EXHIBIT 10

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: West Bend Downtown Riverwalk Renovation City/County: City of West Bend/Washington County Sampling Date: 10/09/2014
Applicant/Owner: ____ State: WI Sampling Point: 1
Investigator(s): Jennifer Dietl and Zofia Noe; SEWRPC Section, Township, Range: SE 1/4 Section 11, T11N, R19E
Landform (hillslope, terrace, etc.): Milwaukee River Local relief (concave, convex, none): none Slope (%): =
Subregion (LRR or MLRA): LRR K Lat: ____ Long: ____ Datum: ____
Soil Map Unit Name: Water (W) NWI classification: none
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☐ **No** ☒ (If no, explain in Remarks)
Are Vegetation____, Soil____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? **Yes** ☒ No ☐
Are Vegetation____, Soil____, or Hydrology ____ naturally problematic? (If, needed, explain any answers in Remarks.)

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

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

Remarks: (Explain alternative procedures here or in a separate report.) Below normal precipitation for the previous 90 days.

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 ☐ Depth (inches): 8
Water Table Present? Yes ☐ No ☐ Depth (inches): ____
Saturation Present? (includes capillary fringe) Yes ☐ No ☐ Depth (inches): ____

Wetland Hydrology Present? **Yes** ☒ No ☐

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

Remarks: Sample is located in the Milwaukee River and is part of the floodway (D2).

VEGETATION – Use scientific names of plants. Sampling Point: 1

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.		☐	
2.		☐	
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30' radius)			
1.		☐	
2.		☐	
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
	0	= Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. **Phalaris arundinacea**	**2**	☒	**FACW**
2.		☐	
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
8.		☐	
9.		☐	
10.		☐	
11.		☐	
12.		☐	
	2	= Total Cover	
Woody Vine Stratum (Plot size: 30' radius)			
1.		☐	
2.		☐	
3.		☐	
4.		☐	
	0	= 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: 1 (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:

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

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

Definitions of Vegetation Strata:

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

Sapling/shrub – Woody plants less than 3in. DBH and greater than 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 ☐

Remarks: (include photo number here or on a separate sheet.) Open water with small stands of fresh (wet) meadow. Banks of the river are dominanted with Salix interior (FACW), Phalaris arundinacea (FACW), Rhamnus cathartica (FAC), and Fraxinus pennsylvanica (FACW).

SOIL

Sampling Point: 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

[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) **(LLR K, L, R)**
- ☐ 5 cm Mucky Peat or Peat (S3) **(LLR K, L, R)**
- ☐ Dark Surface (S7) **(LRR K, L)**
- ☐ 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 ☐

Remarks: Soils of the Milwaukee River inundated with 8 inches of water, hydric by definition - Criteria 3.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: West Bend Downtown Riverwalk Renovation City/County: City of West Bend/Washington County Sampling Date: 10/09/2014
Applicant/Owner: ____ State: WI Sampling Point: 2
Investigator(s): Jennifer Dietl and Zofia Noe; SEWRPC Section, Township, Range: SE 1/4 Section 11, T11N, R19E
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 2-6%
Subregion (LRR or MLRA): LRR K Lat: ____ Long: ____ Datum: ____
Soil Map Unit Name: Grays silt loam (GrB) NWI classification: none
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☐ **No** ☒ (If no, explain in Remarks)
Are Vegetation____, Soil____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? **Yes** ☒ No ☐
Are Vegetation____, Soil____, or Hydrology ____ naturally problematic? (If, needed, explain any answers in Remarks.)

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

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

Remarks: (Explain alternative procedures here or in a separate report.) Below normal precipitation for the previous 90 days.

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** ☒ Depth (inches): ____
Water Table Present? Yes ☐ **No** ☒ Depth (inches): ____
Saturation Present? (includes capillary fringe) Yes ☐ **No** ☒ Depth (inches): ____

Wetland Hydrology Present? Yes ☐ **No** ☒

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

Remarks: Sample site is located in the Milwaukee River floodway (D2).

VEGETATION – Use scientific names of plants.

Sampling Point: 2

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. ____	____	☐	____
2. ____	____	☐	____
3. ____	____	☐	____
4. ____	____	☐	____
5. ____	____	☐	____
6. ____	____	☐	____
7. ____	____	☐	____
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30' radius)			
1. **Lonicera x bella**	**30**	☒	**FACU**
2. Ulmus americana	10	☐	FACW
3. Fraxinus pennsylvanica	5	☐	FACW
4. Rhamnus cathartica	5	☐	FAC
5. Rhamnus frangula	5	☐	FAC
6. Prunus sp.	3	☐	NI
7. ____	____	☐	____
	58	= Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. **Agropyron repens**	**60**	☒	**FACU**
2. **Poa compressa**	**30**	☒	**FACU**
3. Nepeta cateria	3	☐	FACU
4. Verbascum thaspus	3	☐	UPL
5. Asclepias syriaca	2	☐	UPL
6. ____	____	☐	____
7. ____	____	☐	____
8. ____	____	☐	____
9. ____	____	☐	____
10. ____	____	☐	____
11. ____	____	☐	____
12. ____	____	☐	____
	98	= Total Cover	
Woody Vine Stratum (Plot size: 30' radius)			
1. Parthenocissus quinquefolia	3	☐	FACU
2. ____	____	☐	____
3. ____	____	☐	____
4. ____	____	☐	____
	3	= 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	____	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:

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

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

Definitions of Vegetation Strata:

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

Sapling/shrub – Woody plants less than 3in. DBH and greater than 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** ☒

Remarks: (include photo number here or on a separate sheet.) Old field and upland thicket.

SOIL

Sampling Point: 2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 4/3	100					Sandy loam	Old fill material
2-5							Gravel	Old fill material
5+								Refusal: Gravel fill material

[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) **(LLR K, L, R)**
- ☐ 5 cm Mucky Peat or Peat (S3) **(LLR K, L, R)**
- ☐ Dark Surface (S7) **(LRR K, L)**
- ☐ 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** ☒

Remarks: Soils are old fill material that appears to have been in place since at least the 1940 aerial photo.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: West Bend Downtown Riverwalk Renovation City/County: City of West Bend/Washington County Sampling Date: 10/09/2014
Applicant/Owner: ____ State: WI Sampling Point: 3
Investigator(s): Jennifer Dietl and Zofia Noe; SEWRPC Section, Township, Range: NE 1/4 Section 14, T11N, R19E
Landform (hillslope, terrace, etc.): Milwaukee River Local relief (concave, convex, none): none Slope (%): –
Subregion (LRR or MLRA): LRR K Lat: ____ Long: ____ Datum: ____
Soil Map Unit Name: Water (W) NWI classification: none
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☐ **No** ☒ (If no, explain in Remarks)
Are Vegetation____, Soil____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? **Yes** ☒ No ☐
Are Vegetation____, Soil____, or Hydrology ____ naturally problematic? (If, needed, explain any answers in Remarks.)

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

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

Remarks: (Explain alternative procedures here or in a separate report.) Below normal precipitation for the previous 90 days. Sample area is located in the Milwaukee River in a small section where access to the river is limited by a concrete/rock wall.

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

Wetland Hydrology Present? **Yes** ☒ No ☐

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

Remarks: Sample is located in the Milwaukee River floodway.

VEGETATION – Use scientific names of plants. Sampling Point: 3

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. ____	____	☐	____
2. ____	____	☐	____
3. ____	____	☐	____
4. ____	____	☐	____
5. ____	____	☐	____
6. ____	____	☐	____
7. ____	____	☐	____
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30' radius)			
1. ____	____	☐	____
2. ____	____	☐	____
3. ____	____	☐	____
4. ____	____	☐	____
5. ____	____	☐	____
6. ____	____	☐	____
7. ____	____	☐	____
	0	= Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. **Lemna minor**	3	☒	OBL
2. ____	____	☐	____
3. ____	____	☐	____
4. ____	____	☐	____
5. ____	____	☐	____
6. ____	____	☐	____
7. ____	____	☐	____
8. ____	____	☐	____
9. ____	____	☐	____
10. ____	____	☐	____
11. ____	____	☐	____
12. ____	____	☐	____
	3	= Total Cover	
Woody Vine Stratum (Plot size: 30' radius)			
1. ____	____	☐	____
2. ____	____	☐	____
3. ____	____	☐	____
4. ____	____	☐	____
	0	= 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: 1 (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:

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

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

Definitions of Vegetation Strata:

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

Sapling/shrub – Woody plants less than 3in. DBH and greater than 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 ☐

Remarks: (include photo number here or on a separate sheet.) Open water of the Milwaukee River. A narrow strip of rocky soils between the River and concrete/rock wall is dominanted with Phalaris arundinacea (FACW), Vitis riparia (FAC), Rhamnus cathartica (FAC), and Rhamnus frangula (FAC).

SOIL

Sampling Point: 3

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

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

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, 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) **(LLR K, L, R)**
- ☐ 5 cm Mucky Peat or Peat (S3) **(LLR K, L, R)**
- ☐ Dark Surface (S7) **(LRR K, L)**
- ☐ 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 ☐

Remarks: Sand and rocky bottom soils of the Milwaukee River inundated with 6 inches of water, hydric by definition - Criteria 3.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: West Bend Downtown Riverwalk Renovation City/County: City of West Bend/Washington County Sampling Date: 10/09/2014
Applicant/Owner: ____ State: WI Sampling Point: 4
Investigator(s): Jennifer Dietl and Zofia Noe; SEWRPC Section, Township, Range: NW 1/4 Section 13, T11n, R19E
Landform (hillslope, terrace, etc.): Milwaukee River Local relief (concave, convex, none): none Slope (%): --
Subregion (LRR or MLRA): LRR K Lat: ____ Long: ____ Datum: ____
Soil Map Unit Name: Water (W) NWI classification: none
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☐ **No** ☒ (If no, explain in Remarks)
Are Vegetation____, Soil____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? **Yes** ☒ No ☐
Are Vegetation____, Soil____, or Hydrology ____ naturally problematic? (If, needed, explain any answers in Remarks.)

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

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

Remarks: (Explain alternative procedures here or in a separate report.) Below normal precipitation for the previous 90 days. Sample area located on the edge of the Milwaukee River that has been stabilized with cobbles and rip-rap along the shoreline.

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

Wetland Hydrology Present? **Yes** ☒ No ☐

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

Remarks: Sample area is located in the Milwaukee River floodway.

VEGETATION – Use scientific names of plants. Sampling Point: 4

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. ____	____	☐	____
2. ____	____	☐	____
3. ____	____	☐	____
4. ____	____	☐	____
5. ____	____	☐	____
6. ____	____	☐	____
7. ____	____	☐	____
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30' radius)			
1. Salix amygdaloides	3	☐	FACW
2. ____	____	☐	____
3. ____	____	☐	____
4. ____	____	☐	____
5. ____	____	☐	____
6. ____	____	☐	____
7. ____	____	☐	____
	3	= Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. **Phalaris arundinacea**	**70**	☒	**FACW**
2. Lemna minor	2	☐	OBL
3. Polygonum persicaria	2	☐	FAC
4. ____	____	☐	____
5. ____	____	☐	____
6. ____	____	☐	____
7. ____	____	☐	____
8. ____	____	☐	____
9. ____	____	☐	____
10. ____	____	☐	____
11. ____	____	☐	____
12. ____	____	☐	____
	74	= Total Cover	
Woody Vine Stratum (Plot size: 30' radius)			
1. ____	____	☐	____
2. ____	____	☐	____
3. ____	____	☐	____
4. ____	____	☐	____
	0	= 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: 1 (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:

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

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

Definitions of Vegetation Strata:

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

Sapling/shrub – Woody plants less than 3in. DBH and greater than 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 ☐

Remarks: (include photo number here or on a separate sheet.) Fresh (wet) meadow along the shoreline of the Milwaukee River.

SOIL

Sampling Point: 4

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

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

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, 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) **(LLR K, L, R)**
- ☐ 5 cm Mucky Peat or Peat (S3) **(LLR K, L, R)**
- ☐ Dark Surface (S7) **(LRR K, L)**
- ☐ 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: Cobbles, rocks, and rip-rap

Depth (inches): 0 (at surface)

Hydric Soil Present? Yes ☒ No ☐

Remarks: Soils inundated with 10 inches of water, hydric by definition - Criteria 3.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: West Bend Downtown Riverwalk Renovation City/County: City of West Bend/Washington County Sampling Date: 10/09/2014
Applicant/Owner: ____ State: WI Sampling Point: 5
Investigator(s): Jennifer Dietl and Zofia Noe; SEWRPC Section, Township, Range: NW 1/4 Section 13, T11N, R19E
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 2-6%
Subregion (LRR or MLRA): LRR K Lat: ____ Long: ____ Datum: ____
Soil Map Unit Name: Grays silt loam (GrB) NWI classification: none
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☐ **No** ☒ (If no, explain in Remarks)
Are Vegetation____, Soil____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? **Yes** ☒ No ☐
Are Vegetation____, Soil____, or Hydrology ____ naturally problematic? (If, needed, explain any answers in Remarks.)

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

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

Remarks: (Explain alternative procedures here or in a separate report.) Below normal precipitation for the previous 90 days.

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** ☒ Depth (inches): ____
Water Table Present? Yes ☐ **No** ☒ Depth (inches): ____
Saturation Present? (includes capillary fringe) Yes ☐ **No** ☒ Depth (inches): ____

Wetland Hydrology Present? Yes ☐ **No** ☒

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

Remarks: Sample site is located in the Milwaukee River floodway.

VEGETATION – Use scientific names of plants. Sampling Point: 5

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. **Ulmus pumila**	**10**	☒	**FACU**
2. ____	____	☐	____
3. ____	____	☐	____
4. ____	____	☐	____
5. ____	____	☐	____
6. ____	____	☐	____
7. ____	____	☐	____
	10	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30' radius)			
1. Ulmus pumila	3	☐	FACU
2. Fraxinus pennsylvanica	1	☐	FACW
3. ____	____	☐	____
4. ____	____	☐	____
5. ____	____	☐	____
6. ____	____	☐	____
7. ____	____	☐	____
	4	= Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. **Poa pratensis**	**40**	☒	**FACU**
2. **Agropyron repens**	**30**	☒	**FACU**
3. Daucus carota	10	☐	UPL
4. Vitis riparia	10	☐	FAC
5. Parthenocissus quinquefolia	5	☐	FACU
6. Setaria sp.	5	☐	NI
7. Cirsium vulgare	4	☐	FACU
8. Aster pilosus	2	☐	FACU
9. Taraxacum officinale	2	☐	FACU
10. ____	____	☐	____
11. ____	____	☐	____
12. ____	____	☐	____
	108	= Total Cover	
Woody Vine Stratum (Plot size: 30' radius)			
1. ____	____	☐	____
2. ____	____	☐	____
3. ____	____	☐	____
4. ____	____	☐	____
	0	= 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	____	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:

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

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

Definitions of Vegetation Strata:

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

Sapling/shrub – Woody plants less than 3in. DBH and greater than 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** ☒

Remarks: (include photo number here or on a separate sheet.) Old field with scattered hardwoods.

SOIL

Sampling Point: 5

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-2	10YR 3/2	100					Silt loam	Old fill material
2-6	10YR 3/2	100					Silt loam with gravel	Old fill material
6+							Gravel	Refusal: Fill material

[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) **(LLR K, L, R)**
- ☐ 5 cm Mucky Peat or Peat (S3) **(LLR K, L, R)**
- ☐ Dark Surface (S7) **(LRR K, L)**
- ☐ 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: Old fill material

Depth (inches): 6

Hydric Soil Present? Yes ☐ **No** ☒

Remarks: Soils are old fill material that appears to have been in place since at least the 1941 aerial photo.

Exhibit 11. Site Photos
City of West Bend Downtown Riverwalk Renovation
SE Quarter, Section 11,
NE Quarter, Section 14, T11N-R19E
City of West Bend, Washington County

Photo 1. Northern view from footbridge north of Water Street.

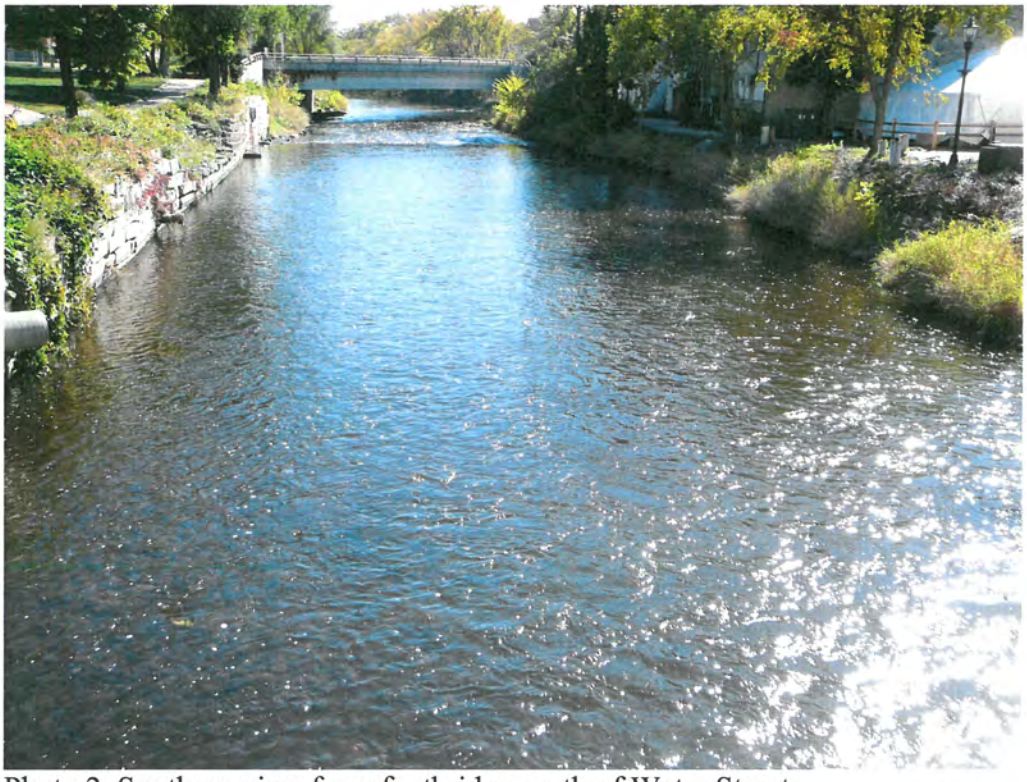

Photo 2. Southern view from footbridge north of Water Street.

