

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Montreal Sampling Date: 8/5/10
Applicant/Owner: _____ State: ND Sampling Point: W4
Investigator(s): Rjar/Krapp Section, Township, Range: 36 156 093
Landform (hillslope, terrace, etc.): upland till Local relief (concave, convex, none): linear Slope (%): 0
Subregion (LRR): _____ Lat: 48.298167 Long: -102.569677 Datum: _____
Soil Map Unit Name: 24E 22H1 Williams loams 9-25.1 slope NWI classification: PEmc
Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.) high precip
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u>	No _____	
Wetland Hydrology Present?	Yes <u>X</u>	No _____	
Remarks:			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>X</u>				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>4</u> (A)
2. <u>X</u>				Total Number of Dominant Species Across All Strata: <u>4</u> (B)
3. <u>X</u>				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. <u>X</u>				
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet:
1. <u>X</u>				Total % Cover of: _____ Multiply by: _____
2. <u>X</u>				OBL species <u>101</u> x 1 = <u>101</u>
3. <u>X</u>				FACW species <u>130</u> x 2 = <u>260</u>
4. <u>X</u>				FAC species _____ x 3 = _____
5. <u>X</u>				FACU species _____ x 4 = _____
_____ = Total Cover				UPL species _____ x 5 = _____
Herb Stratum (Plot size: _____)				Column Totals: <u>231</u> (A) <u>361</u> (B)
1. <u>Phalaris arundinacea</u>	<u>100</u>	<u>+</u>	<u>FACW</u>	Prevalence Index = B/A = <u>1.6</u>
2. <u>Polygonum amphibium</u>	<u>60</u>	<u>+</u>	<u>OBL</u>	
3. <u>Cirsium maculatum</u>	<u>5</u>		<u>OBL</u>	
4. <u>Rumex crispus</u>	<u>5</u>		<u>FACW</u>	
5. <u>Hordeum jubatum</u>	<u>5</u>		<u>FACW</u>	
6. <u>Galium lacustris</u>	<u>30</u>	<u>+</u>	<u>OBL</u>	
7. <u>Poa palustris</u>	<u>20</u>	<u>+</u>	<u>FACW</u>	
8. <u>Yarrowia</u>	<u>3</u>		<u>OBL</u>	
9. <u>Alisma gramineum</u>	<u>3</u>		<u>OBL</u>	
10. _____				
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:
1. <u>X</u>				<u>X</u> Dominance Test is >50%
2. <u>X</u>				<u>X</u> Prevalence Index is ≤3.0 ¹
_____ = Total Cover				____ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
% Bare Ground in Herb Stratum <u>0</u>				____ Problematic Hydrophytic Vegetation ¹ (Explain)
Remarks: <u>moos on surface</u>				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
				Hydrophytic Vegetation Present? Yes <u>X</u> No _____

SOIL

Sampling Point: _____

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type	Loc ²		
0-3								om/moss/rocks
3-10	10YR 3/1						cl	
10+	10YR 2/1						cl	unwatered

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

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

Indicators for Problematic Hydric Soils³:

- | | | |
|--|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) | ☐ 1 cm Muck (A9) (LRR I, J) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) | ☐ Coast Prairie Redox (A16) (LRR F, G, H) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) | ☐ Dark Surface (S7) (LRR G) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) | ☐ High Plains Depressions (F16) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) | ☐ (LRR H outside of MLRA 72 & 73) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☐ Depleted Matrix (F3) | ☐ Reduced Vertic (F18) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) | ☐ Red Parent Material (TF2) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) | ☐ Other (Explain in Remarks) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) | ³ Indicators of hydrophytic vegetation and |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) | wetland hydrology must be present, |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | ☐ (MLRA 72 & 73 of LRR H) | unless disturbed or problematic. |

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

Adherent: Brownish-yellow 100% Glychris = 10% 5%

10YR 3/1 sandy loam disturbed is seeded

Runoff 4% slope

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____

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

Saturation Present? Yes ☒ No _____ Depth (inches): 10"

(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No _____

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

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Montevideo Sampling Date: 8/6/10
Applicant/Owner: _____ State: ND Sampling Point: W1
Investigator(s): Kjara Krapp Section, Township, Range: 31 156 092
Landform (hillslope, terrace, etc.): lowland Local relief (concave, convex, none): _____ Slope (%): _____
Subregion (LRR): _____ Lat: 48.297917 Long: -102.563848 Datum: _____
Soil Map Unit Name: 25C-Zahl-Williams-Bowbells loams 3-9-1 slope NWI classification: PERM

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

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: <u>grazed but not heavily</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>4</u> (A)
2. <u>X</u>				Total Number of Dominant Species Across All Strata: <u>4</u> (B)
3. <u>X</u>				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____				
				Prevalence Index worksheet:
_____ = Total Cover				Total % Cover of: _____ Multiply by: _____
Sapling/Shrub Stratum (Plot size: _____)				OBL species <u>100</u> x 1 = <u>100</u>
1. _____				FACW species <u>35</u> x 2 = <u>70</u>
2. _____				FAC species _____ x 3 = _____
3. <u>X</u>				FACU species _____ x 4 = _____
4. _____				UPL species _____ x 5 = _____
5. _____				Column Totals: <u>135</u> (A) <u>170</u> (B)
_____ = Total Cover				Prevalence Index = B/A = <u>170/135</u> <u>1.25</u>
Herb Stratum (Plot size: <u>20x30</u>)				Hydrophytic Vegetation Indicators:
1. <u>Phytolacca americana</u>	<u>20</u>	<u>+</u>	<u>FACW</u>	<u>X</u> Dominance Test is >50%
2. <u>Hordeum jubatum</u>	<u>5</u>	<u>-</u>	<u>FACW</u>	<u>X</u> Prevalence Index is $\leq 3.0^1$
3. <u>Glyceria sp</u>	<u>40</u>	<u>+</u>	<u>OBL</u>	____ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
4. <u>Typha latifolia</u>	<u>20</u>	<u>+</u>	<u>OBL</u>	____ Problematic Hydrophytic Vegetation ¹ (Explain)
5. <u>Berula sp</u>	<u>10</u>	<u>-</u>	<u>SP</u>	
6. <u>Polypodium virginicum</u>	<u>5</u>	<u>-</u>	<u>SP</u>	
7. <u>Aster sp</u>	<u>5</u>	<u>-</u>	<u>SP</u>	
8. <u>Chenopodium</u>	<u>20</u>	<u>+</u>	<u>SP</u>	
9. _____	<u>5</u>	<u>-</u>	<u>SP</u>	
10. _____	<u>5</u>	<u>-</u>	<u>SP</u>	
<u>145</u> = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: <u>X</u>)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Remarks:				

Sampling Point: _____

142	Updell	Remarks:	140
		Veg: <i>Conium maculatum</i> 50% Soil: 0-6" loam 10YR 2/1 6-20" 10YR 6/1 SL hydrolytic low base, silty, red, 10YR 5/1-5/2	H ₂ O increasing to 5 sandstone 10 - low sandstone

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of two required)	
☒ Surface Water (A1)	☐ Salt Crust (B11)	☐ Surface Soil Cracks (B6)	
☐ High Water Table (A2)	☐ Aquatic Invertebrates (B13)	☐ Sparsely Vegetated Concave Surface (B8)	
☒ Saturation (A3)	☐ Hydrogen Sulfide Odor (C1)	☐ Drainage Patterns (B10)	
☐ Water Marks (B1)	☐ Dry-Season Water Table (C2)	☐ Oxidized Rhizospheres on Living Roots (C3)	
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres on Living Roots (C3)	☐ (where tilled)	
☐ Drift Deposits (B3)	☐ (where not tilled)	☐ Crayfish Burrows (C8)	
☐ Algal Mat or Crust (B4)	☐ Presence of Reduced Iron (C4)	☐ Saturation Visible on Aerial Imagery (C9)	
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)	☐ Geomorphic Position (D2)	
☐ Inundation Visible on Aerial Imagery (B7)	☐ Other (Explain in Remarks)	☐ FAC-Neutral Test (D5)	
☐ Water-Stained Leaves (B9)		☐ Frost-Heave Hummocks (D7) (LRR F)	
Field Observations:			
Surface Water Present?	Yes ☒ No ☐ Depth (inches): 3"	Wetland Hydrology Present? Yes ☒ No ☐	
Water Table Present?	Yes ☐ No ☐ Depth (inches):		
Saturation Present? (includes capillary fringe)	Yes ☒ No ☐ Depth (inches): 10"		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BWP City/County: Monmouth Sampling Date: 8/16/10
 Applicant/Owner: _____ State: IL Sampling Point: W2
 Investigator(s): Scott Krapp Section, Township, Range: 31 156 92
 Landform (hillslope, terrace, etc.): bottom Local relief (concave, convex, none): _____ Slope (%): 0
 Subregion (LRR): _____ Lat: 48.297965 Long: -102.562597 Datum: _____
 Soil Map Unit Name: 25C-Zahl-Williams-Bowbells loams 3-9-1 slope NWI classification: PEMC

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

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: <u>grazed bwl not peaking</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. <u>X</u>	_____	_____	_____	
3. <u>X</u>	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. <u>X</u>	_____	_____	_____	
3. <u>X</u>	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: <u>20x20</u>)				
1. <u>Spartina pectinata</u>	<u>10</u>	<u>-</u>	<u>FACW</u>	
2. <u>Carex</u>	<u>90</u>	<u>+</u>	<u>OBL</u>	
3. <u>Hordeum jubatum</u>	<u>10</u>	<u>-</u>	<u>FACW</u>	
4. <u>Phalaris amabilis</u>	<u>10</u>	<u>-</u>	<u>FACW</u>	
5. <u>Juncus balticus</u>	<u>10</u>	<u>-</u>	<u>OBL</u>	
6. <u>Sagittaria arifolia</u>	<u>3</u>	<u>-</u>	<u>OBL</u>	
7. <u>Poa pratensis</u>	<u>5</u>	<u>-</u>	<u>OBL</u>	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. <u>X</u>	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Remarks:				

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

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

Hydrophytic Vegetation Present? Yes X No _____

Sampling Point: W2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹		
0-6	10YR 3/1						sl
6-10	10YR 3/1	90	10YR 4/1	90	10YR		sandy Rocky
10-18	10YR 3/1	60	10YR 6/2	80	40%		sl
"			7.5YR 5/2	100	20%		
18+	10YR 6/2						c

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
☐ Histosol (A1)	☐ Sandy Gleyed Matrix (S4)	☐ 1 cm Muck (A9) (LRR I, J)	
☐ Histic Epipedon (A2)	☐ Sandy Redox (S5)	☐ Coast Prairie Redox (A16) (LRR F, G, H)	
☐ Black Histic (A3)	☐ Stripped Matrix (S6)	☐ Dark Surface (S7) (LRR G)	
☐ Hydrogen Sulfide (A4)	☐ Loamy Mucky Mineral (F1)	☐ High Plains Depressions (F16)	
☐ Stratified Layers (A5) (LRR F)	☐ Loamy Gleyed Matrix (F2)	☐ (LRR H outside of MLRA 72 & 73)	
☐ 1 cm Muck (A9) (LRR F, G, H)	☐ Depleted Matrix (F3)	☐ Reduced Vertic (F18)	
☐ Depleted Below Dark Surface (A11)	☐ Redox Dark Surface (F6)	☐ Red Parent Material (TF2)	
☐ Thick Dark Surface (A12)	☐ Depleted Dark Surface (F7)	☐ Other (Explain in Remarks)	
☐ Sandy Mucky Mineral (S1)	☐ Redox Depressions (F8)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	☐ High Plains Depressions (F16)		
☐ 5 cm Mucky Peat or Peat (S3) (LRR F)	☐ (MLRA 72 & 73 of LRR H)		

Restrictive Layer (if present):		Hydric Soil Present? Yes ☒ No ☐
Type: <u>sandy Rocky</u>		
Depth (inches): <u>2" @ 6"</u>		

Remarks: 10-18" 10YR 3/1 90% 10YR 4/1 90% 10YR 6/2 80% 40% 7.5YR 5/2 100% 20%
sandy Rocky till 0-5" 10YR 3/1 90% 10YR 4/1 90% 10YR 6/2 80% 40% 7.5YR 5/2 100% 20%

