070

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Stum Lublin City/County: Eau Claire Co Sampling Date: 9/23/12

Applicant/Owner: DPC State: WI Sampling Point: 070D1

Investigator(s): KB + AJ Section, Township, Range: S5 T25N R5W

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR or MLRA): LRR K Lat: 44 40 6.56 Long: -91 0 29.54 Datum: NAD83

Soil Map Unit Name: Fairchild & Merillan Soils NWI classification:

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

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

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

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

Hydrophytic Vegetation Present?	Yes X	No	Is the Sampled Area within a Wetland? Yes No X
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes	No X	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

at structure 47

Photo # 104

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes No X

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 070 D1

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size:)			
1. Phalaris arundinacea	100		FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	16 Δ = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

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

SOIL Sampling Point: 07001

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	2.5Y 6/3	100					Si. Il loam	
2-12	2.5Y 3/1	98	10YR 3/4	2	C	PL	Si. Il loam	Sandlense at 4"
12-16	2.5Y 5/1	98	10YR 3/6	2	C	PL	Sandy loam	
16-20	2.5Y 3/1	97	10YR 3/6	3	C	PL	Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

072D1 072D2

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Strum Lublin City/County: Eau Claire Co Sampling Date: 9/23/12

Applicant/Owner: DPC State: WI Sampling Point: 072D1

Investigator(s): KB & AJ Section, Township, Range: S4 T25N R5W

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): LRR K Lat: 44 40 6.50 Long: -91 0 4.72 Datum: NAD83

Soil Map Unit Name: Elm lake loamy sand NWI classification:

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

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

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

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

Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Area within a Wetland? Yes X No
Hydric Soil Present?	Yes X No	
Wetland Hydrology Present?	Yes X No	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

Photo # 106, 107

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 4

Wetland Hydrology Present? Yes X No ___

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 07201

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size:)			
1. Rubus hispidus	5	N	FACW
2. Glyceria canadensis	15	N	OBL
3. Carex stricta	30	Y	OBL
4. Carex vulpinoidea	20	Y	OBL
5. Solidago gigantea	5	N	FACW
6. Scirpus atrovirens	15	N	OBL
7.			
8.			
9.			
10.			
11.			
12.			
	90 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- [X] 1 - Rapid Test for Hydrophytic Vegetation
- [ ] 2 - Dominance Test is >50%
- [ ] 3 - Prevalence Index is ≤3.0[1]
- [ ] 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes [X] No [ ]

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

SOIL Sampling Point: 072D1

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1								Organics
1-8	2.5Y 3/1	100					Clay loam	
8-13	2.5/N	100					Clay loam	
13-18	2.5Y 4/1	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- X Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ____

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Strum Lublin City/County: Eau Claire Co Sampling Date: 9/23/12

Applicant/Owner: DOC State: WI Sampling Point: 07202

Investigator(s): KB+ AJ Section, Township, Range: S4 T25N R5W

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): Nom Slope (%): 2

Subregion (LRR or MLRA): LRR K Lat: 44 40 6.55 Long: -91 0 5.26 Datum: NAD83

Soil Map Unit Name: Elm Lake loamy sand NWI classification:

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

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

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

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

Hydrophytic Vegetation Present?	Yes ____	No X	Is the Sampled Area within a Wetland? Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)

Structure 52

Photo 105

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 072D2

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. Pinus Strobus	2	N	FACU
2. Rubus hispidus	3	Y	FACW
3. Betula nigra	2	N	FACW
4. Prunus Pensylvanica	5	Y	FACU
5. Pinus banksiana	1	N	FACU
6.			
7.			
	13 = Total Cover		
Herb Stratum (Plot size:)			
1. Poa compressa	75	Y	FACU
2. Botrypus virginianus	2	N	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	77 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of		Multiply by:	
OBL species	0	x 1 =	
FACW species	5	x 2 =	10
FAC species	0	x 3 =	0
FACU species	85	x 4 =	340
UPL species	0	x 5 =	0
Column Totals:	90 (A)		350 (B)

Prevalence Index = B/A = 3.88

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

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

SOIL Sampling Point: 072D2

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
1-3	10YR 3/1	100					Sandy loam	
3-10	10YR 6/2	100					loamy Sand	
10-13	7.5R 3/4	100					Sandy loam	
13-19	10YR 4/6	100					Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Strum-Lublin 69kV (N-3) Transmission Line Rebuild Project

Phase I: Strum Tap to Willard Tap

DIRECTION	FEATURE ID	072D2	DATE
South	PHOTOGRAPHER	Kathy Bellrichard and Apryl Jennrich	9/23/2012

074D

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Straum Lublin City/County: Eau Claire Co Sampling Date: 9/23/12

Applicant/Owner: DPC State: WI Sampling Point: 074D1

Investigator(s): KB + AJ Section, Township, Range: S4 T25N R5W

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): LRR K Lat: 44 40 6.76 Long: -90 59 29.00 Datum: NAD 83

Soil Map Unit Name: Alluvial land NWI classification:

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

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

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

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

Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Area within a Wetland? Yes X No
Hydric Soil Present?	Yes X No	
Wetland Hydrology Present?	Yes X No	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

Photo # 108

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes X No ___

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 07401

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. Alnus incana	1	N	FACW
2. Salix petiolaris	1	N	FACW
3.			
4.			
5.			
6.			
7.			
	2 = Total Cover		
Herb Stratum (Plot size:)			
1. Rubus hispidus	25	Y	FACW
2. Symphyotrichum lanceolatum	7	N	FACW
3. Solidago gigantea	3	N	FACW
4. Spartina pectinata	10	N	FACW
5. Carex stricta	15	Y	OBL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	60 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- X 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

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

Not heavily vegetated

SOIL

Sampling Point: 07401

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1		100						Organics
1-6	10YR 2/1	100					silt loam	slightly Mucky
6-10	2.5Y 2.5/1	100					silt loam	
10-19	2.5Y 3/1	96	10YR 3/3	2	C	PL	loamy sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (LRR R, MLRA 149B)
- ___ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ___ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- X Loamy Mucky Mineral (F1) (LRR K, L)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ___ Coast Prairie Redox (A16) (LRR K, L, R)
- ___ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ___ Dark Surface (S7) (LRR K, L, M)
- ___ Polyvalue Below Surface (S8) (LRR K, L)
- ___ Thin Dark Surface (S9) (LRR K, L)
- ___ Iron-Manganese Masses (F12) (LRR K, L, R)
- ___ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ___ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Strum Lublin City/County: Eau Claire Co Sampling Date: 9/23/12

Applicant/Owner: DPC State: WI Sampling Point: 074D2

Investigator(s): KB + AJ Section, Township, Range: S4 T25N R5W

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): None Slope (%): 5

Subregion (LRR or MLRA): LRR K Lat: 44 40 6.74 Long: 90 59 21.82 Datum: NAD83

Soil Map Unit Name: Menahga sand NWI classification:

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

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

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

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

Hydrophytic Vegetation Present?	Yes	No X	Is the Sampled Area within a Wetland? Yes No X
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes	No X	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

Photo # 109-111 Structure 59

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes No X

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 07402

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size:)			
1. Spartina pectinata	25	Y	FACW
2. Rubus hispidus	7	N	FACW
3. Poa pratensis	35	Y	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	67 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of		Multiply by:	
OBL species	0	x 1 =	0
FACW species	32	x 2 =	64
FAC species	0	x 3 =	0
FACU species	35	x 4 =	140
UPL species	0	x 5 =	0
Column Totals:	67 (A)		204 (B)

Prevalence Index = B/A = 3.04

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

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

Not heavily vegetated

SOIL Sampling Point: 074D2

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	2.5Y 6/3	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Strum-Lublin 69kV (N-3) Transmission Line Rebuild Project

Phase I: Strum Tap to Willard Tap

DIRECTION	FEATURE ID	074D	DATE
West	PHOTOGRAPHER	Kathy Bellrichard and Apryl Jennrich	9/23/2012

COMMENTS

Wetland is located adjacent to Black Creek.

076

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Stum Lublin City/County: Eau Claire Co Sampling Date: 9/23/12

Applicant/Owner: DPC State: WI Sampling Point: 07601

Investigator(s): KB + AJ Section, Township, Range: S4 T25N R5W

Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR or MLRA): LRR K Lat: 44 40 6.74 Long: -90 59 11.76 Datum: NAD83

Soil Map Unit Name: Newson loamy sand NWI classification:

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

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

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

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

Hydrophytic Vegetation Present?	Yes	No X	Is the Sampled Area within a Wetland? Yes No X
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes	No X	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

Structure 63 Photo # 112

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes No X

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 07601

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size:)			
1. Spartina pectinata	25	Y	FACW
2. Triplasis purpurea	25	Y	UPL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	50 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of		Multiply by:	
OBL species	0	x 1 =	
FACW species	25	x 2 =	50
FAC species	0	x 3 =	
FACU species	0	x 4 =	
UPL species	25	x 5 =	125
Column Totals:	50 (A)		175 (B)

Prevalence Index = B/A = 3.5

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

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

Not heavily vegetated

SOIL Sampling Point: 0760)

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	2.5Y 3/2	100					loamy Sand	
3-6	2.5Y 4/3	97	10YR 3/6	3	C	PL	Sand	
6-14	2.5Y 6/4	95	10YR 3/6	5	C	PL	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (LRR R, MLRA 149B)
- ___ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ___ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ___ Loamy Mucky Mineral (F1) (LRR K, L)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ___ Coast Prairie Redox (A16) (LRR K, L, R)
- ___ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ___ Dark Surface (S7) (LRR K, L, M)
- ___ Polyvalue Below Surface (S8) (LRR K, L)
- ___ Thin Dark Surface (S9) (LRR K, L)
- ___ Iron-Manganese Masses (F12) (LRR K, L, R)
- ___ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ___ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

077D

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Stum Lublin City/County: Eau Claire Co Sampling Date: 9/23/12

Applicant/Owner: DPC State: WI Sampling Point: 077D1

Investigator(s): KB + AJ Section, Township, Range: S3 T25N R5W

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR or MLRA): LRR K Lat: 44 40 7.02 Long: -90 58 41.74 Datum: NAD83

Soil Map Unit Name: Newson loamy sand NWI classification:

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

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

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

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

Hydrophytic Vegetation Present?	Yes X No ____	Is the Sampled Area within a Wetland?	Yes X No ____
Hydric Soil Present?	Yes X No ____	If yes, optional Wetland Site ID:	
Wetland Hydrology Present?	Yes X No ____		

Remarks: (Explain alternative procedures here or in a separate report.)

Photo # 113

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 10

Wetland Hydrology Present? Yes X No ____

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 0770)

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Symphyotrichum lanceolatum	15	N	FACW
2. Calamagrostis canadensis	50	Y	OBL
3. Rubus hispidus	5	N	FACW
4. Carex stricta	30	Y	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
	_____ = Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No _____

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

SOIL

Sampling Point: 07701

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
1-9	2.5Y 2.5/1	50	2.5Y 5/2	45	D	M	Clay loam	
			10YR 4/6	5	C	PL		
9-18	2.5Y 4/1	93	10YR 4/6	7	C	PL	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- X Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (If observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Strum Lublin City/County: Eau Claire Co Sampling Date: 9/24/12

Applicant/Owner: DPC State: WI Sampling Point: 077D2

Investigator(s): KB + AJ Section, Township, Range: S3 T25N R5W

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 1

Subregion (LRR or MLRA): LRR K Lat: 44 40 6.88 Long: -90 58 44.59 Datum: NAD 83

Soil Map Unit Name: Veedum silt loam NWI classification:

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

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

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

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

Hydrophytic Vegetation Present?	Yes X	No	Is the Sampled Area within a Wetland? Yes	No X
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes	No X	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

At Structure # D69

Photo # 114 – 115

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes No X

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 077D2

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. Rubus alleghaniensis	7	Y	FACU
2. Pinus banksiana	3	N	FACU
3. Comptonia peregrina	10	Y	UPL
4. Spiraea alba	3	N	FACW
5.			
6.			
7.			
	23 = Total Cover		
Herb Stratum (Plot size:)			
1. Solidago gigantea	1	N	FACW
2. Potentilla simplex	25	Y	FACU
3. Carex stricta	10	N	OBL
4. Calamagrostis canadensis	15	Y	OBL
5. Euthamia graminifolia	10	N	FAC
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	64 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 25 (A/B)

Prevalence Index worksheet:

Total % Cover of		Multiply by:	
OBL species	25	x 1 =	25
FACW species	4	x 2 =	8
FAC species	10	x 3 =	30
FACU species	35	x 4 =	140
UPL species	10	x 5 =	50
Column Totals:	84 (A)		253 (B)

Prevalence Index = B/A = 3.0

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

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

SOIL

Sampling Point: 077D2

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 4/2	100					Sandy loam	
3-20	2.5Y 6/2	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Strum-Lublin 69kV (N-3) Transmission Line Rebuild Project

Phase I: Strum Tap to Willard Tap

DIRECTION	FEATURE ID	077D	DATE
West	PHOTOGRAPHER	Kathy Bellrichard and Apryl Jennrich	9/24/2012

078D1 078D2

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Strum Lublin City/County: Eau Claire Co. Sampling Date: 9/24/12

Applicant/Owner: DPC State: WI Sampling Point: 078DL

Investigator(s): KB + AJ Section, Township, Range: S3 T25N R5W

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): LRR K Lat: 44 40 6.91 Long: -90 57 53.90 Datum: NAD83

Soil Map Unit Name: Fairchild & Meridian soils NWI classification:

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

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

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

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

Hydrophytic Vegetation Present?	Yes X No	**Is the Sampled Area within a Wetland?** Yes X No
Hydric Soil Present?	Yes X No	If yes, optional Wetland Site ID:
Wetland Hydrology Present?	Yes X No	

Remarks: (Explain alternative procedures here or in a separate report.)

Photo #116
Structure # 80

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___ No X	Depth (inches):
Water Table Present?	Yes ___ No X	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes X No ___	Depth (inches): 0

Wetland Hydrology Present? Yes X No

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 078D1

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size:)			
1. Carex Stricta	85	Y	OBL
2. Scirpus cyperinus	10	N	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	95 = Total Cover		

Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

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

SOIL

Sampling Point: 07801

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1								Organics/Peat
1-4	2.5Y 5/2	98	10YR 4/4	2	C	PL	clay loam	
4-10	2.5 N	99	10YR 3/3	1	C	PL	silty clay loam	Slightly Mucky
10-15	2.5Y 4/1	93	7.5YR 3/4	7	C	PL	S, Lt loam	with gravel
15-18	2.5Y 5/2	100					Sand	with gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Strum Lublin City/County: Eau Claire Co Sampling Date: 9/24/12

Applicant/Owner: DPC State: WI Sampling Point: 078D2

Investigator(s): KB + AJ Section, Township, Range: S3 T25N R5W

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR or MLRA): LRR K Lat: 44 40 14.43 Long: -90 57 45.44 Datum: NAD83

Soil Map Unit Name: Fairchild & Merrillan soils NWI classification:

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

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

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

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

Hydrophytic Vegetation Present?	Yes X No ____	Is the Sampled Area within a Wetland?	Yes X No ____
Hydric Soil Present?	Yes X No ____		
Wetland Hydrology Present?	Yes X No ____	If yes, optional Wetland Site ID:	

Remarks: (Explain alternative procedures here or in a separate report.)

Photo # 119

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0

Wetland Hydrology Present? Yes X No ____

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: UTBD2

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. Alnus incana	1	N	FACW
2. Spiraea alba	2	N	FACW
3.			
4.			
5.			
6.			
7.			
	3 = Total Cover		
Herb Stratum (Plot size:)			
1. Potentilla simplex	5	N	FACU
2. Glyceria canadensis	10	N	OBL
3. Carex stricta	30	Y	OBL
4. Rubus hispidus	40	Y	FACW
5. Scirpus cyperinus	1	N	OBL
6. Sphagnum magellanicum	10	N	
7.			
8.			
9.			
10.			
11.			
12.			
	91% = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No _____

Remarks: (Include photo numbers here or on a seperate sheet.)

SOIL Sampling Point: OTBD2

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-13	2.5Y 3/1	95	7.5YR 2.5/3	5	C	PL	Silt loam	Slightly mucky
13-19	2.5Y 5/3	80	7.5YR 4/6	20	C	PL	loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ____

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Stream Lublin City/County: Eau Claire Co Sampling Date: 9/24/12

Applicant/Owner: DPC State: WI Sampling Point: 078D3

Investigator(s): KB + AJ Section, Township, Range: S3 T25N R5W

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 1

Subregion (LRR or MLRA): LRR K Lat: 44 40 9.51 Long: -90 .57 45.52 Datum: NAD83

Soil Map Unit Name: Fairchild & Merrillan soils NWI classification:

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

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

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

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

Hydrophytic Vegetation Present?	Yes X	No ____	Is the Sampled Area within a Wetland? Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

Structure # 83

Photo # 120, 121

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 14

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 07BD3

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. Pinus Strobus	1	N	FACU
2. Acer saccharum	2	N	FACU
3. Quercus Rubra	1	N	FACU
4.			
5.			
6.			
7.			
	4 = Total Cover		
Herb Stratum (Plot size:)			
1. Rubus hispidus	10	N	FACW
2. Potentilla Simplex	5	N	FACU
3. Calamagrostis canadensis	40	Y	OBL
4. Glyceria Canadensis	1	N	OBL
5. Poa Compressa	15	Y	FACU
6. Carex Stricta	10	N	OBL
7. Solidago Rugosa	5	N	FACU
8.			
9.			
10.			
11.			
12.			
	86 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of		Multiply by:	
OBL species	51	x 1 =	51
FACW species	15	x 2 =	30
FAC species	0	x 3 =	0
FACU species	24	x 4 =	96
UPL species	0	x 5 =	0
Column Totals:	90 (A)		177 (B)

Prevalence Index = B/A = 1.96

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (Include photo numbers here or on a seperate sheet.)

SOIL Sampling Point 078D3

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/3	100					loam	
2-6	2.5Y 7/3	100					Sand	
6-13	2.5Y 7/2	80	10YR 7/8	20	C	PL	Sand	
13-18	10YR 3/2	99	10YR 3/6	1	C	PL	Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Stum Lubin City/County: Eau Claire Co Sampling Date: 9/24/12

Applicant/Owner: DPC State: WI Sampling Point: 078D4

Investigator(s): KB + AJ Section, Township, Range: S3 T25N R5W

Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): none Slope (%): 1

Subregion (LRR or MLRA): LRR K Lat: 44 40 7.09 Long: -90 57 54.79 Datum: NAD83

Soil Map Unit Name: Fairchild & Merrillan soils NWI classification:

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

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

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

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

Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Area within a Wetland? Yes No X
Hydric Soil Present?	Yes No X	
Wetland Hydrology Present?	Yes No X	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

Photo # 117

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes ___ No X

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 078D4

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. Rhus Strabus	2	N	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	2 = Total Cover		
Herb Stratum (Plot size:)			
1. Rubus hispidus	20	Y	FACW
2. Potentilla simplex	20	Y	FACU
3. carex vulpinoidea	15	N	OBL
4. Scirpus cyperinus	1	N	OBL
5. Calamagrostis Canadensis	10	N	OBL
6. Poa compressa	20	Y	FACU
7. Schizachyrium scoparium	5	N	FACU
8.			
9.			
10.			
11.			
12.			
	91 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of		Multiply by:	
OBL species	26	x 1 =	26
FACW species	20	x 2 =	40
FAC species	0	x 3 =	0
FACU species	47	x 4 =	188
UPL species	0	x 5 =	0
Column Totals:	93 (A)		254 (B)

Prevalence Index = B/A = 2.7

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

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

SOIL Sampling Point: 07804

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 2	10YR 4/3	100					loamy Sand	
2 - 9	10YR 5/4	99	10YR 4/6	1	C	PL	Sand	
9 - 15	10YR 4/1	100					Sandy loam	gravelly

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Refusal at 15"

Strum-Lublin 69kV (N-3) Transmission Line Rebuild Project

Phase I: Strum Tap to Willard Tap

DIRECTION	FEATURE ID	078D1	DATE
South	PHOTOGRAPHER	Kathy Bellrichard and Apryl Jennrich	9/24/2012

Strum-Lublin 69kV (N-3) Transmission Line Rebuild Project

Phase I: Strum Tap to Willard Tap

DIRECTION	FEATURE ID	078D2	DATE
North	PHOTOGRAPHER	Kathy Bellrichard and Apryl Jennrich	9/24/2012

COMMENTS

Wetland is located adjacent to Pea Creek.

080D

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Stein Lublin City/County: Eau Claire Co Sampling Date: 9/24/12

Applicant/Owner: DPC State: WI Sampling Point: OBOD1

Investigator(s): KB + MJ Section, Township, Range: S3 T25N R5W

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): LRR K Lat: 44 40 35.21 Long: -90 57 45.21 Datum: NAD83

Soil Map Unit Name: Ludington - Humbird soils NWI classification:

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

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

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

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

Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Area within a Wetland? Yes X No
Hydric Soil Present?	Yes X No	
Wetland Hydrology Present?	Yes X No	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

124
Photo # 123, b.d 6ft;

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes X No

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 080D1

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. Rubus idaeus	15	Y	FACU
2. Spiraea alba	3	N	FACW
3.			
4.			
5.			
6.			
7.			
	18 = Total Cover		
Herb Stratum (Plot size:)			
1. Scirpus cyperinus	25	Y	OBL
2. Glyceria canadensis	30	Y	OBL
3. Persicaria sagittata	5	N	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	60 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 66 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

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

SOIL Sampling Point: 080D1

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2								Organic
2-5	10YR 4/2	98	10YR 3/6	2	C	PL	S. Mucky loam	
5-9	2.5 2.5/N	95	10YR 3/3	5	C	PL	S. Mucky loam	Slightly Mucky
9-18	10YR 4/2	75	10YR 3/1	25	D	M	Sand	Streaks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- X Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Stum Lublin City/County: Eau Claire Co Sampling Date: 9/24/12

Applicant/Owner: DPC State: WI Sampling Point: 080D2

Investigator(s): KB + AJ Section, Township, Range: S3 T25N R5W

Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): none Slope (%): 1

Subregion (LRR or MLRA): LRR K Lat: 44 40 34.66 Long: -90 57 45.15 Datum: NAD 83

Soil Map Unit Name: Ludington & Humbird soils NWI classification:

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

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

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

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

Hydrophytic Vegetation Present?	Yes X No ____	Is the Sampled Area within a Wetland?	Yes ____ No X
Hydric Soil Present?	Yes ____ No X		
Wetland Hydrology Present?	Yes ____ No X	If yes, optional Wetland Site ID:	

Remarks: (Explain alternative procedures here or in a separate report.)

Stucture # 90

Photo # 122

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 080D2

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size:)			
1. Pinus resinosa	1	N	FACU
2. Pinus Strobus	1	N	FACU
3. Quercus rubra	1	N	FACU
4.			
5.			
6.			
7.			
	3 = Total Cover		

Herb Stratum (Plot size:)			
1. Rubus hispidus	20	Y	FACW
2. Botrypus virginianus	15	Y	FACU
3. Potentilla simplex	7	N	FACU
4. Brickellia eupatorioides	7	N	UPL
5. Calamagrostis canadensis	20	Y	OBL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	69 = Total Cover		

Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 67.7 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

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

SOIL

Sampling Point: 080D2

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 2/1	100					Sandy loam	
6-9	10YR 6/2	100					Sand	
9-17	7.5YR 3/4	100					loamy Sand	
17-19	10YR 4/6	100					loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Strum-Lublin 69kV (N-3) Transmission Line Rebuild Project

Phase I: Strum Tap to Willard Tap

DIRECTION	FEATURE ID	080D	DATE
Southwest	PHOTOGRAPHER	Kathy Bellrichard and Apryl Jennrich	9/24/2012

081D

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Stum Lublin City/County: Eau Claire Co Sampling Date: 9/24/12

Applicant/Owner: DPC State: WI Sampling Point: 081D1

Investigator(s): KB + AJ Section, Township, Range: S3 T25N R5W

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): LRR K Lat: 44 40 42.27 Long: -90 57 45.16 Datum: NAD83

Soil Map Unit Name: Lundington & Humbird soils NWI classification:

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

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

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

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

Hydrophytic Vegetation Present?	Yes X	No ____	Is the Sampled Area within a Wetland? Yes X No ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

Structure 92

Photo # 125, 126

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes X No ____

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 091D1

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size:)			
1. Calamagrostis canadensis	20	Y	OBL
2. Scirpus cyperinus	5	N	OBL
3. Fragaria virginiana	3	N	FACU
4. Rubus idaeus	5	N	FACU
5. Botrychium lanceolatum	15	Y	FACW
6. Dryopteris cristata	10	N	OBL
7. Potentilla simplex	1	N	FACU
8. Rubus hispidus	7	N	FACW
9.			
10.			
11.			
12.			
	66 = Total Cover		

Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (Include photo numbers here or on a seperate sheet.)

SOIL

Sampling Point: 0801

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	2.5Y 3/1	98	10YR 3/6	2	C	PL	Silty clay loam	
8-12	10YR 5/2	100					Sand	
12-17	10YR 3/1	100					Sand	
17-20	2.5Y 5/2	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ____

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Stum Lublin City/County: Eau Claire Co Sampling Date: 9/24

Applicant/Owner: DPC State: WI Sampling Point: 081D2

Investigator(s): KB + AJ Section, Township, Range: S3 T25N R5W

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 3

Subregion (LRR or MLRA): LRR K Lat: 44 40 41.60 Long: -90 57 45.21 Datum: NAD83

Soil Map Unit Name: Lucington + Humbird soils NWI classification:

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

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

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

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

Hydrophytic Vegetation Present?	Yes X	No ____	Is the Sampled Area within a Wetland? Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

Photo # 127

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 09102

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size:)			
1. Rubus hispidus	20	Y	FACW
2. Botrypus virginianus	7	N	FACW
3. Bromus ciliatus	25	Y	FACW
4. Potentilla simplex	3	N	FACU
5. Calamagrostis Canadensis	3	N	OBL
6. Carex Stricta	3	N	OBL
7.			
8.			
9.			
10.			
11.			
12.			
	61 = Total Cover		

Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (Include photo numbers here or on a seperate sheet.)

SOIL

Sampling Point: OBID2

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/1	100					Sandy loam	
2-11	10YR 5/2	100					Sand	
11-14	10YR 4/3	100					Sand	
14-20	2.5Y 7/3	100-90	10YR 5/8	0-10	C	M		increasing redox with depth

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains

[2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Strum-Lublin 69kV (N-3) Transmission Line Rebuild Project

Phase I: Strum Tap to Willard Tap

DIRECTION	FEATURE ID	081D	DATE
North	PHOTOGRAPHER	Kathy Bellrichard and Apryl Jennrich	9/24/2012

082D

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Strum Lublin City/County: Eau Claire Co Sampling Date: 9/24/12

Applicant/Owner: DPC State: WI Sampling Point: OS2 DP1

Investigator(s): KB + AJ Section, Township, Range: S3 T25N R5W

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): NONE Slope (%): 1

Subregion (LRR or MLRA): LRR K Lat: 44 40 54.82 Long: -90 57 44.81 Datum: NAD83

Soil Map Unit Name: Fairchild & Merrillan soils NWI classification:

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

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

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

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

Hydrophytic Vegetation Present?	Yes Y	No	Is the Sampled Area within a Wetland? Yes Y No
Hydric Soil Present?	Yes Y	No	
Wetland Hydrology Present?	Yes Y	No	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

Photo # 128, 129

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	No X	Depth (inches):
Water Table Present?	Yes X	No	Depth (inches): 16
Saturation Present? (includes capillary fringe)	Yes X	No	Depth (inches): 5

Wetland Hydrology Present? Yes Y No

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 09201

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Carex Stricta	50	Y	OBL
2. Juncus tenuis	10	N	FAC
3. Eleocharis Obtusa	10	N	OBL
4. Persicaria sagittata	5	N	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	75 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
	_____ = Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No _____

Remarks: (Include photo numbers here or on a seperate sheet.)

