



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Indiana Line 6B**

Wetland ID: **W-488a** Sample Point **1u**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Sapling/Shrub Stratum (Plot size: 5 meter radius)

	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		

Prevalence Index Worksheet

Total % Cover of:	Multiply by:
OBL spp. <u>0</u>	x 1 = <u>0</u>
FACW spp. <u>15</u>	x 2 = <u>30</u>
FAC spp. <u>25</u>	x 3 = <u>75</u>
FACU spp. <u>60</u>	x 4 = <u>240</u>
UPL spp. <u>0</u>	x 5 = <u>0</u>
Total <u>100</u> (A)	<u>345</u> (B)
Prevalence Index = B/A = <u>3.450</u>	

Herb Stratum (Plot size: 2 meter radius)

1.	<i>GLECHOMA HEDERACEA</i>	40	Y	FACU
2.	<i>Poa pratensis</i>	25	Y	FAC
3.	<i>TARAXACUM OFFICINALE</i>	10	N	FACU
4.	<i>DACTYLIS GLOMERATA</i>	10	N	FACU
5.	<i>Carex grisea</i>	10	N	FACW
6.	<i>Polygonum pensylvanicum</i>	5	N	FACW
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		100		

Hydrophytic Vegetation Indicators:

Yes No Rapid Test for Hydrophytic Vegetation

Yes No Dominance Test is > 50%

Yes No Prevalence Index is ≤ 3.0 *

Yes No Morphological Adaptations (Explain) *

Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. 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.

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
5.	--	--	--	--
4.	--	--	--	--
Total Cover =		0		

Hydrophytic Vegetation Present Yes No

Remarks: **Pastured**

Additional Remarks:

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WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Indiana Line 6B
Applicant: Enbridge
Investigator #1: E. Parker
Investigator #2: H. Stoffs
Date: 11/11/11
County: Porter
State: Indiana
Soil Unit: Houghton muck, drained
Landform: Hillslope
Slope (%): 2-4
Latitude: --
Longitude: --
Datum: --
NWI/WWI Classification: --
Local Relief: --
Wetland ID: W-488a
Sample Point: 1w
Community ID: PFO
Section: 18
Township: 36 N
Range: 5 Dir: W

SUMMARY OF FINDINGS
Hydrophytic Vegetation Present? [x] Yes [] No
Wetland Hydrology Present? [x] Yes [] No
Hydic Soils Present? [x] Yes [] No
Is This Sampling Point Within A Wetland? [x] Yes [] No

Remarks: Pasture has affected the plant species composition and the circumstances. Area has seasonal hydrology.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present []):
Primary: A1 - Surface Water, A2 - High Water Table, A3 - Saturation, B1 - Water Marks, B2 - Sediment Deposits, B3 - Drift Deposits, B4 - Algal Mat or Crust, B5 - Iron Deposits, B7 - Inundation Visible on Aerial Imagery, B8 - Sparsely Vegetated Concave Surface
Secondary: B6 - Surface Soil Cracks, B10 - Drainage Patterns, B14 - True Aquatic Plants, C1 - Hydrogen Sulfide Odor, C3 - Oxidized Rhizospheres on Living Roots, C4 - Presence of Reduced Iron, C6 - Recent Iron Reduction in Tilled Soils, C7 - Thin Muck Surface, D9 - Gauge or Well Data, Other (Explain)
B9 - Water-Stained Leaves, B13 - Aquatic Fauna, B14 - True Aquatic Plants, C1 - Hydrogen Sulfide Odor, C3 - Oxidized Rhizospheres on Living Roots, C4 - Presence of Reduced Iron, C6 - Recent Iron Reduction in Tilled Soils, C7 - Thin Muck Surface, D9 - Gauge or Well Data, Other (Explain)
B6 - Surface Soil Cracks, B10 - Drainage Patterns, C2 - Dry-Season Water Table, C8 - Crayfish Burrows, C9 - Saturation Visible on Aerial Imagery, D1 - Stunted or Stressed Plants, D2 - Geomorphic Position, D5 - FAC-Neutral Test

Field Observations:
Surface Water Present? [] Yes [x] No Depth: N/A (in.)
Water Table Present? [] Yes [x] No Depth: N/A (in.)
Saturation Present? [] Yes [x] No Depth: N/A (in.)
Wetland Hydrology Present? [x] Yes [] No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A
Remarks: While no primary hydrology indicators were observed, Geomorphic Position and the FAC-Neutral Test were observed as secondary indicators. Wetland soils and vegetation support a wetland determination.

SOILS

Map Unit Name: Houghton muck, drained
Series Drainage Class: very poorly
Taxonomy (Subgroup): Typic Haplosaprists
Field Observations Confirm Mapped Type? [] Yes [x] No

Table with 12 columns: Top Depth, Bottom Depth, Horizon, Matrix (Color, %), Mottles (%), Type, Location, Texture (e.g. clay, sand, loam). Rows show soil profile data for horizons 0, 9, 16, and several deeper horizons.

NRCS Hydic Soil Field Indicators (check here if indicators are not present []):
A1 - Histosol, A2 - Histic Epipedon, A3 - Black Histic, A4 - Hydrogen Sulfide, A5 - Stratified Layers, A10 - 2 cm Muck, A11 - Depleted Below Dark Surface, A12 - Thick Dark Surface, S1 - Sandy Muck Mineral, S3 - 5 cm Mucky Peat or Peat
S4 - Sandy Gleyed Matrix, S5 - Sandy Redox, S6 - Stripped Matrix, F1 - Loamy Muck Mineral, F2 - Loamy Gleyed Matrix, F3 - Depleted Matrix, F6 - Redox Dark Surface, F7 - Depleted Dark Surface, F8 - Redox Depressions
Indicators for Problematic Soils: A16 - Coast Prairie Redox, F12 - Iron-Manganese Masses, Other (Explain in Remarks)

Restrictive Layer (If Observed) Type: N/A Depth: N/A
Hydic Soil Present? [x] Yes [] No

Remarks: sapric muck

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



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Indiana Line 6B**

Wetland ID: **W-488a** Sample Point **1w**

VEGETATION (Species identified in all uppercase are non-native species.)				
Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>Acer saccharinum</i>	60	Y	FACW
2.	<i>Ulmus americana</i>	20	Y	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		80		
Sapling/Shrub Stratum (Plot size: 5 meter radius)				
1.	<i>Acer saccharinum</i>	15	Y	FACW
2.	<i>LONICERA X BELLA</i>	5	Y	FACU
3.	<i>ROSA MULTIFLORA</i>	5	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		25		
Herb Stratum (Plot size: 2 meter radius)				
1.	<i>GLECHOMA HEDERACEA</i>	50	Y	FACU
2.	<i>Polygonum pensylvanicum</i>	15	Y	FACW
3.	<i>PHALARIS ARUNDINACEA</i>	15	Y	FACW
4.	<i>Carex grisea</i>	5	N	FACW
5.	<i>FESTUCA ARUNDINACEA</i>	10	N	FACU
6.	<i>Impatiens capensis</i>	15	Y	FACW
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		110		
Woody Vine Stratum (Plot size: 10 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
5.	--	--	--	--
4.	--	--	--	--
Total Cover =		0		
Remarks: Pasture				

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index Worksheet

<u>Total % Cover of:</u>	<u>Multiply by:</u>
OBL spp. <u>0</u>	x 1 = <u>0</u>
FACW spp. <u>145</u>	x 2 = <u>290</u>
FAC spp. <u>0</u>	x 3 = <u>0</u>
FACU spp. <u>70</u>	x 4 = <u>280</u>
UPL spp. <u>0</u>	x 5 = <u>0</u>
Total <u>215</u> (A)	<u>570</u> (B)
Prevalence Index = B/A = <u>2.651</u>	

Hydrophytic Vegetation Indicators:

Yes No Rapid Test for Hydrophytic Vegetation

Yes No Dominance Test is > 50%

Yes No Prevalence Index is ≤ 3.0 *

Yes No Morphological Adaptations (Explain) *

Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. 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

Additional Remarks:

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WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Indiana Line 6B	Stantec Project #: 193701313	Date: 11/11/11
Applicant: Enbridge	Investigator #1: E. Parker	County: Porter
Investigator #2: H. Stoffs	NWI/WWI Classification: --	State: Indiana
Soil Unit: Whitaker loam	Local Relief: --	Wetland ID: W-488a
Landform: Hillslope	Slope (%): 4-5	Sample Point: 2u
Latitude: --	Longitude: --	Community ID: Upland
Datum: --		Section: 18
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Township: 36 N
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Range: 5 Dir: W
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks: **There have been recent heavy rains which are atypical for this time of year.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> D9 - Gauge or Well Data <input type="checkbox"/> Other (Explain)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D5 - FAC-Neutral Test
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<p>Field Observations:</p> Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: N/A (in.) Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: N/A (in.) Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: N/A (in.)	<p>Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **None observed**

SOILS

Map Unit Name: **Whitaker loam** Series Drainage Class: **somewhat poorly**

Taxonomy (Subgroup): **Aeric Endoaqualls** Field Observations Confirm Mapped Type? Yes No

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Texture (e.g. clay, sand, loam)
			Color (Moist)	%		Color (Moist)	%	Type	
0	27	1	10YR	3/1	--	--	--	--	Silt loam
27	29	2	10YR	4/2	--	--	--	--	Silty Clay
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat	<input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> F1 - Loamy Muck Mineral <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A16 - Coast Prairie Redox <input type="checkbox"/> F12 - Iron-Manganese Masses <input type="checkbox"/> Other (Explain in Remarks)
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A	Depth: N/A	Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks: **High organic content but non-organic.**



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Indiana Line 6B**

Wetland ID: **W-488a** Sample Point **2u**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>Quercus macrocarpa</i>	15	Y	FAC
2.	<i>Prunus serotina</i>	20	Y	FACU
3.	<i>Ulmus americana</i>	15	Y	FACW
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		50		
Sapling/Shrub Stratum (Plot size: 5 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>Lonicera x bella</i>	5	Y	FACU
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		5		
Herb Stratum (Plot size: 2 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>DACTYLIS GLOMERATA</i>	40	Y	FACU
2.	<i>CIRSIUM ARVENSE</i>	25	N	FACU
3.	<i>BROMUS INERMIS</i>	50	Y	UPL
4.	<i>ARCTIUM MINUS</i>	15	N	UPL
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		130		
Woody Vine Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
5.	--	--	--	--
4.	--	--	--	--
Total Cover =		0		
Remarks:	--			

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index Worksheet

Total % Cover of:	Multiply by:
OBL spp. <u>0</u>	x 1 = <u>0</u>
FACW spp. <u>15</u>	x 2 = <u>30</u>
FAC spp. <u>15</u>	x 3 = <u>45</u>
FACU spp. <u>90</u>	x 4 = <u>360</u>
UPL spp. <u>65</u>	x 5 = <u>325</u>
Total <u>185</u> (A)	<u>760</u> (B)
Prevalence Index = B/A = <u>4.108</u>	

Hydrophytic Vegetation Indicators:

Yes No Rapid Test for Hydrophytic Vegetation

Yes No Dominance Test is > 50%

Yes No Prevalence Index is ≤ 3.0 *

Yes No Morphological Adaptations (Explain) *

Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. 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

Additional Remarks:

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WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Line 6B Phase 2 Replacement Project	Stantec Project #: 193701660	Date: 04/25/12
Applicant: Enbridge	Investigator #1: D. Tersteeg	County: Porter
Investigator #2: A. Brasch	NWI/WWI Classification: --	State: Indiana
Soil Unit: Riddles silt loam, 2 to 6 percent slopes	Local Relief: none	Wetland ID: W-488b
Landform: terrace	Slope (%): 0	Sample Point: 1u
Latitude: --	Longitude: --	Community ID: upland
Datum: --	Section: 18	
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Township: 36 N
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Range: 5 Dir: W
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		
		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Remarks: --	

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> D9 - Gauge or Well Data <input type="checkbox"/> Other (Explain)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D5 - FAC-Neutral Test
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Field Observations:

Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: n/a (in.)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: >18 (in.)	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: >18 (in.)	

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

Remarks: **--**

SOILS

Map Unit Name: **Riddles silt loam, 2 to 6 percent slopes** Series Drainage Class: **well**

Taxonomy (Subgroup): **Typic Hapludalfs** Field Observations Confirm Mapped Type? Yes No

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles				Texture (e.g. clay, sand, loam)	
			Color (Moist)	%	Color (Moist)	%	Type	Location			
0	5	1	10YR	3/3	100	--	--	--	--	--	sandy loam
5	18	2	10YR	4/4	100	--	--	--	--	--	sandy clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat	<input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> F1 - Loamy Muck Mineral <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A16 - Coast Prairie Redox <input type="checkbox"/> F12 - Iron-Manganese Masses <input type="checkbox"/> Other (Explain in Remarks)
--	---	--

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A	Depth: N/A	Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Remarks: --		



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Line 6B Phase 2 Replacement Project**

Wetland ID: **W-488b** Sample Point **1u**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>Acer negundo</i>	60	Y	FACW
2.	<i>Ulmus americana</i>	10	N	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		70		
Sapling/Shrub Stratum (Plot size: 5 meter radius)				
1.	<i>LONICERA TATARICA</i>	30	Y	FACU
2.	<i>ROSA MULTIFLORA</i>	10	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		40		
Herb Stratum (Plot size: 2 meter radius)				
1.	<i>Solidago canadensis</i>	30	Y	FACU
2.	<i>Impatiens capensis</i>	5	N	FACW
3.	<i>Thalictrum dasycarpum</i>	10	N	FACW
4.	<i>Galium aparine</i>	30	Y	FACU
5.	<i>Viola sororia</i>	20	N	FAC
6.	<i>TARAXACUM OFFICINALE</i>	10	N	FACU
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		105		
Woody Vine Stratum (Plot size: 10 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
5.	--	--	--	--
4.	--	--	--	--
Total Cover =		0		
Remarks:	--			

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 20.0% (A/B)

Prevalence Index Worksheet

Total % Cover of:	Multiply by:
OBL spp. <u>0</u>	x 1 = <u>0</u>
FACW spp. <u>85</u>	x 2 = <u>170</u>
FAC spp. <u>20</u>	x 3 = <u>60</u>
FACU spp. <u>110</u>	x 4 = <u>440</u>
UPL spp. <u>0</u>	x 5 = <u>0</u>
Total <u>215</u> (A)	<u>670</u> (B)
Prevalence Index = B/A = <u>3.116</u>	

Hydrophytic Vegetation Indicators:

Yes No Rapid Test for Hydrophytic Vegetation

Yes No Dominance Test is > 50%

Yes No Prevalence Index is ≤ 3.0 *

Yes No Morphological Adaptations (Explain) *

Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. 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

Additional Remarks:

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WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Line 6B Phase 2 Replacement Project	Stantec Project #: 193701660	Date: 04/25/12
Applicant: Enbridge	Investigator #1: D. Tersteeg	County: Porter
Investigator #2: A. Brasch	NWI/WWI Classification: --	State: Indiana
Soil Unit: Riddles silt loam, 2 to 6 percent slopes	Local Relief: concave	Wetland ID: W-488b
Landform: depression	Slope (%): 0	Sample Point: 1w
Latitude: --	Longitude: --	Community ID: FO1
Datum: --	Section: 18	
Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Township: 36 N
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Range: 5 Dir: W
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		
		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks: **Forested wetland Type 7, green ash and American elm. Herbaceous dominated by jewel weed and skunk cabbage.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input checked="" type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> D9 - Gauge or Well Data <input type="checkbox"/> Other (Explain)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input checked="" type="checkbox"/> D5 - FAC-Neutral Test
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Field Observations:

Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: n/a (in.)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 6 (in.)	
Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 0 (in.)	

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

Remarks: **--**

SOILS

Map Unit Name: **Riddles silt loam, 2 to 6 percent slopes** Series Drainage Class: **well**

Taxonomy (Subgroup): **Typic Hapludalfs** Field Observations Confirm Mapped Type? Yes No

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Texture (e.g. clay, sand, loam)		
			Color (Moist)	%	Color (Moist)	%	Type	Location			
0	4	1	10YR	3/1	90	10YR	4/6	10	C	M / PL	silty clay loam
4	18	2	10YR	4/2	80	10YR	4/6	20	C	M	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat	<input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> F1 - Loamy Muck Mineral <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input checked="" type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A16 - Coast Prairie Redox <input type="checkbox"/> F12 - Iron-Manganese Masses <input type="checkbox"/> Other (Explain in Remarks)
--	---	--

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A	Depth: N/A	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Remarks: --		



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Line 6B Phase 2 Replacement Project**

Wetland ID: **W-488b**

Sample Point **1w**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>Ulmus americana</i>	10	Y	FACW
2.	<i>Fraxinus pennsylvanica</i>	20	Y	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		30		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FACU: 6 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FACU: 100.0% (A/B)

Sapling/Shrub Stratum (Plot size: 5 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>Sambucus canadensis</i>	5	Y	FACW
2.	<i>Lindera benzoin</i>	5	Y	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		10		

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	<u>50</u>	x 1 =	<u>50</u>
FACW spp.	<u>80</u>	x 2 =	<u>160</u>
FACU spp.	<u>0</u>	x 3 =	<u>0</u>
UPL spp.	<u>5</u>	x 4 =	<u>20</u>
		x 5 =	<u>25</u>
Total		<u>140</u> (A)	<u>255</u> (B)
Prevalence Index = B/A =		<u>1.821</u>	

Y				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>Symplocarpus foetidus</i>	40	Y	OBL
2.	<i>Impatiens capensis</i>	40	Y	FACW
3.	<i>Carex sp.</i>	5	N	NI
4.	<i>Cardamine concatenata</i>	5	N	FACU
5.	<i>Caltha palustris</i>	10	N	OBL
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		100		

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. 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.