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of two required)
☐ Surface Water (A1)	☐ Salt Crust (B11)	☐ Surface Soil Cracks (B6)
☒ High Water Table (A2)	☐ Aquatic Invertebrates (B13)	☐ Sparsely Vegetated Concave Surface (B8)
☒ Saturation (A3)	☐ Hydrogen Sulfide Odor (C1)	☐ Drainage Patterns (B10)
☐ Water Marks (B1)	☐ Dry-Season Water Table (C2)	☐ Oxidized Rhizospheres on Living Roots (C3)
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres on Living Roots (C3)	☐ (where tilled)
☐ Drift Deposits (B3)	☐ (where not tilled)	☐ Crayfish Burrows (C8)
☐ Algal Mat or Crust (B4)	☐ Presence of Reduced Iron (C4)	☐ Saturation Visible on Aerial Imagery (C9)
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)	☐ Geomorphic Position (D2)
☐ Inundation Visible on Aerial Imagery (B7)	☐ Other (Explain in Remarks)	☐ FAC-Neutral Test (D5)
☐ Water-Stained Leaves (B9)		☐ Frost-Heave Hummocks (D7) (LRR F)
Field Observations:		
Surface Water Present?	Yes ☒ No ☐ Depth (inches): _____	Wetland Hydrology Present? Yes ☒ No ☐
Water Table Present?	Yes ☒ No ☐ Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes ☒ No ☐ Depth (inches): <u>1</u>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Mountain Sampling Date: 8/6/10
 Applicant/Owner: _____ State: ND Sampling Point: W1
 Investigator(s): Kjar / Krapp Section, Township, Range: 30 156 092
 Landform (hillslope, terrace, etc.): low swale Local relief (concave, convex, none): _____ Slope (%): 0
 Subregion (LRR): _____ Lat: 48.29848 Long: -102.559624 Datum: _____
 Soil Map Unit Name: 25C-Zarl Williams Bonbell loams 3-9-1 slope NWI classification: PERC
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.) high precip
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? N Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? N (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: <u>grazed</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____				
2. <u>X</u>				
3. <u>X</u>				
4. _____				
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____				Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% <u>X</u> Prevalence Index is ≤3.0 ¹ ____ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>X</u>				
3. <u>X</u>				
4. _____				
_____ = Total Cover				
Herb Stratum (Plot size: <u>wetland</u>)				
1. <u>Hordeum jubatum</u>	<u>10</u>	-	FACW	Hydrophytic Vegetation Present? Yes _____ No _____
2. <u>Phalaris arundinacea</u>	<u>90</u>	+	FACW	
3. <u>Poa palustris</u>	<u>5</u>	-	OBL	
4. <u>Mentha arvensis</u>	<u>5</u>	-	FACW	
5. <u>Rumex crispus</u>	<u>5</u>	-	FACW	
6. <u>Lysichiton albertensis</u>	<u>5</u>	-	OBL	
7. <u>Glyceria</u>	<u>10</u>	-	OBL	
8. <u>Alisma prostratum</u>	<u>3</u>	-	OBL	
9. <u>Eleocharis</u>	<u>5</u>	-	OBL	
10. <u>Spartina patens</u>	<u>5</u>	-	OBL	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. <u>X</u>				
2. <u>X</u>				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u><1</u>				
Remarks: _____				

Sampling Point: _____

Great Plains – Interim Version

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Mountain Sampling Date: 8/6/10
 Applicant/Owner: _____ State: ND Sampling Point: W2
 Investigator(s): Kier/Krapp Section, Township, Range: 30 156 92
 Landform (hillslope, terrace, etc.): upland swale Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: 48.298425 Long: -102.558578 Datum: _____
 Soil Map Unit Name: HE Zahl-Williams loams 9-25-1 slope NWI classification: PdC

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

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

Hydrophytic Vegetation Present?	Yes ☒ No _____	Is the Sampled Area within a Wetland? Yes ☒ No _____
Hydric Soil Present?	Yes ☒ No _____	
Wetland Hydrology Present?	Yes ☒ No _____	
Remarks: <u>hill area</u>		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>3</u> (A)
2. <u>X</u>	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet:
1. _____				Total % Cover of: _____ Multiply by: _____
2. <u>X</u>				OBL species <u>105</u> x 1 = <u>105</u>
3. _____				FACW species <u>28</u> x 2 = <u>56</u>
4. _____				FAC species _____ x 3 = _____
5. _____				FACU species _____ x 4 = _____
_____ = Total Cover				UPL species _____ x 5 = _____
Herb Stratum (Plot size: <u>Wetland</u>)				Column Totals: <u>133</u> (A) <u>161</u> (B)
1. <u>Poa annua</u>	<u>20</u>	<u>+</u>	<u>OBL</u>	Prevalence Index = B/A = <u>1.2</u>
2. <u>Phlox pilularis</u>	<u>40</u>	<u>+</u>	<u>OBL</u>	
3. <u>Hordeum jubatum</u>	<u>20</u>	<u>+</u>	<u>FACW</u>	
4. <u>Lysichiton thyrsifolius</u>	<u>3</u>		<u>FACU</u>	
5. <u>Rumex crispus</u>	<u>5</u>		<u>FACU</u>	
6. <u>Sagittaria arifolia</u>	<u>5</u>		<u>OBL</u>	
7. <u>Glyceria</u>	<u>5</u>		<u>OBL</u>	
8. <u>Calamagrostis canadensis</u>	<u>10</u>		<u>OBL</u>	
9. <u>Polygonum amphibium</u>			<u>FAC</u>	
10. _____				
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:
1. <u>X</u>				☒ Dominance Test is >50%
2. _____				☒ Prevalence Index is ≤3.0 ¹
_____ = Total Cover				____ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
% Bare Ground in Herb Stratum <u>0</u>				____ Problematic Hydrophytic Vegetation ¹ (Explain)
Remarks:				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
				Hydrophytic Vegetation Present? Yes ☒ No _____

SOIL

Sampling Point: _____

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

Depth (inches)	Matrix		Redox Features		Type	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-3								OM / roots
3-18	10YR 3/1	45					sl	
18-24	10YR 3/1	95	7.5YR 4/4	5			sl	mottles

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

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

Indicators for Problematic Hydric Soils³:

- | | | |
|--|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) | ☐ 1 cm Muck (A9) (LRR I, J) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) | ☐ Coast Prairie Redox (A16) (LRR F, G, H) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) | ☐ Dark Surface (S7) (LRR G) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) | ☐ High Plains Depressions (F16) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) | ☐ (LRR H outside of MLRA 72 & 73) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☐ Depleted Matrix (F3) | ☐ Reduced Vertic (F18) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) | ☐ Red Parent Material (TF2) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) | ☐ Other (Explain in Remarks) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) | ³ Indicators of hydrophytic vegetation and |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) | wetland hydrology must be present, |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | ☐ (MLRA 72 & 73 of LRR H) | unless disturbed or problematic. |

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Arthroposor ornamental 70% Symplocos paniculata 30% *Arthroposor ornamental*
 10YR 3/1 sandy loam, well drained, no slope
 gto 2nd

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____Water Table Present? Yes ☐ No ☐ Depth (inches): _____Saturation Present? Yes ☒ No ☐ Depth (inches): 2"Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Mountain Sampling Date: 8/6/10
 Applicant/Owner: _____ State: ND Sampling Point: W3
 Investigator(s): Kjar/Krapp Section, Township, Range: 30/56 92
 Landform (hillslope, terrace, etc.): upland drainage Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): 250 Lat: 48.298291 Long: -102.557108 Datum: _____
 Soil Map Unit Name: 25C-Zahl-williams-Bowbelu loams 391 slope NWI classification: _____

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

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

Hydrophytic Vegetation Present? Yes ☒ No _____	Is the Sampled Area within a Wetland? Yes ☒ No _____
Hydric Soil Present? Yes ☒ No _____	
Wetland Hydrology Present? Yes ☒ No _____	
Remarks: <u>area is in a tilled field & appears to have been seeded in dry or years</u> <u>Beaded drainage</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)																
1. _____					Prevalence Index worksheet: <table border="0"> <tr> <td>Total % Cover of:</td> <td>Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>75</u></td> <td>x 2 = <u>150</u></td> </tr> <tr> <td>FAC species <u>10</u></td> <td>x 3 = <u>30</u></td> </tr> <tr> <td>FACU species <u>20</u></td> <td>x 4 = <u>80</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: <u>105</u> (A)</td> <td><u>260</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>2.5</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>75</u>	x 2 = <u>150</u>	FAC species <u>10</u>	x 3 = <u>30</u>	FACU species <u>20</u>	x 4 = <u>80</u>	UPL species _____	x 5 = _____	Column Totals: <u>105</u> (A)	<u>260</u> (B)	Prevalence Index = B/A = <u>2.5</u>
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>75</u>	x 2 = <u>150</u>																			
FAC species <u>10</u>	x 3 = <u>30</u>																			
FACU species <u>20</u>	x 4 = <u>80</u>																			
UPL species _____	x 5 = _____																			
Column Totals: <u>105</u> (A)	<u>260</u> (B)																			
Prevalence Index = B/A = <u>2.5</u>																				
2. _____																				
3. <u>X</u>																				
4. _____																				
_____ = Total Cover																				
Sapling/Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: ☒ Dominance Test is >50% ☒ Prevalence Index is ≥3.0 ¹ ☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain)																
1. _____																				
2. <u>X</u>																				
3. _____																				
4. _____																				
5. _____																				
_____ = Total Cover																				
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes _____ No _____ ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. <u>Cirsium arvense</u>	<u>20</u>	<u>+</u>	<u>FACU</u>																	
2. <u>Rumex crispus</u>	<u>50</u>	<u>+</u>	<u>FACW</u>																	
3. <u>Agropyron repens</u>	<u>10</u>	<u>-</u>	<u>FAC</u>																	
4. <u>Hordeum jubatum</u>	<u>20</u>	<u>+</u>	<u>FACW</u>																	
5. <u>Briza media</u>	<u>5</u>	<u>-</u>	<u>FACW</u>																	
6. <u>Wheat</u>	<u>+</u>	<u>-</u>	<u>-</u>																	
7. <u>Carola</u>	<u>+</u>	<u>-</u>	<u>-</u>																	
8. <u>Silene maritima</u>	<u>5</u>	<u>-</u>	<u>R</u>																	
9. _____																				
10. _____																				
<u>115</u> = Total Cover																				
Woody Vine Stratum (Plot size: _____)																				
1. _____																				
2. _____																				
<u>115</u> = Total Cover																				
% Bare Ground in Herb Stratum <u>10</u>																				
Remarks:																				

SOIL

Sampling Point: _____

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

Depth (inches)	Matrix		Redox Features		Type	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-12	10YR 2/1						sl	
12-15	10YR 3/1	95	10YR 5/3	5			slc	presumably
15+	10YR 3/1						slc	
								filled

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

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

Indicators for Problematic Hydric Soils³:

- | | | |
|--|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) | ☐ 1 cm Muck (A9) (LRR I, J) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) | ☐ Coast Prairie Redox (A16) (LRR F, G, H) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) | ☐ Dark Surface (S7) (LRR G) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) | ☐ High Plains Depressions (F16) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) | ☐ (LRR H outside of MLRA 72 & 73) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☐ Depleted Matrix (F3) | ☐ Reduced Vertic (F18) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) | ☐ Red Parent Material (TF2) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) | ☐ Other (Explain in Remarks) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) | ³ Indicators of hydrophytic vegetation and |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) | wetland hydrology must be present, |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | ☐ (MLRA 72 & 73 of LRR H) | unless disturbed or problematic. |

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks: Upland 60% Bromus inermis, Symphoricarpos occidentalis, Poa pratensis in productive area. Muck is present in wetland soil. Soil is sandy, rocky & gravelly soils.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

- | | | |
|------------------------|---|-----------------------|
| Surface Water Present? | Yes ☒ No ☐ | Depth (inches): _____ |
| Water Table Present? | Yes ☐ No ☐ | Depth (inches): _____ |
| Saturation Present? | Yes ☐ No ☐ | Depth (inches): _____ |
- (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No _____

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

Remarks:

Beaded wetland - Carex and Sphagnum - jubation are continuous throughout although Poa pratensis and Symphoricarpos are more common, narrowing the channel / Disturbances include a two-track through the field.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Mountain Sampling Date: 8/6/10
 Applicant/Owner: _____ State: ND Sampling Point: W4
 Investigator(s): Kjer / Krapp Section, Township, Range: 30 156 092
 Landform (hillslope, terrace, etc.): upland swale Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: 48.29822 Long: -102.553661 Datum: _____
 Soil Map Unit Name: 25C Zahl Williams Bowbells loams 3-9/10 NWI classification: _____

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

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

Hydrophytic Vegetation Present? Yes _____ No _____	Hydric Soil Present? Yes _____ No _____	Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks: <u>tilled</u>			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>X</u>				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>4</u> (A)
2. <u>X</u>				Total Number of Dominant Species Across All Strata: <u>6</u> (B)
3. <u>X</u>				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66</u> (A/B)
4. <u>X</u>				
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet:
1. <u>X</u>				Total % Cover of: _____ Multiply by: _____
2. <u>X</u>				OBL species <u>1</u> x 1 = <u>1</u>
3. <u>X</u>				FACW species <u>11</u> x 2 = <u>22</u>
4. <u>X</u>				FAC species <u>1</u> x 3 = <u>3</u>
5. <u>X</u>				FACU species <u>1</u> x 4 = <u>4</u>
_____ = Total Cover				UPL species _____ x 5 = _____
Herb Stratum (Plot size: _____)				Column Totals: <u>14</u> (A) <u>30</u> (B)
1. <u>Hordeum jubatum</u>	<u>10</u>		<u>FACW</u>	Prevalence Index = B/A = <u>2.1</u>
2. <u>Echinochloa crusgali</u>	<u>1</u>		<u>FACW</u>	
3. <u>Euphorbia maculata</u>	<u>1</u>		<u>FACU</u>	
4. <u>Polygonum convolvulus</u>	<u>1</u>		<u>FAC</u>	
5. <u>Peas / dry edible</u>	<u>1</u>		<u>F</u>	
6. <u>Amaranthus retroflexus</u>	<u>1</u>		<u>FACW</u>	
7. <u>Kochia scopulina</u>	<u>1</u>		<u>F</u>	
8. <u>Elenchus scutellari</u>	<u>1</u>		<u>OBL</u>	
9. <u>Canola</u>	<u>1</u>		<u>-</u>	
10. _____				
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:
1. <u>X</u>				☒ Dominance Test is >50%
2. <u>X</u>				☒ Prevalence Index is ≤3.0 ¹
_____ = Total Cover				☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
% Bare Ground in Herb Stratum <u>90</u>				☐ Problematic Hydrophytic Vegetation ¹ (Explain)
_____ = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Remarks:				Hydrophytic Vegetation Present? Yes <u>X</u> No _____