SOIL

Sampling Point: 082D1

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	2.5Y 6/2	100					Sand	Fill
3-8	2.5Y 4/1	93	10YR 3/6	7	C	PL	Clay	lots of organics
8-20	2.5Y 5/1	100					loamy sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains

[2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Strum Lubin City/County: Eau Claire Co Sampling Date: 9/24/12

Applicant/Owner: DPC State: WI Sampling Point: 0822

Investigator(s): KB + AJ Section, Township, Range: S3 T25N R5W

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 2

Subregion (LRR or MLRA): LRR K Lat: 44 40 53.97 Long: -90 57 44.97 Datum: NAD83

Soil Map Unit Name: Fairchild & Merrillan soils NWI classification:

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

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

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

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

Hydrophytic Vegetation Present?	Yes X	No	Is the Sampled Area within a Wetland? Yes	No X
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes	No X	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

Photo # 130, 131, 132

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes No X

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 092D2

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. Prunus Serotina	2	N	FACU
2. Comptonia Peregrina	5	Y	UPL
3.			
4.			
5.			
6.			
7.			
	7 = Total Cover		
Herb Stratum (Plot size:)			
1. Rubus hispidus	30	Y	FACU
2. Bromus ciliatus	30	Y	FACW
3. Eutrochium virginianum	3	N	FACU
4. Potentilla Simplex	3	N	FACU
5. Calamagrostis canadensis	5	N	OBL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	71 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 66 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

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

SOIL

Sampling Point: 082D2

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 3	2.5Y 2.5/1	100					Sandy loam	
3 - 20	2.5Y 6/2	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

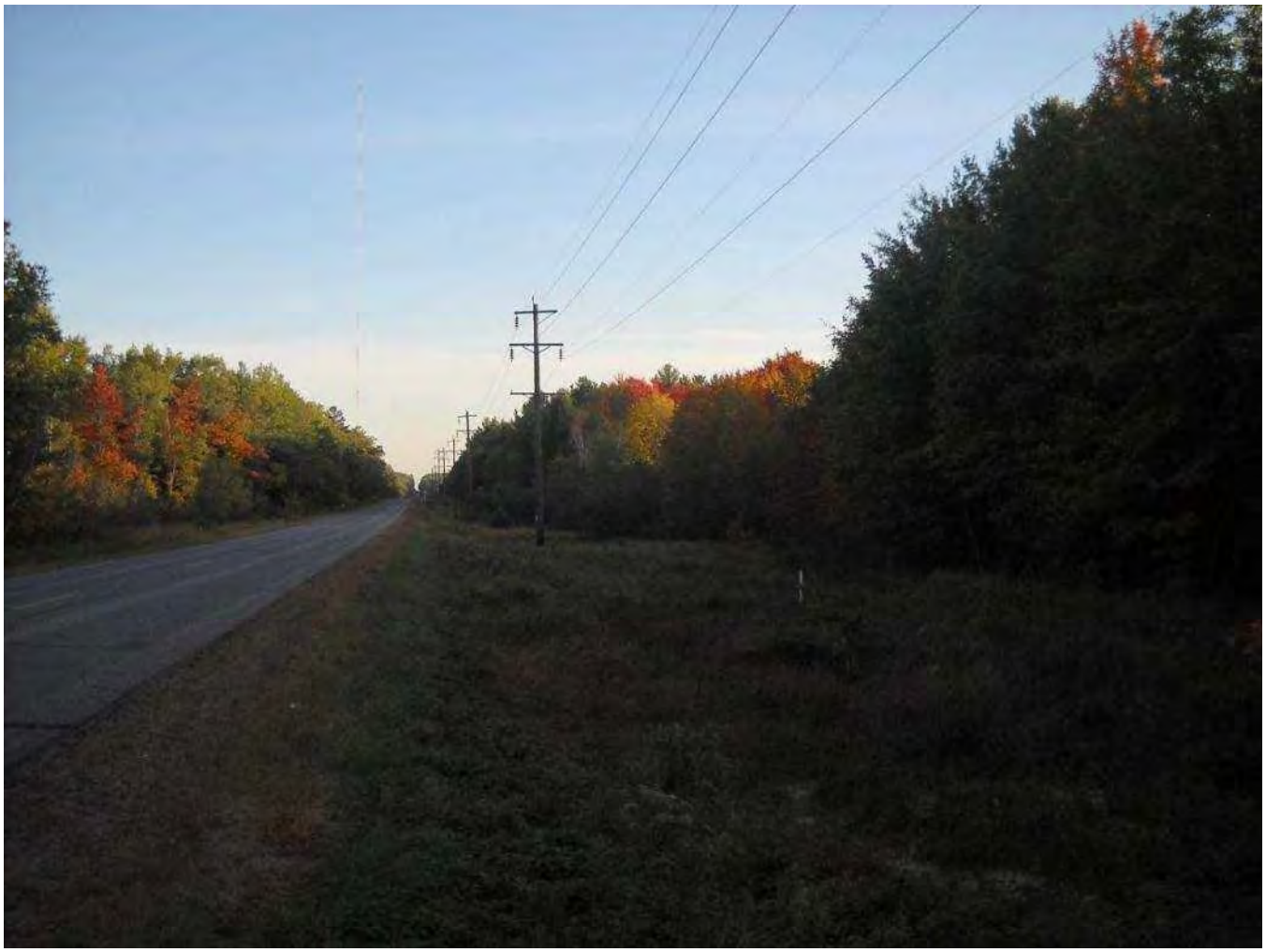
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Strum-Lublin 69kV (N-3) Transmission Line Rebuild Project

Phase I: Strum Tap to Willard Tap



DIRECTION	FEATURE ID	082D	DATE
South	PHOTOGRAPHER	Kathy Bellrichard and Apryl Jennrich	9/24/2012

COMMENTS

Wetland is located adjacent to unnamed intermittent tributary of Pea Creek.

084D

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Strum Lublin City/County: Eau Claire Co Sampling Date: 9/24/12

Applicant/Owner: DOC State: WI Sampling Point: 084DL

Investigator(s): KB + AJ Section, Township, Range: S34 T26N R5W

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): LRR F Lat: 44 41 38.05 Long: -90 57 44.74 Datum: NAD83

Soil Map Unit Name: Fairchild & Merrillan soils NWI classification:

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

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

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

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X	No ____	If yes, optional Wetland Site ID: ____
Wetland Hydrology Present?	Yes X	No ____	

Remarks: (Explain alternative procedures here or in a separate report.)

Photo # 133

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 6

Wetland Hydrology Present? Yes X No ____

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 084D1

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. Sambucus nigra	1	N	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	1 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Carex stricta	90	Y	OBL
2. Schoenplectus tabernaemontani	1	N	OBL
3. Rubus idaeus	1	N	FACU
4. Impatiens capensis	3	N	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	95 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- X 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No _____

Remarks: (Include photo numbers here or on a seperate sheet.)

SOIL

Sampling Point: 084101

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2								Organic/Peat
2-8	2.5Y 4/1	70	7.5YR 3/4	30	C	PL	Silty Clay loam	with sand leaves
8-13	2.5Y 2.5/1	97	7.5YR 3/3	3	C	PL	Silty Clay loam	Slightly Mucky
13-20	10YR 4/1	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ____

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Strum Lublin City/County: Eau Claire Co Sampling Date: 9/25/17

Applicant/Owner: DPC State: WI Sampling Point: 084 D2

Investigator(s): KB + AJ Section, Township, Range: S34 T26N R5W

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 3

Subregion (LRR or MLRA): LRR K Lat: 44 41 38.76 Long: 90 57 44.72 Datum: NAD 83

Soil Map Unit Name: Fairchild o Menrillan Soils NWI classification:

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

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

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

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

Hydrophytic Vegetation Present?	Yes X	No ____	Is the Sampled Area within a Wetland? Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

L

Photo # 134, 135

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 09402

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. Vaccinium corymbosum	20	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	20 = Total Cover		
Herb Stratum (Plot size:)			
1. Botrychium virginianum	7	N	FACW
2. Potentilla simplex	7	N	FACW
3. Rubus hispidus	70	Y	FACW
4. Andropogon gerardii	5	N	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	89 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- X 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

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

SOIL

Sampling Point: 08402

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/2	100					Sandy loam	
3-9	10YR 5/3	100					loamy sand	
9-15	10YR 5/6	100					loamy sand	
15-20	2.5Y 6/4	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains

[2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Strum-Lublin 69kV (N-3) Transmission Line Rebuild Project

Phase I: Strum Tap to Willard Tap

DIRECTION	FEATURE ID	084D	DATE
Southwest	PHOTOGRAPHER	Kathy Bellrichard and Apryl Jennrich	9/25/2012

087D

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Stum Lublin City/County: Eau Claire Co Sampling Date: 9/25/12

Applicant/Owner: DPC State: WI Sampling Point: 087D1

Investigator(s): KB+AJ Section, Township, Range: S27 T26N R5W

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): LRR K Lat: 44 42 20.92 Long: -90 57 44.87 Datum: NAD83

Soil Map Unit Name: ELm Lake loamy sand NWI classification:

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

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

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

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

Hydrophytic Vegetation Present?	Yes X	No	Is the Sampled Area within a Wetland? Yes X No
Hydric Soil Present?	Yes X	No	
Wetland Hydrology Present?	Yes X	No	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

Photo # 136

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes X	No ___	Depth (inches): 17
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 0

Wetland Hydrology Present? Yes X No ___

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 097D1

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. Pinus Strobus	3	N	FACU
2. Spiraea alba	5	Y	FACW
3. Alnus incana	3	N	FACW
4.			
5.			
6.			
7.			
	9 = Total Cover		
Herb Stratum (Plot size:)			
1. Solidago uliginosa	3	N	OBL
2. Schoenoplectus tabernaemontani	20	Y	OBL
3. Scirpus atrovirens	30	Y	OBL
4. Symphyotrichum puniceum	2	N	OBL
5. Sphagnum magellanicum	20	Y	
6. Glyceria canadensis	20	Y	OBL
7.			
8.			
9.			
10.			
11.			
12.			
	95 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- X 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

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

SOIL

Sampling Point: 09701

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2								Organics / Peat
2-9	2.5Y 3/1	100					Silty Clay Loam	
9-20	10YR 5/2	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- X 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ____

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Stum Lublin City/County: Eau Claire Co Sampling Date: 9/25/12

Applicant/Owner: DPC State: WI Sampling Point: 08702

Investigator(s): KB + AJ Section, Township, Range: S27 T26N R5W

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): None Slope (%): 5

Subregion (LRR or MLRA): LRR K Lat: 44 42 21.23 Long: -90 57 44.91 Datum: NAD83

Soil Map Unit Name: Elm Lake loamy sand NWI classification:

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

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

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

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

Hydrophytic Vegetation Present?	Yes ____	No X	Is the Sampled Area within a Wetland? Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

Photo # 137, 138

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 09TD2

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size:)			
1. Pinus Strobus	10	Y	FACU
2. Quercus rubra	3	N	FACU
3.			
4.			
5.			
6.			
7.			
	13 = Total Cover		

Herb Stratum (Plot size:)			
Pkg Liable			
1. Andropogon gerardii	20	Y	FACU
2. Schizachyrium scoparium	50	Y	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	70 = Total Cover		

Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	83	x 4 =	332
UPL species	0	x 5 =	0
Column Totals:	83 (A)		332 (B)

Prevalence Index = B/A = 4

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No X

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

Not Densely Vegetated

SOIL

Sampling Point: 08702

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/2	100					loamy sand	
3-11	7.5YR 4/6	100					sand	
11-16	10YR 7/6	100					sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Strum-Lublin 69kV (N-3) Transmission Line Rebuild Project

Phase I: Strum Tap to Willard Tap

DIRECTION	FEATURE ID	087D	DATE
South	PHOTOGRAPHER	Kathy Bellrichard and Apryl Jennrich	9/25/2012

COMMENTS

Wetland is located adjacent to unnamed intermittent tributary of Horse Creek.

089D

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Strum Lublin City/County: Eau Claire Co Sampling Date: 9/25/12

Applicant/Owner: DPC State: WI Sampling Point: 089D1

Investigator(s): KB + AJ Section, Township, Range: S23 T26N R5W

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR or MLRA): LRR K Lat: 44 42 44.58 Long: -90 57 43.77 Datum: NAD83

Soil Map Unit Name: Ludington & Humbird soils NWI classification:

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

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

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

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

Hydrophytic Vegetation Present?	Yes X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	If yes, optional Wetland Site ID: ____
Wetland Hydrology Present?	Yes X No ____	

Remarks: (Explain alternative procedures here or in a separate report.)

Photo # 139

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____ No X	Depth (inches): ____
Water Table Present?	Yes X No ____	Depth (inches): 15
Saturation Present? (includes capillary fringe)	Yes X No ____	Depth (inches): 0

Wetland Hydrology Present? Yes X No ____

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 089 D1

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size:)			
1. Glyceria canadensis	50	Y	OBL
2. Rubus hispidus	10	N	FACW
3. Scirpus cyperinus	7	N	OBL
4. Aaronia gigantea	10	N	FACW
5. Schoenoplectus tabernaemontani	7	N	OBL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	84 = Total Cover		

Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

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

SOIL

Sampling Point: 089D1

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2								Organic Peat
2-4	2.5Y 3/2	100					Sandy loam	
4-6	2.5Y 2.5/1	98	2.5Y 3/3	2	C	PL	Silty clay loam	Mucky
6-11	10YR 3/1	98	10YR 3/6	2	C	PL	loamy sand	
11-18	10YR 5/2	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains

[2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Stum Lublin City/County: Eau Claire Co Sampling Date: 9/25/12

Applicant/Owner: DPC State: WI Sampling Point: 089 D2

Investigator(s): KB + AJ Section, Township, Range: S27 T26N R5W

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): None Slope (%): 4

Subregion (LRR or MLRA): LRR K Lat: 44 42 42.25 Long: -90 57 45.26 Datum: NAD83

Soil Map Unit Name: Ludington + Humbird Soils NWI classification:

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

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

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

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

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

Photo # 140

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: DP9D2

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. Quercus rubra	10	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	10 = Total Cover		
Herb Stratum (Plot size:)			
1. Festuca pratensis	40	Y	FACU
2. Rubus hispidus	10	N	FACW
3. Eragrostis spectabilis	5	N	UPL
4. Potentilla simplex	5	N	FACU
5. Bromus ciliatus	7	N	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	67 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of		Multiply by:	
OBL species	0	x 1 =	0
FACW species	17	x 2 =	34
FAC species	0	x 3 =	0
FACU species	55	x 4 =	220
UPL species	5	x 5 =	25
Column Totals:	77 (A)		279 (B)

Prevalence Index = B/A = 3.6

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

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

SOIL

Sampling Point: 04902

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 4/3	100					Sandy loam	
1-12	7.5YR 4/6	100					Sand	
12-18	10YR 5/8	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Strum-Lublin 69kV (N-3) Transmission Line Rebuild Project

Phase I: Strum Tap to Willard Tap

DIRECTION	FEATURE ID	089D	DATE
South	PHOTOGRAPHER	Kathy Bellrichard and Apryl Jennrich	9/25/2012

092D

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Stum Lublin City/County: Eau Claire Co Sampling Date: 9/25/12

Applicant/Owner: DPC State: WI Sampling Point: 092D1

Investigator(s): KR + AJ Section, Township, Range: S23 T26N R5W

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): LRR K Lat: 44 42 44.91 Long: -90 56 56.53 Datum: NAD83

Soil Map Unit Name: Alluvial land NWI classification:

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

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

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

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

Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Area within a Wetland? Yes X No
Hydric Soil Present?	Yes X No	
Wetland Hydrology Present?	Yes X No	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

Photo # 141 (proposed pole location), 142

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes X No ___

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 0920

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. Spiraea alba	3	N	FACW
2. Rubus allegheniensis	7	Y	FACU
3.			
4.			
5.			
6.			
7.			
	10 = Total Cover		
Herb Stratum (Plot size:)			
1. Rubus hispidus	10	N	FACW
2. Carex stricta	80	Y	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	90 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of		Multiply by:	
OBL species	80	x 1 =	80
FACW species	13	x 2 =	26
FAC species	0	x 3 =	0
FACU species	7	x 4 =	28
UPL species	0	x 5 =	0
Column Totals:	100 (A)		134 (B)

Prevalence Index = B/A = 1.34

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

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

SOIL

Sampling Point: C92D1

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 4/3	100					loam	
3-8	2.5Y 6/3	90	10YR 5/6	10	C	PL	clay loam	
8-12	10YR 3/1	100					Silt loam	Organics
12-18	2.5Y 5/2	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ____

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Strum Lublin City/County: Eau Claire Co Sampling Date: 9/25/12

Applicant/Owner: DPC State: WI Sampling Point: 092D2

Investigator(s): KB+AJ Section, Township, Range: S23 T26N R5W

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 1

Subregion (LRR or MLRA): LRR K Lat: 44 42 45.15 Long: 90 56 57.14 Datum: NAD83

Soil Map Unit Name: Alluvial land NWI classification: _____

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

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

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

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

Hydrophytic Vegetation Present?	Yes _____	No X	Is the Sampled Area within a Wetland? Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

Photo # 143, 144, 145

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 092D2

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus Strobus	20	Y	FACU
2. Quercus rubra	20	Y	FACU
3.			
4.			
5.			
6.			
7.			
	40	= Total Cover	

Sapling/Shrub Stratum (Plot size:)			
1. Pinus strobus	5	Y	FACU
2. Quercus rubra	1	N	FACU
3.			
4.			
5.			
6.			
7.			
	6	= Total Cover	

Herb Stratum (Plot size:)			
1. Bromus inermis	20	Y	UPL
2. Spartina pectinata	1	N	FACW
3. Calamagrostis canadensis	25	Y	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	46	= Total Cover	

Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 20 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	1	x 2 =	2
FAC species	0	x 3 =	0
FACU species	46	x 4 =	184
UPL species	20	x 5 =	100
Column Totals:	92 (A)		311 (B)

Prevalence Index = B/A = 3.3

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

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

SOIL

Sampling Point: 0920 2

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 4/2	100					loam	
3-11	10YR 4/3	100					Sandy loam	
11-18	2.5Y 6/4	100					Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Strum-Lublin 69kV (N-3) Transmission Line Rebuild Project

Phase I: Strum Tap to Willard Tap

DIRECTION	FEATURE ID	092D	DATE
Northwest	PHOTOGRAPHER	Kathy Bellrichard and Apryl Jennrich	9/25/2012

COMMENTS

Wetland is located adjacent to Horse Creek (seen in center frame).

093

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Stern Lublin City/County: Eau Claire Co Sampling Date: 9/25/12

Applicant/Owner: DPC State: WI Sampling Point: 093D1

Investigator(s): KB + AJ Section, Township, Range: S24 T26N R5W

Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): None Slope (%): 1

Subregion (LRR or MLRA): LRR K Lat: 44 42 45.00 Long: -90 56 26.06 Datum: NAD83

Soil Map Unit Name: Fairchild & Merrillan Soils NWI classification:

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

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

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

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

Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Area within a Wetland? Yes No X
Hydric Soil Present?	Yes No X	
Wetland Hydrology Present?	Yes No X	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

Photo # 146

Structure #168

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ✓ FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes ___ No X

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 093D1

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size:)			
1. Rubus hispidus	70	Y	FACW
2. Calamagrostis canadensis	10	N	OBL
3. Scirpus cyperinus	2	N	OBL
4. Spartina pectinata	2	N	FACW
5. Schoenoplectus tabernaemontani	5	N	OBL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	89 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- X 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No _____

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

SOIL

Sampling Point: 0930 1

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 4	10YR 4/1	100					Sandy loam	
4 - 8	10YR 4/2	100					Silt loam	
8 - 14	2.5Y 4/2	98	10YR 4/6	2	C	PL	Sandy loam	clay lens at 15"
								redox decreasing with depth

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains

[2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

095D

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Strum Lublin City/County: Eau Claire Co. Sampling Date: 9/25/12

Applicant/Owner: DPC State: WI Sampling Point: 095 D1

Investigator(s): KB + AJ Section, Township, Range: S24 T25N R5W

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): none Slope (%): 1

Subregion (LRR or MLRA): LRR K Lat: 44 42 45.09 Long: -90 55 45.48 Datum: NAD83

Soil Map Unit Name: Ludington + Humbird soils NWI classification:

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

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

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

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

Hydrophytic Vegetation Present?	Yes X	No	Is the Sampled Area within a Wetland? Yes X No
Hydric Soil Present?	Yes X	No	
Wetland Hydrology Present?	Yes X	No	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

Structure # 176

photo # 147

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes X No

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 0950

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size:)			
1. Rubus hispidus	50	Y	FAC
2. Scirpus cyperinus	15	N	OBL
3. Schoenoplectus tabernaemontani	15	N	OBL
4. Juncus tenuis	10	N	FAC
5. Calamagrostis canadensis	2	N	OBL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	92 = Total Cover		

Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No _____

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

SOIL Sampling Point: 0950I

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/1	100					Silt loam	
3-14	10YR 4/2	100					Sand	
14-18	2.5Y 6/4	95	10YR 4/6	5	C	PL	loamy sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Strum Lublin City/County: Eau Claire Co Sampling Date: 9/25/12

Applicant/Owner: DPC State: WI Sampling Point: 095D2

Investigator(s): KB + AJ Section, Township, Range: S24 T26N R5W

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%) 3

Subregion (LRR or MLRA): LRR K Lat: 44 42 45.07 Long: -90 55 44.19 Datum: NAD83

Soil Map Unit Name: Fairchild + Merrillan soils NWI classification:

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

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

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

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

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

Photo # 148, 149

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 095D2

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. Rubus allegheniensis	5	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	5 = Total Cover		
Herb Stratum (Plot size:)			
1. Festuca pratensis	90	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	90 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	95	x 4 =	380
UPL species	0	x 5 =	0
Column Totals:	95 (A)		380 (B)

Prevalence Index = B/A = 4

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

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

SOIL

Sampling Point: 0952

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 4/2	100					loam	
5-18	10YR 5/4	100					loamy sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Strum-Lublin 69kV (N-3) Transmission Line Rebuild Project

Phase I: Strum Tap to Willard Tap

DIRECTION	FEATURE ID	095D	DATE
Northeast	PHOTOGRAPHER	Kathy Bellrichard and Apryl Jennrich	9/25/2012

102D

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Stream Lublin City/County: Clark Co Sampling Date: 9/25/12

Applicant/Owner: DPC State: WI Sampling Point: 10201

Investigator(s): KB+AJ Section, Township, Range: S17 T26N R4W

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR or MLRA): LRR K Lat: 44 43 55.23 Long: -90 53 2.58 Datum: NAD83

Soil Map Unit Name: Fairchild-Elm Lake complex NWI classification:

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

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

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

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

Hydrophytic Vegetation Present?	Yes X No ____	Is the Sampled Area within a Wetland? Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)

Structure 219

Photo 150

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes X No ____ Depth (inches): 3

Wetland Hydrology Present? Yes X No ____

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 1020D1

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. Salix discolor	10	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	10 = Total Cover		
Herb Stratum (Plot size:)			
1. Persicaria sagittata	40	Y	OBL
2. Symphotrichum puniceum	1	N	OBL
3. Scirpus cyperinus	10	N	OBL
4. Scirpus atrovirens	30	Y	OBL
5. Botrychium lanceolatum	10	N	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	91 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- X 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

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

SOIL

Sampling Point: 102 D1

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/2	97	10YR 3/6	7	C	PL	Silty clay loam	
4-11	10YR 2/1	100					Sandy loam	slightly mucky
11-17	10YR 3/6	100					Sand	
17-19	10YR 5/4	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Strum Lublin City/County: Clark co Sampling Date: 9/25/12

Applicant/Owner: DPC State: WI Sampling Point: 102D2

Investigator(s): KB + AJ Section, Township, Range: S17 T26N R4W

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 1

Subregion (LRR or MLRA): LRR K Lat: 44 43 54.44 Long: -90 63 2.45 Datum: NAD83

Soil Map Unit Name: Ludington-Fairchild sands NWI classification:

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

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

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

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

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	If yes, optional Wetland Site ID: ____
Wetland Hydrology Present?	Yes ____	No X	

Remarks: (Explain alternative procedures here or in a separate report.)

Photo # 151, 152

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 10202

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size:)			
1. Quercus rubra	1	N	FACU
2. Comptonia peregrina	7	Y	UPL
3.			
4.			
5.			
6.			
7.			
	8 = Total Cover		

Herb Stratum (Plot size:)			
1. Poa Compressa	60	Y	FACU
2. Rubus hispidus	25	Y	FACW
3. Botrypus virginianus	5	N	FACU
4. Solidago canadensis	5	N	FACU
5. Symphyotrichum lateriflorum	2	N	FAC
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	97 = Total Cover		

Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	25	x 2 =	50
FAC species	2	x 3 =	6
FACU species	71	x 4 =	284
UPL species	7	x 5 =	35
Column Totals:	105 (A)		375 (B)

Prevalence Index = B/A = 3.5

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

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

SOIL Sampling Point: 102 DP

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/3	100					Sandy loam	
4-8	10YR 4/4	100					Sandy loam	
8-12	10YR 4/6	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Strum-Lublin 69kV (N-3) Transmission Line Rebuild Project

Phase I: Strum Tap to Willard Tap

DIRECTION	FEATURE ID	102D	DATE
Northeast	PHOTOGRAPHER	Kathy Bellrichard and Apryl Jennrich	9/25/2012

105

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Strum Luhlin City/County: Clark C. Sampling Date: 9/26/12

Applicant/Owner: DPC State: WI Sampling Point: 105A1

Investigator(s): KB + AJ Section, Township, Range: S17 T26N R4W

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): LRR K Lat: 44 44 1.67 Long: -90 52 55.68 Datum: NAD 83

Soil Map Unit Name: Ludington-Fairchild sands 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 N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

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

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

Hydrophytic Vegetation Present?	Yes X No ____	Is the Sampled Area within a Wetland? Yes ____ No X
Hydric Soil Present?	Yes ____ No X	If yes, optional Wetland Site ID: ____
Wetland Hydrology Present?	Yes X No ____	

Remarks: (Explain alternative procedures here or in a separate report.)

Photo # 153

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes X No ____

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 105D1

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size:)			
1. Alnus incana	20	Y	FACW
2. Quercus rubra	1	N	FACU
3.			
4.			
5.			
6.			
7.			
	21 = Total Cover		

Herb Stratum (Plot size:)			
1. Schoenoplectus tabernaemontani	5	N	OBL
2. Scirpus cyperinus	1	N	OBL
3. Eupatorium perfoliatum	2	N	FACW
4. Carex cryptolepis	75	Y	OBL
5. Rubus hispidus	3	N	FACW
6. Potentilla simplex	3	N	FACU
7. Juncus tenuis	7	N	FAC
8.			
9.			
10.			
11.			
12.			
	96 = Total Cover		

Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- X 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

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

SOIL

Sampling Point: 1051

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	2.5Y 6/2	97	10YR 4/6	3	C	PL	loamy Sand	redox only 0-2
5-8	2.5Y 5/2	100					Sand	
8-12	2.5Y 4/2	100					Sand	
12-18	10YR 4/6	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

108

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Stura Lublin City/County: Clark Co Sampling Date: 9/26/12

Applicant/Owner: DPC State: WI Sampling Point: 109D1

Investigator(s): KB + AJ Section, Township, Range: S16 T26N R4W

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): LRR K Lat: 44 44 13.82 Long: -90 52 17.71 Datum: NA

Soil Map Unit Name: Ludington Sand NWI classification:

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

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

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

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

Hydrophytic Vegetation Present?	Yes X No ____	Is the Sampled Area within a Wetland? Yes ____ No X
Hydric Soil Present?	Yes ____ No X	
Wetland Hydrology Present?	Yes X No ____	If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)

Photo # 154

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes X No ____

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 104D1

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. Spiraea alba	10	Y	FACW
2. Populus tremuloides	7	N	FACU
3.			
4.			
5.			
6.			
7.			
	17 = Total Cover		
Herb Stratum (Plot size:)			
1. Calamagrostis canadensis	40	Y	OBL
2. Triplasis purpurea	2	N	UPL
3. Agrostis hyemalis	20	Y	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	62 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (Include photo numbers here or on a seperate sheet.)

SOIL Sampling Point: 1080

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 4/2	100					loam	
2-3	10YR 3/1	100					loam	
3-6	10YR 5/1	100					Sandy loam	
6-18	10YR 6/2	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

110

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Strum Lublin City/County: Clark Co Sampling Date: 9/26/12

Applicant/Owner: DPC State: WI Sampling Point: 11DD1

Investigator(s): KB+AJ Section, Township, Range: S15 T26N R4W

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): none Slope (%): 1-2

Subregion (LRR or MLRA): LRR K Lat: 44 44 19.71 Long: -90 51 38.48 Datum: NAD83

Soil Map Unit Name: Pelkie-Winterfield loamy fine sands NWI classification: PFOIC

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

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

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

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

Hydrophytic Vegetation Present?	Yes ____	No X	Is the Sampled Area within a Wetland? Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)

Photo # 155

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 110D1

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. Corylus americana	75	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	= Total Cover		
Woody Vine Stratum (Plot size:)			
1. Smilax rotundifolia	10	Y	FAC
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	75	x 4 =	300
UPL species	0	x 5 =	0
Column Totals:	85 (A)		330 (B)

Prevalence Index = B/A = 3.8

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

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

SOIL Sampling Point: 100D

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/3	98	10YR 3/6	2	C	PL	Silt loam	
6-17	10YR 5/3	97	10YR 4/6	3	C	PL	Sandy loam	
17-19	10YR 3/2	97	10YR 3/6	3	C	PL	Silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Stump Lublin City/County: Clark Co Sampling Date: 9/26/12
Applicant/Owner: DPC State: WI Sampling Point: UPD2
Investigator(s): KB + AJ Section, Township, Range: S15 T26N R4W
Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): None Slope (%): 0
Subregion (LRR or MLRA): LRR K Lat: 44 44 20.26 Long: -90 51 35.31 Datum: NAD83
Soil Map Unit Name: Pelkie-Winterfield loamy fine sands NWI classification: PFO1C
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____	No X	Is the Sampled Area within a Wetland? Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)

Structure 241
Plots 156-160

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 110D2

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. Rubus allegheniensis	30	Y	FACU
2. Corylus americana	7	N	FACU
3.			
4.			
5.			
6.			
7.			
	37 = Total Cover		
Herb Stratum (Plot size:)			
1. Triplasis purpurea	2	N	UPL
2. Andropogon gerardii	30	Y	FACU
3. Poa pratensis	50	Y	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	82 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	117	x 4 =	468
UPL species	2	x 5 =	25
Column Totals:	119 (A)		493 (B)

Prevalence Index = B/A = 4.1

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks: (Include photo numbers here or on a seperate sheet.)