Woody Vine Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
Total Cover =		0		

Hydrophytic Vegetation Present Yes No

Remarks: --

Additional Remarks:

--



WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Line 6B Phase 2 Replacement Project	Stantec Project #: 193701660	Date: 04/22/12
Applicant: Enbridge	Investigator #1: D. Tersteeg	County: Porter
Investigator #2: J. Delmedico	NWI/WWI Classification: --	State: Indiana
Soil Unit: Morley silt loam	Local Relief: --	Wetland ID: W-488x
Landform: --	Slope (%): --	Sample Point: 1u
Latitude: --	Longitude: --	Community ID: upland
Datum: --	Section: 19	
Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Township: 36 N
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Range: 5 Dir: W
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		
		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Remarks: --	

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> D9 - Gauge or Well Data <input type="checkbox"/> Other (Explain)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D5 - FAC-Neutral Test
---	--	---

Field Observations:	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: n/a (in.)	
Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: >18 (in.)	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: >18 (in.)	

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

Remarks: **--**

SOILS

Map Unit Name: **Morley silt loam** Series Drainage Class: **moderately well**

Taxonomy (Subgroup): **Oxyaquic Hapludalfs** Field Observations Confirm Mapped Type? Yes No

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Texture (e.g. clay, sand, loam)	
			Color (Moist)	%	Color (Moist)	%	Type	Location		
0	6	1	10YR	3/3	100	--	--	--	--	sandy loam
6	18	2	10YR	4/6	100	--	--	--	--	loamy sand
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat	<input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> F1 - Loamy Muck Mineral <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A16 - Coast Prairie Redox <input type="checkbox"/> F12 - Iron-Manganese Masses <input type="checkbox"/> Other (Explain in Remarks)
--	---	--

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A	Depth: N/A	Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Remarks: --		



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Line 6B Phase 2 Replacement Project**

Wetland ID: **W-488x** Sample Point **1u**

VEGETATION (Species identified in all uppercase are non-native species.)				
Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	ROBINIA PSEUDOACACIA	20	Y	FACU
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		20		
Sapling/Shrub Stratum (Plot size: 5 meter radius)				
1.	LONICERA TATARICA	60	Y	FACU
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		60		
Herb Stratum (Plot size: 2 meter radius)				
1.	Podophyllum peltatum	15	N	FACU
2.	CIRSIUM ARVENSE	10	N	FACU
3.	LONICERA TATARICA	60	Y	FACU
4.	CONVOLVULUS ARVENSIS	20	Y	UPL
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		105		
Woody Vine Stratum (Plot size: 10 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
5.	--	--	--	--
4.	--	--	--	--
Total Cover =		0		
Remarks: --				

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

Total % Cover of:	Multiply by:
OBL spp. <u>0</u>	x 1 = <u>0</u>
FACW spp. <u>0</u>	x 2 = <u>0</u>
FAC spp. <u>0</u>	x 3 = <u>0</u>
FACU spp. <u>165</u>	x 4 = <u>660</u>
UPL spp. <u>20</u>	x 5 = <u>100</u>
Total <u>185</u> (A)	<u>760</u> (B)
Prevalence Index = B/A = <u>4.108</u>	

Hydrophytic Vegetation Indicators:

Yes No Rapid Test for Hydrophytic Vegetation

Yes No Dominance Test is > 50%

Yes No Prevalence Index is ≤ 3.0 *

Yes No Morphological Adaptations (Explain) *

Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. 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

Additional Remarks:



WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Line 6B Phase 2 Replacement Project
Stantec Project #: 193701660
Date: 04/22/12
Applicant: Enbridge
County: Porter
Investigator #1: D. Tersteeg
Investigator #2: J. Delmedico
State: Indiana
Soil Unit: Morley silt loam
NW/WWI Classification: --
Wetland ID: W-488x
Landform: depression
Local Relief: concave
Sample Point: 1w
Slope (%): 0
Latitude: --
Longitude: --
Datum: --
Community ID: EM1
Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) [x] Yes [] No
Section: 19
Are Vegetation [], Soil [], or Hydrology [] significantly disturbed?
Are normal circumstances present?
Are Vegetation [], Soil [], or Hydrology [] naturally problematic? [x] Yes [] No
Township: 36 N
Range: 5 Dir: W

SUMMARY OF FINDINGS
Hydrophytic Vegetation Present? [x] Yes [] No
Wetland Hydrology Present? [x] Yes [] No
Hydric Soils Present? [x] Yes [] No
Is This Sampling Point Within A Wetland? [x] Yes [] No

Remarks: Phragmites wetland, shallow marsh with phragmites fringe, cattail.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present []):
Primary:
[] A1 - Surface Water
[] A2 - High Water Table
[x] A3 - Saturation
[] B1 - Water Marks
[] B2 - Sediment Deposits
[] B3 - Drift Deposits
[] B4 - Algal Mat or Crust
[] B5 - Iron Deposits
[] B7 - Inundation Visible on Aerial Imagery
[] B8 - Sparsely Vegetated Concave Surface
Secondary:
[] B6 - Surface Soil Cracks
[] B10 - Drainage Patterns
[] B14 - True Aquatic Plants
[] C1 - Hydrogen Sulfide Odor
[] C3 - Oxidized Rhizospheres on Living Roots
[] C4 - Presence of Reduced Iron
[] C6 - Recent Iron Reduction in Tilled Soils
[] C7 - Thin Muck Surface
[] D9 - Gauge or Well Data
[] Other (Explain)

Field Observations:
Surface Water Present? [] Yes [x] No Depth: n/a (in.)
Water Table Present? [] Yes [x] No Depth: >18 (in.)
Saturation Present? [x] Yes [] No Depth: 12 (in.)
Wetland Hydrology Present? [x] Yes [] No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: n/a
Remarks: --

SOILS

Map Unit Name: Morley silt loam
Series Drainage Class: moderately well
Taxonomy (Subgroup): Oxyaquic Hapludalfs
Field Observations Confirm Mapped Type? [] Yes [x] No

Table with 12 columns: Top Depth, Bottom Depth, Horizon, Matrix (Color, %), Mottles (Color, %), Type, Location, Texture. Rows show soil profile data for horizons 1 and 2.

NRCS Hydric Soil Field Indicators (check here if indicators are not present []):
Indicators for Problematic Soils 1
[] A1 - Histosol
[] A2 - Histic Epipedon
[] A3 - Black Histic
[] A4 - Hydrogen Sulfide
[] A5 - Stratified Layers
[] A10 - 2 cm Muck
[] A11 - Depleted Below Dark Surface
[] A12 - Thick Dark Surface
[] S1 - Sandy Muck Mineral
[] S3 - 5 cm Mucky Peat or Peat
[] S4 - Sandy Gleyed Matrix
[] S5 - Sandy Redox
[] S6 - Stripped Matrix
[] F1 - Loamy Muck Mineral
[] F2 - Loamy Gleyed Matrix
[x] F3 - Depleted Matrix
[x] F6 - Redox Dark Surface
[] F7 - Depleted Dark Surface
[] F8 - Redox Depressions
[] A16 - Coast Prairie Redox
[] F12 - Iron-Manganese Masses
[] Other (Explain in Remarks)

Restrictive Layer (If Observed) Type: N/A Depth: N/A
Hydric Soil Present? [x] Yes [] No

Remarks: --

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



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Line 6B Phase 2 Replacement Project**

Wetland ID: **W-488x** Sample Point **1w**

VEGETATION (Species identified in all uppercase are non-native species.)				
Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Sapling/Shrub Stratum (Plot size: 5 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Herb Stratum (Plot size: 2 meter radius)				
1.	<i>Phragmites australis</i>	100	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		100		
Woody Vine Stratum (Plot size: 10 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
5.	--	--	--	--
4.	--	--	--	--
Total Cover =		0		
Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)				
Prevalence Index Worksheet Total % Cover of: Multiply by: OBL spp. <u>0</u> x 1 = <u>0</u> FACW spp. <u>100</u> x 2 = <u>200</u> FAC spp. <u>0</u> x 3 = <u>0</u> FACU spp. <u>0</u> x 4 = <u>0</u> UPL spp. <u>0</u> x 5 = <u>0</u> Total <u>100</u> (A) <u>200</u> (B) Prevalence Index = B/A = <u>2.000</u>				
Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Dominance Test is > 50% <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Prevalence Index is ≤ 3.0 * <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Morphological Adaptations (Explain) * <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Problem Hydrophytic Vegetation (Explain) * * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Definitions of Vegetation Strata: Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. 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 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				
Remarks: Dominated by invasive common reed.				

Additional Remarks:

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WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Line 6B Phase 2 Replacement Project	Stantec Project #: 193701660	Date: 04/22/12
Applicant: Enbridge	Investigator #1: D. Tersteeg	County: Porter
Investigator #2: J. Delmedico	NWI/WWI Classification: --	State: Indiana
Soil Unit: Morley silt loam	Local Relief: none	Wetland ID: W-488y
Landform: slope	Slope (%): 2	Sample Point: 1u
Latitude: --	Longitude: --	Community ID: upland
Datum: --	Section: 19	
Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Township: 36 N
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Range: 5 Dir: W
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		
		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Remarks: --	

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> D9 - Gauge or Well Data <input type="checkbox"/> Other (Explain)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D5 - FAC-Neutral Test
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Field Observations:

Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: n/a (in.)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: >18 (in.)	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: >18 (in.)	

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

Remarks: **--**

SOILS

Map Unit Name: **Morley silt loam** Series Drainage Class: **moderately well**

Taxonomy (Subgroup): **Oxyaquic Hapludalfs** Field Observations Confirm Mapped Type? Yes No

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Texture (e.g. clay, sand, loam)		
			Color (Moist)	%	Color (Moist)	%	Type	Location			
0	9	1	10YR	3/3	100	--	--	--	--	clay loam	
9	18	2	10YR	4/3	90	10YR	4/6	10	C	M	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat	<input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> F1 - Loamy Muck Mineral <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A16 - Coast Prairie Redox <input type="checkbox"/> F12 - Iron-Manganese Masses <input type="checkbox"/> Other (Explain in Remarks)
--	---	--

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A	Depth: N/A	Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Remarks: --		



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Line 6B Phase 2 Replacement Project**

Wetland ID: **W-488y** Sample Point **1u**

VEGETATION (Species identified in all uppercase are non-native species.)				
Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Sapling/Shrub Stratum (Plot size: 5 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Herb Stratum (Plot size: 2 meter radius)				
1.	<i>TRIFOLIUM PRATENSE</i>	40	Y	FACU
2.	<i>POA PRATENSIS</i>	40	Y	FAC
3.	<i>TARAXACUM OFFICINALE</i>	20	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		100		
Woody Vine Stratum (Plot size: 10 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
5.	--	--	--	--
4.	--	--	--	--
Total Cover =		0		
Remarks: --				

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index Worksheet

Total % Cover of:	Multiply by:
OBL spp. <u>0</u>	x 1 = <u>0</u>
FACW spp. <u>0</u>	x 2 = <u>0</u>
FAC spp. <u>40</u>	x 3 = <u>120</u>
FACU spp. <u>60</u>	x 4 = <u>240</u>
UPL spp. <u>0</u>	x 5 = <u>0</u>
Total <u>100</u> (A) <u>360</u> (B)	
Prevalence Index = B/A = <u>3.600</u>	

Hydrophytic Vegetation Indicators:

Yes No Rapid Test for Hydrophytic Vegetation

Yes No Dominance Test is > 50%

Yes No Prevalence Index is ≤ 3.0 *

Yes No Morphological Adaptations (Explain) *

Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. 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

Additional Remarks:

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WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Line 6B Phase 2 Replacement Project		Stantec Project #: 193701660	Date: 04/22/12
Applicant: Enbridge		Investigator #1: D. Tersteeg	Investigator #2: J. Delmedico
Soil Unit: Morley silt loam		NWI/WWI Classification: --	Wetland ID: W-488y
Landform: slope	Local Relief: concave		Sample Point: 1w
Slope (%): 2	Latitude: --	Longitude: --	Datum: --
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			Community ID: EM1
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Section: 19	Township: 36 N
		Range: 5	Dir: W

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks: **Hillside seep from pipe outlet, invasive phragmites and reed canary grass dominate.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input checked="" type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input checked="" type="checkbox"/> D5 - FAC-Neutral Test
---	--

Field Observations:

Surface Water Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 1 (in.)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: >18 (in.)	
Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 0 (in.)	

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

Remarks: **--**

SOILS

Map Unit Name: **Morley silt loam** Series Drainage Class: **moderately well**

Taxonomy (Subgroup): **Oxyaquic Hapludalfs** Field Observations Confirm Mapped Type? Yes No

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Texture (e.g. clay, sand, loam)		
			Color (Moist)	%	Color (Moist)	%	Type	Location			
0	10	1	N	5/0	90	10YR	4/6	10	C	M	clay loam
10	18	2	10YR	4/2	80	7.5YR	4/6	20	C	M	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat	<input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> F1 - Loamy Muck Mineral <input checked="" type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<input type="checkbox"/> A16 - Coast Prairie Redox <input type="checkbox"/> F12 - Iron-Manganese Masses <input type="checkbox"/> Other (Explain in Remarks)
--	--	---

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: **N/A** Depth: **N/A**

Hydric Soil Present? Yes No

Remarks: **--**



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Line 6B Phase 2 Replacement Project**

Wetland ID: **W-488y** Sample Point **1w**

VEGETATION (Species identified in all uppercase are non-native species.)					
Tree Stratum (Plot size: 10 meter radius)					
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>	
1.	--	--	--	--	
2.	--	--	--	--	
3.	--	--	--	--	
4.	--	--	--	--	
5.	--	--	--	--	
6.	--	--	--	--	
7.	--	--	--	--	
8.	--	--	--	--	
9.	--	--	--	--	
10.	--	--	--	--	
Total Cover =		0			
Sapling/Shrub Stratum (Plot size: 5 meter radius)					
1.	--	--	--	--	
2.	--	--	--	--	
3.	--	--	--	--	
4.	--	--	--	--	
5.	--	--	--	--	
6.	--	--	--	--	
7.	--	--	--	--	
8.	--	--	--	--	
9.	--	--	--	--	
10.	--	--	--	--	
Total Cover =		0			
Herb Stratum (Plot size: 2 meter radius)					
1.	<i>Phragmites australis</i>	40	Y	FACW	
2.	<i>PHALARIS ARUNDINACEA</i>	60	Y	FACW	
3.	--	--	--	--	
4.	--	--	--	--	
5.	--	--	--	--	
6.	--	--	--	--	
7.	--	--	--	--	
8.	--	--	--	--	
9.	--	--	--	--	
10.	--	--	--	--	
11.	--	--	--	--	
12.	--	--	--	--	
13.	--	--	--	--	
14.	--	--	--	--	
15.	--	--	--	--	
Total Cover =		100			
Woody Vine Stratum (Plot size: 10 meter radius)					
1.	--	--	--	--	
2.	--	--	--	--	
3.	--	--	--	--	
5.	--	--	--	--	
4.	--	--	--	--	
Total Cover =		0			
Remarks: --					

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: 100.0% (A/B)

Prevalence Index Worksheet

Total % Cover of:	Multiply by:
OBL spp. <u>0</u>	x 1 = <u>0</u>
FACW spp. <u>100</u>	x 2 = <u>200</u>
FAC spp. <u>0</u>	x 3 = <u>0</u>
FACU spp. <u>0</u>	x 4 = <u>0</u>
UPL spp. <u>0</u>	x 5 = <u>0</u>
Total <u>100</u> (A) <u>200</u> (B)	
Prevalence Index = B/A = <u>2.000</u>	

Hydrophytic Vegetation Indicators:

Yes No Rapid Test for Hydrophytic Vegetation

Yes No Dominance Test is > 50%

Yes No Prevalence Index is ≤ 3.0 *

Yes No Morphological Adaptations (Explain) *

Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. 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

Additional Remarks:



WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Stantec

Project/Site: Indiana Line 6B	Stantec Project #: 193701313	Date: 11/11/11
Applicant: Enbridge	Investigator #1: E. Parker	Investigator #2: H. Stoffs
Soil Unit: Selfridge loamy fine sand	NWI/WWI Classification: --	State: Indiana
Landform: Hillslope/swale	Local Relief: --	Wetland ID: W-489a
Slope (%): 2-4	Latitude: --	Longitude: --
Datum: --		Sample Point: 1u
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Community ID: Upland
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Section: 17
Are Vegetation <input type="checkbox"/> , Soil <input checked="" type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> naturally problematic?		Township: 36 N
		Range: 5 Dir: W

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks: **Possible problematic soils, potential seasonal wetland. Conditions not normal due to recent heavy rain.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

Primary:	Secondary:
<input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B11 - Moss Trim Lines <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain)

Field Observations:

Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: N/A (in.)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: N/A (in.)	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: N/A (in.)	