Sampling Point: _____

Great Plains – interim Version

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Mountrail Sampling Date: 8/6/10
Applicant/Owner: _____ State: ND Sampling Point: W5
Investigator(s): Kjar / Krapp Section, Township, Range: 30 156 092
Landform (hillslope, terrace, etc.): upland swale Local relief (concave, convex, none): _____ Slope (%): -
Subregion (LRR): _____ Lat: 48.298234 Long: -102.550611 Datum: _____
Soil Map Unit Name: 25C Zahl Williams Bowbell loams 3-4 slope NWI classification: _____

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

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

Hydrophytic Vegetation Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Hydric Soil Present? Yes _____ No _____	
Wetland Hydrology Present? Yes _____ No _____	
Remarks: <u>tilled</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A)
2. <u>X</u>				Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____				
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:
1. _____				Total % Cover of: _____ Multiply by: _____
2. <u>X</u>				OBL species <u>1</u> x 1 = <u>1</u>
3. _____				FACW species <u>85</u> x 2 = <u>170</u>
4. _____				FAC species <u>7</u> x 3 = <u>21</u>
5. _____				FACU species _____ x 4 = _____
_____ = Total Cover				UPL species _____ x 5 = _____
Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Column Totals: <u>93</u> (A) <u>191</u> (B)
1. <u>Hordeum jubatum</u>	<u>85</u>	<u>+</u>	<u>FACW</u>	Prevalence Index = B/A = <u>2</u>
2. <u>Canola</u>	<u>1</u>	<u>-</u>	<u>NI</u>	
3. <u>Polygonum amphibium</u>	<u>1</u>	<u>-</u>	<u>OBL</u>	
4. <u>Amaranthus retroflexus</u>	<u>1</u>	<u>-</u>	<u>FACU</u>	
5. <u>Wheat</u>	<u>1</u>	<u>-</u>	<u>NI</u>	
6. <u>Polygonum convolvulus</u>	<u>5</u>	<u>-</u>	<u>FAC</u>	
7. <u>Aquilegia repens</u>	<u>5</u>	<u>-</u>	<u>FAC</u>	
8. _____				
9. _____				
10. _____				
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks:				

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
X Prevalence Index is ≤3.0¹
____ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
X Problematic Hydrophytic Vegetation¹ (Explain)
tilled
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

SOIL

Sampling Point: _____

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 2/1						sil	
8-10	10YR 3/1	95	7.5YR 4/4	5				
10-24	10YR 3/1						sil	

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

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

Indicators for Problematic Hydric Soils³:

- | | | |
|--|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) | ☐ 1 cm Muck (A9) (LRR I, J) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) | ☐ Coast Prairie Redox (A16) (LRR F, G, H) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) | ☐ Dark Surface (S7) (LRR G) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) | ☐ High Plains Depressions (F16) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) | ☐ (LRR H outside of MLRA 72 & 73) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☐ Depleted Matrix (F3) | ☐ Reduced Vertic (F18) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) | ☐ Red Parent Material (TF2) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) | ☐ Other (Explain in Remarks) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) | ³ Indicators of hydrophytic vegetation and |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) | wetland hydrology must be present, |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | ☐ (MLRA 72 & 73 of LRR H) | unless disturbed or problematic. |

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

upland; wheat rocky/gravelly sandy loam
Runoff to

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ☐ No ☐ Depth (inches): _____Water Table Present? Yes ☐ No ☐ Depth (inches): _____Saturation Present? Yes ☐ No ☐ Depth (inches): not at
(includes capillary fringe) surfaceWetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Madison Sampling Date: 8/6/10
Applicant/Owner: _____ State: ND Sampling Point: W6
Investigator(s): Kyan / Knap Section, Township, Range: 30 156 092
Landform (hillslope, terrace, etc.): Road ditch Local relief (concave, convex, none): _____ Slope (%): _____
Subregion (LRR): _____ Lat: 48.298854 Long: -102.548144 Datum: _____
Soil Map Unit Name: 25c Zant-Williams-Bowbells loam 3-9-1 slope NWI classification: _____

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

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

Hydrophytic Vegetation Present? Yes ☒ No _____	Is the Sampled Area within a Wetland? Yes ☒ No _____
Hydric Soil Present? Yes ☒ No _____	
Wetland Hydrology Present? Yes ☒ No _____	

Remarks: Wetland dissected by county Road & deepened for borrow area. TOPO position, most likely present before

VEGETATION – Use scientific names of plants. Road

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: <u>20x10</u> size <u>30</u>)				Prevalence Index worksheet:
1. <u>Phalaris arundinacea</u>	<u>95</u>	<u>+</u>	<u>FACW</u>	Total % Cover of: _____ Multiply by: _____
2. <u>Aquilegia scopulorum</u>	<u>20</u>	<u>+</u>	<u>FAC</u>	OBL species <u>18</u> x 1 = <u>18</u>
3. <u>Aster simplex</u>	<u>3</u>	<u>-</u>	<u>OBL</u>	FACW species <u>100</u> x 2 = <u>200</u>
4. <u>Rumex crispus</u>	<u>5</u>	<u>-</u>	<u>FACW</u>	FAC species <u>20</u> x 3 = <u>60</u>
5. <u>Polygonum amphibium</u>	<u>5</u>	<u>-</u>	<u>OBL</u>	FACU species _____ x 4 = _____
6. <u>Podalishtis</u>	<u>3</u>	<u>-</u>	<u>OBL</u>	UPL species _____ x 5 = _____
7. <u>Carex lasiocarpa</u>	<u>10</u>	<u>-</u>	<u>OBL</u>	Column Totals: <u>138</u> (A) <u>278</u> (B)
8. _____	_____	_____	_____	Prevalence Index = B/A = <u>2</u>
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:
1. _____	_____	_____	_____	— Dominance Test is >50%
2. _____	_____	_____	_____	— Prevalence Index is ≤3.0 ¹
_____ = Total Cover				— Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
% Bare Ground in Herb Stratum <u>0</u>	_____	_____	_____	— Problematic Hydrophytic Vegetation ¹ (Explain)
Remarks: _____				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Sampling Point: _____

$$\frac{ad}{bf}$$

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		
☐ Surface Water (A1)	☐ Salt Crust (B11)	☐ Surface Soil Cracks (B6)
☐ High Water Table (A2)	☐ Aquatic Invertebrates (B13)	☐ Sparsely Vegetated Concave Surface (B8)
☐ Saturation (A3)	☐ Hydrogen Sulfide Odor (C1)	☐ Drainage Patterns (B10)
☐ Water Marks (B1)	☐ Dry-Season Water Table (C2)	☐ Oxidized Rhizospheres on Living Roots (C3)
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres on Living Roots (C3)	☐ (where tilled)
☐ Drift Deposits (B3)	☐ (where not tilled)	☐ Crayfish Burrows (C8)
☐ Algal Mat or Crust (B4)	☐ Presence of Reduced Iron (C4)	☐ Saturation Visible on Aerial Imagery (C9)
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)	☐ Geomorphic Position (D2)
☐ Inundation Visible on Aerial Imagery (B7)	☐ Other (Explain in Remarks)	☐ FAC-Neutral Test (D5)
☐ Water-Stained Leaves (B9)		☐ Frost-Heave Hummocks (D7) (LRR F)
Secondary Indicators (minimum of two required)		
Field Observations:		
Surface Water Present?	Yes ☐ No ☐ Depth (inches):	Wetland Hydrology Present? Yes ☒ No ☐
Water Table Present?	Yes ☐ No ☐ Depth (inches):	
Saturation Present?	Yes ☐ No ☐ Depth (inches):	
(includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Impacted by Road - divided wetland joined by culvert		

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Mountrail Sampling Date: 8/6/15
Applicant/Owner: _____ State: ND Sampling Point: W11
Investigator(s): Kian/KRapp Section, Township, Range: 29 156 092
Landform (hillslope, terrace, etc.): SWale Local relief (concave, convex, none): _____ Slope (%): -
Subregion (LRR): _____ Lat: 48.298663 Long: -102.5401 Datum: _____
Soil Map Unit Name: 2 Parnell silt loam NWI classification: PEMC
Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes ☒ No _____	Is the Sampled Area within a Wetland? Yes ☒ No _____
Hydric Soil Present? Yes ☒ No _____	
Wetland Hydrology Present? Yes ☒ No _____	
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. _____			
3. <u>X</u>			
4. _____			
_____ = Total Cover			
Sapling/Shrub Stratum (Plot size: _____)			
1. _____			
2. _____			
3. <u>X</u>			
4. _____			
5. _____			
_____ = Total Cover			
Herb Stratum (Plot size: <u>20x20</u> <u>not</u> <u>sub</u>)			
1. <u>Phalaris arundinacea</u>	<u>100</u>	<u>+</u>	<u>FACW</u>
2. <u>Poa palustris</u>	<u>20</u>	<u>+</u>	<u>FACW</u>
3. <u>Phalaris alpinum</u>	<u>50</u>	<u>+</u>	<u>FACW</u>
4. <u>Agropyron repens</u>	<u>10</u>	<u>-</u>	<u>FAC</u>
5. <u>Carex gracilis</u>	<u>40</u>	<u>+</u>	<u>OBL</u>
6. _____			
7. _____			
8. _____			
9. _____			
10. _____			
_____ = Total Cover			
Woody Vine Stratum (Plot size: <u>X</u>)			
1. _____			
2. _____			
_____ = Total Cover			
% Bare Ground in Herb Stratum <u>0</u>	<u>220</u>	= Total Cover	
Remarks:			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 4 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>40</u>	x 1 = <u>40</u>
FACW species <u>170</u>	x 2 = <u>340</u>
FAC species <u>10</u>	x 3 = <u>30</u>
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: <u>220</u> (A)	<u>410</u> (B)

Prevalence Index = B/A = 1.9

Hydrophytic Vegetation Indicators:

☒ Dominance Test is >50%

☒ Prevalence Index is ≤3.0¹

☐ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes ☒ No _____

SOIL

Sampling Point: _____

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 3/1	100					sil	saturated
6-9	10YR 2/1	70	2.5Y 5/1	30			cl	
10-20	2.5YR 5/1	40	2.5Y 5/3	60			c	
20+	2.5YR 5/1		gray 2.7Y 10/6	20%			c	

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

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

Indicators for Problematic Hydric Soils³:

☐ Histosol (A1)	☐ Sandy Gleyed Matrix (S4)	☐ 1 cm Muck (A9) (LRR I, J)
☐ Histic Epipedon (A2)	☐ Sandy Redox (S5)	☐ Coast Prairie Redox (A16) (LRR F, G, H)
☐ Black Histic (A3)	☐ Stripped Matrix (S6)	☐ Dark Surface (S7) (LRR G)
☐ Hydrogen Sulfide (A4)	☐ Loamy Mucky Mineral (F1)	☐ High Plains Depressions (F16)
☐ Stratified Layers (A5) (LRR F)	☐ Loamy Gleyed Matrix (F2)	☐ (LRR H outside of MLRA 72 & 73)
☐ 1 cm Muck (A9) (LRR F, G, H)	☐ Depleted Matrix (F3)	☐ Reduced Vertic (F18)
☐ Depleted Below Dark Surface (A11)	☐ Redox Dark Surface (F6)	☐ Red Parent Material (TF2)
☐ Thick Dark Surface (A12)	☐ Depleted Dark Surface (F7)	☐ Other (Explain in Remarks)
☐ Sandy Mucky Mineral (S1)	☐ Redox Depressions (F8)	³ Indicators of hydrophytic vegetation and
☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	☐ High Plains Depressions (F16)	wetland hydrology must be present,
☐ 5 cm Mucky Peat or Peat (S3) (LRR F)	☐ (MLRA 72 & 73 of LRR H)	unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches) _____

Hydric Soil Present? Yes ☒ No ☐

Remarks: Upland Runoff 60% slope to wetland. Base 40% moderate
 sativa 60% high/soil loamy sand till 0-10" 10YR 2/1
 10-24" loamy sand 10YR 5/2