SOIL

Sampling Point: 1102

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 4/3	100					Sandy loam	
7-20	10YR 6/3	100					Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

114D

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Stum Lublin City/County: Clark Sampling Date: 9/26/12

Applicant/Owner: DPC State: WI Sampling Point: 114D1

Investigator(s): KB + AJ Section, Township, Range: S11 T26N R4W

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR or MLRA): LRR K Lat: 44 44 30.46 Long: -90 50 22.57 Datum: NAD 83

Soil Map Unit Name: Ludington-Fairchild sands NWI classification:

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

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

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

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

Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Area within a Wetland? Yes X No
Hydric Soil Present?	Yes X No	
Wetland Hydrology Present?	Yes X No	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

Photo # 164

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes X	No ___	Depth (inches): 17
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 0

Wetland Hydrology Present? Yes X No ___

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 1140

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size:)			
1. Calamagrostis Canadensis	40	Y	OBL
2. Juncus tenuis	5	N	FAC
3. Solidago gigantea	15	N	FACW
4. Scirpus Cyperinus	30	Y	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	90 = Total Cover		

Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- X 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

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

SOIL Sampling Point: UHD1

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 2/1	100					Silt loam	slightly mucky
4-20	2.5Y 6/2	100-95	10YR 4/6	0-5	C	PL	Sand	decreasing redox w/depth

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- X Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Strum Lublin City/County: Clark Co Sampling Date: 9/26/12

Applicant/Owner: DPC State: WI Sampling Point: 114D2

Investigator(s): KB + AJ Section, Township, Range: S11 T26N R4W

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 2

Subregion (LRR or MLRA): LRR K Lat: 44 44 30.26 Long: -90 50 21.72 Datum: NAD83

Soil Map Unit Name: Lunington-Fairchild sands NWI classification:

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

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

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

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

Hydrophytic Vegetation Present?	Yes ____	No X	Is the Sampled Area within a Wetland? Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)

structure 258

Photo # 165, 166

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 11402

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size:)			
1. Rubus hispidus	20	Y	FACW
2. Calamagrostis canadensis	3	N	OBL
3. Poa pratensis	50	Y	FACU
4. Solidago albissima	10	N	FACU
5. Solidago Canadensis	7	N	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	90 = Total Cover		

Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	3	x 1 =	3
FACW species	20	x 2 =	40
FAC species	0	x 3 =	0
FACU species	67	x 4 =	268
UPL species	0	x 5 =	0
Column Totals:	90 (A)		311 (B)

Prevalence Index = B/A = 3.41

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

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

SOIL Sampling Point: 1402

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 – 6	10YR 3/2	100					Sandy loam	
6 – 17	10YR 5/3	100					Sand	with gravel
17-20	10YR 5/4	98	10YR 5/6	2	C	PL	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Strum-Lublin 69kV (N-3) Transmission Line Rebuild Project

Phase I: Strum Tap to Willard Tap

DIRECTION	FEATURE ID	114D	DATE
East	PHOTOGRAPHER	Kathy Bellrichard and Apryl Jennrich	9/26/2012

116D

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Strum Lublin City/County: Clark Co Sampling Date: 9/26/12
Applicant/Owner: DPC State: WI Sampling Point: 116D1
Investigator(s): KB+AJ Section, Township, Range: S11 T26N R4W
Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 1
Subregion (LRR or MLRA): LRR K Lat: 44 44 30.27 Long: -90 50 10.51 Datum: NAD83
Soil Map Unit Name: Ludington-Fairchild sands NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X No ____	Is the Sampled Area within a Wetland? Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

Structure #261

Photo #167

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): ____
Water Table Present? Yes X No ____ Depth (inches): 19
Saturation Present? (includes capillary fringe) Yes X No ____ Depth (inches): 0

Wetland Hydrology Present? Yes X No ____

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 116D1

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. Rubus idaeus	2	N	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	2 = Total Cover		
Herb Stratum (Plot size:)			
1. Calamagrostis canadensis	5	N	OBL
2. Scirpus cyperinus	30	Y	OBL
3. Glyceria canadensis	25	Y	OBL
4. Symphyotrichum lanceolatum	20	Y	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	80 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- X 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

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

SOIL

Sampling Point: 11601

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	7.5YR 4/3	100					silty clay loam	
3-8	10YR 2/1	96	7.5Y 3/4	2	C	PL	silt loam	slightly mucky
8-20	2.5Y 5/2	97	10YR 4/6	3	C	PL	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- X Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ____

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Strum Lublin City/County: Clark Co Sampling Date: 9/26/12
Applicant/Owner: DPC State: WI Sampling Point: 116D2
Investigator(s): KB + AJ Section, Township, Range: S11 T26N R4W
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): _____ Slope (%): 3-5
Subregion (LRR or MLRA): LRR K Lat: 44 44 30.26 Long: -90 50 10.26 Datum: NAD 83
Soil Map Unit Name: Ludington-Fairchild sands NWI classification: _____
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____	No X	Is the Sampled Area within a Wetland? Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

Photo # 168, 169

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 11602

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. Comptonia Peregrina	40	Y	UPL
2.			
3.			
4.			
5.			
6.			
7.			
	40 = Total Cover		
Herb Stratum (Plot size:)			
1. Rubus hispidus	20	Y	FACW
2. Solidago canadensis	15	N	FACU
3. Solidago altissima	30	Y	FACU
4. Poa Pratensis	20	Y	FACU
5. Holcus lanatus	1	N	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	86 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 25 (A/B)

Prevalence Index worksheet:

Total % Cover of		Multiply by:	
OBL species	0	x 1 =	0
FACW species	20	x 2 =	40
FAC species	0	x 3 =	10
FACU species	66	x 4 =	264
UPL species	40	x 5 =	200
Column Totals:	126 (A)		504 (B)

Prevalence Index = B/A = 4

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

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

SOIL

Sampling Point: 11602

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	100					loam	
4-11	10YR 4/4	100					sandy loam	
11-18	10YR 3/1	100					sandy loam	
18-20	10YR 4/2	100					loamy sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Strum-Lublin 69kV (N-3) Transmission Line Rebuild Project

Phase I: Strum Tap to Willard Tap

DIRECTION	FEATURE ID	116D	DATE
East	PHOTOGRAPHER	Kathy Bellrichard and Apryl Jennrich	9/26/2012

118D

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Strum Lublin City/County: Clark Co Sampling Date: 9/26/12

Applicant/Owner: DPC State: WI Sampling Point: 11RD1

Investigator(s): KB + AJ Section, Township, Range: S11 T26N R4W

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR or MLRA): LRR K Lat: 44 44 30.50 Long: -90 49 48.42 Datum: NAD83

Soil Map Unit Name: Ludington Sand NWI classification:

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

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

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

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

Hydrophytic Vegetation Present?	Yes X No ____	Is the Sampled Area within a Wetland?	Yes X No ____
Hydric Soil Present?	Yes X No ____	If yes, optional Wetland Site ID:	
Wetland Hydrology Present?	Yes X No ____		

Remarks: (Explain alternative procedures here or in a separate report.)

Photo # 170

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 5

Wetland Hydrology Present? Yes X No ____

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 11901

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size:)			
1. Glyceria canadensis	85	Y	OBL
2. Scirpus cyperinus	5	N	OBL
3. Symphyotrichum lanceolatum	5	N	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	95 = Total Cover		

Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

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

SOIL

Sampling Point: UPD1

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/2	100					Silty clay loam	
3-5	10YR 6/3	98	10YR 4/6	2	C	PL	Sand	
5-10	10YR 3/1	98	10YR 3/6	2	C	PL	loamy Sand	
10-18	2.5Y 6/2	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (LRR R, MLRA 149B)
- ___ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ___ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ___ Loamy Mucky Mineral (F1) (LRR K, L)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ___ Coast Prairie Redox (A16) (LRR K, L, R)
- ___ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ___ Dark Surface (S7) (LRR K, L, M)
- ___ Polyvalue Below Surface (S8) (LRR K, L)
- ___ Thin Dark Surface (S9) (LRR K, L)
- ___ Iron-Manganese Masses (F12) (LRR K, L, R)
- ___ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ___ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Strum Lublin City/County: Clark Co Sampling Date: 9/26/12

Applicant/Owner: DPC State: WI Sampling Point: 118D2

Investigator(s): KB+AJ Section, Township, Range: S11 T26N R4W

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 1-2

Subregion (LRR or MLRA): LRR K Lat: 44 44 30.52 Long: -90 49 49.05 Datum: NAD83

Soil Map Unit Name: Ludington sand NWI classification:

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

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

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

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

Hydrophytic Vegetation Present?	Yes	No X	Is the Sampled Area within a Wetland? Yes No X
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes	No X	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

Photo 171, 172

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes No X

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 11902

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size:)			
1. Comptonia peregrina	3	N	UPL
2.			
3.			
4.			
5.			
6.			
7.			
	3 = Total Cover		

Herb Stratum (Plot size:)			
1. Potentilla simplex	10	Y	FACU
2. Muhlenbergia glomerata	2	N	OBL
3. Triplasis purpurea	15	Y	UPL
4. Carex cryptolepis	5	N	OBL
5. Erigeron annuus	1	N	FACU
6. Rubus hispidus	10	Y	FACW
7. Scirpus cyperinus	3	N	OBL
8. Glyceria canadensis	5	N	OBL
9.			
10.			
11.			
12.			
	51 = Total Cover		

Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	11	x 4 =	44
UPL species	18	x 5 =	90
Column Totals:	54 (A)		169 (B)

Prevalence Index = B/A = 3.1

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

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

SOIL

Sampling Point: 11802

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 7	10YR 4/3	97	10YR 3/6	3	C	PL	Sandy loam	Redox decreases with depth
7 - 13	10YR 6/6	100					loamy sand	
13 - 18	10YR 6/4	100					sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (LRR R, MLRA 149B)
- ___ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ___ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ___ Loamy Mucky Mineral (F1) (LRR K, L)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ___ Coast Prairie Redox (A16) (LRR K, L, R)
- ___ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ___ Dark Surface (S7) (LRR K, L, M)
- ___ Polyvalue Below Surface (S8) (LRR K, L)
- ___ Thin Dark Surface (S9) (LRR K, L)
- ___ Iron-Manganese Masses (F12) (LRR K, L, R)
- ___ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ___ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Strum-Lublin 69kV (N-3) Transmission Line Rebuild Project

Phase I: Strum Tap to Willard Tap

DIRECTION	FEATURE ID	118D	DATE
East	PHOTOGRAPHER	Kathy Bellrichard and Apryl Jennrich	9/26/2012

119D

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Strum Lublin City/County: Clark Co Sampling Date: 9/27/12

Applicant/Owner: DPC State: WI Sampling Point: 119D1

Investigator(s): KB + AJ Section, Township, Range: S11 T26N R4W

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR or MLRA): LRR K Lat: 44 44 30.161 Long: -90 49 38.50 Datum: NAD 83

Soil Map Unit Name: Fairchild - Elm Lake complex NWI classification:

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

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

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

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

Hydrophytic Vegetation Present?	Yes X No ____	Is the Sampled Area within a Wetland? Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)

Structure 270

Photo # 173

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0

Wetland Hydrology Present? Yes X No ____

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 1901

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size:)			
1. Glyceria canadensis	60	Y	OBL
2. Rubus hispidus	20	Y	FACW
3. Botrychium lanceolatum	5	N	FACW
4. Scirpus cyperinus	5	N	OBL
5. Dryopteris cristata	5	N	OBL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	95 = Total Cover		

Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- X 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

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

SOIL Sampling Point: 1191

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 2/1							Organics
1-20	10YR 2/1	100-90	10YR 3/3	0-10	C	PL	Silt loam	Mucky, redox increase with depth

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- X Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Strum Lublin City/County: Clark Co Sampling Date: 9/27/12

Applicant/Owner: DPC State: WI Sampling Point: 119D2

Investigator(s): KB + AJ Section, Township, Range: S11 T26N R4W

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 3-5

Subregion (LRR or MLRA): LRR F Lat: 44 44 30.61 Long: 90 49 39.81 Datum: NAD83

Soil Map Unit Name: Fairchild-Elm Lake complex NWI classification:

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

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

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

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

Hydrophytic Vegetation Present?	Yes ___ No X	Is the Sampled Area within a Wetland? Yes ___ No X
Hydric Soil Present?	Yes ___ No X	
Wetland Hydrology Present?	Yes ___ No X	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

Photo 174, 175

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes ___ No X

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 11902

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. Populus tremuloides	5	Y	FACU
2. Populus grandidentata	1	N	FACU
3. Salix discolor	2	N	FACW
4.			
5.			
6.			
7.			
	8 = Total Cover		
Herb Stratum (Plot size:)			
1. Triplasis purpurea	10	N	UPL
2. Botrychium virginianum	1	N	FACU
3. Bromus ciliatus	15	N	FACW
4. Solidago altissima	5	N	FACU
5. Poa pratensis	50	Y	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	81 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	17	x 2 =	34
FAC species	0	x 3 =	0
FACU species	62	x 4 =	248
UPL species	10	x 5 =	50
Column Totals:	89 (A)		332 (B)

Prevalence Index = B/A = 3.7

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

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

SOIL Sampling Point: 1902

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 5/2	100					loam	
3-18	7.5YR 5/6	100					Sandy loam with small gravel	and sand lenses

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Strum-Lublin 69kV (N-3) Transmission Line Rebuild Project

Phase I: Strum Tap to Willard Tap

DIRECTION	FEATURE ID	119D	DATE
East	PHOTOGRAPHER	Kathy Bellrichard and Apryl Jennrich	9/27/2012

120D

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Stum Lublin City/County: Clark Co Sampling Date: 9/27/12

Applicant/Owner: DPC State: WI Sampling Point: 120P1

Investigator(s): KB + AJ Section, Township, Range: S11 T26N R4W

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR or MLRA): LRR K Lat: 44 44 30.66 Long: -90 49 30.10 Datum: NAD83

Soil Map Unit Name: Fairchild-Elmlake complex NWI classification:

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

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

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

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

Hydrophytic Vegetation Present?	Yes X No ____	Is the Sampled Area within a Wetland? Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

Phots 177, 178

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes X No ____

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 120D1

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. Rubus idaeus	3	N	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	3 = Total Cover		
Herb Stratum (Plot size:)			
1. Calamagrostis canadensis	20	Y	OBL
2. Scirpus cyperinus	50	Y	OBL
3. Polygonum sagittatum	5	N	OBL
4. Glyceria canadensis	7	N	OBL
5. Symphyotrichum lanceolatum	10	N	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	92 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- [X] 1 - Rapid Test for Hydrophytic Vegetation
- [ ] 2 - Dominance Test is >50%
- [ ] 3 - Prevalence Index is ≤3.0[1]
- [ ] 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No _____

Remarks: (Include photo numbers here or on a seperate sheet.)

SOIL Sampling Point: 120D1

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	2.5Y 3/1	93	7.5YR 2.5/3	7	C	PL	silty clay loam	
12-15	Gley 2.5/N	25	7.5YR 2.5/3	75	C	PL	silty clay loam	
15-19	2.5Y 6/2	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Strum Zublin City/County: Clark Co Sampling Date: 9/27/12

Applicant/Owner: DPC State: WI Sampling Point: 120D2

Investigator(s): KB + AJ Section, Township, Range: S11 T26N R4W

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 2

Subregion (LRR or MLRA): LRR K Lat: 44 44 30.62 Long: -90 49 27.92 Datum: NAD83

Soil Map Unit Name: Fairchild-Elmlake complex NWI classification:

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

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

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

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

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

Structure 273

Structure 273

Photo # 176

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 120D2

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. Populus tremuloides	2	N	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	2 = Total Cover		
Herb Stratum (Plot size:)			
1. Rubus hispidus	30	Y	FACW
2. Bromus ciliatus	15	N	FACU
3. Tripleurospermum perforatum	20	Y	UPL
4. Poa pratensis	20	Y	FACU
5. Potentilla simplex	5	N	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	90 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	45	x 2 =	90
FAC species	0	x 3 =	0
FACU species	27	x 4 =	108
UPL species	20	x 5 =	100
Column Totals:	92 (A)		298 (B)

Prevalence Index = B/A = 3.2

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

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

SOIL Sampling Point: 120D2

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/1	100					loam	
3-12	10YR 4/2	100					sandy loam	
12-13								charcoal
13-19	2.5Y 5/3	100					loamy sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Strum-Lublin 69kV (N-3) Transmission Line Rebuild Project

Phase I: Strum Tap to Willard Tap

DIRECTION	FEATURE ID	120D	DATE
Northeast	PHOTOGRAPHER	Kathy Bellrichard and Apryl Jennrich	9/27/2012

123D

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Stum Lublin City/County: Clark Co Sampling Date: 9/27/12
Applicant/Owner: DPC State: WI Sampling Point: 123D1
Investigator(s): KB + AJ Section, Township, Range: S12 T26N R4W
Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): None Slope (%): 1
Subregion (LRR or MLRA): LRR K Lat: 44 44 31.57 Long: -90 48 28.44 Datum: NAD 83
Soil Map Unit Name: Fairchild-Elm Lake complex NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X No ____	Is the Sampled Area within a Wetland? Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

Photo # 179

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes X	No ____	Depth (inches): 15
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 8

Wetland Hydrology Present? Yes X No ____

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 123D1

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. Prunus pensylvanica	1	N	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	1 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Carex stricta	85	Y	OBL
2. Phalaris arundinacea	10	N	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	95 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- X 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No _____

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

SOIL Sampling Point: 12301

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	7.5YR 4/4	100					Silty clay loam	
4-8	2.5Y 5/2	100					Sand	organic streaking
8-10	10YR 2/1	100					Silt loam	Mucky
10-18	2.5Y 4/2	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- X Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (If observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Strum Lublin City/County: Clark Co Sampling Date: 9/27/12
Applicant/Owner: DPC State: WI Sampling Point: 123 D2
Investigator(s): KB + AJ Section, Township, Range: S12 T26N R4W
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 3
Subregion (LRR or MLRA): LRR K Lat: 44 44 31.67 Long: -90 48 29.29 Datum: NAD83
Soil Map Unit Name: Fairchild-Elm Lake complex NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____	No X	Is the Sampled Area within a Wetland? Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

Photo # 180, 181

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 123D2

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size:)			
1. Comptonia peregrina	25	Y	UPL
2. Rubus allegheniensis	5	N	FACU
3.			
4.			
5.			
6.			
7.			
	30 = Total Cover		

Herb Stratum (Plot size:)			
1. Rubus hispidus	10	N	FACW
2. Poa pratensis	60	Y	FACU
3. Fragaria virginiana	5	N	FACU
4. Vaccinium vitis-idaea	7	N	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	82 = Total Cover		

Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	7	x 3 =	21
FACU species	70	x 4 =	280
UPL species	25	x 5 =	125
Column Totals:	112 (A)		446 (B)

Prevalence Index = B/A = 3.9

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

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

SOIL Sampling Point: 12302

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 2/1	100					loam	
4-10	7.5YR 6/2	100					loamy sand	
10-19	10YR 4/6	100					loamy sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Strum-Lublin 69kV (N-3) Transmission Line Rebuild Project

Phase I: Strum Tap to Willard Tap

DIRECTION	FEATURE ID	123D	DATE
East	PHOTOGRAPHER	Kathy Bellrichard and Apryl Jennrich	9/27/2012

COMMENTS

Wetland is located adjacent to an unnamed intermittent tributary of Cameron Creek.

Appendix E:
Cultural Resources Report

Phase I Archaeological Survey of Approximately Thirty Three Miles of the Proposed N-3 Transmission Line Rebuild, Strum Tap to Willard Tap, Located in Trempealeau, Jackson, Eau Claire, and Clark Counties, Wisconsin

Report Prepared for:
Dairyland Power Cooperative
3200 East Avenue South
P.O. Box 817
La Crosse, WI 54602

Report Prepared by:
Vicki L. Twinde-Javner

Principal Investigator:
Vicki L. Twinde-Javner

Mississippi Valley Archaeology Center
University of Wisconsin-La Crosse

Reports of Investigations No. 942

November 2012

ABSTRACT

In October 2012, personnel from the Mississippi Valley Archaeology Center (MVAC) conducted a Phase I archaeological survey for Dairyland Power Cooperative (DPC) of a portion of the N-3 transmission line rebuild located in Trempealeau, Jackson, Eau Claire, and Clark counties, Wisconsin. The portion surveyed by MVAC in 2012 was from the Strum Tap, located southwest of Osseo, to the Willard Tap, located northeast of Rock Dam Lake, and was approximately thirty three miles long. The wires for the one to two foot round poles will be overhead and existing roads or field roads near the line will be used to access the proposed pole locations. Since the only ground disturbance will be at the new pole locations, and exact pole locations were staked by DPC prior to the archaeological survey, only the new pole locations were surveyed. Both pedestrian survey and shovel testing were utilized. No archaeological sites were discovered and no previously recorded sites overlap the project area. Therefore, no further archaeological work is recommended.

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INTRODUCTION

In October 2012, personnel from the Mississippi Valley Archaeology Center (MVAC) conducted a Phase I archaeological survey for Dairyland Power Cooperative (DPC) of approximately thirty three miles of the N-3 transmission line from the Strum Tap to the Willard Tap, located in Trempealeau, Jackson, Eau Claire, and Clark counties, Wisconsin (Figure 1). The wires for the one to two foot round poles will be overhead and existing roads or field roads near the line will be used to access the proposed pole locations. Almost all of this project follows the existing N-3 transmission line and includes replacing existing poles or placing new poles, with the exception of a total of approximately three quarters of mile where in various areas, a few pole locations are being re-routed from the existing line location. These poles will be placed approximately 350 to 600 feet apart, depending on the terrain and vegetation. Since the only ground disturbance for the project will be at the new pole locations, and the exact pole locations were staked by DPC prior to the archaeological survey, only the new pole locations were surveyed. Both pedestrian survey and shovel testing were utilized.

ENVIRONMENTAL CONTEXT

The transmission line is located in: Sections 12, 13, 14, 15, 16, 17, and 20 of Township 24 North, Range 7 West in Trempealeau County; Sections 5, 7, and 8 of Township 24 North, Range 6 West in Jackson County; Sections 24, 25, 26, 27, 28, 29, 30, 31, and 32 of Township 25 North, Range 6 West in Eau Claire County; Sections 3, 5, 6, 7, 8, 9, 10, 18, and 19 of Township 25 North, Range 5 West in Eau Claire County; Sections 23, 24, 27, and 34 of Township 26 North, Range 5 West in Eau Claire County; and, Sections 10, 11, 12, 15, 16, 17, 19, and 20 of Township 26 North, Range 4 West in Clark County (Figures 2, 3, 4, and 5). The project crossed both public and private land, and archaeological public land permits were obtained from the Wisconsin Historical Society prior to the survey for the public land (Appendix 1).

Starting at the western end at the Strum Tap, the project starts at the intersection of CTH H and Tracey Valley Road. It follows the existing N-3 line on the east side of Tracey Valley Road for one mile, then heads east on the north side of Rhipenberg Road for one mile until CTH O. It heads east cross country for two miles crossing USH 53 until it comes to CTH B, then is located on the north side of Myhre Road for approximately a half mile, and continues east cross country, crossing over Interstate 94 and heading northeast until it comes to CTH G. It follows CTH G east for approximately one mile on the north side of the road, and then heads north along CTH G for approximately three and three quarter miles, switching back and forth over the road in various places. It then heads east cross country for almost two miles, crossing CTH M, and is on the south side of Zank Road heading east until the intersection of Hay Creek Road. This road then turns into Gerber Road, and the transmission line is on the north side of Gerber Road, then heads northeast near Kempton Road for approximately three miles until it reaches CTH M. From here it follows CTH M east for approximately three and half miles crossing from the north side to the south side of the road, then heads north along CTH H for approximately three miles on the west side of the road. It then follows CTH H east for one mile on the north side of the road, then follows Rock Dam Road east for two miles on the north side of the road, then follows Camp Globe Road north east for a mile and a half on the north side of the road. It then heads northeast cross country for almost two miles, then follows Willard Road (CTH GG) east on the north side

Figure 1. Approximate location of project area in Wisconsin.

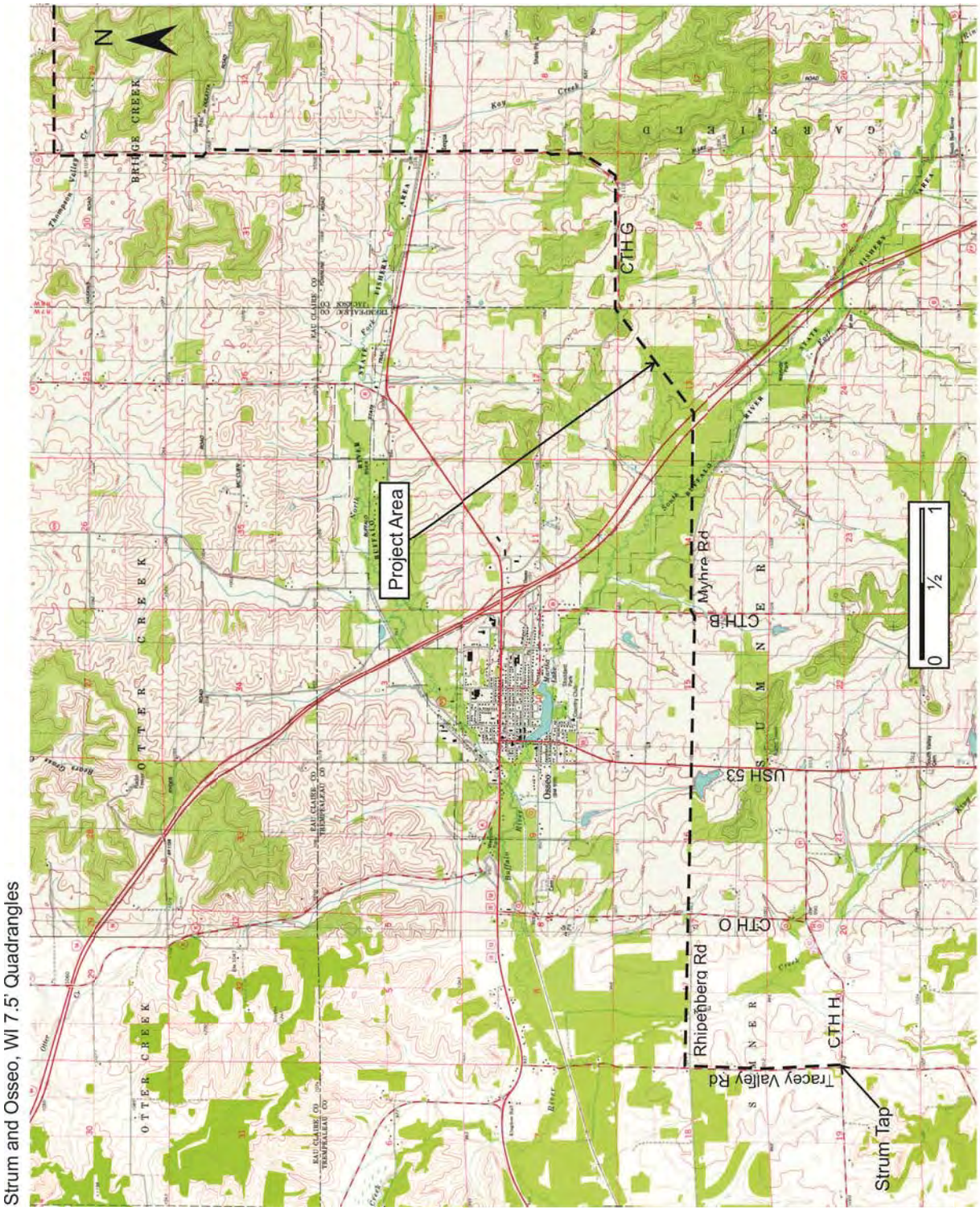

Figure 2. Western end of project area starting at the Strum Tap.

Price and Augusta East, WI 7.5' Quadrangles

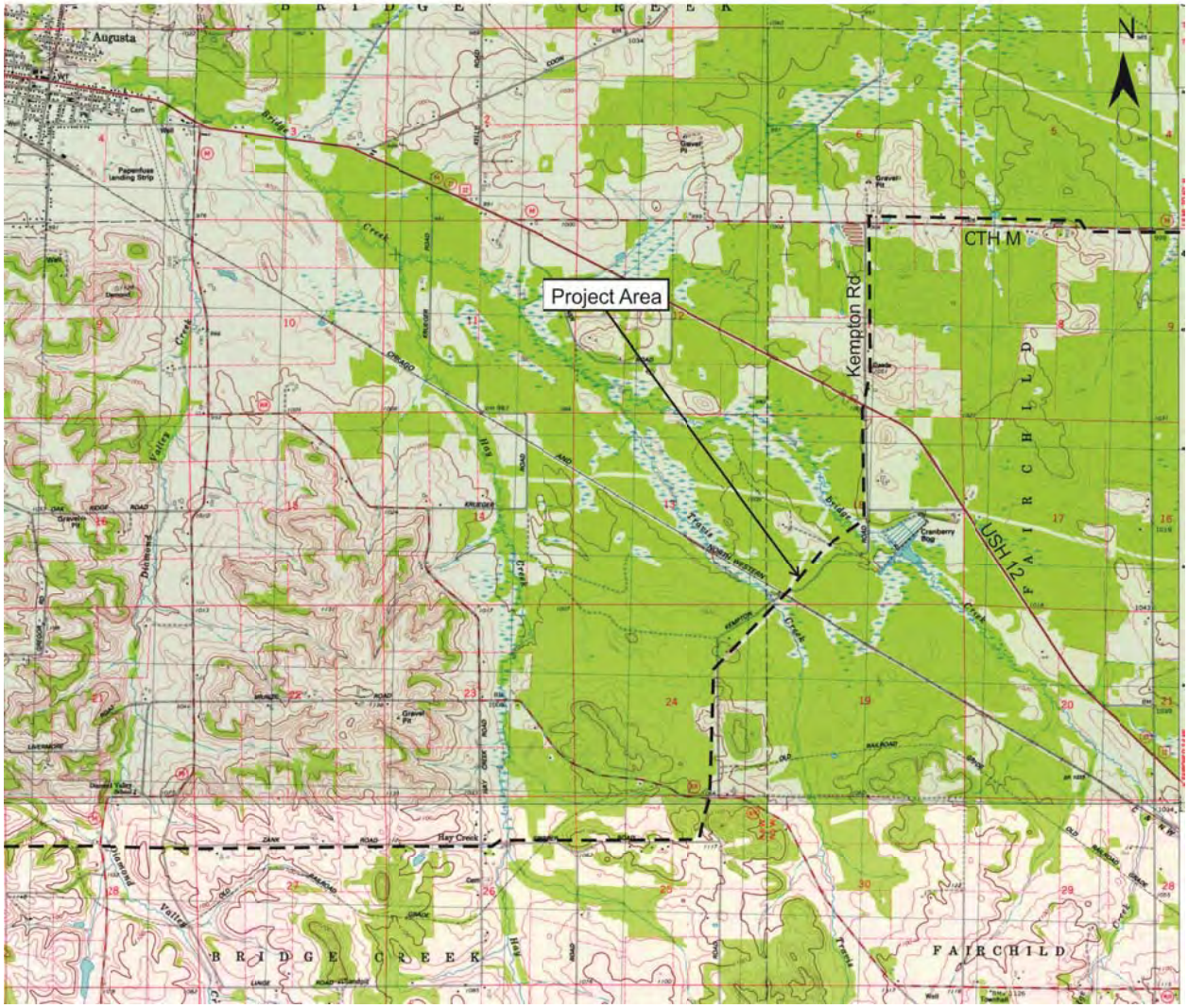

Figure 3. West central portion of project area.

