		0.25	0.25
♥ pratio	Native species prese				20		0.25	0.25
	Demonstrational and	a a linda ad		Pre-	Post-			
V	% ground covor	<u>ea mact</u>	Poting	100	100		1.00	1.00
♥ pcover	Percent of wetland ar	100	Raung -	0	0		1.00	1.00
	% ground cover -	0	Rating -	1	1			
	Is the wetland area in	tact or dist	urbed?	Int	act			
V <sub>micro</sub>	Describe variability or	n wetland s	surface (hu	mmocks, n	neanders)		1.00	1.00
	Watershed source al	terations (\	(/N)?	Y				
V <sub>source</sub>	If Y, what?	Road, hou	ising	-			0.50	0.50
	Percent of area affe	ected		20				
Vartau	Alteration present?	N	Туре				1 00	1 00
• subait							1.00	1.00
V <sub>surfalt</sub>	Alteration present?	N	Type				1.00	1.00
	Dominant use of ur	land (3 ma	aximum)	% of area	Index			
	Conventional Tillage	Row Cron		90	0.1			
V <sub>upuse</sub>	Urban, semi-pervious	, or imperv	ious surfa	1	0		0.10	0.10
	• • •			· ·				

SLOPE MODEL FUNCTIONAL ASSESSMENT WORKSHEET								
		Version 4.0	<b>)</b> (Rev. 6/6/0	)1)				
DATE	###########		REMARKS					
WETLAND ID	Wetland 17	7	ASSESSMENT TYPE		Delineation			
OBSERVERS	Rebecca B	eduhn	WETLAND TY	PE NWI	PEM1B			
CONDITIONS			WETLAND TY	PE FSA				
PROJECT NAME	85th Street	Interchange	OWNER/OPE	RATOR	85th St BDJ	VG		
PLANNED ACTIVITY								
YELLOW FLAG		RED FLAG -						
WETLAND ACRES E	28.4	WETLAND A	ACRES P	28.4				
			SCO	DRE				
VARIA	ABLE		Existing	Predicted				
Detritus (V <sub>detritus</sub> )			0.25	0.25				
Sedimentation in the We	etland (V <sub>sed</sub> )		1.00	1.00				
Soil Organic Matter (V <sub>so</sub>	m)		0.75	0.75				
Soil Pores (V <sub>pore</sub> )			0.75	0.75				
Buffer Condition, Contin	uity, & Width	(V <sub>buffer</sub> )	0.00	0.00				
Ratio of Native to Non-N	lative Species	s (V <sub>pratio</sub> )	0.25	0.25				
Vegetation Density (V <sub>pcc</sub>	<sub>over</sub> )		1.00	1.00				
Microtopographic Comp	lexity (V <sub>micro</sub> )		1.00	1.00				
Source Area of Flow (V <sub>s</sub>	source)		0.50	0.50				
Subsurface Hydrology A	<mark>Alterations (V<sub>s</sub></mark>	<sub>ubalt</sub> )	1.00	1.00				
Surface Hydrology Alter	<mark>ations (V<sub>surfalt</sub>)</mark>		1.00	1.00				
Upland Use (V <sub>upuse</sub> )			0.10	0.10				
	CALCU	LATION OF F		CAPACITY				
EXISTING	FCI	FCU	PRED	ICTED	FCI	FCU		
Mod. Groundwater Flow	0.77	21.76	Mod. Groundv	vater Flow	0.77	21.77		
Vel. Reduc. Surf. Water	0.85	24.14	Vel. Reduc. Si	urf. Water	0.85	24.14		
Elemental & Nutr. Cycling	0.46	13.13	Elemental & N	lutr. Cycling	0.46	13.13		
Retention of Particulates	0.68	19.40	Retention of P	articulates	0.68	19.41		
Organic Carbon Export	0.75	21.30	Organic Carbo	on Export	0.75	21.30		
Maint. of Plant Comm.	0.67	18.93	Maint. of Plant	t Comm.	0.67	18.93		
Habitat Interspersion	0.52	14.90	Habitat Intersp	persion	0.53	14.91		
	CHANGE	IN FCU's	MIN EFFECT	JUSTIFICAT	ION OF MININ	1AL EFFECT		
FUNCTIONS	NUMERICAL	PERCENT	(Yes or No)	IF 10 TO 2	0% LOSS OF I	UNCTION		
Mod. Groundwater Flow	0.00	0.0	YES					
Vel. Reduc. Surf. Water	0.00	0.0	YES					
Ret, Conv. Elem. & Cmpd.	0.00	0.0	YES					
Retention of Particulates	0.00	0.0	YES					
Organic Carbon Export	0.00	0.0	YES					
Maint. of Plant Comm.	0.00	0.0	YES					
Habitat Interspersion	0.01	0.0	YES					

	South I	Dakota	Slope	lodel,	Version 4.0	Re	ev. 6/6/01	
		Va	riable S	core Fie	ld Form	l		
Field Office -		WAA lo	J		Wetland	d 18	Reference Site? (Y/N)	
County	Lincoln	Wetlan	<mark>d Acres (</mark> p	ore-)	17.0	Wetland type (NWI)	PEM1B	
Date	11/13/2018	Wetlan	<mark>d Acres (</mark> p	ost-)	17.0	Wetland type (FSA)		
Owner/Op	85th St BDJVG	Planne	d Activity -					
Yellow Flag?	lf yes, v	what?					Observe	ers
Red Flag?	lf yes, v	vhat?					Rebecca	a Beduhn
						Rationale for Post-	Variabl	e Score
Variable	Measure	ment or	Conditio	on Result	t	Project Changes	Existing	Projected
V <sub>detritus</sub>	Detritus thickness (in	.), pre-proj	ect		0		0.25	0.25
Veed	Sediment thickness (	in.) in wetla	and, pre-pro	oject	0		1 00	1 00
- Seu	Other observations							
V <sub>som</sub>	Dominant texture in u	pper 18"			SiCL		0.75	0.75
	Color in upper 12":	Value	2	Chroma -	2			
	Pores			SQI	2			
V <sub>pore</sub>	Structure			SQI	2		0.75	0.75
		ating		SQI	2			
	Summary SQL Ra	atility		Dro	0 Post-			
	Buffer continuity (%)			6	6			
	Width of perm. veg. b	ouffer (ft.) -		5	5			
	Continuity/Width R	ating $(B_1)$ -		0	0			
V <sub>buffer</sub>	Buffer condition			Ļ	Ŧ		0.00	0.00
	Perm. veg. part			0	0			
	Tilled part			Con	Con			
	Buffer Condition Ration	<mark>ng (B<sub>2</sub>)</mark>		0.1	0.1			
V <sub>pratio</sub>	Native species prese	nt in wetlar	nd (% of do	minants)	0		0.10	0.10
				Pre-	Post-			
	Percent of wetland ar	ea intact -		100	100			
V <sub>pcover</sub>	% ground cover -	100	Rating -	1	1		1.00	1.00
	Percent of wetland ar	ea tilled		0	0			
	% ground cover -	0	Rating -	1	1			
	Is the wetland area in	tact or dist	turbed?	Int	act			
V <sub>micro</sub>	Describe variability of	n wetland s	surface (hu	mmocks, m	neanders)		1.00	1.00
		()						
V	Vatershed source an		r/N) <i>?</i>	Ŷ			0.75	0.75
♥ source	Percent of area affe						0.75	0.75
	Alteration present?							
V <sub>subalt</sub>			- ypc				1.00	1.00
V <sub>surfalt</sub>	Alteration present?	N	Type				1.00	1.00
	Dominant use of ur	land (3 m	avimum)	% of area	Index			
	Conventional Tillage	Row Crop		100 area				
V <sub>upuse</sub>				100	0.1		0.10	0.10
	1					l		

SLOPE MODEL FUNCTIONAL ASSESSMENT WORKSHEET										
		version 4.0		J1)						
			REMARKS							
	Wetland 18	5 	ASSESSMEN		Delineation					
	Repecca B	eaunn			PEM1B					
	OFthe Other of			PEFSA						
	85th Street	Interchange	OWNER/OPE	RATUR	85th St BDJVG					
	17.0			17.0						
WEILAND ACRES E	17.0									
VARIA			Existing	Predicted						
Detritus (V <sub>detritus</sub> ) 0.25 0.25										
Sedimentation in the We	etland (V <sub>sed</sub> )		1.00	1.00						
Soil Organic Matter (V <sub>so</sub>	( 000, m)		0.75	0.75						
Soil Pores (V <sub>pore</sub> )			0.75	0.75						
Buffer Condition, Contin	uity, & Width	(V <sub>buffer</sub> )	0.00	0.00						
Ratio of Native to Non-N	Native Species	s (V <sub>pratio</sub> )	0.10	0.10						
Vegetation Density (V <sub>pcc</sub>	over)		1.00	1.00						
Microtopographic Comp		1.00	1.00							
Source Area of Flow (V		0.75	0.75							
Subsurface Hydrology A	Alterations (V <sub>s</sub>	<sub>ubalt</sub> )	1.00	1.00						
Surface Hydrology Alter	ations (V <sub>surfalt</sub> )		1.00	1.00						
Upland Use (V <sub>upuse</sub> )			0.10	0.10						
	CALCU	LATION OF F		CAPACITY						
EXISTING	FCI	FCU	PRED	ICTED	FCI	FCU				
Mod. Groundwater Flow	0.81	13.71	Mod. Groundv	vater Flow	0.81	13.71				
Vel. Reduc. Surf. Water	0.87	14.72	Vel. Reduc. S	urf. Water	0.87	14.72				
Elemental & Nutr. Cycling	0.48	8.11	Elemental & N	lutr. Cycling	0.48	8.11				
Retention of Particulates	0.68	11.62	Retention of P	articulates	0.68	11.62				
Organic Carbon Export	0.75	12.75	Organic Carbo	on Export	0.75	12.75				
Maint. of Plant Comm.	0.62	10.48	Maint. of Plant	t Comm.	0.62	10.48				
Habitat Interspersion	0.53	8.93	Habitat Intersp	persion	0.53	8.93				
	CHANGE	IN FCU's	MIN EFFECT	JUSTIFICAT		1AL EFFECT				
FUNCTIONS	NUMERICAL	PERCENT	(Yes or No)	IF 10 TO 2	0% LOSS OF I	-UNCTION				
Mod. Groundwater Flow	0.00	0.0	YES							
Vel. Reduc. Surf. Water	0.00	0.0	YES							
Ret, Conv. Elem. & Cmpd.	0.00	0.0	YES							
Retention of Particulates	0.00	0.0	YES	L						
Organic Carbon Export	0.00	0.0	YES							
Maint. of Plant Comm.	0.00	0.0	YES							
Habitat Interspersion	0.00	0.0	YES							

	South I	Dakota	Slope	HGM N	Nodel,	Version 4.0	Re	ev. 6/6/01
		Va	riable S	core Fie	ld Form			
Field Office -		WAA lo	1		Wetland	d 19	Reference Site? (Y/N)	
County	Lincoln	Wetlan	d Acres (p	ore-)	7.2	Wetland type (NWI)	PEM1C	
Date	11/13/2018	Wetlan	d Acres (p	ost-)	7.2	Wetland type (FSA)		
Owner/Op	85th St BDJVG	Planne	<mark>d Activity -</mark>					
Yellow Flag?	lf yes, v	vhat?					Observe	ers
Red Flag?	lf yes, v	vhat?					Rebecca	a Beduhn
						Rationale for Post-	Variabl	e Score
Variable	Measure	ment or	Conditio	on Resul	t	Project Changes	Existing	Projected
V <sub>detritus</sub>	Detritus thickness (in	.), pre-proj	ect		0		0.25	0.25
Verd	Sediment thickness (	in.) in wetla	and, pre-pro	oject	0		1 00	1 00
- sea	Other observations						1.00	1.00
Vsom	Dominant texture in u	pper 18"			SiCL		0.75	0.75
	Color in upper 12":	Value	2	Chroma -	2			
	Pores			SQI	2			
V <sub>pore</sub>	Structure			SQI	2		0.75	0.75
		ating		SQI	2			
	Summary SQI Ra	aung		 Dro	0 Post			
	Buffer continuity (%)			13	13			
	Width of perm, yeg, b	ouffer (ft.) -		0.42	0.42			
	Continuity/Width R	Continuity/Width Rating (B <sub>1</sub> )			0.12			
V <sub>buffer</sub>	Buffer condition			Ļ	Ļ		0.00	0.00
	Perm. veg. part			0	0			
	Tilled part			Con	Con			
	Buffer Condition Rati	<mark>ng (B<sub>2</sub>)</mark>		0.1	0.1			
V <sub>pratio</sub>	Native species prese	nt in wetlar	nd (% of do	minants)	0		0.10	0.10
				Pre-	Post-			
	Percent of wetland ar	ea intact		80	80			
V <sub>pcover</sub>	% ground cover -	100	Rating -	1	1		0.82	0.82
	Percent of wetland ar	ea tilled		20	20			
	% ground cover -	20	Rating -	0.1	0.1			
V	Is the wetland area in	itact or dist		B(	oth		0.50	0.50
V micro	Describe variability of	n welland s	sunace (nu	mmocks, m	leanders)		0.50	0.50
	Watershed source al	terations ()	(/NI)?	v				
Vcourse	If Y, what?	Road	// <b>/</b> /				0.75	0.75
Source	Percent of area affe	ected		10				••
	Alteration present?	N	Type				4.00	
V <sub>subalt</sub>							1.00	1.00
V <sub>surfalt</sub>	Alteration present?	Ν	Type				1.00	1.00
	Dominantura af	land (2 res	wing up a	0/	la dana			
	Conventional Tillage	nanu (3 ma	aximum)	% of area				
V <sub>upuse</sub>	Lirban semi pervious			94 6	0.1		0.09	0.09
	orban, semi pervious	, 010		U	U			
				1		l		

SLOPE MODEL FUNCTIONAL ASSESSMENT WORKSHEET										
	· · · · · · · · · · · · · · · · · · ·	Version 4.0	<b>)</b> (Rev. 6/6/0	01)						
DATE	###########		REMARKS							
WETLAND ID	Wetland 19	)	ASSESSMEN	T TYPE	Delineation					
OBSERVERS	Rebecca B	eduhn	WETLAND TY	PE NWI	PEM1C					
CONDITIONS			WETLAND TY	PE FSA						
PROJECT NAME	85th Street	Interchange	OWNER/OPE	RATOR	85th St BDJ	VG				
PLANNED ACTIVITY										
YELLOW FLAG		RED FLAG -								
WETLAND ACRES E	7.2	WETLAND A	CRES P	7.2						
SCORE										
VARIABLE Existing Predicted										
Detritus (V <sub>detritus</sub> ) 0.25 0.25										
Sedimentation in the We	etland (V <sub>sed</sub> )		1.00	1.00						
Soil Organic Matter (V <sub>so</sub>	m)		0.75	0.75						
Soil Pores (V <sub>pore</sub> )			0.75	0.75						
Buffer Condition, Contin	uity, & Width	(V <sub>buffer</sub> )	0.00	0.00						
Ratio of Native to Non-N	lative Species	s (V <sub>pratio</sub> )	0.10	0.10						
Vegetation Density (V <sub>pcc</sub>	over)		0.82	0.82						
Microtopographic Comp		0.50	0.50							
Source Area of Flow (V <sub>s</sub>		0.75	0.75							
Subsurface Hydrology A	lterations (V <sub>si</sub>	<sub>ubalt</sub> )	1.00	1.00						
Surface Hydrology Alter	ations (V <sub>surfalt</sub> )		1.00	1.00						
Upland Use (V <sub>upuse</sub> )			0.09	0.09						
	CALCU	LATION OF F		CAPACITY						
EXISTING	FCI	FCU	PRED	ICTED	FCI	FCU				
Mod. Groundwater Flow	0.78	5.58	Mod. Groundw	vater Flow	0.78	5.57				
Vel. Reduc. Surf. Water	0.70	4.99	Vel. Reduc. Si	urf. Water	0.70	4.99				
Elemental & Nutr. Cycling	0.48	3.42	Elemental & N	utr. Cycling	0.48	3.42				
Retention of Particulates	0.65	4.68	Retention of P	articulates	0.65	4.68				
Organic Carbon Export	0.66	4.76	Organic Carbo	on Export	0.66	4.76				
Maint. of Plant Comm.	0.56	4.00	Maint. of Plant	Comm.	0.56	4.00				
Habitat Interspersion	0.48	3.44	Habitat Intersp	persion	0.48	3.43				
	CHANGE	IN FCU's	MIN EFFECT	JUSTIFICAT	ION OF MINIM	IAL EFFECT				
FUNCTIONS	NUMERICAL	PERCENT	(Yes or No)	IF 10 TO 2	0% LOSS OF I	-UNCTION				
Mod. Groundwater Flow	0.00	-0.1	YES							
Vel. Reduc. Surf. Water	0.00	0.0	YES							
Ret, Conv. Elem. & Cmpd.	0.00	0.0	YES							
Retention of Particulates	0.00	-0.1	YES							
Organic Carbon Export	0.00	0.0	YES							
Maint. of Plant Comm.	0.00	0.0	YES							
Habitat Interspersion	-0.01	-0.2	YES							

	South I	Dakota	Slope	HGM N	/lodel, ˈ	Version 4.0	Re	ev. 6/6/01
		Va	riable So	core Fie	ld Form			
Field Office -		WAA lo	1		Wetland	d 20	Reference Site? (Y/N)	
County	Lincoln	Wetlan	d Acres (p	ore-)	36.3	Wetland type (NWI)	PEM1A	
Date	11/13/2018	Wetlan	d Acres (p	ost-)	36.3	Wetland type (FSA)		
Owner/Op	85th St BDJVG	Planne	<mark>d Activity -</mark>					
Yellow Flag?	lf yes, v	vhat?					Observe	ers
Red Flag?	lf yes, v	vhat?					Rebecca	a Beduhn
						Rationale for Post-	Variabl	e Score
Variable	Measure	ment or	Conditio	on Resul	t	Project Changes	Existing	Projected
V <sub>detritus</sub>	Detritus thickness (in	.), pre-proj	ect		0		0.25	0.25
Verd	Sediment thickness (	in.) in wetla	and, pre-pro	oject	1		0.75	0.75
- sea	Other observations						0.70	0.70
Vsom	Dominant texture in u	pper 18"			SiCL		0.75	0.75
	Color in upper 12":	Value	2	Chroma -	2			
	Pores			SQI	2			
V <sub>pore</sub>	Structure			SQI	2		0.75	0.75
		ating		SQI	2			
	Summary SQI Ra	aung		Dro	Deet			
	Buffer continuity (%)							
	Width of perm, yeg, b	ouffer (ft.) -		04	04			
	Continuity/Width R	Continuity/Width Rating (B <sub>1</sub> )			0			
V <sub>buffer</sub>	Buffer condition			Ļ	Ļ		0.00	0.00
	Perm. veg. part			0	0			
	Tilled part			Con	Con			
	Buffer Condition Ration	ng (B <sub>2</sub> )		0.1	0.1			
V <sub>pratio</sub>	Native species prese	nt in wetlar	nd (% of do	minants)	0		0.10	0.10
				Pre-	Post-			
	Percent of wetland ar	ea intact		20	20			
V <sub>pcover</sub>	% ground cover -	100	Rating -	1	1		0.28	0.28
	Percent of wetland ar	ea tilled		80	80			
	% ground cover -	20	Rating -	0.1	0.1			
	Is the wetland area in	itact or dist	urbed?	Distu	irbed			
V <sub>micro</sub>	Describe variability of	n wetland s	surface (hu	mmocks, m	leanders)		0.10	0.10
	Matarahad source of	torationa ()		X				
V	If X what?	Road	/IN) <u>(</u>	Ŷ			0.75	0.75
▼ source	Percent of area affe	ected		5			0.75	0.75
	Alteration present?	N	Type	5				
V <sub>subalt</sub>			- JP -				1.00	1.00
V <sub>surfalt</sub>	Alteration present?	N	Type				1.00	1.00
	Dominant use of ur	land (3 m	aximum)	% of area	Index			
	Conventional Tillage	Row Cron		100				
V <sub>upuse</sub>				100	0.1		0.10	0.10
						1		