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ☐ No ☐ Depth (inches): _____Water Table Present? Yes ☐ No ☐ Depth (inches): _____Saturation Present? Yes ☒ No ☐ Depth (inches): surfaceWetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Mountain Sampling Date: 8/6/10
 Applicant/Owner: _____ State: ND Sampling Point: W12
 Investigator(s): Kjar/Krapp Section, Township, Range: 29 156 092
 Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: 48.299294 Long: -102.536804 Datum: _____
 Soil Map Unit Name: 2 Parnell silt loam NWI classification: PEMC

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

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

Hydrophytic Vegetation Present? Yes <u>/</u> No _____ Hydric Soil Present? Yes <u>/</u> No _____ Wetland Hydrology Present? Yes <u>/</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks: <u>the majority of this wetland is outside of the corridor</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>X</u>				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A)
2. <u>X</u>				Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. <u>X</u>				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. <u>X</u>				
				Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: _____)				Total % Cover of: _____ Multiply by: _____
1. <u>X</u>				OBL species <u>10</u> x 1 = <u>10</u>
2. <u>X</u>				FACW species <u>103</u> x 2 = <u>206</u>
3. <u>X</u>				FAC species <u>0</u> x 3 = <u>-</u>
4. <u>X</u>				FACU species <u>25</u> x 4 = <u>100</u>
5. <u>X</u>				UPL species <u>-</u> x 5 = <u>-</u>
				Column Totals: <u>138</u> (A) <u>316</u> (B)
Herb Stratum (Plot size: <u>portion in corridor</u>)				Prevalence Index = B/A = <u>2.3</u>
1. <u>Phalaris arundinacea</u>	<u>90</u>	<u>+</u>	<u>FACW+</u>	Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% <u>X</u> Prevalence Index is ≤ 3.0 ¹ _____ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain)
2. <u>Rumex crispus</u>	<u>10</u>	<u>-</u>	<u>FACW</u>	
3. <u>Lactuca scariola</u>	<u>10</u>	<u>-</u>	<u>FACU</u>	
4. <u>Cirsium arvense</u>	<u>15</u>	<u>-</u>	<u>FACU</u>	
5. <u>Polysium amphibium</u>	<u>10</u>	<u>-</u>	<u>OBL</u>	
6. <u>Mentha arvensis</u>	<u>3</u>	<u>-</u>	<u>FACW</u>	
7. _____				
8. _____				
9. _____				
10. _____				
Woody Vine Stratum (Plot size: _____)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>X</u>				
2. <u>X</u>				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
% Bare Ground in Herb Stratum <u>0</u>				
Remarks:				

SOIL

Sampling Point: _____

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

Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-6	10YR 2/1	100					sil	
6-9	10YR 2/1	70	2.5Y 5/1	30			cl	
10-20	2.5YR 5/1	40	2.5Y 5/3	60			c	saturated
20+	2.5YR 5/1		gley 2.7 10% 10%				c	

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

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

Indicators for Problematic Hydric Soils³:

☐ Histosol (A1)	☐ Sandy Gleyed Matrix (S4)	☐ 1 cm Muck (A9) (LRR I, J)
☐ Histic Epipedon (A2)	☐ Sandy Redox (S5)	☐ Coast Prairie Redox (A16) (LRR F, G, H)
☐ Black Histic (A3)	☐ Stripped Matrix (S6)	☐ Dark Surface (S7) (LRR G)
☐ Hydrogen Sulfide (A4)	☐ Loamy Mucky Mineral (F1)	☐ High Plains Depressions (F16)
☐ Stratified Layers (A5) (LRR F)	☐ Loamy Gleyed Matrix (F2)	☐ (LRR H outside of MLRA 72 & 73)
☐ 1 cm Muck (A9) (LRR F, G, H)	☐ Depleted Matrix (F3)	☐ Reduced Vertic (F18)
☐ Depleted Below Dark Surface (A11)	☐ Redox Dark Surface (F6)	☐ Red Parent Material (TF2)
☐ Thick Dark Surface (A12)	☐ Depleted Dark Surface (F7)	☐ Other (Explain in Remarks)
☐ Sandy Mucky Mineral (S1)	☐ Redox Depressions (F8)	³ Indicators of hydrophytic vegetation and
☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	☐ High Plains Depressions (F16)	wetland hydrology must be present,
☐ 5 cm Mucky Peat or Peat (S3) (LRR F)	☐ (MLRA 72 & 73 of LRR H)	unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

upland runoff area 40% barren 60% Medicago sativa
 hayland soil loamy sand till 0-10" 10YR 2/1
 10-24" loamy sand 10YR 5/2

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____

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

Saturation Present? Yes ☒ No _____ Depth (inches): 10"Wetland Hydrology Present? Yes ☒ No _____

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

Remarks:

13

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Montreal Sampling Date: 8/6/10
Applicant/Owner: _____ State: ND Sampling Point: W3
Investigator(s): Kjer / Krapp Section, Township, Range: 29 156 092
Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): —
Subregion (LRR): _____ Lat: 48.29815 Long: -102.5351662 Datum: _____
Soil Map Unit Name: 2SC Zhl-Williams-Bowbells loam 391 slope NWI classification: PEMC

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

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

Hydrophytic Vegetation Present? Yes ☒ No _____	Is the Sampled Area within a Wetland? Yes ☒ No _____
Hydric Soil Present? Yes ☒ No _____	
Wetland Hydrology Present? Yes ☒ No _____	
Remarks: <u>N end is only portion in corridor</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>3</u> (A)
2. <u>X</u>				Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____				
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet:
1. _____				Total % Cover of: Multiply by:
2. <u>X</u>				OBL species <u>30</u> x 1 = <u>30</u>
3. _____				FACW species <u>80</u> x 2 = <u>160</u>
4. _____				FAC species _____ x 3 = _____
5. _____				FACU species _____ x 4 = _____
_____ = Total Cover				UPL species <u>10</u> x 5 = <u>50</u>
Herb Stratum (Plot size: <u>portion in corridor</u>)				Column Totals: <u>120</u> (A) <u>240</u> (B)
1. <u>Phalaris arundinacea</u>	<u>30</u>	<u>+</u>	<u>FACW</u>	Prevalence Index = B/A = <u>2.0</u>
2. <u>Polygonum amphibium</u>	<u>30</u>	<u>+</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators:
3. <u>Anemone canadensis</u>	<u>5</u>	<u>-</u>	<u>FACW</u>	☒ Dominance Test is >50%
4. <u>Polygonum alpinum</u>	<u>30</u>	<u>+</u>	<u>FACW</u>	☒ Prevalence Index is ≤3.0 ¹
5. <u>Poa pratensis</u>	<u>10</u>	<u>-</u>	<u>FACW</u>	— Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
6. <u>Lactuca pulchella</u>	<u>3</u>	<u>-</u>	<u>FACW</u>	— Problematic Hydrophytic Vegetation ¹ (Explain)
7. <u>Bromus inermis</u>	<u>10</u>	<u>-</u>	<u>UPL</u>	
8. <u>Poa palustris</u>	<u>5</u>	<u>-</u>	<u>FACW</u>	
9. _____				
10. _____				
_____ = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes _____ No _____
1. <u>X</u>				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Remarks:				

SOIL

Sampling Point: _____

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 2/1						sil	
6-9	10YR 2/1	70	2.5Y 5/1	30			cl	
10-20	2.5YR 5/1	40	2.5Y 5/3	60			C	
20-24	11		2.7.106	20			C	gley

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)
Indicators for Problematic Hydric Soils³:

- | | | |
|--|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) | ☐ 1 cm Muck (A9) (LRR I, J) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) | ☐ Coast Prairie Redox (A16) (LRR F, G, H) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) | ☐ Dark Surface (S7) (LRR G) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) | ☐ High Plains Depressions (F16) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) | ☐ (LRR H outside of MLRA 72 & 73) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☐ Depleted Matrix (F3) | ☐ Reduced Vertic (F18) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) | ☐ Red Parent Material (TF2) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) | ☐ Other (Explain in Remarks) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) | ³ Indicators of hydrophytic vegetation and |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) | wetland hydrology must be present, |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | ☐ (MLRA 72 & 73 of LRR H) | unless disturbed or problematic. |

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

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

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No _____

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

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

13

Project/Site: BLLP City/County: Mountain Sampling Date: 8/6/10
 Applicant/Owner: _____ State: ND Sampling Point: W1
 Investigator(s): Kjar / Krapp Section, Township, Range: 28 156 92
 Landform (hillslope, terrace, etc.): bottom Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: 48.299779 Long: -102.521874 Datum: _____
 Soil Map Unit Name: 34E-Zahl-Williams loams 9-25-1 slopes NWI classification: L2ABG

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

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

Hydrophytic Vegetation Present? Yes ☒ No _____	Is the Sampled Area within a Wetland? Yes ☒ No _____
Hydric Soil Present? Yes ☒ No _____	
Wetland Hydrology Present? Yes ☒ No _____	
Remarks: <u>Huge wetland / all interconnected</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u>X</u>				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____				Hydrophytic Vegetation Indicators: _____ Dominance Test is >50% _____ Prevalence Index is ≤3.0 ¹ _____ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>X</u>				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. <u>Phalaris arundinacea</u>	<u>90</u>	<u>+</u>	<u>FACW</u>	Hydrophytic Vegetation Present? Yes _____ No _____
2. <u>Carex erioxyloides</u>	<u>40</u>	<u>+</u>	<u>FACW</u>	
3. <u>Polygonum amphibium</u>	<u>10</u>	<u>-</u>	<u>FACW</u>	
4. <u>Rumex crispus</u>	<u>5</u>	<u>-</u>	<u>FACW</u>	
5. <u>Aster simplex</u>	<u>5</u>	<u>-</u>	<u>FACW</u>	
6. <u>Poa palustris</u>	<u>5</u>	<u>-</u>	<u>FACW</u>	
7. _____				
8. _____				
9. <u>Phalaris arundinacea</u>				
10. _____				
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. <u>X</u>				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: <u>Upland veg: Bromus inermis 80 + Poa annua 20 + Glycyrrhiza lepidota 30 +</u>				

SOIL

Sampling Point: _____

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3								Om
3-7	10YR 3/1	95	7.5YR 7/8	5			sic	
7-18	10YR 3/1						sic	
18+	10YR 3/1						cl	

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

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

Indicators for Problematic Hydric Soils³:

- | | | |
|--|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) | ☐ 1 cm Muck (A9) (LRR I, J) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) | ☐ Coast Prairie Redox (A16) (LRR F, G, H) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) | ☐ Dark Surface (S7) (LRR G) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) | ☐ High Plains Depressions (F16) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) | ☐ (LRR H outside of MLRA 72 & 73) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☐ Depleted Matrix (F3) | ☐ Reduced Vertic (F18) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) | ☐ Red Parent Material (TF2) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) | ☐ Other (Explain in Remarks) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) | |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) | |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | ☐ (MLRA 72 & 73 of LRR H) | |

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): 2 wetlandWater Table Present? Yes ☐ No ☐ Depth (inches): 2 edgeSaturation Present? Yes ☒ No ☐ Depth (inches): 18Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Mauntrail Sampling Date: 8/6/10
 Applicant/Owner: _____ State: ND Sampling Point: W2
 Investigator(s): Kjar/Krapp Section, Township, Range: 28 156 092
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: 48.299926 Long: -102.51726 Datum: _____
 Soil Map Unit Name: W - Area was under water @ time of survey NWI classification: _____

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

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

Hydrophytic Vegetation Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Hydric Soil Present? Yes _____ No _____	
Wetland Hydrology Present? Yes _____ No _____	
Remarks: <u>old 'lake' area; hydrology has changed, soils above are the same & terminate in a stone edge lined @ cottonwood row</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>4</u> (A)
2. <u>X</u>				Total Number of Dominant Species Across All Strata: <u>4</u> (B)
3. <u>X</u>				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____				
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet:
1. _____				Total % Cover of: _____ Multiply by: _____
2. <u>X</u>				OBL species <u>85</u> x 1 = <u>85</u>
3. _____				FACW species <u>25</u> x 2 = <u>50</u>
4. _____				FAC species _____ x 3 = _____
5. _____				FACU species <u>60</u> x 4 = <u>240</u>
_____ = Total Cover				UPL species _____ x 5 = _____
Herb Stratum (Plot size: _____)				Column Totals: <u>170</u> (A) <u>375</u> (B)
1. <u>Cirsium arvense</u>	<u>40</u>	<u>+</u>	<u>FACU</u>	Prevalence Index = B/A = <u>2.2</u>
2. <u>Phalaris arundinacea</u>	<u>20</u>	<u>+</u>	<u>FACW</u>	
3. <u>Lactuca scariola</u>	<u>20</u>	<u>+</u>	<u>FACU</u>	
4. <u>Glyceria sp</u>	<u>80</u>	<u>+</u>	<u>OBL</u>	
5. <u>Hordeum jubatum</u>	<u>5</u>	<u>-</u>	<u>FACW</u>	
6. <u>Polygonum amphibium</u>	<u>5</u>	<u>-</u>	<u>OBL</u>	
7. _____				
8. _____				
9. _____				
10. _____				
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:
1. <u>X</u>				<u>X</u> Dominance Test is >50%
2. _____				<u>X</u> Prevalence Index is ≤3.0 ¹
_____ = Total Cover				— Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
% Bare Ground in Herb Stratum _____				<u>X</u> Problematic Hydrophytic Vegetation ¹ (Explain)
				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
				Hydrophytic Vegetation Present? Yes <u>X</u> No _____