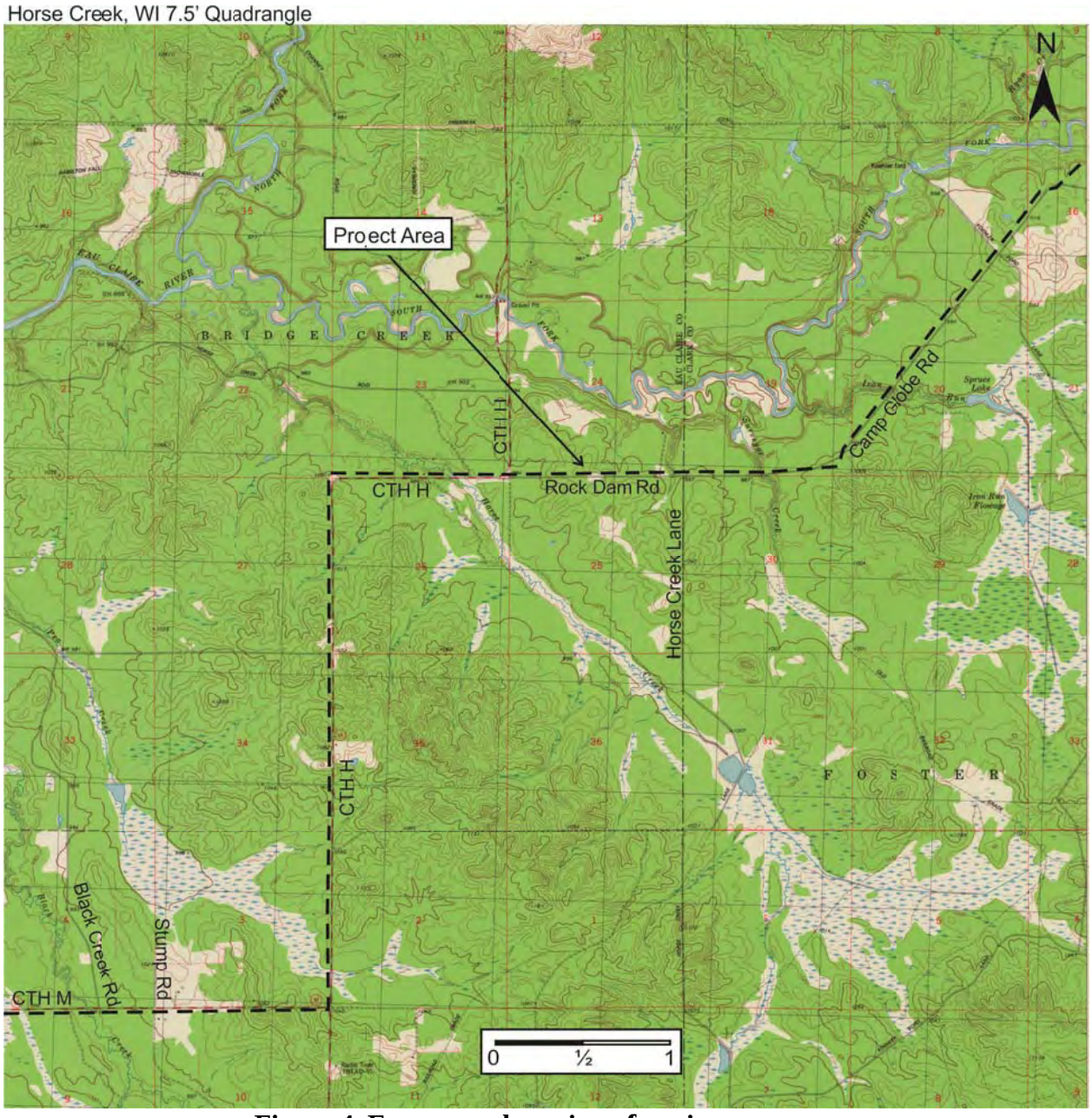

Figure 4. East central portion of project area.

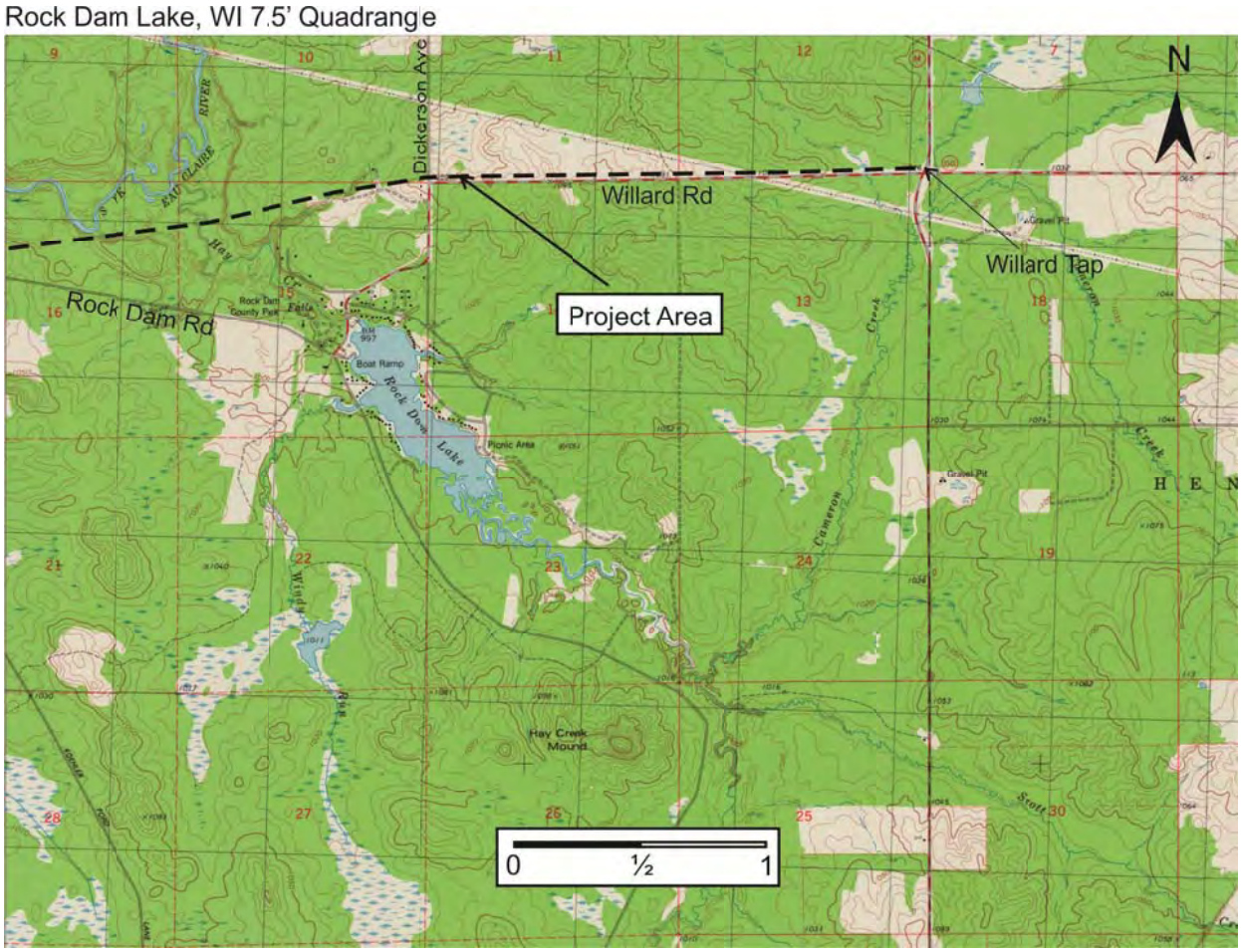

Figure 5. Eastern end of project area near the Willard Tap.

of the road for two miles where it ends at the intersection of Willard Road (CTH GG) and CTH M at the Willard Tap.

The project area lies in the Western Uplands Geographic Province. The Western Uplands is a thoroughly-dissected upland and is considered rough, highland region. This regions' strongest topographic features are the great trenches or gorges of the Mississippi and Wisconsin rivers and numerous tributaries. The topography consists of deeply dissected plateaus with narrow, deeply incised, dendritic drainages (Martin 1965).

The bedrock geology of the project area is part of the Cambrian system. The bedrock of consists sandstone with some dolomite and shale which is undivided, including Trempealeau, Tunnel City and Elk Mound groups. These are sedimentary rocks of Paleozoic age which formed about 500 million years ago. The depth to bedrock is approximately 0 to 15 meters on the ridge tops. This depth generally has good to excellent outcrops, particularly on hillsides, road cuts, and river valleys (Mudrey et al. 1982). The original vegetation cover of the project area would have included: mixed deciduous forest, consisting of oak (white oak, black oak, and bur oak) and oak openings (bur oak, white oak, and black oak); and, mixed coniferous-deciduous forest (white pine and red pine); and, brush (Finley 1976). As a result of the long distance of the project, it crosses through a variety of soil types (Natural Resource Conservation Service 2004), which are presented in Table 1.

Table 1. Soil types within the project area.

Alluvial land, wet
Arenzville silt loam, 0 to 3 percent slopes
Arland sandy loam, 2 to 6 percent slopes and 6 to 12 percent slopes, eroded
Billett fine sandy loam, 2 to 6 percent slopes and 6 to 12 percent slopes, eroded
Billett sandy loam, 1 to 6 percent slopes and 6 to 12 percent slopes, eroded
Bilson sandy loam, 1 to 6 percent slopes
Bilson-Elevasil sandy loams, 6 to 12 percent slopes, eroded
Bilson-Silverhill sandy loams, 1 to 6 percent slopes
Boone-Elevasil complex, 15 to 50 percent slopes
Boone-Plainbo complex, 6 to 12 percent slopes and 12 to 45 percent slopes
Dawsil mucky peat, 0 to 1 percent slopes
Dickinson fine sandy loam, 2 o 6 percent slopes
Eauclaire loamy sand, 1 to 6 percent slopes
Eleva sandy loam, 6 to 12 percent slopes, eroded, and 12 to 20 percent slopes, eroded
Elevasil sandy loam, 2 to 6 percent slopes and 6 to 12 percent slopes, moderately eroded
Elkmound loam, 12 to 20 percent slopes, eroded, and 20 to 45 percent slopes
Elm Lake loamy sand
Fairchild-Elm Lake complex, 0 to 3 percent slopes
Fairchild and Merrillan soils, 0 to 2 percent slopes and 2 to 6 percent slopes
Friendship loamy sand, 0 to 3 percent slopes
Gale silt loam, 2 to 6 percent slopes, 6 to 12 percent slopes, eroded, 12 to 20 percent slopes, eroded, and, 20 to 30 percent slopes
Gosil loamy sand, 1 to 6 percent slopes
Gotham loamy fine sand 0 to 2 percent slopes, 2 to 6 percent slopes; and, 6 to 12 percent slopes
Gotham loamy sand, 1 to 6 percent slopes, and 6 to 12 percent slopes, eroded
Hixton silt loam, 6 to 12 percent slopes, moderately eroded
Hixton loam, 2 to 6 percent slopes, eroded, and 30 to 45 percent slopes
Houghton muck
Impact sand, 0 to 3 percent slopes
Kato loam, sandy loam variant
Kert loam, 0 to 3 percent slopes
La Farge silt loam, 2 to 6 percent slopes
Ludington sand, 1 to 6 percent slopes
Ludington and Humbird soils, 2 to 6 percent slopes and 6 to 12 percent slopes
Markey muck
Menahga sand, 1 to 6 percent slopes
Meridian loam, 0 to 2 percent slopes; 2 to 6 percent slopes; and, 6 to 12 percent slopes
Newson loamy sand
Northfield silt loam, 20 to 30 percent slopes, eroded
Otter silt loam, overwash
Palms muck
Pelkie-Winterfield loamy fine sands, 0 to 3 percent slopes
Pillot silt loam, 2 to 6 percent slopes

Plainfield loamy sand, 1 to 6 percent slopes
Ponycreek-Dawsil complex, 0 to 2 percent slopes
Rockdam sand, 0 to 3 percent slopes
Seaton silt loam, moderately well drained 2 to 6 percent slopes and 6 to 12 percent slopes, eroded
Simescreek sand, 0 to 3 percent slopes
Sparta loamy sand, mottled subsoil variant, 0 to 3 percent slopes
Tarr sand, 1 to 6 percent slopes
Tint sand, 0 to 3 percent slopes
Veedum silt loam
Vesper loam

CULTURAL CONTEXT

With the retreat of the last glaciers at the end of the Pleistocene epoch came the first Native American occupation of the Mississippi River valley. These migratory bands of hunters and gatherers, or Paleoindians, were present in this area from approximately 11,500 to 9500 years before present (B.P.). This prehistoric Native American population represents the earliest verified human presence in the Americas. Paleoindians moved in small mobile hunting bands that followed the Pleistocene megafauna, including mastodon, mammoth, and extinct forms of giant bison. Early Paleoindian fluted point varieties in the Upper Mississippi River valley include Clovis, Gainey, and Folsom. Late Paleoindians used unfluted spear tips of the Cody Complex, a northern plains manifestation that focused on hunting, to adapt to the extinction of most megafauna species by 10,000 years ago (Theler and Boszhardt 2003).

The longest of the prehistoric Native American cultures is the Archaic Tradition (9500-2500 B.P.) The extinction of megafauna by changes in climate and possible overexploitation by the Paleoindians forced Archaic people to seek a new type of subsistence. In the early part of this tradition, smaller forms of bison became the main staple meat supply and by the latter part of the time period, gathering and foraging in the forest became the focus of subsistence procurement strategies. Nuts especially were focused on during gathering and foraging. There was increased territoriality, development of intergroup trading networks, local differentiation in artifacts styles, and the use of communal cemeteries (Theler and Boszhardt 2003).

The Woodland Tradition (2500-900 B.P.) represented a more sedentary lifestyle including the practice of horticulture, the construction of earthen burial mounds, and the introduction of grit or sand tempered ceramic containers. Early Woodland lifestyles were similar to that of Archaic people, but with the innovation of ceramics. Middle Woodland is characterized by the Hopewell Interaction Sphere in which long distance trade flourished. This period is noted for refined artworks, complex mortuary programs, and extensive trade networks. The Late Woodland period is distinguished by distinctive regional styles, and animal shaped burial mounds were constructed during this time period (Theler and Boszhardt 2003).

PREVIOUS INVESTIGATIONS

According to the Wisconsin Historic Preservation Database (WHPD), there are eleven previously recorded sites within one mile of the project area (Table 2 and Figures 6, 7, and 8) including prehistoric isolated finds, campsite/villages, and, historic Euro-American cemetery/burials. All of these sites are at least a quarter mile from the project except 47EC86. 47EC86, a prehistoric lithic scatter named Polk, is located across [redacted] from the current project area, but is not within the project area (see Figure 8). Pole locations located near this site did not recover any cultural material.

Table 2. Previously recorded sites within one mile of the project.

Site Number	Site Name	Site Type	Cultural Affiliation	Relationship to Project
BTR33	Unnamed Cemetery	Cemetery/Burial		Within One Mile
TR37	Hangartner I	Campsite/Village		Within One Mile
TR38	Hangartner II	Campsite/Village		Within One Mile
TR39	T. Olson	Campsite/Village		Within One Mile
TR47	Unnamed Site	Campsite/Village	Unknown Prehistoric	Within One Mile
BEC22	St. John Hay Creek Cemetery	Cemetery/Burial	Historic Euro-American	Within One Mile
EC4	Unnamed Site	Workshop Site Campsite/Village	Unknown	Within One Mile
EC50	Horse Creek Road	Lithic Scatter	Unknown Prehistoric	Within One Mile
EC64	Connelly	Isolated Finds	Unknown Prehistoric	Within One Mile
EC77	Lupine Lookout	Campsite/Village	Unknown Prehistoric	Within One Mile
EC86	Polk	Lithic Scatter	Unknown Prehistoric	Within One Mile

According to the WHPD, several previous archaeological surveys have been conducted within one mile of the project. These include: a 1979 Phase I survey of the proposed wastewater treatment facility in Osseo (SHSW#79-0106); a 1980 Phase I survey of a proposed substation at Fairchild (SHSW#80-0512); a 1987 and 1988 Phase I survey of a pipeline from Minnesota to Milwaukee (SHSW#87-0054); a 1988 Phase I survey of proposed changes to the Horse Creek Bridge (SHSW#88-0957); a 1990 Phase I survey of sites in Central Wisconsin associated with the Wisconsin Air National Guard (SHSW#90-0194); a 1994 Phase I and II survey and investigations for a proposed wastewater treatment facility near Fairchild (SHSW#94-0833); a 1997 Phase I survey of a DPC substation and tapline near Osseo (SHSW#97-0712); a 2006 Phase I survey of USH 53 from STH 21 to Pigeon Falls (SHSW#06-0786); and, a 2008 Phase I survey of the proposed DPC Bridge Creek Substation addition and adjoining tap transmission line (SHSW#08-0900) (Twinde-Javner 2008). Additional surveys within one mile of the

Strum and Osseo, WI 7.5' Quadrangles

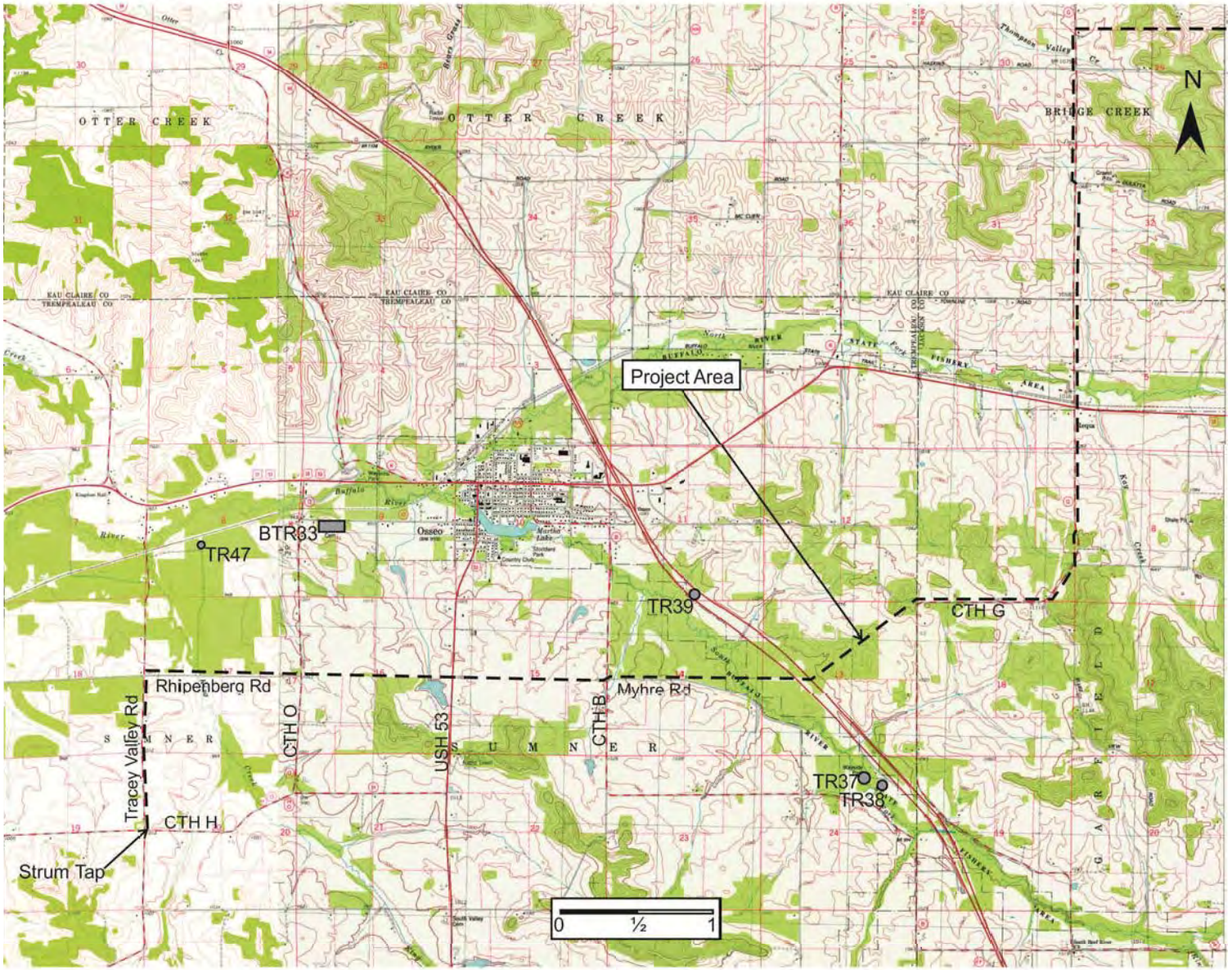

Figure 6. Previously recorded sites near western end of project area.

Price and Augusta East, WI 7.5' Quadrangles

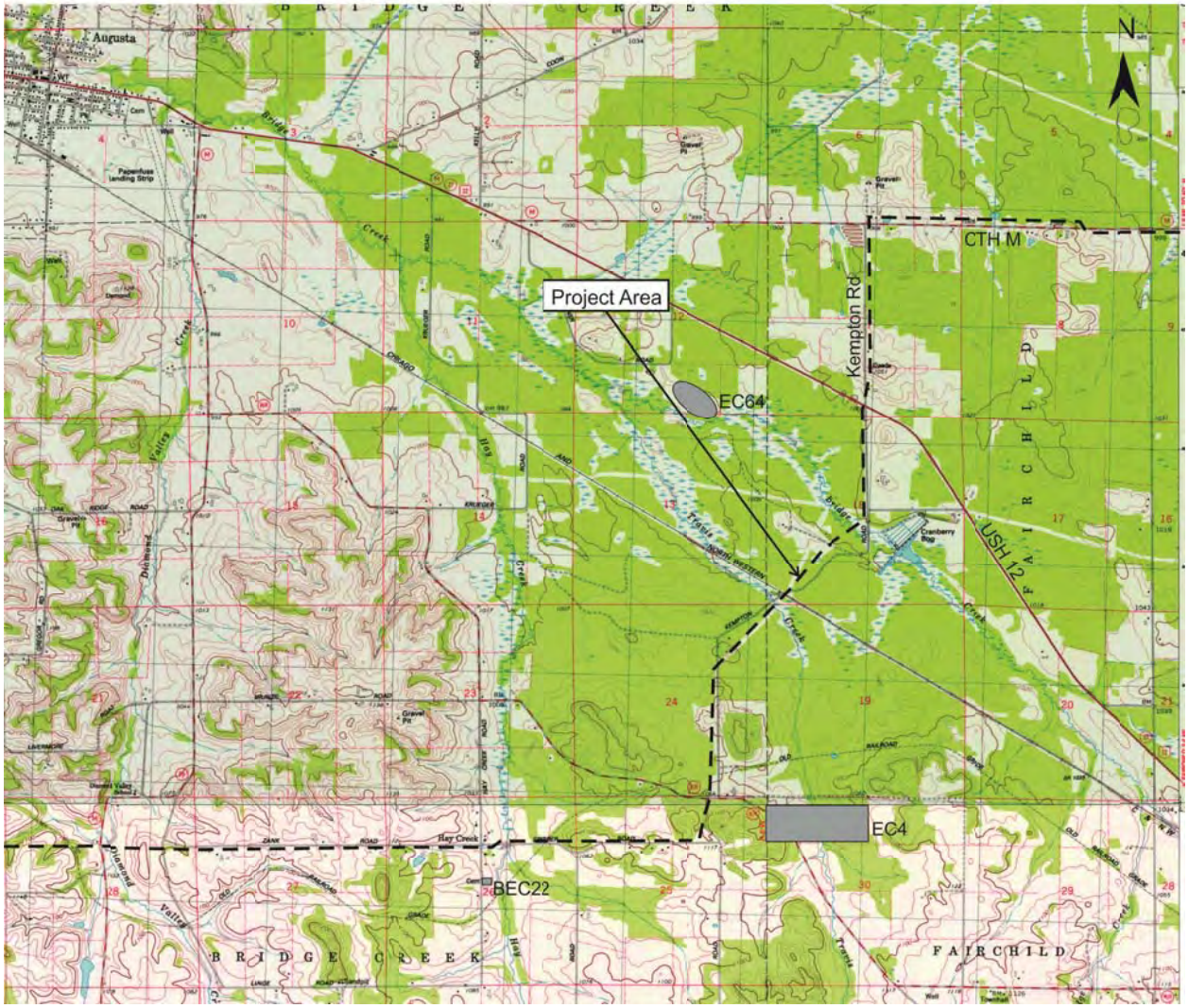

Figure 7. Previously recorded sites near west central portion of project area.

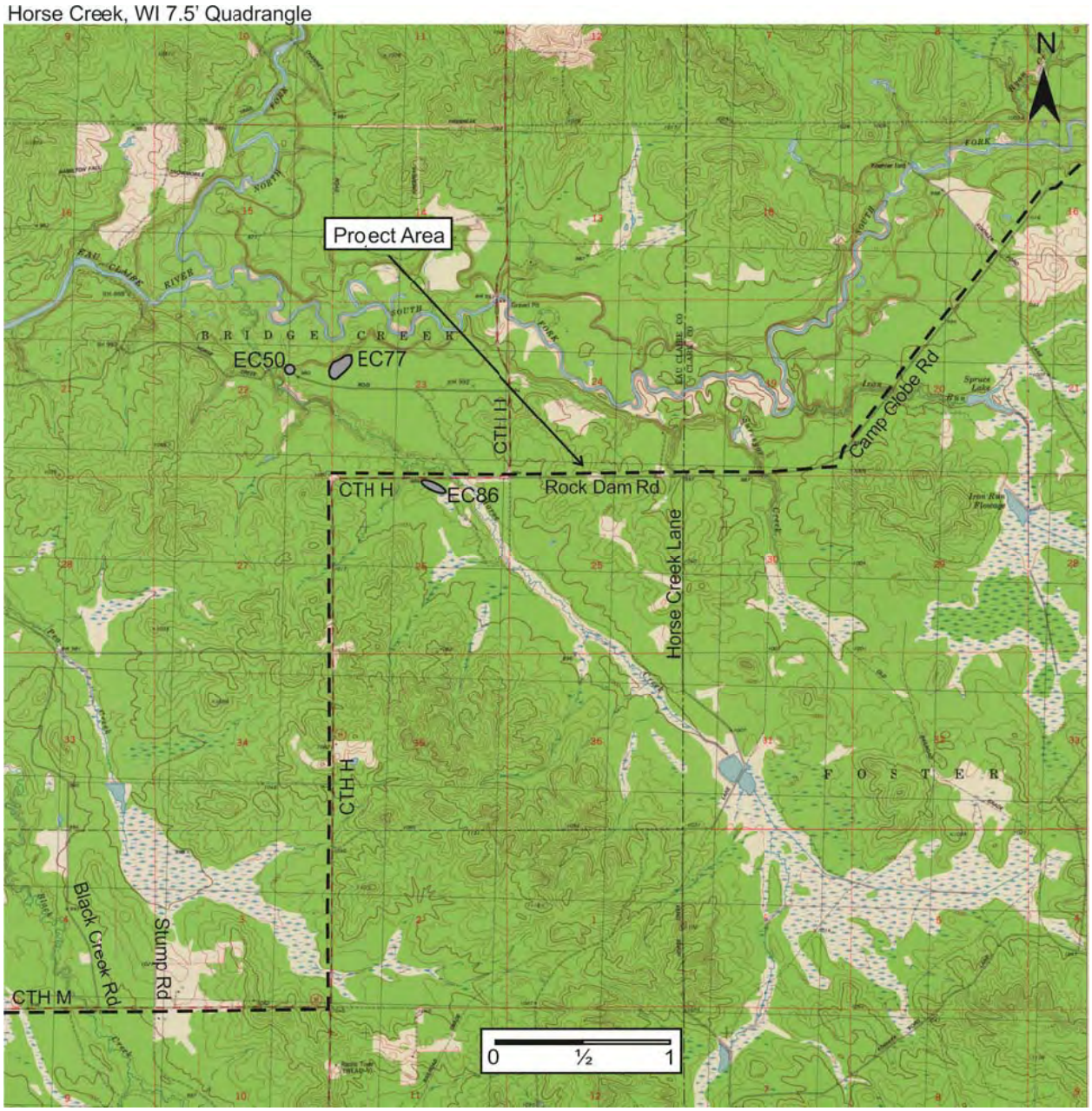

Figure 8. Previously recorded sites near east central portion of project area.

transmission line include: the Phase I survey of the southern portion of the DPC N-3 transmission line rebuild south of the Strum Tap surveyed in 2011 (Twinde-Javner and Straskowski 2011); and, the Phase I survey of a portion of the DPC N-423 transmission line and associated substation near Augusta surveyed in the spring of 2012 (Twinde-Javner 2012). These surveys likely do not show up in the WHPD database since they were conducted at staked pole locations only.