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

Remarks: **--**

SOILS

Map Unit Name: **Selfridge loamy fine sand** Series Drainage Class: **somewhat poorly drained**

Taxonomy (Subgroup): **Aquic Arenic Hapludalfs** Field Observations Confirm Mapped Type? Yes No

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix		Mottles			Texture (e.g. clay, sand, loam)	
			Color (Moist)	%	Color (Moist)	%	Type		Location
0	20	1	10YR	4/2	90	--	--	--	Silty Clay
0	20	1	10YR	5/3	10	--	--	--	Silty Clay
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B)	<input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> F1 - Loamy Muck Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	Indicators for Problematic Soils¹ <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF2 - Red Parent Material <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A	Depth: N/A	Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks: **Mixed matrix, edge of farm field. Field has likely been plowed in the past.**



WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site: **Indiana Line 6B**

Wetland ID: **W-489a** Sample Point **1u**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>Fraxinus pennsylvanica</i>	60	Y	FACW
2.	<i>Acer saccharum</i>	15	N	FACU
3.	<i>Tilia americana</i>	10	N	FACU
4.	<i>Acer negundo</i>	5	N	FACW
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		90		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)
 Total Number of Dominant Species Across All Strata: 11 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 27.3% (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	<u>0</u>	x 1 =	<u>0</u>
FACW spp.	<u>107</u>	x 2 =	<u>214</u>
FAC spp.	<u>0</u>	x 3 =	<u>0</u>
FACU spp.	<u>155</u>	x 4 =	<u>620</u>
UPL spp.	<u>25</u>	x 5 =	<u>125</u>
Total	<u>287</u>	(A)	<u>959</u> (B)
Prevalence Index = B/A =		<u>3.341</u>	

Sapling/Shrub Stratum (Plot size: 5 meter radius)

	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>Fraxinus pennsylvanica</i>	25	Y	FACW
2.	<i>ROSA MULTIFLORA</i>	10	Y	FACU
3.	<i>ELAEAGNUS UMBELLATA</i>	10	Y	UPL
4.	<i>LONICERA X BELLA</i>	10	Y	FACU
5.	<i>Acer negundo</i>	5	N	FACW
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		60		

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

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

Herb Stratum (Plot size: 2 meter radius)

	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>Solidago canadensis</i>	25	Y	FACU
2.	<i>TRIFOLIUM REPENS</i>	25	Y	FACU
3.	<i>DAUCUS CAROTA</i>	15	Y	UPL
4.	<i>TARAXACUM OFFICINALE</i>	15	Y	FACU
5.	<i>Aster pilosus</i>	15	Y	FACU
6.	<i>SETARIA FABERI</i>	10	N	FACU
7.	<i>DACTYLIS GLOMERATA</i>	10	N	FACU
8.	<i>ROSA MULTIFLORA</i>	10	N	FACU
9.	<i>SETARIA sp.</i>	5	N	--
10.	<i>Ulmus americana</i>	2	N	FACW
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		132		

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. 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.

Woody Vine Stratum (Plot size: 10 meter radius)

	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>Vitis riparia</i>	10	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
5.	--	--	--	--
4.	--	--	--	--
Total Cover =		10		

Hydrophytic Vegetation Present Yes No

Remarks: **Edge of farm field. Includes adjacent upland woods.**

Additional Remarks:

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WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Stantec

Project/Site: Indiana Line 6B	Stantec Project #: 193701313	Date: 11/11/11
Applicant: Enbridge	Investigator #1: E. Parker	Investigator #2: H. Stoffs
Soil Unit: Washtenaw silt loam	NWI/WWI Classification: PSS1/EMC	State: Indiana
Landform: Hillslope/swale	Local Relief: --	Wetland ID: W-489a
Slope (%): 0-2	Latitude: --	Longitude: --
Datum: --		Sample Point: 1w
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Community ID: PEM
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Section: 17
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Township: 36 N
		Range: 5 Dir: W

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks: **Conditions not normal due to recent heavy rain**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input checked="" type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test
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Field Observations:

Surface Water Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 1 (in.)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 4 (in.)	
Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 0 (in.)	

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

Remarks: **--**

SOILS

Map Unit Name: **Washtenaw silt loam** Series Drainage Class: **poorly**

Taxonomy (Subgroup): **Aeric Fluvaquents** Field Observations Confirm Mapped Type? Yes No

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Texture (e.g. clay, sand, loam)		
			Color (Moist)	%	Color (Moist)	%	Type	Location			
0	6	1	10YR	4/2	100	--	--	--	Silty Clay		
6	16	2	10YR	4/2	90	10YR	4/6	10	C	M	Silty Clay
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B)	<input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> F1 - Loamy Muck Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF2 - Red Parent Material <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: **N/A** Depth: **N/A**

Hydric Soil Present? Yes No

Remarks: **--**



WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site: **Indiana Line 6B**

Wetland ID: **W-489a** Sample Point **1w**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		

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: 100.0% (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	<u>5</u>	x 1 =	<u>5</u>
FACW spp.	<u>110</u>	x 2 =	<u>220</u>
FAC spp.	<u>15</u>	x 3 =	<u>45</u>
FACU spp.	<u>0</u>	x 4 =	<u>0</u>
UPL spp.	<u>0</u>	x 5 =	<u>0</u>
Total		<u>130</u> (A)	<u>270</u> (B)
Prevalence Index = B/A =		<u>2.077</u>	

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

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

Herb Stratum (Plot size: 2 meter radius)

1.	<i>PHALARIS ARUNDINACEA</i>	95	Y	FACW
2.	<i>Apocynum sibiricum</i>	10	N	FAC
3.	<i>Cyperus esculentus</i>	5	N	FACW
4.	<i>Panicum dichotomiflorum</i>	5	N	FACW
5.	<i>Carex stricta</i>	5	N	OBL
6.	<i>Polygonum pensylvanicum</i>	5	N	FACW
7.	<i>Xanthium strumarium</i>	5	N	FAC
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		130		

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. 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.

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
5.	--	--	--	--
4.	--	--	--	--
Total Cover =		0		

Hydrophytic Vegetation Present Yes No

Remarks: **Reed canary grass swale**

Additional Remarks:

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WETLAND DETERMINATION DATA FORM

Northcentral and Northeast Region

Stantec

Project/Site: Indiana Line 6B	Stantec Project #: 193701313	Date: 11/11/11
Applicant: Enbridge	Investigator #1: E. Parker	County: Porter
Investigator #2: H. Stoffs	NWI/WWI Classification: --	State: Indiana
Soil Unit: Riddles loam	Local Relief: --	Wetland ID: W-489a
Landform: Hillslope/swale	Slope (%): 2-4	Sample Point: 2u
Latitude: --	Longitude: --	Community ID: Upland
Datum: --	Section: 17	
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Township: 36 N
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Range: 5 Dir: W
Are Vegetation <input type="checkbox"/> , Soil <input checked="" type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> naturally problematic?		
Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Remarks: Soils are sandy and therefore naturally problematic. Potential seasonal wetland. Conditions not normal due to recent heavy rain. Sample point taken at edge of field.		

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

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

Field Observations:	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: N/A (in.)	
Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: N/A (in.)	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: N/A (in.)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**Remarks: **Soils moist but not saturated down to 19 in.****SOILS**

Map Unit Name: Riddles loam	Series Drainage Class: well drained	
Taxonomy (Subgroup): Typic Hapludalfs	Field Observations Confirm Mapped Type? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)											
Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Type	Location	Texture (e.g. clay, sand, loam)
			Color (Moist)	%	Color (Moist)	%					
0	9	1	10YR	4/3	100	--	--	--	--	--	Sandy Loam
9	19	2	10YR	4/2	95	10YR	4/6	5	C	M	Sandy Loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present): <input checked="" type="checkbox"/>	Indicators for Problematic Soils¹	
<input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B)	<input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> F1 - Loamy Muck Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF2 - Red Parent Material <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A	Depth: N/A	Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks: **Soil profile does not meet S5 - Sandy Redox because depleted matrix and redox features start below 6 in. In addition, the 3 chroma in the first horizon indicates the soil is well oxidized and likely non-hydric.**



WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site: **Indiana Line 6B**

Wetland ID: **W-489a** Sample Point **2u**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>Acer negundo</i>	50	Y	FACW
2.	<i>Populus deltoides</i>	10	N	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		60		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)
 Total Number of Dominant Species Across All Strata: 6 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	<u>0</u>	x 1 =	<u>0</u>
FACW spp.	<u>80</u>	x 2 =	<u>160</u>
FAC spp.	<u>10</u>	x 3 =	<u>30</u>
FACU spp.	<u>105</u>	x 4 =	<u>420</u>
UPL spp.	<u>20</u>	x 5 =	<u>100</u>
Total	<u>215</u>	(A)	<u>710</u> (B)
Prevalence Index = B/A =		<u>3.302</u>	

Sapling/Shrub Stratum (Plot size: 5 meter radius)

	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>ROSA MULTIFLORA</i>	20	Y	FACU
2.	<i>Acer negundo</i>	5	N	FACW
3.	<i>LONICERA X BELLA</i>	5	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		30		

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

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

Herb Stratum (Plot size: 2 meter radius)

	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>DACTYLIS GLOMERATA</i>	30	Y	FACU
2.	<i>ARCTIUM MINUS</i>	20	Y	UPL
3.	<i>TARAXACUM OFFICINALE</i>	20	Y	FACU
4.	<i>CIRSIIUM ARVENSE</i>	15	N	FACU
5.	<i>AGROSTIS GIGANTEA</i>	10	N	FACW
6.	<i>SETARIA FABERI</i>	10	N	FACU
7.	<i>TRIFOLIUM REPENS</i>	5	N	FACU
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		110		

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. 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.

Woody Vine Stratum (Plot size: 10 meter radius)

	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>Vitis riparia</i>	15	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
5.	--	--	--	--
4.	--	--	--	--
Total Cover =		15		

Hydrophytic Vegetation Present Yes No

Remarks: **Edge of farm field. Includes part of upland woodland.**

Additional Remarks:

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WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Stantec

Project/Site: Indiana Line 6B	Stantec Project #: 193701313	Date: 11/11/11
Applicant: Enbridge	Investigator #1: E. Parker	County: Porter
Investigator #2: H. Stoffs	NWI/WWI Classification: --	State: Indiana
Soil Unit: Martinsville loam	Local Relief: --	Wetland ID: W-489a
Landform: --	Slope (%): --	Sample Point: 3u
Latitude: --	Longitude: --	Community ID: Upland
Datum: --	Section: 17	
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Township: 36 N
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Range: 5 Dir: W
Are Vegetation <input type="checkbox"/> , Soil <input checked="" type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Remarks: --	

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

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

Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: N/A (in.)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: N/A (in.)	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: N/A (in.)	

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

Remarks: **--**

SOILS

Map Unit Name: **Martinsville loam** Series Drainage Class: **well drained**

Taxonomy (Subgroup): **Typic Hapludalfs** Field Observations Confirm Mapped Type? Yes No

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Texture (e.g. clay, sand, loam)		
			Color (Moist)	%	Color (Moist)	%	Type	Location			
0	17	1	10YR	3/2	100	--	--	--	Silty Clay Loam		
17	20	2	10YR	4/1	95	10YR	3/4	5	C	M	Silty Clay
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B)	<input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> F1 - Loamy Muck Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF2 - Red Parent Material <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A	Depth: N/A	Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Remarks: --		



WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site: **Indiana Line 6B**

Wetland ID: **W-489a** Sample Point **3u**

VEGETATION (Species identified in all uppercase are non-native species.)				
Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Sapling/Shrub Stratum (Plot size: 5 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Herb Stratum (Plot size: 2 meter radius)				
1.	TARAXACUM OFFICINALE	1	Y	FACU
2.	Setaria faberi	1	Y	FACU
3.	PHALARIS ARUNDINACEA	2	Y	FACW
4.	GLECHOMA HEDERACEA	1	Y	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		5		
Woody Vine Stratum (Plot size: 10 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
5.	--	--	--	--
4.	--	--	--	--
Total Cover =		0		
Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25.0%</u> (A/B)				
Prevalence Index Worksheet Total % Cover of: Multiply by: OBL spp. <u>0</u> x 1 = <u>0</u> FACW spp. <u>2</u> x 2 = <u>4</u> FAC spp. <u>0</u> x 3 = <u>0</u> FACU spp. <u>3</u> x 4 = <u>12</u> UPL spp. <u>0</u> x 5 = <u>0</u> Total <u>5</u> (A) <u>16</u> (B) Prevalence Index = B/A = <u>3.200</u>				
Hydrophytic Vegetation Indicators: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dominance Test is > 50% <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Prevalence Index is ≤ 3.0 * <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Morphological Adaptations (Explain) * <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Problem Hydrophytic Vegetation (Explain) * * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Definitions of Vegetation Strata: Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. 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 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Remarks: Edge of farm field.				

Additional Remarks:

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WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Stantec

Project/Site: Indiana Line 6B
Stantec Project #: 193701313
Date: 11/11/11
Applicant: Enbridge
County: Porter
Investigator #1: E. Parker
Investigator #2: H. Stoffs
State: Indiana
Soil Unit: Fluvaquents
NW1/WW1 Classification: --
Landform: --
Local Relief: --
Slope (%): 3
Latitude: --
Longitude: --
Datum: --
Wetland ID: W-489b
Sample Point: 1u
Community ID: Upland
Section: 17
Township: 36 N
Range: 5 Dir: W

SUMMARY OF FINDINGS
Hydrophytic Vegetation Present? [] Yes [x] No
Wetland Hydrology Present? [] Yes [x] No
Hydric Soils Present? [x] Yes [] No
Is This Sampling Point Within A Wetland? [] Yes [x] No
Remarks: Plowed ag field.

HYDROLOGY
Wetland Hydrology Indicators (Check here if indicators are not present): [x]
Primary: [] A1 - Surface Water, [] A2 - High Water Table, [] A3 - Saturation, [] B1 - Water Marks, [] B2 - Sediment Deposits, [] B3 - Drift Deposits, [] B4 - Algal Mat or Crust, [] B5 - Iron Deposits, [] B7 - Inundation Visible on Aerial Imagery, [] B8 - Sparsely Vegetated Concave Surface
Secondary: [] B6 - Surface Soil Cracks, [] B10 - Drainage Patterns, [] B16 - Moss Trim Lines, [] C2 - Dry-Season Water Table, [] C8 - Crayfish Burrows, [] C9 - Saturation Visible on Aerial Imagery, [] D1 - Stunted or Stressed Plants, [] D2 - Geomorphic Position, [] D3 - Shallow Aquitard, [] D4 - Microtopographic Relief, [] D5 - FAC-Neutral Test

Field Observations:
Surface Water Present? [] Yes [x] No Depth: N/A (in.)
Water Table Present? [] Yes [x] No Depth: N/A (in.)
Saturation Present? [x] Yes [] No Depth: 12 (in.)
Wetland Hydrology Present? [] Yes [x] No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A
Remarks: --

SOILS

Map Unit Name: Fluvaquents
Series Drainage Class: poorly to somewhat poorly
Taxonomy (Subgroup): NA
Field Observations Confirm Mapped Type? [] Yes [] No

Profile Description table with columns: Top Depth, Bottom Depth, Horizon, Matrix (Color, %), Mottles (Color, %, Type, Location), Texture (e.g. clay, sand, loam). Rows show data for depths 0, 10, and 22 inches.