Remarks:
Area has been significantly altered - hydrology
Several more dry spp are moving into fringes

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Muskegon Sampling Date: 9/1/2010
 Applicant/Owner: 2010 State: NO Sampling Point: 2
 Investigator(s): GWM, NPI Section, Township, Range: 27 156 12
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): _____ Slope (%): 1
 Subregion (LRR): F Lat: 48.299756 Long: -102.491351 Datum: NAD 83
 Soil Map Unit Name: Williams - 2nd / 100ms, 3-6% slopes NWI classification: PERC

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

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

Hydrophytic Vegetation Present? Yes ☒ No _____	Is the Sampled Area within a Wetland? Yes ☒ No _____
Hydric Soil Present? Yes ☒ No _____	
Wetland Hydrology Present? Yes ☒ No _____	
Remarks: <u>Depression wetland - cultivated ground</u> <u>up to wetland - 90</u> <u>1461 PET - 20</u> <u>5070A - 20</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67</u> (A/B)
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)	_____	_____	_____	Prevalence Index worksheet:
1. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____
2. _____	_____	_____	_____	OBL species _____ x 1 = _____
3. _____	_____	_____	_____	FACW species _____ x 2 = _____
4. _____	_____	_____	_____	FAC species _____ x 3 = _____
5. _____	_____	_____	_____	FACU species _____ x 4 = _____
_____ = Total Cover				UPL species _____ x 5 = _____
Herb Stratum (Plot size: <u>20'</u>)	_____	_____	_____	Column Totals: _____ (A) _____ (B)
1. <u>PHO ARN</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	Prevalence Index = B/A = _____
2. <u>POC AMP</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
3. <u>HEL PET</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
4. <u>AMB RST</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
5. <u>AGR REP</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)	_____	_____	_____	Hydrophytic Vegetation Indicators:
1. _____	_____	_____	_____	☒ Dominance Test is >50%
2. _____	_____	_____	_____	Prevalence Index is ≤3.0 ¹
_____ = Total Cover				Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
				Problematic Hydrophytic Vegetation ¹ (Explain)
				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
				Hydrophytic Vegetation Present? Yes ☒ No _____
Remarks: _____				

SOIL

Sampling Point: W2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-9	10YR 3/1	100					sil	
9-16	10YR 3/2	90	7.5YR 5/2	10	C	M	sil	
16-24	2.5Y 4/2	95	7.5YR 5/2	5	C	M	sir	

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

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

Indicators for Problematic Hydric Soils³:

- | | | |
|---|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) | ☐ 1 cm Muck (A9) (LRR I, J) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) | ☐ Coast Prairie Redox (A16) (LRR F, G, H) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) | ☐ Dark Surface (S7) (LRR G) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) | ☐ High Plains Depressions (F16) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) | ☐ (LRR H outside of MLRA 72 & 73) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☐ Depleted Matrix (F3) | ☐ Reduced Vertic (F18) |
| ☒ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) | ☐ Red Parent Material (TF2) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) | ☐ Other (Explain in Remarks) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) | ³ Indicators of hydrophytic vegetation and |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) | wetland hydrology must be present, |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | ☐ (MLRA 72 & 73 of LRR H) | unless disturbed or problematic. |

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

UP-2 0-12 10YR 3/1 - 100
12-18 10YR 3/2 - 100
edge of
calcification

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

- | | | |
|------------------------|--|-----------------------|
| Surface Water Present? | Yes ☐ No ☐ | Depth (inches): _____ |
| Water Table Present? | Yes ☐ No ☐ | Depth (inches): _____ |
| Saturation Present? | Yes ☐ No ☐ | Depth (inches): _____ |
- (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Montreal Sampling Date: 9/1/2010
 Applicant/Owner: McCain State: ND Sampling Point: W-3
 Investigator(s): GWM, NHT Section, Township, Range: 27 156 92
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): F Slope (%): 1
 Subregion (LRR): F Lat: 48.300147 Long: -102.494967 Datum: NAD-83
 Soil Map Unit Name: Zahl-Williams-Bowbells loams, 3-9% slopes NWI classification: POMA

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

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	
Remarks: <u>shallow depression wetland</u> <u>cultivated in 2010</u> <u>UPL-3: subsoil = 85</u> <u>BS-15</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet: Total % Cover of: <u> </u> Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				
Herb Stratum (Plot size: <u>20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>X</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>wheat</u>	<u>70</u>	<u>Y</u>	<u>UPL</u>	
2. <u>ECHERA</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
6. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
7. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
8. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
9. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
10. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>75</u> = Total Cover				
Woody Vine Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>25</u> = Total Cover				
Remarks: <u>Scattered ECHERA in basin</u>				

SOIL

Sampling Point: _____

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	2.5Y 3/1	100					sil	
4-6	2.5Y 3/2	90	2.5YR 5/6	10	C	m	sil	
6-14	2.5Y 4/1	80	2.5YR 5/6	20	C	m	sil	
14-20	2.5Y 4/1	100						buried #

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

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

Indicators for Problematic Hydric Soils³:

- | | | |
|---|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) | ☐ 1 cm Muck (A9) (LRR I, J) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) | ☐ Coast Prairie Redox (A16) (LRR F, G, H) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) | ☐ Dark Surface (S7) (LRR G) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) | ☐ High Plains Depressions (F16) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) | ☐ (LRR H outside of MLRA 72 & 73) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☐ Depleted Matrix (F3) | ☐ Reduced Vertic (F18) |
| ☒ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) | ☐ Red Parent Material (TF2) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) | ☐ Other (Explain in Remarks) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) | ³ Indicators of hydrophytic vegetation and |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) | wetland hydrology must be present, |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | ☐ (MLRA 72 & 73 of LRR H) | unless disturbed or problematic. |

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

upd - 3 0-3 = 10YR 3/1 - 100
 3-6 = 10YR 3/2 - 100
 6-10 = 10YR 3/3 - 100

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____Water Table Present? Yes ☐ No ☒ Depth (inches): _____Saturation Present? Yes ☐ No ☒ Depth (inches): _____
(includes capillary fringe)Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

NEMA

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Mountain Sampling Date: 9/1/2010
 Applicant/Owner: McCaig State: ND Sampling Point: well
 Investigator(s): GWM, NPH Section, Township, Range: 27, 156, 92
 Landform (hillslope, terrace, etc.): tiny depression Local relief (concave, convex, none): _____ Slope (%): 1
 Subregion (LRR): F Lat: 48.29993 Long: -102.496888 Datum: NAD 83
 Soil Map Unit Name: Zahl-Williams-Bowbells loams, 3-9% slopes NWI classification: none

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

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

Hydrophytic Vegetation Present?	Yes ☒ No _____	Is the Sampled Area within a Wetland? Yes ☒ No _____
Hydric Soil Present?	Yes ☒ No _____	
Wetland Hydrology Present?	Yes ☒ No _____	
Remarks: <u>tiny depression</u>		

VEGETATION – Use scientific names of plants.

Tree/Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)																																																
1. _____	_____	_____	_____																																																	
2. _____	_____	_____	_____																																																	
3. _____	_____	_____	_____																																																	
4. _____	_____	_____	_____																																																	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species <u>40</u> x 2 = <u>80</u> FAC species <u>10</u> x 3 = <u>30</u> FACU species _____ x 4 = _____ UPL species <u>25</u> x 5 = <u>100</u> Column Totals: <u>75</u> (A) <u>2.0</u> (B) Prevalence Index = B/A = <u>2.7</u>																																																
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<table border="1"> <thead> <tr> <th>% Bare Ground in Herb Stratum <u>25</u></th> <th>Absolute % Cover</th> <th>Dominant Species?</th> <th>Indicator Status</th> </tr> </thead> <tbody> <tr> <td colspan="4">_____ = Total Cover</td> </tr> </tbody> </table>					% Bare Ground in Herb Stratum <u>25</u>	Absolute % Cover	Dominant Species?	Indicator Status	_____ = Total Cover																																											
% Bare Ground in Herb Stratum <u>25</u>	Absolute % Cover	Dominant Species?	Indicator Status																																																	
_____ = Total Cover																																																				
Hydrophytic Vegetation Present? Yes ☒ No _____ Dominance Test is >50% Prevalence Index is ≤3.0 ¹ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																																				
Remarks: _____																																																				

27 156 92- w 4

Sampling Point:

[illegible]

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

Indicators for Problematic Hydric Soils³

- | | | |
|--|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) | ☐ 1 cm Muck (A9) (LRR I, J) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) | ☐ Coast Prairie Redox (A16) (LRR F, G, H) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) | ☐ Dark Surface (S7) (LRR G) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) | ☐ High Plains Depressions (F16) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) | ☐ (LRR H outside of MLRA 72 & 73) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☐ Depleted Matrix (F3) | ☐ Reduced Vertic (F18) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) | ☐ Red Parent Material (TF2) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) | ☐ Other (Explain in Remarks) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) | ³ Indicators of hydrophytic vegetation and |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) | wetland hydrology must be present, |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | ☐ (MLRA 72 & 73 of LRR H) | unless disturbed or problematic. |

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks: Thick overburden - Doesn't meet
hydraulic indicator
has hydraulic disconnection

Wetland Hydrology Indicators:

Secondary Indicators (minimum of two required)

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

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

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

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

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: 1 Sampling Date: 9/1/2010
 Applicant/Owner: McCaig State: ND Sampling Point: 15
 Investigator(s): GWM, NPH Section, Township, Range: 27 15 92
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): <1
 Subregion (LRR): F Lat: 48.299454 Long: -102.500909 Datum: NAD-83
 Soil Map Unit Name: Zahl-Williams-Bowbells loams, 3-9% slopes NWI classification: PEMAd

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

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

Hydrophytic Vegetation Present?	Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present?	Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present?	Yes <u>X</u> No <u> </u>	
Remarks: <u>Depression wetland - crop drawn out in interior</u> <u>Ditched so wheat is dominant at obs. pt.</u> <u>upland - wheat</u>		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)														
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
<u> </u> = Total Cover				Prevalence Index worksheet: <table border="0"> <tr> <td>Total % Cover of:</td> <td>Multiply by:</td> </tr> <tr> <td>OBL species <u> </u></td> <td>x 1 = <u> </u></td> </tr> <tr> <td>FACW species <u> </u></td> <td>x 2 = <u> </u></td> </tr> <tr> <td>FAC species <u> </u></td> <td>x 3 = <u> </u></td> </tr> <tr> <td>FACU species <u> </u></td> <td>x 4 = <u> </u></td> </tr> <tr> <td>UPL species <u> </u></td> <td>x 5 = <u> </u></td> </tr> <tr> <td>Column Totals: <u> </u></td> <td>(A) <u> </u> (B) <u> </u></td> </tr> </table> Prevalence Index = B/A = <u> </u>	Total % Cover of:	Multiply by:	OBL species <u> </u>	x 1 = <u> </u>	FACW species <u> </u>	x 2 = <u> </u>	FAC species <u> </u>	x 3 = <u> </u>	FACU species <u> </u>	x 4 = <u> </u>	UPL species <u> </u>	x 5 = <u> </u>	Column Totals: <u> </u>	(A) <u> </u> (B) <u> </u>
Total % Cover of:	Multiply by:																	
OBL species <u> </u>	x 1 = <u> </u>																	
FACW species <u> </u>	x 2 = <u> </u>																	
FAC species <u> </u>	x 3 = <u> </u>																	
FACU species <u> </u>	x 4 = <u> </u>																	
UPL species <u> </u>	x 5 = <u> </u>																	
Column Totals: <u> </u>	(A) <u> </u> (B) <u> </u>																	
<u> </u> = Total Cover																		
Herb Stratum (Plot size: <u>20'</u>) 1. <u>Wheat</u> <u>65</u> <u>Y</u> <u>UPL</u> 2. <u>MALNEG</u> <u>5</u> <u>N</u> <u>FACU</u> 3. <u> </u> 4. <u> </u> 5. <u> </u> 6. <u> </u> 7. <u> </u> 8. <u> </u> 9. <u> </u> 10. <u> </u>				Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>X</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
<u> </u> = Total Cover																		
Woody Vine Stratum (Plot size: <u> </u>) 1. <u> </u> 2. <u> </u>																		
<u> </u> = Total Cover																		
% Bare Ground in Herb Stratum <u>30</u> <u> </u> = Total Cover																		
Remarks: <u>Ecotone should be present</u>																		

SOIL

2715692-W5

Sampling Point: W5

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	2.5Y 2.5/1	100						
16-24	2.5Y 4/2	90	7.5YR 5/6	10	C	m	sil	

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

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

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

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if present):

 Type: _____
 Depth (inches): _____
Hydric Soil Present? Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

 Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): _____
Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Montreal Sampling Date: 9/1/2010
 Applicant/Owner: MCC-IN State: ND Sampling Point: W-6
 Investigator(s): GWM, NPH Section, Township, Range: 27 154 92
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): F Lat: 48.299647 Long: -102.502018 Datum: NAD 83
 Soil Map Unit Name: Zahl-Williams-Bowbells loams, 3-9% slopes NWI classification: PCMAR

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

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

Hydrophytic Vegetation Present?	Yes ☒ No _____	Is the Sampled Area within a Wetland? Yes ☒ No _____
Hydric Soil Present?	Yes ☒ No _____	
Wetland Hydrology Present?	Yes ☒ No _____	
Remarks: <u>depression wetland with drain flowing east out of it</u> <u>upland - about 85</u> <u>BS-15</u> <u>100</u>		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: <u>201</u>) 1. <u>PHARAU</u> <u>40</u> Yes <u>FACW</u> 2. <u>SOLAMP</u> <u>25</u> Y <u>OBL</u> 3. <u>BRODINE</u> <u>20</u> Y <u>FACW</u> 4. <u>SUMERI</u> <u>5</u> N <u>FACW</u> 5. <u>AST SLM</u> <u>10</u> N <u>FACW</u> 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>0</u> _____ = Total Cover				
Hydrophytic Vegetation Indicators: ☒ Dominance Test is >50% _____ Prevalence Index is ≤3.0 ¹ _____ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Hydrophytic Vegetation Present? Yes ☒ No _____				
Remarks: _____				

SOIL

W-6

Sampling Point: _____

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

Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-16	2.5Y 2.5/1	100					S11	
16-21	2.5Y 2.5/1	95	7.5YR 5/6	5	C	m	S11	
21-30	7.5Y 4/2	90	7.5YR 5/6	10	C	m	S11	

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

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

Indicators for Problematic Hydric Soils³:

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

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

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

Restrictive Layer (if present):

 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

Obs. pt. in lower portion of basin due to drainage - impacting veg.