Exhibit 11 continued. Site Photos
City of West Bend Downtown Riverwalk Renovation
SE Quarter, Section 11,
NE Quarter, Section 14, T11N-R19E
City of West Bend, Washington County

Photo 3. Northern view of State Highway 33.

Photo 4. Southern view from Water Street.

Exhibit 11 continued. Site Photos
City of West Bend Downtown Riverwalk Renovation
SE Quarter, Section 11,
NE Quarter, Section 14, T11N-R19E
City of West Bend, Washington County

Photo 5. Old field and *Lonicera X bella* thicket at sampling point 2.

Photo 6. Remnant rip rap at sampling point 4.

Exhibit 11 continued. Site Photos
City of West Bend Downtown Riverwalk Renovation
SE Quarter, Section 11,
NE Quarter, Section 14, T11N-R19E
City of West Bend, Washington County

Photo 7. Erosion visible (top left) along Milwaukee River.

DOC# 00224979

COPY

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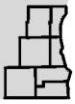


June 10, 2015

Ms. Melissa Phillips
Landscape Architect
West Bend Park, Recreation & Forestry Department
1115 S. Main Street
West Bend, WI 53095

Re: SEWRPC No. CA-618-133

Dear Ms. Phillips:

This will respond to your electronic mail message of September 3, 2014, requesting that the Commission staff conduct a field inspection of a portion of the Lac Lawrann Conservancy property at 300 Schmidt Road where recreational trail improvements are proposed. The project area is located in parts of the southeast one-quarter of U.S. Public Land Survey Section 1, Township 11 North, Range 19 East, City of West Bend, Washington County, Wisconsin. The purpose of the field inspection was to identify and stake the boundaries of any wetlands within the project area.

Pursuant to your request, Commission staff identified and staked the wetland boundaries within the project area on October 8 and 9, 2014. It is the Commission staff's expectation that the wetland boundaries will be surveyed and identified on forthcoming design plans attendant to the proposed trail improvements. A copy of the wetland delineation report is attached for your reference.

Should you have any questions regarding this information, please do not hesitate to contact Mr. Christopher J. Jors, Specialist-Biologist (*cjors@sewrpc.org* or 262-953-3246).

Sincerely,

Kenneth R. Yunker, P.E.
Executive Director

KRY/TMS/CJJ
CA618-133 LAC LAWRANN CONSERVANCY PROPOSED TRAILS LETTER (00226240).DOCX

Enclosure (# 00226360)

cc: Mr. Paul De Chant, Lac Lawrann Conservancy
Ms. Kathleen Kramasz, Wisconsin Department of Natural Resources
Mr. Anthony Jernigan, U.S. Army Corps of Engineers

WETLAND DELINEATION REPORT

LAC LAWRANN CONSERVANCY
Proposed Trail Expansions

SE Quarter, Section 1, T11N, R19E
CITY OF WEST BEND
WASHINGTON COUNTY
WISCONSIN

Prepared by:

Christopher Jors
Jennifer Dietl
Daniel Carter
Zofia Noe

Southeastern Wisconsin Regional Planning Commission
W239 N1812 Rockwood Drive
P.O. Box 1607
Waukesha, WI 53187-1607

WETLAND DELINEATION REPORT OVERVIEW

(Based upon WDNR WETLAND Delineation Confirmation Request Check List)

INTRODUCTION

- Who requested the delineation – **Melissa Philipps, City of West Bend Landscape Architect**
- Why the delineation was undertaken – **Proposed trail expansions at Lac Lawrann Conservancy**
- Date the field work was completed – **October 8 and 9, 2014**
- Who conducted field work – **Christopher Jors, Jennifer Dietl, Daniel Carter, Zofia Noe**
- Statement of Qualifications

METHODS

- Description of Methods
- Sources Reviewed
    - Topographic Map – **Exhibit 1**
    - Wisconsin Wetland Inventory (WWI) Map – **Exhibit 2**
    - Soil Survey and Floodplain Map – **Exhibit 3**
    - Historical Aerial Photos – **Exhibits 4A to 4J (2010, 2005, 2000, 1995, 1990, 1980, 1970, 1963, 1950, and 1943)**
    - Sanitary Sewer Service Map – **Exhibits 5**
    - Advanced Identification (ADID) Wetland Map – **Exhibit 6**
    - Draft NRCS Wetland Inventory Map **- Exhibit 7**
- Description of any site specific agency guidance (site meetings, etc.) – **None**

RESULTS AND DISCUSSION

- Antecedent hydrologic condition analysis **- Drier than normal**
- Previous wetland delineation mapping – **None**
- Existing environmental mapping (WWI mapping, Soil survey, etc.)
- Amount and types of wetland and upland forest in the project area
- Wetland/upland boundary explanation
- Disturbed and problematic areas encountered
- Other water resources located in the project area
- Other Considerations

LITERATURE CITED

Wetland Delineation Map – **Exhibit 8**

Vegetation Survey and Wetland Delineation Data Forms

- Preliminary Vegetation Survey – **Exhibit 9**
- Wetland Determination Data Forms – NE/NC Region – **Exhibit 10**

Site Photos – **Exhibit 11**

Farm Service Agency Slide Review **- Not Applicable**

INTRODUCTION

This wetland delineation report responds to the City of West Bend's e-mail request to identify the boundaries of any wetland in a specified project area within the Lac Lawrann Conservancy property. The Conservancy is proposing to expand the existing recreational trails. The subject property is located at 300 Schmidt Road in the Southeast one-quarter of U.S. Public Land Survey Section 1, Township 11 North, Range 19 East, City of West Bend, Washington County, Wisconsin.

Statement of Qualifications

Christopher Jors, Specialist-Biologist, has worked at SEWRPC since 1993, and has been part of the wetland delineation team since 1994. He received a Bachelor's degree in Conservation Aspects of Biology from the University of Wisconsin – Milwaukee in 1993. Prior to working at SEWRPC, Chris worked at the UWM Field Station at the Cedarburg Bog in Saukville, WI, where he learned methods of sampling wetland plant communities within the Bog. Chris has attended various wetland training workshops including a U.S. Army Corps of Engineers Workshop on the Midwest Supplement to the 1987 Wetland Delineation Manual (2009) and a Wisconsin Department of Natural Resources Workshop on Techniques for Identifying Wetland Features on Farm Service Agency Aerial Slides (2009).

Daniel Carter, PhD, Senior Biologist, has worked at SEWRPC since 2013. He graduated with honors from Grinnell College with a Bachelor's degree in Biology. He later received a PhD in Biology from Kansas State University. Daniel has published several plant ecology articles in peer-reviewed journals, serves on the botany team for the Wisconsin Wildlife Action Plan, and co-teaches the UW-La Crosse Basic Wetland Plant Identification course. He has completed both basic and advanced wetland delineation training as well as Wisconsin Natural Heritage Inventory training. Prior to working for the Commission, Daniel served as project coordinator for a grassland restoration project overseen jointly by the United States Department of Agriculture and The Nature Conservancy and taught high school Biology.

Jennifer Dietl, Specialist-Biologist, earned a Bachelor's degree in Biology and Environmental Science from Carroll University in 1992. Jennifer has worked at the Commission from 1992 to 1997 and from 2006 to the present conducting wetland delineations, primary environmental corridor delineations, and vegetation surveys. In between years of service at the Commission she worked for the Wisconsin Department of Transportation – Green Bay as an LTE Environmental Analysis and Review Specialist – and the Wisconsin Department of Natural Resources – Green Bay as an LTE Hydrologist.

Zofia Noe, Specialist-Biologist, earned a Masters Degree in Coastal Marine and Wetland Studies from Coastal Carolina University. Zofia has experience in a variety of environmental assessments including water quality, aquatic plant communities, and vegetation surveys. Zofia began assisting with wetland delineations in the Summer of 2013.

METHODS

Description of Methods

The wetland boundary determinations were based upon the criteria and methodologies set forth in the 1987 *Corps of Engineers Wetlands Delineation Manual*; the January 2012 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* (Version 2.0); the Wisconsin Department of Administration Coastal Management Program's 1995 *Basic Guide to Wisconsin's Wetlands and their Boundaries*; and the State of Wisconsin 2014 Wetland Plant List.

Specific methods used to field identify wetland boundaries included the U.S. Department of the Army Corps of Engineers Routine Onsite Determination Method – Plant Community Assessment Procedure. This procedure

requires an initial identification of representative plant community types in the project area followed by a characterization of vegetation, soils, and hydrology for each type.

Sources Reviewed

Prior to conducting field work, Commission staff reviewed the following data sources: Washington County's topographic mapping (Exhibit 1), Wisconsin Wetland Inventory (Exhibit 2), Natural Resource Conservation Service's (NRCS) soil survey and FEMA Floodplains (Exhibit 3), Commission aerial photography (Exhibits 4A - 4J), Sanitary Sewer Service Map (Exhibit 5), ADID Wetland Map (Exhibit 6), draft NRCS Wetland Inventory Map (Exhibit 7), and precipitation data from the NRCS "WETS" tables and the Global Historical Climatology Network (GHCN-D).

RESULTS AND DISCUSSION

Christopher Jors, lead investigator, and Jennifer Dietl, Dr. Daniel Carter, and Zofia Noe, identified and staked the boundaries of the wetlands contained within the project area on October 8 and 9, 2014.

The results of the wetland delineation field inspection for this project area are shown on Exhibit 8, which includes proposed and existing trails, sample site numbers and locations, staked wetland boundaries, as well as primary environmental corridor and natural area boundaries.

Antecedent Hydrologic Conditions

WETS Station: GERMANTOWN, WI3058 GHCN-D Station: USC00479053 (West Bend, WI)

Climatological data were taken from the nearest WETS station with relevant data. Observed precipitation amounts were taken from the nearest GHCN-D weather station with monthly precipitation summaries.

	Month	3 yrs. In 10 less than	Normal	3 yrs. In 10 more than	Observed precip.	Condition dry, wet, normal	Condition value	Month weight value	Product of previous two columns
1st prior month	September	2.03	3.53	4.35	1.74	dry	1	3	3
2nd prior month	August	2.98	4.28	5.08	3.42	normal	2	2	4
3rd prior month	July	2.7	4.05	4.85	3.78	normal	2	1	2
								sum	9
		If sum is							
		6 - 9	drier than normal						
		10 - 14	normal						
		15 - 18	wetter than normal						
		Conclusion							
		Antecedent precipitation was drier than normal.							

Previous wetland delineation mapping – None

Existing Environmental Mapping

The Washington County topographic map (Exhibit 1) shows the project area encompassing a glacially-carved valley between Rainbow Lake to the north and Lac Lawrann to the south. The outer, steeply-sloped, forested lands of this valley are contained within the northwest and southeast portions of the project area. The central portion of the project area contains an esker surrounded by lowlands. A cross-section of the project area indicates elevations ranging from 948 feet above sea level at the northwest edge, dropping to an elevation of 900 feet in the northwest lowland, rising to an elevation of 930 feet on top of the esker, dropping again to 900 feet in the southeast lowland, and rising to 958 feet at the southeast edge of the project area.

The Wisconsin Wetland Inventory map (WWI) (Exhibit 2) indicates two wetland complexes in the project area. The first wetland is located at the southern edge of Rainbow Lake and surrounds the north side of the esker. It is classified as emergent wet meadow (E1H), forested wetland (T3K and T2K), a small area of aquatic bed (A3L) on the south side of Rainbow Lake, and Emergent wet meadow /open water (E4/W0H) associated with an unnamed pond in the northeast corner of the project area. A second wetland is mapped on the south side of the esker, northeast of Lac Lawrann, and is classified as a forested wetland (T3K).

The NRCS Soil Survey map (Exhibit 3) shows that the lowlands within the project area consist largely of very poorly drained Houghton mucky peat (Hu) and a small area of Marsh (Mf), both with 0 to 2% slopes. Mapped upland soils in the project area include a Sisson-Casco-Hochheim complex with 20 to 30% slopes and a smaller component of Zurich silt loam (ZuB) with 2 to 6% slopes.

Historical aerial photos of the project area were reviewed for years 2010 through 1943 and are attached as Exhibits 4A to 4J. This review indicated that the forested lands within the project area have remained largely intact over that time period. The most significant disturbance to the project area occurred in the early 1900's when a railroad spur was constructed between the mainline tracks southwest of the project area, leading to Wallace Lake northeast of the project area. This rail spur was used for transporting ice from Wallace Lake and bricks from a factory east of the project area. Land disturbances on the far eastern portion of the project area, apparently related to the brick factory, are evident on the 1943 aerial photo. While the rail spur was abandoned by 1950, the route was evident on all photos reviewed. Lands northwest and southeast of the project area are in agriculture on the 1943 photo. Lowlands draining to Rainbow Lake, located northwest of the project area, appear open, pasture or managed as pasture, as shown on the 1943 photo. An excavated pond shows up on the 1963 photo just west of Rainbow Lake, behind a roadway embankment between the pond and lake. An agricultural field is converted to a conifer plantation along the southeastern border of the project area as of the 1970 photo. Agricultural lands were converted to multi-family residential uses northwest of the project area by the 2010 photo.

SEWRPC's sanitary sewer map (Exhibit 5) shows that the project area is located in the City of West Bend and Environs planned sanitary sewer service area. The entire project area is contained within a primary environmental corridor (PEC).

The ADID (Advance Identification) wetland map (Exhibit 6) indicates that all wetlands in the project area have been designated as ADID wetlands under the Section 404(b)(1) Guidelines of the Clean Water Act based upon the PEC designation noted above. The subject wetlands are deemed generally unsuitable for the discharge of dredge and fill material.

The draft NRCS Wetland Inventory Map (Exhibit 7) shows that the project area is comprised of wetlands (W) and not inventoried (NI) areas.

Amount and Types of Wetlands and Upland Forest in the Project Area

One wetland was identified and inventoried within the project area (Exhibit 9, Plant Community Area No. 2). This approximately 13.8-acre wetland is part of the Rainbow Lake and Lac Lawrann wetland complex and consists of open water, shallow marsh, fresh (wet) meadow, shrub-carr, and second growth, Southern wet lowland

hardwoods. Disturbances to the wetland include the establishment of foopaths, and filling and grading for a former railroad spur. While no Federal- or State-designated Special Concern, Threatened, or Endangered species were observed in the wetland during the field inspection, SEWRPC has a record for Northern yellow lady's-slipper orchid, *Cypripedium parviflorum var. makasin,* a State-designated Special Concern species, for this wetland complex.

The forested upland portions of the plant community area were also inventoried (Exhibit 9, Plant Community Area No. 1). This approximately 15.0-acre upland consists of Red oak–Sugar maple dry-mesic hardwoods. Disturbances include the establishment of footpaths, filling and grading along a former railroad spur, and selective cutting of trees. While no Federal- or State-designated Special Concern, Threatened, or Endangered species were observed in the upland during the field inspection, SEWRPC has records for Forked aster, *Eurybia furcata (*formerly *Aster furcatus),* a State-designated Threatened species; and Autumn coral-root, *Corallorhiza odontorhiza,* a State-designated Special Concern species, for this upland complex. The wetland and upland plant community areas were inventoried using a meander method on the days of the field inspections.

Further, it should be noted that all of the wetlands and most of the uplands within the project area are contained within the Lac Lawrann Conservancy Upland Woods and Wetlands (see Exhibit 8), identified as a Natural Area of countywide or regional significance (NA-2) in the Commission's *Amendment to the Natural Areas and Critical Species Habitat Protection and Management Plan for the Southeastern Wisconsin Region,* dated December, 2010.

Wetland/Upland Boundary Explanation

Twelve representative sample sites were identified within the project area. The Wetland Determination Data Forms describing the findings at each sample site are attached as Exhibit 10. The locations of the sample sites are shown on Exhibit 8. The wetland boundary was determined using breaks in topography, changes in vegetation composition, visual identification of wetland hydrology, and presence of hydric soils.

Disturbed and Problematic Areas Encountered

No disturbed and/or problematic areas were encountered.

Other Water Resources Located in the Project Area

Rainbow Lake, Lac Lawrann, and an unnamed small lake/pond are identified as water bodies by USGS as indicated on the Wisconsin Wetland Inventory Map (Exhibit 2). While no streams are identified by USGS within the project area, surface water generally flows from northeast to southwest within the project area, eventually reaching the Milwaukee River about 1,750 feet southwest of the project area.

Other Considerations

All wetlands located within the project area are contained within a recorded Primary Environmental Corridor (PEC). Accordingly, these wetlands have been designated as Advanced Delineation and Identification (ADID) wetlands under the Section 404(b)(1) Guidelines of the Clean Water Act and are deemed generally unsuitable for the discharge of dredge and fill material. The nonagricultural performance standards set forth in Section NR 151.125 of the *Wisconsin Statutes*, requires establishment of a 75-foot impervious surface protective area to protect these higher quality wetlands. This designated protective area boundary is measured horizontally from the delineated wetland boundary to the closest impervious surface. The protective area requirements should be taken into consideration for any planned improvements within the project area and it is suggested that you contact WDNR regarding approaches to meet the requirements. Finally, please be advised that no Federal or State regulatory jurisdiction determinations relative to any wetland permits or certifications are made under this report.