METHODOLOGY

The field methods used during the project conform to those outlined by the *Guidelines for Public Archaeology in Wisconsin* (WAS 2012). This project had new pole locations staked and since the pole locations would be the only ground disturbance, these were the only areas surveyed. In areas of less than 10% visibility, shovel testing was employed. All soil was screened through a 1/4 inch mesh. Pedestrian survey was employed in current agricultural fields. In general surface visibility within plowed fields was between 60% and 80%. Areas with steep slope, marsh, previous disturbance by road construction, or disturbance by utilities were not surveyed. All field notes and other documentation will be stored at MVAC.

Figure 9. Example of area pedestrian surveyed facing north along Tracey Valley Road near Strum Tap.

Figure 10. Example of area pedestrian surveyed between CTH M and Zank Road (view facing east).

Figure 11. Example of area shovel tested facing east towards I-94 from Myhre Road.

Figure 12. Example of area shovel tested along ATV trail heading cross country from Camp Globe Road towards Willard Road (view facing northeast).

RESULTS AND RECOMMENDATIONS

In October 2012, MVAC personnel conducted a Phase I archaeological survey of proposed changes to approximately thirty three miles of the existing N-3 transmission line located in Trempealeau, Jackson, Eau Claire, and Clark counties, Wisconsin. The portion of the N-3 transmission line surveyed in 2012 was from the Strum Tap, located southwest of Osseo, to the Willard Tap, northeast of Rock Dam Lake. The exact pole locations were staked prior to the archaeological survey, therefore the staked pole locations were the only areas tested. One previously recorded site, [redacted], is located [redacted], but is not within the project area. All of the other previously recorded sites are located at least a quarter mile or more from the transmission line. No previously recorded sites are within the project area and no new archaeological sites were discovered. Therefore, no further archaeological work is recommended.

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2012 *Phase I Archaeological Survey of Two Miles of the N-423 Transmission Line and Associated Substation near Augusta, Eau Claire County, Wisconsin*. Reports of Investigation Number 919. Mississippi Valley Archaeology Center, University of Wisconsin-La Crosse.

Twinde-Javner, Vicki L. and Michael Straskowski
2011 *Phase I Archaeological Survey of a Portion of the N-3 Transmission Line, Independence Tap to Strum Tap, Trempealeau County, Wisconsin*. Reports of Investigation Number 906. Mississippi Valley Archaeology Center, University of Wisconsin-La Crosse.

WAS - Wisconsin Archeological Survey Guideline Committee
2012 *Guide for Public Archaeology in Wisconsin,* compiled by M. Dudzik, J. Tiffany, and K. Stevenson, edited by K. Stevenson. Wisconsin Archeological Survey. Madison, Wisconsin.

Appendix 1: Public Land Permits

WISCONSIN PUBLIC LANDS FIELD ARCHAEOLOGICAL PERMIT, 2012
REQUIRED TO CONDUCT ARCHAEOLOGY ON ALL NON-FEDERAL PUBLIC LAND UNDER WIS. § 44.47
Wisconsin Historical Society

Name/Organization/Contact Vicki Twinde-Javner, MVAC Telephone 608-785-6475

Address 1725 State Street City La Crosse State WI Zip Code 54601

E-mail Address vtwinde-javner@uwlax.edu FAX# 608-785-6474

Institutional Affiliation Mississippi Valley Archaeology Center Occupation Archaeologist

Location of work:
Highway: Hwy/Rd County

Project Begin: Project End:

Other Projects: County Trempeleau Civil Town Sumner Town 24 N Range 07W Section 14

Quarter Sections (minimum 3) S1/2 SW1/4 NE1/4 and S1/2 SE1/4 NE1/4

Name of Park, Wildlife Area Osseo Fairchild School Forest Site Name: Site Number

Type of fieldwork: ☒ Phase I/Survey ☐ Phase II/Testing ☐ Phase III/Excavation ☐ Other

Purpose of the fieldwork: ☒ Federal Compliance ☒ State Compliance ☐ Education ☐ Other

Period of field work beginning on 9/26/2012 and ending on 12/31/2012

What institution will curate recovered artifacts, notes, and records? MVAC
(Curation agreement must be on file with WHS)

Signature of Archaeologist Vicki L. Twinde-Javner Date 9/25/12

Print name Vicki L. Twinde-Javner ☐ continuation sheet or see attachments

Maps and/or Letters of explanation can accompany this application

Osseo Fairchild School District

Landowner or custodian name (print) Dennis C Geissler Phone 715-597-3141

Signature of Landowner Dennis C Geissler Date 9-25-12

DO NOT WRITE BELOW THIS LINE

Permit Approved John H. Broihahn (for) Date

John H. Broihahn
State Archaeologist
Wisconsin Historical Society
FAX: 608-264-6504 / PH 608-264-6496
Email: john.broihahn@wisconsinhistory.org

PLP # 12 - 128

Conditions:

1) Two copies of the final report must be submitted to the Division of Historic Preservation – Public History.
2) All artifacts, notes and records must be curated in an appropriate facility that is staffed by trained personnel.

This permit does NOT cover work within cataloged and uncataloged burial sites under Wis. § 157.70.
This permit does NOT cover removal of human remains under Wis. § 157.70.

Please contact Sherman Banker at (608) 264-6507 or by e-mail at sherman.banker@wisconsinhistory.org

WISCONSIN PUBLIC LANDS FIELD ARCHAEOLOGICAL PERMIT, 2012
REQUIRED TO CONDUCT ARCHAEOLOGY ON ALL NON-FEDERAL PUBLIC LAND UNDER WIS. § 44.47
Wisconsin Historical Society

Name/Organization/Contact: Vicki Twinde-Javner, MVAC Telephone: 608-785-6475

Address: 1725 State Street City: La Crosse State: WI Zip Code: 54601

E-mail Address: vtwinde-javner@uwlax.edu FAX#: 608-785-6474

Institutional Affiliation: Mississippi Valley Archaeology Center Occupation: Archaeologist

Location of work:
Highway: Hwy/Rd: County:

Project Begin: Project End:

Other Projects: County: Clark Civil Town: Foster Town: 26N Range: 4W Section: 15-17, 19-20

Quarter Sections (minimum 3):

Name of Park, Wildlife Area: Clark County Forest Site Name: Site Number:

Type of fieldwork: ☒ Phase I/Survey ☐ Phase II/Testing ☐ Phase III/Excavation ☐ Other

Purpose of the fieldwork: ☐ Federal Compliance ☐ State Compliance ☐ Education ☐ Other

Period of field work beginning on: 10/30/2012 and ending on: 12/30/2012

What institution will curate recovered artifacts, notes, and records? MVAC
(Curation agreement must be on file with WHS)

Signature of Archaeologist: Vicki Twinde-Javner Date: 10/26/2012

Print name: Vicki Twinde-Javner ☐ continuation sheet or see attachments

Maps and/or Letters of explanation can accompany this application

---

Landowner or custodian name (print): Clark County Forest Phone: 715-743-5140

Signature of Landowner: Date: 10/29/12

DO NOT WRITE BELOW THIS LINE

Permit Approved: Date: 29 Oct '12

PLP # 12 - 156

John H. Broihahn
State Archaeologist
Wisconsin Historical Society
FAX: 608-264-6504 / PH 608-264-6496
Email: john.broihahn@wisconsinhistory.org

Conditions:

1) Two copies of the final report must be submitted to the Division of Historic Preservation – Public History.
2) All artifacts, notes and records must be curated in an appropriate facility that is staffed by trained personnel.

This permit does NOT cover work within cataloged and uncataloged burial sites under Wis. § 157.70.
This permit does NOT cover removal of human remains under Wis. § 157.70.

Please contact Sherman Banker at (608) 264-6507 or by e-mail at sherman.banker@wisconsinhistory.org

BIBLIOGRAPHY OF ARCHAEOLOGICAL REPORT FORM

WHS/SHSW # ____ COUNTY Trempealeau, Jackson, Eau Claire, and Clark

AUTHORS: Twinde-Javner, Vicki L.

REPORT TITLE: Phase I Archaeological Survey of Approximately Thirty Three Miles of the Proposed N-3 Transmission Line Rebuild, Strum Tap to Willard Tap, Located in Trempealeau, Jackson, Eau Claire, and Clark Counties, Wisconsin

DATE OF REPORT (MONTH AND YEAR): November 2012

SERIES/NUMBER: Reports of Investigations No. 942

PLACE OF PUBLICATION: Mississippi Valley Archaeology Center

LOCATIONAL INFORMATION [LEGAL DESCRIPTION OF SURVEY AREA (T-R-S)]
Sections 12, 13, 14, 15, 16, 17, and 20 of Township 24 North, Range 7 West; Sections 5, 7, and 8 of Township 24 North, Range 6 West; Sections 24, 25, 26, 27, 28, 29, 30, 31, and 32 of Township 25 North, Range 6 West; Sections 3, 5, 6, 7, 8, 9, 10, 18, and 19 of Township 25 North, Range 5 West; Sections 23, 24, 27, and 34 of Township 26 North, Range 5 West;and Sections 10, 11, 12, 15, 16, 17, 19, and 20 of Township 26 North, Range 4 West in Clark County

U.S.G.S. QUAD MAP(S): Strum, Osseo, Price, Augusta, Horse Creek, and Rock Dam Lake, Wisconsin 7.5' Quadrangles

SITE(S) INVESTIGATED: N/A

ACRES INVESTIGATED: 1 meter wide by 33 miles long – shovel tests or pedestrian survey at proposed pole locations only - see abstract for explanation. AGENCY # ____

INVESTIGATION TECHNIQUES CMPLETED (Check all that apply.)

☐ Avocational Survey	☐ Chance Encounter	☐ Controlled Surface Collection
☐ Faunal Analysis	☐ Floral Analysis	☐ Geomorphology
☐ Historical Research	☐ Interview/Informant	☐ Land Use History
☐ Literature Background Research	☐ Major Excavation	☐ Mechanical Stripping
☐ Monitoring	☐ Osteological Analysis	☒ Phase I-Surface Survey
☐ Phase II	☐ Phase II-Corridor Only	☐ Phase III
☐ Phase III-Corridor Only	☐ Records/Background	☐ Records/Background (Pred. Model)
☐ Remote Sensing	☒ Shovel Testing/Probing (Inten)	☐ Soil Core
☐ Surface Survey (Intensive)	☐ Test Excavation	☐ Traditional Knowledge
☐ Vandalism	☐ Walk Over (Reconnaissance)	☐ Unknown
☐ Other: _____		

ABSTRACT: ☒ Included in report ☐ Written in space below

Office of the State Archaeologist BAR # _____

Phase I Archaeological Survey of Approximately Twenty-Five Miles of the Proposed N-3 Transmission Line Rebuild, Willard Tap to LublinTap, Located in Clark County, Wisconsin

Report Prepared for:
Dairyland Power Cooperative
3200 East Avenue South
P.O. Box 817
La Crosse, WI 54602

Report Prepared by:
Vicki L. Twinde-Javner

Principal Investigator:
Vicki L. Twinde-Javner

Mississippi Valley Archaeology Center
University of Wisconsin-La Crosse

Reports of Investigations No. 956

June 2013

ABSTRACT

In May and June 2013, personnel from the Mississippi Valley Archaeology Center (MVAC) conducted a Phase I archaeological survey for Dairyland Power Cooperative (DPC) of a portion of the N-3 transmission line rebuild located in Clark County, Wisconsin. The portion surveyed by MVAC in 2013 was from the Willard Tap, located northeast of Rock Dam Lake, to the Lublin Tap, located south of Lublin and northeast of Thorp, and was approximately twenty-five miles long. The wires for the one to two foot round poles will be overhead and existing roads near the line will be used to access the proposed pole locations. Since the only ground disturbance will be at the new pole locations, and exact pole locations were staked by DPC prior to the archaeological survey, only the new pole locations were surveyed. Both pedestrian survey and shovel testing were utilized. No archaeological sites were discovered and no previously recorded sites overlap the project area. Therefore, no further archaeological work is recommended.

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INTRODUCTION

In May and June 2013, personnel from the Mississippi Valley Archaeology Center (MVAC) conducted a Phase I archaeological survey for Dairyland Power Cooperative (DPC) of approximately twenty-five miles of the N-3 transmission line rebuild from the Willard Tap to the Lublin Tap, located in Clark County, Wisconsin (Figure 1). The wires for the one to two foot round poles will be overhead and existing roads near the line will be used to access the proposed pole locations. These poles will be placed approximately 350 to 600 feet apart, depending on the terrain and vegetation. Since the only ground disturbance for the project will be at the new pole locations, and the exact pole locations were staked by DPC prior to the archaeological survey, only the new pole locations were surveyed. Both pedestrian survey and shovel testing were utilized. Most of the project was surveyed in May, but a few miles of the project that were too wet to survey in May, were then surveyed in June.

ENVIRONMENTAL CONTEXT

The transmission line is located in: Sections 1 and 12 of Township 26 North, Range 4 West; Sections 24, 25, and 36 of Township 27 North, Range 4 West; Sections 6, 7, 18, and 19 of Township 27 North, Range 3 West; Sections 4, 9, 10, 16, 21, 27, 28, 31, 32, 33, and 34 of Township 28 North, Range 3 West; and, Sections 2, 3, 4, 9, 16, 21, 22, 27, 28, and 33 of Township 29 North, Range 3 West (Figures 2, 3, and 4). The project crosses both public and private land, and an archaeological public land permit was obtained from the Wisconsin Historical Society prior to the survey for the public land (Clark County Forest) (Appendix 1). The entire project was located along existing roads, and was located in grassy areas, pastures, residential yards, and plowed fields.

Starting at the southern end at the Willard Tap, the project starts northwest of the intersection of CTH M and County Road GG. It follows CTH M north for approximately 8 miles crossing from the west side to the east side of the road. At the intersection of CTH M and Popple River Road, the project turns east and is located on the north side of Popple River Road for approximately three miles. It then turns north along Bachelor's Avenue for approximately twelve miles, switching back and forth from the west side to the east side of the road in various places. It then turns east for two miles and is located on the south side of County Line Road. It terminates at the northern end at the existing Lublin Substation located southeast of the intersection of Town Line Road and Sterling Avenue.

Most of the project area lies in the Western Uplands Geographic Province. The Western Uplands is a thoroughly-dissected upland and is considered rough, highland region. This regions' strongest topographic features are the great trenches or gorges of the Mississippi and Wisconsin rivers and numerous tributaries. The topography consists of deeply dissected plateaus with narrow, deeply incised, dendritic drainages. The northern portion of the project area lies in the Northern Highlands Geographic Province. At one time in this province, there was lofty and deep valleys in Northern Wisconsin, but weather, wind, and streams wore them down to a low, undulating plain with occasional hills, called a penneplain. The two different types of topography in this area include upland plains and several types of ridges (Martin 1965).

The bedrock geology of the project area is part of the Cambrian system. The bedrock of consists sandstone with some dolomite and shale which is undivided, including Trempealeau,

Figure 1. Approximate location of project area in Wisconsin.

Figure 2. Southern portion of project area.

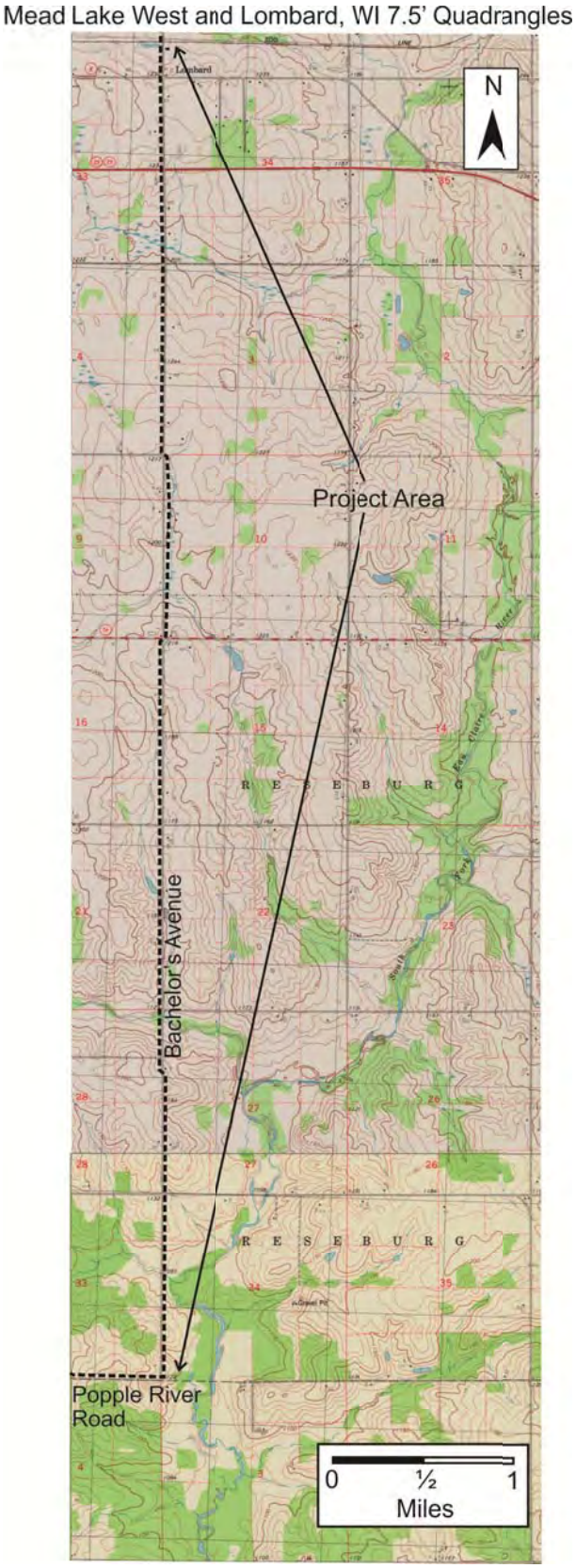

Figure 3. Central portion of project area.

Figure 4. Northern portion of project area.

Tunnel City and Elk Mound groups. These are sedimentary rocks of Paleozoic age which formed about 500 million years ago. The depth to bedrock for most of the project is approximately 0 to 15 meters on the ridge tops. This depth generally has good to excellent outcrops, particularly on hillsides, road cuts, and river valleys. The depth to bedrock at the northern end of the project is 15-30 meters. This results in poor to no outcrop with some outcrops occurring in isolated exposures in river valleys and bedrock highs (Mudrey et al. 1982). The original vegetation cover of the project area would have been mixed coniferous and deciduous forest including: hemlock, sugar maple, yellow birch, white pine and red pine (Finley 1976). As a result of the long distance of the project, it crosses through a variety of soil types (Natural Resource Conservation Service 2004), which are presented in Table 1.

Table 1. Soil types within the project area.

Almena silt loam, 0 to 3 percent slopes
Auburndale silt loam, 0 to 2 percent slopes
Barronett silt loam, 0 to 2 percent slopes
Capitola-Marshfield-Veedum complex, 0 to 2 percent slopes
Dawsil mucky peat, 0 to 1 percent slopes
Eauclaire loamy sand, 1 to 6 percent slopes
Fairchild-Elm Lake complex, 0 to 3 percent slopes
Fallcreek-Merrillan complex, 0 to 3 percent slopes
Flambeau loam, 1 to 6 percent slopes
Flambeau sandy loam, 1 to 6 percent slopes
Flambeau-Humbird complex, 1 to 6 percent slopes
Flambeau-Humbird sandy loams, 6 to 12 percent slopes
Freeon silt loam, 2 to 6 percent slopes, very stony
Hiles silt loam, 1 to 6 percent slopes
Humbird fine sandy loam, 1 to 6 percent slopes
Humbird fine sandy loam, 6 to 12 percent slopes
Ironrun-Ponycreek complex, 0 to 3 percent slopes
Loxley, Beseman, and Dawson peats 0 to 1 percent slopes
Loyal silt loam, 1 to 6 percent slopes
Loyal silt loam, 6 to 12 percent slopes
Loyal-Hiles silt loams, 6 to 12 percent slopes
Ludington sand, 1 to 6 percent slopes
Ludington sand, 6 to 12 percent slopes
Ludington-Fairchild sands, 0 to 6 percent slopes
Magnor silt loam, 0 to 4 percent slopes, very stony
Maplehurst silt loam, 0 to 3 percent slopes
Markey-Newson mucks, 0 to 2 percent slopes
Menahga loamy sand, 0 to 6 percent slopes
Merrillan fine sandy loam, 0 to 3 percent slopes
Moppet-Fordum complex, 0 to 3 percent slopes
Newood-Magnor-Cathro complex, 0 to 15 percent slopes, very stony
Oesterle loam, 0 to 3 percent slopes
Ponycreek-Dawsil complex, 0 to 2 percent slopes
Rockdam sand, 0 to 3 percent slopes

Spencer silt loam, 2 to 6 percent slopes
Veedum silt loam, 0 to 2 percent slopes
Withee silt loam, 0 to 3 percent slopes
Withee-Kert silt loams, 0 to 3 percent slopes

CULTURAL CONTEXT

With the retreat of the last glaciers at the end of the Pleistocene epoch came the first Native American occupation of the Mississippi River valley. These migratory bands of hunters and gatherers, or Paleoindians, were present in this area from approximately 11,500 to 9500 years before present (B.P.). This prehistoric Native American population represents the earliest verified human presence in the Americas. Paleoindians moved in small mobile hunting bands that followed the Pleistocene megafauna, including mastodon, mammoth, and extinct forms of giant bison. Early Paleoindian fluted point varieties in the Upper Mississippi River valley include Clovis, Gainey, and Folsom. Late Paleoindians used unfluted spear tips of the Cody Complex, a northern plains manifestation that focused on hunting, to adapt to the extinction of most megafauna species by 10,000 years ago (Theler and Boszhardt 2003).

The longest of the prehistoric Native American cultures is the Archaic Tradition (9500-2500 B.P.) The extinction of megafauna by changes in climate and possible overexploitation by the Paleoindians forced Archaic people to seek a new type of subsistence. In the early part of this tradition, smaller forms of bison became the main staple meat supply and by the latter part of the time period, gathering and foraging in the forest became the focus of subsistence procurement strategies. Nuts especially were focused on during gathering and foraging. There was increased territoriality, development of intergroup trading networks, local differentiation in artifacts styles, and the use of communal cemeteries (Theler and Boszhardt 2003).

The Woodland Tradition (2500-900 B.P.) represented a more sedentary lifestyle including the practice of horticulture, the construction of earthen burial mounds, and the introduction of grit or sand tempered ceramic containers. Early Woodland lifestyles were similar to that of Archaic people, but with the innovation of ceramics. Middle Woodland is characterized by the Hopewell Interaction Sphere in which long distance trade flourished. This period is noted for refined artworks, complex mortuary programs, and extensive trade networks. The Late Woodland period is distinguished by distinctive regional styles, and animal shaped burial mounds were constructed during this time period (Theler and Boszhardt 2003).

PREVIOUS INVESTIGATIONS

According to the Wisconsin Historic Preservation Database (WHPD), there are two previously recorded sites within one mile of the project area. [redacted] is a historic Euro-American site located [redacted] (Figure 5). This historic dwelling and/or farmstead is located [redacted] is an unnamed and unaffiliated cemetery/burial located [redacted].

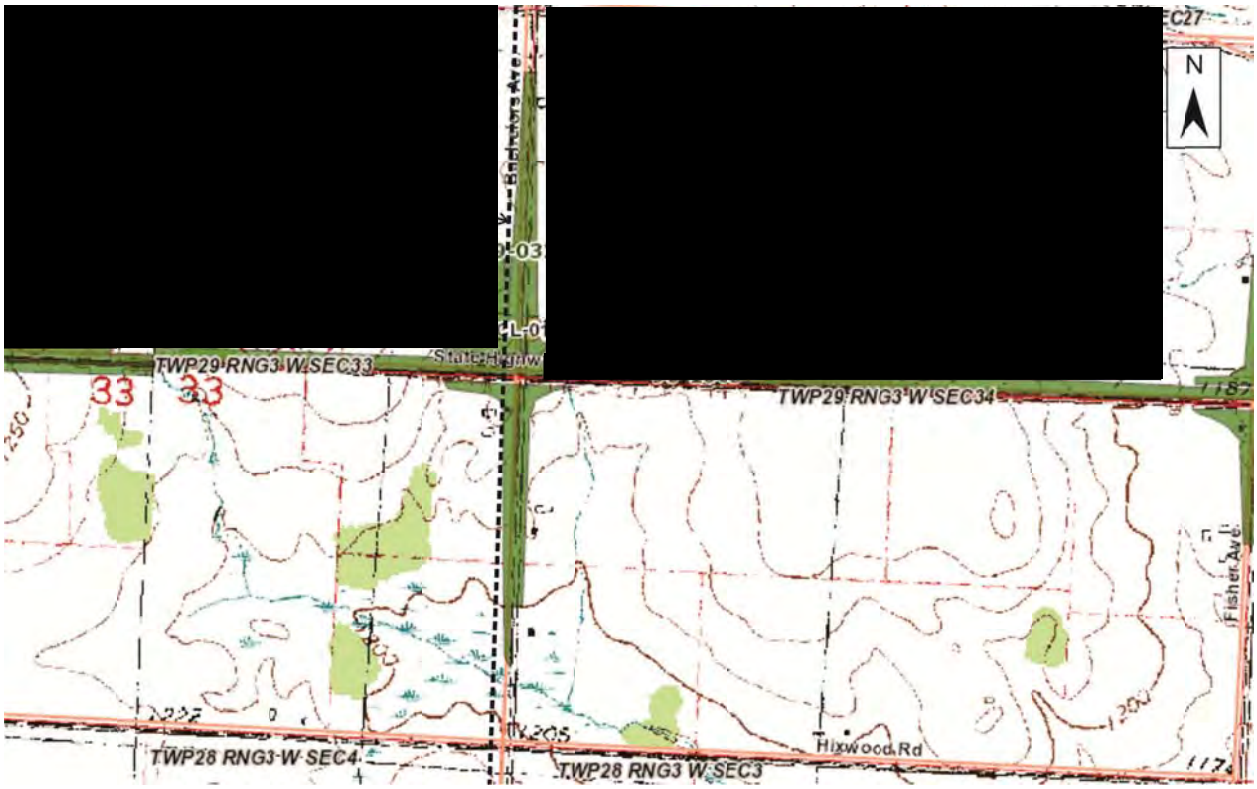

Figure 5. WHPD screenshot of the project area in relationship to 47CL117.

According to the WHPD, several previous archaeological surveys have been conducted within one mile of the project. These include: at least three surveys located near the Bachelor's Avenue and STH 29/73 intersection for the STH 29 corridor and associated intersections (SHSW#90-1665; SHSW#94-5532; and, SHSW#09-0323) (see Figure 5); one survey for the Lakehead pipeline (SHSW#96-0697); and two surveys in which the information has been lost (SHSW#94-5533 and SHSW#94-5536). An additional survey within one mile of the project area includes the Phase I survey approximately thirty three miles of the DPC N-3 transmission line rebuild located west of the Willard Tap (at the southern end of the project) which was surveyed in 2012 (Twinde-Javner 2012). This survey likely does not show up in the WHPD database since it was conducted at staked pole locations only.

METHODOLOGY

The field methods used during the project conform to those outlined by the *Guidelines for Public Archaeology in Wisconsin* (WAS 2012). This project had new pole locations staked prior to the survey, and since the pole locations would be the only ground disturbance, these were the only areas surveyed. In areas of less than 10% visibility, shovel testing was employed. All soil was screened through a 1/4 inch mesh. Pedestrian survey was employed in current agricultural

Figure 6. Example of area shovel tested along project area (project area under existing transmission in photo line). View facing north. CTH M to left in photo.

Figure 7. Example of area pedestrian surveyed along project area (project area under existing transmission line in photo). View facing north. Bachelor's Avenue to left in photo.

fields. In general, surface visibility within plowed fields was between 75% and 90% at the time of the survey. Areas with steep slope, marsh, standing water, previous disturbance by road construction, or disturbance by utilities were not surveyed. All field notes and other documentation will be stored at MVAC.

RESULTS AND RECOMMENDATIONS

In May and June 2013, MVAC personnel conducted a Phase I archaeological survey of proposed changes to approximately twenty-five miles of the existing N-3 transmission line located in Clark County, Wisconsin. The portion of the N-3 transmission line surveyed in 2013 was from the Willard Tap, located northeast of Rock Dam Lake, to the Lublin Tap/existing substation, located south of Lublin and northeast of Thorp. The exact pole locations were staked prior to the archaeological survey, therefore the staked pole locations were the only areas tested. One previously recorded site, [redacted], a historic Euro-American site, is located [redacted], but is not within the project area. No evidence of this site was found in the current project area. No previously recorded sites are within the project area and no new archaeological sites were discovered. Therefore, no further archaeological work is recommended.