NRCS Hydric Soil Field Indicators (check here if indicators are not present): []
Indicators for Problematic Soils 1
[] A1 - Histosol, [] A2 - Histic Epipedon, [] A3 - Black Histic, [] A4 - Hydrogen Sulfide, [] A5 - Stratified Layers, [] A11 - Depleted Below Dark Surface, [] A12 - Thick Dark Surface, [] S1 - Sandy Muck Mineral, [] S4 - Sandy Gleyed Matrix, [] S5 - Sandy Redox, [] S6 - Stripped Matrix, [] S7 - Dark Surface (LRR R, MLRA 149B)
[] S8 - Polyvalue Below Surface (LRR R, MLRA 149B), [] S9 - Thin Dark Surface (LRR R, MLRA 149B), [] F1 - Loamy Muck Mineral (LRR K, L), [] F2 - Loamy Gleyed Matrix, [] F3 - Depleted Matrix, [] F6 - Redox Dark Surface, [] F7 - Depleted Dark Surface, [] F8 - Redox Depressions
[] A10 - 2 cm Muck (LRR K, L, MLRA149B), [] A16 - Coast Prairie Redox (LRR K, L, R), [] S3 - 5cm Mucky Peat of Peat (LRR K, L, R), [] S7 - Dark Surface (LRR K, L), [] S8 - Polyvalue Below Surface (LRR K, L), [] S9 - Thin Dark Surface (LRR K, L), [] F12 - Iron-Manganese Masses (LRR K, L, R), [] F19 - Piedmont Floodplain Soils (MLRA 149B), [] TA6 - Mesic Spodic (MLRA 144A, 145, 149B), [] TF2 - Red Parent Material, [] TF12 - Very Shallow Dark Surface, [] Other (Explain in Remarks)

Restrictive Layer (If Observed) Type: N/A Depth: N/A
Hydric Soil Present? [x] Yes [] No
Remarks: While soils are hydric, the absence of wetland hydrology and vegetation supports an upland determination. No crop stress was observed.



WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site: **Indiana Line 6B**

Wetland ID: **W-489b** Sample Point **1u**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--

Total Cover = **0**

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--

Total Cover = **0**

Herb Stratum (Plot size: 2 meter radius)

1.	GLYCINE MAX	100	Y	UPL
2.	Equisetum arvense	1	N	FAC
3.	TARAXACUM OFFICINALE	1	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--

Total Cover = **102**

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
5.	--	--	--	--
4.	--	--	--	--

Total Cover = **0**

Remarks: --

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

Total % Cover of:	Multiply by:	
OBL spp. <u>0</u>	x 1 =	<u>0</u>
FACW spp. <u>0</u>	x 2 =	<u>0</u>
FAC spp. <u>1</u>	x 3 =	<u>3</u>
FACU spp. <u>1</u>	x 4 =	<u>4</u>
UPL spp. <u>100</u>	x 5 =	<u>500</u>

Total 102 (A) 507 (B)

Prevalence Index = B/A = 4.971

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. 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

Additional Remarks:

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WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Stantec

Project/Site: Indiana Line 6B	Stantec Project #: 193701313	Date: 11/11/11
Applicant: Enbridge	Investigator #1: E. Parker	County: Porter
Investigator #2: H. Stoffs	NWI/WWI Classification: --	State: Indiana
Soil Unit: Fluvaquents	Local Relief: --	Wetland ID: W-489b
Landform: --	Slope (%): --	Sample Point: 1w
Latitude: --	Longitude: --	Community ID: PEM
Datum: --	Section: 17	
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Township: 36 N
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Range: 5 Dir: w
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> naturally problematic?		

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks: **Area has seasonal hydrology.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

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

Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: N/A (in.)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: N/A (in.)	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: N/A (in.)	

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

Remarks: **Area appears to have seasonal hydrology, with only the FAC-Neutral Test observed as a hydrology indicator. However, the presence of wetland soils and vegetation supports a wetland determination.**

SOILS

Map Unit Name: **Fluvaquents** Series Drainage Class: **poorly to somewhat poorly**

Taxonomy (Subgroup): **NA** Field Observations Confirm Mapped Type? Yes No

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Texture (e.g. clay, sand, loam)		
			Color (Moist)	%	Color (Moist)	%	Type	Location			
0	6	1	10YR	3/2	--	--	--	--	Silty Clay Loam		
6	20	2	10YR	4/2	95	10YR	3/4	5	C	M	Silty Clay Loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B)	<input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> F1 - Loamy Muck Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF2 - Red Parent Material <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A	Depth: N/A	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Remarks: --		



WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site: **Indiana Line 6B**

Wetland ID: **W-489b** Sample Point **1w**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)
 Total Number of Dominant Species Across All Strata: 5 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 80.0% (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	<u>0</u>	x 1 =	<u>0</u>
FACW spp.	<u>75</u>	x 2 =	<u>150</u>
FAC spp.	<u>10</u>	x 3 =	<u>30</u>
FACU spp.	<u>30</u>	x 4 =	<u>120</u>
UPL spp.	<u>10</u>	x 5 =	<u>50</u>
Total		<u>125</u> (A)	<u>350</u> (B)
Prevalence Index = B/A =		<u>2.800</u>	

Sapling/Shrub Stratum (Plot size: 5 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>Salix discolor</i>	5	Y	FACW
2.	<i>Populus deltoides</i>	5	Y	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		10		

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

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

Herb Stratum (Plot size: 2 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>Solidago canadensis</i>	30	Y	FACU
2.	<i>Solidago gigantea</i>	30	Y	FACW
3.	<i>PHALARIS ARUNDINACEA</i>	30	Y	FACW
4.	<i>Aster lanceolatus</i>	10	N	FACW
5.	<i>DAUCUS CAROTA</i>	10	N	UPL
6.	<i>Geum aleppicum</i>	5	N	FAC
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		115		

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. 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.

Woody Vine Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
5.	--	--	--	--
4.	--	--	--	--
Total Cover =		0		

Hydrophytic Vegetation Present Yes No

Remarks: --

Additional Remarks:

--



WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Stantec

Project/Site: Indiana Line 6B		Stantec Project #: 193701313		Date: 11/11/11
Applicant: Enbridge		Investigator #2: H. Stoffs		County: Porter
Investigator #1: E. Parker		Soil Unit: Martinsville loam		State: Indiana
Landform: --		NW1/WW1 Classification: --		Wetland ID: W-489b
Slope (%): 4		Local Relief: --		Sample Point: 2u
Latitude: --		Longitude: --		Community ID: Upland
Datum: --		Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Section: 17
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Township: 36 N
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?				Range: 5 Dir: w

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Remarks: **Plowed ag field.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface 	<p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test
---	--

<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: N/A (in.)</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: N/A (in.)</p> <p>Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: N/A (in.)</p>	<p>Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
---	--

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

Remarks: **--**

SOILS

Map Unit Name: **Martinsville loam** Series Drainage Class: **well drained**

Taxonomy (Subgroup): **Typic Hapludalfs** Field Observations Confirm Mapped Type? Yes No

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Texture (e.g. clay, sand, loam)		
			Color (Moist)	%		Color (Moist)	%	Type		Location	
0	15	1	10YR	3/2	--	--	--	--	--	Silt Loam	
15	20	2	10YR	4/2	60	10YR	4/6	10	C	M	Sandy Loam
15	20	2	10YR	6/2	30	--	--	--	--	--	Sandy Loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

<ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) 	<ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> F1 - Loamy Muck Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions 	<p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF2 - Red Parent Material <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
---	---	---

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A	Depth: N/A	Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--	-------------------	---

Remarks: **--**



WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site: **Indiana Line 6B**

Wetland ID: **W-489b** Sample Point **2u**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	<u>0</u>	x 1 =	<u>0</u>
FACW spp.	<u>0</u>	x 2 =	<u>0</u>
FAC spp.	<u>1</u>	x 3 =	<u>3</u>
FACU spp.	<u>0</u>	x 4 =	<u>0</u>
UPL spp.	<u>100</u>	x 5 =	<u>500</u>
Total		<u>101</u> (A)	<u>503</u> (B)
Prevalence Index = B/A =		<u>4.980</u>	

Herb Stratum (Plot size: 2 meter radius)

1.	GLYCINE MAX	100	Y	UPL
2.	Equisetum arvense	1	N	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		101		

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. 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.

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
5.	--	--	--	--
4.	--	--	--	--
Total Cover =		0		

Hydrophytic Vegetation Present Yes No

Remarks: --

Additional Remarks:

--



WETLAND DETERMINATION DATA FORM

Northcentral and Northeast Region

Stantec

Project/Site: Indiana Line 6B	Stantec Project #: 193701313	Date: 11/11/11
Applicant: Enbridge	Investigator #1: E. Parker	County: Porter
Investigator #2: H. Stoffs	Soil Unit: Martinsville loam	State: Indiana
NWI/WWI Classification: --	Landform: --	Wetland ID: W-489c
Local Relief: --	Slope (%): --	Sample Point: 1u
Latitude: --	Longitude: --	Community ID: Upland
Datum: --	Section: 17	
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Township: 36 N	
Are Vegetation <input checked="" type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Range: 5 Dir: W	
Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Are Vegetation <input type="checkbox"/> , Soil <input checked="" type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?	

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Remarks: **Area clear cut for transmission line corridor. Soils are sandy and therefore naturally problematic.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

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

Field Observations:

Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: N/A (in.)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: N/A (in.)	
Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 15 (in.)	

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

Remarks: **--**

SOILS

Map Unit Name: **Martinsville loam** Series Drainage Class: **well drained**

Taxonomy (Subgroup): **Typic Hapludalfs** Field Observations Confirm Mapped Type? Yes No

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Texture (e.g. clay, sand, loam)		
			Color (Moist)	%	Color (Moist)	%	Type	Location			
0	3	1	10YR	3/2	--	--	--	--	Sandy Loam		
3	7	2	10YR	4/2	90	7.5YR	3/4	10	C	M	Sandy Loam
7	18	3	7.5YR	4/2	85	7.5YR	3/4	15	C	M	Sandy Loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B)	<input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> F1 - Loamy Muck Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	Indicators for Problematic Soils¹ <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF2 - Red Parent Material <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A	Depth: N/A	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks: **While soils are hydric, the absence of wetland hydrology and vegetation supports an upland determination.**



WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site: **Indiana Line 6B**

Wetland ID: **W-489c** Sample Point **1u**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		

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: 0.0% (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	<u>0</u>	x 1 =	<u>0</u>
FACW spp.	<u>2</u>	x 2 =	<u>4</u>
FAC spp.	<u>0</u>	x 3 =	<u>0</u>
FACU spp.	<u>1</u>	x 4 =	<u>4</u>
UPL spp.	<u>7</u>	x 5 =	<u>35</u>
Total		<u>10</u> (A)	<u>43</u> (B)
Prevalence Index = B/A =		<u>4.300</u>	

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	<i>Rubus idaeus var. strigosus</i>	2	N	FACW
2.	Unidentifiable shrubs	80	Y	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		82		

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

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

Herb Stratum (Plot size: 2 meter radius)

1.	<i>Carex sp.</i>	5	Y	NI
2.	<i>LINARIA VULGARIS</i>	2	Y	UPL
3.	<i>Potentilla simplex</i>	1	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		8		

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. 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.

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
5.	--	--	--	--
4.	--	--	--	--
Total Cover =		0		

Hydrophytic Vegetation Present Yes No

Remarks: Veg. significantly disturbed due to clearing for transmission line. Area was recently cut, and unidentifiable shrubs comprised approx. 80% of the ground cover.

Additional Remarks:

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WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Stantec

Project/Site: Indiana Line 6B	Stantec Project #: 193701313	Date: 11/11/11
Applicant: Enbridge	Investigator #1: E. Parker	Investigator #2: H. Stoffs
Soil Unit: Riddles loam	NWI/WWI Classification: PEMF, PFO1A	State: Indiana
Landform: --	Local Relief: --	Wetland ID: W-489c
Slope (%): --	Latitude: --	Longitude: --
Datum: --		Sample Point: 1w
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Community ID: PEM
Are Vegetation <input checked="" type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Section: 17
Are Vegetation <input type="checkbox"/> , Soil <input checked="" type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Township: 36 N
		Range: 5 Dir: W

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks: **Area clear cut for transmission line corridor. Soils are sandy and therefore naturally problematic.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

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

Field Observations:

Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: N/A (in.)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 11 (in.)	
Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 0 (in.)	

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

Remarks: **Identifiable vegetation met FAC-Neutral; however, ground cover included stumps of cut shrubs that were unidentifiable.**

SOILS

Map Unit Name: **Riddles loam** Series Drainage Class: **well**

Taxonomy (Subgroup): **Typic Hapludalfs** Field Observations Confirm Mapped Type? Yes No

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Texture (e.g. clay, sand, loam)		
			Color (Moist)	%	Color (Moist)	%	Type	Location			
0	7	1	10YR	3/2	95	10YR	3/4	5	C	M	Sandy Loam
7	18	2	2.5Y	5/2	80	10YR	4/6	20	C	M	Loamy Sand
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B)	<input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> F1 - Loamy Muck Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF2 - Red Parent Material <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
--	---	---

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A	Depth: N/A	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Remarks: --		



WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site: **Indiana Line 6B**

Wetland ID: **W-489c** Sample Point **1w**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		

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: 100.0% (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	<u>90</u>	x 1 =	<u>90</u>
FACW spp.	<u>0</u>	x 2 =	<u>0</u>
FAC spp.	<u>0</u>	x 3 =	<u>0</u>
FACU spp.	<u>0</u>	x 4 =	<u>0</u>
UPL spp.	<u>10</u>	x 5 =	<u>50</u>
Total		<u>100</u> (A)	<u>140</u> (B)
Prevalence Index = B/A =		<u>1.400</u>	

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
 Yes No Dominance Test is > 50%
 Yes No Prevalence Index is ≤ 3.0 *
 Yes No Morphological Adaptations (Explain) *
 Yes No Problem Hydrophytic Vegetation (Explain) *

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

Herb Stratum (Plot size: 2 meter radius)

1.	<i>Juncus effusus</i>	80	Y	OBL
2.	<i>Scirpus atrovirens</i>	10	N	OBL
3.	<i>Carex sp.</i>	10	N	NI
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		100		

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. 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.

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
5.	--	--	--	--
4.	--	--	--	--
Total Cover =		0		

Hydrophytic Vegetation Present Yes No

Remarks: **Veg. significantly disturbed due to clearing for transmission line. Only cut stumps of shrub layer were visible.**

Additional Remarks:

--



WETLAND DETERMINATION DATA FORM Northcentral and Northeast Region

Stantec

Project/Site: Indiana Line 6B	Stantec Project #: 193701313	Date: 11/11/11
Applicant: Enbridge	Investigator #1: E. Parker	Investigator #2: H. Stoffs
Soil Unit: Riddles loam	NWI/WWI Classification: --	County: Porter
Landform: --	Local Relief: --	State: Indiana
Slope (%): --	Latitude: --	Longitude: --
Datum: --		Wetland ID: W-489c
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Sample Point: 2u
Are Vegetation <input checked="" type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Community ID: Upland
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Section: 17
Remarks: Area clear cut for transmission line corridor.		Township: 36 N
		Range: 5 Dir: W

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

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

Field Observations:

Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: N/A (in.)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: N/A (in.)	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: N/A (in.)	

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

Remarks: **No primary wetland hydrology indicators were observed; only the FAC-Neutral test was met.**

SOILS

Map Unit Name: **Riddles loam** Series Drainage Class: **well drained**

Taxonomy (Subgroup): **Typic Hapludalfs** Field Observations Confirm Mapped Type? Yes No

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Texture (e.g. clay, sand, loam)		
			Color (Moist)	%		Color (Moist)	%	Type		Location	
0	7	1	10YR	3/2	--	--	--	--	--	Sandy Clay Loam	
7	17	2	10YR	4/2	--	--	--	--	--	Sandy Clay Loam	
17	20	3	10YR	5/4	--	10YR	4/6	5	C	M	Sandy Clay Loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> A1 - Histosol	<input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B)	<input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA149B)
<input type="checkbox"/> A2 - Histic Epipedon	<input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B)	<input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R)
<input type="checkbox"/> A3 - Black Histic	<input type="checkbox"/> F1 - Loamy Muck Mineral (LRR K, L)	<input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
<input type="checkbox"/> A4 - Hydrogen Sulfide	<input type="checkbox"/> F2 - Loamy Gleyed Matrix	<input type="checkbox"/> S7 - Dark Surface (LRR K, L)
<input type="checkbox"/> A5 - Stratified Layers	<input type="checkbox"/> F3 - Depleted Matrix	<input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L)
<input type="checkbox"/> A11 - Depleted Below Dark Surface	<input type="checkbox"/> F6 - Redox Dark Surface	<input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L)
<input type="checkbox"/> A12 - Thick Dark Surface	<input type="checkbox"/> F7 - Depleted Dark Surface	<input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R)
<input type="checkbox"/> S1 - Sandy Muck Mineral	<input type="checkbox"/> F8 - Redox Depressions	<input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B)
<input type="checkbox"/> S4 - Sandy Gleyed Matrix		<input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
<input type="checkbox"/> S5 - Sandy Redox		<input type="checkbox"/> TF2 - Red Parent Material
<input type="checkbox"/> S6 - Stripped Matrix		<input type="checkbox"/> TF12 - Very Shallow Dark Surface
<input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A	Depth: N/A	Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Remarks: --		



WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site: **Indiana Line 6B**

Wetland ID: **W-489c** Sample Point **2u**

VEGETATION (Species identified in all uppercase are non-native species.)				
Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Sapling/Shrub Stratum (Plot size: 5 meter radius)				
1.	<i>Populus balsamifera</i>	30	Y	FACW
2.	<i>Rubus idaeus var. strigosus</i>	10	Y	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		40		
Herb Stratum (Plot size: 2 meter radius)				
1.	<i>Solidago canadensis</i>	10	N	FACU
2.	<i>Poa compressa</i>	80	Y	FACU
3.	<i>Pacera sp.</i>	10	N	--
4.	<i>LINARIA VULGARIS</i>	5	N	UPL
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		105		
Woody Vine Stratum (Plot size: 10 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
5.	--	--	--	--
4.	--	--	--	--
Total Cover =		0		
Remarks: While the >50% dominance criteria was met, the Prevalence Index was greater than 3 and the area did not meet the Rapid Test for Hydrophytic vegetation. <i>Poa compressa</i>, a FACU species, dominated the understory.				