LITERATURE CITED

U.S. Army Corps of Engineers, 2014, State of Wisconsin Wetland Plant List

U.S. Army Corps of Engineers, 2012, *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* (Version 2.0). U.S. Army Engineer Research and Development Center, January 2012.

U.S. Army Corps of Engineers, 1987, U.S. Army Corps of Engineers wetlands delineation manual. Wetlands Research Program Technical Report Y-87-1.

Wisconsin Coastal Management Program, 1995, *Basic Guide to Wisconsin's Wetland and their Boundaries.*


Exhibit 1. Topographic Map
Lac Lawrann Conservancy
Proposed Trail Expansions
SE Quarter, Section 1, T11N-R19E
City of West Bend, Washington County
STH 144
Rainbow Lake
Lac Lawrann
Legend
Project Area
N
0
200
400
Feet
Source: SEWRPC
Date of Photography: 2010
CA# 618-133

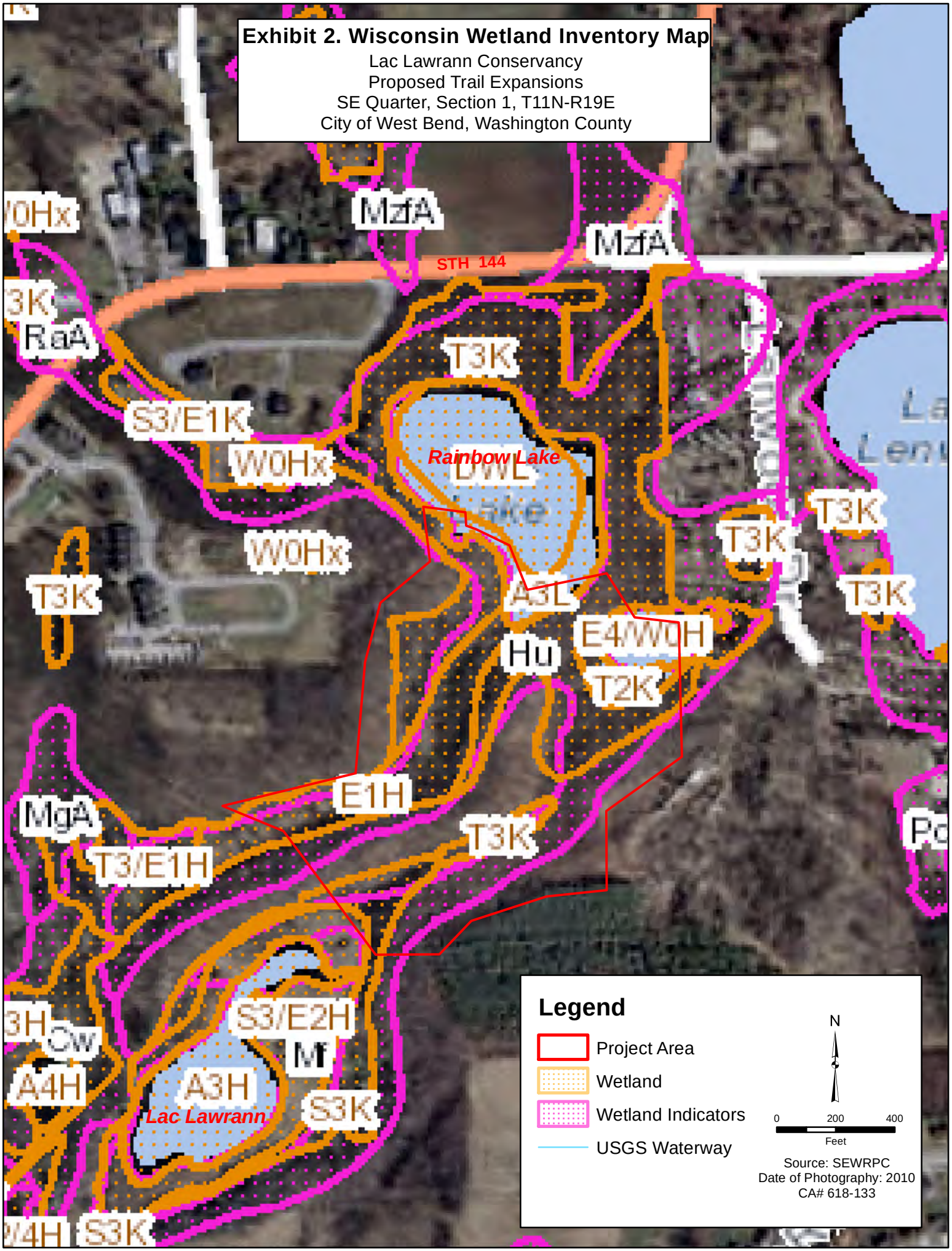


Exhibit 2. Wisconsin Wetland Inventory Map
Lac Lawrann Conservancy
Proposed Trail Expansions
SE Quarter, Section 1, T11N-R19E
City of West Bend, Washington County
STH 144
Rainbow Lake
Lac Lawrann
MzfA
T3K
S3/E1K
W0Hx
DWL
A3L
E4/W0H
Hu
T2K
E1H
MgA
T3/E1H
S3/E2H
Mf
A4H
A3H
S3K
Legend
Project Area
Wetland
Wetland Indicators
USGS Waterway
N
0
200
400
Feet
Source: SEWRPC
Date of Photography: 2010
CA# 618-133


Exhibit 3. Soils and Floodplain Map
Lac Lawrann Conservancy
Proposed Trail Expansions
SE Quarter, Section 1, T11N-R19E
City of West Bend, Washington County
HrE
SvD2
JuA
SvC2
SvB2
MzfA
GrB
STH 144
HmC2
W
RaA
Rainbow Lake
SvD2
Pc
SvE
Hu
ZuB
MgA
GP
Cw
Mf
Lac Lawrann
CrE
SrD2
HmB2
Legend
Project Area
100 Year Floodplain
Poorly drained or Very poorly drained
Somewhat poorly drained
Other Soils
N
0
200
400
Feet
Source: SEWRPC
Date of Photography: 2010
CA# 618-133


Exhibit 4A. 2010 Orthophotograph
Lac Lawrann Conservancy
Proposed Trail Expansions
SE Quarter, Section 1, T11N-R19E
City of West Bend, Washington County
STH 144
Rainbow Lake
Lac Lawrann
Legend
Project Area
N
0
200
400
Feet
Source: SEWRPC
Date of Photography: 2010
CA# 618-133


Exhibit 4B. 2005 Orthophotograph
Lac Lawrann Conservancy
Proposed Trail Expansions
SE Quarter, Section 1, T11N-R19E
City of West Bend, Washington County
STH 144
Rainbow Lake
Lac Lawrann
Legend
Project Area
N
0
200
400
Feet
Source: SEWRPC
Date of Photography: 2005
CA# 618-133

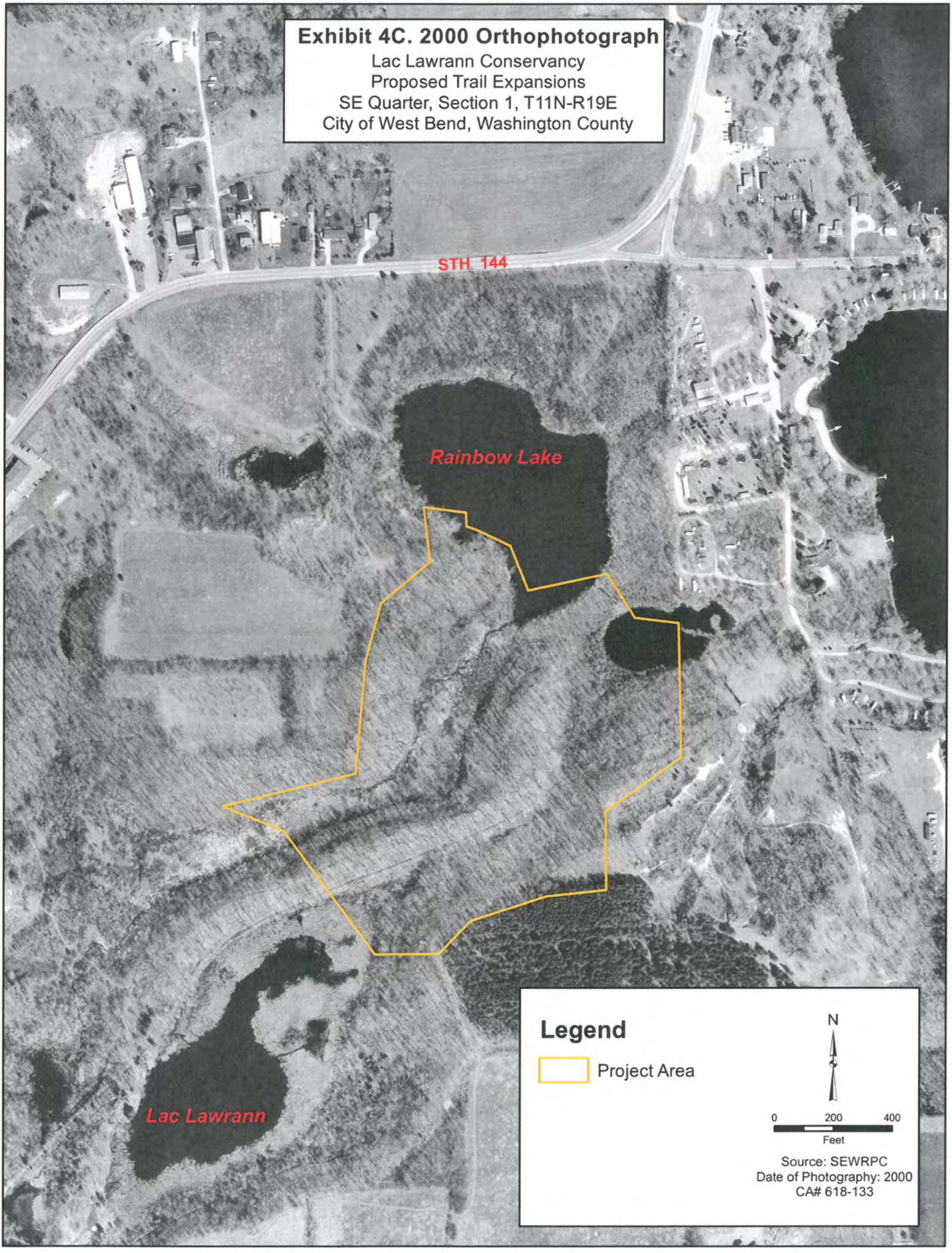


Exhibit 4C. 2000 Orthophotograph
Lac Lawrann Conservancy
Proposed Trail Expansions
SE Quarter, Section 1, T11N-R19E
City of West Bend, Washington County
STH 144
Rainbow Lake
Lac Lawrann
Legend
Project Area
N
0
200
400
Feet
Source: SEWRPC
Date of Photography: 2000
CA# 618-133

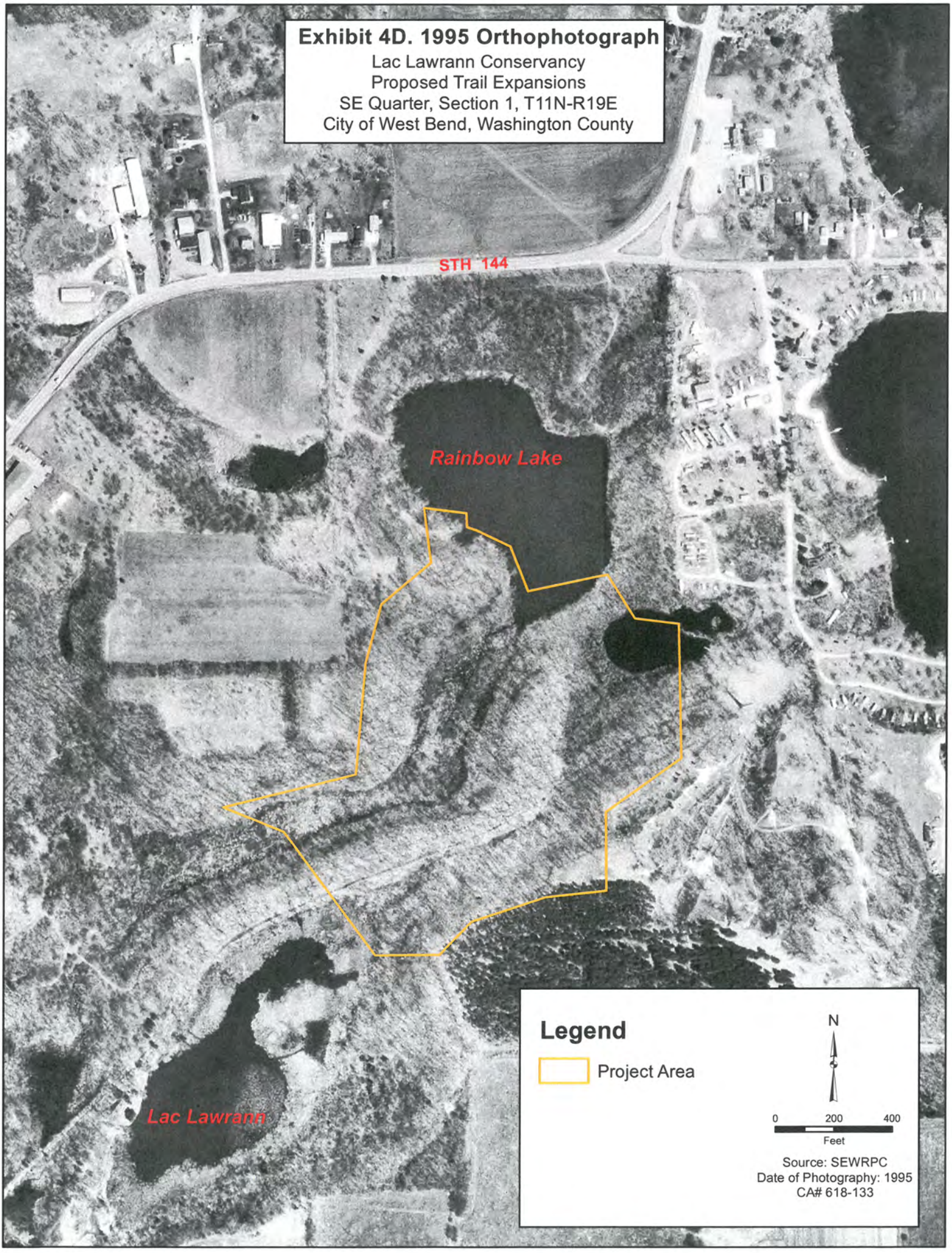


Exhibit 4D. 1995 Orthophotograph
Lac Lawrann Conservancy
Proposed Trail Expansions
SE Quarter, Section 1, T11N-R19E
City of West Bend, Washington County
STH 144
Rainbow Lake
Lac Lawrann
Legend
Project Area
N
0
200
400
Feet
Source: SEWRPC
Date of Photography: 1995
CA# 618-133

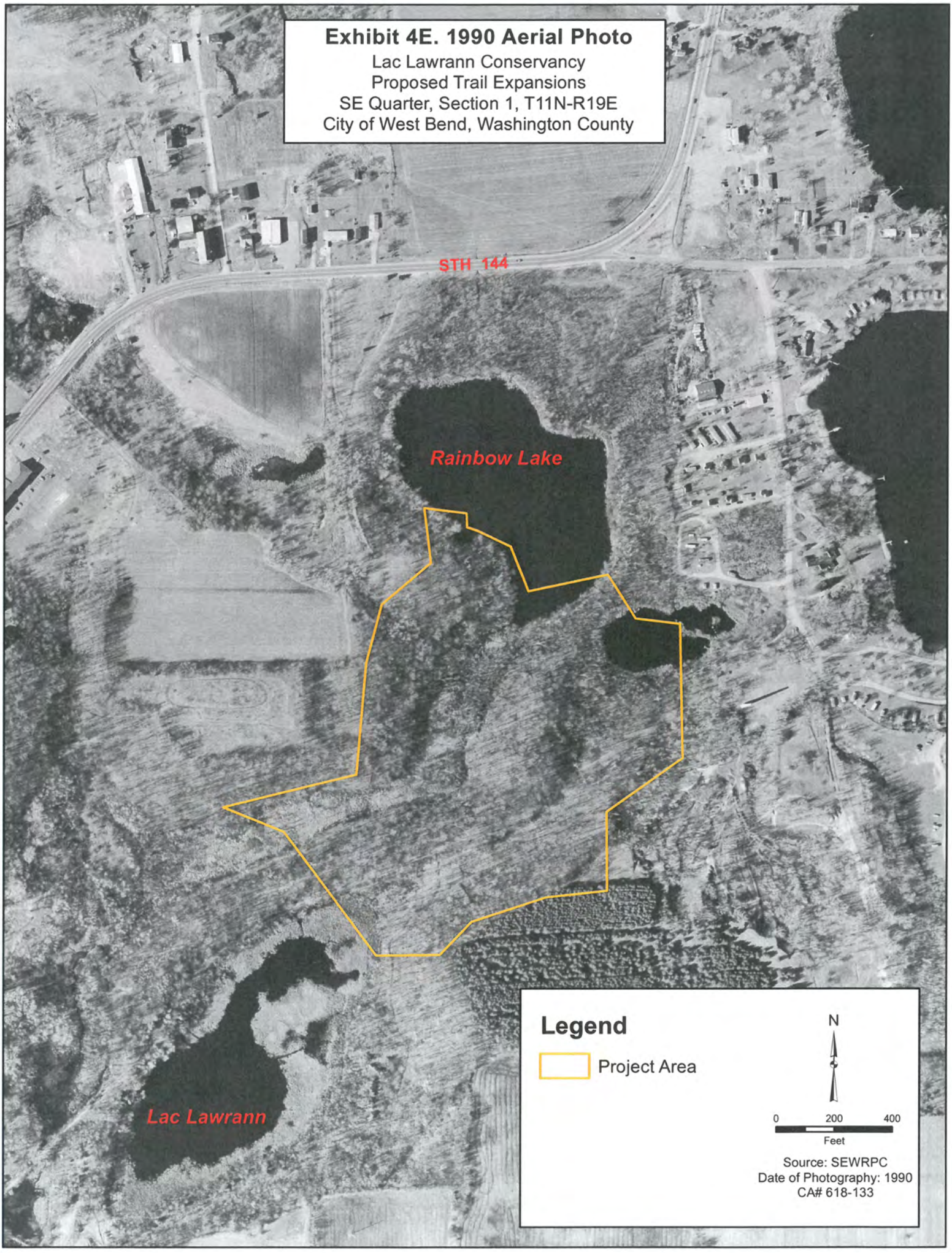


Exhibit 4E. 1990 Aerial Photo
Lac Lawrann Conservancy
Proposed Trail Expansions
SE Quarter, Section 1, T11N-R19E
City of West Bend, Washington County
STH 144
Rainbow Lake
Lac Lawrann
Legend
Project Area
N
0
200
400
Feet
Source: SEWRPC
Date of Photography: 1990
CA# 618-133