 0-6-2.5Y 2.5/1 - 100
 6-8-2.5Y 2.5/1 - 95
 8-10-2.5Y 4/1 - 90
 10-12-2.5Y 6/3 - 100

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

 Surface Water Present? Yes _____ No ☒ Depth (inches): _____
 Water Table Present? Yes _____ No ☒ Depth (inches): _____
 Saturation Present? (includes capillary fringe) Yes _____ No ☒ Depth (inches): _____
Wetland Hydrology Present? Yes ☒ No _____

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

Remarks:

Remad

SOIL

Sampling Point: _____

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 2/2	60	7.5 YR 1/2	40			sand	lake bottom sediment
12-24	10YR 5/2	60	7.5 YR 4/4				sandy sil	sandy
24	10YR 3/1							mixed because is sediment

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

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

Indicators for Problematic Hydric Soils³:

☐ Histosol (A1)	☐ Sandy Gleyed Matrix (S4)	☐ 1 cm Muck (A9) (LRR I, J)
☐ Histic Epipedon (A2)	☐ Sandy Redox (S5)	☐ Coast Prairie Redox (A16) (LRR F, G, H)
☐ Black Histic (A3)	☐ Stripped Matrix (S6)	☐ Dark Surface (S7) (LRR G)
☐ Hydrogen Sulfide (A4)	☐ Loamy Mucky Mineral (F1)	☐ High Plains Depressions (F16)
☐ Stratified Layers (A5) (LRR F)	☐ Loamy Gleyed Matrix (F2)	☐ (LRR H outside of MLRA 72 & 73)
☐ 1 cm Muck (A9) (LRR F, G, H)	☐ Depleted Matrix (F3)	☐ Reduced Vertic (F18)
☐ Depleted Below Dark Surface (A11)	☐ Redox Dark Surface (F6)	☐ Red Parent Material (TF2)
☐ Thick Dark Surface (A12)	☐ Depleted Dark Surface (F7)	☐ Other (Explain in Remarks)
☐ Sandy Mucky Mineral (S1)	☐ Redox Depressions (F8)	³ Indicators of hydrophytic vegetation and
☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	☐ High Plains Depressions (F16)	wetland hydrology must be present,
☐ 5 cm Mucky Peat or Peat (S3) (LRR F)	☐ (MLRA 72 & 73 of LRR H)	unless disturbed or problematic.

Restrictive Layer (if present):

Type: NO
Depth (inches): _____Hydric Soil Present? Yes No

Remarks:

lake bottom sediment;
upland soils sandy loams - no mottling

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): _____
 Saturation Present? Yes X No Depth (inches): 7
 (includes capillary fringe)

Wetland Hydrology Present? Yes X No

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

Remarks:

Hydrology has been significantly altered, nature or
man, unsure, water amt is much lower than
previous years, reflected by soils +
vegetation, and rocks in area

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Muskegon Sampling Date: 9/1/2010
 Applicant/Owner: 2010 State: NO Sampling Point: 2
 Investigator(s): GWM, NPI Section, Township, Range: 27 156 12
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): 1 Slope (%): 1
 Subregion (LRR): F Lat: 48.299756 Long: -102.491351 Datum: NAD 83
 Soil Map Unit Name: Williams - 2nd / 100ms, 3-6% slopes NWI classification: PEMC
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>✓</u> No <u>_____</u>	Is the Sampled Area within a Wetland? Yes <u>✓</u> No <u>_____</u>
Hydric Soil Present? Yes <u>✓</u> No <u>_____</u>	
Wetland Hydrology Present? Yes <u>✓</u> No <u>_____</u>	
Remarks: <u>Depression wetland - cultivated ground</u> <u>up to wet - 90</u> <u>1461 PET - 20</u> <u>5070A - 20</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>_____</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67</u> (A/B)
1. <u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>	
2. <u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>	
3. <u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>	
4. <u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>	
<u>_____</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>_____</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u>_____</u> x 1 = <u>_____</u> FACW species <u>_____</u> x 2 = <u>_____</u> FAC species <u>_____</u> x 3 = <u>_____</u> FACU species <u>_____</u> x 4 = <u>_____</u> UPL species <u>_____</u> x 5 = <u>_____</u> Column Totals: (A) <u>_____</u> (B) <u>_____</u> Prevalence Index = B/A = <u>_____</u>
1. <u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>	
2. <u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>	
3. <u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>	
4. <u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>	
5. <u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>	
<u>_____</u> = Total Cover				
Herb Stratum (Plot size: <u>20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: <u>✓</u> Dominance Test is >50% <u>_____</u> Prevalence Index is ≤3.0 ¹ <u>_____</u> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>_____</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>PHO ARN</u>	<u>40</u>	<u>✓</u>	<u>FACW</u>	
2. <u>POC AMP</u>	<u>20</u>	<u>✓</u>	<u>OBL</u>	
3. <u>HEL PET</u>	<u>20</u>	<u>✓</u>	<u>FACU</u>	
4. <u>AMB RST</u>	<u>10</u>	<u>✓</u>	<u>FACU</u>	
5. <u>AGR REP</u>	<u>10</u>	<u>✓</u>	<u>FAC</u>	
6. <u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>	
7. <u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>	
8. <u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>	
9. <u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>	
10. <u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>	
<u>100</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>_____</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <u>✓</u> No <u>_____</u>
1. <u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>	
2. <u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>	
<u>_____</u> = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: <u>_____</u>				

SOIL

Sampling Point: W2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-9	10YR 3/1	100					sil	
9-16	10YR 3/2	90	7.5YR 5/2	10	C	M	sil	
16-24	2.5Y 4/2	95	7.5YR 5/2	5	C	M	sir	

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

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

Indicators for Problematic Hydric Soils³:

- | | | |
|---|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) | ☐ 1 cm Muck (A9) (LRR I, J) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) | ☐ Coast Prairie Redox (A16) (LRR F, G, H) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) | ☐ Dark Surface (S7) (LRR G) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) | ☐ High Plains Depressions (F16) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) | ☐ (LRR H outside of MLRA 72 & 73) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☐ Depleted Matrix (F3) | ☐ Reduced Vertic (F18) |
| ☒ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) | ☐ Red Parent Material (TF2) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) | ☐ Other (Explain in Remarks) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) | ³ Indicators of hydrophytic vegetation and |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) | wetland hydrology must be present, |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | ☐ (MLRA 72 & 73 of LRR H) | unless disturbed or problematic. |

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

UP-2 0-12 10YR 3/1 - 100
12-18 10YR 3/2 - 100
edge of
calcification

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

- | | | |
|------------------------|--|-----------------------|
| Surface Water Present? | Yes ☐ No ☐ | Depth (inches): _____ |
| Water Table Present? | Yes ☐ No ☐ | Depth (inches): _____ |
| Saturation Present? | Yes ☐ No ☐ | Depth (inches): _____ |
- (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Montreal Sampling Date: 9/1/2010
 Applicant/Owner: McCain State: ND Sampling Point: W-3
 Investigator(s): GWM, NHT Section, Township, Range: 27 156 92
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): F Slope (%): 1
 Subregion (LRR): F Lat: 48.300147 Long: -102.494967 Datum: NAD-83
 Soil Map Unit Name: Zahl-Williams-Bowbells loams, 3-9% slopes NWI classification: POMA

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

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	
Remarks: <u>shallow depression wetland</u> <u>cultivated in 2010</u> <u>UPL-3: subsoil = 85</u> <u>BS-15</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet: Total % Cover of: <u> </u> Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				
Herb Stratum (Plot size: <u>20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>X</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>wheat</u>	<u>70</u>	<u>Y</u>	<u>UPL</u>	
2. <u>ECHERA</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
6. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
7. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
8. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
9. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
10. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>75</u> = Total Cover				
Woody Vine Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>25</u> = Total Cover				
Remarks: <u>Scattered ECHERA in basin</u>				

SOIL

Sampling Point: _____

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	2.5Y 3/1	100					sil	
4-6	2.5Y 3/2	90	2.5YR 5/6	10	C	m	sil	
6-14	2.5Y 4/1	80	2.5YR 5/6	20	C	m	sil	
14-20	2.5Y 4/1	100						buried #

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

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

Indicators for Problematic Hydric Soils³:

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

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

upd - 3 0-3 = 10YR 3/1 - 100
 3-6 = 10YR 3/2 - 100
 6-10 = 10YR 3/3 - 100

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____Water Table Present? Yes ☐ No ☒ Depth (inches): _____Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): _____Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

NEMA

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Mountain Sampling Date: 9/1/2010
 Applicant/Owner: McCaig State: ND Sampling Point: well
 Investigator(s): GWM, NPH Section, Township, Range: 27, 156, 92
 Landform (hillslope, terrace, etc.): tiny depression Local relief (concave, convex, none): _____ Slope (%): 1
 Subregion (LRR): F Lat: 48.29993 Long: -102.496888 Datum: NAD 83
 Soil Map Unit Name: Zahl-Williams-Bowbells loams, 3-9% slopes NWI classification: none

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

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

Hydrophytic Vegetation Present?	Yes ☒ No _____	Is the Sampled Area within a Wetland? Yes ☒ No _____
Hydric Soil Present?	Yes ☒ No _____	
Wetland Hydrology Present?	Yes ☒ No _____	
Remarks: <u>tiny depression</u>		

VEGETATION – Use scientific names of plants.

Tree/Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
1. _____				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species _____ x 1 = _____ FACW species <u>40</u> x 2 = <u>80</u> FAC species <u>10</u> x 3 = <u>30</u> FACU species _____ x 4 = _____ UPL species <u>25</u> x 5 = <u>100</u> Column Totals: <u>75</u> (A) <u>2.0</u> (B) Prevalence Index = B/A = <u>2.7</u>
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				Hydrophytic Vegetation Indicators: ☒ Dominance Test is >50% ☒ Prevalence Index is ≤3.0 ¹ _____ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				Hydrophytic Vegetation Present? Yes ☒ No _____
_____ = Total Cover				
Remarks:				

27 156 92- w 4

Sampling Point: _____

[illegible]

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

Indicators for Problematic Hydric Soils³:

- | | | |
|--|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) | ☐ 1 cm Muck (A9) (LRR I, J) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) | ☐ Coast Prairie Redox (A16) (LRR F, G, H) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) | ☐ Dark Surface (S7) (LRR G) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) | ☐ High Plains Depressions (F16) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) | ☐ (LRR H outside of MLRA 72 & 73) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☐ Depleted Matrix (F3) | ☐ Reduced Vertic (F18) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) | ☐ Red Parent Material (TF2) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) | ☐ Other (Explain in Remarks) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) | ³ Indicators of hydrophytic vegetation and |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) | wetland hydrology must be present, |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | ☐ (MLRA 72 & 73 of LRR H) | unless disturbed or problematic. |

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks: Thick overburden - Doesn't meet
hydraulic indicator
but hydraulic disconnection

Wetland Hydrology Indicators:

Secondary Indicators (minimum of two required)