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index Worksheet

Total % Cover of:	Multiply by:
OBL spp. <u>0</u>	x 1 = <u>0</u>
FACW spp. <u>40</u>	x 2 = <u>80</u>
FAC spp. <u>0</u>	x 3 = <u>0</u>
FACU spp. <u>90</u>	x 4 = <u>360</u>
UPL spp. <u>5</u>	x 5 = <u>25</u>
Total <u>135</u> (A)	<u>465</u> (B)
Prevalence Index = B/A = <u>3.444</u>	

Hydrophytic Vegetation Indicators:

Yes No Rapid Test for Hydrophytic Vegetation

Yes No Dominance Test is > 50%

Yes No Prevalence Index is ≤ 3.0 *

Yes No Morphological Adaptations (Explain) *

Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. 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

Additional Remarks:

The absence of hydric soils and primary wetland hydrology indicators supports an upland determination.



WETLAND DETERMINATION DATA FORM

Midwest Region

Stantec

Project/Site: Line 6B Phase 2 Replacement Project	Stantec Project #: 193701660	Date: 04/25/12
Applicant: Enbridge	Investigator #1: D. Tersteeg	County: Porter
Investigator #2: A. Brasch	NWI/WWI Classification: --	State: Indiana
Soil Unit: Fluvaquents	Local Relief: none	Wetland ID: W-489y
Landform: slope	Datum: --	Sample Point: 1u
Slope (%): 2	Latitude: --	Community ID: upland
Longitude: --	Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input type="checkbox"/> No	Section: 18
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input type="checkbox"/> Yes <input type="checkbox"/> No	Township: 36 N
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Range: 5 Dir: W

SUMMARY OF FINDINGS	
Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Remarks: --	

HYDROLOGY			
Wetland Hydrology Indicators (Check here if indicators are not present <input checked="" top;"="" type="checkbox/>):</td> </tr> <tr> <td style=" vertical-align:=""/> <u>Primary:</u> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface </input>		<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> D9 - Gauge or Well Data <input type="checkbox"/> Other (Explain)	<u>Secondary:</u> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D5 - FAC-Neutral Test

Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: n/a (in.) Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: >18 (in.) Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: >18 (in.)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--	---

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

Remarks: **--**

SOILS										
Map Unit Name: Fluvaquents	Series Drainage Class: n/a									
Taxonomy (Subgroup): n/a	Field Observations Confirm Mapped Type? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No									
Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)										
Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Texture (e.g. clay, sand, loam)	
			Color (Moist)	%	Color (Moist)	%	Type	Location		
0	12	1	10YR	3/2	100	--	--	--	--	silty clay loam
12	18	2	10YR	3/3	90	10YR	3/6	10	C	M
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--

NRCS Hydic Soil Field Indicators (check here if indicators are not present <input 2"="" checked="" type="checkbox/>):</td> <td colspan="/> Indicators for Problematic Soils ¹			
<input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat </input>	<input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> F1 - Loamy Muck Mineral <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<input type="checkbox"/> A16 - Coast Prairie Redox <input type="checkbox"/> F12 - Iron-Manganese Masses <input type="checkbox"/> Other (Explain in Remarks)	

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A	Depth: N/A	Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Remarks: --		



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Line 6B Phase 2 Replacement Project**

Wetland ID: **W-489y** Sample Point **1u**

VEGETATION (Species identified in all uppercase are non-native species.)				
Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>Populus deltoides</i>	40	Y	FAC
2.	<i>Ulmus americana</i>	10	N	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		50		
Sapling/Shrub Stratum (Plot size: 5 meter radius)				
1.	<i>LONICERA TATARICA</i>	40	Y	FACU
2.	<i>ROSA MULTIFLORA</i>	20	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		60		
Herb Stratum (Plot size: 2 meter radius)				
1.	<i>Parthenocissus quinquefolia</i>	60	Y	FAC
2.	<i>ARCTIUM MINUS</i>	20	Y	UPL
3.	<i>Bidens comosus</i>	20	Y	OBL
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		100		
Woody Vine Stratum (Plot size: 10 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
5.	--	--	--	--
4.	--	--	--	--
Total Cover =		0		
Remarks: --				

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index Worksheet

<u>Total % Cover of:</u>	<u>Multiply by:</u>
OBL spp. <u>20</u>	x 1 = <u>20</u>
FACW spp. <u>10</u>	x 2 = <u>20</u>
FAC spp. <u>100</u>	x 3 = <u>300</u>
FACU spp. <u>60</u>	x 4 = <u>240</u>
UPL spp. <u>20</u>	x 5 = <u>100</u>
Total <u>210</u> (A)	<u>680</u> (B)
Prevalence Index = B/A = <u>3.238</u>	

Hydrophytic Vegetation Indicators:

Yes No Rapid Test for Hydrophytic Vegetation

Yes No Dominance Test is > 50%

Yes No Prevalence Index is ≤ 3.0 *

Yes No Morphological Adaptations (Explain) *

Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. 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

Additional Remarks:

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WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Line 6B Phase 2 Replacement Project	Stantec Project #: 193701660	Date: 04/25/12
Applicant: Enbridge	Investigator #1: D. Tersteeg	County: Porter
Investigator #2: A. Brasch	Soil Unit: Fluvaquents	State: Indiana
Landform: depression	NWI/WWI Classification: --	Wetland ID: W-489y
Slope (%): 0	Local Relief: concave	Sample Point: 1w
Latitude: --	Longitude: --	Community ID: FO1
Datum: --		Section: 18
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Township: 36 N
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Range: 5 Dir: W
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks: **Type 1 forested seasonal depression dominated by green ash and American elm.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> D9 - Gauge or Well Data <input type="checkbox"/> Other (Explain)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input checked="" type="checkbox"/> D5 - FAC-Neutral Test
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<p>Field Observations:</p> Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: n/a (in.) Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 4 (in.) Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 0 (in.)	<p>Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
--	--

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

Remarks: **--**

SOILS

Map Unit Name: **Fluvaquents** Series Drainage Class: **n/a**

Taxonomy (Subgroup): **n/a** Field Observations Confirm Mapped Type? Yes No

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Texture (e.g. clay, sand, loam)		
			Color (Moist)	%	Color (Moist)	%	Type	Location			
0	2	1	10YR	2/1	100	--	--	--	--	silt loam	
2	10	2	10YR	3/1	90	10YR	3/6	10	C	M	silty clay loam
10	18	3	10YR	4/2	70	10YR	4/6	30	C	M	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

<p>NRCS Hydic Soil Field Indicators (check here if indicators are not present <input type="checkbox"/>):</p> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat	<p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> F1 - Loamy Muck Mineral <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input checked="" type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions <input type="checkbox"/> A16 - Coast Prairie Redox <input type="checkbox"/> F12 - Iron-Manganese Masses <input type="checkbox"/> Other (Explain in Remarks)
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A	Depth: N/A	Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks: **--**



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Line 6B Phase 2 Replacement Project**

Wetland ID: **W-489y** Sample Point **1w**

VEGETATION (Species identified in all uppercase are non-native species.)				
Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>Salix nigra</i>	20	Y	OBL
2.	<i>Fraxinus pennsylvanica</i>	50	Y	FACW
3.	<i>Ulmus americana</i>	30	Y	FACW
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		100		
Sapling/Shrub Stratum (Plot size: 5 meter radius)				
1.	<i>Cephalanthus occidentalis</i>	5	N	OBL
2.	<i>Ulmus americana</i>	10	Y	FACW
3.	<i>Fraxinus pennsylvanica</i>	15	Y	FACW
4.	<i>Lindera benzoin</i>	10	Y	FACW
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		40		
Herb Stratum (Plot size: 2 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		0		
Woody Vine Stratum (Plot size: 10 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
5.	--	--	--	--
4.	--	--	--	--
Total Cover =		0		
Remarks: No herbaceous cover; 100% leaf litter ground coverage.				

<p>Dominance Test Worksheet</p> <p>Number of Dominant Species that are OBL, FACW, or FAC: <u>6</u> (A)</p> <p>Total Number of Dominant Species Across All Strata: <u>6</u> (B)</p> <p>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)</p>	<p>Prevalence Index Worksheet</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"><u>Total % Cover of:</u></td> <td style="width: 50%;"><u>Multiply by:</u></td> </tr> <tr> <td>OBL spp. <u>25</u></td> <td>x 1 = <u>25</u></td> </tr> <tr> <td>FACW spp. <u>115</u></td> <td>x 2 = <u>230</u></td> </tr> <tr> <td>FAC spp. <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU spp. <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL spp. <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Total <u>140</u> (A)</td> <td><u>255</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>1.821</u></td> </tr> </table>	<u>Total % Cover of:</u>	<u>Multiply by:</u>	OBL spp. <u>25</u>	x 1 = <u>25</u>	FACW spp. <u>115</u>	x 2 = <u>230</u>	FAC spp. <u>0</u>	x 3 = <u>0</u>	FACU spp. <u>0</u>	x 4 = <u>0</u>	UPL spp. <u>0</u>	x 5 = <u>0</u>	Total <u>140</u> (A)	<u>255</u> (B)	Prevalence Index = B/A = <u>1.821</u>	
<u>Total % Cover of:</u>	<u>Multiply by:</u>																
OBL spp. <u>25</u>	x 1 = <u>25</u>																
FACW spp. <u>115</u>	x 2 = <u>230</u>																
FAC spp. <u>0</u>	x 3 = <u>0</u>																
FACU spp. <u>0</u>	x 4 = <u>0</u>																
UPL spp. <u>0</u>	x 5 = <u>0</u>																
Total <u>140</u> (A)	<u>255</u> (B)																
Prevalence Index = B/A = <u>1.821</u>																	
<p>Hydrophytic Vegetation Indicators:</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Rapid Test for Hydrophytic Vegetation</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Dominance Test is > 50%</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Prevalence Index is ≤ 3.0 *</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Morphological Adaptations (Explain) *</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Problem Hydrophytic Vegetation (Explain) *</p> <p style="font-size: small;">* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.</p>																	
<p>Definitions of Vegetation Strata:</p> <p>Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.</p> <p>Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.</p> <p>Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall</p> <p>Woody Vines - All woody vines greater than 3.28 ft. in height.</p>																	
<p>Hydrophytic Vegetation Present <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>																	

Additional Remarks:

--



WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Stantec

Project/Site: Line 6B Phase 2 Replacement Project
Stantec Project #: 193701660
Date: 04/25/12
Applicant: Enbridge
County: Porter
Investigator #1: D. Tersteeg
Investigator #2: A. Brasch
State: Indiana
Soil Unit: Selfridge loamy fine sand
NW/WWI Classification: --
Landform: slope
Local Relief: none
Slope (%): 1
Latitude: --
Longitude: --
Datum: --
Wetland ID: W-489z
Sample Point: 1u
Community ID: upland
Section: 18
Township: 36 N
Range: 5 Dir: W

SUMMARY OF FINDINGS
Hydrophytic Vegetation Present? [] Yes [x] No
Wetland Hydrology Present? [] Yes [x] No
Hydic Soils Present? [] Yes [x] No
Is This Sampling Point Within A Wetland? [x] Yes [] No

Remarks: Seasonal forested wetland with shrub scrub, Type 1/6

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present [x]):
Primary: A1 - Surface Water, A2 - High Water Table, A3 - Saturation, B1 - Water Marks, B2 - Sediment Deposits, B3 - Drift Deposits, B4 - Algal Mat or Crust, B5 - Iron Deposits, B7 - Inundation Visible on Aerial Imagery, B8 - Sparsely Vegetated Concave Surface
Secondary: B6 - Surface Soil Cracks, B10 - Drainage Patterns, B16 - Moss Trim Lines, C2 - Dry-Season Water Table, C8 - Crayfish Burrows, C9 - Saturation Visible on Aerial Imagery, D1 - Stunted or Stressed Plants, D2 - Geomorphic Position, D3 - Shallow Aquitard, D4 - Microtopographic Relief, D5 - FAC-Neutral Test

Field Observations:
Surface Water Present? [] Yes [x] No Depth: n/a (in.)
Water Table Present? [] Yes [x] No Depth: >18 (in.)
Saturation Present? [] Yes [x] No Depth: >18 (in.)
Wetland Hydrology Present? [] Yes [x] No

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

Remarks: --

SOILS

Map Unit Name: Selfridge loamy fine sand
Series Drainage Class: somewhat poorly
Taxonomy (Subgroup): Aquic Arenic Hapludalfs
Field Observations Confirm Mapped Type? [] Yes [x] No

Profile Description table with columns: Top Depth, Bottom Depth, Horizon, Matrix (Color (Moist), %), Mottles (Color (Moist), %), Type, Location, Texture (e.g. clay, sand, loam)

NRCS Hydric Soil Field Indicators (check here if indicators are not present [x]):
A1 - Histosol, A2 - Histic Epipedon, A3 - Black Histic, A4 - Hydrogen Sulfide, A5 - Stratified Layers, A11 - Depleted Below Dark Surface, A12 - Thick Dark Surface, S1 - Sandy Muck Mineral, S4 - Sandy Gleyed Matrix, S5 - Sandy Redox, S6 - Stripped Matrix, S7 - Dark Surface (LRR R, MLRA 149B)
S8 - Polyvalue Below Surface (LRR R, MLRA 149B), S9 - Thin Dark Surface (LRR R, MLRA 149B), F1 - Loamy Muck Mineral (LRR K, L), F2 - Loamy Gleyed Matrix, F3 - Depleted Matrix, F6 - Redox Dark Surface, F7 - Depleted Dark Surface, F8 - Redox Depressions
Indicators for Problematic Soils 1: A10 - 2 cm Muck (LRR K, L, MLRA149B), A16 - Coast Prairie Redox (LRR K, L, R), S3 - 5cm Mucky Peat of Peat (LRR K, L, R), S7 - Dark Surface (LRR K, L), S8 - Polyvalue Below Surface (LRR K, L), S9 - Thin Dark Surface (LRR K, L), F12 - Iron-Manganese Masses (LRR K, L, R), F19 - Piedmont Floodplain Soils (MLRA 149B), TA6 - Mesic Spodic (MLRA 144A, 145, 149B), TF2 - Red Parent Material, TF12 - Very Shallow Dark Surface, Other (Explain in Remarks)

Restrictive Layer (If Observed) Type: N/A Depth: N/A
Hydic Soil Present? [] Yes [x] No

Remarks: --

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



WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site: **Line 6B Phase 2 Replacement Project** Wetland ID: **W-489z** Sample Point **1u**

VEGETATION (Species identified in all uppercase are non-native species.)				
Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>Populus deltoides</i>	30	Y	FAC
2.	<i>Prunus serotina</i>	20	Y	FACU
3.	<i>Tilia americana</i>	10	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		60		
Sapling/Shrub Stratum (Plot size: 5 meter radius)				
1.	<i>ROSA MULTIFLORA</i>	50	Y	FACU
2.	<i>Fraxinus pennsylvanica</i>	5	N	FACW
3.	<i>Ribes oxycanthoides</i>	5	N	NI
4.	<i>Vitis riparia</i>	5	N	FACW
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		65		
Herb Stratum (Plot size: 2 meter radius)				
1.	<i>Solidago canadensis</i>	10	Y	FACU
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		10		
Woody Vine Stratum (Plot size: 10 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
5.	--	--	--	--
4.	--	--	--	--
Total Cover =		0		
Remarks: --				

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0% (A/B)

Prevalence Index Worksheet

<u>Total % Cover of:</u>	<u>Multiply by:</u>
OBL spp. <u>0</u>	x 1 = <u>0</u>
FACW spp. <u>10</u>	x 2 = <u>20</u>
FAC spp. <u>30</u>	x 3 = <u>90</u>
FACU spp. <u>90</u>	x 4 = <u>360</u>
UPL spp. <u>5</u>	x 5 = <u>25</u>
Total <u>135</u> (A)	<u>495</u> (B)
Prevalence Index = B/A = <u>3.667</u>	

Hydrophytic Vegetation Indicators:

Yes No Rapid Test for Hydrophytic Vegetation

Yes No Dominance Test is > 50%

Yes No Prevalence Index is ≤ 3.0 *

Yes No Morphological Adaptations (Explain) *

Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. 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

Additional Remarks:
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WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Stantec

Project/Site: <u>Line 6B Phase 2 Replacement Project</u>		Stantec Project #: <u>193701660</u>	Date: <u>04/25/12</u>
Applicant: <u>Enbridge</u>		Investigator #2: <u>A. Brasch</u>	County: <u>Porter</u>
Investigator #1: <u>D. Tersteeg</u>		NWI/WWI Classification: <u>--</u>	State: <u>Indiana</u>
Soil Unit: <u>Selfridge loamy fine sand</u>	Landform: <u>--</u>	Local Relief: <u>--</u>	Wetland ID: <u>W-489z</u>
Slope (%): <u>--</u>	Latitude: <u>--</u>	Longitude: <u>--</u>	Sample Point: <u>1w</u>
Datum: <u>--</u>		Community ID: <u>FO1</u>	Section: <u>18</u>
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Township: <u>36 N</u>
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Range: <u>5</u> Dir: <u>W</u>	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?			