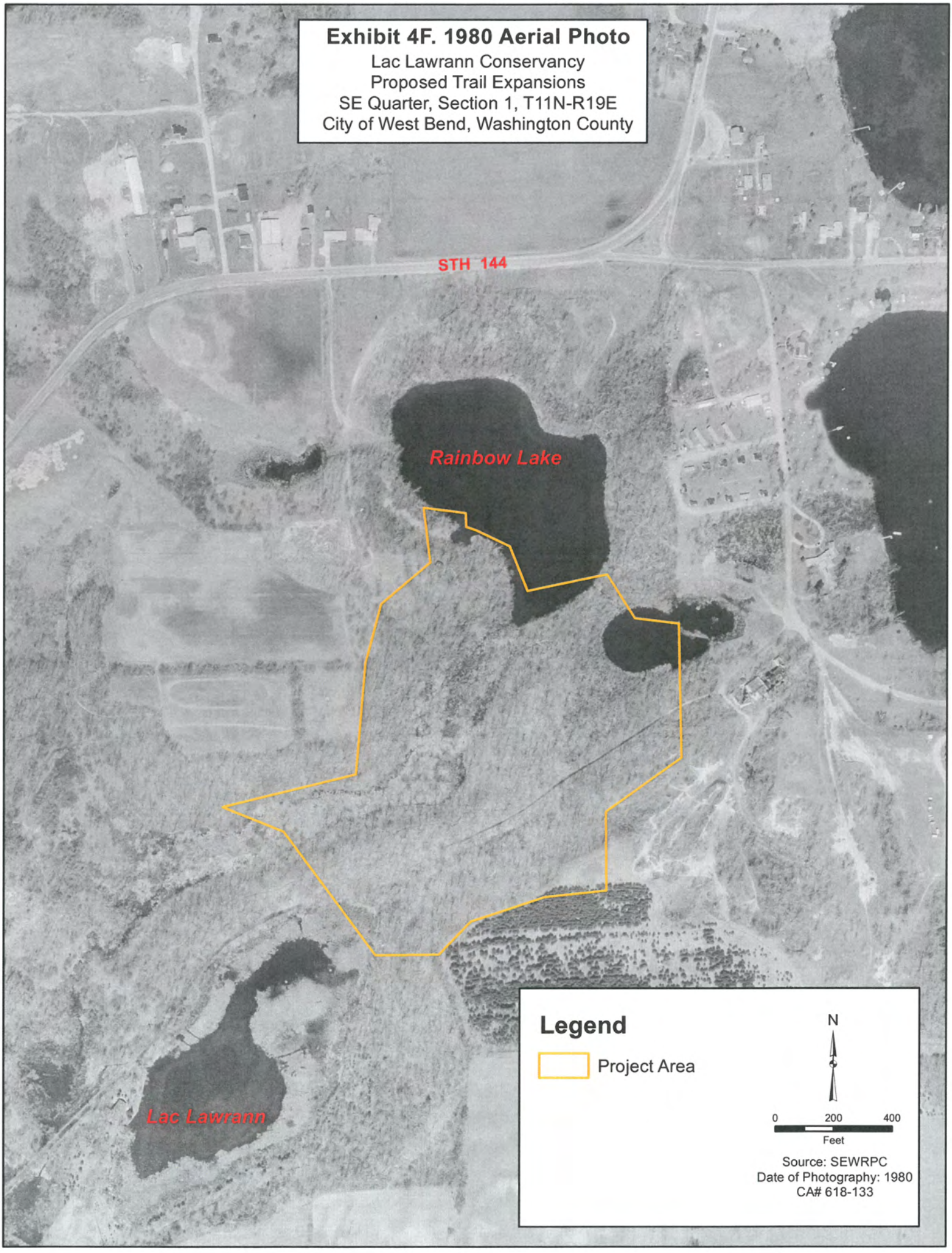


Exhibit 4F. 1980 Aerial Photo
Lac Lawrann Conservancy
Proposed Trail Expansions
SE Quarter, Section 1, T11N-R19E
City of West Bend, Washington County
STH 144
Rainbow Lake
Lac Lawrann
Legend
Project Area
N
0
200
400
Feet
Source: SEWRPC
Date of Photography: 1980
CA# 618-133

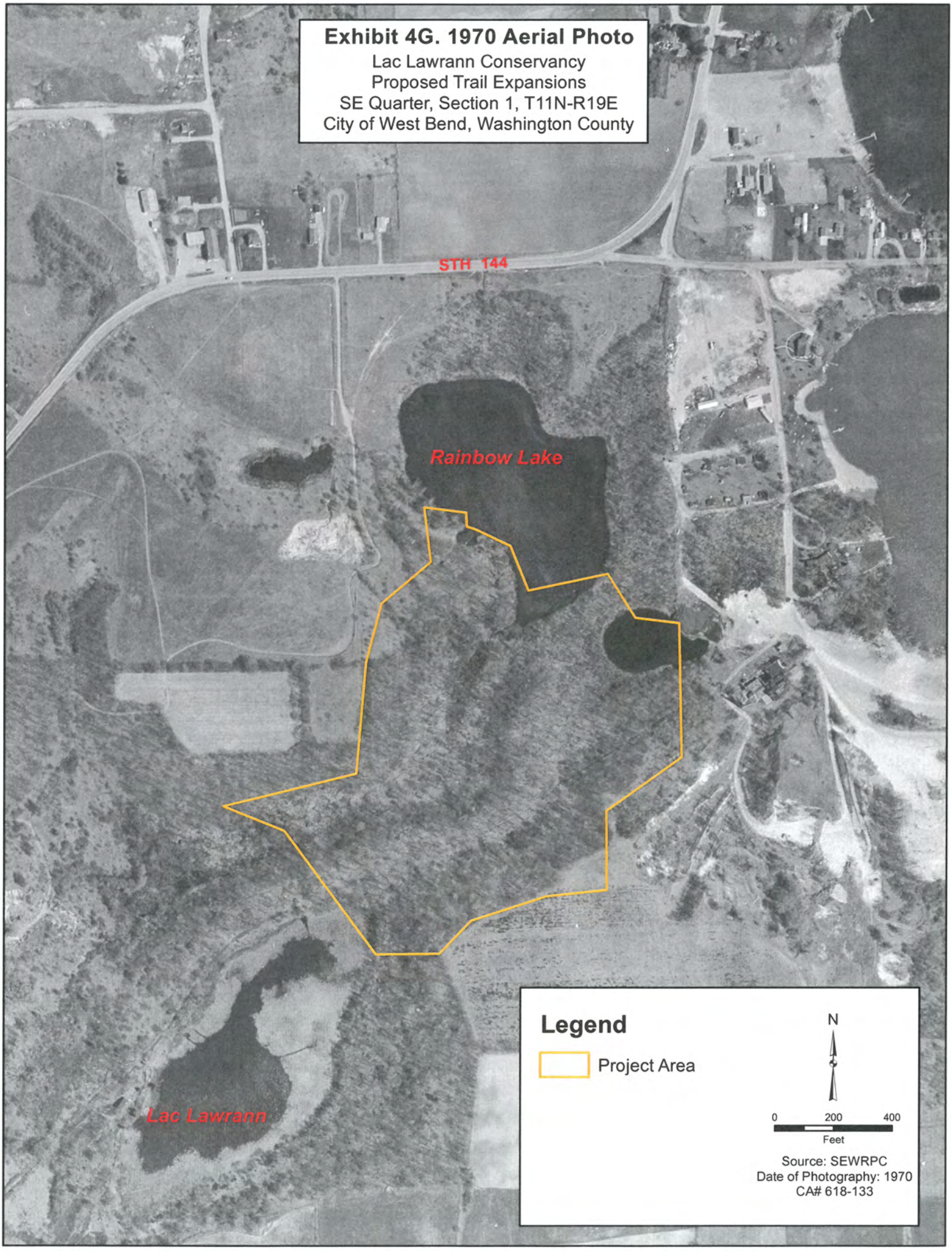


Exhibit 4G. 1970 Aerial Photo
Lac Lawrann Conservancy
Proposed Trail Expansions
SE Quarter, Section 1, T11N-R19E
City of West Bend, Washington County
STH 144
Rainbow Lake
Lac Lawrann
Legend
Project Area
N
0
200
400
Feet
Source: SEWRPC
Date of Photography: 1970
CA# 618-133

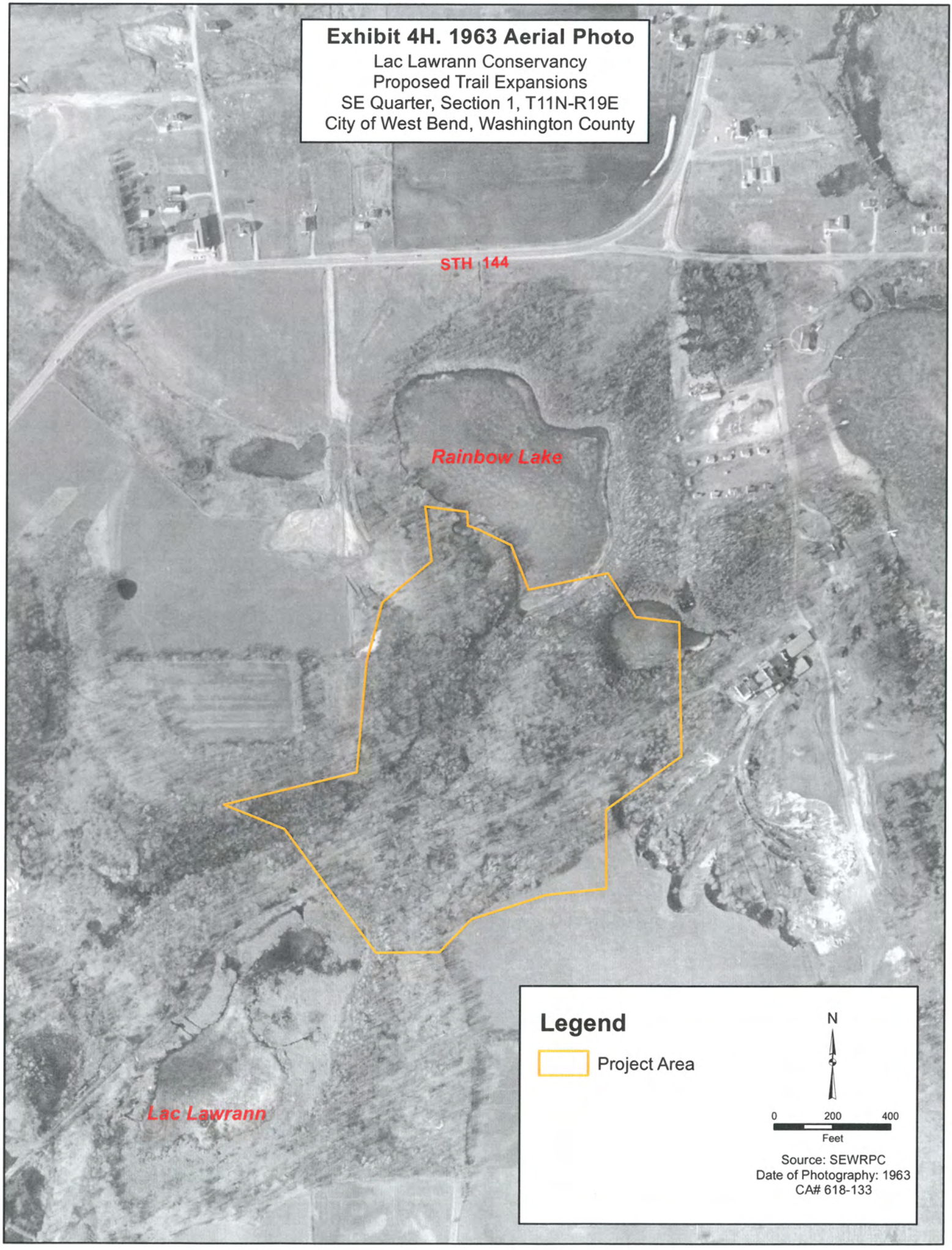


Exhibit 4H. 1963 Aerial Photo
Lac Lawrann Conservancy
Proposed Trail Expansions
SE Quarter, Section 1, T11N-R19E
City of West Bend, Washington County
STH 144
Rainbow Lake
Lac Lawrann
Legend
Project Area
N
0
200
400
Feet
Source: SEWRPC
Date of Photography: 1963
CA# 618-133

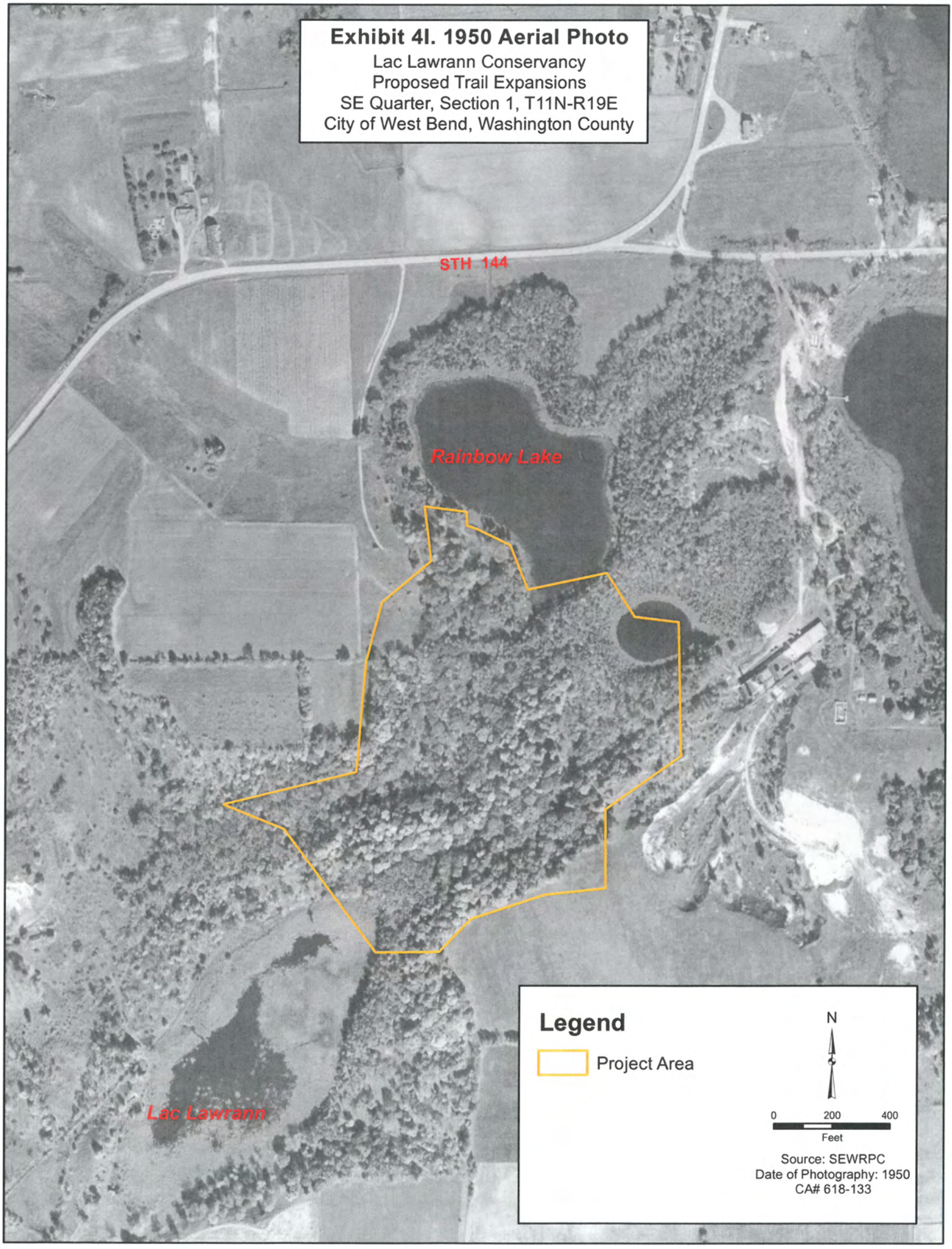


Exhibit 4I. 1950 Aerial Photo
Lac Lawrann Conservancy
Proposed Trail Expansions
SE Quarter, Section 1, T11N-R19E
City of West Bend, Washington County
STH 144
Rainbow Lake
Lac Lawrann
Legend
Project Area
N
0
200
400
Feet
Source: SEWRPC
Date of Photography: 1950
CA# 618-133