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Theler, James L. and Robert F. Boszhardt
2003 *Twelve Millenia Archaeology of the Upper Mississippi River Valley.* University of Iowa Press, Iowa.

Twinde-Javner, Vicki L.
2012 *Phase I Archaeological Survey of Approximately Thirty Three Miles of the Proposed N-3 Transmission Line Rebuild, Strum Tap to Willard Tap, Located in Trempealeau, Jackson, Eau Claire, and Clark Counties, Wisconsin*. Reports of Investigation Number 942. Mississippi Valley Archaeology Center, University of Wisconsin-La Crosse.

WAS - Wisconsin Archeological Survey Guideline Committee
2012 *Guide for Public Archaeology in Wisconsin*, compiled by M. Dudzik, J. Tiffany, and K. Stevenson, edited by K. Stevenson. Wisconsin Archeological Survey. Madison, Wisconsin.

Appendix 1: Public Land Permit

WISCONSIN PUBLIC LANDS FIELD ARCHAEOLOGICAL PERMIT, 2013

REQUIRED TO CONDUCT ARCHAEOLOGY ON ALL NON-FEDERAL PUBLIC LAND UNDER WIS. § 44.47

Wisconsin Historical Society

Name/Organization/Contact: Vicki Twinde-Javner MVAC Telephone: 608-785-6475

Address: 1725 State St. City: La Crosse State: WI Zip Code: 54601

E-mail Address: vtwinde-javner@uwlax.edu FAX#: 608-785-6474

Institutional Affiliation: UW-L, MVAC Occupation: Archaeologist

Location of work:

Highway: Hwy/Rd County:

Project Begin: Project End:

Other Projects: County: Clark Civil Town: Foster Town: 26N Range: 4W Section: 1 & 12

Quarter Sections (minimum 3): Butler T.27N, R.4W Section 18

Name of Park, Wildlife Area: Site Name: Site Number:

Type of fieldwork: ☑ Phase I/Survey ☐ Phase II/Testing ☐ Phase III/Excavation ☐ Other

Purpose of the fieldwork: ☑ Federal Compliance ☑ State Compliance ☐ Education ☐ Other

Period of field work beginning on: 4/8/2013 and ending on: 8/11/2013

What institution will curate recovered artifacts, notes, and records? Mississippi Valley Archaeology Center
(Curation agreement must be on file with WHS)

Signature of Archaeologist: Vicki L. Twinde-Javner Date: 4/3/2013

Print name: Vicki L. Twinde-Javner ☐ continuation sheet or see attachments

Maps and/or Letters of explanation can accompany this application

Landowner or custodian name (print): Clark County Forest Phone: 715-743-5140

Signature of Landowner: Date: 4/15/13

DO NOT WRITE BELOW THIS LINE

Permit Approved: Date: 5 April 2013

John H. Broihahn
State Archaeologist
Wisconsin Historical Society
FAX: 608-264-6504 / PH 608-264-6496
Email: john.broihahn@wisconsinhistory.org

PLP # 13-018

Conditions:

1) Two copies of the final report must be submitted to the Division of Historic Preservation – Public History.
2) All artifacts, notes and records must be curated in an appropriate facility that is staffed by trained personnel.

This permit does NOT cover work within cataloged and uncataloged burial sites under Wis. § 157.70.
This permit does NOT cover removal of human remains under Wis. § 157.70.

Please contact Sherman Banker at (608) 264-6507 or by e-mail at sherman.banker@wisconsinhistory.org

BIBLIOGRAPHY OF ARCHAEOLOGICAL REPORT FORM

WHS/SHSW # ____ COUNTY Clark

AUTHORS: Twinde-Javner, Vicki L.

REPORT TITLE: Phase I Archaeological Survey of Approximately Twenty-Five Miles of the Proposed N-3 Transmission Line Rebuild, Willard Tap to LublinTap, Located in Clark County, Wisconsin

DATE OF REPORT (MONTH AND YEAR): June 2013

SERIES/NUMBER: Reports of Investigations No. 956

PLACE OF PUBLICATION: Mississippi Valley Archaeology Center

LOCATIONAL INFORMATION [LEGAL DESCRIPTION OF SURVEY AREA (T-R-S)]
Sections 1 and 12 of Township 26 North, Range 4 West; Sections 24, 25, and 36 of Township 27 North, Range 4 West; Sections 6, 7, 18, and 19 of Township 27 North, Range 3 West; Sections 4, 9, 10, 16, 21, 27, 28, 31, 32, 33, 34 of Township 28 North, Range 3 West; and, Sections 2, 3, 4, 9, 16, 21, 22, 27, 28, and 33 of Township 29 North, Range 3 West

U.S.G.S. QUAD MAP(S): Rock Dam Lake, Mead Lake West, Lombard, and Lublin,Wisconsin 7.5' Quadrangles

SITE(S) INVESTIGATED: N/A

ACRES INVESTIGATED: 1 meter wide by 25 miles long – shovel tests or pedestrian survey at proposed pole locations only - see abstract for explanation. AGENCY # ____

INVESTIGATION TECHNIQUES CMPLETED (Check all that apply.)

☐ Avocational Survey	☐ Chance Encounter	☐ Controlled Surface Collection
☐ Faunal Analysis	☐ Floral Analysis	☐ Geomorphology
☐ Historical Research	☐ Interview/Informant	☐ Land Use History
☐ Literature Background Research	☐ Major Excavation	☐ Mechanical Stripping
☐ Monitoring	☐ Osteological Analysis	☒ Phase I-Surface Survey
☐ Phase II	☐ Phase II-Corridor Only	☐ Phase III
☐ Phase III-Corridor Only	☐ Records/Background	☐ Records/Background (Pred. Model)
☐ Remote Sensing	☒ Shovel Testing/Probing (Inten)	☐ Soil Core
☐ Surface Survey (Intensive)	☐ Test Excavation	☐ Traditional Knowledge
☐ Vandalism	☐ Walk Over (Reconnaissance)	☐ Unknown
☐ Other: _____		

ABSTRACT: ☒ Included in report ☐ Written in space below

Office of the State Archaeologist BAR # _____

Appendix F:
Photo Log

Project Name: Strum-Lublin 69kV Transmission Line Rebuild Project

Photo 1. View from Starks Road looking north at the Project ROW along the east side of County Road M.

Photo 2. View from Starks Road looking south at the Project ROW along the east side of County Road M.

Photographer: Lori Davidson

Date Picture Taken: 8/10/2012

Project Name: Strum-Lublin 69kV Transmission Line Rebuild Project

Photo 3. View from Stump Road looking west at the Project ROW along the south side of County Road M.

Photo 4. View from Kempton Road approximately 0.7 mile north of County Road RR looking northeast at the Project ROW.

Photographer: Lori Davidson

Date Picture Taken: 8/10/2012

Project Name: Strum-Lublin 69kV Transmission Line Rebuild Project

Photo 5. View of Kempton Road north of US212 near Bridge Creek Substation looking south.

Photographer: Lori Davidson

Date Picture Taken: 8/10/2012

Appendix G:
The Wisconsin Statewide Karner Blue Butterfly Habitat Conservation Plan Guidance and Construction, Maintenance, Repair, and Management Guidelines

Wisconsin Statewide

Karner Blue Butterfly

Habitat Conservation Plan

Updated for Application to Renew
Federal Fish and Wildlife Permit TE010064-5

May 27, 2010

Contact: HCP Coordinator
Wisconsin Department of Natural Resources • 101 S. Webster Street • Madison, WI 53707
(608) 261-6451 or (877) 452-7637 (toll free)
PUBL-SS-947 2010 Rev.

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Chapter 1. Introduction

This chapter explains the need for updated and streamlining the Wisconsin Statewide Karner Blue Butterfly Habitat Conservation Plan (HCP) and the improvements that distinguish this updated HCP from the original HCP.

- **Overview**
  - Relationship of Updated HCP to Original HCP
  - Reasons for Updating the Original HCP and HCP User's Guide
  - Voluntary (Unregulated) Landowner Category Update
  - Role of Karner Blue Recovery in the Updated HCP

- **Adaptive Management in Action**
  - Major change #1 – Monitoring Strategy Revisited
  - Major change #2 – Guidelines and Protocols Validated and Reorganized
  - Major change #3 – Karner Blue High Potential Range Gets a Scientific Adjustment
  - Adaptive Management Shifts into High Gear – The HCP's Five-Point Plan

- **HCP Improvements: Revisions and Clarifications**

A. Overview

Relationship of Updated HCP to Original HCP: This updated HCP is being submitted in 2009 with an application to the US. Fish and Wildlife Service (FWS) to renew the incidental take permit that has been in place since September 27, 1999. The HCP was updated to comprehensively incorporate numerous adaptive management and streamlining improvements that have been realized through experience, new data and research.

This HCP updates Chapter 2 of the original Karner Blue Butterfly Habitat Conservation Plan and Environmental Impact Statement (EIS) (March 2000) (WDNR 2000); Chapter 2 described the original HCP. This updated version of the HCP is a stand alone document and not part to a combined HCP/EIS as was the original HCP. Thus, this updated HCP replaces the original HCP and does not include the associated National Environmental Policy Act (NEPA) document. NEPA requirements for the updated HCP are being met through the development of an environmental assessment (EA) related to the FWS's issuance of an Endangered Species Act, as amended in 1973, (ESA) section 10 (a)(1)(B) incidental take permit for implementation of the HCP. The original HCP/EIS still functions as a reference document for the updated HCP as it provides background information on all the HCP features and includes greater detail on the rationale and vision of the HCP Partners in designing this unique program during the period of 1994-1999.

The original HCP was developed from 1994-1999. ***The HCP was written with 10 years in mind and based on less knowledge than is available in 2009.*** It was anticipated that the Kbb might be recovered within 10 years or be well on its way to recovery in that time frame. Due to the greater threats to the Kbb, particularly in the states east of Michigan, the prospect and timeframe of

range-wide recovery is much less certain in 2009 than it appeared to be in 1999. Therefore, this HCP reflects longer term planning.

The original 1999 HCP (WDNR 2000) included numerous conservation and operational strategies, many of which were considered unique at the time along with extensive discussion of the intentions and objectives for those strategies. The original HCP predated the FWS's addendum to the HCP Handbook also known as 5-point policy guidance (USFWS, 2000) **(USFWS 2000)** and the Final Karner Blue Butterfly Recovery Plan (USFWS 2003). Areas of the FWS's addendum to the HCP Handbook that were particularly helpful to updating the HCP related to setting biological goals, adaptive management and monitoring.

Reasons for Updating the Original HCP and HCP's User Guide: There was a need to consolidate the conservation measures found in the original HCP for easy access by partners to make accessing information for various HCP activities (e.g., land management activities, amendments and training) less cumbersome and confusing. The original HCP included conservation measures and direct instructions embedded in the body of the HCP, some of which were also duplicated in a few soup-to-nuts guidelines found in Appendix F of that HCP, e.g. Wildlife Management Guidelines for the Karner Blue Butterfly and Forest Management Guidelines. How well and to what degree these adopted methods would work for such a diverse and changing group of HCP Partners was somewhat unknown without actual experience implementing the conservation plan. With the Kbb waiting for partners' beneficial disturbance the plan was to move forward with implementing the HCP with its original set of conservation measures and a strong commitment to an active adaptive management approach which embraces continuous improvement.

As the original HCP was being implemented conservation measures were refined; separate stand-alone guidelines and protocols were developed, often leaving direct instructions in the body of the HCP obsolete. It was very cumbersome to amend guidelines and protocols woven throughout the body of the HCP. Therefore, in this updated version of the HCP, the direct instructions and detailed conservation measures have been removed from the text of the document, making this HCP more general, informative and to the point. The body of the updated HCP provides information HCP partners need to know to assist them in implementing their HCP commitments. All conservation measures and specific HCP implementation instructions have been consolidated for easy access and are now contained in the updated HCP User's Guide *(Refer to Appendix E and the HCP webpage, http://dnr.wi.gov/forestry/karner/hcp-userguide.htm)*. The User's Guide is a compilation of all of the HCP's management and monitoring guidelines and protocols, the procedures the Wisconsin DNR (DNR) and IOC use in administrating the HCP, and operating procedures for Partners.

Voluntary (unregulated) Landowner Category Update: The Voluntary (unregulated) Landowner Category is one of the most innovative and unique strategies of the HCP. . As part of their commitment to the HCP, partners pledged to encourage Karner blue conservation on private lands in the Karner blue range, including voluntary, non-partner participants, which they do via numerous education and outreach activities. The automatic permit coverage for the incidental take of Karner blues by landowners in the Voluntary Group, and partner outreach/education

campaign form the backbone of the voluntary participation strategy. The strategy is based on the expectation that many small landowners will contribute willingly to conservation programs when they are able to do so voluntarily, without legal requirements or mandates. The success of this innovative approached was assessed 3 years into implementation of the original HCP. The DNR's 3-Year Report to the Service on the effectiveness of outreach, education, and voluntary participation in the original HCP (WDNR 2003) highlights many activities conducted by private landowner to further the conservation of the Karner blue.

The voluntary participation strategy has proven to be a huge success. The approach has done more than expand the Karner blue range, it has helped to break down fears and misconceptions about endangered species law while building trust between private landowners and government agencies. Generally, Wisconsin landowners are no longer apprehensive about regulatory implications when they hear the name Karner blue. In fact, many landowners now embrace the idea of Karner blue conservation and are eager to find ways they can encourage Karner blue populations on their land.

While it is difficult to quantify the overall impact of the voluntary participation strategy, it is easy to recognize the products of this pressure-free inclusion campaign and the general awareness it has brought to the state. Partners have carried their stewardship message to millions of people, many of whom have gone on to pursue conservation and outreach efforts of their own. The evidence is all around us, from the freshly planted lupine patch in a Waupaca county backyard to the annual Karner Blue Butterfly Festival in Black River Falls. Karner blue conservation has turned into a Wisconsin phenomenon.

In addition, the HCP's Voluntary (unregulated) Landowner Category has extended partnerships between private landowners and various Federal land conservation programs including the FWS's Partners for Fish and Wildlife Program, the Natural Resource Conservation Service's Wildlife Habitat Improvement Program (WHIP) and the Farm Services Agency's State Acres for Wildlife Enhancement (SAFE) programs. The Voluntary (unregulated) Landowner Category continues to be a conservation strategy in the updated HCP *(Refer to Chapter 5)*.

The Role of Karner Blue Recovery in the Updated HCP. One of the most significant realignments of conservation focus in this HCP is the voluntary assistance of HCP Partners in the Kbb recovery program. Based on the HCP Partners' assessment of the first ten years of implementing the HCP and the potential for an unanticipated long-term extension of the HCP program, they realized that to successfully conclude their conservation program, they must engage in recovery efforts for the species. This was not the philosophy in 1999 when several partners did not desire to assist with recovery of the butterfly but would help conserve the species.

The DNR is involved in the Karner Blue Butterfly Recovery Program by virtue of its agency mission. Therefore, the DNR's HCP commitments include assisting the FWS in recovery of the Kbb.

Managers of DNR properties, including those designated for recovery, receive their incidental take authority through the same Section 10(a) (1) (B) incidental take permit as the other partners.

Therefore, the DNR must implement the HCP and follow much the same conservation measures and reporting procedures as all partners. The additional recovery role of DNR includes taking measures to "feature and enhance" Kbb habitat on DNR recovery properties and to implement, in some cases, enhanced conservation and habitat restoration practices that go above and beyond managing with consideration for the Kbb. Inversely, the unique role of other HCP Partners is to provide voluntary support to the DNR and to the recovery properties where their help will further the DNR's efforts to achieve recovery goals. *(Refer to Chapter 6 for more detailed information regarding Karner blue recovery.)*.

B. Adaptive Management in Action

When the FWS issued an incidental take permit in 1999 for implementation of the HCP, the DNR, 25 HCP Partners and the FWS started off with caution; aware that there were uncertainties about the species and the range, and cognizant that when more experience was gained about how the monitoring system would work and what it would teach them that they would have to (want to) make adjustments. That time came in 2003. Improvements to the following systems were the result:

Monitoring Strategy Revisited: The effectiveness and self-monitoring strategies were re-evaluated. Originally these monitoring strategies implemented by the HCP partners provided valuable and important information on the Karner blue and its distribution. However, partners realized they were not as efficient, useful or biologically insightful as was needed. They needed to adapt. To that end in 2003 the HCP Partners' Implementation Oversight Committee (IOC) established a Monitoring Improvement Team (MIT) to assess the monitoring program and as a result, many improvements to the monitoring program were identified and implemented.

Guidelines and Protocols Validated and Reorganized: The HCP guidelines and protocols were revised (where needed) and reorganized. The IOC sponsored an effort to validate existing conservation measures and reorganize management guidelines. This effort was initiated by the Guideline-Repacking-Improvement-Team (GRIT) and resulted in the "HCP User's Guide" discussed above in this chapter.

With the realization that the HCP would be needed beyond 10 years, many other strategies, systems and procedures were developed. New partner inclusion processes for Limited Partners and new Full Partners were developed to engage 11 new county and township roadway managers as Limited Partners and 3 new Full Partners. As construction projects were being planned, a construction guideline and associated protocols evolved; and new protocols were developed for vibratory cable plowing and emergency situations. Also, administrative and operating procedures were needed to better document and direct future IOC and DNR program staff. Efforts are planned to continue developing better procedures and training materials. The DNR's Karner Blue HCP webpage *(http://dnr.wi.gov/forestry/karner/)* and the User's Guide will play a large role in institutionalizing and deploying HCP guidance and direction for as long as the HCP is needed.

The Karner Blue High Potential Range (HPR) gets a scientific adjustment. The Kbb HPR and the recovery areas were greatly enhanced as the result of a Kbb probability model made

possible with several years of Partner data.

In collaboration with the DNR's Division of Forestry, a Karner blue butterfly probability model was developed by the *Forest Landscape Ecology Lab, Department of Forest Ecology and Management at the University of Wisconsin-Madison (Sickley and Mladenoff 2007).* This model utilized several years of Partners' Kbb habitat and Kbb presence and absence data that was not previously available.

In the original HCP the Kbb recovery areas were included in areas called Significant Population Areas (SPAs), which were included within larger Areas of Conservation Emphasis (ACEs). The SPAs and ACEs were replaced with Biological Recovery Zones (BRZs), which were derived from the Kbb probability model in combination with Kbb locations on recovery properties. BRZs are Kbb population based, more scientific and benefit from a great deal more Kbb data than was available when the ACEs and SPAs were mapped. *(Refer to Chapter 6 and Figure 6.10 Karner Blue Butterfly Biological Recovery Zones on p. 51).* A full report on the probability model and the current HPR and BRZ maps are available on the DNR's HCP Webpage *(http://dnr.wi.gov/forestry/karner/)(Refer to Chapter 2 of this HCP for more detailed information on the Kbb HPR).*

Adaptive management shifts into high gear –The HCP's Five-Point Plan. Following the efforts noted above, the HCP Partners soon realized that a significant amount of new information had been accumulated that could be used to evaluate the effectiveness of the HCP more broadly. The Partners soon realized that the HCP's adaptive management strategy, while excellent in concept was a passive system not directly engaged to make improvements in the HCP. It would need to become an active system employed as the foundation of the monitoring improvement process (and all HCP processes). Armed with a raft of new data, the HCP Partners adopted the 5-Point Plan for Continuous Improvement in 1996. The 5-Point Plan provides a broad framework and structured set of benchmarks or themes for setting goals for adaptive management. Significant efforts to improve the HCP have been guided by the HCP's 5- Point Plan (*Refer to appendix C).*

The Five Points of the Plan include:

1. FOCUS HCP implementation on recovery areas. Focus on what really matters; the biological needs of the Kbb. De-emphasize that which does not contribute to recovery.
2. STREAMLINE processes. Eliminate non-value added activities.
3. IMPROVE PROTOCOLS AND GUIDELINES, i.e. monitoring and management protocols and guidelines.
4. RECOVER the Kbb in Wisconsin (DNR actively involved and other Partners in a voluntary support role)
5. EXTEND the TERM of the permit: Develop 10-Year ITP RENEWAL proposal. Evaluate progress and move forward. If the HCP is necessary after 2019, this can be repeated.

The Five-Point Plan was adopted by the HCP Partners in 2006, not only as an approach to jumpstart needed improvements, but as a guide for continuous improvement into the future.

C. HCP Improvements: Revisions and Clarifications

Numerous clarifications, revisions and a few amendments have been made to the updated HCP as more was learned through experience implementing the original HCP. Numerous other activities and protocols that were not envisioned at the onset were developed and added, e.g. vibratory cable plowing protocol. Listed are most of the significant and necessary improvements in the updated HCP made from about 2004 to2009:

Revisions

- **No Surprises -- Changed Circumstances:** Wildfires and Gypsy moth infestation were removed from changed circumstances. Wildfires were removed because, from experience, wildfires provided (unplanned) beneficial habitat disturbance and Gypsy moth infestation did not apply for a number of reasons including the lack of appropriate conservation measures in the HCP and the likelihood that partners would not engage in Gypsy moth control activities. In addition, because the Gypsy Moth Program is funded by the U.S. Forest Service, a more appropriate review of this program is through the ESA section 7 consultation process.
- **Certificate of Inclusion authorization** has been stepped down from the FWS to DNR via an amendment to the DNR's incidental take permit (ITP) TE010064-5.
- **New Partners** have been added (14) as sub-permittee in the ITP.
- **"Lands Included"** – Partners redefined their "lands included" in the HCP in their Species and Habitat Conservation Plans (SHCAs) to reflect changes in the adjusted Kbb HPR.
- **New partner recruitment**: The broad ITP/Implementing Agreement (IA)/HCP requirement to actively recruit (into the HCP) all the entities listed in the original HCP's Appendix D has been discontinued. While partners are still committed to broad outreach and education, direct, active recruitment efforts are best conducted in Biological Recovery Zones (BRZs) where they may benefit recovery of the Kbb.
- **DNR's Landowner Contact and Assistance Program** commitment is withdrawn due to the loss of funding. This need is being filled through external collaboration.
- **Kbb High Potential Range (HPR)**: The Kbb HPR was adjusted using a Kbb Probability Model.
- **Kbb recovery focus:** SPAs & ACEs in the original HCP were changed to Biological Recovery Zones (BRZs); outreach & education and new partner recruitment will be focused in BRZs.
- **Inclusion/Deletion of Element Occurrences (EOs):** New Kbb EOs has been added to the DNR's Natural Heritage Inventory Database and a number have been removed, resulting in changes to the Kbb High Potential Range.
- **Monitoring Changes:**
  - Streamlined monitoring: The approach to monitoring was changed to focus surveying efforts where Kbbs are, or are likely to be, in order to apply conservation measures. The large effectiveness monitoring program, which included monitoring in locations where Kbb occurrences were unlikely and where no management actions were planned, was discontinued.

  - Cause-Effect (C-E) Monitoring: The C-E monitoring for shifting mosaic activities was discontinued.
  - Compliance Audits: Compliance audits have evolved over time with experience. Audits once focused primarily on understanding where to find conservation measures and on documentation of management actions conducted in occupied Kbb habitat; today there is a greater emphasis on assuring that Kbb conservation measures are applied correctly and consistently.
- **All conservation measures** were (and continue to be) evaluated and updated as appropriate.
- **Measuring and reporting incidental take** has evolved. Take = take of occupied lupine habitat. Other adjacent habitat components such as nectar areas are not included in the measure of take. However, these areas are included in the compensatory mitigation formula for permanent take.
- **The Partner Inclusion Application process** (for new Full and Limited Partners) was developed, which includes a new partner orientation program.
  - The Limited (Local) Partner designation evolved from the concept in the original HCP of a simple partner group for entities that only apply "Best Management Practices", e.g. mowing roadside rights-of-way.
  - The Species and Habitat Conservation Agreement (SHCA) templates for Full Partners and Limited Partners were updated.
- **County Forest Long Term Habitat Plans are** no longer mandatory for those who originally committed to them. County forest partners will do these conservation efforts regardless.
- **The Articles of Partnership** (AOP) were updated in 2009. The original AOP's goals were focused on drafting an acceptable HCP and receiving an incidental take permit, which were accomplished. New goals were developed to reflect the ongoing conservation program.
- **HCP Annual Report –** miscellaneous updates were made that reflected changes in definitions, nomenclature and clarifications, e.g. what constitutes take, change from SPA to BRZ, etc.
- **Land Transfers** – The necessity to report land transfers within 45 days that take place in a BRZ was eliminated. Instead, direct recruitment of conservation assistance from landowners in BRZs where assistance is needed to achieve recovery goals will occur.
- **Timber harvest** over snow covered frozen ground measure to minimize take was deleted. What is important is to avoid impact to lupine areas whenever harvest occurs.

Clarifications

- **Permanent take vs. short term (temporary) take**: Permanent take is defined in the HCP as an activity that precludes Kbb occupation for at least 5 years. Many construction projects may destroy habitat, but it will be replaced within 5 years. This temporary loss of habitat is only short-term take by definition. Mitigation requirements are detailed in the construction guidance.
- **No Net Loss of Habitat (NNLOH) –** measuring the primary goal of the HCP: This has been an elusive metric for nearly a decade. In 2009 the HCP Partners got a handle on this and metrics are being incorporated in the annual reporting and compliance audit processes beginning with reporting year 2010.

- **One-time-permittees** can receive incidental take authority via the FWS's incidental take permit issued to the DNR for implementation of the HCP, but are technically not HCP Partners; they do not provide ongoing beneficial disturbance or participate in any way as a Partner.
- **Automatic permit coverage – Voluntary (unregulated) Landowner Category**: Automatic permit coverage for take of the Kbb is provided to landowners in the Voluntary Group via the FWS's incidental take permit issued to the DNR for implementation of the HCP; the coverage remains active only as long as the ITP is in effect.
- **Commercial Forestry**: Initially, the DNR distinguished the difference between commercial and non-commercial forestry by ownership size (1000 acres). The HCP did not intend to require landowners that had land in excess of 1000 acres but were not managing the land primarily for the production of forest products (e.g., educational camps, Boy Scout or Girl Scout camps, recreational land) to obtain a certificate of inclusion. This group is included in the Voluntary Landowner category.
- **The voluntary category** is authorized to do permanent incidental take.

Other Improvements: New Additions, Deletions and Changes

- **A Comprehensive HCP User's Guide** was developed as a web-based repository for all management and monitoring guidelines and protocols, and all administrative and operational procedures. HCP conservation measures, survey protocols and forms are now in the Users Guide on the DNR's HCP webpage (*http://dnr.wi.gov/forestry/karner/hcp-userguide.htm)* to help assist partners with high staff turnover rates to orient new staff to the HCP.
- **Construction Guideline** (New): At the onset, no partners had construction projects planned that would impact Kbb. In time this changed, so guidelines were developed. This guidance is being implemented provisionally as experience is gained using them. The guidance includes these features:
    - Habitat Restoration Protocol
    - Egg Salvage Protocol
    - Temporary Work Space – A mechanism to cover take of Kbbs in temporary work space has been developed that does not require amending SHCAs.
    - A mitigation planning tool, and
    - Provisions for implementing minor and routine maintenance activities.
- **Emergence Model** A Kbb emergence model was developed to predict the onset and the peak of each flight.
- **An Emergency Guideline** was developed to provide guidance and contingencies in the event of serious emergencies that preclude management with consideration by definition.
- **A Communication Plan** has been developed and has since been improved consistent with the HCP's 5-Point Plan.
- **Recovery actions have been integrated into the HCP**, e.g. management protocols for the DNR (a recovery partner) include conservation measures to "feature and enhancement" the Kbb; these measure require a higher level of restoration (seed mix) and post-restoration management to be used on recovery properties.
- **Recovery Program Report in HCP Annual Reports:** In as much as the DNR's recovery properties receive their incidental take authority through the HCP, information from recovery

properties will be included in the HCP's annual report. This will not replace the DNR's Bureau of Endangered Resources Section 6 Kbb Recovery Report to the FWS.

Chapter 2. The Karner Blue Butterfly in Wisconsin

This part of the HCP includes information about the Karner blue butterfly and its location in Wisconsin. It is divided into the following sections:

- Importance of Conservation Measures to Karner Blue Butterflies in Wisconsin
- Elements of Karner Blue Butterfly Ecology
- Distribution and Abundance: Potential Karner Blue Butterfly Habitat
- Distribution and Abundance: Karner Blue Butterfly

A. Importance of Conservation Measures to Karner Blue Butterflies in Wisconsin

The disappearance and fragmentation of the pine and oak savanna habitats, through a variety of causes, has been a major contributor to the range-wide decline of the Karner blue butterfly (USFWS 1992a, 1992b; and works cited therein). In addition, natural plant succession in these habitats has eliminated Karner blue butterflies from some areas.

In locations other than Wisconsin and Michigan, the abundance of Karner blue butterflies has declined significantly. Karner blue butterflies have been extirpated from Iowa, Ohio, Ontario, Maine, Massachusetts, New Jersey, New Hampshire and Pennsylvania, appear to be extirpated in Illinois, and persist in only remnant populations in Minnesota, Indiana and New York (Iftner, *et al.* 1992; Baker 1994; Packer 1994; USFWS 2003). Karner blue butterfly reintroductions are ongoing in Ohio, New Hampshire and southeast Michigan. Population augmentations are being done in Indiana and New York. Due to the lack of viable populations of the butterfly in several states and the relative abundance of this species' populations in Wisconsin and Michigan, Wisconsin plays an important role in protecting Karner blue butterflies.