SLOPE MODEL FUNCTIONAL ASSESSMENT WORKSHEET										
	· · · · · · · · · · · · · · · · · · ·	Version 4.(	<b>)</b> (Rev. 6/6/0	01)						
DATE	###########		REMARKS							
WETLAND ID	Wetland 20		ASSESSMEN	T TYPE	Delineation					
OBSERVERS	Rebecca B	eduhn	WETLAND TY	PE NWI	PEM1A					
CONDITIONS			WETLAND TY	PE FSA						
PROJECT NAME	85th Street	Interchange	OWNER/OPE	RATOR	85th St BDJ	√G				
PLANNED ACTIVITY										
YELLOW FLAG		RED FLAG -								
WETLAND ACRES E	36.3	WETLAND A	CRES P	36.3						
			SCO	DRE						
VARIA	ABLE		Existing	Predicted						
Detritus (V <sub>detritus</sub> ) 0.25 0.25										
Sedimentation in the We	etland (V <sub>sed</sub> )		0.75	0.75						
Soil Organic Matter (V <sub>so</sub>	m)		0.75	0.75						
Soil Pores (V <sub>pore</sub> )			0.75	0.75						
Buffer Condition, Contin	uity, & Width	(V <sub>buffer</sub> )	0.00	0.00						
Ratio of Native to Non-N	lative Species	s (V <sub>pratio</sub> )	0.10	0.10						
Vegetation Density (V <sub>pcc</sub>	over)		0.28	0.28						
Microtopographic Comp		0.10	0.10							
Source Area of Flow (V <sub>s</sub>		0.75	0.75							
Subsurface Hydrology A	<mark>Iterations (V<sub>si</sub></mark>	<sub>ubalt</sub> )	1.00	1.00						
Surface Hydrology Alter	ations (V <sub>surfalt</sub> )		1.00	1.00						
Upland Use (V <sub>upuse</sub> )			0.10	0.10						
	CALCU	LATION OF F		CAPACITY						
EXISTING	FCI	FCU	PRED	ICTED	FCI	FCU				
Mod. Groundwater Flow	0.69	24.89	Mod. Groundw	vater Flow	0.69	24.89				
Vel. Reduc. Surf. Water	0.45	16.15	Vel. Reduc. Si	urf. Water	0.45	16.15				
Elemental & Nutr. Cycling	0.48	17.32	Elemental & N	lutr. Cycling	0.48	17.32				
Retention of Particulates	0.44	15.91	Retention of P	articulates	0.44	15.91				
Organic Carbon Export	0.50	17.97	Organic Carbo	on Export	0.50	17.97				
Maint. of Plant Comm.	0.38	13.67	Maint. of Plant	Comm.	0.38	13.67				
Habitat Interspersion	0.35	12.52	Habitat Intersp	persion	0.35	12.52				
	CHANGE	IN FCU's	MIN EFFECT	JUSTIFICAT	ION OF MININ	IAL EFFECT				
FUNCTIONS	NUMERICAL	PERCENT	(Yes or No)	IF 10 TO 2	0% LOSS OF I					
Mod. Groundwater Flow	0.00	0.0	YES							
Vel. Reduc. Surf. Water	0.00	0.0	YES							
Ret, Conv. Elem. & Cmpd.	0.00	0.0	YES							
Retention of Particulates	0.00	0.0	YES							
Organic Carbon Export	0.00	0.0	YES							
Maint. of Plant Comm.	0.00	0.0	YES							
Habitat Interspersion	0.00	0.0	YES							

South Dakota Slope HGM Model, Version 4.0											
		Va	riable S	core Fie	ld Form						
Field Office -		WAA lo	d		Wetland	d 21	Reference Site? (Y/N)				
County	Lincoln	Wetlan	<mark>d Acres (</mark> p	ore-)	1.2	Wetland type (NWI)	PEM1B				
Date	11/13/2018	Wetlan	<mark>d Acres (</mark> p	oost-)	1.2	Wetland type (FSA)					
Owner/Op	85th St BDJVG	Planne	d Activity -								
Yellow Flag?	lf yes, v	vhat?					Observe	ers			
Red Flag?	lf yes, v	vhat?					Rebecca	a Beduhn			
						Rationale for Post-	Variabl	e Score			
Variable	Measure	ment or	Conditio	on Resul	t	<b>Project Changes</b>	Existing	Projected			
V <sub>detritus</sub>	Detritus thickness (in	.), pre-proj	ect		0		0.25	0.25			
ν.	Sediment thickness (	in.) in wetla	and, pre-pr	oject	1		0.75	0.75			
▼ sed	Other observations						0.75	0.75			
Vaam	Dominant texture in u	pper 18"			SiCL		0.75	0 75			
- 5011	Color in upper 12":	Value	2	Chroma -	2						
	Pores			SQI	2						
V <sub>pore</sub>	Structure			SQI	2		0.75	0.75			
	Rupture Resistance	ting		SQI	2						
	Summary SQI Ra	aung		Dro	0 Dect						
	Buffer continuity (%)			o Pie-	Q						
	Width of perm yea h	ouffer (ft ) -		04	04						
	Continuity/Width Ra	ating (B₁) -		0.4	0.4						
V <sub>buffer</sub>	Buffer condition			Ļ	Ļ		0.00	0.00			
	Perm, veg, part			0	0						
	Tilled part			Con	Con						
	Buffer Condition Rati	ng (B <sub>2</sub> )		0.1	0.1						
Variatio	Native species prese	nt in wetlar	nd (% of do	minants)	0		0 10	0 10			
			,	Pro-	Post-						
	Percent of wetland ar	ea intact		50	50						
Vncover	% ground cover -	100	Rating -	1	1		0.55	0.55			
poordi	Percent of wetland ar	ea tilled		50	50						
	% ground cover -	20	Rating -	0.1	0.1						
	Is the wetland area in	tact or dist	turbed?	Bo	oth						
V <sub>micro</sub>	Describe variability or	n wetland s	surface (hu	<mark>mmocks, m</mark>	neanders)		0.50	0.50			
	Watershed source all	terations ()	r/N)?	Y							
V <sub>source</sub>	If Y, what?	Road		40			0.75	0.75			
	Percent of area affe		T	10							
V <sub>subalt</sub>	Alteration present?	N	туре				1.00	1.00			
V <sub>surfalt</sub>	Alteration present?	Ν	Type				1.00	1.00			
	Dominant use of ur	land (2 m		% of orga	Index						
	Conventional Tillago	Row Crop		100 area							
V <sub>upuse</sub>				100	0.1		0.10	0.10			

SLOPE MODEL FUNCTIONAL ASSESSMENT WORKSHEET										
		Version 4.0	<b>)</b> (Rev. 6/6/0	J1)						
DATE	###########		REMARKS							
WETLAND ID	Wetland 21		ASSESSMEN	T TYPE	Delineation					
OBSERVERS	Rebecca B	eduhn	WETLAND TY	PE NWI	PEM1B					
CONDITIONS			WETLAND TY	PE FSA						
PROJECT NAME	85th Street	Interchange	OWNER/OPE	RATOR	85th St BDJVG					
PLANNED ACTIVITY										
YELLOW FLAG		RED FLAG -								
WETLAND ACRES E	1.2	WETLAND A	CRES P	1.2						
			SCO	DRE						
VARIABLE Existing Predicted										
Detritus (V <sub>detritus</sub> )			0.25	0.25						
Sedimentation in the We	etland (V <sub>sed</sub> )		0.75	0.75						
Soil Organic Matter (V <sub>so</sub>	m)		0.75	0.75						
Soil Pores (V <sub>pore</sub> )			0.75	0.75						
Buffer Condition, Contin	uity, & Width	(V <sub>buffer</sub> )	0.00	0.00						
Ratio of Native to Non-N	Native Species	s (V <sub>pratio</sub> )	0.10	0.10						
Vegetation Density (V <sub>pcc</sub>	over)		0.55	0.55						
Microtopographic Complexity (V <sub>micro</sub> )			0.50	0.50						
Source Area of Flow (V <sub>s</sub>		0.75	0.75							
Subsurface Hydrology A	Alterations (V <sub>s</sub>	<sub>ubalt</sub> )	1.00	1.00						
Surface Hydrology Alter	ations (V <sub>surfalt</sub> )		1.00	1.00						
Upland Use (V <sub>upuse</sub> )			0.10	0.10						
	CALCU	LATION OF F	UNCTIONAL	CAPACITY						
EXISTING	FCI	FCU	PRED	ICTED	FCI	FCU				
Mod. Groundwater Flow	0.73	0.91	Mod. Groundv	vater Flow	0.73	0.91				
Vel. Reduc. Surf. Water	0.61	0.76	Vel. Reduc. Si	urf. Water	0.61	0.76				
Elemental & Nutr. Cycling	0.48	0.59	Elemental & N	lutr. Cycling	0.48	0.59				
Retention of Particulates	0.48	0.60	Retention of P	articulates	0.48	0.60				
Organic Carbon Export	0.60	0.74	Organic Carbo	on Export	0.60	0.74				
Maint. of Plant Comm.	0.47	0.58	Maint. of Plant	t Comm.	0.47	0.58				
Habitat Interspersion	0.41	0.51	Habitat Intersp	persion	0.41	0.51				
	CHANGE	IN FCU's	MIN EFFECT	JUSTIFICAT	ION OF MINIM	IAL EFFECT				
FUNCTIONS	NUMERICAL	PERCENT	(Yes or No)	IF 10 TO 2	0% LOSS OF I					
Mod. Groundwater Flow	0.00	0.0	YES							
Vel. Reduc. Surf. Water	0.00	0.0	YES							
Ret, Conv. Elem. & Cmpd.	0.00	0.0	YES							
Retention of Particulates	0.00	0.0	YES							
Organic Carbon Export	0.00	0.0	YES							
Maint. of Plant Comm.	0.00	0.0	YES							
Habitat Interspersion	0.00	0.0	YES							

	South [	Dakota	Slope	HGM N	Nodel,	Version 4.0	Re	ev. 6/6/01
		Va	riable S	core Fie	ld Form		Deference Site?	
Field Office -		WAA lo	d		Wetland	d 23	(Y/N)	
County	Lincoln	Wetlan	d Acres (p	ore-)	10.6	Wetland type (NWI)	PEM1B	
Date	11/13/2018	Wetlan	d Acres (p	ost-)	10.6	Wetland type (FSA)		
Owner/Op	85th St BDJVG	Planne	d Activity -					
Yellow Flag?	lf yes, v	vhat?					Observe	ers
Red Flag?	lf yes, v	vhat?					Rebecca	a Beduhn
						Rationale for Post-	Variabl	e Score
Variable	Measure	ment or	Conditio	on Resul	t	Project Changes	Existing	Projected
V <sub>detritus</sub>	Detritus thickness (in	.), pre-proj	ect		0		0.25	0.25
Vead	Sediment thickness (	<mark>in.) in wetla</mark>	and, pre-pro	oject	0		1.00	1.00
Seu	Other observations							
V <sub>som</sub>	Dominant texture in u	pper 18"			SiCL		0.75	0.75
	Color in upper 12":	Value	3	Chroma -	1			
	Pores			SQI	2			
V <sub>pore</sub>	Structure Pupture Posistance			SQI	2		0.75	0.75
	Summary SOI Ra	ating			6			
	ournary our re			Pre-	Post-			
	Buffer continuity (%)			23	23			
	Width of perm. veg. b	ouffer (ft.) -		0.5	0.5			
	Continuity/Width Rating (B1)			0.05	0.05			
V <sub>buffer</sub>	Buffer condition			Ļ	<b>I</b>		0.07	0.07
	Perm. veg. part			0	0			
	Tilled part			Con	Con			
	Buffer Condition Rati	ng (B <sub>2</sub> )		0.1	0.1			
V <sub>pratio</sub>	Native species prese	nt in wetlar	nd (% of do	minants)	0		0.10	0.10
				Pre-	Post-			
	Percent of wetland ar	<mark>ea intact -</mark> -		100	100			
V <sub>pcover</sub>	% ground cover -	100	Rating -	1	1		1.00	1.00
	Percent of wetland ar	ea tilled		0	0			
	% ground cover -	U toot or diat	Rating -	1 int	1			
V.	Describe variability or			mmocke m			1.00	1 00
■ micro					leanuers)		1.00	1.00
	Watershed source all	terations ()	(/N)?	Y				
V <sub>source</sub>	If Y, what?	Road	· /				0.75	0.75
Course	Percent of area affe	ected		10				
N	Alteration present?	N	Туре				1.00	1.00
<sup>♥</sup> subalt							1.00	1.00
V <sub>surfalt</sub>	Alteration present?	N	Type				1.00	1.00
	Dominant use of ur	pland (3 ma	aximum)	% of area	Index			
	Conventional Tillage	Row Crop		100	0.1			
V <sub>upuse</sub>		<b>I</b> *			0.1		0.10	0.10

SLOPE MODEL FUNCTIONAL ASSESSMENT WORKSHEET									
	· · · · · · · · · · · · · · · · · · ·	Version 4.0	<b>)</b> (Rev. 6/6/0	01)					
DATE	###########		REMARKS						
WETLAND ID	Wetland 23	5	ASSESSMEN <sup>®</sup>	T TYPE	Delineation				
OBSERVERS	Rebecca B	eduhn	WETLAND TY	PE NWI	PEM1B				
CONDITIONS			WETLAND TY	PE FSA					
PROJECT NAME	85th Street	Interchange	OWNER/OPE	RATOR	85th St BDJ	√G			
PLANNED ACTIVITY									
YELLOW FLAG		RED FLAG -							
WETLAND ACRES E	10.6	WETLAND A	CRES P	10.6					
			SCO	DRE					
VARIABLE Existing Predicted									
Detritus (V <sub>detritus</sub> )			0.25	0.25					
Sedimentation in the We	etland (V <sub>sed</sub> )		1.00	1.00					
Soil Organic Matter (V <sub>so</sub>	m)		0.75	0.75					
Soil Pores (V <sub>pore</sub> )			0.75	0.75					
Buffer Condition, Contin	uity, & Width	(V <sub>buffer</sub> )	0.07	0.07					
Ratio of Native to Non-N	lative Species	s (V <sub>pratio</sub> )	0.10	0.10					
Vegetation Density (V <sub>pcc</sub>	over)		1.00	1.00					
Microtopographic Comp	lexity (V <sub>micro</sub> )		1.00	1.00					
Source Area of Flow (V <sub>s</sub>	<sub>source</sub> )		0.75	0.75					
Subsurface Hydrology A	lterations (V <sub>si</sub>	<sub>ubalt</sub> )	1.00	1.00					
Surface Hydrology Alter	ations (V <sub>surfalt</sub> )		1.00	1.00					
Upland Use (V <sub>upuse</sub> )			0.10	0.10					
	CALCU	LATION OF F	UNCTIONAL	CAPACITY					
EXISTING	FCI	FCU	PRED	ICTED	FCI	FCU			
Mod. Groundwater Flow	0.81	8.56	Mod. Groundw	vater Flow	0.81	8.56			
Vel. Reduc. Surf. Water	0.87	9.24	Vel. Reduc. Si	urf. Water	0.87	9.24			
Elemental & Nutr. Cycling	0.48	5.07	Elemental & N	lutr. Cycling	0.48	5.07			
Retention of Particulates	0.70	7.38	Retention of P	articulates	0.70	7.38			
Organic Carbon Export	0.75	7.97	Organic Carbo	on Export	0.75	7.97			
Maint. of Plant Comm.	0.62	6.55	Maint. of Plant	Comm.	0.62	6.55			
Habitat Interspersion	0.54	5.76	Habitat Intersp	persion	0.54	5.76			
	CHANGE	IN FCU's	MIN EFFECT	JUSTIFICAT	ION OF MINIM	IAL EFFECT			
FUNCTIONS	NUMERICAL	PERCENT	(Yes or No)	IF 10 TO 2	0% LOSS OF I				
Mod. Groundwater Flow	0.00	0.0	YES						
Vel. Reduc. Surf. Water	0.00	0.0	YES						
Ret, Conv. Elem. & Cmpd.	0.00	0.0	YES						
Retention of Particulates	0.00	0.0	YES						
Organic Carbon Export	0.00	0.0	YES						
Maint. of Plant Comm.	0.00	0.0	YES						
Habitat Interspersion	0.00	0.0	YES						

	South [	Dakota	Slope	HGM N	/lodel,	Version 4.0	Re	ev. 6/6/01
		Va	riable S	core Fie	ld Form			
Field Office -		WAA Io	1		Wetland	d 24	Reference Site? (Y/N)	
County	Lincoln	Wetlan	d Acres (p	ore-)	0.5	Wetland type (NWI)	PEM1A	
Date	11/13/2018	Wetlan	d Acres (p	ost-)	0.5	Wetland type (FSA)		
Owner/Op	85th St BDJVG	Planne	<mark>d Activity -</mark>					
Yellow Flag?	lf yes, v	vhat?					Observe	ers
Red Flag?	lf yes, v	vhat?					Rebecca	a Beduhn
						Rationale for Post-	Variabl	e Score
Variable	Measure	ment or	Conditio	on Result	t	Project Changes	Existing	Projected
V <sub>detritus</sub>	Detritus thickness (in	.), pre-proj	ect		0		0.25	0.25
Veed	Sediment thickness (	in.) in wetla	and, pre-pro	oject	1		0.75	0.75
- Sed	Other observations						0.10	0.70
V <sub>som</sub>	Dominant texture in u	pper 18"			SiCL		1.00	1.00
	Color in upper 12":	Value	2	Chroma -	1			
	Pores			SQI	2			
V <sub>pore</sub>	Structure			SQI	2		0.75	75.00
		ating		SQI	2			
	Summary SQL Ra	aung		Dro	0 Post-			
	Buffer continuity (%)			0	0			
	Width of perm. veg. b	ouffer (ft.)		0	0			
	Continuity/Width R	ating $(B_1)$ -		0	0			
V <sub>buffer</sub>	Buffer condition			<b>I</b>	Ţ		0.00	0.00
	Perm. veg. part			0	0			
	Tilled part			Con	Con			
	Buffer Condition Ration	ng (B <sub>2</sub> )		0.1	0.1			
V <sub>pratio</sub>	Native species prese	nt in wetlar	nd (% of do	minants)	0		0.10	0.10
				Pre-	Post-			
	Percent of wetland ar	ea intact		0	0			
V <sub>pcover</sub>	% ground cover -	0	Rating -	0	0		0.10	0.10
	Percent of wetland ar	ea tilled		100	100			
	% ground cover -	20	Rating -	0.1 Dist	0.1			
V	Describe veriability of			Disit			0.10	0.10
<sup>♥</sup> micro					leanuers)		0.10	0.10
	Watershed source all	terations ()	(/N)?	N				
Vsource	If Y, what?						1.00	1.00
Source	Percent of area affe	ected						
Vauhalt	Alteration present?	N	Type				1 00	1 00
- Subait								
V <sub>surfalt</sub>	Alteration present?	N	Type			,	1.00	1.00
	Dominant use of up	pland (3 ma	aximum)	% of area	Index			
V	Conventional Tillage	Row Crop		100	0.1		0.40	0.40
V <sub>upuse</sub>							0.10	0.10

SLOPE MODEL FUNCTIONAL ASSESSMENT WORKSHEET										
		Version 4.0	<b>)</b> (Rev. 6/6/0	01)						
DATE	###########		REMARKS							
WETLAND ID	Wetland 24	ļ	ASSESSMEN	T TYPE	Delineation					
OBSERVERS	Rebecca B	eduhn	WETLAND TY	PE NWI	PEM1A					
CONDITIONS			WETLAND TY	PE FSA						
PROJECT NAME	85th Street	Interchange	OWNER/OPE	RATOR	85th St BDJ	√G				
PLANNED ACTIVITY										
YELLOW FLAG		RED FLAG -								
WETLAND ACRES E	0.5	WETLAND A	CRES P	0.5						
			SCO	DRE						
VARIABLE Existing Predicted										
Detritus (V <sub>detritus</sub> ) 0.25 0.25										
Sedimentation in the We	etland (V <sub>sed</sub> )		0.75	0.75						
Soil Organic Matter (V <sub>so</sub>	m)		1.00	1.00						
Soil Pores (V <sub>pore</sub> )			0.75	75.00						
Buffer Condition, Contin	uity, & Width	(V <sub>buffer</sub> )	0.00	0.00						
Ratio of Native to Non-N	lative Species	s (V <sub>pratio</sub> )	0.10	0.10						
Vegetation Density (V <sub>pcc</sub>	over)		0.10	0.10	1					
Microtopographic Comp		0.10	0.10							
Source Area of Flow (V <sub>s</sub>		1.00	1.00							
Subsurface Hydrology A	<mark>Alterations (V<sub>si</sub></mark>	<sub>ubalt</sub> )	1.00	1.00						
Surface Hydrology Alter	ations (V <sub>surfalt</sub> )		1.00	1.00						
Upland Use (V <sub>upuse</sub> )			0.10	0.10						
	CALCU	LATION OF F		CAPACITY						
EXISTING	FCI	FCU	PRED	ICTED	FCI	FCU				
Mod. Groundwater Flow	0.70	0.32	Mod. Groundw	vater Flow	4.36	2.01				
Vel. Reduc. Surf. Water	0.42	0.19	<mark>Vel. Reduc. S</mark> ı	urf. Water	0.42	0.19				
Elemental & Nutr. Cycling	0.55	0.25	Elemental & N	lutr. Cycling	3.97	1.83				
Retention of Particulates	0.41	0.19	Retention of P	articulates	0.41	0.19				
Organic Carbon Export	0.51	0.24	Organic Carbo	on Export	0.51	0.24				
Maint. of Plant Comm.	0.32	0.15	Maint. of Plant	Comm.	0.32	0.15				
Habitat Interspersion	0.30	0.14	Habitat Intersp	persion	0.30	0.14				
	CHANGE	IN FCU's	MIN EFFECT	JUSTIFICAT	ION OF MININ	IAL EFFECT				
FUNCTIONS	NUMERICAL	PERCENT	(Yes or No)	IF 10 TO 2	0% LOSS OF I					
Mod. Groundwater Flow	1.69	525.1	YES							
Vel. Reduc. Surf. Water	0.00	0.0	YES							
Ret, Conv. Elem. & Cmpd.	1.57	622.5	YES							
Retention of Particulates	0.00	0.0	YES							
Organic Carbon Export	0.00	0.0	YES							
Maint. of Plant Comm.	0.00	0.0	YES							
Habitat Interspersion	0.00	0.0	YES							