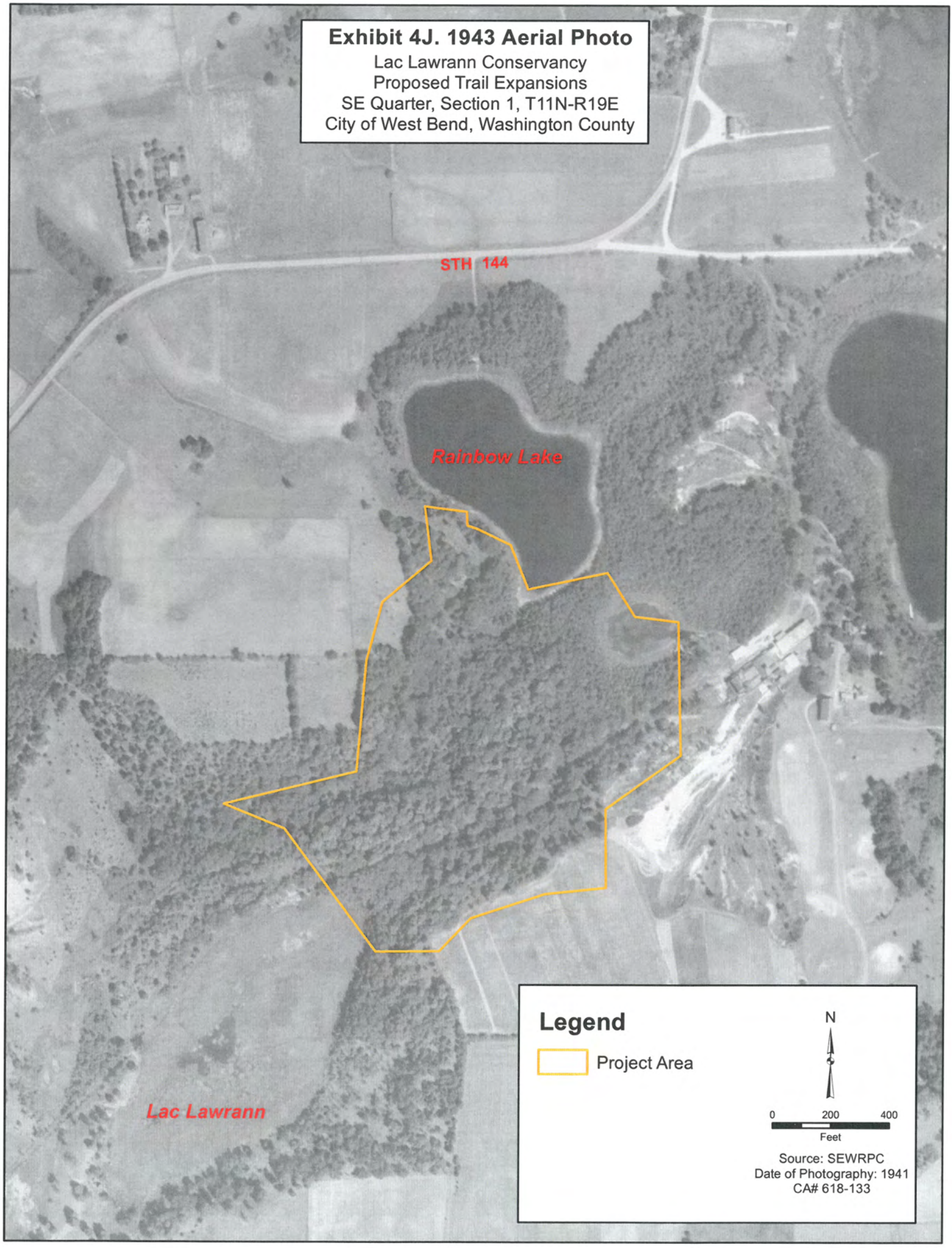


Exhibit 4J. 1943 Aerial Photo
Lac Lawrann Conservancy
Proposed Trail Expansions
SE Quarter, Section 1, T11N-R19E
City of West Bend, Washington County
STH 144
Rainbow Lake
Lac Lawrann
Legend
Project Area
N
0
200
400
Feet
Source: SEWRPC
Date of Photography: 1941
CA# 618-133

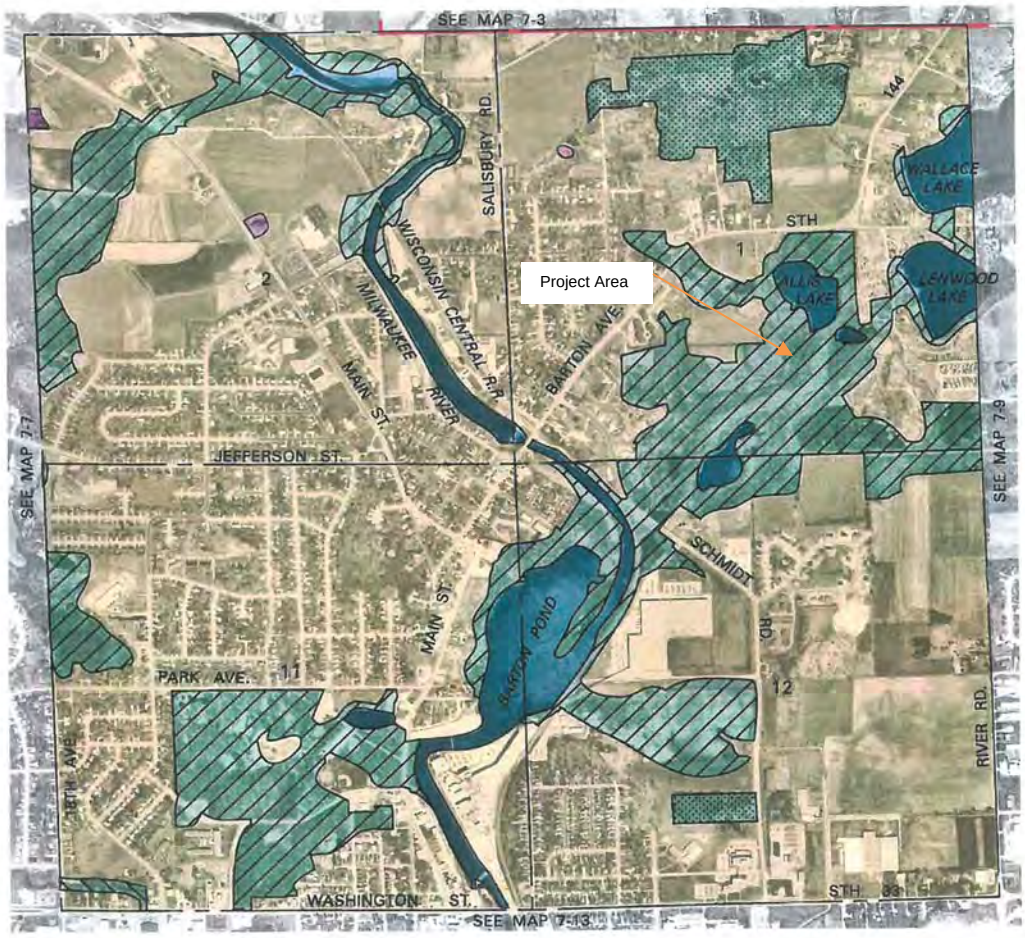
EXHIBIT 5. Sanitary Sewer Service Map

Lac Lawrenn Conservancy - Proposed Trail Expansions
SE Quarter, Section 1, T11N-R19E
City of West Bend, Washington County

Map 7-8

ENVIRONMENTALLY SIGNIFICANT LANDS AND PLANNED SANITARY SEWER SERVICE AREA FOR THE CITY OF WEST BEND AND ENVIRONS

U. S. Public Land Survey Sections 1, 2, 11, and 12
Township 11 North, Range 19 East



LEGEND

- PRIMARY ENVIRONMENTAL CORRIDOR
- SECONDARY ENVIRONMENTAL CORRIDOR
- ISOLATED NATURAL RESOURCE AREA
- WETLANDS AND SURFACE WATER AREAS LESS THAN FIVE ACRES IN SIZE
- SURFACE WATER WITHIN ENVIRONMENTAL CORRIDORS AND ISOLATED NATURAL RESOURCE AREAS
- PLANNED SANITARY SEWER SERVICE AREA
- GROSS SANITARY SEWER SERVICE AREA BOUNDARY
- LANDS WITHIN THE PLANNED SANITARY SEWER SERVICE AREA INELIGIBLE FOR SEWER SERVICE

GRAPHIC SCALE
0 400 800 1200 FEET

Source: SEWRPC.

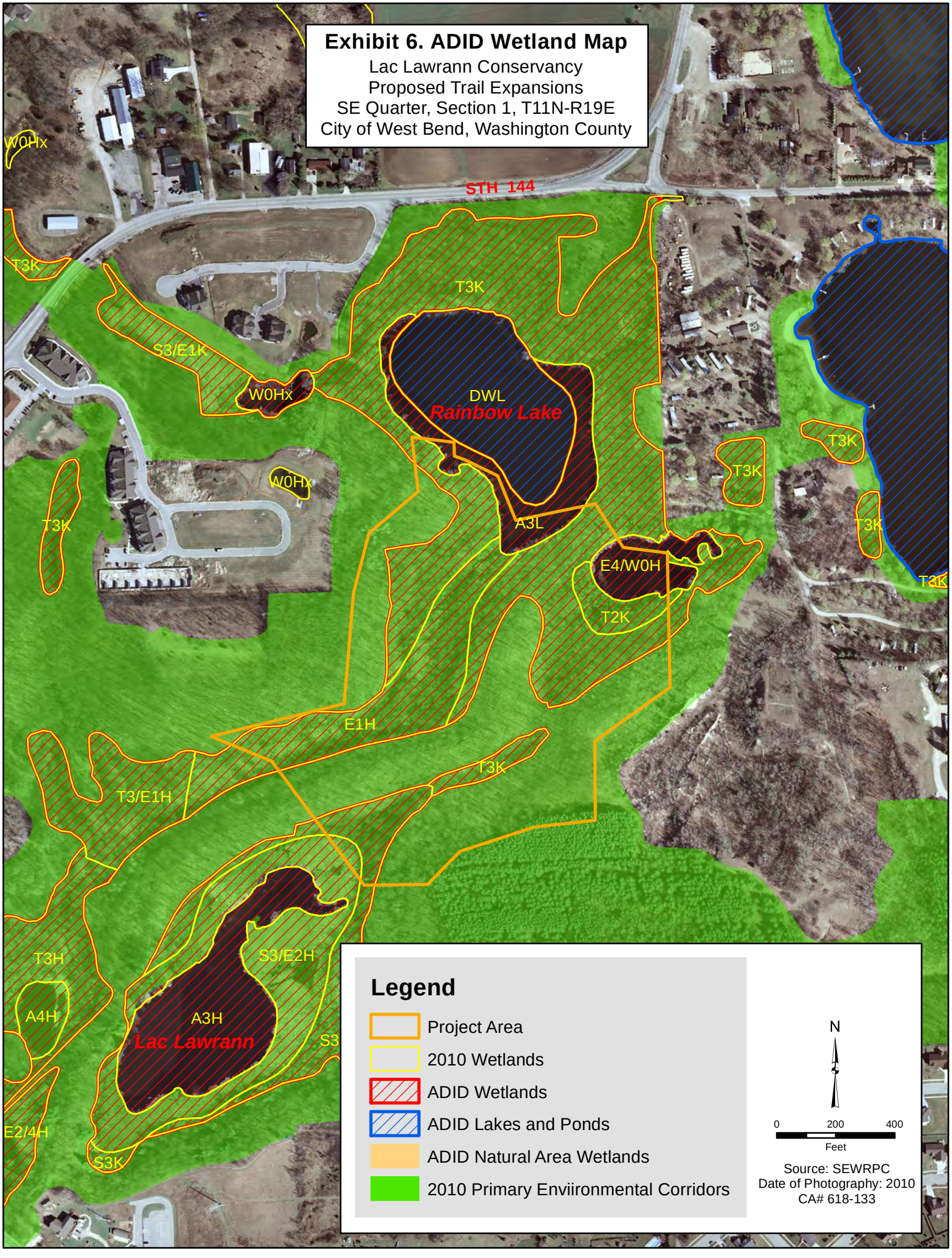


Exhibit 6. ADID Wetland Map
Lac Lawrann Conservancy
Proposed Trail Expansions
SE Quarter, Section 1, T11N-R19E
City of West Bend, Washington County
STH 144
W0Hx
T3K
S3/E1K
W0Hx
T3K
DWL
Rainbow Lake
W0Hx
T3K
A3L
E4/W0H
T2K
T3K
T3K
T3K
T3K
E1H
T3K
T3/E1H
T3H
A4H
A3H
Lac Lawrann
S3/E2H
S3
E2/4H
S3K
Legend
Project Area
2010 Wetlands
ADID Wetlands
ADID Lakes and Ponds
ADID Natural Area Wetlands
2010 Primary Enviironmental Corridors
N
0
200
400
Feet
Source: SEWRPC
Date of Photography: 2010
CA# 618-133

EXHIBIT 7. NRCS Wetland Inventory Map
Lac Lawrenn Conservancy - Proposed Trail Expansions
SE Quarter, Section 1, T11N-R19E
City of West Bend, Washington County

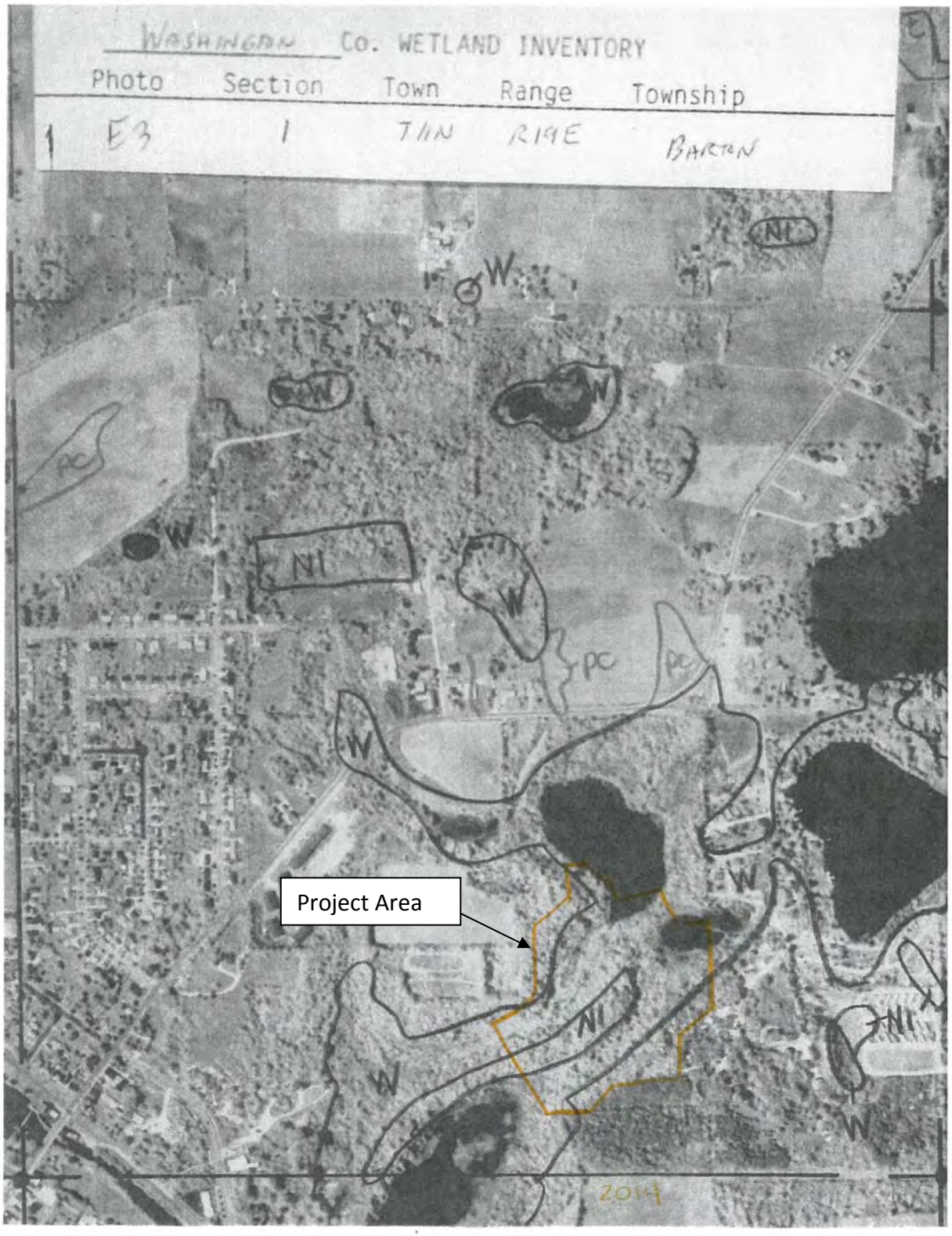


Exhibit 8. Wetland Delineation Map

Lac Lawrann Conservancy
Proposed Trail Expansions
SE Quarter, Section 1, T11N-R19E
City of West Bend, Washington County

STH 144

Rainbow Lake

Lac Lawrann Conservancy Upland Woods and Wetlands
NA-2

Lac Lawrann

Legend

- Project Area
- Proposed Trails
- Minor Trails (Existing)
- Primary Environmental Corridor
- Natural Area
- Approximate Staked Wetland
- Approximate Mapped Wetland
- 1 Plant Community Number
- Sample Site
- 1 Sample Number

N

0 100 200
Feet

Source: SEWRPC
Date of Photography: 2010
CA# 618-133

Wetland Boundary Within Project Area Staked by SEWRPC on 10/8 and 10/9/2014

SVY4188
CA618-133

EXHIBIT 9

PRELIMINARY VEGETATION SURVEY
LAC LAWRANN CONSERVANCY PROPOSED TRAIL EXPANSIONS

Dates: October 8 and 9, 2014

Observers: Daniel L. Carter, PhD., Senior Biologist
Christopher J. Jors, Biologist
Jennifer L. Dietl, Biologist
Zofia Noe, Biologist
Southeastern Wisconsin Regional Planning Commission

Location: City of West Bend in parts of the Southeast one-quarter of U.S. Public Land Survey Section 1, Township 11 North, Range 19 East, Washington County, Wisconsin.