B. Elements of Karner Blue Butterfly Ecology

The Karner blue butterfly depends on the leaves of the wild lupine (Lupinus *perennis*) in its larval phase. The wild lupine in turn depends on periodic disturbance to allow it to succeed in the face of competing vegetation. This dynamic represents a unique paradox in endangered species protection and habitat conservation. *(Refer to Appendix A for detailed biological information on the Karner blue butterfly and its habitat).*

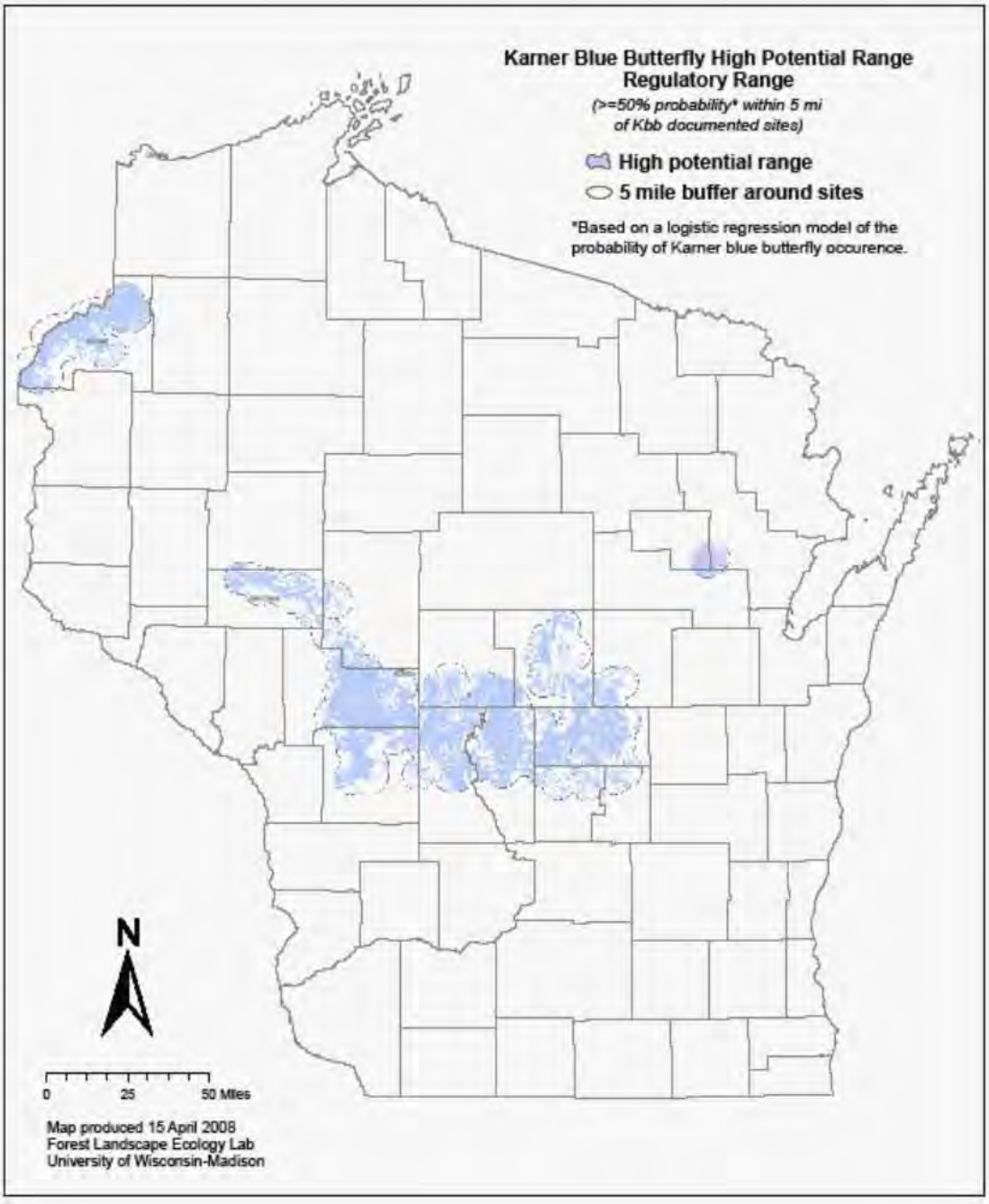
C. Distribution and Abundance: Potential Karner Blue Butterfly Habitat

This section briefly describes the distribution and abundance of known and potential Karner blue butterfly habitat. Potential habitat is defined as habitat that will meet certain biotic and abiotic conditions to support wild lupine at any point in time. Known habitat is defined as those surveyed areas where wild lupine has been found and which can support Karner blue butterflies. Known-occupied habitat is an area that currently supports Karner blue butterflies in association with wild lupine.

To assist the HCP partners in predicting where potential Karner blue butterfly habitat may occur throughout the state, Geographic Information System (GIS) technology was used to develop a

series of progressively more informed maps from 1995 through 2009. In February 2007 the HCP Partners adopted a new Karner Blue Butterfly High Potential Range (HPR) *(See Figure 2.10. below)* based on a probability model developed by the Forest Landscape Ecology Lab at the Department of Forest Ecology and Management at the University of Wisconsin-Madison. The most current HPR map can be found on the Karner Blue HCP Webpage: http://dnr.wi.gov/forestry/karner/

Figure 2.10. Karner Blue Butterfly High Potential Range



D. Distribution and Abundance: Karner Blue Butterfly

Prior to 1990, information on the current status of the Karner blue butterfly in Wisconsin was lacking. Only 36 historical occurrences were known from the state (e.g., there was a 1921 record from Menominee County; in the 1960s, Karner blue butterflies were reported from Burnett County in northwestern Wisconsin [Royer 1962, Shapiro 1969]).

Today, Karner blue butterfly populations in Wisconsin are concentrated across the central counties and in the far northwest on sandy soil areas of Burnett County (Table 2.10, page 47).

Wisconsin supports the largest and most widespread Karner blue populations worldwide. As of 2009, at least 305 Karner blue butterfly element occurrences in the DNR's Natural Heritage Inventory (NHI) database were believed to be extant (T. Hyde, Bureau of Endangered Resources, pers. comm.). An "element occurrence" is a discrete record of Karner blue butterfly occupation as tracked by the NHI; some occurrences may be combined into single populations or metapopulations pending further research on Karner blue butterfly dispersal and behavior. These 305 element occurrences are grouped into about fifteen large population areas. Based on NHI data, most of these larger populations are found on sizable contiguous acreages in central Wisconsin and are concentrated in five general regions of the state:

West-Central Wisconsin (southern portion)
(Including Jackson County and Black River State Forests and Fort McCoy Military Reservation)

West-Central Wisconsin (northern portion)
(Including Eau Claire and Clark County forests)

Central Wisconsin
(Including Necedah National Wildlife Refuge, Sandhill State Wildlife Area, Volk Field Air National Guard Hardwood Air to Surface Gunnery Range, and throughout the northern half of Adams County on private lands)

East-Central Wisconsin
(Including Hartman Creek State Park and Emmons Creek State Fishery Area and scattered across the largely agricultural landscape on several smaller public and private properties)

Northwest Wisconsin
(Including Crex Meadows State Wildlife Area, Fish Lake State Wildlife Area, Governor Knowles State Forest and Burnett County Forest)

Table 2.10. Wisconsin Counties with Known Karner Blue Butterfly Occurrences (Based on NHI Data through 2007)

Burnett	Monroe	Waushara
Eau Claire	Wood	Waupaca
Clark	Juneau	Marquette
Jackson	Adams	**Chippewa
Menominee	Portage	**Barron
**Oconto	**Dunn	**Polk
*Sauk	*Kenosha	Shawano
Green Lake	**Outagamie	

* Records in these counties have not been verified and likely do not exist.
** NHI records in these counties were investigated in 2007 and it was found that Kbb likely never occurred at these sites.

Chapter 3. Land Conservation Strategies

This part of the HCP identifies acreages and land management measures contributed by the HCP Partners to benefit the Karner blue butterfly while maintaining a variety of land uses, including social and economic uses. This part is divided into the following five sections:

- Measuring Conservation in this HCP
- Acreages Included in the HCP and Categories of Management
- Partner Groups
- Broad Conservation Strategies
- Land Management Activities

Direct land management efforts represent a significant portion of the Wisconsin Karner blue butterfly habitat conservation efforts. These conservation efforts routinely enhance habitat and are not applied to management just on occupied habitat. Additional activities will also be necessary for the success of the HCP. For example, many Partners will help maintain a broad state wide distribution of Karner blue butterflies through public outreach and education efforts, which encourage participation in butterfly conservation.

Part A. Measuring Conservation in this HCP

Insect conservation efforts are based on different premises than traditional vertebrate conservation efforts. The Karner blue butterfly, like most insect species, has adapted to survive by producing relatively large numbers of eggs and large populations, with short life spans of individual animals and frequent generation turnovers. Most of the Karner blue butterfly's life is spent in the egg and larval stages. Natural mortality rates during these immature life stages are much greater than mortality rates observed for vertebrate animals. The survival strategy of the Karner blue butterfly relies on the success of overall populations rather than individual animals. To accommodate this strategy, a focus on habitat conservation and the success of populations -- rather than individuals -- is key to butterfly preservation (Scott 1986). Accordingly, the emphasis of this HCP moves away from the traditional measuring of the take of individual specimens of a listed species and toward managing for conservation of habitat and large populations.

Short-term Take. The long-term viability of Karner blue butterfly populations depends on habitat disturbance. Without periodic disturbance, natural woody succession shades out wild lupine and nectar plants and can passively eliminate Karner blue butterfly populations. Management of early successional habitat and creation of new habitat to replace habitat lost to natural succession is therefore necessary. This reality underscores the need for managing landscapes for a dynamic, shifting mosaic of populations. Fortunately, *many* land management activities, such as those used in forest management and utility right-of-way maintenance, provide such disturbances.
In situations like this, take is best measured in the context of the overall balance of habitat loss to

habitat gain; and temporary population declines to enduring population viability. It is not possible, in a defensible manner, to accurately express the take of individual Karner blue butterflies resulting from land management activities. Locations and numbers of individuals, particularly in the larval and egg stages, are usually unknown. Furthermore, similar activities can

produce variable mortality rates. Although management activities may result in some mortality, the absence of short-term disturbance would result in greater long-term losses.

> **Definition: <u>Short-term take</u>** is an impact to occupied Karner blue butterfly habitat resulting from land management or land use activities, which results in habitat disturbance that renews declining habitat and/or restores habitat to replace habitat lost to succession or as a result of a land use activity. Short-term take is conducted following approved conservation measures in the HCP in a manner to avoid and/or minimize harm to the KBB (e.g. through appropriate timing of activities, selective routing and siting of projects, etc.) and maintain, enhance, and/or restore KBB habitat.
>
> Such short-term impacts allow Kbb survival and/or the restoration and reoccupation of the site within five years. Activities or projects that may fall within the definition of short-term take include, but are not limited to:
> - mowing of roadside rights-of-way
> - repairing roadside ditches to restore proper drainage
> - roadside ROW improvements
> - brush removal along utility corridors
> - forest management practices
> - conservation management, e.g. mowing and brushing for wildlife management, herbicide applications, prescribed burning, etc.
> - pipeline and road construction, electrical and cable installations, and other construction and development projects that DO NOT cover or replace the habitat in a permanent manner (see definition of permanent take) and allow for habitat restoration and Kbb re-occupation within 5 years.

Permanent Take. Consequently, a more meaningful conservation measure is the *impact to habitat that precludes Karner blue butterfly occupation in the foreseeable future*. Examples of permanent take include paving or flooding existing occupied habitat. Activities are anticipated by some Partners (e.g. utility construction, flowage construction, road development, etc.) that could result in permanent take of occupied Karner blue butterfly habitat. If a Partner decides to move forward with any of these activities in the High Potential Range, surveys in the affected areas will occur prior to the activity. If the potentially affected areas are found to be occupied, the occupied area will be avoided to the greatest extent practicable. If the occupied areas cannot be avoided and permanent take is anticipated, a mitigation plan, which must be approved by the DNR and the USFWS, will be developed. Mitigation will be encouraged to take place on recovery properties where long term Karner blue management is committed. ***Mitigation is required for all permanent take.*** Partners are encouraged to begin coordinating with the DNR and the USFWS as early as possible and prior to the permanent take to insure plans meet with agency approval. In cases where executed plans do not meet with the approval of the DNR and USFWS, remediation work by the Partner will be required.

> **<u>Definition: Permanent take</u>** is an impact to Karner blue butterfly habitat, through land management or land use activities, that precludes Karner blue butterfly occupation. Such long-term impact involves taking that does not allow for the restoration and reoccupation of the site for a minimum of five years. Activities or projects that may fall within the definition of permanent take include, but are not limited to:

- construction of roadways and parking lots;
- construction of buildings or structures and associated facilities;
- other construction or development projects that cover or replace the habitat in a permanent manner (at least 5 years), such as an airport or a flowage; and
- residential housing developments. [Note: This category does not include a permanent or second home and associated structures that are owned or built by the owner for his or her own use. This provision applies only to those housing developments approved after the date of permit issuance.]

One-time Permittee. Permanent take by certain categories of non-partner landowners will be accounted for through the one-time permittee provision in the landowner participation plan outlined in Chapter 5 of the HCP (see pages 45-46).

Part B. Acreages Included in the HCP and Categories of Management

Table 3.11 (20-22) identifies total partner acreage included in the HCP. This acreage is a subset of the total acreage Partners own and manage (**821,963** of 2.03 million acres). To be listed in Table 3.11, the acres needed to be: (1) capable of supporting the Karner blue butterfly now or in the future (i.e., within High Potential Range and on appropriate sandy soils) and (2) chosen by the individual Partners for inclusion under the permit.

Appendix A of each individual partner's conservation agreement identifies the "lands included" by acreage and location that are subject to pre-management surveys and approved conservation measures identified in the HCP and/or the Partner's conservation agreement. The "lands included" are those lands in the High Potential Range, most of which are capable of supporting the Karner blue butterfly, primarily because they contain sandy soils. Partners will add acreage to this category if found to be occupied or have the high potential to become occupied. Partners can receive permit coverage for acreage added to this category through a "land transfer" process, as defined by the DNR. Maps of included acreage will be updated by the Partners as needed.

The ITP will cover all partner-owned and managed lands in the state (a total of greater than 2 million acres), as well as all acreage included in the private and public voluntary status under the Landowner Inclusion Strategy (see Chapter 5 of the HCP for details of the landowner participation plan, pages 43-49).

Partners intend to manage the acreage identified for inclusion in the HCP with some level of positive consideration for the Karner blue butterfly. Management levels to benefit the Karner blue butterfly will vary across partner activities and economic goals. There are two distinct levels of focus:

- management ***with consideration*** for the Karner blue butterfly and its habitat, and
- management ***to feature and enhance*** the Karner blue butterfly and its habitat.

(Refer to Table 3.12 on page 22 for examples of activities for these two management categories.)

Management with Consideration for the Karner Blue Butterfly and its Habitat. This management category represents lands owned or managed by Partners on which consideration for the Karner blue butterfly and its habitat will be incorporated into routine land management

activities. Acreage in this category may include an entire, dynamic landscape with only portions occupied by the Karner blue butterfly at any given time. Although consideration measures will vary according to the land, activity and Partner, the long-term biological goal of this management focus is for butterfly habitat gains to equal or exceed losses occurring through natural succession or otherwise. *(Refer to the HCP goal of No Net Loss of Habitat in Chapter 4 of the HCP.)*

Land management activities for HCP acres in this category will primarily reflect the individual land management goals of the Partner, e.g. maintaining access to utility rights-of-way to restore power after a storm, to harvest timber, to maintain roadside rights-of-way for safe use of roads, etc. However, the land manager will apply management for these objectives in ways that are considerate of the Karner blue butterfly and its habitat needs, i.e. the HCP management guidelines and protocols. The first step of consideration for the butterfly is to determine if Karner blue butterflies are present or absence on or near areas of planned activity. If an area is occupied, the Partner will follow the conservation measures outlined in the applicable HCP management protocols in the HCP User's Guide. Conservation measures are designed to minimize impacts to Karner blues while providing necessary and beneficial disturbance to encourage habitat viability.

Management to Feature and Enhance the Karner Blue Butterfly and its Habitat. This management category represents lands that are owned or managed by Partners on which one of the primary management goals is to feature Karner blue butterfly habitat or the broader barrens community that includes it. This may be accomplished through habitat management, enhancement, or restoration activities that promote wild blue lupine, nectar plants, microhabitat, or habitat heterogeneity for the Karner blue butterfly. As with the management with consideration level, these lands are managed with the biological goal and expectation that Karner blue habitat gains will equal or exceed losses. Additional measures are taken, however, to promote viable Karner blue butterfly populations despite potential economic costs.

Managing with consideration and managing to feature and enhance share in common the same management protocols. The greatest distinction is in the level of conservation in each focus. The most significant difference is seen in the options for habitat restoration described below. *(Refer to "Habitat Restoration Protocol" in the HCP User's Guide in Appendix E.).*

Types of Karner Blue Butterfly Habitat Restoration

- **Habitat Replacement** *if Managing with Consideration*

Habitat Replacement restorations are conducted in response to construction, maintenance, management and repair activities and are meant to replace habitat lost as a result of these activities. These restorations are designed to provide the basic components (lupine and nectar plant requirements) of suitable Kbb habitat; and are **not** necessarily intended to restore optimal quality barrens flora.

- **Habitat Restoration** *if Managing to Feature and Enhance*

In restorations intended to feature and enhance Kbb's, the creation of quality barrens and prairie habitat is also considered. Restorations of this type not only benefit Kbb's, but also a broad range of associated barrens species. This type of restoration, like habitat replacement, is expected to meet basic lupine and nectar plant requirements for the Kbb.

However, planting a diverse seed mix is strongly encouraged to provide as much benefit as possible to other barrens species.

Table 3.11. Partner Acres in the HPR Included in the HCP *and Subject to Monitoring, Management and Reporting*

Full Partners	Acreages Included in HCP		
	Mgmt. with Consideration	Mgmt. to Feature, Protect, & Enhance	Total
Forest Industry			
New Page Wisconsin System Inc	1,115		1,115
Plum Creek Timber Company	53,900		53,900
Johnson Timber Corporation - Futurewood	70		70
Wausau Paper Corp.	875		875
Wisconsin River Power Company	5,159		5,159
County Forests			
Burnett County	107,744		107,744
Clark County	134,638		134,638
Eau Claire County	27,270	730	28,000
Jackson County	28,900	6,100	35,000
Juneau County	18,911		18,911
Monroe County	6,844		6,844
Washburn County	295		295
Wood County	38,049		38,049
Wisconsin State Agencies			
Department of Natural Resources	48,994	17,347	66,341
Department of Transportation	8,052		8,052

Table continues on next page.

Table 3.11. Partner Acres in the HPR Included in the HCP *and Subject to Monitoring, Management and Reporting*, Continued

Full Partners	Acreages Included in HCP		
	Mgmt. with Consideration	Mgmt. to Feature, Protect, & Enhance	Total
Utility Managers			
Adams Columbia Electric Cooperative	1,951		1,951
Alliant Energy – WP&L	275,635		275,635
American Transmission Company, LLC	5,117		5,117
ANR Pipeline – TransCanada Corporation	764		764
Enbridge Energy Company, Inc.	353		353
Northwestern Wisconsin Electric Company	1,500		1,500
Oakdale Electric Cooperative	6,196		6,196
Polk-Burnett Electric Cooperative	1,889		1,889
Wisconsin Gas Company - WeEnergy	889		889
Wisconsin Public Service Corporation	4,724		4,724
Xcel Energy, Inc.	5,980	20	6,000
Limited (Local) Partners			
Adams County Highway Department	2,000		2,000
Adams, Town of (Adams County Wisconsin)	550		550
Burnett County Highway Department	856		856
Eau Claire County Highway Department	3,568		3,568
Foster, Town of (Clark County Wisconsin)	10		10
Juneau County Highway Department	852		852
Lincoln, Town of (Burnett County Wisconsin)	245		245
Millston, Town of (Jackson County Wisconsin)	480		480
Quincy, Town of (Adams County Wisconsin)	21		21
Swiss, Town of (Burnett County Wisconsin)	688		688
Waupaca County Highway Department	2,682		2,682
TOTAL ACRES INCLUDED IN HCP			**821,963**
Other Partners	**Acreages Not Applicable**		

The figures shown in Table 3.11 (above) reflect partner lands known to be suitable to support Karner blue butterfly populations. Additional acreages owned by individual Partners may become included in the HCP at a later date, if information supports the suitability of those lands

to maintain Karner blue butterflies.

Table 3.12. Examples of Activities Included in Each Management Category (*Note:* Specific options may not be employed by all partners.)

Management with Consideration for the Karner Blue Butterfly and its Habitat	Management to Protect or Enhance the Karner Blue Butterfly and its Habitat
Biological Goal: Habitat gains equal or exceed losses and continue to provide habitat	**Biological Goal:** Habitat gains equal or exceed losses and continue providing habitat, but also extra steps to promote/maintain higher Karner populations, sacrificing some economic return
➢ Pre-management presence/absence surveys	➢ Pre-management presence/absence surveys
➢ Training of staff for Karner blue butterfly and lupine presence/absence	➢ Habitat assessment and suitability studies
➢ Alter timing of disturbance (mowing, harvest, herbicide applications, etc.)	➢ Monitor effects of management on Karner blue butterfly and associated habitat
➢ Limit or cease application of some pesticides	➢ Manage for habitat heterogeneity
➢ Managing forest types to maintain short lived, intolerant species; i.e. jack pine vs. red pine or white pine	➢ Stock timber stands less densely
➢ Maintain pine forest types with seed bed preparation, commercial harvest and natural regeneration from on site seed sources	➢ Create and maintain dispersal corridors to promote subpopulation connection
➢ Leave a scattered distribution of large diameter oak or long lived conifers to provide scattered shade across Karner blue butterfly habitats	➢ Participate in research projects related to population viability, habitat quality
➢ Incorporate forest stand inventory attributes to indicate lupine and/or Karner blue butterfly occurrence which will assist GIS planning and shifting mosaic scheduling	➢ Barrens restoration or conversion work (from forest)
➢ Avoid building new access roads or recreational trails through high Karner blue butterfly occupied habitat	➢ Planting lupine, nectar plants in new openings if necessary
➢ Continue updating lupine occurrence map for partner lands. Refine association between Forest Habitat Type Classification System and wild lupine occurrence	➢ Create or maintain long-term barrens habitat
➢ Use patch scarification rather than furrowing when establishing jack pine plantations	➢ Participate in Karner Blue Butterfly Recovery Plan

Recovery-related Acreage. One of the Partners, the DNR, will be involved in federal recovery efforts for the Karner blue butterfly. In this instance, partner acreages committed to federal recovery may be the same as those intended for Management to Feature and Enhance the Karner blue butterfly or its habitat. See Chapter 6 of the HCP (pages 52-53) for more information on federal recovery efforts in Wisconsin.

Part C. Partner Groups

For planning and evaluation purposes, the HCP Partners are grouped into six categories based on the similarities in history and long-term management goals. The transportation group is further divided into two strata based on level of participation and involvement. These six groups are briefly discussed below and include:

Full Partner Groups
- Forest Industry
- County Forests
- State (DNR) Lands
- Utilities
- Transportation (WDOT)
- Other Partners

Limited (Local) Partner Group
- Transportation (county highway departments and townships)

Forest Industry. Members of this partner group manage land for forest products. Most of these Partners have manufacturing facilities in the state, which require a continuous source of wood fiber. Lands owned and managed by these companies provide a portion of this raw material.

County Forests. The County Forest program began in 1927 following passage of the County Forest Crop Law which authorized counties to create county forests. Under the current County Forest Law, 28 counties own approximately 2.25 million acres. Eight of these counties are HCP Partners.

County forests serve multiple purposes. Timber production, public recreation, wildlife and water quality protection all co-exist through mixed use management. The Karner blue butterfly occupies some county forest lands, giving continued opportunities to affirm the wildlife protection aspect of multiple-use.

State (DNR) Lands. Wisconsin recognized the need many years ago to protect, manage and provide for public use of its natural resources. Since 1876, Wisconsin has been acquiring land to meet state conservation and recreation goals. As of March 31, 2009, holdings amounted to more than 1.6 million acres. Properties owned by the State of Wisconsin carry many designations, including Wildlife Management Areas, Fisheries Management Areas, State Forests, State Recreation Areas, Wild Rivers and River ways, State Parks, State Trails and State Natural Areas. The DNR continues to acquire, manage and conserve land according to statutory mandates and legislative programs.

Twenty-two of the properties owned or managed by the DNR are occupied by Karner blue butterflies. These butterfly populations occupy a total of approximately 1,200 acres of lupine habitat. Although five other DNR properties are believed to have the potential to support Karner blue butterfly populations, they are not known to be occupied.

The DNR intends to manage in excess of 66,000 acres of sandy soils either with consideration for or to feature the Karner blue butterfly and has included these lands in the HCP. The Karner blue butterfly is one of many considerations that must be integrated into the management of state lands. The success of these management efforts is measured in the ability of future generations to enjoy the same quality of environmental and recreational opportunities available today.

Utilities. This partner group manages easements for the construction and maintenance of: (1) overhead electrical transmission lines, and (2) underground electrical, gas and oil lines. Some of the transmission line corridors or rights-of-way (ROWs) have been in place since the early 1900s. Over the years, ROWs have been managed to reduce the growth of woody vegetation. For both overhead and underground lines, a clear ROW provides line access and reduces the likelihood of woody growth disrupting the line. In a few cases, the Partner owns the ROW for its utility line, but ROWs are predominantly easements from private landowners. These private landowners may have management issues separate from the utility company.

Transportation. The transportation group participates on two different levels:

- Full Partner (Wisconsin Department of Transportation)
- Limited (or Local) Partners (county highway departments and townships)

As one of the original Partners that developed and guided the implementation of the HCP, the Wisconsin Department of Transportation (DOT) is a Full Partner in the HCP. DOT is responsible for providing quality facilities and services for a variety of modes of transportation. Wisconsin's major investment is in the State Trunk Highway System, which began in 1918. Today, this system encompasses 130,000 acres of right-of-way (ROW). Depending on the type of road, remaining roadsides in ROW corridors range from twenty feet wide or less along the older highways to over 100 feet wide along some sections of interstate highways and other freeways. Medians provide additional vegetation, with widths generally varying between 40 and 60 feet wide.

State highway roadsides protect the highway facility by providing proper drainage and safe areas for errant or disabled vehicles. Roadsides sometimes accommodate utilities such as overhead or underground communication and power lines. Rest areas, waysides, scenic overlooks, historical markers and similar tourist amenities are also considered part of the highway roadside.

Limited (Local) Partners. In the HCP, the DNR and FWS committed to develop a standard process and concise and applicable conservation measures to ease evaluation of applications and issuance of Certificates of Inclusion (CI) for local governmental bodies engaged in road ROW/corridor maintenance. For the purposes of inclusion in the HCP, this type of entity is referred to as a "Limited Partner". Limited Partners can be generally characterized as performing a limited suite of management activities typically resulting in short term take and subsequently, favorable habitat conditions. Conservation measures

for their activities mostly fit into predefined best management practices. Limited Partners most often will have limited resources to apply to KBB conservation efforts. Therefore, Limited Partners will have abbreviated surveying and monitoring responsibilities, are not required to participate as full members on the HCP Team, nor are they required to subscribe to the Articles of Partnership or have a formal partner vote.

Other Partners. The Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) is also a Full Partner. They do not own or manage land and thus has a special role in the HCP. The DATCP's Bureau of Agrichemical Management pesticide and compliance programs carry out activities designed to protect endangered species from pesticide harm. These programs design, review and enforce pesticide use and labeling including the provisions of enforceable EPA Bulletins for pesticide labels. DATCP develops and provides pesticide protection guidelines for the KBB HCP, and responds to inquiries and complaints related to product use and misuse. The DATCP plays a key role in the landowner inclusion strategy discussed in Chapter 6 of the HCP (page 50).

Part D. Broad Conservation Strategies

The HCP Partners have worked on the land, managing the natural resources for many years. Respective land management goals have been shaped by certain values, as well as available amenities and commodities. Partners have developed strategies to allow for these benefits while integrating considerations for Karner blue butterfly habitat conservation. Such strategies have evolved from the observation and study of past management that was seemingly beneficial to the Karner blue butterfly.

Partners identified the following broad strategies as possible options for conserving and fostering the Karner blue butterfly:

- Management for long-term habitat,
- Management for a shifting mosaic of habitat,
- Management for dispersal corridors, and
- Compensatory mitigation strategies.

Each of these strategies is discussed below. Partners have chosen to apply one, several, or all of these strategies to their respective lands.

Management for Long-Term Habitat. For Partners who have so chosen, some lands will be designated for the long-term maintenance of Karner blue butterfly habitat. In this context, long-term is defined as a period extending beyond the successional timeframe in which a site provides suitable Karner blue habitat following disturbance. The most common long-term habitat strategy will be barrens community restoration and management (as on several DNR properties). Areas not qualifying as barrens community, such as lupine habitat along road and utility corridors, may also be managed on a long-term basis through periodic mowing. Ongoing disturbance maintains an early successional community and is most often accomplished through fire or mowing rotation intervals of three to ten years, although evidence suggests longer rotations (e.g., 20-50

years) may provide excellent Karner blue butterfly habitat in many cases (e.g., in areas with very poor soils or areas affected by oak wilt). While mortalities within the local Karner blue butterfly population may occur in recently burned or mowed areas, reoccupation from surviving patches or adjoining populations may occur within one or two Karner blue butterfly generations.