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Remarks: <u>--</u>	

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input checked="" type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input checked="" type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test
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Field Observations:

Surface Water Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: <u>1</u> (in.)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: <u>0</u> (in.)	
Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: <u>0</u> (in.)	

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

Remarks: --

SOILS

Map Unit Name: Selfridge loamy fine sand Series Drainage Class: somewhat poorly

Taxonomy (Subgroup): Aquic Arenic Hapludalfs Field Observations Confirm Mapped Type? Yes No

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains, Localton: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Texture (e.g. clay, sand, loam)		
			Color (Moist)	%	Color (Moist)	%	Type	Location			
<u>0</u>	<u>2</u>	<u>1</u>	<u>10YR</u>	<u>3/2</u>	<u>100</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>mucky silt loam</u>		
<u>2</u>	<u>14</u>	<u>2</u>	<u>10YR</u>	<u>4/2</u>	<u>90</u>	<u>10YR</u>	<u>4/6</u>	<u>10</u>	<u>C</u>	<u>M</u>	<u>silty clay loam</u>
<u>14</u>	<u>20</u>	<u>3</u>	<u>10YR</u>	<u>4/1</u>	<u>80</u>	<u>10YR</u>	<u>4/6</u>	<u>20</u>	<u>C</u>	<u>M</u>	<u>clay loam</u>
<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>
<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>
<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>
<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B)	<input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> F1 - Loamy Muck Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF2 - Red Parent Material <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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¹Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? Yes No

Remarks: --



WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site: **Line 6B Phase 2 Replacement Project**

Wetland ID: **W-489z** Sample Point **1w**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>Ulmus americana</i>	10	Y	FACW
2.	<i>Populus deltoides</i>	20	Y	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		30		
Sapling/Shrub Stratum (Plot size: 5 meter radius)				
1.	<i>Cephalanthus occidentalis</i>	40	Y	OBL
2.	<i>ROSA MULTIFLORA</i>	5	N	FACU
3.	<i>Fraxinus pennsylvanica</i>	20	Y	FACW
4.	<i>Tilia americana</i>	10	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		75		
Herb Stratum (Plot size: 2 meter radius)				
1.	<i>Carex lacustris</i>	40	Y	OBL
2.	<i>Ranunculus hispidus</i>	20	Y	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		60		
Woody Vine Stratum (Plot size: 10 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
5.	--	--	--	--
4.	--	--	--	--
Total Cover =		0		
Remarks: --				

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 6 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	<u>80</u>	x 1 =	<u>80</u>
FACW spp.	<u>30</u>	x 2 =	<u>60</u>
FAC spp.	<u>40</u>	x 3 =	<u>120</u>
FACU spp.	<u>15</u>	x 4 =	<u>60</u>
UPL spp.	<u>0</u>	x 5 =	<u>0</u>
Total		<u>165</u> (A)	<u>320</u> (B)
Prevalence Index = B/A =		<u>1.939</u>	

Hydrophytic Vegetation Indicators:

Yes No Rapid Test for Hydrophytic Vegetation

Yes No Dominance Test is > 50%

Yes No Prevalence Index is ≤ 3.0 *

Yes No Morphological Adaptations (Explain) *

Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. 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

Additional Remarks:

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WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Line 6B Phase 2 Replacement Project	Stantec Project #: 193701660	Date: 04/25/12
Applicant: Enbridge	Investigator #1: D. Tersteeg	County: Porter
Investigator #2: A. Brasch	NWI/WWI Classification: --	State: Indiana
Soil Unit: Haskins loam	Local Relief: convex	Wetland ID: w-490a
Landform: slope	Slope (%): 2	Sample Point: 1u
Latitude: --	Longitude: --	Community ID: upland
Datum: --	Section: 16	
Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Township: 36 N
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Range: 5 Dir: W
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		
Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> D9 - Gauge or Well Data <input type="checkbox"/> Other (Explain)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D5 - FAC-Neutral Test
---	--	---

Field Observations:

Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: na (in.)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: na (in.)	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: na (in.)	

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

Remarks:

SOILS

Map Unit Name: **Haskins loam** Series Drainage Class: **somewhat poorly**

Taxonomy (Subgroup): **Aeric Epiaqualfs** Field Observations Confirm Mapped Type? Yes No

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Texture (e.g. clay, sand, loam)	
			Color (Moist)	%	Color (Moist)	%	Type	Location		
0	14	1	10YR	2/2	100	--	--	--	--	silty loam
14	20	2	10YR	3/2	100	--	--	--	--	silty clay loam
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat	<input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> F1 - Loamy Muck Mineral <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A16 - Coast Prairie Redox <input type="checkbox"/> F12 - Iron-Manganese Masses <input type="checkbox"/> Other (Explain in Remarks)
--	---	--

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A	Depth: N/A	Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Remarks:		



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Line 6B Phase 2 Replacement Project**

Wetland ID: **w-490a**

Sample Point **1u**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>Populus tremuloides</i>	10	Y	FAC
2.	<i>Fraxinus americana</i>	20	Y	FACU
3.	<i>Acer saccharum</i>	10	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		40		
Sapling/Shrub Stratum (Plot size: 5 meter radius)				
1.	<i>Acer saccharum</i>	30	Y	FACU
2.	<i>LONICERA TATARICA</i>	10	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		40		
Herb Stratum (Plot size: 2 meter radius)				
1.	<i>Podophyllum peltatum</i>	90	Y	FACU
2.	<i>Hydrophyllum virginianum</i>	5	N	FACW
3.	<i>Parthenocissus quinquefolia</i>	5	N	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		100		
Woody Vine Stratum (Plot size: 10 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
5.	--	--	--	--
4.	--	--	--	--
Total Cover =		0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)
 Total Number of Dominant Species Across All Strata: 6 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 16.7% (A/B)

Prevalence Index Worksheet

Total % Cover of:	Multiply by:
OBL spp. <u>0</u>	x 1 = <u>0</u>
FACW spp. <u>5</u>	x 2 = <u>10</u>
FAC spp. <u>15</u>	x 3 = <u>45</u>
FACU spp. <u>160</u>	x 4 = <u>640</u>
UPL spp. <u>0</u>	x 5 = <u>0</u>
Total <u>180</u> (A)	<u>695</u> (B)
Prevalence Index = B/A = <u>3.861</u>	

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

- Tree** - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
- Sapling/Shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft. 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:

Additional Remarks:



WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Line 6B Phase 2 Replacement Project
Applicant: Enbridge
Investigator #1: D. Tersteeg
Investigator #2: A. Brasch
Date: 04/25/12
County: Porter
State: Indiana
Wetland ID: w-490a
Sample Point: 1w
Community ID: EM1
Section: 16
Township: 36 N
Range: 5 Dir: W

SUMMARY OF FINDINGS
Hydrophytic Vegetation Present? [x] Yes [] No
Wetland Hydrology Present? [x] Yes [] No
Hydric Soils Present? [x] Yes [] No
Is This Sampling Point Within A Wetland? [x] Yes [] No
Remarks: Type 3, shallow marsh dominated by cattail, phragmites, reed canary grass. Small open water pool in center. Few pockets of sandbar willow.

HYDROLOGY
Wetland Hydrology Indicators (Check here if indicators are not present): []
Primary: [] A1 - Surface Water, [x] A2 - High Water Table, [x] A3 - Saturation, [] B1 - Water Marks, [] B2 - Sediment Deposits, [] B3 - Drift Deposits, [] B4 - Algal Mat or Crust, [] B5 - Iron Deposits, [] B7 - Inundation Visible on Aerial Imagery, [] B8 - Sparsely Vegetated Concave Surface
Secondary: [] B6 - Surface Soil Cracks, [] B10 - Drainage Patterns, [] B14 - Dry-Season Water Table, [] C8 - Crayfish Burrows, [] C9 - Saturation Visible on Aerial Imagery, [] D1 - Stunted or Stressed Plants, [x] D2 - Geomorphic Position, [x] D5 - FAC-Neutral Test

Field Observations:
Surface Water Present? [] Yes [x] No Depth: na (in.)
Water Table Present? [x] Yes [] No Depth: 1 (in.)
Saturation Present? [x] Yes [] No Depth: 0 (in.)
Wetland Hydrology Present? [x] Yes [] No

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

SOILS
Map Unit Name: Pewamo silty clay loam
Series Drainage Class: very poorly
Taxonomy (Subgroup): Typic Argiaquolls
Field Observations Confirm Mapped Type? [x] Yes [] No

Profile Description table with columns: Top Depth, Bottom Depth, Horizon, Matrix (Color, %), Mottles (Color, %), Type, Location, Texture (e.g. clay, sand, loam). Rows show soil profile data at depths 0, 2, 10, 18 inches.

NRCS Hydric Soil Field Indicators (check here if indicators are not present): []
Indicators for Problematic Soils 1: [] A16 - Coast Prairie Redox, [] F12 - Iron-Manganese Masses, [] Other (Explain in Remarks)

Restrictive Layer (If Observed) Type: N/A Depth: N/A
Hydric Soil Present? [x] Yes [] No
Remarks:

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



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Line 6B Phase 2 Replacement Project**

Wetland ID: **w-490a** Sample Point **1w**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>Salix nigra</i>	10	Y	OBL
2.	<i>Fraxinus pennsylvanica</i>	5	Y	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		15		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 85.7% (A/B)

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	<i>Ulmus rubra</i>	10	Y	FAC
2.	<i>ROSA MULTIFLORA</i>	5	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		15		

Prevalence Index Worksheet

Total % Cover of:	Multiply by:	
OBL spp. <u>30</u>	x 1 =	<u>30</u>
FACW spp. <u>85</u>	x 2 =	<u>170</u>
FAC spp. <u>10</u>	x 3 =	<u>30</u>
FACU spp. <u>5</u>	x 4 =	<u>20</u>
UPL spp. <u>0</u>	x 5 =	<u>0</u>
Total <u>130</u> (A)		<u>250</u> (B)
Prevalence Index = B/A =		<u>1.923</u>

Herb Stratum (Plot size: 2 meter radius)

1.	<i>PHALARIS ARUNDINACEA</i>	30	Y	FACW
2.	<i>Phragmites australis</i>	40	Y	FACW
3.	<i>Impatiens capensis</i>	10	N	FACW
4.	<i>Iris versicolor</i>	20	Y	OBL
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		100		

Hydrophytic Vegetation Indicators:

Yes No Rapid Test for Hydrophytic Vegetation

Yes No Dominance Test is > 50%

Yes No Prevalence Index is ≤ 3.0 *

Yes No Morphological Adaptations (Explain) *

Yes No Problem Hydrophytic Vegetation (Explain) *

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

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
5.	--	--	--	--
4.	--	--	--	--
Total Cover =		0		

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. 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.

Remarks:

Hydrophytic Vegetation Present Yes No

Additional Remarks:



WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Line 6B Phase 2 Replacement Project
Applicant: Enbridge
Investigator #1: D. Tersteeg
Investigator #2: A. Brasch
Date: 04/25/12
County: Porter
State: Indiana
Wetland ID: w-491a
Sample Point: 1u
Community ID: upland
Section: 9
Township: 36 N
Range: 5 Dir: W

SUMMARY OF FINDINGS
Hydrophytic Vegetation Present? [x] Yes [] No
Wetland Hydrology Present? [] Yes [x] No
Hydric Soils Present? [] Yes [x] No
Is This Sampling Point Within A Wetland? [x] Yes [] No

HYDROLOGY
Wetland Hydrology Indicators (Check here if indicators are not present): [x]
Primary: [] A1 - Surface Water, [] A2 - High Water Table, [] A3 - Saturation, [] B1 - Water Marks, [] B2 - Sediment Deposits, [] B3 - Drift Deposits, [] B4 - Algal Mat or Crust, [] B5 - Iron Deposits, [] B7 - Inundation Visible on Aerial Imagery, [] B8 - Sparsely Vegetated Concave Surface
Secondary: [] B6 - Surface Soil Cracks, [] B10 - Drainage Patterns, [] B14 - True Aquatic Plants, [] C1 - Hydrogen Sulfide Odor, [] C3 - Oxidized Rhizospheres on Living Roots, [] C4 - Presence of Reduced Iron, [] C6 - Recent Iron Reduction in Tilled Soils, [] C7 - Thin Muck Surface, [] D9 - Gauge or Well Data, [] Other (Explain)

Field Observations:
Surface Water Present? [] Yes [x] No Depth: na (in.)
Water Table Present? [] Yes [x] No Depth: na (in.)
Saturation Present? [] Yes [x] No Depth: na (in.)
Wetland Hydrology Present? [] Yes [x] No

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

SOILS
Map Unit Name: Washtenaw silt loam
Series Drainage Class: very poorly
Taxonomy (Subgroup): Aerlic Fluvaquents
Field Observations Confirm Mapped Type? [] Yes [x] No

Profile Description table with columns: Top Depth, Bottom Depth, Horizon, Matrix (Color (Moist), %), Mottles (Color (Moist), %), Type, Location, Texture (e.g. clay, sand, loam)

NRCS Hydric Soil Field Indicators (check here if indicators are not present): [x]
Indicators for Problematic Soils 1
[] A1 - Histosol, [] A2 - Histic Epipedon, [] A3 - Black Histic, [] A4 - Hydrogen Sulfide, [] A5 - Stratified Layers, [] A10 - 2 cm Muck, [] A11 - Depleted Below Dark Surface, [] A12 - Thick Dark Surface, [] S1 - Sandy Muck Mineral, [] S3 - 5 cm Mucky Peat or Peat, [] S4 - Sandy Gleyed Matrix, [] S5 - Sandy Redox, [] S6 - Stripped Matrix, [] F1 - Loamy Muck Mineral, [] F2 - Loamy Gleyed Matrix, [] F3 - Depleted Matrix, [] F6 - Redox Dark Surface, [] F7 - Depleted Dark Surface, [] F8 - Redox Depressions, [] A16 - Coast Prairie Redox, [] F12 - Iron-Manganese Masses, [] Other (Explain in Remarks)

Restrictive Layer (If Observed) Type: N/A Depth: N/A
Hydric Soil Present? [] Yes [x] No
Remarks:

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



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Line 6B Phase 2 Replacement Project**

Wetland ID: **w-491a**

Sample Point **1u**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Sapling/Shrub Stratum (Plot size: 5 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Herb Stratum (Plot size: 2 meter radius)				
1.	POA PRATENSIS	90	Y	FAC
2.	TARAXACUM OFFICINALE	10	N	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		100		
Woody Vine Stratum (Plot size: 10 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
5.	--	--	--	--
4.	--	--	--	--
Total Cover =		0		

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: 100.0% (A/B)

Prevalence Index Worksheet

Total % Cover of:	Multiply by:
OBL spp. <u>0</u>	x 1 = <u>0</u>
FACW spp. <u>0</u>	x 2 = <u>0</u>
FAC spp. <u>90</u>	x 3 = <u>270</u>
FACU spp. <u>10</u>	x 4 = <u>40</u>
UPL spp. <u>0</u>	x 5 = <u>0</u>
Total <u>100</u> (A)	<u>310</u> (B)
Prevalence Index = B/A = <u>3.100</u>	

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. 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:

Additional Remarks:



WETLAND DETERMINATION DATA FORM Midwest Region

Stantec

Project/Site: Line 6B Phase 2 Replacement Project	Stantec Project #: 193701660	Date: 04/25/12
Applicant: Enbridge	Investigator #2: A. Brasch	County: Porter
Investigator #1: Tersteeg	NWI/WWI Classification: PEMA	State: Indiana
Soil Unit: Washtenaw silt loam	Local Relief: concave	Wetland ID: w-491a
Landform: depression	Slope (%): 0 Latitude: -- Longitude: -- Datum: --	Sample Point: 1w
Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input type="checkbox"/> No		Community ID: EM2
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Section: 9
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Township: 36 N
		Range: 5 Dir: W

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks: **Reed canary grass, jewelweed wetland meadow (Type 2) with forested fringe. No surface water, drained by drainage ditch.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> D9 - Gauge or Well Data <input type="checkbox"/> Other (Explain)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input checked="" type="checkbox"/> D5 - FAC-Neutral Test
---	--	---

Field Observations:

Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: na (in.)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 10 (in.)	
Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 2 (in.)	