	South I	Dakota	Slope	HGM N	Nodel,	Version 4.0	Re	ev. 6/6/01
		Va	riable S	core Fie	ld Form			
Field Office -		WAA lo	d		Wetland	d 25	Reference Site? (Y/N)	
County	Lincoln	Wetlan	<mark>d Acres (</mark> p	ore-)	4.6	Wetland type (NWI)	PEM1B	
Date	11/13/2018	Wetlan	<mark>d Acres (</mark> p	ost-)	4.6	Wetland type (FSA)		
Owner/Op	85th St BDJVG	Planne	d Activity -					
Yellow Flag?	lf yes, v	vhat?					Observe	ers
Red Flag?	lf yes, v	vhat?					Rebecca	a Beduhn
						Rationale for Post-	Variabl	e Score
Variable	Measure	ment or	Conditio	on Result	t	Project Changes	Existing	Projected
V <sub>detritus</sub>	Detritus thickness (in	.), pre-proj	ect		0		0.25	0.25
<b>V</b> .	Sediment thickness (	in.) in wetla	and, pre-pro	oject	0		1.00	1.00
▼ sed	Other observations						1.00	1.00
V	Dominant texture in u	<mark>. "Ipper 18</mark>			SiCL		0.75	0.75
- 5011	Color in upper 12":	Value	3	Chroma -	1		0.10	0.10
	Pores			SQI	2			
V <sub>pore</sub>	Structure			SQI	2		0.75	0.75
pere	Rupture Resistance			SQI	2			
	Summary SQI Ra	ating			6			
	Duffer continuity (0()			Pre-	Post-			
	Builer continuity (%)	uffor (ft )		64	64			
	Continuity/Width R	ating (B.) -		14	14			
Visition	Buffer condition	uting (D <sub>1</sub> ) -		0.15	0.15		0.12	0.12
- butter					•		0.12	0.12
	Penn. veg. part			0	0			
	Tilled part			Con	Con			
	Buffer Condition Rati	ng (B <sub>2</sub> )		0.1	0.1			
<b>V</b> <sub>pratio</sub>	Native species prese	nt in wetlar	nd (% of do	minants)	0		0.10	0.10
				Pre-	Post-			
	Percent of wetland ar	ea intact		100	100			
V <sub>pcover</sub>	% ground cover -	100	Rating -	1	1		1.00	1.00
	Percent of wetland an	ea tilled	Detina	0	0			
	% ground cover -		Rating -	1 Int	1 oot			
V.	Describe variability or		urbeu?	mmocke m	aci		1.00	1 00
♥ micro					leanuers)		1.00	1.00
	Watershed source ali	terations ()	<u>(/N)?</u>	Y				
Vsource	If Y, what?	Roads					0.75	0.75
Source	Percent of area affe	ected		20				
N	Alteration present?	N	Туре				4.00	4.00
Vsubalt							1.00	1.00
V <sub>surfalt</sub>	Alteration present?	Ν	Туре				1.00	1.00
	Dominant uso of ur	land (2 m	avimum)	% of area	Index			
	Conventional Tillage	Row Crop		100 area				
V <sub>upuse</sub>				100	0.1		0.10	0.10
	]							

SLOPE MO	DDEL FU	NCTIONA			ORKSHEE	T
		Version 4.0	<b>)</b> (Rev. 6/6/0	J1)		
DATE	############		REMARKS			
WETLAND ID	Wetland 25	5	ASSESSMEN	T TYPE	Delineation	
OBSERVERS	Rebecca B	eduhn	WETLAND TY	PE NWI	PEM1B	
CONDITIONS			WETLAND TY	PE FSA		
PROJECT NAME	85th Street	Interchange	OWNER/OPE	RATOR	85th St BDJ	VG
PLANNED ACTIVITY						
YELLOW FLAG		RED FLAG -				
WETLAND ACRES E	4.6	WETLAND A	ACRES P	4.6		
			SCO	DRE		
VARIA	ABLE		Existing	Predicted		
Detritus (V <sub>detritus</sub> )			0.25	0.25		
Sedimentation in the We	etland (V <sub>sed</sub> )		1.00	1.00		
Soil Organic Matter (V <sub>so</sub>	m)		0.75	0.75		
Soil Pores (V <sub>pore</sub> )			0.75	0.75		
Buffer Condition, Contin	uity, & Width	(V <sub>buffer</sub> )	0.12	0.12		
Ratio of Native to Non-N	lative Species	s (V <sub>pratio</sub> )	0.10	0.10		
Vegetation Density (V <sub>pcc</sub>	over)		1.00	1.00		
Microtopographic Comp	lexity (V <sub>micro</sub> )		1.00	1.00		
Source Area of Flow (V	<sub>source</sub> )		0.75	0.75		
Subsurface Hydrology A	Alterations (V <sub>s</sub>	<sub>ubalt</sub> )	1.00	1.00		
Surface Hydrology Alter	ations (V <sub>surfalt</sub> )		1.00	1.00		
Upland Use (V <sub>upuse</sub> )			0.10	0.10		
	CALCU	LATION OF F	UNCTIONAL	CAPACITY		
EXISTING	FCI	FCU	PRED	ICTED	FCI	FCU
Mod. Groundwater Flow	0.81	3.71	Mod. Groundv	vater Flow	0.81	3.71
Vel. Reduc. Surf. Water	0.87	4.02	Vel. Reduc. S	urf. Water	0.87	4.02
Elemental & Nutr. Cycling	0.48	2.20	Elemental & N	lutr. Cycling	0.48	2.20
Retention of Particulates	0.70	3.24	Retention of P	articulates	0.70	3.24
Organic Carbon Export	0.75	3.45	Organic Carbo	on Export	0.75	3.45
Maint. of Plant Comm.	0.62	2.84	Maint. of Plant	t Comm.	0.62	2.84
Habitat Interspersion	0.56	2.56	Habitat Intersp	persion	0.56	2.56
	CHANGE	IN FCU's	MIN EFFECT	JUSTIFICAT	ION OF MINIM	1AL EFFECT
FUNCTIONS	NUMERICAL	PERCENT	(Yes or No)	IF 10 TO 2	0% LOSS OF I	
Mod. Groundwater Flow	0.00	0.0	YES			
Vel. Reduc. Surf. Water	0.00	0.0	YES			
Ret, Conv. Elem. & Cmpd.	0.00	0.0	YES			
Retention of Particulates	0.00	0.0	YES			
Organic Carbon Export	0.00	0.0	YES			
Maint. of Plant Comm.	0.00	0.0	YES			
Habitat Interspersion	0.00	0.0	YES			

	South I	Dakota	Slope	HGM N	Nodel,	Version 4.0	Re	ev. 6/6/01
		Va	riable S	core Fie	ld Form	l i i i i i i i i i i i i i i i i i i i		
Field Office -		WAA lo	d		Wetland	d 27	Reference Site? (Y/N)	
County	Lincoln	Wetlan	<mark>d Acres (</mark> p	ore-)	3.4	Wetland type (NWI)	PEM1B	
Date	11/13/2018	Wetlan	<mark>d Acres (</mark> p	ost-)	3.4	Wetland type (FSA)		
Owner/Op	85th St BDJVG	Planne	d Activity -					
Yellow Flag?	lf yes, v	vhat?					Observe	ers
Red Flag?	lf yes, v	vhat?					Rebecca	a Beduhn
						Rationale for Post-	Variabl	e Score
Variable	Measure	ment or	Conditio	on Resul	t	Project Changes	Existing	Projected
V <sub>detritus</sub>	Detritus thickness (in	.), pre-proj	ect		0		0.25	0.25
Veed	Sediment thickness (	in.) in wetla	and, pre-pr	oject	0		1 00	1 00
- sea	Other observations						1.00	1.00
V <sub>som</sub>	Dominant texture in u	pper 18"			SiCL		0.75	0.75
	Color in upper 12":	Value	2	Chroma -	2			
	Pores			SQI	2			
V <sub>pore</sub>	Structure			SQI	2		0.75	0.75
		ting		ସହା	2			
	Summary SQL Ra	atility		Dro	0 Post-			
	Buffer continuity (%)			17	17			
	Width of perm, yea, b	ouffer (ft.) -		0.83	0.83			
	Continuity/Width R	ating $(B_1)$ -		0	0			
V <sub>buffer</sub>	Buffer condition			Ļ	Ŧ		0.00	0.00
	Perm. veg. part			0	0			
	Tilled part			Con	Con			
	Buffer Condition Ration	ng (B <sub>2</sub> )		0.1	0.1			
Variatio	Native species prese	nt in wetlar	nd (% of do	minants)	0		0 10	0 10
			,	Pro-	Post-			
	Percent of wetland ar	ea intact		100	100			
Vneovor	% around cover -	100	Rating -	100	1		1.00	1.00
- pcover	Percent of wetland ar	ea tilled		0	0			
	% ground cover -	0	Rating -	1	1			
	Is the wetland area in	tact or dist	turbed?	Int	act			
V <sub>micro</sub>	Describe variability of	n wetland s	surface (hu	mmocks, m	neanders)		1.00	1.00
	Watershed source all	terations ()	Y/N)?	Y				
V <sub>source</sub>	If Y, what?						0.75	0.75
	Percent of area affe	ected		20				
V <sub>subalt</sub>	Alteration present?	N	Туре				1.00	1.00
Vaurfalt	Alteration present?	Ν	Туре				1 00	1 00
- sunait							1.00	1.00
	Dominant use of up	pland (3 ma	aximum)	% of area	Index			
Vupuse	Conventional Tillage	Row Crop		100	0.1		0.10	0.10
apuoo								

SLOPE MO	DDEL FU	NCTIONA			ORKSHEE	T
		Version 4.0	<b>)</b> (Rev. 6/6/0	J1)		
DATE	############		REMARKS			
WETLAND ID	Wetland 27	, 	ASSESSMEN	T TYPE	Delineation	
OBSERVERS	Rebecca B	eduhn	WETLAND TY	PE NWI	PEM1B	
CONDITIONS			WETLAND TY	PE FSA		
PROJECT NAME	85th Street	Interchange	OWNER/OPE	RATOR	85th St BDJ	VG
PLANNED ACTIVITY						
YELLOW FLAG		RED FLAG -				
WETLAND ACRES E	3.4	WETLAND A	CRES P	3.4		
			SCO	DRE		
VARIA	ABLE		Existing	Predicted		
Detritus (V <sub>detritus</sub> )			0.25	0.25		
Sedimentation in the We	etland (V <sub>sed</sub> )		1.00	1.00		
Soil Organic Matter (V <sub>so</sub>	m)		0.75	0.75		
Soil Pores (V <sub>pore</sub> )			0.75	0.75		
Buffer Condition, Contin	uity, & Width	(V <sub>buffer</sub> )	0.00	0.00		
Ratio of Native to Non-N	lative Species	s (V <sub>pratio</sub> )	0.10	0.10		
Vegetation Density (V <sub>pcc</sub>	over)		1.00	1.00		
Microtopographic Comp	lexity (V <sub>micro</sub> )		1.00	1.00		
Source Area of Flow (V <sub>s</sub>	<sub>source</sub> )		0.75	0.75		
Subsurface Hydrology A	Alterations (V <sub>s</sub>	<sub>ubalt</sub> )	1.00	1.00		
Surface Hydrology Alter	ations (V <sub>surfalt</sub> )		1.00	1.00		
Upland Use (V <sub>upuse</sub> )			0.10	0.10		
	CALCU	LATION OF F	UNCTIONAL	CAPACITY		
EXISTING	FCI	FCU	PRED	ICTED	FCI	FCU
Mod. Groundwater Flow	0.81	2.74	Mod. Groundv	vater Flow	0.81	2.74
Vel. Reduc. Surf. Water	0.87	2.94	Vel. Reduc. S	urf. Water	0.87	2.94
Elemental & Nutr. Cycling	0.48	1.62	Elemental & N	lutr. Cycling	0.48	1.62
Retention of Particulates	0.68	2.32	Retention of P	articulates	0.68	2.32
Organic Carbon Export	0.75	2.55	Organic Carbo	on Export	0.75	2.55
Maint. of Plant Comm.	0.62	2.10	Maint. of Plant	t Comm.	0.62	2.10
Habitat Interspersion	0.53	1.79	Habitat Intersp	persion	0.53	1.79
	CHANGE	IN FCU's	MIN EFFECT	JUSTIFICAT	ION OF MINIM	1AL EFFECT
FUNCTIONS	NUMERICAL	PERCENT	(Yes or No)	IF 10 TO 2	0% LOSS OF I	
Mod. Groundwater Flow	0.00	0.0	YES			
Vel. Reduc. Surf. Water	0.00	0.0	YES			
Ret, Conv. Elem. & Cmpd.	0.00	0.0	YES			
Retention of Particulates	0.00	0.0	YES			
Organic Carbon Export	0.00	0.0	YES			
Maint. of Plant Comm.	0.00	0.0	YES			
Habitat Interspersion	0.00	0.0	YES			

# **Summary Sheet**

### USER NOTE: Do not enter any data in this worksheet. All data and calculations are entered for you using previously entered information. If any of this information is incorrect, enter the correct information in the appropriate worksheet.

## **Project Name/Location:**

85th Street Interchange
Lincoln County, South Dakota
Wetland #28

	Variable	Data entered		Subindex
		wetland perimeter (feet):	1117.00	
	V <sub>GRASSCONT</sub>	grassland along perimeter (feet):	0.00	0.00
		percent continuity:	0.00	
		grassland width (feet) at 12 points:		
		Point 1:	0.00	
		Point 2:	0.00	
		Point 3:	0.00	
		Point 4:	0.00	
n		Point 5:	0.00	
io	V	Point 6:	0.00	0.00
al	V GRASSWIDTH	Point 7:	0.00	0.00
get		Point 8:	0.00	
'eg		Point 9:	0.00	
		Point 10:	0.00	
		Point 11:	0.00	
		Point 12:	0.00	
		mean width (feet):	0.00	
		(see vegetation worksheet for species entered)		
		sum of species:	2.00	
	VVEGCOMP	sum of C values:	0.00	0.00
		mean coefficient of conservatism:	0.00	
		FQI:	0.00	

	V <sub>RECHARGE</sub>	Soil Recharge Potential Subindex:	0.75	0.75
		Eastern Prairie Potholes		
	V	mean depth to B horizon (inches):		1.00
	V SED	Western Prairie Potholes		1.00
		mean depth to B horizon (inches):	12.00	
		SQI scores for 4 samples:		
		sample 1:	2.00	
	V	sample 2:	1.50	0.05
	• SQI	sample 3:	2.00	0.05
		sample 4:	2.00	
		average SQI score:	1.88	
		Indirect Measurements		
		Litter Depth for 4 samples:		
		sample 1:	0.00	
		sample 2:	0.00	
		sample 3:	0.00	
		sample 4:	0.00	
		Average Litter Depth (inches):	0.00	
		ADI for 4 samples:		
il		Sample 1 hue:	10.00	
20		value:	2.00	
•1		chroma:	1.00	
		ADI:	6.00	
		Sample 2 hue:	10.00	
		value:	2.00	
	V <sub>SOM</sub>	chroma:	2.00	0.33
	50112	ADI:	7.00	
		Sample 3 hue:	10.00	
		value:	2.00	
		chroma:	1.00	
		ADI:	6.00	
		Sample 4 hue:	10.00	
		value:	2.00	
		chroma:	1.00	
		ADI:	6.00	
		average ADI:	6.25	
		Direct Measurements		
		% organic carbon for 0-15cm depth:		
		% organic carbon for 15-30cm depth:		
			1 77	
		% organic carbon:	1.//	

	-	Ξ			
		historic invert elevation in relation to wetland maximum depth:	1512.00		
		present (or constructed) invert alevation:	1512.00		
		elevation of the edge of the historic wetland:	1512.00		
		cievation of the edge of the instorie wetland.	1312.30		
	V <sub>OUT</sub>	elevation of a representative deepest portion of the wetland:	1511.00	1.00	
		if evaluating pit or fill, enter % volume of pit/fill vs. wetland	0.00		
iic		(ex. 25%=25), otherwise enter 0:	0.00		
rph		ratio of the constructed elevation to the natural outlet elevation:	1.00		
m		depth of surface drainage invert:			
<b>60</b> ]	V <sub>SUBOUT</sub>	distance from WAA edge:		1.00	
)g(		location/spacing of subsurface tile within the WAA:			
lrc		type & effect of surface alteration(s):			
yd	VSOUDCE	% of historic catchment area still contributing runoff:		1.00	
H	SOURCE	additions of water from other sources:			
		change in wetland regime class?			
		wetland perimeter (feet):	1117.00		
	V <sub>EDGE</sub>	wetland area (acres):	1.00	1.00	
		Shoreline Development Index:	1.51		
	<b>T</b> 7	wetland area (acres):	1.00	1.00	
	VCATCHWET	catchment area (acres):	13.77	1.00	
		ratio of catchment size to wetland size:	13.77		
		total acre size of the present day catchment:	13.77		
		acres of catchment for each curve number:			
		98			
		90	12 77		
		79	15.//		
		77			
		72			
e		73			
SU	V <sub>UPUSE</sub>	73		0.52	
pu		72			
ar		74			
Γ		69			
Š		79			
pe		74			
cal		69			
lsc		61			
m		weighted average score for upland land use:	79.00		
La		distance to nearest wetland(feet):	51.00		
			512.00		
		distance to 2nd nearest wetland:	512.00	0.75	
	V	distance to 2nd nearest wetland: distance to 3rd nearest wetland:	538.00	0.75	
	V <sub>WETPROX</sub>	distance to 2nd nearest wetland: distance to 3rd nearest wetland: distance to 4th nearest wetland:	512.00           538.00           544.00	0.75	
	V <sub>WETPROX</sub>	distance to 2nd nearest wetland: distance to 3rd nearest wetland: distance to 4th nearest wetland: distance to 5th nearest wetland:	512.00 538.00 544.00 689.00	0.75	
	V <sub>WETPROX</sub>	distance to 2nd nearest wetland: distance to 3rd nearest wetland: distance to 4th nearest wetland: distance to 5th nearest wetland: mean distance (feet):	512.00         538.00         544.00         689.00         466.80	0.75	
	V <sub>WETPROX</sub>	distance to 2nd nearest wetland: distance to 3rd nearest wetland: distance to 4th nearest wetland: distance to 5th nearest wetland: mean distance (feet): acres of palustrine wetlands within a 1-mile radius:	512.00           538.00           544.00           689.00           466.80           75.00	0.75	
	V <sub>WETPROX</sub>	distance to 2nd nearest wetland:         distance to 3rd nearest wetland:         distance to 4th nearest wetland:         distance to 5th nearest wetland:         mean distance (feet):         acres of palustrine wetlands within a 1-mile radius:         number of palustrine wetlands within a 1-mile radius:	512.00           538.00           544.00           689.00           466.80           75.00           60.00	0.75 0.16 0.27	
	V <sub>WETPROX</sub> V <sub>WETAREA</sub> V <sub>BASINS</sub> V <sub>HABFRAG</sub>	distance to 2nd nearest wetland:         distance to 3rd nearest wetland:         distance to 4th nearest wetland:         distance to 5th nearest wetland:         mean distance (feet):         acres of palustrine wetlands within a 1-mile radius:         number of palustrine wetlands within a 1-mile radius:         miles of roads and linear attributes within a 1-mile radius:	512.00           538.00           544.00           689.00           466.80           75.00           60.00           14.00	0.75 0.16 0.27 0.00	

Function	FCI	FCU
1. Water Storage	0.94	0.94
2. Groundwater Recharge	0.85	0.85
3. Retain Particlulates	0.58	0.58
4. Remove, Convert, and Sequester Dissolved Substances	0.58	0.58
5. Plant Community Resilience and Carbon Cycling	0.53	0.53
6a. Provide Faunal Habitat	0.63	0.63
6b. Provide Faunal Habitat (Alternate Formula)	0.50	0.50

# **Summary Sheet**

### USER NOTE: Do not enter any data in this worksheet. All data and calculations are entered for you using previously entered information. If any of this information is incorrect, enter the correct information in the appropriate worksheet.