SPECIES LIST: PLANT COMMUNITY AREA NO. 1 - NATIVE PLANT SPECIES
Co-dominant plant species

***Acer saccharum*--Sugar maple**
Actaea pachypoda--White baneberry
***Adiantum pedatum*--Maidenhair fern**
Agrimonia sp.--Agrimony
Amphicarpa bracteata--Hog peanut
Anemone quinquefolia--Wood anemone
Aquilegia canadensis--Columbine
Arisaema triphyllum--Jack-in-the-pulpit
Asclepias exaltata--Poke milkweed
Aster lateriflorus--Calico aster
Aster macrophyllus--Large-leaved aster
Aster ontarionis--Ontario aster
Betula papyrifera--Paper birch
***Brachyelytrum erectum*--Long-awned wood grass**
Carex blanda--Wood sedge
***Carex pensylvanica*--Pennsylvania sedge**
Carpinus caroliniana--Musclewood
Carya cordiformis--Yellowbud hickory
Carya ovata--Shagbark hickory
Caulophyllum thalictroides--Blue cohosh
Cinna arundinacea--Wood reed grass
Circaea lutetiana--Enchanter's nightshade
Cornus alternifolia--Pagoda dogwood
Elymus villosus--Silky wild rye
Equisetum hyemale--Scouring-rush
Eupatorium rugosum--White snakeroot
Fagus grandifolia--American beech
Fraxinus americana--White ash
Fraxinus pennsylvanica--Green ash
Galium boreale--Northern bedstraw
Galium circaezans--Wild licorice
Galium concinnum--Shining bedstraw
Galium triflorum--Sweet-scented bedstraw
Geranium maculatum--Wild geranium
Geum canadense--White avens
Hackelia virginiana--Stickseed
Hamamelis virginiana--Witch-hazel
Helianthus strumosus--Pale-leaved wood sunflower
Hepatica americana--Round-lobed hepatica
Heracleum lanatum--Cow parsnip

Hystrix patula--Bottlebrush grass
Lobelia inflata--Indian tobacco
Lonicera prolifera--Yellow honeysuckle
Muhlenbergia sylvatica--Woodland satin grass
***Oryzopsis racemosa*--Black-seeded rice grass**
Osmorhiza claytonii--Sweet cicely
Osmunda cinnamomea--Cinnamon fern
Ostrya virginiana--Ironwood
Populus grandidentata--Large-toothed aspen
Populus tremuloides--Quaking aspen
Prunella vulgaris--Selfheal
Prunus serotina--Black cherry
Prunus virginiana--Chokecherry
Quercus alba--White oak
Quercus macrocarpa--Bur oak
***Quercus rubra*--Northern red oak**
Ranunculus recurvatus--Hooked buttercup
Ribes americanum--Wild black current
Ribes cynosbati--Pasture gooseberry
Rubus occidentalis--Black raspberry
Rubus strigosus--Red raspberry
Scrophularia sp.--Figwort
Smilax ecirrhata--Low carrion flower
Smilax tamnoides--Bristly greenbrier
Solidago flexicaulis--Zig-zag goldenrod
Solidago gigantea--Giant goldenrod
Thalictrum dioicum--Woodland meadow rue
Tilia americana--Basswood
Ulmus americana--American elm
Uvularia grandiflora--Bellwort
Viburnum acerifolium--Maple leaf viburnum
Viola sp.--Violet
Zanthoxylum americanum--Prickly-ash

Non-native plant species

Berberis thunbergii--Japanese barberry
Dactylis glomerata--Orchard grass
Elaeagnus umbellata--Autumn-olive
Epipactis helleborine--Helleborine
Lonicera X bella--Hybrid honeysuckle
Poa compressa--Canada bluegrass
Rhamnus cathartica--Common buckthorn
Viburnum opulus--European highbush-cranberry

Total number of plant species: 81
Number of alien, or non-native, plant species: 8 (10 percent)

This approximately 15-acre upland plant community area is part of a larger primary environmental corridor and consists of red oak-sugar maple dry-mesic hardwoods. Disturbances to the plant community area include the establishment of footpaths, filling and grading for a former railroad spur, and selective cutting of trees. While no Federal- or State-designated Special Concern, Threatened, or Endangered species were observed during the field inspection, SEWRPC has records of Forked aster ((*Eurybia furcata*), a State-designated Threatened species and Autumn coral-root (*Corallorhiza odontorhiza*), a State-designated Special Concern species for this upland woodland. Further, SEWRPC's 2010 Amendment to the *Natural Areas and Critical Species Habitat Protection and Management Plan for the Southeastern Wisconsin Region*, identifies this plant community area as part of the Lac Lawrann Conservancy Upland Woods and Wetlands, a Natural area of Countywide or Regional significance (NA-2).

PLANT COMMUNITY AREA NO. 2 - NATIVE PLANT SPECIES

Acer rubrum--Red maple
Alnus rugosa--Tag alder
Aronia melanocarpa--Black chokeberry
Aster lateriflorus--Calico aster
Aster lucidulus--Swamp aster
Aster ontarionis--Ontario aster
Athyrium filix-femina--Lady fern
Betula alleghaniensis--Yellow birch
Betula papyrifera--Paper birch
Betula pumila--Bog birch
Bidens frondosa--Common beggars-ticks
Boehmeria cylindrica--False nettle
Calamagrostis canadensis--Canada bluejoint
Carex blanda--Wood sedge
Carex granularis--Pale sedge
Carex lacustris--Lake sedge
Cicuta maculata--Spotted water-hemlock
Cinna arundinacea--Wood reed grass
Circaea lutetiana--Enchanter's nightshade
Cornus amomum--Silky dogwood
Cornus stolonifera--Red-osier dogwood
Dryopteris cristata--Crested wood fern
Elymus virginicus--Virginia wild rye
Eupatorium maculatum--Joe-Pye weed
Eupatorium perfoliatum--Boneset
Fragaria virginiana--Wild strawberry
Fraxinus americana--White ash
Fraxinus nigra--Black ash
Fraxinus pennsylvanica--Green ash
Galium triflorum--Sweet-scented bedstraw
Geum canadense--White avens
Glyceria striata--Fowl manna grass
Heracleum lanatum--Cow parsnip
Ilex verticillata--Winterberry
Impatiens capensis--Jewelweed
Larix laricina--Tamarack
Lemna minor--Lesser duckweed
Lycopus uniflorus--Northern bugleweed
Matteuccia struthiopteris--Ostrich fern
Nymphaea odorata--White water lily
Onoclea sensibilis--Sensitive fern
Pedicularis lanceolata--Swamp lousewort
Pilea fontana--Clearweed
Pilea pumila--Clearweed
Polygonum amphibium--Water smartweed
Populus deltoides--Cottonwood
Prunella vulgaris--Selfheal
Rhus vernix--Poison sumac
Ribes americanum--Wild black current
Rubus pubescens--Dwarf blackberry
Rumex orbiculatus--Great water dock
Salix bebbiana--Beaked willow
Sanicula sp.--Black snakeroot
Scirpus atrovirens--Green bulrush
Scutellaria lateriflora--Sideflower skullcap
Solidago gigantea--Giant goldenrod
Solidago patula--Swamp goldenrod
Stachys tenuifolia--Smooth hedge-nettle
Symplocarpus foetidus--Skunk cabbage
Thelypteris palustris--Marsh fern
Tilia americana--Basswood

Native Plant Species cont'

Typha latifolia--Broad-leaved cat-tail
Ulmus americana--American elm
Viburnum lentago--Nannyberry
Viola sp.--Violet

NON-Native Plant Species

Alliaria officinalis--Garlic-mustard
***Phalaris arundinacea*--Reed canary grass**
Rhamnus cathartica--Common buckthorn
Solanum dulcamara--Deadly nightshade
Typha angustifolia--Narrow-leaved cat-tail

Total number of plant species: 70
Number of alien, or non-native, plant species: 5 (7 percent)

This approximately 13.8-acre plant community area is part of the Rainbow Lake and Lac Lawrann wetland complex and consists of open water, shallow marsh, fresh (wet) meadow, shrub-carr, and second growth, Southern wet lowland hardwoods. Disturbances to the plant community area include the establishment of footpaths and filling and grading for a former railroad spur. While no Federal- or State-designated Special Concern, Threatened, or Endangered species were observed during the field inspection, SEWRPC has a record of Northern yellow lady's-slipper orchid (*Cypripedium parviflorum* var. *makasin*), a State-designated Special Concern species for the wetland complex. Further, SEWRPC's 2010 Amendment to the *Natural Areas and Critical Species Habitat Protection and Management Plan for the Southeastern Wisconsin Region*, identifies this plant community area as part of the Lac Lawrann Conservancy Upland Woods and Wetlands, a Natural area of Countywide or Regional significance (NA-2).

EXHIBIT 10

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Lac Lawrann Conservancy Prop. Trail Expan. City/County: City of West Bend/Washington County Sampling Date: 10/09/2014
Applicant/Owner: _____ State: WI Sampling Point: 1
Investigator(s): Jennifer Dietl and Zofia Noe; SEWRPC Section, Township, Range: SE 1/4 Section 1, T11N, R19E
Landform (hillslope, terrace, etc.): narrow drainage way Local relief (concave, convex, none): concave Slope (%): 20-30%
Subregion (LRR or MLRA): LRR K Lat: _____ Long: _____ Datum: _____
Soil Map Unit Name: Sisson-Casco-Hoccheim complex (SvE) NWI classification: T3K
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☐ No ☒ (If no, explain in Remarks)
Are Vegetation_____, Soil_____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation_____, Soil_____, or Hydrology _____ naturally problematic? (If, needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	☒ **Yes**	☐ No	**Is the Sampled Area within a Wetland?**	☒ **Yes**	☐ No
Hydric Soils Present?	☒ **Yes**	☐ No			
Wetland Hydrology Present?	☒ **Yes**	☐ No	If yes, optional Wetland Site ID: Plant Community Area No. 2		

Remarks: (Explain alternative procedures here or in a separate report.) Drier than normal for the previous 90 days. Sample area is a very narrow (5 to 10 feet) drainage way with steep slopes on the north side and a slightly convex terrace to the south.

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

Wetland Hydrology Present? **Yes** ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Topo map (Exhibit 1), WWI map (Exhibit 2), Soil Survey map (Exhibit 3), aerial photos (Exhibit 4).

Remarks: All shrub sized Rhamnus cathartica along narrow drainage way exhibit multiple stems and shallow roots.

VEGETATION – Use scientific names of plants. Sampling Point: 1

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus pennsylvanica	**15**	☒	**FACW**
2.		☐	
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
	15	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30' radius)			
1. Rhamnus cathartica	**40**	☒	**FAC**
2.		☐	
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
	40	= Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. Rhamnus cathartica	**15**	☒	**FAC**
2. Sanicula sp.	3	☐	FACU
3. Aster lateriflorus	2	☐	FAC
4. Carex blanda	2	☐	FAC
5. Geum canadense	2	☐	FAC
6. Pilea pumila	2	☐	FACW
7. Galium triflorum	1	☐	FACU
8. Ulmus americana	1	☐	FACW
9. Viola sp.	1	☐	NI
10.		☐	
11.		☐	
12.		☐	
	29	= Total Cover	
Woody Vine Stratum (Plot size: 30' radius)			
1.		☐	
2.		☐	
3.		☐	
4.		☐	
	0	= 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:

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

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

Definitions of Vegetation Strata:

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

Sapling/shrub – Woody plants less than 3in. DBH and greater than 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 ☐

Remarks: (include photo number here or on a separate sheet.) Very narrow drainage way with buckthorn thicket and scattered lowland hardwoods.

SOIL

Sampling Point: 1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-15	10YR 2/2	95	7.5YR 4/6	5	C	PL M	Silt loam	
15-21	10YR 4/2	100					Sandy loam	
21-23	10YR 5/2	95	7.5YR 5/6	5	C	PL M	Sandy loam	
23+								Refusal: Dry soils

[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) (**LLR K, L, R**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LLR K, L, R**)
- ☐ Dark Surface (S7) (**LRR K, L**)
- ☐ 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: Dry soils

Depth (inches): 23

Hydric Soil Present? **Yes** ☒ No ☐

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Lac Lawrann Conservancy Prop. Trail Expan. City/County: City of West Bend/Washington County Sampling Date: 10/08/2014
Applicant/Owner: _____ State: WI Sampling Point: 2
Investigator(s): Jennifer Dietl, Zofia Noe, Daniel Carter; SEWRPC Section, Township, Range: SE 1/4 Section 1, T11N, R19E
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): convex Slope (%): 20-30%
Subregion (LRR or MLRA): LRR K Lat: _____ Long: _____ Datum: _____
Soil Map Unit Name: Sisson-Casco-Hochheim comlex (SvE) NWI classification: T3K
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☐ No ☒ (If no, explain in Remarks)
Are Vegetation_____, Soil_____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation_____, Soil_____, or Hydrology _____ naturally problematic? (If, needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	☒**Yes**	☐No	**Is the Sampled Area within a Wetland?**	☐ Yes	☒**No**
Hydric Soils Present?	☐Yes	☒**No**			
Wetland Hydrology Present?	☐Yes	☒**No**	If yes, optional Wetland Site ID: PCA No. 2		

Remarks: (Explain alternative procedures here or in a separate report.) Drier than normal for the previous 90 days. Sample area consists of a slightly convex surface between two steep hillslopes.

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

Wetland Hydrology Present? Yes ☐ **No** ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Topo map (Exhibit 1), WWI map (Exhibit 2), Soil Survey map (Exhibit 3), aerial photos (Exhibit 4).

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 2

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus pennsylvanica	**40**	☒	**FACW**
2. Ulmus americana	**35**	☒	**FACW**
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
	75	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30' radius)			
1. Rhamnus cathartica	**65**	☒	**FAC**
2. Ulmus americana	15	☐	FACW
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
	80	= Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. Rhamnus cathartica	**15**	☒	**FAC**
2. Aster lateriflorus	**5**	☒	**FAC**
3. Ribes americanum	4	☐	FACW
4. Carex blanda	3	☐	FAC
5. Eupatorium rugosum	3	☐	FACU
6. Osmorhiza claytonii	3	☐	FACU
7. Galium triflorum	1	☐	FACU
8. Geranium maculatum	1	☐	FACU
9. Ulmus americana	1	☐	FACW
10.		☐	
11.		☐	
12.		☐	
	36	= Total Cover	
Woody Vine Stratum (Plot size: 30' radius)			
1.		☐	
2.		☐	
3.		☐	
4.		☐	
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (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:

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

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

Definitions of Vegetation Strata:

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

Sapling/shrub – Woody plants less than 3in. DBH and greater than 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 ☐

Remarks: (include photo number here or on a separate sheet.) Lowland hardwoods.

SOIL

Sampling Point: 2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 3/2	100					Silt loam	
7-10	10YR 3/2	98	7.5YR 4/6	2	C	PL M	Silt loam	
10-17	10YR 5/4	100					Sandy loam	
17-23	10YR 4/3	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) (**LLR K, L, R**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LLR K, L, R**)
- ☐ Dark Surface (S7) (**LRR K, L**)
- ☐ 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** ☒

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Lac Lawrann Conservancy Prop. Trail Expan. City/County: City of West Bend/Washington County Sampling Date: 10/08/2014
Applicant/Owner: _____ State: WI Sampling Point: 3
Investigator(s): Jennifer Dietl, Zofia Noe, and Daniel Carter; SEWRPC Section, Township, Range: SE 1/4 Section 1, T11N, R19E
Landform (hillslope, terrace, etc.): low terrace Local relief (concave, convex, none): none Slope (%): 0-2%
Subregion (LRR or MLRA): LRR K Lat: _____ Long: _____ Datum: _____
Soil Map Unit Name: Houghton mucky peat (Hu) NWI classification: E1H
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☐ No ☒ (If no, explain in Remarks)
Are Vegetation_____, Soil_____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation_____, Soil_____, or Hydrology _____ naturally problematic? (If, needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	☒ **Yes**	☐ No	**Is the Sampled Area within a Wetland?**	☒ **Yes**	☐ No
Hydric Soils Present?	☒ **Yes**	☐ No			
Wetland Hydrology Present?	☒ **Yes**	☐ No	If yes, optional Wetland Site ID: PCA No. 2		

Remarks: (Explain alternative procedures here or in a separate report.) Drier than normal for the previous 90 days. Sample site area selected as a proposed trail is planned for this area.