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

Remarks:

SOILS

Map Unit Name: **Washtenaw silt loam** Series Drainage Class: **very poorly**

Taxonomy (Subgroup): **Aeric Fluvaquents** Field Observations Confirm Mapped Type? Yes No

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Texture (e.g. clay, sand, loam)		
			Color (Moist)	%	Color (Moist)	%	Type	Location			
0	16	1	10YR	3/2	80	10YR	4/6	20	C	M	silty loam
16	20	2	10YR	4/2	80	10YR	4/6	20	C	M	silty clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat	<input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> F1 - Loamy Muck Mineral <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input checked="" type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A16 - Coast Prairie Redox <input type="checkbox"/> F12 - Iron-Manganese Masses <input type="checkbox"/> Other (Explain in Remarks)
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Remarks:	



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Line 6B Phase 2 Replacement Project**

Wetland ID: **w-491a** Sample Point **1w**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>Acer negundo</i>	10	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		10		
Sapling/Shrub Stratum (Plot size: 5 meter radius)				
1.	<i>Lindera benzoin</i>	10	Y	FACW
2.	<i>Sambucus canadensis</i>	5	Y	FACW
3.	<i>Ribes cynosbati</i>	5	Y	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		20		
Herb Stratum (Plot size: 2 meter radius)				
1.	<i>Impatiens capensis</i>	60	Y	FACW
2.	<i>PHALARIS ARUNDINACEA</i>	40	Y	FACW
3.	<i>Galium aparine</i>	20	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		120		
Woody Vine Stratum (Plot size: 10 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
5.	--	--	--	--
4.	--	--	--	--
Total Cover =		0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 85.7% (A/B)

Prevalence Index Worksheet

Total % Cover of:	Multiply by:
OBL spp. <u>0</u>	x 1 = <u>0</u>
FACW spp. <u>125</u>	x 2 = <u>250</u>
FAC spp. <u>5</u>	x 3 = <u>15</u>
FACU spp. <u>20</u>	x 4 = <u>80</u>
UPL spp. <u>0</u>	x 5 = <u>0</u>
Total <u>150</u> (A)	<u>345</u> (B)
Prevalence Index = B/A = <u>2.300</u>	

Hydrophytic Vegetation Indicators:

Yes No Rapid Test for Hydrophytic Vegetation

Yes No Dominance Test is > 50%

Yes No Prevalence Index is ≤ 3.0 *

Yes No Morphological Adaptations (Explain) *

Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. 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:

Additional Remarks:



WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Line 6B Phase 2 Replacement Project
Stantec Project #: 193701660
Date: 04/25/12
Applicant: Enbridge
County: Porter
Investigator #1: D. Tersteeg
Investigator #2: A. Brasch
State: Indiana
Soil Unit: Riddles Loam
NW/WWI Classification: --
Wetland ID: w-491b
Landform: slope
Local Relief: none
Sample Point: 1u
Slope (%): 2
Latitude: --
Longitude: --
Datum: --
Community ID: upland
Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) [x] Yes [] No
Section: 10
Are Vegetation [], Soil [], or Hydrology [] significantly disturbed?
Are normal circumstances present?
Are Vegetation [], Soil [], or Hydrology [] naturally problematic? [x] Yes [] No
Township: 36 N
Range: 5 Dir: W

SUMMARY OF FINDINGS
Hydrophytic Vegetation Present? [] Yes [x] No
Wetland Hydrology Present? [] Yes [x] No
Hydic Soils Present? [] Yes [x] No
Is This Sampling Point Within A Wetland? [x] Yes [] No
Remarks:

HYDROLOGY
Wetland Hydrology Indicators (Check here if indicators are not present): [x]
Primary:
[] A1 - Surface Water
[] A2 - High Water Table
[] A3 - Saturation
[] B1 - Water Marks
[] B2 - Sediment Deposits
[] B3 - Drift Deposits
[] B4 - Algal Mat or Crust
[] B5 - Iron Deposits
[] B7 - Inundation Visible on Aerial Imagery
[] B8 - Sparsely Vegetated Concave Surface
Secondary:
[] B6 - Surface Soil Cracks
[] B10 - Drainage Patterns
[] C2 - Dry-Season Water Table
[] C8 - Crayfish Burrows
[] C9 - Saturation Visible on Aerial Imagery
[] D1 - Stunted or Stressed Plants
[] D2 - Geomorphic Position
[] D5 - FAC-Neutral Test
[] B9 - Water-Stained Leaves
[] B13 - Aquatic Fauna
[] B14 - True Aquatic Plants
[] C1 - Hydrogen Sulfide Odor
[] C3 - Oxidized Rhizospheres on Living Roots
[] C4 - Presence of Reduced Iron
[] C6 - Recent Iron Reduction in Tilled Soils
[] C7 - Thin Muck Surface
[] D9 - Gauge or Well Data
[] Other (Explain)

Field Observations:
Surface Water Present? [] Yes [x] No Depth: na (in.)
Water Table Present? [] Yes [x] No Depth: na (in.)
Saturation Present? [] Yes [x] No Depth: na (in.)
Wetland Hydrology Present? [] Yes [x] No

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

SOILS
Map Unit Name: Riddles Loam
Series Drainage Class: well

Taxonomy (Subgroup): Typic Hapludalfs
Field Observations Confirm Mapped Type? [] Yes [x] No

Profile Description table with columns: Top Depth, Bottom Depth, Horizon, Matrix (Color, %), Mottles (Color, %, Type, Location), Texture (e.g. clay, sand, loam). Rows show soil profile data from 0 to 18 inches depth.

NRCS Hydic Soil Field Indicators (check here if indicators are not present): [x]
Indicators for Problematic Soils 1
[] A1 - Histosol
[] A2 - Histic Epipedon
[] A3 - Black Histic
[] A4 - Hydrogen Sulfide
[] A5 - Stratified Layers
[] A10 - 2 cm Muck
[] A11 - Depleted Below Dark Surface
[] A12 - Thick Dark Surface
[] S1 - Sandy Muck Mineral
[] S3 - 5 cm Mucky Peat or Peat
[] S4 - Sandy Gleyed Matrix
[] S5 - Sandy Redox
[] S6 - Stripped Matrix
[] F1 - Loamy Muck Mineral
[] F2 - Loamy Gleyed Matrix
[] F3 - Depleted Matrix
[] F6 - Redox Dark Surface
[] F7 - Depleted Dark Surface
[] F8 - Redox Depressions
[] A16 - Coast Prairie Redox
[] F12 - Iron-Manganese Masses
[] Other (Explain in Remarks)

Restrictive Layer (If Observed) Type: N/A Depth: N/A
Hydic Soil Present? [] Yes [x] No

Remarks:

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



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Line 6B Phase 2 Replacement Project**

Wetland ID: **w-491b**

Sample Point **1u**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: **33.3%** (A/B)

Sapling/Shrub Stratum (Plot size: 5 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		

Prevalence Index Worksheet

Total % Cover of:	Multiply by:
OBL spp. <u>0</u>	x 1 = <u>0</u>
FACW spp. <u>25</u>	x 2 = <u>50</u>
FAC spp. <u>0</u>	x 3 = <u>0</u>
FACU spp. <u>90</u>	x 4 = <u>360</u>
UPL spp. <u>0</u>	x 5 = <u>0</u>
Total <u>115</u> (A)	<u>410</u> (B)
Prevalence Index = B/A = 3.565	

Herb Stratum (Plot size: 2 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>DACTYLIS GLOMERATA</i>	70	Y	FACU
2.	<i>TARAXACUM OFFICINALE</i>	20	Y	FACU
3.	<i>Mentha arvensis</i>	5	N	FACW
4.	<i>Heracleum lanatum</i>	20	Y	FACW
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		115		

Hydrophytic Vegetation Indicators:

Yes No Rapid Test for Hydrophytic Vegetation

Yes No Dominance Test is > 50%

Yes No Prevalence Index is ≤ 3.0 *

Yes No Morphological Adaptations (Explain) *

Yes No Problem Hydrophytic Vegetation (Explain) *

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

Woody Vine Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
5.	--	--	--	--
4.	--	--	--	--
Total Cover =		0		

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. 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:

Additional Remarks:



WETLAND DETERMINATION DATA FORM Midwest Region

Stantec

Project/Site: Line 6B Phase 2 Replacement Project	Stantec Project #: 193701660	Date: 04/25/12
Applicant: Enbridge	Investigator #1: D. Tersteeg	County: Porter
Investigator #2: A. Brasch	NWI/WWI Classification: --	State: Indiana
Soil Unit: Washtenaw silt loam	Local Relief: concave	Wetland ID: W-491b
Landform: depression	Slope (%): -- Latitude: -- Longitude: -- Datum: --	Sample Point: 1w
Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Community ID: EM1
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Section: 10
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Township: 36 N
		Range: 5 Dir: W

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks: **Type 3 shallow marsh dominated by invasive common reed and reed canary grass, and cattail. Line of sandbar & black willow shrubs along road edge.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input checked="" type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> D9 - Gauge or Well Data <input type="checkbox"/> Other (Explain)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input checked="" type="checkbox"/> D5 - FAC-Neutral Test
---	---	---

Field Observations:	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: n/a (in.)	
Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 12 (in.)	
Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 2 (in.)	

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

Remarks: **--**

SOILS

Map Unit Name: **Washtenaw silt loam** Series Drainage Class: **poorly**

Taxonomy (Subgroup): **Aeric Fluvaquents** Field Observations Confirm Mapped Type? Yes No

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Type	Location	Texture (e.g. clay, sand, loam)
			Color (Moist)	%	Color (Moist)	%	Location				
0	2	1	10YR	3/1	90	10YR	3/6	10	C	M / PL	silt loam
2	14	2	10YR	4/2	80	10YR	4/6	20	C	M / PL	silt loam
14	18	3	10YR	4/2	70	10YR	4/6	30	C	M	silty clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat	<input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> F1 - Loamy Muck Mineral <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A16 - Coast Prairie Redox <input type="checkbox"/> F12 - Iron-Manganese Masses <input type="checkbox"/> Other (Explain in Remarks)
--	--	--

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Remarks: --	



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Line 6B Phase 2 Replacement Project**

Wetland ID: **W-491b** Sample Point **1w**

VEGETATION (Species identified in all uppercase are non-native species.)				
Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Sapling/Shrub Stratum (Plot size: 5 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Herb Stratum (Plot size: 2 meter radius)				
1.	<i>TYPHA ANGUSTIFOLIA</i>	70	Y	OBL
2.	<i>Phragmites australis</i>	20	N	FACW
3.	<i>PHALARIS ARUNDINACEA</i>	10	N	FACW
4.	<i>Alisma subcordatum</i>	5	N	OBL
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		105		
Woody Vine Stratum (Plot size: 10 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
5.	--	--	--	--
4.	--	--	--	--
Total Cover =		0		
Remarks: --				

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: 100.0% (A/B)

Prevalence Index Worksheet

Total % Cover of:	Multiply by:
OBL spp. <u>75</u>	x 1 = <u>75</u>
FACW spp. <u>30</u>	x 2 = <u>60</u>
FAC spp. <u>0</u>	x 3 = <u>0</u>
FACU spp. <u>0</u>	x 4 = <u>0</u>
UPL spp. <u>0</u>	x 5 = <u>0</u>
 Total <u>105</u> (A)	 <u>135</u> (B)
Prevalence Index = B/A = <u>1.286</u>	

Hydrophytic Vegetation Indicators:

Yes No Rapid Test for Hydrophytic Vegetation

Yes No Dominance Test is > 50%

Yes No Prevalence Index is ≤ 3.0 *

Yes No Morphological Adaptations (Explain) *

Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. 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

Additional Remarks:



WETLAND DETERMINATION DATA FORM Midwest Region

Stantec

Project/Site: Line 6B Phase 2 Replacement Project	Stantec Project #: 193701660	Date: 04/26/12
Applicant: Enbridge	Investigator #1: D. Tersteeg	Investigator #2: A. Brasch
Soil Unit: Riddles Loam	NWI/WWI Classification: --	Wetland ID: w-492a
Landform: slope	Local Relief: none	Sample Point: 1u
Slope (%): 3	Latitude: --	Longitude: --
	Datum: --	Community ID: upland
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Section: 10
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Township: 36 N
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Range: 5 Dir: W

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

Primary:	Secondary:
<input type="checkbox"/> A1 - Surface Water	<input type="checkbox"/> B6 - Surface Soil Cracks
<input type="checkbox"/> A2 - High Water Table	<input type="checkbox"/> B10 - Drainage Patterns
<input type="checkbox"/> A3 - Saturation	<input type="checkbox"/> B13 - Aquatic Fauna
<input type="checkbox"/> B1 - Water Marks	<input type="checkbox"/> B14 - True Aquatic Plants
<input type="checkbox"/> B2 - Sediment Deposits	<input type="checkbox"/> C1 - Hydrogen Sulfide Odor
<input type="checkbox"/> B3 - Drift Deposits	<input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots
<input type="checkbox"/> B4 - Algal Mat or Crust	<input type="checkbox"/> C4 - Presence of Reduced Iron
<input type="checkbox"/> B5 - Iron Deposits	<input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils
<input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery	<input type="checkbox"/> C7 - Thin Muck Surface
<input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface	<input type="checkbox"/> D9 - Gauge or Well Data
	<input type="checkbox"/> D5 - FAC-Neutral Test
	<input type="checkbox"/> Other (Explain)

Field Observations:

Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: na (in.)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: na (in.)	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: na (in.)	

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

Remarks:

SOILS

Map Unit Name: **Riddles loam** Series Drainage Class: **well**

Taxonomy (Subgroup): **Typic Hapludalfs** Field Observations Confirm Mapped Type? Yes No

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Texture (e.g. clay, sand, loam)		
			Color (Moist)	%	Color (Moist)	%	Type	Location			
0	12	1	10YR	3/3	100	--	--	--	--	sandy loam	
12	18	2	10YR	4/2	90	10YR	4/6	10	C	M	sandy clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> A1 - Histosol	<input type="checkbox"/> S4 - Sandy Gleyed Matrix	<input type="checkbox"/> A16 - Coast Prairie Redox
<input type="checkbox"/> A2 - Histic Epipedon	<input type="checkbox"/> S5 - Sandy Redox	<input type="checkbox"/> F12 - Iron-Manganese Masses
<input type="checkbox"/> A3 - Black Histic	<input type="checkbox"/> S6 - Stripped Matrix	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> A4 - Hydrogen Sulfide	<input type="checkbox"/> F1 - Loamy Muck Mineral	
<input type="checkbox"/> A5 - Stratified Layers	<input type="checkbox"/> F2 - Loamy Gleyed Matrix	
<input type="checkbox"/> A10 - 2 cm Muck	<input type="checkbox"/> F3 - Depleted Matrix	
<input type="checkbox"/> A11 - Depleted Below Dark Surface	<input type="checkbox"/> F6 - Redox Dark Surface	
<input type="checkbox"/> A12 - Thick Dark Surface	<input type="checkbox"/> F7 - Depleted Dark Surface	
<input type="checkbox"/> S1 - Sandy Muck Mineral	<input type="checkbox"/> F8 - Redox Depressions	
<input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat		

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: **N/A** Depth: **N/A**

Hydric Soil Present? Yes No

Remarks:



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Line 6B Phase 2 Replacement Project**

Wetland ID: **w-492a**

Sample Point **1u**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>N</u>	<u>Ind. Status</u>
1.	<i>Acer saccharum</i>	70	Y	FACU
2.	<i>Quercus velutina</i>	10	N	FACU
3.	<i>Quercus bicolor</i>	10	N	FACW
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		90		
10				
1.	<i>ROSA MULTIFLORA</i>	10	Y	FACU
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		10		
Herb Stratum (Plot size: 2 meter radius)				
1.	<i>Cyperus esculentus</i>	5	N	FACW
2.	<i>Cardamine concatenata</i>	5	N	FACU
3.	<i>Solidago canadensis</i>	10	Y	FACU
4.	<i>Acer saccharum</i>	20	Y	FACU
5.	<i>Viola sororia</i>	5	N	FAC
6.	<i>TARAXACUM OFFICINALE</i>	10	Y	FACU
7.	<i>Toxicodendron radicans subsp. negunc</i>	5	N	FAC
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		60		
Woody Vine Stratum (Plot size: 10 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
5.	--	--	--	--
4.	--	--	--	--
Total Cover =		0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FACU: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FACU: 0.0% (A/B)

Prevalence Index Worksheet

Total % Cover of:	Multiply by:
OBL spp. <u>0</u>	x 1 = <u>0</u>
FACW spp. <u>15</u>	x 2 = <u>30</u>
FAC spp. <u>10</u>	x 3 = <u>30</u>
FACU spp. <u>135</u>	x 4 = <u>540</u>
UPL spp. <u>0</u>	x 5 = <u>0</u>
Total <u>160</u> (A)	<u>600</u> (B)
Prevalence Index = B/A = <u>3.750</u>	