## **Project Name/Location:**

85th Street Interchange
Lincoln County, South Dakota
Wetland #29

	Variable	Data entered		Subindex
		wetland perimeter (feet):	1176.00	
	V <sub>GRASSCONT</sub>	grassland along perimeter (feet):	570.00	0.48
		percent continuity:	48.47	
		grassland width (feet) at 12 points:		
		Point 1:	5.00	
		Point 2:	5.00	
		Point 3:	0.00	
		Point 4:	0.00	
n		Point 5:	0.00	
io	V	Point 6:	0.00	0.04
al	V GRASSWIDTH	Point 7:	0.00	0.04
gel		Point 8:	0.00	
'eg		Point 9:	0.00	
		Point 10:	5.00	
		Point 11:	5.00	
		Point 12:	5.00	
		mean width (feet):	2.08	
		(see vegetation worksheet for species entered)		
		sum of species:	2.00	
	V <sub>VEGCOMP</sub>	sum of C values:	5.00	0.19
		mean coefficient of conservatism:	2.50	
		FQI:	3.54	

	V <sub>RECHARGE</sub>	Soil Recharge Potential Subindex:	0.75	0.75	
		Eastern Prairie Potholes			
	V	mean depth to B horizon (inches):		1.00	
	• SED	Western Prairie Potholes		1.00	
		mean depth to B horizon (inches):	12.00		
		SQI scores for 4 samples:			
		sample 1:	1.50		
	Vsor	sample 2:	1.50	0.04	
	· SQI	sample 3:	2.00		
		sample 4:	2.00		
		average SQI score:	1.75		
		Indirect Measurements			
		Litter Depth for 4 samples:			
		sample 1:	0.00		
		sample 2:	0.00		
		sample 3:	0.00		
			sample 4:	0.00	
		Average Litter Depth (inches):	0.00		
		ADI for 4 samples:	10.00		
ii		Sample I hue:	10.00		
So		value:	2.00		
		chroma:	2.00		
		ADI:	/.00		
		Sample 2 hue:	10.00		
		value:	2.00		
	V <sub>SOM</sub>		2.00	0.27	
		ADI:	/.00	•	
		Sample 5 Inte.	2.00		
		value.	2.00		
			2.00		
		ADI.	10.00		
		sample 4 nuc.	2.00		
		chroma:	2.00		
		A DI:	2.00		
		average ADI:	7.00		
		Direct Measurements	7.00		
		% organic carbon for 0-15cm depth:			
		% organic carbon for 15-30cm depth			
		mean percentage			
		% organic carbon:	1.57		
		, o organic curbon.	1.07		

		historic invert elevation in relation to wetland maximum depth:	1507.00		
		nrecent (or constructed) invert elevation	1507.00		
		elevation of the edge of the historic wetland:	1515.00		
	V <sub>OUT</sub>	elevation of a representative deepest portion of the wetland:	1514.50	1.00	
c		if evaluating pit or fill, enter % volume of pit/fill vs. wetland	0.00		
rphi		ratio of the constructed elevation to the natural outlet elevation:	1.00		
no		depth of surface drainage invert:			
<b>JO</b>	V <sub>SUBOUT</sub>	distance from WAA edge:		1.00	
ge		location/spacing of subsurface tile within the WAA:			
lr0		type & effect of surface alteration(s):			
yd	V	% of historic catchment area still contributing runoff:		1.00	
H	<b>v</b> SOURCE	additions of water from other sources:		1.00	
		change in wetland regime class?			
		wetland perimeter (feet):	1176.00		
	<b>V</b> <sub>EDGE</sub>	wetland area (acres):	2.13	0.30	
		Shoreline Development Index:	1.09		
	<b>X</b> 7	wetland area (acres):	2.13	0.26	
	VCATCHWET	catchment area (acres):	5.86	0.36	
		ratio of catchment size to wetland size:	2.75		
		total acressize of the present day catchment:	5.86		
		acres of catchinent for each curve number:			
		00			
		90 79	4 86		
		90 79 77	4.86		
		90 79 77 72	4.86		
		90 79 77 72 75	4.86		
e	T/	90 79 77 72 75 73	4.86	0.54	
use	V <sub>UPUSE</sub>	90 79 77 72 75 73 71	4.86	0.54	
nduse	V <sub>UPUSE</sub>	90 79 77 72 72 75 73 73 71 72	4.86	0.54	
anduse	V <sub>UPUSE</sub>	90 79 77 72 75 73 73 71 71 72 74	4.86	0.54	
¢ Landuse	V <sub>UPUSE</sub>	90 79 77 72 75 73 73 71 71 72 72 74 69	4.86	0.54	
e & Landuse	V <sub>UPUSE</sub>	90 79 77 72 75 75 73 73 71 71 72 72 74 69 79	4.86	0.54	
pe & Landuse	V <sub>UPUSE</sub>	90 79 77 72 72 75 73 73 71 71 72 74 69 79 74	4.86	0.54	
cape & Landuse	V <sub>UPUSE</sub>	90 79 77 72 72 75 73 73 71 71 72 74 69 79 74 69	4.86	0.54	
dscape & Landuse	V <sub>UPUSE</sub>	90 79 77 72 72 75 73 73 71 71 72 74 69 79 74 69 79 74 69	4.86	0.54	
andscape & Landuse	V <sub>UPUSE</sub>	90 79 77 72 75 75 73 73 71 71 72 74 69 79 74 69 79 74 69 69 79	4.86 1.00 78.15	0.54	
Landscape & Landuse	V <sub>UPUSE</sub>	90 79 77 77 72 75 73 73 73 73 74 69 79 74 69 69 69 61 weighted average score for upland land use: distance to nearest wetland(feet):	4.86 1.00 78.15 44.00	0.54	
Landscape & Landuse	V <sub>UPUSE</sub>	90 79 77 77 72 75 73 73 73 74 69 74 69 79 74 69 61 weighted average score for upland land use: 61 weighted average score for upland land use: 63 64 65 65 65 65 65 65 65 65 65 65	4.86 1.00 78.15 44.00 561.00 (45.00)	0.54	
Landscape & Landuse	V <sub>UPUSE</sub>	90 79 77 77 72 75 73 73 73 71 72 74 69 74 69 79 74 69 61 weighted average score for upland land use: 69 61 60 61 60 61 61 62 63 64 64 64 65 65 65 65 65 65 65 65 65 65	4.86 1.00 78.15 44.00 561.00 645.00 100.00	0.54	
Landscape & Landuse	V <sub>UPUSE</sub>	90 79 77 77 72 75 75 73 73 71 73 71 74 69 74 69 79 74 69 79 74 69 69 69 69 69 69 69 69 69 69	4.86 1.00 1.00 78.15 44.00 561.00 645.00 1040.00 1171.00	0.54	
Landscape & Landuse	V <sub>UPUSE</sub>	90 79 77 77 72 75 73 73 73 74 74 69 79 74 69 79 74 69 69 61 79 61 70 69 61 74 69 61 74 69 61 74 69 61 74 62 74 74 63 74 74 64 75 75 75 75 76 76 76 77 76 77 76 77 76 77 77	4.86 1.00 1.00 78.15 44.00 561.00 645.00 1040.00 1171.00 692.20	0.54	
Landscape & Landuse	V <sub>UPUSE</sub> V <sub>WETPROX</sub>	90 79 77 77 72 75 73 73 73 73 74 74 69 74 69 79 74 69 69 61 weighted average score for upland land use: 69 61 69 61 69 61 69 61 69 61 69 61 69 61 69 61 69 61 69 61 69 61 69 61 69 61 69 61 69 61 69 61 69 60 69 60 60 60 60 60 60 60 60 60 60	4.86 1.00 1.00 78.15 44.00 561.00 645.00 1040.00 1171.00 692.20 75.00	0.54	
Landscape & Landuse	V <sub>UPUSE</sub> V <sub>WETPROX</sub>	90 79 77 77 72 75 73 73 73 73 73 74 74 69 74 69 79 74 69 69 61 79 61 74 69 61 74 69 61 74 69 61 74 69 61 74 69 61 74 69 61 74 69 61 74 69 61 74 69 75 74 74 74 74 74 74 75 74 74 74 75 74 74 75 74 74 74 74 75 74 74 74 75 74 74 74 74 74 74 74 74 75 76 77 74 74 74 74 74 74 75 76 77 74 74 74 74 74 75 76 77 77 74 74 74 74 74 74 74 75 76 77 74 74 74 74 74 74 75 76 77 74 74 74 74 74 74 74 74 74	4.86 1.00 1.00 78.15 44.00 561.00 645.00 1040.00 1171.00 692.20 75.00 60.00	0.54 0.49 0.16 0.27	
Landscape & Landuse	V <sub>UPUSE</sub> V <sub>WETPROX</sub> V <sub>WETAREA</sub> V <sub>BASINS</sub>	90 79 77 77 72 75 73 73 73 71 73 71 72 74 74 69 79 74 69 61 79 74 69 61 69 61 61 69 61 61 69 61 61 62 63 64 64 69 65 65 61 65 65 65 65 65 65 65 65 65 65	4.86 1.00 1.00 78.15 44.00 561.00 645.00 1040.00 1171.00 692.20 75.00 60.00 1.5 00	0.54 0.49 0.16 0.27	

Function	FCI	FCU	
1. Water Storage	0.94	2.00	
2. Groundwater Recharge	0.70	1.50	
3. Retain Particlulates	0.69	1.47	
4. Remove, Convert, and Sequester Dissolved Substances	0.67	1.42	
5. Plant Community Resilience and Carbon Cycling	0.63	1.33	
6a. Provide Faunal Habitat	0.65	1.39	
6b. Provide Faunal Habitat (Alternate Formula)	0.56	1.20	

South Dakota Slope HGM Model, Version 4.0 Rev. 6/6/0								ev. 6/6/01		
Variable Score Field Form										
Field Office -		WAA Id			Wetland	d 35	Reference Site? (Y/N)			
County	Lincoln	Wetlan	<mark>d Acres (</mark> p	ore-)	25.9	Wetland type (NWI)	PEM1C			
Date	11/13/2018	Wetlan	d Acres (p	ost-)	25.9	Wetland type (FSA)				
Owner/Op	85th St BDJVG	Planne	d Activity -			<u>-</u>				
Yellow Flag?	lf yes, v	vhat?			-		Observe	ers		
Red Flag?	If yes, what?						Rebecca	a Beduhn		
						Pationalo for Post-	Variable Score			
Variable	Measurement or Condition Result				t	Project Changes	Existing	Projected		
V <sub>detritus</sub>	Detritus thickness (in	.), pre-proj	ect		0		0.25	0.25		
N	Sediment thickness (	in.) in wetla	and, pre-pro	oject	0		4.00	4.00		
V <sub>sed</sub>	Other observations						1.00 1.00			
V	Dominant texture in u	minant texture in upper 18" SiCL				1 00	1 00			
V <sub>som</sub>	Color in upper 12":	Value	2	Chroma -	1		1.00	1.00		
	Pores			SQI	2					
V	Structure			SQI	2		0.75	0.75		
▼ pore	Rupture Resistance			SQI	2					
	Summary SQI Ra	ating			6					
				Pre-	Post-					
V <sub>buffer</sub>	Buffer continuity (%)			70	70					
	Width of perm. veg. buffer (ft.)			30.8	30.8					
	Buffer condition			0.3	0.3		0.17	0.17		
				<b>↓</b>	•		0.17	0.17		
	Perm. veg. part			0	0					
	Tilled part			None	None					
	Buffer Condition Rating (B <sub>2</sub> )				0.1					
V <sub>pratio</sub>	Native species prese	nt in wetlar	nd (% of do	0		1.00	1.00			
	Pre-			Post-						
	Percent of wetland ar	etland area intact			100					
V <sub>pcover</sub>	% ground cover -	100	Rating -	1	1		1.00	1.00		
	Percent of wetland ar	ea tilled		0						
	% ground cover -	0	Rating -	1	. 1					
N	Is the wetland area in	itact or disi	urbed?	Int	act		4.00	1.00		
V micro	Describe variability on welland surface (nummocks, meanders)					1.00	1.00			
	Watershed source alterations (V/N)2									
V <sub>source</sub>	If Y what?	Roads De		T			0.10	0 10		
	Percent of area affe	t of area affected 80				0.10	0.10			
	Alteration present?	N	Туре							
V <sub>subalt</sub>						1.00	1.00			
V	Alteration present?	nt? Y Type Dam, culve			ert		0.10	0 10		
• surfait						0.10	0.10			
V <sub>upuse</sub>	Dominant use of upland (3 maximum) % of are			% of area	Index					
	Urban development,	ban development, roads			0		0.02	0.02		
	Conventional Tillage	tional Tillage Row Crop			0.1			5.02		

SLOPE MODEL FUNCTIONAL ASSESSMENT WORKSHEET									
Version 4.0 (Rev. 6/6/01)									
DATE	############		REMARKS						
WETLAND ID	Wetland 35		ASSESSMENT TYPE		Delineation				
OBSERVERS	Rebecca B	eduhn	WETLAND TYPE NWI		PEM1C				
CONDITIONS			WETLAND TYPE FSA						
PROJECT NAME	85th Street	Interchange	OWNER/OPERATOR		85th St BDJVG				
PLANNED ACTIVITY									
YELLOW FLAG		RED FLAG							
WETLAND ACRES E	25.9	WETLAND ACRES P 25.9							
			SCORE						
VARIABLE			Existing	Predicted					
Detritus (V <sub>detritus</sub> )			0.25	0.25					
Sedimentation in the We	etland (V <sub>sed</sub> )		1.00	1.00					
Soil Organic Matter (V <sub>so</sub>	m)		1.00	1.00					
Soil Pores (V <sub>pore</sub> )			0.75	0.75					
Buffer Condition, Contin	uity, & Width	(V <sub>buffer</sub> )	0.17	0.17					
Ratio of Native to Non-Native Species (V <sub>pratio</sub> )			1.00	1.00					
Vegetation Density (V <sub>pcc</sub>	over)		1.00	1.00					
Microtopographic Complexity (V <sub>micro</sub> )			1.00	1.00					
Source Area of Flow (V <sub>source</sub> )			0.10	0.10					
Subsurface Hydrology Alterations (V <sub>subalt</sub> )			1.00	1.00					
Surface Hydrology Alterations (V <sub>surfalt</sub> )			0.10	0.10					
Upland Use (V <sub>upuse</sub> )			0.02	0.02					
	CALCU	LATION OF F		CAPACITY					
EXISTING	FCI	FCU	PRED	ICTED	FCI	FCU			
Mod. Groundwater Flow	0.68	17.71	Mod. Groundwater Flow		0.68	17.71			
Vel. Reduc. Surf. Water	0.61	15.69	Vel. Reduc. Surf. Water		0.61	15.69			
Elemental & Nutr. Cycling	0.41	10.73	Elemental & Nutr. Cycling		0.41	10.73			
Retention of Particulates	0.70	18.10	Retention of Particulates		0.70	18.10			
Organic Carbon Export	0.74	19.10	Organic Carbon Export		0.74	19.10			
Maint. of Plant Comm.	0.82	21.15	Maint. of Plant Comm.		0.82	21.15			
Habitat Interspersion	0.44	11.29	Habitat Interspersion		0.44	11.29			
	CHANGE	IN FCU's	MIN EFFECT JUSTIFICAT		TION OF MINIMAL EFFECT				
FUNCTIONS	NUMERICAL	PERCENT	(Yes or No)	IF 10 TO 2	0% LOSS OF F				
Mod. Groundwater Flow	0.00	0.0	YES						
Vel. Reduc. Surf. Water	0.00	0.0	YES						
Ret, Conv. Elem. & Cmpd.	0.00	0.0	YES						
Retention of Particulates	0.00	0.0	YES						
Organic Carbon Export	0.00	0.0	YES						
Maint. of Plant Comm.	0.00	0.0	YES						
Habitat Interspersion	0.00	0.0	YES						
	Soι	ith Dakot	a Slop	e HGM	Model, V	ersion 4.0	Re		
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		V	ariable	Score F	ield Form				
Field Office -		WAA Id	l		Wetland 38		Reference Site? (Y/N)		
County	Lincoln	Wetlan	d Acres (p	ore-)	0.03	Wetland type (NWI)	PEM1B		
Date	11/13/2018	Wetlan	d Acres (p	oost-)	0.03	Wetland type (FSA)			
Owner/Op	85th St BDJVG	Planned	d Activity -						
Yellow Flag?	lf ye	s, what?					Observe		
Red Flag?	lf ye	s, what?					Rebecca		
						Rationale for Post-	Variable		
Variable	Меа	surement o	or Condi	tion Res	ult	Project Changes	Existing		
V <sub>detritus</sub>	Detritus thickness	s (in.), pre-proje	ect		0		0.25		
	Sediment thickne	ss (in.) in wetla	and, pre-pr	oject	0				
V <sub>sed</sub>	Other observation	าร			1.00				
V	Dominant texture	in upper 18"			SiCL		1.00		
V som	Color in upper 12	": Value	2	Chroma -	1		1.00		
	Pores			SQI	2				
V	Structure			SQI	2		0.75		
- pore	Rupture Resistar	<mark>ce</mark>		SQI	2		0.70		
	Summary SC	I Rating			6				
	D (6 )	(04.)		Pre-	Post-				
	Buffer continuity	(%)(ft )		100	100				
	Continuity/Widt	eg. buπer (π.)		48	48				
V	Buffer condition	in Raung (D <sub>1</sub> ) -		0.4	0.4		0.45		
• buffer				•	•		0.45		
	Perm. veg. part			0	0				
	Tilled part			None	None				
	Buffer Condition	Rating (B <sub>2</sub> )		0.5	0.5				
<b>V</b> <sub>pratio</sub>	Native species pr	esent in wetlar	nd (% of do	ominants)	0		0.10		
				Pre-	Post-				
	Percent of wetlan	d area intact		100	100				
V <sub>pcover</sub>	% ground cove	<mark>r-</mark> 100	Rating -	1	1		1.00		
	Percent of wetlan	d area tilled		0	0				
	% ground cove	r - 0	Rating -		1				
V	Is the wetland are	ea intact or dist	urbed?	Di	sturbed		0.10		
<sup>♥</sup> micro	Describe variabili Roadsido diteb	ly on welland s	sunace (nu	mmocks, m	leanders)		0.10		
	Watershed source	e alterations (N	(/NI)2	v					
V	If Y what?	Roads	////):				0.10		
- source	Percent of area	affected		50			0.10		
	Alteration presen	t? Y	Туре	Culvert					
V <sub>subalt</sub>							0.25		
V	Alteration presen	t? N	Type				1.00		
♥ surfait							1.00		
	Dominant use o	o <mark>f upland (3 ma</mark>	aximum)	% of area	Index				
V	Farmstead			100	0.1		0.10		
• upuse							0.10		

v. 6/6/01∶	
rs Beduhn e Score Projected	
0.25	
1.00	
1.00	
0.75	
0.45	
0.10	
1.00	
0.10	
0.10	
0.25	
1.00	
0.10	

SLOPE MO		NCTIONA			ORKSHEE	T	
DATE		version 4.0		J1)			
	##########		REMARKS				
	Wetland 38	3	ASSESSMEN		Delineation		
OBSERVERS	Rebecca B	eduhn	WEILAND IN	PE NWI	PEM1B		
CONDITIONS			WEILAND IN	PEFSA			
	85th Street	Interchange	OWNER/OPE	RATUR	85th St BDJVG		
YELLOW FLAG	0.0	RED FLAG -		0.0			
WEILAND ACRES E	0.0	WEILAND A	CRES P				
VARI		Fristing					
Detritus (V <sub>detritus</sub> )			0.25	0.25			
Sedimentation in the We		1.00	1.00				
Soil Organic Matter (V <sub>so</sub>	m)		1.00	1.00			
Soil Pores (V <sub>pore</sub> )			0.75	0.75			
Buffer Condition, Contin	uity, & Width	(V <sub>buffer</sub> )	0.45	0.45			
Ratio of Native to Non-N	lative Species	s (V <sub>pratio</sub> )	0.10	0.10			
Vegetation Density (V <sub>pcc</sub>	over)		1.00	1.00			
Microtopographic Comp		0.10	0.10				
Source Area of Flow (V <sub>source</sub> )			0.10	0.10			
Subsurface Hydrology A	Iterations (V <sub>s</sub>	ubalt)	0.25	0.25			
Surface Hydrology Alter	ations (V <sub>surfalt</sub> )		1.00	1.00			
Upland Use (V <sub>upuse</sub> )			0.10	0.10			
	CALCU	LATION OF F		CAPACITY			
EXISTING	FCI	FCU	PRED	ICTED	FCI	FCU	
Mod. Groundwater Flow	0.35	0.01	Mod. Groundv	vater Flow	0.35	0.01	
Vel. Reduc. Surf. Water	0.63	0.02	Vel. Reduc. S	urf. Water	0.63	0.02	
Elemental & Nutr. Cycling	0.49	0.01	Elemental & N	lutr. Cycling	0.49	0.01	
Retention of Particulates	0.76	0.02	Retention of P	articulates	0.76	0.02	
Organic Carbon Export	0.68	0.02	Organic Carbo	on Export	0.68	0.02	
Maint. of Plant Comm.	0.53	0.02	Maint. of Plant	t Comm.	0.53	0.02	
Habitat Interspersion	0.54	0.02	Habitat Intersp	persion	0.54	0.02	
FUNCTIONS	CHANGE	IN FCU's	MIN EFFECT	JUSTIFICAT			
FUNCTIONS	NUMERICAL	PERCENT	(Yes or No)	IF 10 TO 2	O% LOSS OF I		
Mod. Groundwater Flow	0.00	0.0	YES	<u> </u>			
Vel. Reduc. Surf. Water	0.00	0.0	YES	L			
Ret, Conv. Elem. & Cmpd.	0.00	0.0	YES				
Retention of Particulates	0.00	0.0	YES				
Organic Carbon Export	0.00	0.0	YES				
Maint. of Plant Comm.	0.00	0.0	YES				
Habitat Interspersion	0.00	0.0	YES				