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

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

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

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

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: 1 Sampling Date: 9/1/2010
 Applicant/Owner: McCaig State: ND Sampling Point: 15
 Investigator(s): GWM, NPH Section, Township, Range: 27 15 92
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): <1
 Subregion (LRR): F Lat: 48.299454 Long: -102.500909 Datum: NAD-83
 Soil Map Unit Name: Zahl-Williams-Bowbells loams, 3-9% slopes NWI classification: PEMA d
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No X
 Are Vegetation X, Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present?	Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present?	Yes <u>X</u> No <u> </u>	
Remarks: <u>Depression wetland - crop drawn out in interior</u> <u>Ditched so wheat is dominant at obs. pt.</u> <u>upland - wheat</u>		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				Prevalence Index worksheet: Total % Cover of: <u> </u> Multiply by: <u> </u> OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
Sapling/Shrub Stratum (Plot size: <u> </u>) 1. <u> </u> 2. <u> </u> 3. <u> </u> 4. <u> </u> 5. <u> </u> <u> </u> = Total Cover				
Herb Stratum (Plot size: <u>20'</u>) 1. <u>Wheat</u> 2. <u>MALNEG</u> 3. <u> </u> 4. <u> </u> 5. <u> </u> 6. <u> </u> 7. <u> </u> 8. <u> </u> 9. <u> </u> 10. <u> </u> <u>65</u> = Total Cover				
Woody Vine Stratum (Plot size: <u> </u>) 1. <u> </u> 2. <u> </u> <u>70</u> = Total Cover				
% Bare Ground in Herb Stratum <u>30</u> = Total Cover				
Remarks: <u>Ecocore should be present</u>				Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>X</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>

SOIL

2715692-W5

Sampling Point: W5

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	2.5Y 2.5/1	100						
16-24	2.5Y 4/2	90	7.5YR 5/6	10	C	m	sil	

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

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

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

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if present):

 Type: _____
 Depth (inches): _____
Hydric Soil Present? Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

 Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): _____
Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Montreal Sampling Date: 9/1/2010
 Applicant/Owner: MCC-IN State: ND Sampling Point: W-6
 Investigator(s): GWM, NPH Section, Township, Range: 27 154 92
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): F Lat: 48.299647 Long: -102.502018 Datum: NAD 83
 Soil Map Unit Name: Zahl-Williams-Bowbells loams, 3-9% slopes NWI classification: PCMAR

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

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

Hydrophytic Vegetation Present?	Yes ☒ No _____	Is the Sampled Area within a Wetland? Yes ☒ No _____
Hydric Soil Present?	Yes ☒ No _____	
Wetland Hydrology Present?	Yes ☒ No _____	
Remarks: <u>depression wetland with drain flowing east out of it</u> <u>upland - about 85</u> <u>BS-15</u> <u>100</u>		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: <u>201</u>) 1. <u>PHARAU</u> <u>40</u> Yes <u>FACW</u> 2. <u>SOLAMP</u> <u>25</u> Y <u>OBL</u> 3. <u>BRODINE</u> <u>20</u> Y <u>FACW</u> 4. <u>SUMERI</u> <u>5</u> N <u>FACW</u> 5. <u>AST SLM</u> <u>10</u> N <u>FACW</u> 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>0</u> _____ = Total Cover				
Hydrophytic Vegetation Indicators: ☒ Dominance Test is >50% ☐ Prevalence Index is ≤3.0 ¹ ☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Hydrophytic Vegetation Present? Yes ☒ No _____				
Remarks: _____				

SOIL

W-6

Sampling Point: _____

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

Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-16	2.5Y 2.5/1	100					S11	
16-21	2.5Y 2.5/1	95	7.5YR 5/6	5	C	m	S11	
21-30	7.5Y 4/2	90	7.5YR 5/6	10	C	m	S11	

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

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

Indicators for Problematic Hydric Soils³:

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

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

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

Restrictive Layer (if present):

 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

Obs. pt. in lower portion of basin due to drainage - impacting veg.

 0-6-2.5Y 2.5/1 - 100
 6-8-2.5Y 2.5/1 - 95
 8-10-2.5Y 4/1 - 90
 10-12-2.5Y 6/3 - 100

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

 Surface Water Present? Yes _____ No ☒ Depth (inches): _____
 Water Table Present? Yes _____ No ☒ Depth (inches): _____
 Saturation Present? (includes capillary fringe) Yes _____ No ☒ Depth (inches): _____
Wetland Hydrology Present? Yes ☒ No _____

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

Remarks:

Remad

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Montreal Sampling Date: 9/1/10
 Applicant/Owner: McCain State: ND Sampling Point: W-1
 Investigator(s): GWM, NPH Section, Township, Range: 25 156 92
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): _____ Slope (%): 1
 Subregion (LRR): F Lat: 48.298568 Long: -102.442078 Datum: NAD83
 Soil Map Unit Name: Zahl-Willons loams, 3-6 % slopes NWI classification: PCm/BBF

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

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: <u>depression - cultivated in 2010</u> <u>large basin cultivated through 2010</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
1. _____				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>10</u> x 1 = <u>10</u> FACW species <u>55</u> x 2 = <u>110</u> FAC species _____ x 3 = _____ FACU species <u>30</u> x 4 = <u>120</u> UPL species <u>45</u> x 5 = <u>225</u> Column Totals: <u>140</u> (A) <u>465</u> (B) Prevalence Index = B/A = <u>3.32</u>
Sapling/Shrub Stratum (Plot size: _____)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
Herb Stratum (Plot size: <u>20'</u>)				Hydrophytic Vegetation Indicators: _____ Dominance Test is >50% _____ Prevalence Index is ≤3.0 ¹ _____ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>X</u> Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u>Panicum</u>	<u>35</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Setaria</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Urtica</u>	<u>20</u>	<u>Y</u>	<u>UPL</u>	
4. <u>Amaranth</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
5. <u>Malva</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
6. <u>Blomp</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
7. <u>Quercus</u>	<u>25</u>	<u>Y</u>	<u>UPL</u>	
8. <u>Chrysom</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
9. _____				
10. _____				
<u>140</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks: <u>lots of upland due to cultivation</u>				

SOIL

Sampling Point: 23-1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-7	2.5Y 3/1	100						
7-16	2.5Y 3/2	30	2.5YR 3/6	10	C	M	sil	
16-24	2.5Y 4/2	70	2.5YR 3/6	30	C	M	sil	

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

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

Indicators for Problematic Hydric Soils³:

- | | | |
|---|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) | ☐ 1 cm Muck (A9) (LRR I, J) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) | ☐ Coast Prairie Redox (A16) (LRR F, G, H) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) | ☐ Dark Surface (S7) (LRR G) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) | ☐ High Plains Depressions (F16) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) | ☐ (LRR H outside of MLRA 72 & 73) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☐ Depleted Matrix (F3) | ☐ Reduced Vertic (F18) |
| ☒ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) | ☐ Red Parent Material (TF2) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) | ☐ Other (Explain in Remarks) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) | ³ Indicators of hydrophytic vegetation and |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) | wetland hydrology must be present, |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | ☐ (MLRA 72 & 73 of LRR H) | unless disturbed or problematic. |

Restrictive Layer (if present):

Type: _____

Depth (inches) _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

up 1

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____Water Table Present? Yes ☐ No ☒ Depth (inches): _____Saturation Present? Yes ☐ No ☒ Depth (inches): _____
(includes capillary fringe)Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Montreal Sampling Date: 9/1/2010
 Applicant/Owner: McCaig State: ND Sampling Point: W-2
 Investigator(s): GWM, NPH Section, Township, Range: 25 154 92
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): F Lat: 48.29892 Long: -100.441892 Datum: NAD83
 Soil Map Unit Name: Zahl-Williams Rmgs, 3-6% slopes NWI classification: P5MC
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u>	No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u>X</u>	No <u> </u>
Hydric Soil Present?	Yes <u>X</u>	No <u> </u>			
Wetland Hydrology Present?	Yes <u>X</u>	No <u> </u>			
Remarks: <u>depression wetland</u> <u>water smartweed in center</u> <u>upl = 1 wet = 100%</u>					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-):	<u>3</u> (A)
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Total Number of Dominant Species Across All Strata:	<u>4</u> (B)
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>75</u> (A/B)
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>		
<u> </u> = Total Cover					
Sapling/Shrub Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:	
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Total % Cover of:	Multiply by:
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	OBL species <u> </u>	x 1 = <u> </u>
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	FACW species <u> </u>	x 2 = <u> </u>
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	FAC species <u> </u>	x 3 = <u> </u>
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	FACU species <u> </u>	x 4 = <u> </u>
<u> </u> = Total Cover				UPL species <u> </u>	x 5 = <u> </u>
				Column Totals:	<u> </u> (A) <u> </u> (B)
				Prevalence Index = B/A = <u> </u>	
Herb Stratum (Plot size: <u>20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:	
1. <u>POTPAL</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	<u>X</u> Dominance Test is >50%	
2. <u>RECSYE</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	<u> </u> Prevalence Index is ≤3.0 ¹	
3. <u>HORSUB</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	<u> </u> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
4. <u>HYEFAT</u>	<u>5</u>	<u>Y</u>	<u>OPL</u>	<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
5. <u>AMARET</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>		
6. <u> </u>	<u> </u>	<u> </u>	<u> </u>		
7. <u> </u>	<u> </u>	<u> </u>	<u> </u>		
8. <u> </u>	<u> </u>	<u> </u>	<u> </u>		
9. <u> </u>	<u> </u>	<u> </u>	<u> </u>		
10. <u> </u>	<u> </u>	<u> </u>	<u> </u>		
<u>95</u> = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Woody Vine Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present?	
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Yes <u>X</u>	No <u> </u>
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>		
<u>5</u> = Total Cover					
% Bare Ground in Herb Stratum <u>5</u>					
Remarks:					

SOIL

Sampling Point: W-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Texture	Remarks	
	Color (moist)	%	Color (moist)	%	Type ¹			
0-6	2.5Y 3/1	100						
6-12	2.5Y 3/2	85	7.5YR 3/6	10	C	m	sil	
			2.5Y 4/1	5	d	m	sil	
12-18	2.5Y 4/1	60	2.5Y 5/6	20	d	m	sil	
			7.5YR 5/6	20	c	m	sil	

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

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

☐ Histosol (A1)	☐ Sandy Gleyed Matrix (S4)	☐ 1 cm Muck (A9) (LRR I, J)
☐ Histic Epipedon (A2)	☐ Sandy Redox (S5)	☐ Coast Prairie Redox (A16) (LRR F, G, H)
☐ Black Histic (A3)	☐ Stripped Matrix (S6)	☐ Dark Surface (S7) (LRR G)
☐ Hydrogen Sulfide (A4)	☐ Loamy Mucky Mineral (F1)	☐ High Plains Depressions (F16)
☐ Stratified Layers (A5) (LRR F)	☐ Loamy Gleyed Matrix (F2)	☐ (LRR H outside of MLRA 72 & 73)
☐ 1 cm Muck (A9) (LRR F, G, H)	☐ Depleted Matrix (F3)	☐ Reduced Vertic (F18)
☒ Depleted Below Dark Surface (A11)	☐ Redox Dark Surface (F6)	☐ Red Parent Material (TF2)
☐ Thick Dark Surface (A12)	☐ Depleted Dark Surface (F7)	☐ Other (Explain in Remarks)
☐ Sandy Mucky Mineral (S1)	☐ Redox Depressions (F8)	³ Indicators of hydrophytic vegetation and
☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	☐ High Plains Depressions (F16)	wetland hydrology must be present,
☐ 5 cm Mucky Peat or Peat (S3) (LRR F)	☐ (MLRA 72 & 73 of LRR H)	unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:
4pL-1-0-7-2.5Y 4/2-100
7-10-2.5Y 4/1 95
10YR 3/6-5cm sil

HYDROLOGY

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

Field Observations:

Surface Water Present? Yes ☐ No ☐ Depth (inches): _____

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

Saturation Present? Yes ☐ No ☐ Depth (inches): _____

(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BCLP City/County: Montrose Sampling Date: 9/1/2010
 Applicant/Owner: MCCOIN State: ND Sampling Point: W3
 Investigator(s): GWM/NPH Section, Township, Range: 25 156 92-43
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): <1
 Subregion (LRR): F Lat: 48.3001 Long: -102.445446 Datum: NAD83
 Soil Map Unit Name: Zehl-Williams-Bowbells loams 3-9% slopes NWI classification: PGM/ABF
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes x No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>x</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>x</u> No <u> </u>
Hydric Soil Present?	Yes <u>x</u> No <u> </u>	
Wetland Hydrology Present?	Yes <u>x</u> No <u> </u>	
Remarks: <u>Depression wetland</u> <u>water smartweed across interior</u> <u>edges are cultivated</u> <u>upl-2 = wheat</u>		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>60</u> (A/B)
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet: Total % Cover of: <u> </u> Multiply by: <u> </u> OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				
Herb Stratum (Plot size: <u>20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: <u>x</u> Dominance Test is >50% <u> </u> Prevalence Index is ≤3.0 ¹ <u> </u> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>wheat - upland</u>	<u>15</u>	<u>Y</u>	<u>NPL</u>	
2. <u>HORSUB</u>	<u>10</u>	<u> </u>	<u>FACW</u>	
3. <u>ARTBLG</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
4. <u>POLAMP</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
5. <u>AMARET</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
6. <u>HEL PET</u>	<u>5</u>	<u> </u>	<u>FACU</u>	
7. <u>ECHEAU</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	
8. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
9. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
10. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>110</u> = Total Cover				
Woody Vine Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <u>x</u> No <u> </u>
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				
% Bare Ground in Herb Stratum <u> </u>				
Remarks:				

SOIL

Sampling Point: W-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Texture	Remarks	
	Color (moist)	%	Color (moist)	%	Type ¹			
0-6	2.5Y 3/1	100				sil		
6-10	2.5Y 3/2	95	2.5YR 5/6	5	C m	sil		
10-18	2.5Y 4/2	90	2.5YR 5/6	10	C m	sick		

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
☐ Histosol (A1)	☐ Sandy Gleyed Matrix (S4)	☐ 1 cm Muck (A9) (LRR I, J)
☐ Histic Epipedon (A2)	☐ Sandy Redox (S5)	☐ Coast Prairie Redox (A16) (LRR F, G, H)
☐ Black Histic (A3)	☐ Stripped Matrix (S6)	☐ Dark Surface (S7) (LRR G)
☐ Hydrogen Sulfide (A4)	☐ Loamy Mucky Mineral (F1)	☐ High Plains Depressions (F16)
☐ Stratified Layers (A5) (LRR F)	☐ Loamy Gleyed Matrix (F2)	☐ (LRR H outside of MLRA 72 & 73)
☐ 1 cm Muck (A9) (LRR F, G, H)	☐ Depleted Matrix (F3)	☐ Reduced Vertic (F18)
☒ Depleted Below Dark Surface (A11)	☐ Redox Dark Surface (F6)	☐ Red Parent Material (TF2)
☐ Thick Dark Surface (A12)	☐ Depleted Dark Surface (F7)	☐ Other (Explain in Remarks)
☐ Sandy Mucky Mineral (S1)	☐ Redox Depressions (F8)	³ Indicators of hydrophytic vegetation and
☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	☐ High Plains Depressions (F16)	wetland hydrology must be present.
☐ 5 cm Mucky Peat or Peat (S3) (LRR F)	☐ (MLRA 72 & 73 of LRR H)	unless disturbed or problematic.