HYDROLOGY

Wetland Hydrology Indicators:

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

☒ **Surface Water (A1)**	☐ Water-Stained Leaves (B9)	☐ Surface Soil Cracks (B6)
☐ High Water Table (A2)	☐ Aquatic Fauna (B13)	☐ Drainage Patterns (B10)
☐ Saturation (A3)	☐ Marl Deposits (B15)	☐ Moss Trim Lines (B16)
☒ **Water marks (B1)**	☒ **Hydrogen Sulfide Odor (C1)**	☐ Dry-Season Water Table (C2)
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres on Living Roots (C3)	☐ Crayfish Burrows (C8)
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)	☐ Saturation Visible on Aerial Imagery (C9)
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ Stunted or Stressed Plants (D1)
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)	☒ **Geomorphic Position (D2)**
☐ Inundation Visible on Aerial Imagery (B7)	☐ Other (Explain in Remarks)	☐ Shallow Aquitard (D3)
☐ Sparsely Vegetated Concave Surface (B8)		☐ Microtopographic Relief (D4)
		☒ **FAC-Neutral Test (D5)**

Field Observations:

Surface Water Present? **Yes** ☒ **No** ☐ Depth (inches): 2
Water Table Present? **Yes** ☐ **No** ☐ Depth (inches): _____
Saturation Present? (includes capillary fringe) **Yes** ☐ **No** ☐ Depth (inches): _____

Wetland Hydrology Present? **Yes** ☒ **No** ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Topo map (Exhibit 1), WWI map (Exhibit 2), Soil Survey map (Exhibit 3), aerial photos (Exhibit 4).

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 3

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus nigra	**70**	☒	**FACW**
2.		☐	
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
	70	= Total Cover	

Sapling/Shrub Stratum (Plot size: 30' radius)			
1.		☐	
2.		☐	
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
	0	= Total Cover	

Herb Stratum (Plot size: 5' radius)			
1. Phalaris arundinacea	**100**	☒	**FACW**
2. Carex lacustris	10	☐	OBL
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
8.		☐	
9.		☐	
10.		☐	
11.		☐	
12.		☐	
	110	= Total Cover	

Woody Vine Stratum (Plot size: 30' radius)			
1.		☐	
2.		☐	
3.		☐	
4.		☐	
	0	= 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: 2 (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:

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

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

Definitions of Vegetation Strata:

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

Sapling/shrub – Woody plants less than 3in. DBH and greater than 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 ☐

Remarks: (include photo number here or on a separate sheet.) Fresh (wet) meadow and lowland hardwoods.

SOIL

Sampling Point: 3

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

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

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, 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) (**LLR K, L, R**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LLR K, L, R**)
- ☐ Dark Surface (S7) (**LRR K, L**)
- ☐ 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 ☐

Remarks: Soils inundated with 2 inches of water, hydric by definition - Criteria 3.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Lac Lawrann Conservancy Prop. Trail Expan. City/County: City of West Bend/Washington County Sampling Date: 10/08/2014
Applicant/Owner: _____ State: WI Sampling Point: 4
Investigator(s): Jennifer Dietl, Zofia Noe, and Daniel Carter; SEWRPC Section, Township, Range: SE 1/4 Section 1, T11N, R19E
Landform (hillslope, terrace, etc.): toe slope Local relief (concave, convex, none): linear Slope (%): 20-30%
Subregion (LRR or MLRA): LRR K Lat: _____ Long: _____ Datum: _____
Soil Map Unit Name: Sisson-Casco-Hoccheim complex (SvE) NWI classification: T3K
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☐ No ☒ (If no, explain in Remarks)
Are Vegetation____, Soil____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation____, Soil____, or Hydrology ____ naturally problematic? (If, needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	☐Yes	☒**No**	**Is the Sampled Area within a Wetland?**	☐ Yes	☒**No**
Hydric Soils Present?	☐Yes	☒**No**			
Wetland Hydrology Present?	☐Yes	☒**No**	If yes, optional Wetland Site ID: _____		

Remarks: (Explain alternative procedures here or in a separate report.) Drier than normal for the previous 90 days. Sample site selected due to a proposed trail in the area and WWI mapping error of T3K.

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

Wetland Hydrology Present? Yes ☐ **No** ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Topo map (Exhibit 1), WWI map (Exhibit 2), Soil Survey map (Exhibit 3), aerial photos (Exhibit 4).

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 4

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer saccharum	**60**	☒	**FACU**
2. Tilia americana	**35**	☒	**FACU**
3. Quercus rubra	20	☐	FACU
4.		☐	
5.		☐	
6.		☐	
7.		☐	
	115	= Total Cover	

Sapling/Shrub Stratum (Plot size: 30' radius)			
1. Zanthoxylum americanum	**10**	☒	**FACU**
2. Acer saccharum	**5**	☒	**FACU**
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
	15	= Total Cover	

Herb Stratum (Plot size: 5' radius)			
1. Acer saccharum	**55**	☒	**FACU**
2. Galium triflorum	5	☐	FACU
3. Dactylis glomerata	4	☐	FACU
4. Hystrix patula	4	☐	NI
5. Viburnum opulus	4	☐	FACW
6. Aster lateriflorus	2	☐	FAC
7. Rhamnus cathartica	2	☐	FAC
8. Solidago flexicaulis	2	☐	FACU
9. Geum canadense	1	☐	FAC
10. Hackelia virginiana	1	☐	FACU
11. Solidago gigantea	1	☐	FACW
12.		☐	
	81	= Total Cover	

Woody Vine Stratum (Plot size: 30' radius)			
1.		☐	
2.		☐	
3.		☐	
4.		☐	
	0	= 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: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (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:

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

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

Definitions of Vegetation Strata:

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

Sapling/shrub – Woody plants less than 3in. DBH and greater than 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** ☒

Remarks: (include photo number here or on a separate sheet.) Upland hardwoods.

SOIL

Sampling Point: 4

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-10	10YR 2/1	100					Sandy loam	
10+								Refusal: Glacial till

[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) (**LLR K, L, R**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LLR K, L, R**)
- ☐ Dark Surface (S7) (**LRR K, L**)
- ☐ 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: Glacial till

Depth (inches): 10

Hydric Soil Present? Yes ☐ **No** ☒

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Lac Lawrann Conservancy Prop. Trail Expan. City/County: City of West Bend/Washington County Sampling Date: 10/08/2014
Applicant/Owner: _____ State: WI Sampling Point: 5
Investigator(s): Jennifer Dietl, Zofia Noe, and Daniel Carter; SEWRPC Section, Township, Range: SE 1/4 Section 1, T11N, R19E
Landform (hillslope, terrace, etc.): low terrace Local relief (concave, convex, none): none Slope (%): 0-2%
Subregion (LRR or MLRA): LRR K Lat: _____ Long: _____ Datum: _____
Soil Map Unit Name: Houghton mucky peat (Hu) NWI classification: E1H
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☐ No ☒ (If no, explain in Remarks)
Are Vegetation____, Soil____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation____, Soil____, or Hydrology ____ naturally problematic? (If, needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	☒ **Yes**	☐ No	**Is the Sampled Area within a Wetland?**	☒ **Yes**	☐ No
Hydric Soils Present?	☒ **Yes**	☐ No			
Wetland Hydrology Present?	☒ **Yes**	☐ No	If yes, optional Wetland Site ID: PCA No. 2		

Remarks: (Explain alternative procedures here or in a separate report.) Drier than normal for the previous 90 days. Wetland sample point in area of proposed trail that will cross the wetland.

HYDROLOGY

Wetland Hydrology Indicators:

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

☒ **Surface Water (A1)**	☒ **Water-Stained Leaves (B9)**	☐ Surface Soil Cracks (B6)
☐ High Water Table (A2)	☐ Aquatic Fauna (B13)	☐ Drainage Patterns (B10)
☐ Saturation (A3)	☐ Marl Deposits (B15)	☐ Moss Trim Lines (B16)
☐ Water marks (B1)	☐ Hydrogen Sulfide Odor (C1)	☐ Dry-Season Water Table (C2)
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres on Living Roots (C3)	☐ Crayfish Burrows (C8)
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)	☐ Saturation Visible on Aerial Imagery (C9)
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ Stunted or Stressed Plants (D1)
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)	☒ **Geomorphic Position (D2)**
☐ Inundation Visible on Aerial Imagery (B7)	☐ Other (Explain in Remarks)	☐ Shallow Aquitard (D3)
☐ Sparsely Vegetated Concave Surface (B8)		☐ Microtopographic Relief (D4)
		☒ **FAC-Neutral Test (D5)**

Secondary Indicators (minimum of two required)

Field Observations:

Surface Water Present? **Yes** ☒ **No** ☐ Depth (inches): 8.5
Water Table Present? **Yes** ☐ **No** ☐ Depth (inches): _____
Saturation Present? (includes capillary fringe) **Yes** ☐ **No** ☐ Depth (inches): _____

Wetland Hydrology Present? **Yes** ☒ **No** ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Topo map (Exhibit 1), WWI map (Exhibit 2), Soil Survey map (Exhibit 3), aerial photos (Exhibit 4).

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 5

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.		☐	
2.		☐	
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30' radius)			
1.		☐	
2.		☐	
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
	0	= Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. Phalaris arundinacea	**10**	☒	**FACW**
2.		☐	
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
8.		☐	
9.		☐	
10.		☐	
11.		☐	
12.		☐	
	10	= Total Cover	
Woody Vine Stratum (Plot size: 30' radius)			
1.		☐	
2.		☐	
3.		☐	
4.		☐	
	0	= 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: 1 (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:

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

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

Definitions of Vegetation Strata:

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

Sapling/shrub – Woody plants less than 3in. DBH and greater than 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 ☐

Remarks: (include photo number here or on a separate sheet.) Narrow band of open water with fresh (wet) meadow along the edge.

SOIL

Sampling Point: 5

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

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

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, 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) (**LLR K, L, R**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LLR K, L, R**)
- ☐ Dark Surface (S7) (**LRR K, L**)
- ☐ 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 ☐

Remarks: Soils inundated with 8.5 inches of water, hydric by definition - Criteria 3.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Lac Lawrann Conservancy Prop. Trail Expan. City/County: City of West Bend/Washington County Sampling Date: 10/08/2014
Applicant/Owner: _____ State: WI Sampling Point: 6
Investigator(s): Jen Dietl, Zofia Noe, Dan Carter, Chris Jors; SEWRPC Section, Township, Range: SE 1/4 Section 1, T11N, R19E
Landform (hillslope, terrace, etc.): low terrace Local relief (concave, convex, none): none Slope (%): 0-2%
Subregion (LRR or MLRA): LRR K Lat: _____ Long: _____ Datum: _____
Soil Map Unit Name: Houghton mucky peat (Hu) NWI classification: E1H
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☐ No ☒ (If no, explain in Remarks)
Are Vegetation____, Soil____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation____, Soil____, or Hydrology ____ naturally problematic? (If, needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	☒ **Yes**	☐ No	**Is the Sampled Area within a Wetland?**	☒ **Yes**	☐ No
Hydric Soils Present?	☒ **Yes**	☐ No			
Wetland Hydrology Present?	☒ **Yes**	☐ No	If yes, optional Wetland Site ID: PCA No. 2		

Remarks: (Explain alternative procedures here or in a separate report.) Drier than normal for the previous 90 days. Wetland sample point in area of proposed trail that will cross the wetland.

HYDROLOGY

Wetland Hydrology Indicators:

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

☒ **Surface Water (A1)**	☒ **Water-Stained Leaves (B9)**	☐ Surface Soil Cracks (B6)
☐ High Water Table (A2)	☐ Aquatic Fauna (B13)	☐ Drainage Patterns (B10)
☐ Saturation (A3)	☐ Marl Deposits (B15)	☐ Moss Trim Lines (B16)
☐ Water marks (B1)	☐ Hydrogen Sulfide Odor (C1)	☐ Dry-Season Water Table (C2)
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres on Living Roots (C3)	☐ Crayfish Burrows (C8)
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)	☐ Saturation Visible on Aerial Imagery (C9)
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ Stunted or Stressed Plants (D1)
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)	☒ **Geomorphic Position (D2)**
☐ Inundation Visible on Aerial Imagery (B7)	☐ Other (Explain in Remarks)	☐ Shallow Aquitard (D3)
☐ Sparsely Vegetated Concave Surface (B8)		☐ Microtopographic Relief (D4)
		☒ **FAC-Neutral Test (D5)**

Secondary Indicators (minimum of two required)

Field Observations:

Surface Water Present? **Yes** ☒ No ☐ Depth (inches): 3
Water Table Present? Yes ☐ No ☐ Depth (inches): _____
Saturation Present? (includes capillary fringe) Yes ☐ No ☐ Depth (inches): _____

Wetland Hydrology Present? **Yes** ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Topo map (Exhibit 1), WWI map (Exhibit 2), Soil Survey map (Exhibit 3), aerial photos (Exhibit 4).

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 6

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus nigra	**20**	☒	**FACW**
2.		☐	
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
	20	= Total Cover	

Sapling/Shrub Stratum (Plot size: 30' radius)			
1. Fraxinus nigra	**60**	☒	**FACW**
2.		☐	
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
	60	= Total Cover	

Herb Stratum (Plot size: 5' radius)			
1. Phalaris arundinacea	**50**	☒	**FACW**
2. Carex lacustris	**20**	☒	**OBL**
3. Scutellaria lateriflora	5	☐	OBL
4. Impatiens capensis	3	☐	FACW
5. Aster ontarionis	2	☐	FAC
6. Boehmeria cylindrica	2	☐	OBL
7. Pilea fontana	1	☐	FACW
8. Pilea pumila	1	☐	FACW
9. Symplocarpua foetidus	1	☐	OBL
10.		☐	
11.		☐	
12.		☐	
	85	= Total Cover	

Woody Vine Stratum (Plot size: 30' radius)			
1.		☐	
2.		☐	
3.		☐	
4.		☐	
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 4 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		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:

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

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

Definitions of Vegetation Strata:

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

Sapling/shrub – Woody plants less than 3in. DBH and greater than 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 ☐

Remarks: (include photo number here or on a separate sheet.) Fresh (wet) meadow with sapling and mature hardwoods.

SOIL

Sampling Point: 6

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

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

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, 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) (**LLR K, L, R**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LLR K, L, R**)
- ☐ Dark Surface (S7) (**LRR K, L**)
- ☐ 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 ☐

Remarks: Soils inundated with 3 inches of water, hydric by definition - Criteria 3.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Lac Lawrann Conservancy Prop. Trail Expan. City/County: City of West Bend/Washington County Sampling Date: 10/08/2014
Applicant/Owner: _____ State: WI Sampling Point: 7
Investigator(s): Jennifer Dietl and Zofia Noe; SEWRPC Section, Township, Range: SE 1/4 Section 1, T11N, R19E
Landform (hillslope, terrace, etc.): footslope Local relief (concave, convex, none): linear Slope (%): 20-30%
Subregion (LRR or MLRA): LRR K Lat: _____ Long: _____ Datum: _____
Soil Map Unit Name: Sisson-Casco-Hochheim complex (SvE) NWI classification: T3K
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☐ No ☒ (If no, explain in Remarks)
Are Vegetation____, Soil____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation____, Soil____, or Hydrology ____ naturally problematic? (If, needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	☐ **Yes**	☒ No	**Is the Sampled Area within a Wetland?**	☐ Yes ☒ **No**
Hydric Soils Present?	☐ **Yes**	☒ No		
Wetland Hydrology Present?	☐ **Yes**	☒ No	If yes, optional Wetland Site ID: PCA No. 1	

Remarks: (Explain alternative procedures here or in a separate report.) Drier than normal for the previous 90 days. Sample site selected due to a proposed trail in the area and WWI mapping error of T3K.

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

Wetland Hydrology Present? Yes ☐ **No** ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Topo map (Exhibit 1), WWI map (Exhibit 2), Soil Survey map (Exhibit 3), aerial photos (Exhibit 4).

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 7

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer saccharum	**50**	☒	**FACU**
2. Fagus grandifolia	**40**	☒	**FACU**
3. Ostrya virginiana	20	☐	FACU
4.		☐	
5.		☐	
6.		☐	
7.		☐	
	110	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30' radius)			
1. Acer saccharum	**10**	☒	**FACU**
2. Fagus grandifolia	**5**	☒	**FACU**
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
	15	= Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. Carex pensylvanica	**50**	☒	**NI**
2. Acer saccharum	**40**	☒	**FACU**
3. Rhamnus cathartica	5	☐	FAC
4. Aster ontarionis	2	☐	FAC
5. Fagus grandifolia	2	☐	FACU
6.		☐	
7.		☐	
8.		☐	
9.		☐	
10.		☐	
11.		☐	
12.		☐	
	99	= Total Cover	
Woody Vine Stratum (Plot size: 30' radius)			
1.		☐	
2.		☐	
3.		☐	
4.		☐	
	0	= 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: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (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:

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

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

Definitions of Vegetation Strata:

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

Sapling/shrub – Woody plants less than 3in. DBH and greater than 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** ☒

Remarks: (include photo number here or on a separate sheet.) Upland hardwoods.

SOIL

Sampling Point: 7

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 2/2	100					Silt loam	
5-14	10YR 4/4	95	7.5YR 4/6	5	C	M	Clay	
14-16	10YR 5/6	95	7.5YR 5/8	5	C	M	Gravelly sandy loam	
16+								Refusal: Glacial till material

[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) (**LLR K, L, R**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LLR K, L, R**)
- ☐ Dark Surface (S7) (**LRR K, L**)
- ☐ 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: Glacial till

Depth (inches): 16

Hydric Soil Present? Yes ☐ **No** ☒

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Lac Lawrann Conservancy Prop. Trail Expan. City/County: City of West Bend/Washington County Sampling Date: 10/08/2014
Applicant/Owner: _____ State: WI Sampling Point: 8
Investigator(s): Jennifer Dietl and Zofia Noe; SEWRPC Section, Township, Range: SE 1/4 Section 1, T11N, R19E
Landform (hillslope, terrace, etc.): toe slope Local relief (concave, convex, none): linear Slope (%): 20-30%
Subregion (LRR or MLRA): LRR K Lat: _____ Long: _____ Datum: _____
Soil Map Unit Name: Sisson-Casco-Hoccheim complex (SvE) NWI classification: T3K
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☐ No ☒ (If no, explain in Remarks)
Are Vegetation____, Soil____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation____, Soil____, or Hydrology ____ naturally problematic? (If, needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	☐Yes	☒**No**	**Is the Sampled Area within a Wetland?**	☐ Yes	☒**No**
Hydric Soils Present?	☐Yes	☒**No**			
Wetland Hydrology Present?	☐Yes	☒**No**	If yes, optional Wetland Site ID: PCA No. 1		

Remarks: (Explain alternative procedures here or in a separate report.) Drier than normal for the previous 90 days. Sample site selected due to a proposed trail in the area and WWI mapping error of T3K.