	South D	Dakota	Slope	HGM N	lodel,	Version 4.0	Re	ev. 6/6/01
		Va	riable S	core Fie	ld Form			
Field Office -		WAA lo	J		Wetland	d 39	Reference Site? (Y/N)	
County	Lincoln	Wetlan	<mark>d Acres (</mark> p	ore-)	0.02	Wetland type (NWI)	PEM1C	
Date	11/13/2018	Wetlan	<mark>d Acres (</mark> p	ost-)	0.02	Wetland type (FSA)		
Owner/Op	85th St BDJVG	Planne	d Activity -					
Yellow Flag?	lf yes, v	vhat?					Observe	ers
Red Flag?	lf yes, v	vhat?					Rebecca	a Beduhn
						Rationale for Post-	Variabl	e Score
Variable	Measure	ment or	Conditio	on Resul	t	Project Changes	Existing	Projected
V <sub>detritus</sub>	Detritus thickness (in	.), pre-proj	ect		0		0.25	0.25
Vari	Sediment thickness (	in.) in wetla	and, pre-pr	oject	0		1.00	1 00
• sed	Other observations						1.00	1.00
Vaam	Dominant texture in upper 18"				SiCL		1 00	1 00
- som	Color in upper 12":	Value	2	Chroma -	1			
	Pores			SQI	2			
V <sub>pore</sub>	Structure			SQI	2		0.75	0.75
	Rupture Resistance	<b>4</b> <sup>1</sup>		SQI	2			
	Summary SQI Ra	ating		 Dre	De et			
	Buffer continuity (%)			100	100			
	Width of perm, yea, b	uffer (ft ) -		100	100			
	Continuity/Width R	Continuity/Width Rating (B <sub>1</sub> )			0.2			
Vbuffor	Buffer condition				0. <u>2</u>		0.32	0.32
bunci	Perm. veg. part				0			
	Tilled part			None	None	-		
	Buffer Condition Rati	ng (B <sub>2</sub> )		0.5	0.5			
V <sub>pratio</sub>	Native species prese	nt in wetlar	nd (% of do	minants)	0		0.10	0.10
				Pre-	Post-			
	Percent of wetland ar	ea intact		100	100			
V <sub>pcover</sub>	% ground cover -	100	Rating -	1	1		1.00	1.00
	Percent of wetland ar	ea tilled		0	0			
	% ground cover -	0	Rating -	1	1			
	Is the wetland area in	tact or dist	turbed?	Distu	urbed			
V <sub>micro</sub>	Describe variability or	n wetland s	surface (hu	<mark>mmocks, m</mark>	neanders)		0.10	0.10
	Roadside ditch							
	Watershed source all	terations ()	r/N)?	Y				
V <sub>source</sub>	If Y, what?	road		50			0.10	0.10
	Percent of area affe	ected	<b>T</b>	50				
V <sub>subalt</sub>	Alteration present?	Y	туре	cuiven			0.25	0.25
Veurfalt	Alteration present?	Ν	Type				1.00	1.00
Sunat								
	Dominant use of up	pland (3 ma	aximum)	% of area	Index			
V <sub>upuse</sub>	⊢armstead			100	0.1		0.10	0.10

SLOPE MO		NCTIONA			ORKSHEE	т	
		Version 4.0	<b>)</b> (Rev. 6/6/0	J1)			
DATE	#######################################		REMARKS				
WETLAND ID	Wetland 39	)	ASSESSMEN	T TYPE	Delineation		
OBSERVERS	Rebecca B	eduhn	WETLAND TY	PE NWI	PEM1C		
CONDITIONS			WETLAND TY	PE FSA			
PROJECT NAME	85th Street	Interchange	OWNER/OPE	RATOR	85th St BDJVG		
PLANNED ACTIVITY							
YELLOW FLAG		RED FLAG -					
WETLAND ACRES E	0.0	WETLAND A	CRES P	0.0			
			SCO	DRE			
		Existing	Predicted				
Detritus (V <sub>detritus</sub> )		0.25	0.25				
Sedimentation in the Wo	etiand (V <sub>sed</sub> )		1.00	1.00			
Soli Organic Matter (V <sub>so</sub>	m)		1.00	1.00			
Soil Pores (V <sub>pore</sub> )			0.75	0.75			
Buffer Condition, Contin	uity, & Width	(V <sub>buffer</sub> )	0.32	0.32			
Ratio of Native to Non-N	lative Species	s (V <sub>pratio</sub> )	0.10	0.10			
Vegetation Density (V <sub>pcc</sub>	1.00	1.00					
Microtopographic Comp	lexity (V <sub>micro</sub> )		0.10	0.10			
Source Area of Flow (V	source)		0.10	0.10			
Subsurface Hydrology A	Iterations (V <sub>si</sub>	ubalt)	0.25	0.25			
Surface Hydrology Alter	ations (V <sub>surfalt</sub> )		1.00	1.00			
Upland Use (V <sub>upuse</sub> )			0.10	0.10			
						5011	
EXISTING	FCI	FCU	PRED		FCI	FCU	
Mod. Groundwater Flow	0.35	0.01	Mod. Groundy	vater Flow	0.35	0.01	
Vel. Reduc. Surf. Water	0.62	0.01	Vel. Reduc. Si	urf. Water	0.62	0.01	
Elemental & Nutr. Cycling	0.49	0.01	Elemental & N	lutr. Cycling	0.49	0.01	
Retention of Particulates	0.74	0.01	Retention of P	articulates	0.74	0.01	
Organic Carbon Export	0.68	0.01	Organic Carbo	on Export	0.68	0.01	
Maint. of Plant Comm.	0.53	0.01	Maint. of Plant	Comm.	0.53	0.01	
Habitat Interspersion	0.51	0.01	Habitat Intersp	persion	0.51	0.01	
FUNCTIONS	CHANGE	IN FCU's	MIN EFFECT	JUSTIFICAT			
FUNCTIONS	NUMERICAL	PERCENT	(Yes or No)	IF 10 TO 2	O% LOSS OF I	-UNCTION	
Mod. Groundwater Flow	0.00	0.0	YES				
Vel. Reduc. Surf. Water	0.00	0.0	YES				
Ret, Conv. Elem. & Cmpd.	0.00	0.0	YES				
Retention of Particulates	0.00	0.0	YES				
Organic Carbon Export	0.00	0.0	YES				
Maint. of Plant Comm.	0.00	0.0	YES				
Habitat Interspersion	0.00	0.0	YES				

	South I	Version 4.0	Re	ev. 6/6/01				
		Va	riable S	core Fie	ld Form	l		
Field Office -		WAA lo	d		Wetlan	d 40	Reference Site? (Y/N)	
County	Lincoln	Wetlan	<mark>d Acres (</mark> p	ore-)	0.2	Wetland type (NWI)	PEM1B	
Date	11/13/2018	Wetlan	<mark>d Acres (</mark> p	ost-)	0.2	Wetland type (FSA)		
Owner/Op	85th St BDJVG	Planne	d Activity -					
Yellow Flag?	lf yes, v	vhat?					Observe	ers
Red Flag?	lf yes, v	vhat?					Rebecca	a Beduhn
						Rationale for Post-	Variabl	e Score
Variable	Measure	ment or	Conditio	on Resul	t	Project Changes	Existing	Projected
V <sub>detritus</sub>	Detritus thickness (in	.), pre-proj	ect		0		0.25	0.25
Vsod	Sediment thickness (	in.) in wetla	and, pre-pro	oject	0		1.00	1.00
Seu	Other observations							
<b>V</b> <sub>som</sub>	Dominant texture in u	pper 18"			SiCL		1.00	1.00
	Color in upper 12":	Value	2	Chroma -	1			
	Pores			SQI	2			
V <sub>pore</sub>	Structure Pupture Posistance		SQI	2		0.75	0.75	
	Summary SOL Ra	ating			6			
	ournary our ra			Pre-	Post-			
	Buffer continuity (%)			100	100			
	Width of perm. veg. b	ouffer (ft.) -		38	38			
	Continuity/Width R	ating $(B_1)$ -		0.4	0.4			
V <sub>buffer</sub>	Buffer condition			Ŧ	<b>I</b>		0.40	0.40
	Perm. veg. part			0	0			
	Tilled part			None	None			
	Buffer Condition Ration	<mark>ng (B<sub>2</sub>)</mark>		0.4	0.4			
V <sub>pratio</sub>	Native species prese	nt in wetlar	nd (% of do	minants)	0		0.10	0.10
				Pre-	Post-			
	Percent of wetland ar	ea intact		100	100			
V <sub>pcover</sub>	% ground cover -	100	Rating -	1	1		1.00	1.00
	Percent of wetland ar	ea tilled		0	0			
	% ground cover -	0	Rating -	1	1			
N	Is the wetland area in	tact or dist	turbed?		Y		0.05	0.05
<sup>♥</sup> micro	Describe variability of	n welland s	suriace (nu	mmocks, m	ieanders)		0.25	0.25
	Watershed source al	terations ()	<u>(/NI)2</u>	v				
Vcourse	If Y, what?	road	.,,.				0.10	0.10
Source	Percent of area affe	ected		50				
V	Alteration present?	Y	Туре	culvert			0.05	0.05
V <sub>subalt</sub>							0.25	0.25
V <sub>surfalt</sub>	Alteration present?	N	Type				1.00	1.00
	Dominant use of up	oland (3 ma	aximum)	% of area	Index			
M	Farmstead			100	0.1			0.40
Vupuse						1	0.10	0.10

SLOPE MO					ORKSHEE	T	
DATE		version 4.0		J1)			
			REMARKS				
	Wetland 40	)	ASSESSMEN		Delineation		
OBSERVERS	Rebecca B	eduhn	WEILAND IN	PE NWI	PEM1B		
CONDITIONS			WEILAND IN	PEFSA		10	
PROJECT NAME	85th Street	Interchange	OWNER/OPE	RATOR	85th St BDJVG		
YELLOW FLAG		RED FLAG -					
WEILAND ACRES E	0.2	WEILAND A	CRES P	0.2			
				Dradiated			
			0.25	0.25			
Sedimentation in the W		1.00	1.00				
Soil Organic Matter (V			1.00	1.00			
Soil Pores (Vara)	m/		0.75	0.75			
Buffer Condition Contin	uity & Width	(Visation)	0.40	0.40			
Ratio of Native to Non-N	(V <sub>pratio</sub> )	0.10	0.10				
Vegetation Density (V <sub>rec</sub>	wer)		1.00	1.00			
Microtopographic Comp	0.25	0.25					
Source Area of Flow (V.			0.10	0.10			
Subsurface Hydrology A	Alterations (Vs	ubalt)	0.25	0.25			
Surface Hydrology Alter	ations (V <sub>surfalt</sub> )		1.00	1.00			
Upland Use (V <sub>upuse</sub> )			0.10	0.10			
· · · · ·	CALCU	LATION OF F		CAPACITY			
EXISTING	FCI	FCU	PRED	ICTED	FCI	FCU	
Mod. Groundwater Flow	0.35	0.06	Mod. Groundv	vater Flow	0.35	0.06	
Vel. Reduc. Surf. Water	0.66	0.11	Vel. Reduc. Si	urf. Water	0.66	0.11	
Elemental & Nutr. Cycling	0.49	0.08	Elemental & N	lutr. Cycling	0.49	0.08	
Retention of Particulates	0.75	0.13	Retention of P	articulates	0.75	0.13	
Organic Carbon Export	0.69	0.12	Organic Carbo	on Export	0.69	0.12	
Maint. of Plant Comm.	0.53	0.09	Maint. of Plant	t Comm.	0.53	0.09	
Habitat Interspersion	0.53	0.09	Habitat Intersp	persion	0.53	0.09	
	CHANGE	IN FCU's	MIN EFFECT	JUSTIFICAT	ION OF MINIM	IAL EFFECT	
FUNCTIONS	NUMERICAL	PERCENT	(Yes or No)	IF 10 TO 2	0% LOSS OF I		
Mod. Groundwater Flow	0.00	0.0	YES				
Vel. Reduc. Surf. Water	0.00	0.0	YES				
Ret, Conv. Elem. & Cmpd.	0.00	0.0	YES				
Retention of Particulates	0.00	0.0	YES				
Organic Carbon Export	0.00	0.0	YES				
Maint. of Plant Comm.	0.00	0.0	YES				
Habitat Interspersion	0.00	0.0	YES				

	South I	Dakota	Slope	HGM N	Nodel,	Version 4.0	Re	ev. 6/6/01
		Va	riable S	core Fie	ld Form	l		
Field Office -		WAA lo	1		Wetlan	d 41	Reference Site? (Y/N)	
County	Lincoln	Wetlan	<mark>d Acres (</mark> p	ore-)	0.2	Wetland type (NWI)	PEM1B	
Date	11/13/2018	Wetlan	<mark>d Acres (</mark> p	ost-)	0.2	Wetland type (FSA)		
Owner/Op	85th St BDJVG	Planne	d Activity -					
Yellow Flag?	lf yes, v	vhat?					Observe	ers
Red Flag?	lf yes, v	vhat?					Rebecca	a Beduhn
						Rationale for Post-	Variabl	e Score
Variable	Measure	ment or	Conditio	on Resul	t	Project Changes	Existing	Projected
V <sub>detritus</sub>	Detritus thickness (in	.), pre-proj	ect		0		0.25	0.25
<b>V</b> .	Sediment thickness (	in.) in wetla	and, pre-pro	oject	0		1.00	1.00
▼ sed	Other observations						1.00	1.00
v	Dominant texture in u	<mark>pper 18"</mark>			SiCL		0.75	0.75
• som	Color in upper 12":	Value	2	Chroma -	2		0.70	0.75
	Pores			SQI	2			
Vnore	Structure		SQI	2		0.75	0.75	
- pore	Rupture Resistance			SQI	2			
	Summary SQI Ra	ating			6			
				Pre-	Post-			
	Buffer continuity (%)			83	83			
	Width of perm. veg. b	th of perm. veg. buffer (ft.)						
N							0.00	0.00
Vbuffer	Buffer condition			<b>↓</b>	•		0.32	0.32
	Perm. veg. part			100	100			
	Tilled part			None	None			
	Buffer Condition Rati	ng (B <sub>2</sub> )		0.5	0.5			
V <sub>pratio</sub>	Native species prese	nt in wetlar	nd (% of do	minants)	0		0.10	0.10
				Pre-	Post-			
	Percent of wetland ar	ea intact		100	100			
V <sub>pcover</sub>	% ground cover -	100	Rating -	1	1		1.00	1.00
	Percent of wetland ar	ea tilled		0	0			
	% ground cover -	0	Rating -		1 			
N	Is the wetland area in	tact or dist		Disti			0.05	0.05
V micro	Describe variability of	n welland s	sunace (nu	mmocks, m	ieanders)		0.25	0.25
	Materahad source al	torationa ()		V				
V	If V what?	Road	/////	Ť			0.10	0.10
▼ source	Percent of area affe			50			0.10	0.10
	Alteration present?	Y	Type	Culvert				
V <sub>subalt</sub>		· ·	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				0.25	0.25
V <sub>surfalt</sub>	Alteration present?	Ν	Туре				0.25	0.25
	Dominant uso of ur	land (2 m	vinum)	% of orce	Index			
	Conventional Tillaco	Row Crop						
V <sub>upuse</sub>	Farmstead			70	0.1		0.10	0.10
				10	0.1			
						<u> </u>		

SLOPE MO	DDEL FU	NCTIONA			ORKSHEE	T	
		Version 4.0	<b>)</b> (Rev. 6/6/0	)1)			
DATE	###########		REMARKS				
WETLAND ID	Wetland 41		ASSESSMEN	T TYPE	Delineation		
OBSERVERS	Rebecca B	eduhn	WETLAND TY	PE NWI	PEM1B		
CONDITIONS			WETLAND TY	PE FSA			
PROJECT NAME	85th Street	Interchange	OWNER/OPE	RATOR	85th St BDJVG		
PLANNED ACTIVITY							
YELLOW FLAG		RED FLAG -					
WETLAND ACRES E	0.2	WETLAND A	CRES P	0.2			
			SCO	DRE			
VARIA	ABLE		Existing	Predicted			
Detritus (V <sub>detritus</sub> )			0.25	0.25			
Sedimentation in the We	etland (V <sub>sed</sub> )		1.00	1.00			
Soil Organic Matter (V <sub>so</sub>	m)		0.75	0.75			
Soil Pores (V <sub>pore</sub> )			0.75	0.75			
Buffer Condition, Contin	uity, & Width	(V <sub>buffer</sub> )	0.32	0.32			
Ratio of Native to Non-N	s (V <sub>pratio</sub> )	0.10	0.10				
Vegetation Density (V <sub>pcover</sub> )			1.00	1.00			
Microtopographic Comp	lexity (V <sub>micro</sub> )		0.25	0.25			
Source Area of Flow (V <sub>s</sub>	source)		0.10	0.10			
Subsurface Hydrology A	<mark>Alterations (V<sub>s</sub></mark>	<sub>ubalt</sub> )	0.25	0.25			
Surface Hydrology Alter	<mark>ations (V<sub>surfalt</sub>)</mark>		0.25	0.25			
Upland Use (V <sub>upuse</sub> )			0.10	0.10			
	CALCU	LATION OF F		CAPACITY			
EXISTING	FCI	FCU	PRED	ICTED	FCI	FCU	
Mod. Groundwater Flow	0.35	0.06	Mod. Groundv	vater Flow	0.35	0.06	
Vel. Reduc. Surf. Water	0.47	0.08	Vel. Reduc. S	urf. Water	0.47	0.08	
Elemental & Nutr. Cycling	0.39	0.07	Elemental & N	lutr. Cycling	0.39	0.07	
Retention of Particulates	0.74	0.13	Retention of P	articulates	0.74	0.13	
Organic Carbon Export	0.56	0.10	Organic Carbo	on Export	0.56	0.10	
Maint. of Plant Comm.	0.45	0.08	Maint. of Plant	t Comm.	0.45	0.08	
Habitat Interspersion	0.42	0.07	Habitat Intersp	persion	0.42	0.07	
	CHANGE	IN FCU's	MIN EFFECT	JUSTIFICAT	ION OF MINIM	IAL EFFECT	
FUNCTIONS	NUMERICAL	PERCENT	(Yes or No)	IF 10 TO 2	0% LOSS OF I		
Mod. Groundwater Flow	0.00	0.0	YES				
Vel. Reduc. Surf. Water	0.00	0.0	YES				
Ret, Conv. Elem. & Cmpd.	0.00	0.0	YES				
Retention of Particulates	0.00	0.0	YES				
Organic Carbon Export	0.00	0.0	YES				
Maint. of Plant Comm.	0.00	0.0	YES				
Habitat Interspersion	0.00	0.0	YES				

	South D	Dakota	Slope	HGM N	Nodel,	Version 4.0	Rev. 6/6/01	
		Va	riable So	core Fie	ld Form	1		
Field Office -		WAA lo	ł		Wetlan	d 42	Reference Site? (Y/N)	
County	Lincoln	Wetlan	<mark>d Acres (</mark> p	ore-)	0.1	Wetland type (NWI)	PEM1B	
Date	11/13/2018	Wetlan	<mark>d Acres (</mark> p	ost-)	0.1	Wetland type (FSA)		
Owner/Op	85th St BDJVG	Planne	d Activity -					
Yellow Flag?	lf yes, v	vhat?					Observe	ers
Red Flag?	lf yes, v	vhat?					Rebecca	a Beduhn
						Rationale for Post-	Variabl	e Score
Variable	Measure	ment or	Conditio	on Resul	t	Project Changes	Existing	Projected
V <sub>detritus</sub>	Detritus thickness (in	.), pre-proj	ect		0		0.25	0.25
Veed	Sediment thickness (	in.) in wetla	and, pre-pro	oject	0		1 00	1 00
- sed	Other observations						1.00	1.00
Vcom	Dominant texture in u	pper 18" -			SiCL		1.00	1.00
- 5011	Color in upper 12":	Value	2	Chroma -	1			
	Pores			SQI	2			
V <sub>pore</sub>	Structure		SQI	2		0.75	0.75	
	Rupture Resistance			SQI	2			
	Summary SQI Ra	ating			6			
	Puffer continuity (%)			Pre-	Post-			
	Width of perm year h	uffor (ft )		7	7			
	Continuity/Width R	tv/Width Rating (B <sub>1</sub> )			01			
Vbuffor	Buffer condition	er condition					0.22	0.22
Duller	Perm veg part			0				
				0	0			
	Buffer Condition Rati	og (B <sub>2</sub> )						
N			(0/ - <b>f</b> -  -	0.5	0.5		0.40	0.40
<b>V</b> <sub>pratio</sub>	Native species prese	nt in wetiai	nd (% of do	minants)	0		0.10	0.10
				Pre-	Post-			
	Percent of wetland ar	ea intact		100	100			
V <sub>pcover</sub>	% ground cover -	100	Rating -	1	1		1.00	1.00
	Percent of wetland ar	ea tilled		0	0			
	% ground cover -	U toot or diat	Rating -	1 Dietr				
V	Doscribo variability o			Distr mmocks n			0.10	0.10
▼ micro	Roadside Ditch				leanuers)		0.10	0.10
	Watershed source all	terations ()	(/N)?	V				
Vcourse	If Y, what?	Road					0.10	0.10
Source	Percent of area affe	ected		50				
X	Alteration present?	Y	Туре	Culvert		N	0.05	0.05
V <sub>subalt</sub>							0.25	0.25
Vourfalt	Alteration present?	N	Type				1 00	1 00
- surrait							1.00	1.00
	Dominant use of up	oland (3 ma	aximum)	% of area	Index			
Vunusa	Conventional Tillage	Row Crop		53	0.1		0.10	0.10
- upuse	Farmstead			47	0.1			0.10