Management for a Shifting Mosaic of Habitat. Forestry partners consider management opportunities to promote a shifting mosaic that will maintain Karner blue butterfly habitat in a diverse patchwork of forested stands in a slowly changing distribution over time across the larger landscape. Forest management with consideration for the Kbb is planned at the landscape level, but applied at the forest stand level to create or enhance habitat occupied by the Kbb. "Shifting mosaic" is a conservation strategy developed for application on any forest lands that are occupied by Kbb. The strategy is designed to provide a continued availability of Kbb habitat across the landscape by using a preplanned rotational harvesting pattern. As forest stands occupied by Kbb grow and mature they eventually shade out Kbb habitat. Local Kbb populations are normally extirpated through the process of natural succession unless other suitable habitat is available.

Under the shifting mosaic strategy, large blocks of forest surrounding an occupied Kbb site are divided into a series of smaller cutting units. Harvesting dates for these cutting units are staggered so that the Kbb population always has a recently cutover area within dispersal distance. The units are clear-cut, removing all overstory vegetation. This allows dormant lupine and nectar plants, if present in the soil seed bank, to regenerate and create habitat suitable for Kbb occupation. When a currently occupied site phases out of suitable habitat due to natural succession, the Kbb population can shift to another suitable site created through the shifting mosaic strategy. Management activities are likely to cause some incidental take of Kbb, but the renewed habitat that may result will more than offset the losses.

Likewise, the planned location of more permanent type openings such as log landings can be strategically incorporated into timber harvests to provide increased habitat potential. Based on the observations and experiences of land managers, such landings have provided excellent habitat patches that are occupied by the Karner blue butterflies. Linking landings with roads or trails, which can be designed into a timber sale or management activity, will provide potential corridors of habitat and a dispersal network for the Karner blue butterfly.

This is a long term strategy that can maintain and expand Kbb populations on a forest landscape indefinitely. It provides long term financial returns for the landowner while conserving Kbb habitat and populations. This provides a considerable incentive for private and industrial forest landowners to participate in Kbb conservation activities.

Management for Dispersal Corridors (including non-landowning Partners). For Partners who have chosen, some lands will aid in providing corridors or areas for Karner

blue butterfly dispersal. These lands may be managed under terms of written easements rather than fee title ownership, as with many utility company rights-of-way. In these areas, Partners will carefully plan the timing of management practices such as mowing, cutting and chemical applications to promote healthy Karner blue butterfly habitat and populations. Where known Karner blue butterfly populations exist, Partners who are land managers (and not the landowner) would work closely with individual landowners, as appropriate, to promote and protect habitat in these areas.

Compensatory Mitigation Strategies. For Partners whose proposed activity results in permanent take of occupied Karner blue butterfly habitat, a mitigation plan designed to compensate for the habitat loss and adverse impacts to butterfly, is required. The mitigation plan will be consistent with the HCP Construction Guideline and applicable protocols *(refer to the HCP User's Guide in Appendix E.)*. Mitigation can include habitat restoration and creation, and/or land acquisition for Karner blue butterfly habitat restoration and creation. Activities could range from sowing or planting of wild lupine and nectar plants to land banking of restored and occupied butterfly habitat. Other mitigation measures approved by the DNR and USFWS may be considered as well, such as long term habitat management. Mitigation plans must be approved by the DNR and the USFWS.

Part E. Land Management Activities

Partner groups often have similar long-term management goals. Many of the activities employed to achieve these goals could have an impact on the Karner blue butterfly or its habitat. Although specific application of land management activities may differ between Partners, there are commonalities in their relationship to the Karner blue butterfly. Each of the activities is discussed briefly below. These include:

- Forest management,
- Barrens, prairie and savanna management,
- Recreational management,
- Transportation management, and
- Utility ROW management.

The HCP Partnership developed a number of modifications to conventional land management practices intended to benefit the Karner blue butterfly. The resulting management guidelines and protocols were based upon the best scientific and applied knowledge available. From 2000-2007 the Partners refined the management guidelines and conservation measures based on accrued knowledge from several years experience implementing the HCP. This resulted in the "HCP User's Guide". New knowledge acquired through continued management experience, monitoring and research will be used in the HCP's adaptive management process.

As it pertains to the Partners, the ITP provides for the incidental take of the Karner blue butterfly, if the activity resulting in the take is conducted consistent with conservation measures, guidelines, or protocols included in the applicable conservation agreement, the DNR's Implementing Agreement with the USFWS, or is consistent with the HCP. Most

Partners have agreed to follow the guidelines included in the HCP User's Guide *(See Appendix E of the HCP)*. Some Partners have outlined specific and unique conservation measures in their conservation agreements, and will do a mix of what is in the HCP User's Guide and their own approach. All commitments, however, are clearly stated in the partners' individual conservation agreements, especially if they intend to manage differently than what is outlined in the HCP.

Because of the dynamic and evolving nature of the conservation effort -- with the often-changing science and conclusions based on partner experience and research -- it is anticipated that protocols and guidelines developed and included in the HCP and individual conservation agreements may need modification. New guidelines, protocols, or conservation measures may also be developed during the permit period. New or modified guidelines, protocols, or conservation measures will need approval by the DNR and the USFWS before being implemented.

1) Forest Management

A number of partner groups will be involved in forest management activities. These include the forest products industry, county forests, some utilities and the DNR. Forest management includes a variety of activities, such as:

a) Timber harvesting,
b) Stand improvement,
c) Forest road construction and openings management, and
d) Forest regeneration, including site preparation and maintenance.

Prior to performing any forestry activities in the High Potential Range, Partners will conduct pre-management surveys to determine Karner blue butterfly presence or absence. Where Karner blue butterflies are present, all forestry Partners will follow the "Forestry Management Guideline" and applicable management protocols in the "HCP User's Guide" *(see Appendix E of the HCP) (Refer to the DNR's HCP webpage for most current revision)* unless otherwise agreed to in their individual conservation agreements.

Consistent with the coverage and protections afforded Partners in the ITP and their individual conservation agreements for acts of contractors, conservation strategies -- when applicable -- will routinely be included in timber sale contracts. If employees harvest or manage timber, they will be directed to apply appropriate conservation measures.

Where forest road construction may result in permanent take, the Partner will follow the HCP's "Construction Guideline" and applicable protocols. *(Refer to Appendix E or the HCP User's Guide on the DNR's HCP webpage for the most current revisions.)*.

Emergency situations arise such as forest fire suppression activities and wind damage that pose threats to public safety and impair road infrastructure that require immediate management action. In such cases Partners will follow the HCP's "Emergency Guideline". *(Refer to Appendix E or the HCP User's Guide on the DNR's HCP webpage*

for the most current revisions.). Where pre-planning and pre-management surveys are not possible and the emergency situation creates the need for immediate salvage cutting of damaged timber from windstorms, forest fires, flooding or insect and disease epidemics the Emergency Guideline will be followed and impact to known or suspected Kbb habitat will be avoided to the greatest extent practicable. Where salvage harvest is not an urgent matter, follow the HCP's Timber Harvest Protocol.

2) Barrens, Prairie and Savanna Management

Several Partners identified restoration or maintenance of native barrens habitat as an important land management goal. In this context, barrens includes the range of possibilities from nearly treeless sand prairie to oak/pine savanna to shadier oak/pine woodland -- all on dry, sandy soils. For some lands, the goal may be specifically to optimize Karner blue butterfly populations. For other lands, the goal may be to manage for a larger barrens ecosystem.

Barrens management tools include prescribed fire, mechanical management (such as timber cutting, tree-girdling and brush-hogging), selective herbicide treatment, native plant propagation, or grazing. The design and implementation of a management regime must be tailored to a given site, taking into account site size, context within the landscape, available equipment and personnel, naturally occurring defoliation by insects or disease, weather and a variety of other factors.

Many plants and animals native to disturbance-adapted communities, like barrens, depend on the ability to either survive the disturbance at some level or to recolonize from nearby undisturbed areas. Many sites are so dry that they require only very infrequent disturbance. Prior to performing any of these disturbance activities in the High Potential Range, Partners, such as the DNR, that have chosen this management goal will conduct pre-management surveys to determine the presence and location of occupied Karner blue butterfly habitat. Partners will use the HCP's "Conservation Management Guideline" and applicable management protocols to apply these various tools. *(Refer to Appendix E or the HCP User's Guide on the DNR's HCP webpage for the most current revisions.)*.

3) Recreational Management

Many of the HCP Partners manage lands used by the public for recreation. Management of these recreational activities can be broken into three categories: (a) intensive development and maintenance, (b) less intensive development and maintenance and (c) public use.

Intensive Development and Maintenance (construction). Intensive construction includes such activities as building development, creation of flowages and laying of pavement or gravel for roads, parking lots, etc. Prior to development of recreational facilities in the High Potential Range, Partners will conduct a pre-management survey to determine if the site is occupied. If development of the facility may result in permanent take: (1) alternatives or other measures to avoid impacts to the occupied habitat will be

considered, and (2) if a permanent take can not be avoided, the Partner will inform the DNR and the USFWS and prepare a mitigation plan for their approval. Partners will follow the HCP's "Construction Guideline" and applicable protocols. *(Refer to Appendix E or the HCP User's Guide on the DNR's HCP webpage for the most current revisions.)*.

Less Intensive Development and Maintenance. Less intensive activities include development and maintenance of campgrounds, picnic areas, boat access, trails and similar facilities. A variety of maintenance activities, ranging from mowing picnic areas to spreading fresh gravel on hiking trails occur on some partners' lands. These activities will generally occur in already unoccupied and developed areas. Trails bordered by lupine and/or nectar plants can serve as Karner blue butterfly habitat and dispersal corridors. Maintenance of these trails (e.g., carefully timed brushing or mowing) can enhance population dynamics across landscapes and promote population connectivity and colonization of new openings. Bridle trails are not recommended in quality native habitats, due to many potential problems, including erosion and introduction of aggressive competing plants through manure. Prior to development or maintenance of recreational facilities in the High Potential Range, Partners will conduct a pre-management survey to determine if the site is occupied by Karner blue butterflies. Where Karner blue butterflies are present, Partner will follow the HCP's "Recreation Management Guideline" and applicable protocols. *(Refer to Appendix E or the HCP User's Guide on the DNR's HCP webpage for the most current revisions.)*.

Public Use. A variety of public uses, ranging from hiking and bird watching to mountain biking and hunting, occur on some partner lands. Human traffic through occupied areas may result in some incidental take through inadvertent trampling. Heavy traffic through occupied habitat will be avoided through trail design and property management to avoid any serious impacts to Karner blue butterfly populations. Partners will take reasonable action to discourage or prohibit use of Kbb occupied habitat.

All management should be applied in a manner that does not specifically identify the habitat as Karner blue butterfly occupied habitat, unless it will serve as an educational component and the intent is to identify the area to provide education and the promotion of conservation efforts, while taking reasonable precautions to protect the habitat area.

4) Transportation Management

The Wisconsin DOT and eleven Limited Partners (either county highway departments or townships) are involved in transportation management.

Road Development. Prior to road construction in the High Potential Range, pre-management surveys will be conducted to determine if Karner blue butterflies are present. When surveys indicate that a Karner blue butterfly population occurs along or immediately adjacent to a right-of-way, Partners will follow the HCP's "Construction Guideline" and applicable protocols. *(Refer to Appendix E or the HCP User's Guide on the DNR's HCP webpage for the most current revisions.)*.

Road Maintenance. Similar to the development of ROWs, the maintenance of ROWs may require minor disturbance of existing Karner blue butterfly or lupine habitat. DOT will conduct pre-management surveys in the High Potential Range to determine if Kbb are present; where Kbb occur these disturbances will be consistent with the HCP's "Corridor Management Guideline" and applicable management protocols found in the HCP User's Guide unless otherwise provided for in their individual conservation agreement.

County highway departments and townships (Limited Partners) will, at a minimum re-survey their ROW's for lupine habitat annually, consistent with the "Wild Lupine Survey Method on Road Rights-Of-Way (ROW) for Limited (Local) Partners"; and where lupine occurs on ROW's, management will follow the HCP's "Limited Partner Guideline" and applicable protocols. *(Refer to Appendix E or the HCP User's Guide on the DNR's HCP webpage for the most current revisions.)*.

Emergencies resulting from storm damage and road flooding sometimes occur. In these cases, Partners will follow the HCP's "Emergency Guideline" to the greatest extent practicable. *(Refer to Appendix E or the HCP User's Guide on the DNR's HCP webpage for the most current revisions.)*.

5) Utility ROW Management

The majority of ROWs included in the HCP are not partner owned, but are managed under easement. Management, therefore, may be subject to landowner approval. Utility ROW management maintains an open canopy through mowing and removal of woody vegetation. Disturbance caused by utility line construction may enhance the habitat for lupine and benefit the Karner blue butterfly in the long-term.

Construction of Overhead Transmission Lines. Utility transmission line construction is considered less detrimental to Karner blue butterfly habitat (in that there is minimal disturbance of the soil), when compared to pipeline construction activities. In new construction, an effort will be made to route around any Karner blue butterflies and lupine habitat areas.

Prior to starting construction activities in the High Potential Range, Partners will perform pre-management surveys to determine if Karner blue butterflies are present. When surveys indicate that a Karner blue butterfly population occurs along or immediately adjacent to a right-of-way, Partners will follow the HCP's "Construction Guideline" and applicable protocols. *(Refer to Appendix E or the HCP User's Guide on the DNR's HCP webpage for the most current revisions.)*.

Construction of New Pipelines and Underground Transmission Lines. Pipeline and underground transmission line corridor construction sites are usually less than 100 feet wide and remain in a state of partial or complete defoliation for only a short period of time (3-4 months, on average).

Prior to starting construction activities in the High Potential Range, Partners will perform pre-management surveys to determine if Karner blue butterflies are present. When surveys indicate that a Karner blue butterfly population occurs along or immediately adjacent to a right-of-way, Partners will follow the HCP's "Construction Guideline" and applicable protocols. *(Refer to Appendix E or the HCP User's Guide on the DNR's HCP webpage for the most current revisions.)*.

Maintenance and Repair of Overhead Transmission Lines. It may be necessary to disturb existing Karner blue butterfly or lupine habitat to facilitate line maintenance. These minor disturbances may enhance the growth of lupine and nectar plants and may indirectly benefit the Karner blue butterfly population.

Prior to beginning maintenance and repair activities in the High Potential Range, utility Partners will perform pre-management surveys to determine if Karner blue butterflies are present. When surveys indicate that a Karner blue butterfly population occurs along or immediately adjacent to a right-of-way, Partners will follow the HCP's "Corridor Management Guideline" and applicable protocols. *(Refer to Appendix E or the HCP User's Guide on the DNR's HCP webpage for the most current revisions.)*.

Maintenance and Repair of Pipelines and Underground Transmission Lines. Pipeline and underground transmission line repair and maintenance activities in Karner blue butterfly habitat will follow procedures in the "Construction Guidelines" *(see HCP User's Guide in Appendix E).*

Prior to beginning maintenance and repair activities in the High Potential Range, Partners will perform pre-management surveys to determine if Karner blue butterflies are present. When surveys indicate that a Karner blue butterfly population occurs along or immediately adjacent to a right-of-way, Partners will follow the HCP's "Corridor Management Guideline" and applicable protocols for brush removal for clearance and access. *(Refer to Appendix E or the HCP User's Guide on the DNR's HCP webpage for the most current revisions.)*; repairs will be consistent with the HCP's "Construction Guideline" and applicable protocols. *(Refer to Appendix E or the HCP User's Guide on the DNR's HCP webpage for the most current revisions.)*.

6) Special Emergency Circumstances.

Emergency operations may apply to any partner group. Emergencies related to storms and certain excavation damage to utilities occasionally result in power line tangling, leaking pipelines, downed trees blocking roads, flooding, wild fires. In these cases, Partners will follow the HCP's "Emergency Guideline" to the greatest extent practicable. *(Refer to Appendix E or the HCP User's Guide on the DNR's HCP webpage for the most current revisions.)*.

Chapter 4. Adaptive Management and Monitoring

This part of the HCP discusses the use of adaptive management by the HCP partners. It is divided into three main sections:

- Adaptive Management and Monitoring Strategies
- Monitoring and Surveying Procedures
- Research

Part A. Adaptive Management and Monitoring Strategies

Adaptive management can be defined as a formal, structured approach to dealing with uncertainty in natural resources management, using the experience of management and the results of research as an on-going feedback loop for continuous improvement. Adaptive approaches to management recognize that the answers to all management questions are not known and that the information necessary to formulate answers is often unavailable. Adaptive management also includes, by definition, a commitment to change management practices when determined appropriate.

The adaptive management strategy will focus on achieving two primary HCP monitoring goals: (1) to assess the effects of management activities on the Karner blue butterfly and its habitat and adjust conservation measures to better conserve the Kbb where data and research support the change; (2) to assess new biological, economic and policy information and adjust operational parameters, programmatic and administrative procedures. The first goal is traditional; the 2nd goal reflects the reality of 21st century economics and that circumstances will continue to change over time as new biological information is identified.

Part B. Monitoring and Surveying Procedures

(For detailed guidelines and protocols refer to appendix E of the HCP or for the most current version, the DNR's HCP webpage)

HCP monitoring is divided into three types:

- Compliance Monitoring
- Effects monitoring
- Effectiveness monitoring

Integrating the monitoring program into the adaptive management strategy is crucial in order to guide any necessary changes in management.

1. Compliance Monitoring

Compliance monitoring verifies that the DNR and all other partners are carrying out the terms of the HCP, the permit, the IA (for DNR) and individual conservation agreements (for all other partners).

Auditing partner performance and verifying conservation agreement compliance is a large part of the compliance monitoring program. Audits of HCP partners are individual, on-site evaluations of various aspects of partner performance under their conservation agreements. These audits are intended to provide information to the USFWS, the DNR, the HCP partnership and the general public to give assurance with respect to DNR and partner performance under the permit.

File and field audits are conducted to verify partner compliance with their conservation agreements. Compliance auditing is required because the DNR must have a procedure to gather the evidence to show that the HCP is being implemented as written and that the DNR is in compliance with the Implementing Agreement. In addition, summaries of auditing results over time may provide useful insights for adaptive management.

Compliance audits are not a regulatory witch-hunt, but a one-on-one spontaneous training/learning opportunity; continuous quality improvement. Partners have overwhelmingly demonstrated they want to do the right thing. The assumption is that partners are doing what they believe to be correct; the best they can do with what they understand, have been previously trained or how they interpret or understand the HCP. The purpose of these audits is to identify where a partner does not appear to understand how to implement the HCP or interpret and apply their conservation commitments, and then for the auditor to provide continuing education and training to the partner and/or partner's staff attending the audit.

Primary objective of audits

The auditor's primary objective is to make observations of performance characteristics to determine if the partner understands how to correctly implement the HCP. This includes conservation commitments in either the Implementing Agreement for DNR land managers or Species and Habitat Conservation Agreements (SHCA) for all other HCP partners. By complying with the conditions of the SHCA (or IA for DNR), the partner is also complying with the HCP and ITP.

Secondary objective

The secondary objective is to assess mistakes and misinterpretations of HCP required performance for trends in poor performance. The auditor will provide training if necessary. If the problem is the fault of the HCP, e.g. unclear protocol or direction, the auditor will improve the system at fault. If there should be serious infractions, corrective action may be required.

The auditing procedures and processes referred to in this section are the responsibility of both the FWS and the DNR; however the DNR has the lead role in implementing the audit process. The procedures and processes in this section are a DNR and partner process, intended to monitor partner performance for the purposes already described and are separate from USFWS actions that may be taken relative to regulatory oversight in administration and enforcement of the permit pursuant to the federal ESA. *For a detailed description of the administrative procedure for audits,*

refer to Appendix E of the HCP. The most current version of audit procedures and past audit summary reports can be viewed on the DNR's HCP webpage.

2. Effects Monitoring

Effects monitoring evaluates the extent of the impacts on the Karner blue butterfly from the permitted activities.

- Short-term, minor impacts: A periodic measurement of incidental take measured in acres of Kbb occupied lupine habitat impacted will be derived from pre-management surveys and reported on annual reports. These impacts are related to routine management activities, which provide beneficial disturbance and/or very minor impacts to the local Kbb population. (Short-term take is further described in Chapter 3).

- Major impacts including permanent take: Permanent take is most often related to a construction activity. Post-construction monitoring is used in conjunction with habitat restoration following construction projects. The objective is to assess the status of the restoration to determine if the restoration objectives in the approved mitigation plan are being met. Habitat restorations can be related to compensatory mitigation plans required for permanent take or habitat replacement plans required by major construction projects where habitat is replaced following the construction activity. If appropriate and desired, this monitoring procedure can also be used for other restoration or habitat creation such as on a recovery property or other habitat project designed by Partners to feature the Karner blue butterfly.

  This assessment of successful mitigation for construction activities will follow a similar evaluation as assessing the effects of management activities in C-E monitoring below. The criteria will be habitat based and correspond to the goals and objectives of each restoration plan.

- Cause and Effect monitoring: The objective here is to assess whether or not and to what degree HCP management activities provide benefits to Kbb habitat and ultimately to Kbb. Current management guidelines, protocols and conservation measures approved for use in the HCP are considered effective. New management methods or modified approaches may require testing and experience to assure the desired benefits to Kbb. Existing conservation measures may need evaluation and adjustments.

  The biological conditions resulting from habitat disturbing land management activities will be assessed as needed or desired through Cause and Effect (C-E) surveys, which will directly translate into an active adaptive management process and improvements in management guidelines and conservation measures in management protocols.

  Cause-Effect monitoring currently employs the Cause & Effect (C-E) Monitoring Protocol (Level 1 survey). This protocol is somewhat similar to a normal Level 1

survey, except that a more comprehensive habitat/vegetation assessment is required (not optional) for C-E surveys and they are performed both prior to and after the management activity being studied and in both first and second Kbb flight periods to assess nectar plant availability in both periods.

3. **Effectiveness Monitoring**

Effectiveness monitoring determines whether the effectiveness of the operating conservation program of the HCP is achieving the intended biological goals and objectives of the HCP. Effectiveness monitoring is broad in nature; designed to evaluate progress toward the intended primary biological HCP goal of No Net Loss of Habitat. Evaluating the operating conservation program and its progress toward the HCP intended biological goal will necessarily be assessed by a number of methods.

- HCP's Primary Biological Goal
  No Net Loss of Habitat - Monitoring the HCP's biological goal. The objective of this monitoring is to evaluate progress toward the primary goal of the HCP and the overall effectiveness of the HCP program at providing benefit to the Kbb. Data are collected from a variety of sources most of which are supplied by partners in annual reports.

Biological Goal of the HCP: There will be **No Net Loss of Habitat (NNLOH)** as a result of partner activities in the KBB High Potential Range (HPR). This will be assessed as follows:

Expected Outcome #1: Permanent take and short-term take both of which may result in destruction or complete removal of habitat (related to construction) will be more than offset by successful habitat mitigation and habitat replacement (respectively).

Method of Measuring Outcome: Construction project plans (for major projects) and annual reports (for minor projects) will reflect habitat lost vs. habitat restored or replaced. Post-construction mitigation assessment reports will include the assessment of the success measures in the approved HCP's Construction Guideline as a means of gauging the success of the mitigation plan.

Expected Outcome #2: Partners will conduct activities consistent with approved and proven conservation measures in order to avoid and minimize take of the Karner blue butterfly to the greatest extent practicable.

Method of Measuring Outcome: HCP Compliance Audits (compliance monitoring) will include an assessment of the conservation measures used by partners on a subset of activities conducted in occupied Karner blue butterfly habitat and be summarized in Compliance Audit Summary Reports.

Expected Outcome #3: Partners will seek out opportunities to create and manage a shifting mosaic of habitat for Kbb.

Method of Measuring Outcome: A system that will analyze (at a minimum) (1) average harvest, (2) allowable cut, and (3) age class distribution from 1-15 years *(system to be developed)* will guide Partners in guiding partners in managing to provide for a shifting mosaic.

- **Annual Report.** Annual reports provide data that can be considered in monitoring an adaptive management effort. The information contained in annual reports is consistent with the annual reporting condition required in the permit, the HCP, the IA and individual conservation agreements. Annual reports contain a variety of data, which can be used in all 3 types of monitoring. In addition, should information for further clarification be deemed necessary to implement an adaptive management approach, the DNR has authority through partners' conservation agreements to request other information as needed. At a minimum, annual reports will include the following elements:

1. An estimate of the annual incidental take (characterized as acres of Kbb occupied habitat) that occurred as a result of short-term and permanent take.
2. A summary of activities conducted by partners in occupied Kbb habitat including number of acres affected.
3. Any additional information determined necessary to assess the HCP's biological goal of NNLOH.
4. Results of lupine and Karner blue butterfly monitoring efforts including a summary of the data and updated maps as available.
5. A summary of official HCP monitoring training sessions including the dates and locations; and a list of the names, addresses and phone numbers of people who are certified to conduct Karner blue butterfly surveys.
6. New information that has been gained through scientific study or other assessment of management efforts that either (1) supports continued management, or (2) indicates a need to change management protocols.
7. A discussion of the adaptive management effort, including any management changes that have been made in response to new information.
8. A summary and discussion of the outreach and education that has occurred, including the approximate number of people reached through all means.
9. Total acres of partners lands included in the HCP that occur in the High Potential Range of the Karner blue butterfly.
10. The types and number of amendments (that do not involve Service approval) made to the Partners' SHCA's upon approval of the permittee.
11. A summary report of Partners' compliance audits.
12. The running total cumulative number of voucher specimens taken by date, gender and location of capture; mounted for educational purposes or sent to the Milwaukee Public Museum or other approved depository (along with label information), and current specimens under possession and control of the DNR including location stored and person responsible for safety and maintenance of those specimens All specimens

remain the property of the United Stated Government and must clearly be identified as such (refer to permit condition pertaining to collection of voucher specimens)
13. An updated list of DNR property managers and their contact information.
14. An updated list of HCP Partners including the original date of inclusion in the HCP, also reflecting transfers and name changes, along with the primary HCP implementation representatives to the DNR and their contact information.
15. And other information that the Service requests pertinent to tracking and understanding activities under the HCP.

Annual Reports are submitted to the DNR by each HCP partner and all affected DNR properties or area offices by March 1st each year.

Five-year Program Reviews. In order to facilitate a big picture analysis of the direction of this conservation program, the DNR will do a broader mid-permit assessment in 5-year intervals, e.g. 2014 and 2019. If course corrections are indicated, these can be evaluated during 2019; leading up to a potential permit renewal in 2020.

Part C. Research

Acquiring new knowledge through research can be a part of or inform an active adaptive management process, and result in improvements in HCP implementation efficiencies and effectiveness, and improvements in management guidelines and conservation measures. Research results will be routinely shared with all HCP partners.

1. **Recent research**

- "Detecting the Presence of Wild Lupine Utilizing Large-Scale Remote Sensing Multi-spectrum Satellite Imagery", Keith Rice and Jacob Hofman (UW Stevens Point), Wayne Hall (WDNR). Detecting wild lupine was proven feasible; however achieving high levels of lupine location accuracy in areas of low density of lupine may not be obtainable with this current technology.

- Kbb probability model: "Development of a Karner Blue Butterfly Probability Map for Use with the Habitat Conservation Plan", Theodore A. Sickley and David J. Mladenoff (University of Wisconsin-Madison) (2007). The development of this model generated a large number of maps representing Kbb probability in Wisconsin. The research significantly narrowed the spatial focus of where Kbb are most likely to be found. Additionally, it led to defining biology-based recovery zones that replaced older less science based recovery areas.

- Kbb Emergence model: A degree-day emergence was developed by the Forest and Landscape Ecology Lab, Dept. of Forest and Wildlife Ecology at the University of Wisconsin-Madison with several cooperators. The model is currently being used to predict the onset and peak of each Kbb flight period. While this has proven to be a great improvement over the look-and-see method, additional work is planned.

- *(For more information about the model, refer to the Karner Blue Butterfly Emergence Model User's Guide in Appendix E).*

2. **Pending research**
   - Continue research on the Kbb emergence model to refine and validate the model; and to better understand application of the model under broadly varying predictability related to year-to-year climate variation and within year climate swings.
   - Continue to refine the Kbb probability model and Kbb High Potential Range as new Kbb presence and absence data are reported.

3. **Objectives for Future Research**

   Additional research will be explored for a variety of reasons. In the adaptive management context in which the Wisconsin Karner Blue Butterfly HCP will be implemented, research will meet the following objectives:
   - To obtain information needed to assess and improve effectiveness of conservation strategies.
   - To obtain information needed to improve efficiencies and cost effectiveness of management activities, thereby reducing the costs of conservation and increasing participation.
   - To obtain information needed to identify additional, viable management options to improve conservation effectiveness and cost effectiveness.

4. **Research Program**

   Observation and analyses of monitoring data by professionals at DNR and among partners will fuel the adaptive management process. The HCP is fortunate to be the benefactor of research already being pursued or planned by other parties. Other research that may be beneficial will be pursued as its priority becomes more important and as funding becomes available. The HCP partnership will not take the lead on research that does not benefit HCP implementation efforts. Where HCP partners' research responsibilities may be complementary to the FWS's federal recovery responsibilities, the initiation and pursuit of research may depend on federal financial support or research cooperation.

5. **Coordination of Research Proposals**

   Partners who wish to engage in research that may result in take of the Karner blue butterfly and which is not specifically described in the HCP will coordinate with the DNR and the FWS to obtain approval and authorization in advance of the research activity. *(Refer to Appendix E and the HCP Webpage (most current) for research proposal procedures).*