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes ☒ No ☐
--	--

Remarks: Tarica upl-2 0-7-2.5Y 3/2-100 7-14-2.5Y 6/3-100

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply) ☐ Surface Water (A1) ☐ Salt Crust (B11) ☐ High Water Table (A2) ☐ Aquatic Invertebrates (B13) ☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1) ☐ Water Marks (B1) ☐ Dry-Season Water Table (C2) ☐ Sediment Deposits (B2) ☐ Oxidized Rhizospheres on Living Roots (C3) ☐ Drift Deposits (B3) ☐ (where not tilled) ☐ Algal Mat or Crust (B4) ☐ Presence of Reduced Iron (C4) ☐ Iron Deposits (B5) ☐ Thin Muck Surface (C7) ☐ Inundation Visible on Aerial Imagery (B7) ☐ Other (Explain in Remarks) ☐ Water-Stained Leaves (B9)	Secondary Indicators (minimum of two required) ☐ Surface Soil Cracks (B6) ☐ Sparsely Vegetated Concave Surface (B8) ☐ Drainage Patterns (B10) ☒ Oxidized Rhizospheres on Living Roots (C3) (where tilled) ☐ Crayfish Burrows (C8) ☒ Saturation Visible on Aerial Imagery (C9) ☒ Geomorphic Position (D2) ☐ FAC-Neutral Test (D5) ☐ Frost-Heave Hummocks (D7) (LRR F)
Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): _____ Water Table Present? Yes ☐ No ☒ Depth (inches): _____ Saturation Present? Yes ☐ No ☒ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes ☒ No ☐
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Mountain Sampling Date: 8/31/2000
 Applicant/Owner: McCaig State: ND Sampling Point: 2-1
 Investigator(s): GWM, MPH Section, Township, Range: 36 156 92
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): 1 Slope (%): 1
 Subregion (LRR): F Lat: 48.297843 Long: -102.43979 Datum: NAD83
 Soil Map Unit Name: Pinnell silt loams NWI classification: PERWC

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

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u>_____</u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u>_____</u>
Hydric Soil Present? Yes <u>X</u> No <u>_____</u>	
Wetland Hydrology Present? Yes <u>X</u> No <u>_____</u>	
Remarks: <u>depression wetland center dug out to provide water for livestock</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>_____</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
1. _____				
2. _____				
3. _____				
4. _____				
<u>_____</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u>_____</u> x 1 = <u>_____</u> FACW species <u>50</u> x 2 = <u>100</u> FAC species <u>_____</u> x 3 = <u>_____</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>_____</u> x 5 = <u>_____</u> Column Totals: <u>100</u> (A) <u>240</u> (B) Prevalence Index = B/A = <u>2.4</u>
<u>_____</u> = Total Cover				
1. _____				
2. _____				
3. _____				
<u>_____</u> = Total Cover				
Herb Stratum (Plot size: <u>20'</u>)				Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% <u>X</u> Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>PHALARIS</u>	<u>80</u>	<u>0</u>	<u>FACW</u>	
2. <u>TAROFF</u>	<u>20</u>	<u>0</u>	<u>FACW</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
<u>100</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>_____</u>)				Hydrophytic Vegetation Present? Yes <u>X</u> No <u>_____</u>
1. _____				
2. _____				
<u>_____</u> = Total Cover				
% Bare Ground in Herb Stratum <u>X</u>				
Remarks: _____				

SOIL

36 15629-41

Sampling Point: 42-1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-26	2.5Y 2.5/1	100					SIL	
26-32	2.5Y 2.5/1	95	7.5YR 5/6	5	<	m	SIL	

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

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

Indicators for Problematic Hydric Soils³:

- | | | |
|--|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) | ☐ 1 cm Muck (A9) (LRR I, J) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) | ☐ Coast Prairie Redox (A16) (LRR F, G, H) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) | ☐ Dark Surface (S7) (LRR G) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) | ☐ High Plains Depressions (F16) |
| ☐ Stratified Layers (A5) (LRR F) | ☐ Loamy Gleyed Matrix (F2) | ☐ (LRR H outside of MLRA 72 & 73) |
| ☐ 1 cm Muck (A9) (LRR F, G, H) | ☐ Depleted Matrix (F3) | ☐ Reduced Vertic (F18) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) | ☐ Red Parent Material (TF2) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) | ☐ Other (Explain in Remarks) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) | ³ Indicators of hydrophytic vegetation and |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) | wetland hydrology must be present, |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | ☐ (MLRA 72 & 73 of LRR H) | unless disturbed or problematic. |

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks: Thick overburden can't dig deep enough to reach reduced matrix

4 ft - 0-10 - 10/12/31
10-15 10/12/31 - 50
10/12/31 - 50

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ☐ No ☒	Depth (inches): _____
Water Table Present?	Yes ☐ No ☒	Depth (inches): _____
Saturation Present?	Yes ☐ No ☒	Depth (inches): _____

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

T.M.C.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Montreal Sampling Date: 8/31/2010
 Applicant/Owner: McGowan State: ND Sampling Point: W1
 Investigator(s): GWM, NPH Section, Township, Range: 31 156 91
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): _____ Slope (%): 1
 Subregion (LRR): F Lat: 48.297538 Long: -102.439118 Datum: NAD83
 Soil Map Unit Name: Parnell silt loams NWI classification: PEMC

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

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

Hydrophytic Vegetation Present? Yes ☒ No _____	Is the Sampled Area within a Wetland? Yes ☒ No _____
Hydric Soil Present? Yes ☒ No _____	
Wetland Hydrology Present? Yes ☒ No _____	
Remarks: <u>Depression wetland</u> <u>ADRSNB across interior</u> <u>uph-1 - LAC SER-40</u> <u>TAROFF-20</u> <u>JUNCAL-20</u> <u>BS-20</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A)
2. _____				Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____				
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
Herb Stratum (Plot size: <u>20'</u>)				
1. <u>SPARFC</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
2. <u>MORSHB</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
3. <u>ARTGLE</u>	<u>15</u>	<u>N</u>	<u>FAC</u>	
4. <u>SONARY</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
5. <u>COBANH</u>	<u>15</u>	<u>N</u>	<u>OBL</u>	
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Remarks:				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B) Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: ☒ Dominance Test is >50% ☐ Prevalence Index is ≤3.0' ☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes ☒ No _____

31 156 91-41

Sampling Point: W-1

4pb-1 0-8 2.51 8/1 - 102
8-10 2.51 8/3 - 102

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		
☐ Surface Water (A1)	☐ Salt Crust (B11)	
☐ High Water Table (A2)	☐ Aquatic Invertebrates (B13)	
☐ Saturation (A3)	☐ Hydrogen Sulfide Odor (C1)	
☐ Water Marks (B1)	☐ Dry-Season Water Table (C2)	
☐ Sediment Deposits (B2)	☒ Oxidized Rhizospheres on Living Roots (C3)	
☐ Drift Deposits (B3)	(where not tilled)	
☐ Algal Mat or Crust (B4)	☐ Presence of Reduced Iron (C4)	
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)	
☐ Inundation Visible on Aerial Imagery (B7)	☐ Other (Explain in Remarks)	
☐ Water-Stained Leaves (B9)		
Secondary Indicators (minimum of two required)		
	☐ Surface Soil Cracks (B6)	
	☐ Sparsely Vegetated Concave Surface (B8)	
	☐ Drainage Patterns (B10)	
	☐ Oxidized Rhizospheres on Living Roots (C3)	
	(where tilled)	
	☐ Crayfish Burrows (C8)	
	☒ Saturation Visible on Aerial Imagery (C9)	
	☒ Geomorphic Position (D2)	
	☐ FAC-Neutral Test (D5)	
	☐ Frost-Heave Hummocks (D7) (LRR F)	
Field Observations:		
Surface Water Present?	Yes ☐ No ☒	Depth (inches): _____
Water Table Present?	Yes ☐ No ☒	Depth (inches): _____
Saturation Present?	Yes ☐ No ☒	Depth (inches): _____
(includes capillary fringe)		Wetland Hydrology Present? Yes ☒ No ☐
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: McClain Sampling Date: 7/1/2010
 Applicant/Owner: McClain State: _____ Sampling Point: W-1
 Investigator(s): CWM/NPL Section, Township, Range: 27 156 90
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): _____ Slope (%): 1
 Subregion (LRR): E Lat: 48.300222 Long: -102.485043 Datum: NAD83
 Soil Map Unit Name: Zahl-Williams-Bonbells loams, 3-9% slopes NWI classification: PERM2

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

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

Hydrophytic Vegetation Present?	Yes ☒ No _____	Is the Sampled Area within a Wetland? Yes ☒ No _____
Hydric Soil Present?	Yes ☒ No _____	
Wetland Hydrology Present?	Yes ☒ No _____	
Remarks: <u>Wheat covers majority due to cultivation</u> <u>upland - wheat = 100%</u> <u>Drain flows to east</u>		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. _____				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____				
_____ = Total Cover				
Herb Stratum (Plot size: <u>20'</u>) 1. <u>Wheat</u> <u>25</u> <u>Y</u> <u>UPL</u> 2. <u>ART BSE</u> <u>5</u> <u>N</u> <u>FAC</u> 3. <u>SET GLA</u> <u>5</u> <u>N</u> <u>FACU</u> 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____				
<u>95</u> = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____				Hydrophytic Vegetation Indicators: _____ Dominance Test is >50% _____ Prevalence Index is ≤3.0 ¹ _____ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☒ Problematic Hydrophytic Vegetation ¹ (Explain)
% Bare Ground in Herb Stratum <u>5</u> _____ = Total Cover				
Remarks: <u>Scattered Eragrost + ART BSE in ground</u>				Hydrophytic Vegetation Present? Yes ☒ No _____

SOIL

27 156 72-1

Sampling Point: 10-1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-11	2.5Y 7/2	100					sil	
11-18	2.5Y 3/2	90	7.5Y 5/6	10	C	m	sil	
18-24	2.5Y 1/2	80	7.5Y 5/6	10	C	m	stick	

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

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

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

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

muck = 5-10" deep

4PL-1 0-4 2.5Y 3/2-100
4-10 2.5Y 1/2-100

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

- Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLP City/County: Manitou Sampling Date: 9/1/2010
 Applicant/Owner: McCain State: WA Sampling Point: W-1
 Investigator(s): GWM, NPH Section, Township, Range: 26 136 72
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): _____ Slope (%): <1
 Subregion (LRR): F Lat: 48.301114 Long: -102.46886 Datum: NAD 83
 Soil Map Unit Name: Hamlet - Tanaka complex, 0-3 % slopes NWI classification: Pemc
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: <u>depression wetland</u> <u>PHAROS Cattle in interior</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: <u>20'</u>) 1. <u>PHL PRA</u> <u>30</u> <u>Y</u> <u>FACU</u> 2. <u>POLOMP</u> <u>30</u> <u>Y</u> <u>DBL</u> 3. <u>MENARV</u> <u>20</u> <u>Y</u> <u>FACW</u> 4. <u>RUMCRZ</u> <u>10</u> <u>N</u> <u>FACW</u> 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>0</u> _____ = Total Cover				
Remarks: _____				Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% _____ Prevalence Index is ≤3.0 ¹ _____ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Hydrophytic Vegetation Present? Yes <u>X</u> No _____				