SLOPE MO	DDEL FU	NCTIONA			ORKSHEE	T	
		Version 4.0	<b>)</b> (Rev. 6/6/0	J1)			
DATE	###########		REMARKS				
WETLAND ID	Wetland 42	2	ASSESSMEN	T TYPE	Delineation		
OBSERVERS	Rebecca B	eduhn	WETLAND TY	PE NWI	PEM1B		
CONDITIONS			WETLAND TY	PE FSA			
PROJECT NAME	85th Street	Interchange	OWNER/OPE	RATOR	85th St BDJVG		
PLANNED ACTIVITY							
YELLOW FLAG		RED FLAG -					
WETLAND ACRES E	0.1	WETLAND A	CRES P	0.1			
			SCO	DRE			
VARIA	ABLE		Existing	Predicted			
Detritus (V <sub>detritus</sub> )			0.25	0.25			
Sedimentation in the We	etland (V <sub>sed</sub> )		1.00	1.00			
Soil Organic Matter (V <sub>so</sub>	m)		1.00	1.00			
Soil Pores (V <sub>pore</sub> )			0.75	0.75			
Buffer Condition, Contin	uity, & Width	(V <sub>buffer</sub> )	0.22	0.22			
Ratio of Native to Non-N	s (V <sub>pratio</sub> )	0.10	0.10				
Vegetation Density (V <sub>pcover</sub> )			1.00	1.00			
Microtopographic Complexity (V <sub>micro</sub> )			0.10	0.10			
Source Area of Flow (V <sub>source</sub> )			0.10	0.10			
Subsurface Hydrology A	<mark>Alterations (V<sub>si</sub></mark>	<sub>ubalt</sub> )	0.25	0.25			
Surface Hydrology Alter	ations (V <sub>surfalt</sub> )		1.00	1.00			
Upland Use (V <sub>upuse</sub> )			0.10	0.10			
	CALCU	LATION OF F		CAPACITY			
EXISTING	FCI	FCU	PRED	ICTED	FCI	FCU	
Mod. Groundwater Flow	0.35	0.03	Mod. Groundv	vater Flow	0.35	0.03	
Vel. Reduc. Surf. Water	0.61	0.06	Vel. Reduc. Si	urf. Water	0.61	0.06	
Elemental & Nutr. Cycling	0.49	0.04	Elemental & N	lutr. Cycling	0.49	0.04	
Retention of Particulates	0.72	0.06	Retention of P	articulates	0.72	0.06	
Organic Carbon Export	0.68	0.06	Organic Carbo	on Export	0.68	0.06	
Maint. of Plant Comm.	0.53	0.05	Maint. of Plant	t Comm.	0.53	0.05	
Habitat Interspersion	0.49	0.04	Habitat Intersp	persion	0.49	0.04	
	CHANGE	IN FCU's	MIN EFFECT	JUSTIFICAT	ION OF MINIM	IAL EFFECT	
FUNCTIONS	NUMERICAL	PERCENT	(Yes or No)	IF 10 TO 2	0% LOSS OF I		
Mod. Groundwater Flow	0.00	0.0	YES				
Vel. Reduc. Surf. Water	0.00	0.0	YES				
Ret, Conv. Elem. & Cmpd.	0.00	0.0	YES				
Retention of Particulates	0.00	0.0	YES				
Organic Carbon Export	0.00	0.0	YES				
Maint. of Plant Comm.	0.00	0.0	YES				
Habitat Interspersion	0.00	0.0	YES				

	South D	Dakota	Slope	HGM N	Nodel,	Version 4.0	Re	ev. 6/6/01
		Va	riable S	core Fie	ld Form			
Field Office -		WAA lo	d		Wetland	d 43	Reference Site? (Y/N)	
County	Lincoln	Wetlan	<mark>d Acres (</mark> p	ore-)	0.1	Wetland type (NWI)	PEM1B	
Date	11/13/2018	Wetlan	d Acres (p	ost-)	0.1	Wetland type (FSA)		
Owner/Op	85th St BDJVG	Planne	<mark>d Activity -</mark>					
Yellow Flag?	lf yes, v	vhat?					Observe	ers
Red Flag?	lf yes, v	vhat?					Rebecca	a Beduhn
						Rationale for Post-	Variabl	e Score
Variable	Measure	ment or	Conditio	on Result	t	Project Changes	Existing	Projected
V <sub>detritus</sub>	Detritus thickness (in	.), pre-proj	ect		0		0.25	0.25
V <sub>sed</sub>	Sediment thickness (	<mark>in.) in wetl</mark> a	and, pre-pro	oject	0		1.00	1.00
	Other observations	4.01			0.01			
<b>V</b> som	Dominant texture in u	Volue			SICL		1.00	1.00
		value	2		1 2			
	Structure			SOL	2			
V <sub>pore</sub>	Rupture Resistance		SQI	2		0.75	0.75	
	Summary SQI Ra	ating			6			
	-	<u> </u>		Pre-	Post-			
	Buffer continuity (%)			100	100			
	Width of perm. veg. b	ouffer (ft.) -		25	25			
	Continuity/Width Ra	ating (B <sub>1</sub> ) -		0.2	0.2			
V <sub>buffer</sub>	Buffer condition	ndition			<b>I</b>		0.32	0.32
	Perm. veg. part			0	0			
	Tilled part			None	None			
	Buffer Condition Rati	ng (B <sub>2</sub> )		0.5	0.5			
V <sub>pratio</sub>	Native species prese	nt in wetlar	nd (% of do	minants)	0		0.10	0.10
				Pre-	Post-			
	Percent of wetland ar	ea intact		100	100			
V <sub>pcover</sub>	% ground cover -	100	Rating -	1	1		1.00	1.00
	Percent of wetland ar	ea tilled	Detina	0	0			
	% ground cover -	U Itact or dist	turbed?	I Disti	I Irbed			
V	Describe variability or	n wetland s	surface (hu	mmocks m	neanders)		0.10	0 10
- micro		Wolland					0.10	0.10
	Watershed source all	terations ()	Y/N)?	Y				
V <sub>source</sub>	If Y, what?	Road					0.10	0.10
	Percent of area affe	ected						
V <sub>subalt</sub>	Alteration present?	Y	Type	Culvert			0.25	0.25
V	Alteration present?	N	Type				1.00	1.00
♥ surfalt							1.00	1.00
	Dominant use of up	oland (3 ma	aximum)	% of area	Index			
Vunuse	Farmstead			100	0.1		0.10	0.10
apuse								-

SLOPE MODEL FUNCTIONAL ASSESSMENT WORKSHEET						
Version 4.0 (Rev. 6/6/01)						
DATE	###########	##REMARKS				
WEILAND ID	Wetland 43		ASSESSMEN		Delineation	
OBSERVERS	Rebecca Beduhn		WETLAND TYPE NWI		PEM1B	
CONDITIONS			WETLAND TYPE FSA			
PROJECT NAME	85th Street	et Interchange OWNER/OPERATOR		85th St BDJVG		
PLANNED ACTIVITY						
YELLOW FLAG		RED FLAG				
WETLAND ACRES E	0.1	WEILAND A	D ACRES P 0.1			
VADU			SU			
	ABLE					
Sedimentation in the We	$\frac{1}{1}$		0.25	0.25		
Soil Organic Matter (V			1.00	1.00		
Soil Pores (V $\sim$ )	m/		0.75	0.75		
Buffer Condition Contin	uity & Width	(M)	0.75	0.73		
Ratio of Native to Non-N	lative Species	(Vbuffer)	0.32	0.32		
Vegetation Density (V		<b>o ( v</b> pratio <i>)</i>	1.00	1.00		
Microtopographic Comp	over/		0.10	0.10		
Source Area of Flow (V		0.10	0.10			
Subsurface Hydrology Alterations (V		0.10	0.10			
Subsurface Hydrology Alterations (V subalt)		1.00	1.00			
Lipland Lise (V)		0.10	0.10			
	CALCU					
EXISTING	FCI	FCU	PRED	ICTED	FCI	FCU
Mod. Groundwater Flow	0.35	0.04	Mod. Groundv	vater Flow	0.35	0.03
Vel. Reduc. Surf. Water	0.62	0.07	Vel. Reduc. Si	urf. Water	0.62	0.06
Elemental & Nutr. Cycling	0.49	0.05	Elemental & Nutr. Cycling		0.49	0.05
Retention of Particulates	0.74	0.08	Retention of Particulates		0.74	0.07
Organic Carbon Export	0.68	0.07	Organic Carbon Export		0.68	0.07
Maint. of Plant Comm.	0.53	0.06	Maint. of Plant Comm.		0.53	0.05
Habitat Interspersion	0.51	0.06	Habitat Interspersion		0.51	0.05
	CHANGE IN FCU's		MIN EFFECT	JUSTIFICAT	ION OF MININ	1AL EFFECT
FUNCTIONS	NUMERICAL	PERCENT	(Yes or No)	IF 10 TO 2	0% LOSS OF I	
Mod. Groundwater Flow	0.00	-9.1	YES			
Vel. Reduc. Surf. Water	-0.01	-9.1	YES			
Ret, Conv. Elem. & Cmpd.	0.00	-9.1	YES			
Retention of Particulates	-0.01	-9.1	YES			
Organic Carbon Export	-0.01	-9.1	YES			
Maint. of Plant Comm.	-0.01	-9.1	YES			
Habitat Interspersion	-0.01	-9.1	YES			



Previous Delineations



# **PUBLIC NOTICE**



US ARMY CORPS OF ENGINEERS OMAHA DISTRICT APPLICANT: SANFORD HEALTH APPLICATION NO: NWO-2008-0121-PIE WATERWAY: UNNAMED WETLANDS ISSUE DATE: MAY 04, 2018 EXPIRATION DATE: MAY 25, 2018

Regulatory Office, 28563 Powerhouse Rd, Room 118, Pierre, SD 57501 http://www.nwo.usace.army.mil/Missions/RegulatoryProgram/SouthDakota.aspx

## 21-DAY NOTICE

## JOINT NOTICE OF PERMIT PENDING

US ARMY CORPS OF ENGINEERS AND SOUTH DAKOTA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

The application of Sanford Health for approval of plans and issuance of a permit under authority of the Secretary of the Army is being considered by the District Commander, US Army Engineer District, Omaha, Nebraska. The project described herein is not being proposed by the Corps, but by the applicant; the Corps will evaluate the proposed work to determine if it is permittable under current laws and regulations.

**Description of Proposed Project:** Sanford Health received Corps authorization on July 16, 2008 to construct the Sanford Health Medical Research Center in southwest Sioux Falls, South Dakota. Authorization was granted to grade approximately 10.4 acres of wetlands in order to install water main, sanitary sewer, storm sewer, street lighting, bike/walking trails, asphalt streets with curb and gutter, and landscaping. To date, a majority of the grading has been completed which has impacted 7.87 acres of wetlands, however delays in development occurred and the project has not been completed. The previous Corps authorization expired on September 30, 2017. The applicant now requests authorization to complete the project by constructing a new Sioux Falls Lutheran School on the south side of the property which will impact the remaining 2.53 acres of wetlands. See attached design drawings.

**Location:** The project is located in Section 18, Township 100 North, Range 50 West, Lincoln County, South Dakota.

**Purpose:** The purpose of the proposed project is to provide institutional development for the growing population of Sioux Falls.

**Mitigation:** The proposed project alternative was selected to avoid wetlands to the greatest extent possible. Compensatory mitigation for the originally authorized 10.4 acres of permanent wetland impacts was provided by constructing mitigation wetlands both off-site and on-site. The off-site mitigation was completed in 2014 and the on-site mitigation was completed in 2017. Hydrogeomorphic functional assessment scores were calculated to account for the functional loss of the impacted wetlands. A mitigation ratio of 2 to 1 was used to compensate for the impacts and a total of 39.4 wetland mitigation credits were constructed.

**Existing Conditions:** The project area is situated in the City of Sioux Falls, SD on the southeast side of the intersections of Interstate Highways 29 and 229 in a patchwork of agricultural and urban sector that is rapidly being enveloped by the expanding City. The adjoining Interstate Highway 29 system runs along the west boundary of the property. Other surrounding land uses include agricultural land parcels that are either currently being developed, or are scheduled for development in the near future. A State Department of Transportation highway maintenance facility is also located adjacent to the site. The landscape consists of gentle sloping prairie (glacial till) divided by ephemeral streams, linear wetlands, and intermittent flowing drainages/tributaries with scattered wetland depressions in the Big Sioux River drainage basin.

The South Dakota Department of Environment and Natural Resources, Division of Environmental Services, 523 East Capitol Avenue, Pierre, South Dakota, 57501-3181, will review the proposed project for state certification in accordance with the provisions of Section 401 of the Clean Water Act. The certification, if issued, will express the State's opinion that the operations undertaken by the applicant will not result in a violation of applicable water quality standards. The South Dakota Department of Environment and Natural Resources hereby incorporates this public notice as its own public notice and procedures by reference (ARSD 74:51:01).

The Omaha District will comply with the National Historic Preservation Act of 1966, as amended. As a result of a cultural resources survey completed in April 2008 and lack of cultural resources found in the project area, this project received a determination of "No Historic Properties Affected". The State Historic Preservation Officer (SHPO) concurred with this determination on July 1, 2008. We will evaluate additional input by the SHPO and the public in response to this public notice.

In compliance with the Endangered Species Act, a preliminary determination has been made that the described work will not affect species designated as threatened or endangered or adversely affect critical habitat. In order to complete our evaluation of this activity, comments are solicited from the U.S. Fish and Wildlife Service and other interested agencies and individuals.

The decision whether to issue a permit will be based on an evaluation of the probable impacts including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which reasonably may be expected to accrue from the proposals must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the activity will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food production, and, in general the needs and welfare of the people. In addition, the evaluation of the impacts of the project on public

interest will include application of the guidelines promulgated by the Administrator, Environmental Protection Agency, under authority of Section 404(b) of the Clean Water Act (40 CFR Part 230).

The Corps of Engineers is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearings shall state, with particularity, the reason for holding a public hearing. The request must be submitted to the US Army Corps of Engineers, South Dakota Regulatory Office, 28563 Powerhouse Road, Room 118, Pierre, South Dakota 57501.

Any interested party (particularly officials of any town, city, county, state, Federal agency, Indian Tribe, or local association whose interests may be affected by the proposed work) is invited to submit to this office, written facts, arguments, or objections on or before May 25, 2018. Any agency or individual having an objection to the proposed work should specifically identify it as an objection with clear and specific reasons. Comments, both favorable and unfavorable, will be accepted, made a part of the record and will receive full consideration in subsequent actions on this permit application. All replies to the public notice should be addressed to the address listed in the previous paragraph. Cathy Juhas, telephone number (605) 224-8531, may be contacted for additional information.

Comments received after the close of the business day on the expiration date of this public notice will not be considered.

This project, if authorized, will be under the provisions of Section 404 of the Clean Water Act.

Drawings showing the location and extent of the work are attached to this notice.





#### DEPARTMENT OF THE ARMY CORPS OF ENGINEERS, OMAHA DISTRICT SOUTH DAKOTA REGULATORY OFFICE 28563 POWERHOUSE ROAD, ROOM 118 PIERRE, SOUTH DAKOTA 57501-6174

October 4, 2017

South Dakota Regulatory Office 28563 Powerhouse Road, Room 118 Pierre, South Dakota 57501

Sonler Properties Attn: Jean Brockmueller 100 North Phillips Avenue Sioux Falls, South Dakota 57104-6725

Dear Ms. Brockmueller:

Reference is made to the information received August 21, 2017, concerning Section 404 of the Clean Water Act permit requirements. The review area is located in the northeast quarter of Section 19, Township 100 North, Range 50 West, Lincoln County, South Dakota.

Based on the information provided, we have determined that there are no waters of the United States (i.e. jurisdictional waters) located within the review area. Therefore, activities within the review area are not subject to Department of the Army regulatory authorities and no permit pursuant to Section 404 of the Clean Water Act is required from the Corps of Engineers.

An approved jurisdictional determination (JD) has been completed for your project. This JD is valid for 5 years from the date of this letter. The JD is enclosed and also may be viewed at our website. The link to the website is shown below. The JD will be available on the website within 30 days. If you are not in agreement with the JD, you may request an administrative appeal under Corps of Engineers regulations found at 33 C.F.R. 331. Enclosed you will find a Notification of Administrative Appeal Options and Process and Request for Appeal form (RFA). Should you decide to submit an RFA form, it must be received by the Corps of Engineers Northwestern Division Office within 60 days from the date of this correspondence (by December 4, 2017). It is not necessary to submit a RFA if you do not object to the JD.

You can obtain additional information about the Regulatory Program from our website:

http://www.nwo.usace.army.mil/Missions/RegulatoryProgram/SouthDakota.aspx

If you have any questions, please feel free to contact this office at the above Regulatory Office address, or telephone Cathy Juhas at (605) 224-8531 and reference action ID NWO-2008-0204-PIE.

Sincerely,

Steven & Mayle

Steven E. Naylor Regulatory Program Manager, South Dakota

Enclosures

#### APPROVED JURISDICTIONAL DETERMINATION FORM U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

#### SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): October 2, 2017

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Omaha District, South Dakota Regulatory Office, Hegg-Sonler Property Jurisdictional Determination, NWO-2008-0204-PIE

C. PROJECT LOCATION AND BACKGROUND INFORMATION: The project area is located south of Sioux Falls and east of Tea, SD in Section 19, Township 100 North, Range 50 West. There are ten wetlands onsite totaling 17.70 acres. The current land uses of this property are agricultural corn field, soybean field, and pasture. Adjacent land use to the south is commercial property. Approved jurisdictional determinations (AJDs) were completed for this site on February 25, 2008 and again on October 22, 2012. The property owners are now requesting an updated AJD.

State:SD County/parish/borough:Lincoln City:Sioux Falls

Center coordinates of site (lat/long in degree decimal format): Lat.43.4740274519393N; Long. 96.7873689857223W

Universal Transverse Mercator:

Name of nearest waterbody: Ninemile Creek (1.5 miles to the west)

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows:

- Name of watershed or Hydrologic Unit Code (HUC):10170203
- Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
- Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

## D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

- Office (Desk) Determination. Date:September 8, 2017
- Field Determination. Date(s):

### SECTION II: SUMMARY OF FINDINGS A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There Arc no "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

- Waters subject to the ebb and flow of the tide.
  - Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. Explain:

#### B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There Are no "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

1. Waters of the U.S.

### a. Indicate presence of waters of U.S. in review area (check all that apply): <sup>1</sup>

- TNWs, including territorial seas
- Wetlands adjacent to TNWs
- Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs
- Non-RPWs that flow directly or indirectly into TNWs
- Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
- Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
- Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
- Impoundments of jurisdictional waters
- Isolated (interstate or intrastate) waters, including isolated wetlands
- b. Identify (estimate) size of waters of the U.S. in the review arca: Non-wetland waters: linear feet: width (ft) and/or acres. Wetlands: acres.
- c. Limits (boundaries) of jurisdiction based on: Pick List Elevation of established OHWM (if known):

<sup>&</sup>lt;sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>&</sup>lt;sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "scasonally" (e.g., typically 3 months).

#### 2. Non-regulated waters/wetlands (eheck if applicable):<sup>3</sup>

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain:The 10 PEM wetlands in question are isolated and completely surrounded by upland. The quarter of land with the wetlands on it is located 1 mile from a potentially jurisdictional unnamed tributary and 3 miles from the Big Sioux River, a Section 10 waters of the US. There is no evidence that any surficial flows leave these isolated wetlands. There is no information available to show that the wetlands 1) are or could be used by interstate or foreign travelers for recreational or other purposes, 2) produce fish or shellfish which are or could be taken and sold in interstate or foreign commerce, or 3) are or could be unsed for industrial pruposes by industries in interstate commerce .

#### III: CWA ANALYSIS

#### A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW

Identify TNW:

Summarize rationale supporting determination:

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is "adjacent":

#### B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

- 1. Characteristics of non-TNWs that flow directly or indirectly into TNW
  - (i) General Area Conditions:
    - Watershed size:
       Pick List

       Drainage area:
       Pick List

       Average annual rainfall:
       inches

       Average annual snowfall:
       inches
  - (ii) Physical Characteristics:
     (a) <u>Relationship with TNW:</u>
     Tributary flows directly into TNW.

<sup>&</sup>lt;sup>3</sup> Supporting documentation is presented in Section III.F.