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

Wetland Hydrology Present? Yes ☐ **No** ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Topo map (Exhibit 1), WWI map (Exhibit 2), Soil Survey map (Exhibit 3), aerial photos (Exhibit 4).

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 8

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Tilia americana	**40**	☒	**FACU**
2. Acer saccharum	**20**	☒	**FACU**
3. Fraxinus americana	10	☐	FACU
4. ____	____	☐	____
5. ____	____	☐	____
6. ____	____	☐	____
7. ____	____	☐	____
	70	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30' radius)			
1. Fraxinus americana	**10**	☒	**FACU**
2. Rubus occidentalis	**5**	☒	**NI**
3. ____	____	☐	____
4. ____	____	☐	____
5. ____	____	☐	____
6. ____	____	☐	____
7. ____	____	☐	____
	15	= Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. Acer saccharum	**50**	☒	**FACU**
2. Eupatorium rugosum	**10**	☒	**FACU**
3. Rhamnus cathartica	**10**	☒	**FAC**
4. Ribes cynosbati	**10**	☒	**FACU**
5. Osmorhiza claytonii	8	☐	FACU
6. Berberbis thunbergii	5	☐	FACU
7. Circaea lutetiana	5	☐	FACU
8. Prunus serotina	5	☐	FACU
9. Carex blanda	3	☐	FAC
10. Galium triflorum	3	☐	FACU
11. ____	____	☐	____
12. ____	____	☐	____
	109	= Total Cover	
Woody Vine Stratum (Plot size: 30' radius)			
1. ____	____	☐	____
2. ____	____	☐	____
3. ____	____	☐	____
4. ____	____	☐	____
	0	= 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: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 13% (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:

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

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

Definitions of Vegetation Strata:

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

Sapling/shrub – Woody plants less than 3in. DBH and greater than 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** ☒

Remarks: (include photo number here or on a separate sheet.) Upland hardwoods.

SOIL

Sampling Point: 8

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR 2/1	100					Loam	
9-16	10YR 3/1	100					Sand	
16-19	10YR 4/1	98	5Y 6/6	2	C	M	Sand	with disintegrating dolomite
19+								Refusal: Dry 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) (**LLR K, L, R**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LLR K, L, R**)
- ☐ Dark Surface (S7) (**LRR K, L**)
- ☐ 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: Dry sand

Depth (inches): 19

Hydric Soil Present? Yes ☐ **No** ☒

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Lac Lawrann Conservancy Prop. Trail Expan. City/County: City of West Bend/Washington County Sampling Date: 10/08/2014
Applicant/Owner: _____ State: WI Sampling Point: 9
Investigator(s): Jennifer Dietl and Zofia Noe; SEWRPC Section, Township, Range: SE 1/4 Section 1, T11N, R19E
Landform (hillslope, terrace, etc.): low terrace Local relief (concave, convex, none): none Slope (%): 0-2%
Subregion (LRR or MLRA): LRR K Lat: _____ Long: _____ Datum: _____
Soil Map Unit Name: Houghton mucky peat (Hu) NWI classification: T3K
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☐ No ☒ (If no, explain in Remarks)
Are Vegetation____, Soil____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation____, Soil____, or Hydrology ____ naturally problematic? (If, needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	☒ **Yes**	☐ No	**Is the Sampled Area within a Wetland?**	☒ **Yes**	☐ No
Hydric Soils Present?	☒ **Yes**	☐ No			
Wetland Hydrology Present?	☒ **Yes**	☐ No	If yes, optional Wetland Site ID: PCA No. 2		

Remarks: (Explain alternative procedures here or in a separate report.) Drier than normal for the previous 90 days.

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** ☒ Depth (inches): _____
Water Table Present? **Yes** ☒ No ☐ Depth (inches): 15
Saturation Present? (includes capillary fringe) **Yes** ☒ No ☐ Depth (inches): 0 (at surface)

Wetland Hydrology Present? **Yes** ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Topo map (Exhibit 1), WWI map (Exhibit 2), Soil Survey map (Exhibit 3), aerial photos (Exhibit 4).

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 9

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus pennsylvanica	**30**	☒	**FACW**
2.		☐	
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
	30	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30' radius)			
1. Cornus amomum	**10**	☒	**FACW**
2.		☐	
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
	10	= Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. Boehmeria cylindrica	**30**	☒	**OBL**
2. Glyceria striata	**30**	☒	**OBL**
3. Pilea fontana	15	☐	FACW
4. Pilea pumila	15	☐	FACW
5. Impatiens capensis	10	☐	FACW
6. Stachys tenuifolia	10	☐	FACW
7. Aster lateriflorus	5	☐	FAC
8. Symplocarpus foetidus	5	☐	OBL
9.		☐	
10.		☐	
11.		☐	
12.		☐	
	120	= Total Cover	
Woody Vine Stratum (Plot size: 30' radius)			
1.		☐	
2.		☐	
3.		☐	
4.		☐	
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 4 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		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:

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

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

Definitions of Vegetation Strata:

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

Sapling/shrub – Woody plants less than 3in. DBH and greater than 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 ☐

Remarks: (include photo number here or on a separate sheet.) Fresh (wet) meadow with scattered lowland shrubs and hardwoods.

SOIL

Sampling Point: 9

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

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

[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) (**LLR K, L, R**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LLR K, L, R**)
- ☐ Dark Surface (S7) (**LRR K, L**)
- ☐ 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 ☐

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Lac Lawrann Conservancy Prop. Trail Expan. City/County: City of West Bend/Washington County Sampling Date: 10/08/2014
Applicant/Owner: _____ State: WI Sampling Point: 10
Investigator(s): Jennifer Dietl and Zofia Noe; SEWRPC Section, Township, Range: SE 1/4 Section 1, T11N, R19E
Landform (hillslope, terrace, etc.): small berm Local relief (concave, convex, none): convex Slope (%): 0-2%
Subregion (LRR or MLRA): LRR K Lat: _____ Long: _____ Datum: _____
Soil Map Unit Name: Houghton mucky peat (Hu) NWI classification: none
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☐ No ☒ (If no, explain in Remarks)
Are Vegetation____, Soil____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation____, Soil____, or Hydrology ____ naturally problematic? (If, needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	☐ **Yes**	☒ No	**Is the Sampled Area within a Wetland?**	☐ Yes	☒ **No**
Hydric Soils Present?	☐ **Yes**	☒ No			
Wetland Hydrology Present?	☐ **Yes**	☒ No	If yes, optional Wetland Site ID: PCA No. 1		

Remarks: (Explain alternative procedures here or in a separate report.) Drier than normal for the previous 90 days. Sample site is on a berm approximately 8 feet wide that separates a small isolated wetland from the main wetland to the north. It's possible that this "berm" was part of the old railroad system that traverses the project area.

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

Wetland Hydrology Present? Yes ☐ **No** ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Topo map (Exhibit 1), WWI map (Exhibit 2), Soil Survey map (Exhibit 3), aerial photos (Exhibit 4).

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 10

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Tilia americana	**30**	☒	**FACU**
2. ____	____	☐	____
3. ____	____	☐	____
4. ____	____	☐	____
5. ____	____	☐	____
6. ____	____	☐	____
7. ____	____	☐	____
	30	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30' radius)			
1. Fraxinus pennsylvanica	3	☐	FACW
2. ____	____	☐	____
3. ____	____	☐	____
4. ____	____	☐	____
5. ____	____	☐	____
6. ____	____	☐	____
7. ____	____	☐	____
	3	= Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. Eupatorium rugosum	**50**	☒	**FACU**
2. Acer saccharum	**20**	☒	**FACU**
3. Aster ontarionis	10	☐	FAC
4. Circaea lutetiana	10	☐	FACU
5. Viola sp.	10	☐	NI
6. Osmorhiza claytonii	5	☐	FACU
7. Soidago gigantea	5	☐	FACW
8. Rhamnus cathartica	3	☐	FAC
9. Carex blanda	1	☐	FAC
10. Fraxinus pennsylvanica	1	☐	FACW
11. Galium triflorum	1	☐	FACU
12. ____	____	☐	____
	116	= Total Cover	
Woody Vine Stratum (Plot size: 30' radius)			
1. ____	____	☐	____
2. ____	____	☐	____
3. ____	____	☐	____
4. ____	____	☐	____
	0	= 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	____	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:

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

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

Definitions of Vegetation Strata:

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

Sapling/shrub – Woody plants less than 3in. DBH and greater than 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** ☒

Remarks: (include photo number here or on a separate sheet.) Upland hardwoods.

SOIL

Sampling Point: 10

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 2/1	100					Sandy loam	
6-12	10YR 3/2	49	7.5YR 4/6	2	C	PL M	Sandy loam	
	10YR 4/3	49						
12-19	10YR 2/1	100					Sandy clay loam	
19-20	10YR 4/2	80					Sand	
	10YR 2/1	20						
20+							Sand	Refusal: dry 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) (**LLR K, L, R**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LLR K, L, R**)
- ☐ Dark Surface (S7) (**LRR K, L**)
- ☐ 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: Dry sand

Depth (inches): 20

Hydric Soil Present? Yes ☐ **No** ☒

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Lac Lawrann Conservancy Prop. Trail Expan. City/County: City of West Bend/Washington County Sampling Date: 10/08/2014
Applicant/Owner: _____ State: WI Sampling Point: 11
Investigator(s): Jennifer Dietl and Zofia Noe; SEWRPC Section, Township, Range: SE 1/4 Section 1, T11N, R19E
Landform (hillslope, terrace, etc.): low terrace Local relief (concave, convex, none): concave Slope (%): 20-30%
Subregion (LRR or MLRA): LRR K Lat: _____ Long: _____ Datum: _____
Soil Map Unit Name: Sisson-Casco-Hochhein complex (SvE) NWI classification: none
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☐ No ☒ (If no, explain in Remarks)
Are Vegetation____, Soil____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation____, Soil____, or Hydrology ____ naturally problematic? (If, needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	☒ **Yes**	☐ No	**Is the Sampled Area within a Wetland?**	☒ **Yes**	☐ No
Hydric Soils Present?	☒ **Yes**	☐ No			
Wetland Hydrology Present?	☒ **Yes**	☐ No	If yes, optional Wetland Site ID: PCA No. 2		

Remarks: (Explain alternative procedures here or in a separate report.) Drier than normal for the previous 90 days. Sample area was selected due to proposed trails in the area.

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** ☒ Depth (inches): _____
Water Table Present? **Yes** ☒ No ☐ Depth (inches): 17
Saturation Present? (includes capillary fringe) **Yes** ☒ No ☐ Depth (inches): 14

Wetland Hydrology Present? **Yes** ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Topo map (Exhibit 1), WWI map (Exhibit 2), Soil Survey map (Exhibit 3), aerial photos (Exhibit 4).

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 11

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Tilia americana	**20**	☒	**FACU**
2.		☐	
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
	20	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30' radius)			
1. Fraxinus pennsylvanica	**5**	☒	**FACW**
2.		☐	
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
	5	= Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. Boehmeria cylindrica	**10**	☒	**OBL**
2. Fraxinus pennsylvanica	**10**	☒	**FACW**
3. Aster ontarionis	5	☐	FAC
4. Pilea pumila	5	☐	FACW
5. Ribes americanum	5	☐	FACW
6.		☐	
7.		☐	
8.		☐	
9.		☐	
10.		☐	
11.		☐	
12.		☐	
	35	= Total Cover	
Woody Vine Stratum (Plot size: 30' radius)			
1.		☐	
2.		☐	
3.		☐	
4.		☐	
	0	= 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: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (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:

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

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

Definitions of Vegetation Strata:

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

Sapling/shrub – Woody plants less than 3in. DBH and greater than 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 ☐

Remarks: (include photo number here or on a separate sheet.) Small wet basin in lowland hardwoods.

SOIL

Sampling Point: 11

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-14	N 1/0	100					Muck	
14-19	N 1/0	100					Clay loam	
19-20	10YR 5/1	98	10YR 5/6	2	C	M	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) (**LLR K, L, R**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LLR K, L, R**)
- ☐ Dark Surface (S7) (**LRR K, L**)
- ☐ 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 ☐

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Lac Lawrann Conservancy Prop. Trail Expan. City/County: City of West Bend/Washington County Sampling Date: 10/08/2014
Applicant/Owner: _____ State: WI Sampling Point: 12
Investigator(s): Jennifer Dietl and Zofia Noe; SEWRPC Section, Township, Range: SE 1/4 Section 1, T11N, R19E
Landform (hillslope, terrace, etc.): low terrace Local relief (concave, convex, none): none Slope (%): 0-2%
Subregion (LRR or MLRA): LRR K Lat: _____ Long: _____ Datum: _____
Soil Map Unit Name: Houghton mucky peat (Hu) NWI classification: T3K
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☐ No ☒ (If no, explain in Remarks)
Are Vegetation____, Soil____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation____, Soil____, or Hydrology ____ naturally problematic? (If, needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	☒ **Yes**	☐ No	**Is the Sampled Area within a Wetland?**	☒ **Yes**	☐ No
Hydric Soils Present?	☒ **Yes**	☐ No			
Wetland Hydrology Present?	☒ **Yes**	☐ No	If yes, optional Wetland Site ID: PCA No. 2		

Remarks: (Explain alternative procedures here or in a separate report.) Drier than normal for the previous 90 days.

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** ☒ Depth (inches): _____
Water Table Present? **Yes** ☒ No ☐ Depth (inches): 18
Saturation Present? (includes capillary fringe) **Yes** ☒ No ☐ Depth (inches): 4

Wetland Hydrology Present? **Yes** ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Topo map (Exhibit 1), WWI map (Exhibit 2), Soil Survey map (Exhibit 3), aerial photos (Exhibit 4).

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 12

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Tilia americana	**30**	☒	**FACU**
2. ____	____	☐	____
3. ____	____	☐	____
4. ____	____	☐	____
5. ____	____	☐	____
6. ____	____	☐	____
7. ____	____	☐	____
	30	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30' radius)			
1. Zanthoxylum americanum	**10**	☒	**FACU**
2. Fraxinus pennsylvanica	**5**	☒	**FACW**
3. Rhamnus cathartica	**5**	☒	**FAC**
4. ____	____	☐	____
5. ____	____	☐	____
6. ____	____	☐	____
7. ____	____	☐	____
	20	= Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. Glyceria striata	**65**	☒	**OBL**
2. Aster ontarionis	15	☐	FAC
3. Boehmeria cylindrica	14	☐	OBL
4. Solanum dulcamara	10	☐	FAC
5. Viola sp.	9	☐	NI
6. Cinna arundinacea	6	☐	FACW
7. Solidago gigantea	6	☐	FACW
8. Geum canadense	4	☐	FAC
9. Pilea pumila	1	☐	FACW
10. ____	____	☐	____
11. ____	____	☐	____
12. ____	____	☐	____
	130	= Total Cover	
Woody Vine Stratum (Plot size: 30' radius)			
1. Vitis riparia	**7**	☒	**FAC**
2. ____	____	☐	____
3. ____	____	☐	____
4. ____	____	☐	____
	7	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

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

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

Definitions of Vegetation Strata:

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

Sapling/shrub – Woody plants less than 3in. DBH and greater than 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 ☐

Remarks: (include photo number here or on a separate sheet.) Fresh (wet) meadow with scattered shrubs and hardwoods.

SOIL

Sampling Point: 12

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 2/1	100					Mucky loam	
4-9	10YR 5/2	69	7.5YR 5/8	2	C	PL M	Silt loam	
	10YR 3/1	29						
9-18	N 1/0	98	5YR 4/6	2	C	PL M	Silty clay loam	
18-23	10YR 2/1	50					Muck	
	N 1/0	50						
23-26	10YR 5/1	95	10YR 5/6	5	C	PL M	Fine sand	
26-28	N 1/0	100					Muck	

[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) (**LLR K, L, R**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LLR K, L, R**)
- ☐ Dark Surface (S7) (**LRR K, L**)
- ☐ 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 ☐

Remarks:

EXHIBIT 11
Lac Lawrann Conservancy - Proposed Trail Expansions
SE Quarter, Section 1, T11N-R19E
City of West Bend, Washington County


Photo 1. Southwest view from top of esker.


Photo 2. Southwest view of trail (old railroad bed) just north of sample 12. Esker is to the right side of the trail.

EXHIBIT 11 cont.
Lac Lawrann Conservancy - Proposed Trail Expansions
SE Quarter, Section 1, T11N-R19E
City of West Bend, Washington County

Photo 3. Westerly view (looking upstream) from wetland sample point 1.

Photo 4. Easterly view (looking downstream) from wetland sample point 1.

EXHIBIT 11 cont.
Lac Lawrann Conservancy - Proposed Trail Expansions
SE Quarter, Section 1, T11N-R19E
City of West Bend, Washington County

Photo 5. Wetland sample point 6 - fresh (wet) meadow with standing water. Wetland sample points 3 and 5 are similar.

Photo 6. Upland sample point 7. Upland sample points 4 and 8 are similar.

EXHIBIT 11 cont.
Lac Lawrann Conservancy - Proposed Trail Expansions
SE Quarter, Section 1, T11N-R19E
City of West Bend, Washington County

Photo 7. Upland sample point 10 on small berm.