<sup>&</sup>lt;sup>4</sup> Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

	Tributary flows through <b>Pick List</b> tributaries before entering TNW.		
	Project waters are <b>Pick List</b> river miles from TNW. Project waters are <b>Pick List</b> river miles from RPW. Project waters are <b>Pick List</b> aerial (straight) miles from TNW. Project waters are <b>Pick List</b> aerial (straight) miles from RPW. Project waters cross or serve as state boundaries. Explain:		
	Identify flow route to TNW <sup>5</sup> : . Tributary stream order, if known: .		
(b)	General Tributary Characteristics (check all that apply):         Tributary is:       Image: Colspan="2">Natural         Image: Colspan="2">Artificial (man-made). Explain:         Image: Colspan="2">Manipulated (man-altered). Explain:		
	Tributary properties with respect to top of bank (estimate):         Average width:       feet         Average depth:       feet         Average side slopes:       Pick List.		
	Primary tributary substrate composition (check all that apply):		
	Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain:Presence of run/riffle/pool complexes. Explain:Tributary geometry: Pick ListTributary gradient (approximate average slope):%		
(c)	<u>Flow:</u> Tributary provides for: <b>Pick List</b> Estimate average number of flow events in review area/year: <b>Pick List</b> Describe flow regime: Other information on duration and volume:		
	Surface flow is: Pick List. Characteristics:		
	Subsurface flow: <b>Pick List</b> . Explain findings:		
	Tributary has (check all that apply):       Bed and banks         OHWM <sup>6</sup> (check all indicators that apply):       the presence of litter and debris         clear, natural line impressed on the bank       the presence of litter and debris         changes in the character of soil       destruction of terrestrial vegetation         shelving       the presence of wrack line         vegetation matted down, bent, or absent       sediment sorting         leaf litter disturbed or washed away       scour         sediment deposition       multiple observed or predicted flow events         water staining       abrupt change in plant community         other (list):       .		
	If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):         Image: High Tide Line indicated by:       Image: Mean High Water Mark indicated by:         Image: Other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):         Image: Other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):         Image: Other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):         Image: Other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):         Image: Other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):         Image: Other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):         Image: Other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):         Image: Other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):         Image: Other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):         Image: Other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):         Image: Other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):         Image: Other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):         Image: Other than the OHW		

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<sup>&</sup>lt;sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW. <sup>6</sup>A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break. <sup>7</sup>Ibid.

physical n	narkings/characteristics
tidal gaug	es
athon (list)	•

vegetation lines/changes in vegetation types.

#### (iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.). Explain:

Identify specific pollutants, if known:

### (iv) Biological Characteristics. Channel supports (check all that apply):

- Riparian corridor. Characteristics (type, average width):
  - Wetland fringe. Characteristics:
- Habitat for:
  - Federally Listed species. Explain findings:
  - Fish/spawn areas. Explain findings:
  - Other environmentally-sensitive species. Explain findings:
  - Aquatic/wildlife diversity. Explain findings:

#### 2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

### (i) Physical Characteristics:

 (a) <u>General Wetland Characteristics:</u> Properties: Wetland size: acres Wetland type. Explain: Wetland quality. Explain:

Project wetlands cross or serve as state boundaries. Explain:

(b) <u>General Flow Relationship with Non-TNW</u>: Flow is: **Pick List**. Explain:

> Surface flow is: **Pick List** Characteristics: .

Subsurface flow: **Pick List**. Explain findings:

#### (c) Wetland Adjacency Determination with Non-TNW:

Directly abutting

□ Not directly abutting

- Discrete wetland hydrologic connection. Explain:
- Ecological connection. Explain:
- Separated by berm/barrier. Explain:
- (d) <u>Proximity (Relationship) to TNW</u> Project wetlands are **Pick List** river miles from TNW. Project waters are **Pick List** aerial (straight) miles from TNW. Flow is from: **Pick List**. Estimate approximate location of wetland as within the **Pick List** floodplain.

#### (ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain:

Identify specific pollutants, if known:

#### (iii) Biological Characteristics. Wetland supports (check all that apply):

- Riparian buffer. Characteristics (type, average width):
- Vegetation type/percent cover. Explain:
- ] Habitat for:
  - Federally Listed species. Explain findings:
  - Fish/spawn areas. Explain findings:
  - Other environmentally-sensitive species. Explain findings:
- Aquatic/wildlife diversity. Explain findings:

#### 3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis: Pick List

Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)

Directly abuts? (Y/N)

Size (in acres)

Summarize overall biological, chemical and physical functions being performed:

### C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

## Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

# Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

- 1. Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs. Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
- 2. Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs. Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
- 3. Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW. Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

# D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

- TNWs and Adjacent Wetlands. Check all that apply and provide size estimates in review area:
   TNWs: linear feet width (ft), Or, acres.
   Wetlands adjacent to TNWs: acres.
- 2. RPWs that flow directly or indirectly into TNWs.
  - Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
  - Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

Provide estimates for jurisdictional waters in the review area (check all that apply):

Tributary waters: linear feet width (ft).

Other non-wetland waters: acres.

Identify type(s) of waters: .

#### Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs. 3.

Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

Tributary waters: 

33

12

linear feet Other non-wetland waters: acres.

Identify type(s) of waters:

#### Wetlands directly abutting an RPW that flow directly or indirectly into TNWs. 4.

Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands. 32

Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:

width (ft).

Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

#### Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs. 5.

-32 Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

#### Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs. 6.

Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

#### 7. Impoundments of jurisdictional waters.9

- As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
- Demonstrate that impoundment was created from "waters of the U.S.," or
- Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
- Demonstrate that water is isolated with a nexus to commerce (see E below).

<sup>&</sup>lt;sup>8</sup>See Footnote # 3

<sup>&</sup>lt;sup>9</sup> To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

#### E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):<sup>10</sup>

- which are or could be used by interstate or foreign travelers for recreational or other purposes.
- from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- which are or could be used for industrial purposes by industries in interstate commerce.
- Interstate isolated waters. Explain:
- Other factors. Explain:

#### Identify water body and summarize rationale supporting determination:

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).
- Other non-wetland waters: acres.
- Identify type(s) of waters:
- Wetlands: acres.

### F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.

Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based <u>solely</u> on the "Migratory Bird Rule" (MBR).

- Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:
- Other: (explain, if not covered above):

Provide acreage estimates for non-jurisdictional waters in the review area, where the <u>sole</u> potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource:
- Wetlands: 17.70 acres.
  - WETLAND A 1.32 ACRE WETLAND B – 0.17 ACRE WETLAND C – 0.27 ACRE WETLAND D – 4.93 ACRE WETLAND E – 6.99 ACRE WETLAND F – 0.55 ACRE WETLAND G – 2.89 ACRE WETLAND H – 0.33 ACRE WETLAND I – 0.02 ACRE WETLAND J – 0.23 ACRE

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).

- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource:
- Wetlands: acres.

<sup>10</sup> Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

## SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked
and requested, appropriately reference sources below):
$\boxtimes$ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
Data sheets prepared/submitted by or on behalf of the applicant/consultant.
Office concurs with data sheets/delineation report.
Office does not concur with data sheets/delineation report.
Data sheets prepared by the Corps: .
Corps navigable waters' study:
🔄 U.S. Geological Survey Hydrologic Atlas:
USGS NHD data.
$\boxtimes$ USGS 8 and 12 digit HUC maps.
🛛 U.S. Geological Survey map(s). Cite scale & quad name:Tea 24K.
USDA Natural Resources Conservation Service Soil Survey. Citation:
National wetlands inventory map(s). Cite name: Tea.
State/Local wetland inventory map(s):
EMA/FIRM maps:
100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
🛛 Photographs: 🖂 Aerial (Name & Date):ORM2 & Google Earth Pro.
or 🗌 Other (Name & Date):
Previous determination(s). File no. and date of response letter:NWO-2008-0204; 25 FEB 2008 & 22 OCT 2012.
Applicable/supporting case law:
Applicable/supporting scientific literature:
Other information (please specify):

**B. ADDITIONAL COMMENTS TO SUPPORT JD:** The 10 isolated wetlands are prairie pothole wetlands that do not have a surface hydrologic connection to any jurisdictional waters of the US nor do they have a significant nexus to a TNW.

8



## NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

	<b>KEQUESTIC</b>	ATTEAL	
Appl	icant:	File Number:	Date:
	Sonler Properties	NWO-2008-0204-PIE	October 4, 2017
Attac	bhed is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Perm	nit or Letter of permission)	А
	PROFFERED PERMIT (Standard Permit or Lette	er of permission)	В
	PERMIT DENIAL		С
X	X APPROVED JURISDICTIONAL DETERMINATION		D
	PRELIMINARY JURISDICTIONAL DETERMINATION		Е
<ul> <li>SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found in Corps regulations at 33 CFR Part 331, or at <a href="http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/FederalRegulation.aspx">http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/FederalRegulation.aspx</a></li> <li>A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.</li> <li>ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.</li> <li>OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer.</li> </ul>			
Y to m th di	Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.		
B: P	ROFFERED PERMIT: You may accept or appeal the	ne permit	
• A au si to	• ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.		

• APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

## SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:				
If you have questions regarding this decision and/or the appeal	If you only have questions regard	ding the appeal process you may		
process you may contact:	also contact:			
	US Army Corps of Engineers, N	orthwestern Division		
	Attn: Melinda M. Witgenstein			
	Post Office Box 2870			
	Portland, OR 97208-2870 Te	elephone (503) 808-3888		
	Melinda.M.Witgenstein@usace.	army.mil		
RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government				
consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day				
notice of any site investigation, and will have the opportunity to participate in all site investigations.				
	Date:	Telephone number:		
		1		
Signature of appellant or agent.				

# SONLER PROPERTIES



August 17, 2017

Steven E. Naylor Regulatory Program Manager, South Dakota Department of the Army Corps of Engineers, Omaha District 28563 Powerhouse Road, Room 118 Pierre, SD 57501

Re: ID: NOW-2008-204 NE ¼ , Section 19, Township 100 North, Range 50 West, Lincoln County, South Dakota

Dear Mr. Naylor:

On October 23, 2012, you issued a determination letter stating there are no jurisdictional waters of the United States located within the above referenced project site. I have enclosed a copy of that letter for your reference.

It is our understanding the determination is good for a period of five years or until October 23, 2017. A decline in the economy existed for several years and development has not occurred to date. However, the owner (Tallgrass Investments, LLC/Sonler Properties) is working cooperatively with other area landowners, the State of South Dakota and Federal Highway Commission for funding and construction of an Interchange at 85<sup>th</sup> Street and Interstate 29 to access this property. It is therefore our request that your determination be extended for an additional five years or until October 23, 2022.

Thank you for your consideration and I look forward to hearing from you.

Yours very truly,

Jean Brockmueller







DEPARTMENT OF THE ARMY CORPS OF ENGINEERS, OMAHA DISTRICT SOUTHDAKOTA REGULATORY OFFICE 28563 POWERHOUSE ROAD, ROOM 118 PIERRE, SOUTH DAKOTA 57501-6174

XISSI4

December 29, 2015

South Dakota Regulatory Office 28563 Powerhouse Road, Room 118 Pierre, South Dakota 57501

Joel Dykstra **RMB** Associates, LLC Post Office Box 2524 Sioux Falls, South Dakota 57101

Dear Mr. Dykstra:

Reference is made to the information received November 2, 2015, concerning Section 404 of the Clean Water Act permit requirements. We have reviewed your request for a determination of Section 404 CWA jurisdiction. The project site is located in the South 1/2 of the Southwest 1/4 Section 18, Township 100 North, Range 50 West, Lincoln County, South Dakota.

Based on the information provided, we have determined that there are waters of the United States (i.e. jurisdictional waters) located within the area you identified for a jurisdictional determination. Therefore, the proposed activity within this project area is subject to Department of the Army regulatory authorities and a permit pursuant to Section 404 of the Clean Water Act is required from the Corps of Engineers.

An approved jurisdictional determination (JD) has been completed for your project. This JD is valid for 5 years from the date of this letter. The JD is enclosed and also may be viewed at our website. The link to the website is shown below. The JD will be available on the website within 30 days. If you are not in agreement with the JD, you may request an administrative appeal under Corps of Engineers regulations found at 33 C.F.R. 331. Enclosed you will find a Notification of Administrative Appeal Options and Process and Request for Appeal form (RFA). Should you decide to submit a RFA form, it must be received by the Corps of Engineers Northwestern Division Office within 60 days from the date of this correspondence (by February 29, 2016). It is not necessary to submit a RFA if you do not object to the JD.

The Omaha District, Regulatory Branch is committed to providing quality and timely service to our customers. In an effort to improve customer service, please take a moment to complete our Customer Service Survey found on our website at http://corpsmapu.usace. army.mil/cm apex/f?p=regulatory survey. If you do not have Internet access, you may call and request a paper copy of the survey that you can complete and return to us by mail or fax.

You can obtain additional information about the Regulatory Program from our website: <u>http://www.nwo.usace.army.mil/Missions/RegulatoryProgram/SouthDakota.aspx</u>

If you have any questions or need any assistance, please feel free to contact this office at the above Regulatory Office address or telephone Doug Sargent at (605) 224-8531 and reference action ID NWO-2015-2097-PIE.

Sincerely, Gr Steven E. Naylor

Regulatory Program Manager, South Dakota

CF:

Karrie Johnson Clark Engineering Convention Center Plaza 1410 West Russell Street Sioux Falls, South Dakota 57104
#### APPROVED JURISDICTIONAL DETERMINATION FORM U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

#### SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): Final 12/29/2015

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:Omaha, JD request for Sundowner Property Project, Lincoln County, NWO-2015-2097-PIE.

C. PROJECT LOCATION AND BACKGROUND INFORMATION: South 1/2 of the Southwest 1/4, Section 18, T100N, 50W. The review area consists of 80 acres of residential and agricultural land (see Figure 1). Two (2), wetlands have been delineated within the review area. Wetland A is jurisdictional and Wetland B is non-jurisdictional, (see Figures 3 and 4).

State:SD County/parish/borough: Lincoln City:Tea

Center coordinates of site (lat/long in degree decimal format): Lat.43.47802N; Long.-96.80197W

Universal Transverse Mercator: 14

Name of nearest waterbody: Ninemile Creek

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Big Sioux River Name of watershed or Hydrologic Unit Code (HUC): 10170203

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

## D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

- Office (Desk) Determination. Date: 12/21/15
- Field Determination. Date(s):

#### SECTION II: SUMMARY OF FINDINGS

#### A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There Are no "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. Explain:

#### B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There Are "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

- 1. Waters of the U.S.
  - a. Indicate presence of waters of U.S. in review area (check all that apply): 1
    - TNWs, including territorial seas
    - Wetlands adjacent to TNWs
    - Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs
    - Non-RPWs that flow directly or indirectly into TNWs
    - Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
    - Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
    - Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
    - Impoundments of jurisdictional waters
      - Isolated (interstate or intrastate) waters, including isolated wetlands
  - b. Identify (estimate) size of waters of the U.S. in the review area: Non-wetland waters: linear feet: width (ft) and/or acres. Wetlands:10.78 acres.
  - c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual Elevation of established OHWM (if known):

<sup>&</sup>lt;sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>&</sup>lt;sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

#### 2. Non-regulated waters/wetlands (check if applicable):<sup>3</sup>

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional Explain: Wetland B (0.01 ac.) has been determined to be non-jurisdictional, refer to Figure 3. This wetland does not exhibit a discernable hydrological outlet to (or interaction with) any WOUS. In addition, this water is an intrastate, nonnavigable water body with no nexus to interstate commerce.

#### SECTION III: CWA ANALYSIS

#### A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW Identify TNW:

Summarize rationale supporting determination:

 Wetland adjacent to TNW Summarize rationale supporting conclusion that wetland is "adjacent":

#### B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

#### 1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions: Watershed size: 3,309 square miles Drainage area: 11.54 square miles Average annual rainfall: 23.8 inches Average annual snowfall: 38.2 inches

#### (ii) Physical Characteristics:

- (a) <u>Relationship with TNW:</u>
  - Tributary flows directly into TNW.
  - Tributary flows through **Pick List** tributaries before entering TNW.

<sup>&</sup>lt;sup>3</sup> Supporting documentation is presented in Section III.F.

<sup>&</sup>lt;sup>4</sup> Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Project waters Project waters Project waters Project waters Project waters	<ul> <li>are 2-5 river miles from TNW.</li> <li>are Pick List river miles from RPW.</li> <li>are 2-5 aerial (straight) miles from TNW.</li> <li>are Pick List aerial (straight) miles from RPW.</li> <li>cross or serve as state boundaries. Explain:</li> </ul>
Identify flow r TNW. Tributary strea	oute to TNW <sup>5</sup> : Two tributaries from Wetland A conjoin and flow directly to the Big Sioux River, a
(b) <u>General Tribut</u> Tributary is: beyond the review area for a	ary Characteristics (check all that apply): Natural Artificial (man-made). Explain: Manipulated (man-altered). Explain: Tributary has been manipulated by ditching within and agricultural, residential and road construction purposes.
<b>Tributary</b> pro Average v Average o Average s	perties with respect to top of bank (estimate): vidth: highly variable at 5 to 30 feet lepth: < 1 foot feet ide slopes: 2:1.
Primary tributa Silts Cobbl Bedro	ary substrate composition (check all that apply):         Sands       Concrete         es       Gravel       Muck         ck       Vegetation. Type/% cover: Plant species composition consists of agricultural crops
and tame/non-native grasses	. Explain:
Tributary cond planted to non-native grasse production methodology. Presence of run Tributary geon Tributary grad	ition/stability [e.g., highly eroding, sloughing banks]. Explain: Residential areas and road ditches are s providing soil stabilization, while agricultural areas are more subject to erosion due to typical crop n/riffle/pool complexes. Explain: . hetry: Meandering itent (approximate average slope): <2% %
Tributary prov Estimate avera Describe Other informat	ides for: Ephemeral flow ge number of flow events in review area/year: 6-10 flow regime: Flow occurs during snow melt and rainfall events. ion on duration and volume:
Surface flow is	: Discrete and confined. Characteristics:
Subsurface flo	w: <b>Unknown</b> . Explain findings:
Tributary has ( Bed ar OHW C C C C S S S C C C C C C C C C C C C	check all that apply): Id banks M <sup>6</sup> (check all indicators that apply): ear, natural line impressed on the bank ianges in the character of soil elving getation matted down, bent, or absent af litter disturbed or washed away cdiment deposition ater staining her (list): ntinuous OHWM. <sup>7</sup> Explain:
If factors other	than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

High Tide Line indicated by:

Mean High Water Mark indicated by:

<sup>&</sup>lt;sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW. <sup>6</sup>A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break. <sup>7</sup>Ibid.

- oil or scum line along shore objects
- fine shell or debris deposits (foreshore)

physical markings/characteristics

- tidal gauges other (list):

physical markings;

survey to available datum;

vegetation lines/changes in vegetation types.

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.). Explain: Typical shallow, wetlands, prairie streams and drainages. .

Identify specific pollutants, if known: Specific pollutants are unknown, however pollutants likely include fertilizers, pesticides and herbicides from residential home and lawn care products, agricultural practices and road construction/maintenance activities.

(iv) Biological Characteristics. Channel supports (check all that apply):

- 5.0 Riparian corridor. Characteristics (type, average width):
- $\boxtimes$ Wetland fringe. Characteristics: Wetlands abut the tributaries.
- Habitat for:
  - Federally Listed species. Explain findings:
  - Fish/spawn areas. Explain findings:
  - Other environmentally-sensitive species. Explain findings:

Aquatic/wildlife diversity. Explain findings: Aquatic habitat is considered to be of low quality given the

residential and agricultural environment.

- Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW 2.
  - (i) Physical Characteristics:
    - (a) General Wetland Characteristics:
      - Properties:
        - Wetland size: Wetland A = 10.78 acres
        - Wetland type. Explain: Linear depressional.

Wetland quality. Explain: Wetland A is highly manipulated for road maintenance, lawn care purposes and agricultural practices such that the wetland is in a degraded condition.

Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW: Flow is: Ephemeral flow. Explain: Runoff from rainfall and snowmelt is the primary source of water flow for

#### Wetland A.

Surface flow is: Discrete and confined Characteristics:

Subsurface flow: Unknown. Explain findings: Dye (or other) test performed:

- (c)Wetland Adjacency Determination with Non-TNW: Directly abutting
  - Not directly abutting
    - Discrete wetland hydrologic connection. Explain:
    - Ecological connection. Explain:
    - Separated by berm/barrier. Explain:
- (d) Proximity (Relationship) to TNW Project wetlands are 2-5 river miles from TNW. Project waters are 2-5 aerial (straight) miles from TNW. Flow is from: Wetland to navigable waters. Estimate approximate location of wetland as within the 50 - 100-year floodplain.
- (ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: Typical shallow, wetlands, prairie streams and drainages.

#### Identify specific pollutants, if known: Specific pollutants are unknown, however pollutants likely include fertilizers, pesticides and herbicides from residential home and lawn care products, agricultural practices and road construction/maintenance activities.

(iii) Biological Characteristics. Wetland supports (check all that apply):

Riparian buffer. Characteristics (type, average width):

grasses.

Vegetation type/percent cover. Explain: Plant species composition consists of agricultural crops and tame/non-native

Habitat for:

☐ Federally Listed species. Explain findings: ☐ Fish/spawn areas. Explain findings:

Other environmentally-sensitive species. Explain findings:

Aquatic/wildlife diversity. Explain findings: Aquatic habitat is considered to be of low quality given the residential and agricultural environment.

#### 3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis:

Approximately (10.78) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Wetland Name	Directly abuts? (Y/N)	Size (in acres)
A	Y	10.78

Summarize overall biological, chemical and physical functions being performed: Refer to Figures 1 and 2. Land use surrounding Wetland A consists of a mix of agricultural lands and urban development. The reviewed wetland moderates the downstream transport of stormwater generated from this landscape. Similarly, the Wetland A has some capacity to capture and process pollutants associated with stormwater runoff. Wetland A provides a low level of habitat for various wildlife species.

#### C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the Rapanos Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and • other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that . support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or . biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

- 1. Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs. Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
- Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs. Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: The non-RPW tributaries and the adjacent wetland, identified as Wetland A, has a significant nexus to the Big Sioux River, a TNW. Functionally, it is a part of the TNW's tributary system such that it impacts the biological, physical and chemical integrity of the Big Sioux River. Land use surrounding the wetland consists of urban and agricultural lands and moderates the downstream transport of stormwater generated from this landscape. Similarly, the wetland has a limited ability to capture and process pollutants associated with stormwater runoff. The wetland also provides a low level of habitat for a limited array of wildlife species.

7. Impoundments of jurisdictional water	7.	Impoundmen	ts of ju	urisdictional	waters.	9
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- As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
- Demonstrate that impoundment was created from "waters of the U.S.," or
- Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
- Demonstrate that water is isolated with a nexus to commerce (see E below).

E.	ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE,
	DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY
	SUCH WATERS (CHECK ALL THAT APPLY):10
	which are or could be used by interstate or foreign travelers for recreational or other purposes.
	from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.

from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.

Ē which are or could be used for industrial purposes by industries in interstate commerce.

Interstate isolated waters. Explain:

Other factors. Explain:

Identify water body and summarize rationale supporting determination:

	<ul> <li>Provide estimates for jurisdictional waters in the review area (check all that apply):</li> <li>Tributary waters: linear feet width (ft).</li> <li>Other non-wetland waters: acres. Identify type(s) of waters: .</li> <li>Wetlands: acres.</li> </ul>
F.	<ul> <li>NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):</li> <li>If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.</li> <li>Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.</li> <li>Prior to the Jan 2001 Supreme Court decision in <i>"SWANCC</i>," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).</li> <li>Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .</li> <li>Other: (explain, if not covered above): .</li> </ul>
	Provide acreage estimates for non-jurisdictional waters in the review area, where the <u>sole</u> potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
	Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
	Other non-wetland waters: acres. List type of aquatic resource:
	Wetlands: Refer to Figure 3. One isolated, non-jurisdictional wetland includes Wetland B = 0.01 acres.
	Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
	Lakes/ponds: acres.
	Other non-wetland waters:       acres. List type of aquatic resource:         Wetlands:       acres.

#### SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: Provided by Applicant.
  - Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - Office concurs with data sheets/delineation report.
  - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps:

<sup>&</sup>lt;sup>9</sup> To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

<sup>10</sup> Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

	Corps navigable waters' study:
	U.S. Geological Survey Hydrologic Atlas:
	USGS NHD data.
	USGS 8 and 12 digit HUC maps.
$\boxtimes$	U.S. Geological Survey map(s). Cite scale & quad name: Tea 1:24K.
	USDA Natural Resources Conservation Service Soil Survey, Citation:
$\boxtimes$	National wetlands inventory map(s). Cite name Obtained through Google Earth.
	State/Local wetland inventory map(s):
	FEMA/FIRM maps:
	100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
$\boxtimes$	Photographs: Acrial (Name & Date): Provided by consultant and accessed through Google Earth.
	or $\Box$ Other (Name & Date):
	Previous determination(s). File no. and date of response letter:
	Applicable/supporting case law:
	Applicable/supporting scientific literature:
	Other information (please specify):

#### B. ADDITIONAL COMMENTS TO SUPPORT JD:





Figure 2. Topographic map of review area outlined in green.





Figure 3. Aerial view of review area showing jurisdictional Wetland A and non-jurisdictional Wetland B.



Figure 4. Aerial view of drainage connection from jurisdictional Wetland A to Big Sioux River TNW.



#### DEPARTMENT OF THE ARMY CORPS OF ENGINEERS, OMAHA DISTRICT SOUTH DAKOTA REGULATORY OFFICE 28563 POWERHOUSE ROAD, ROOM 118 PIERRE, SOUTH DAKOTA 57501-6174

ATTENTION OF

June 23, 2017

South Dakota Regulatory Office 28563 Powerhouse Road, Room 118 Pierre, South Dakota 57501

Sundowner, Incorporated Attn: Dan Lemme 3408 South Sycamore Road Sioux Falls, South Dakota 57110

Dear Mr. Lemme,

Reference is made to the information received May 10, 2017, and additional information received June 14, 2017, concerning Section 404 of the Clean Water Act permit requirements. The review area is the northwest quarter of Section 19, Township 100 North, Range 50 West, Lincoln County, South Dakota.

Based on the information provided, we have determined that there are waters of the United States (i.e. jurisdictional waters) located within the review area. Therefore, any activity involving the discharge of dredged or fill material within the waters of the United States would require a permit from the Corps of Engineers.

At your request, we have evaluated 16 potential aquatic resources, the locations of which are noted on page 30 of the Bakker Landing Jurisdictional Determination & Wetland Delineation provided to our office on May 10, 2017. Waters 9,13 & 14 were found to be jurisdictional waters of the US under Section 404 of the Clean Water Act. Waters 1,2,4,5,6,7,8, & 11 were determined as non-jurisdictional waters under action ID number NWO-2013-2226-PIE, which is still in effect. Waters 3, 10, 12, 15 & 16 were found to be non-jurisdictional.

An approved jurisdictional determination (JD) has been completed for your project. This JD is valid for 5 years from the date of this letter. The JD is enclosed and also may be viewed at our website. The link to the website is shown below. The JD will be available on the website within 30 days. If you are not in agreement with the JD, you may request an administrative appeal under Corps of Engineers regulations found at 33 C.F.R. 331. Enclosed you will find a Notification of Administrative Appeal Options and Process and Request for Appeal form (RFA). Should you decide to submit an RFA form, it must be received by the Corps of Engineers Northwestern Division Office within 60 days from the date of this correspondence (by August 22, 2017). It is not necessary to submit a RFA if you do not object to the JD.

You can obtain additional information about the Regulatory Program from our website:

http://www.nwo.usace.army.mil/Missions/RegulatoryProgram/SouthDakota.aspx

If you have any questions, please feel free to contact this office at the above Regulatory Office address, or telephone Carl Johnson at (605) 224-8531 and reference action ID NWO-2008-2837-PIE.

Sincerely Steven E. Naylor

Regulatory Program Manager, South Dakota

Enclosure

CC:

Wetland Specialists Incorporated (Cameron-Howell)

#### APPROVED JURISDICTIONAL DETERMINATION FORM U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

#### SECTION I: BACKGROUND INFORMATION

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A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): June 23, 2017

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: CENWO-OD-RSD, Sundowner Investments jd request Lincoln County, NWO-2008-2837-PIE

C. PROJECT LOCATION AND BACKGROUND INFORMATION: The project area is the northwest quarter of Section 19, Township 100 North, Range 50 West located approximately 1.5 miles from the junction of I-29 and I 229. Waters 1, 2, 4, 5, 6, 7, 8 & 11 were found to be Non-Jursidictional according to NWO-2013-2226-PIE, which is still in affect, and therefore were not evaluated. Waterway 14 and Wetlands 9 & 13 are jurisdictional. Wetlands 3,10,12,15 & 16 are isolated.

State:SD County/parish/borough:Lincoln City:Sioux Falls

Center coordinates of site (lat/long in degree decimal format): Lat.43.47468N; Long.-96.80232W

Universal Transverse Mercator: 14

Name of nearest waterbody: Unnamed Tributary to Ninemile Creek

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: The Big Sioux River

Name of watershed or Hydrologic Unit Code (HUC):1017020317

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a  $\boxtimes$ different JD form.

#### REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY): D.

Office (Desk) Determination. Date: June 14, 2017

Field Determination. Date(s):

#### SECTION II: SUMMARY OF FINDINGS

## A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There Are no "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. Explain:

#### B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There are and are not "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

- 1. Waters of the U.S.
  - a. Indicate presence of waters of U.S. in review area (check all that apply): 1
    - TNWs, including territorial seas
    - Wetlands adjacent to TNWs
      - Relatively permanent waters2 (RPWs) that flow directly or indirectly into TNWs
      - Non-RPWs that flow directly or indirectly into TNWs
      - Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      - Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      - Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
    - Impoundments of jurisdictional waters
      - Isolated (interstate or intrastate) waters, including isolated wetlands

#### b. Identify (estimate) size of waters of the U.S. in the review area:

_	Non-wetland w	aters:	linear feet:	width (ft) and/or 0.74 acres.	
2	Wetlands:2.01	acres.	>		-

- c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual Elevation of established OHWM (if known):
- 2. Non-regulated waters/wetlands (check if applicable):<sup>3</sup>

<sup>&</sup>lt;sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>&</sup>lt;sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

Supporting documentation is presented in Section III.F.

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain: Waters 3, 10, 12, 15 & 16 were evaluated and found to be isolated waters.

#### SECTION III: CWA ANALYSIS

#### A. TNWs AND WETLANDS ADJACENT TO TNWS

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

#### 1. TNW

Identify TNW:

Summarize rationale supporting determination:

 Wetland adjacent to TNW Summarize rationale supporting conclusion that wetland is "adjacent":

## B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

- General Area Conditions: Watershed size: 32259 acres Drainage area: 15 acres Average annual rainfall: 27 inches Average annual snowfall: 41 inches
- (ii) Physical Characteristics:

(a) <u>Relationship with TNW:</u>
 □ Tributary flows directly into TNW.
 ⊠ Tributary flows through 1 tributaries before entering TNW.

Project waters are **15-20** river miles from TNW. Project waters are **1 (or less)** river miles from RPW. Project waters are **5-10** aerial (straight) miles from TNW. Project waters are **1 (or less)** aerial (straight) miles from RPW.

<sup>&</sup>lt;sup>4</sup> Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Project waters cross or serve as state boundaries. Explain:

Identify flow route to TNW<sup>5</sup>: The unnamed tributary flows to Ninemile Creek which flows to the Big Sioux River. Tributary stream order, if known:

- (b) General Tributary Characteristics (check all that apply):
  - Tributary is:

Artificial (man-made). Explain:

Manipulated (man-altered). Explain: There are large sections of drainage ditching within the

tributary.

6. j. 194

	Tributary properties with respect to top of bank (estimate): Average width: 17 feet Average depth: 2 feet Average side slopes: 4:1 (or greater).				
	Primary tributary substrate composition (check all that apply):          Silts       Sands       Concrete         Cobbles       Gravel       Muck         Bedrock       Vegetation. Type/% cover:       Other. Explain:				
fairly shallow.	Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: The banks of the unnamed tributary are The condition of the tributary is largely stable as multiple years of aerial imagery show a consistent OHWM. Presence of run/riffle/pool complexes. Explain: N/A. Tributary geometry: <b>Meandering</b> Tributary gradient (approximate average slope): %				
(c)	Flow: Tributary provides for: Seasonal flow Estimate average number of flow events in review area/year: 11-20 Describe flow regime: Other information on duration and volume: Surface flow is: Discrete and confined. Characteristics: Subsurface flow: Unknown. Explain findings:				
	Tributary has (check all that apply): Bed and banks OHWM <sup>6</sup> (check all indicators that apply): clear, natural line impressed on the bank changes in the character of soil shelving vegetation matted down, bent, or absent leaf litter disturbed or washed away sediment deposition water staining other (list): Discontinuous OHWM. <sup>7</sup> Explain:				
	If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):          High Tide Line indicated by:       Mean High Water Mark indicated by:         oil or scum line along shore objects       survey to available datum;         fine shell or debris deposits (foreshore)       physical markings/characteristics         tidal gauges       other (list):				

<sup>&</sup>lt;sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW. <sup>6</sup>A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break. <sup>7</sup>Ibid.

(iii) Chemical Characteristics:

 $\sum_{i=1}^{n} a_{i}$ 

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.). Explain: The tributary drains largely agricultural areas. It is likely that the tributary's ecosystem is degraded due to ag runoff. Water is generally murky.

Identify specific pollutants, if known:

#### (iv) Biological Characteristics. Channel supports (check all that apply):

- Riparian corridor. Characteristics (type, average width):
- Wetland fringe. Characteristics: The channel provides hydrology to abutting wetlands.
- Wetland fri Habitat for:
  - Federally Listed species. Explain findings:
  - Fish/spawn areas. Explain findings:
  - Other environmentally-sensitive species. Explain findings:

Aquatic/wildlife diversity. Explain findings: The channel likely provides habitat for aquatic animals such as frogs and foraging habitat for birds.

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

#### (i) Physical Characteristics:

- (a) <u>General Wetland Characteristics:</u>
  - Properties:

Wetland size:2.01acres

Wetland type. Explain: Palustrine Emergent.

Wetland quality. Explain: The wetlands are degraded due to surrounding agricultural land practices. Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:

Flow is: Ephemeral flow. Explain: The wetlands bear a consistent connection to Ninemile Creek.

Surface flow is: Discrete and confined

Characteristics: The wetlands maintain consistent hydrology throughout the year.

Subsurface flow: **Unknown**. Explain findings: Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting

- Not directly abutting
  - Discrete wetland hydrologic connection. Explain:
  - Ecological connection. Explain:
  - Separated by berm/barrier. Explain:
- (d) Proximity (Relationship) to TNW

Project wetlands are **15-20** river miles from TNW. Project waters are **5-10** aerial (straight) miles from TNW. Flow is from: **Wetland to navigable waters**. Estimate approximate location of wetland as within the **5 - 10-year** floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: Wetland system is degraded due to surrounding agricultural practices. Generally the water is murky with low vegetation diversity.

Identify specific pollutants, if known:

(iii) Biological Characteristics. Wetland supports (check all that apply):

Riparian buffer. Characteristics (type, average width):

Vegetation type/percent cover. Explain: Typha angustifolia, Phalaris arundinacea, and Schoenoplectus fluviatillis were identified in the delineation report provided by the applicant's agent.

Habitat for:

Federally Listed species. Explain findings:

Fish/spawn areas. Explain findings:

Other environmentally-sensitive species. Explain findings:

Aquatic/wildlife diversity. Explain findings: The wetland likely provides habitat for aquatic animals such as frogs and foraging habitat for birds.

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis: 2 Approximately (2.01) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Wetland Name	Size (in acres)	Directly abuts? (Y/N)
Water 13	1.42	Y
Water 9	0.59	Y

Summarize overall biological, chemical and physical functions being performed: The wetlands provide water filtration via sediment layers, prevent debris from collecting in downstream waters, provides some wetland habitat to various birds, fish and insects, provides vegetation cover.

#### C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the Rapanos Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

## Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

- 1. Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs. Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
- 2. Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs. Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
- 3. Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW. Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

## D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

- TNWs and Adjacent Wetlands. Check all that apply and provide size estimates in review area:
   TNWs: linear feet width (ft), Or, acres.
   Wetlands adjacent to TNWs: acres.
- 2. RPWs that flow directly or indirectly into TNWs.

   Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:

Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: Years of aerial imagery viewed via Google Earth confirm that the tributary flows at least seasonally.

Provide estimates for jurisdictional waters in the review area (check all that apply): Tributary waters: 1400 linear feet17 width (ft).

Other non-wetland waters: acres.

Identify type(s) of waters:

#### 3. Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs.

Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters:
   Other non-mail linear feet width (ft).
  - Other non-wetland waters: acres.
    - Identify type(s) of waters:

#### 4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.

Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.

- Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:
- Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: Aerial earth imagery revealed that wetland 9 & 13 are directly fed by waterway 14, which is an RPW. There is no surface separation between the wetlands and the waterway.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

#### Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs. 5.

Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

#### Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs. 6.

Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

#### Impoundments of jurisdictional waters.9

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from "waters of the U.S.," or
- Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
- Demonstrate that water is isolated with a nexus to commerce (see E below).

<sup>8</sup>See Footnote # 3. <sup>9</sup> To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

A. SU a	JPPORTING DATA. Data rev nd requested, appropriately refer Maps, plans, plots or plat su	/iewed for JD (check all that cence sources below): bmitted by or on behalf of the	t apply - checked items shall be applicant/consultant:Maps, pla	e included in case file and, where checked
<u>SECT</u>	TON IV: DATA SOURCES.			
	rovide acreage estimates for nor         finding is required for jurisdicti         Non-wetland waters (i.e., riv         Lakes/ponds:         acres.         Other non-wetland waters:         Wetlands:	i-jurisdictional waters in the on (check all that apply): /ers, streams): linear fe acres. List type of aqua	eview area that do not meet the et, width (ft). tic resource:	"Significant Nexus" standard, where such
V V V V V	Vater 16 Vater 15 Vater 12 Vater 10 Vater 3	0.70 0.50 0.95 0.20 0.50		
P fi L L V V	rovide acreage estimates for non actors (i.e., presence of migrator udgment (check all that apply): Non-wetland waters (i.e., riv Lakes/ponds: acres. Other non-wetland waters: Wetlands: 2.85 acres. Vater Name	i-jurisdictional waters in the y birds, presence of endanger /ers, streams): linear fe acres, List type of aquat <u>Size in acres</u>	eview area, where the <u>sole</u> pote ed species, use of water for irrig et width (ft). ic resource:	ntial basis of jurisdiction is the MBR gated agriculture), using best professional
F. N	<ul> <li>If potential wetlands were as Wetland Delineation Manual</li> <li>Review area included isolate</li> <li>Prior to the Jan 2001 So "Migratory Bird Rule"</li> <li>Waters do not meet the "Sig</li> <li>Other: (explain, if not cover</li> </ul>	TERS, INCLUDING WET seessed within the review are: 1 and/or appropriate Regiona d waters with no substantial upreme Court decision in "SV (MBR). nificant Nexus" standard, wh ed above):	LANDS (CHECK ALL THAT a, these areas did not meet the c Supplements. nexus to interstate (or foreign) c VANCC," the review area would ere such a finding is required fo	<b>APPLY):</b> riteria in the 1987 Corps of Engineers commerce. have been regulated based <u>solely</u> on the r jurisdiction. Explain:
P C C	<ul> <li>Tributary waters: linea</li> <li>Other non-wetland waters: Identify type(s) of waters:</li> <li>Wetlands: acres.</li> </ul>	al waters in the review area ( r feet width (ft). acres.	check all that apply):	
	SOLATED INTERSTATE O         DEGRADATION OR DESTRI         UCH WATERS (CHECK AL         which are or could be used by         from which fish or shellfish a         which are or could be used fo         Interstate isolated waters. Ex         Other factors. Explain:         dentify water body and summ.	R INTRA-STATE WATE JCTION OF WHICH COU L THAT APPLY): <sup>10</sup> y interstate or foreign travelet ure or could be taken and sold or industrial purposes by indu cplain: arize rationale supporting of	etermination:	OWETLANDS, THE USE, COMMERCE, INCLUDING ANY Dises. Ince.
E. I	SOLATED IINTERSTATE O	R INTRA-STATEI WATEI	RS. INCLUDING ISOLATED	WETLANDS, THE USE,

Data sheets prepared/submitted by or on behalf of the applicant/consultant.

Office concurs with data sheets/delineation report.

Office does not concur with data sheets/delineation report.

- Data sheets prepared by the Corps:
   Corps navigable waters' study:
   U.S. Geological Survey Hydrologic Atlas:
  - USGS NHD data.

1.1

<sup>&</sup>lt;sup>10</sup> Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

	USGS 8 and 12 digit HUC maps.
Π	U.S. Geological Survey map(s). Cite scale & quad name:
$\Box$	USDA Natural Resources Conservation Service Soil Survey. Citation:
	National wetlands inventory map(s). Cite name:
	State/Local wetland inventory map(s):
	FEMA/FIRM maps:
	100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
$\boxtimes$	Photographs: Aerial (Name & Date):Google Earth, Multiple years of imagery used.
	or Other (Name & Date):
	Previous determination(s). File no. and date of response letter:
	Applicable/supporting case law:
	Applicable/supporting scientific literature:
	Other information (please specify):

•

5

**B. ADDITIONAL COMMENTS TO SUPPORT JD:** Waterway 14 and Wetlands 9 & 13 are jurisdictional. Wetlands 3,10,12,15 & 16 are isolated. The five wetlands within the project area are not connected to another wetland or waterway and are not located within a floodplain. They are pothole type wetlands that remain isolated from any natural drainage way. No boating or irrigation would be possible at any location within these wetlands, no fisheries are present, and there is no interstate or foreign commerce at this site. Based on the information provided and the factors listed above, these wetlands are isolated..

# Wetland Specialists Inc.

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Producers Name: County: Legal Desc: Completion Date: Tract:

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13

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Feet

Harr-Lemme Lincoln

**A** 

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