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. 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:

Additional Remarks:



WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Line 6B Phase 2 Replacement Project	Stantec Project #: 193701660	Date: 04/26/12
Applicant: Enbridge	Investigator #1: D. Tersteeg	County: Porter
Investigator #2: A. Brasch	NWI/WWI Classification: PEMA	State: Indiana
Soil Unit: Riddles loam	Local Relief: concave	Wetland ID: w-492a
Landform: depression	Slope (%): 0	Sample Point: 1w
Latitude: --	Longitude: --	Community ID: EM1
Datum: --	Section: 10	
Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Township: 36 N
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Range: 5 Dir: W
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks: **Type 3/7, shallow marsh dominated by lake sedge, cattail, phragmites, skunk cabbage. Pockets of spicebush, buttonbush, and forested fringe of green ash, black willow.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p>Primary:</p> <input checked="" type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface	<p>Secondary:</p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> D9 - Gauge or Well Data <input type="checkbox"/> Other (Explain)	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input checked="" type="checkbox"/> D5 - FAC-Neutral Test
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<p>Field Observations:</p> Surface Water Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 1 (in.) Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 0 (in.) Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 0 (in.)	<p>Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
--	--

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

Remarks:

SOILS

Map Unit Name: **Riddles loam** Series Drainage Class: **well**

Taxonomy (Subgroup): **Typic Hapludalfs** Field Observations Confirm Mapped Type? Yes No

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles				Texture (e.g. clay, sand, loam)
			Color (Moist)	%	Color (Moist)	%	Type	Location		
0	10	1	gley1	2.5/N	100	--	--	--	--	mucky silty loam
10	18	2	gley1	4/N	100	--	--	--	--	silty loam
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat	<input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> F1 - Loamy Muck Mineral <input checked="" type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	Indicators for Problematic Soils¹ <input type="checkbox"/> A16 - Coast Prairie Redox <input type="checkbox"/> F12 - Iron-Manganese Masses <input type="checkbox"/> Other (Explain in Remarks)
--	---	--

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A	Depth: N/A	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
--	-------------------	---

Remarks:



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Line 6B Phase 2 Replacement Project**

Wetland ID: **w-492a** Sample Point **1w**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>Acer saccharum</i>	20	Y	FACU
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		20		
Sapling/Shrub Stratum (Plot size: 5 meter radius)				
1.	<i>Lindera benzoin</i>	20	Y	FACW
2.	<i>Cephalanthus occidentalis</i>	5	Y	OBL
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		25		
Herb Stratum (Plot size: 2 meter radius)				
1.	<i>Impatiens capensis</i>	60	Y	FACW
2.	<i>Symplocarpus foetidus</i>	40	Y	OBL
3.	<i>Carex tribuloides</i>	5	N	FACW
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		105		
Woody Vine Stratum (Plot size: 10 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
5.	--	--	--	--
4.	--	--	--	--
Total Cover =		0		

Dominance Test Worksheet

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 80.0% (A/B)

Prevalence Index Worksheet

Total % Cover of:	Multiply by:
OBL spp. <u>45</u>	x 1 = <u>45</u>
FACW spp. <u>85</u>	x 2 = <u>170</u>
FAC spp. <u>0</u>	x 3 = <u>0</u>
FACU spp. <u>20</u>	x 4 = <u>80</u>
UPL spp. <u>0</u>	x 5 = <u>0</u>
Total <u>150</u> (A)	<u>295</u> (B)
Prevalence Index = B/A = <u>1.967</u>	

Hydrophytic Vegetation Indicators:

Yes No Rapid Test for Hydrophytic Vegetation

Yes No Dominance Test is > 50%

Yes No Prevalence Index is ≤ 3.0 *

Yes No Morphological Adaptations (Explain) *

Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. 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:

Additional Remarks:



WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Line 6B Phase 2 Replacement Project
Applicant: Enbridge
Investigator #1: D. Tersteeg
Investigator #2: A. Brasch
Date: 04/26/12
County: Porter
State: Indiana
Soil Unit: Warners silt loam
Landform: slope
Slope (%): 2
Latitude: --
Longitude: --
Datum: --
Wetland ID: w-492a
Sample Point: 2u
Community ID: upland
Section: 10
Township: 36 N
Range: 5 Dir: W

SUMMARY OF FINDINGS
Hydrophytic Vegetation Present?
Wetland Hydrology Present?
Hydric Soils Present?
Is This Sampling Point Within A Wetland?
Remarks:

HYDROLOGY
Wetland Hydrology Indicators (Check here if indicators are not present):
Primary:
Secondary:

Field Observations:
Surface Water Present?
Water Table Present?
Saturation Present?
Wetland Hydrology Present?

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

SOILS
Map Unit Name: Warners silt loam
Series Drainage Class: very poorly
Taxonomy (Subgroup): Fluvaquent Endoaquolls
Field Observations Confirm Mapped Type?
Profile Description table with columns: Top Depth, Bottom Depth, Horizon, Matrix (Color, %), Mottles (Color, %), Type, Location, Texture

NRCS Hydric Soil Field Indicators (check here if indicators are not present):
Indicators for Problematic Soils

Restrictive Layer (If Observed)
Type: N/A
Depth: N/A
Hydric Soil Present?
Remarks:

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



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Line 6B Phase 2 Replacement Project**

Wetland ID: **w-492a** Sample Point **2u**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>Ulmus americana</i>	30	Y	FACW
2.	<i>Quercus velutina</i>	10	Y	FACU
3.	<i>Prunus serotina</i>	5	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		45		
Sapling/Shrub Stratum (Plot size: 5 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Herb Stratum (Plot size: 2 meter radius)				
1.	<i>Allium canadense</i>	20	Y	FACU
2.	<i>Smilacina racemosa</i>	10	Y	FACU
3.	<i>Cyperus esculentus</i>	10	Y	FACW
4.	<i>Viola sororia</i>	15	Y	FAC
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		55		
Woody Vine Stratum (Plot size: 10 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
Total Cover =		0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FACU: 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FACU: 50.0% (A/B)

Prevalence Index Worksheet

Total % Cover of:	Multiply by:
OBL spp. <u>0</u>	x 1 = <u>0</u>
FACW spp. <u>40</u>	x 2 = <u>80</u>
FAC spp. <u>15</u>	x 3 = <u>45</u>
FACU spp. <u>45</u>	x 4 = <u>180</u>
UPL spp. <u>0</u>	x 5 = <u>0</u>
Total <u>100</u> (A)	<u>305</u> (B)
Prevalence Index = B/A = <u>3.050</u>	

Hydrophytic Vegetation Indicators:

Yes No Rapid Test for Hydrophytic Vegetation

Yes No Dominance Test is > 50%

Yes No Prevalence Index is ≤ 3.0 *

Yes No Morphological Adaptations (Explain) *

Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. 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:

Additional Remarks:



WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Line 6B Phase 2 Replacement Project
Applicant: Enbridge
Investigator #1: D. Tersteeg
Investigator #2: A. Brasch
Date: 04/26/12
County: Porter
State: Indiana
Soil Unit: Houghton muck
Landform: slope
Slope (%): 2
Latitude: --
Longitude: --
Datum: --
NW/WWI Classification: --
Wetland ID: w-492b
Sample Point: 1u
Community ID: upland
Section: 10
Township: 36 N
Range: 5 Dir: W

SUMMARY OF FINDINGS
Hydrophytic Vegetation Present? [] Yes [x] No
Wetland Hydrology Present? [] Yes [x] No
Hydic Soils Present? [] Yes [x] No
Is This Sampling Point Within A Wetland? [x] Yes [] No
Remarks:

HYDROLOGY
Wetland Hydrology Indicators (Check here if indicators are not present): [x]
Primary:
[] A1 - Surface Water
[] A2 - High Water Table
[] A3 - Saturation
[] B1 - Water Marks
[] B2 - Sediment Deposits
[] B3 - Drift Deposits
[] B4 - Algal Mat or Crust
[] B5 - Iron Deposits
[] B7 - Inundation Visible on Aerial Imagery
[] B8 - Sparsely Vegetated Concave Surface
Secondary:
[] B6 - Surface Soil Cracks
[] B10 - Drainage Patterns
[] C2 - Dry-Season Water Table
[] C8 - Crayfish Burrows
[] C9 - Saturation Visible on Aerial Imagery
[] D1 - Stunted or Stressed Plants
[] D2 - Geomorphic Position
[] D5 - FAC-Neutral Test
[] B9 - Water-Stained Leaves
[] B13 - Aquatic Fauna
[] B14 - True Aquatic Plants
[] C1 - Hydrogen Sulfide Odor
[] C3 - Oxidized Rhizospheres on Living Roots
[] C4 - Presence of Reduced Iron
[] C6 - Recent Iron Reduction in Tilled Soils
[] C7 - Thin Muck Surface
[] D9 - Gauge or Well Data
[] Other (Explain)

Field Observations:
Surface Water Present? [] Yes [x] No Depth: na (in.)
Water Table Present? [] Yes [x] No Depth: na (in.)
Saturation Present? [] Yes [x] No Depth: na (in.)
Wetland Hydrology Present? [] Yes [x] No

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

SOILS
Map Unit Name: Houghton muck
Series Drainage Class: very poorly
Taxonomy (Subgroup): Typic Medisaprists
Field Observations Confirm Mapped Type? [] Yes [x] No

Profile Description table with columns: Top Depth, Bottom Depth, Horizon, Matrix (Color, %), Mottles (Color, %), Type, Location, Texture (e.g. clay, sand, loam). Rows show soil profile data from 0 to 10 inches depth.

NRCS Hydic Soil Field Indicators (check here if indicators are not present): [x]
Indicators for Problematic Soils 1
[] A1 - Histosol
[] A2 - Histic Epipedon
[] A3 - Black Histic
[] A4 - Hydrogen Sulfide
[] A5 - Stratified Layers
[] A10 - 2 cm Muck
[] A11 - Depleted Below Dark Surface
[] A12 - Thick Dark Surface
[] S1 - Sandy Muck Mineral
[] S3 - 5 cm Mucky Peat or Peat
[] S4 - Sandy Gleyed Matrix
[] S5 - Sandy Redox
[] S6 - Stripped Matrix
[] F1 - Loamy Muck Mineral
[] F2 - Loamy Gleyed Matrix
[] F3 - Depleted Matrix
[] F6 - Redox Dark Surface
[] F7 - Depleted Dark Surface
[] F8 - Redox Depressions
[] A16 - Coast Prairie Redox
[] F12 - Iron-Manganese Masses
[] Other (Explain in Remarks)

Restrictive Layer (If Observed) Type: N/A Depth: N/A
Hydic Soil Present? [] Yes [x] No
Remarks:

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



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Line 6B Phase 2 Replacement Project**

Wetland ID: **w-492b**

Sample Point **1u**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>Acer saccharum</i>	70	Y	FACU
2.	<i>Quercus alba</i>	20	Y	FACU
3.	<i>Acer saccharinum</i>	10	N	FACW
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		100		
Sapling/Shrub Stratum (Plot size: 5 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Herb Stratum (Plot size: 2 meter radius)				
1.	<i>Sanguinaria canadensis</i>	5	N	FACU
2.	<i>Trillium recurvatum</i>	60	Y	FACU
3.	<i>Thalictrum dasycarpum</i>	30	Y	FACW
4.	<i>Smilacina racemosa</i>	5	N	FACU
5.	<i>Pteridium aquilinum</i>	5	N	FACU
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		105		
Woody Vine Stratum (Plot size: 10 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
Total Cover =		0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FACU: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FACU: 25.0% (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	<u>0</u>	x 1 =	<u>0</u>
FACW spp.	<u>40</u>	x 2 =	<u>80</u>
FAC spp.	<u>0</u>	x 3 =	<u>0</u>
FACU spp.	<u>165</u>	x 4 =	<u>660</u>
UPL spp.	<u>0</u>	x 5 =	<u>0</u>
Total		<u>205</u> (A)	<u>740</u> (B)
Prevalence Index = B/A =		<u>3.610</u>	

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. 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:

Additional Remarks:



WETLAND DETERMINATION DATA FORM Midwest Region

Stantec

Project/Site: Line 6B Phase 2 Replacement Project	Stantec Project #: 193701660	Date: 04/26/12
Applicant: Enbridge	Investigator #1: D. Tersteeg	Investigator #2: A. Brasch
Soil Unit: Houghton muck	NWI/WWI Classification: PUBG	Wetland ID: w-492b
Landform: depression	Local Relief: concave	Sample Point: 1w
Slope (%): 0	Latitude: --	Longitude: --
Datum: --		Community ID: FO1
Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Section: 10
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Township: 36 N
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Range: 5 Dir: W

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No **Is This Sampling Point Within A Wetland? Yes No**

Remarks: **Type 2/6 wet meadow, reed canary grass, carex, surrounded by shrub scurb fringe of buttonbush and black willow.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

Primary:	<input type="checkbox"/> A1 - Surface Water	<input type="checkbox"/> B9 - Water-Stained Leaves	Secondary:
<input checked="" type="checkbox"/> A2 - High Water Table	<input type="checkbox"/> A3 - Saturation	<input type="checkbox"/> B13 - Aquatic Fauna	<input type="checkbox"/> B6 - Surface Soil Cracks
<input type="checkbox"/> B1 - Water Marks	<input type="checkbox"/> B2 - Sediment Deposits	<input type="checkbox"/> B14 - True Aquatic Plants	<input type="checkbox"/> B10 - Drainage Patterns
<input type="checkbox"/> B3 - Drift Deposits	<input type="checkbox"/> B4 - Algal Mat or Crust	<input type="checkbox"/> C1 - Hydrogen Sulfide Odor	<input type="checkbox"/> C2 - Dry-Season Water Table
<input type="checkbox"/> B5 - Iron Deposits	<input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery	<input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots	<input type="checkbox"/> C8 - Crayfish Burrows
<input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface	<input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface	<input type="checkbox"/> C4 - Presence of Reduced Iron	<input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery
		<input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils	<input type="checkbox"/> D1 - Stunted or Stressed Plants
		<input type="checkbox"/> C7 - Thin Muck Surface	<input checked="" type="checkbox"/> D2 - Geomorphic Position
		<input type="checkbox"/> D9 - Gauge or Well Data	<input checked="" type="checkbox"/> D5 - FAC-Neutral Test
		<input type="checkbox"/> Other (Explain)	

Field Observations:

Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: na (in.)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 10 (in.)	
Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 2 (in.)	

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

Remarks:

SOILS

Map Unit Name: **Houghton muck** Series Drainage Class: **very poorly**

Taxonomy (Subgroup): **Typic Medisaprists** Field Observations Confirm Mapped Type? Yes No

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Texture (e.g. clay, sand, loam)		
			Color (Moist)	%	Color (Moist)	%	Type	Location			
0	4	1	10YR	3/1	100	--	--	--	--	silty clay loam	
4	12	2	10YR	4/2	90	10YR	4/6	10	C	M	silty clay loam
12	18	3	10YR	4/1	80	10YR	4/6	20	C	M	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> A1 - Histosol	<input type="checkbox"/> S4 - Sandy Gleyed Matrix	<input type="checkbox"/> A16 - Coast Prairie Redox
<input type="checkbox"/> A2 - Histic Epipedon	<input type="checkbox"/> S5 - Sandy Redox	<input type="checkbox"/> F12 - Iron-Manganese Masses
<input type="checkbox"/> A3 - Black Histic	<input type="checkbox"/> S6 - Stripped Matrix	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> A4 - Hydrogen Sulfide	<input type="checkbox"/> F1 - Loamy Muck Mineral	
<input type="checkbox"/> A5 - Stratified Layers	<input type="checkbox"/> F2 - Loamy Gleyed Matrix	
<input type="checkbox"/> A10 - 2 cm Muck	<input checked="" type="checkbox"/> F3 - Depleted Matrix	
<input type="checkbox"/> A11 - Depleted Below Dark Surface	<input type="checkbox"/> F6 - Redox Dark Surface	
<input type="checkbox"/> A12 - Thick Dark Surface	<input type="checkbox"/> F7 - Depleted Dark Surface	
<input type="checkbox"/> S1 - Sandy Muck Mineral	<input type="checkbox"/> F8 - Redox Depressions	
<input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat		

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: **N/A** Depth: **N/A**

Hydric Soil Present? Yes No

Remarks:



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Line 6B Phase 2 Replacement Project**

Wetland ID: **w-492b**

Sample Point **1w**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>Salix nigra</i>	20	Y	OBL
2.	<i>Populus deltoides</i>	70	Y	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		90		
Sapling/Shrub Stratum (Plot size: 5 meter radius)				
1.	<i>Cephalanthus occidentalis</i>	60	Y	OBL
2.	<i>Lindera benzoin</i>	10	--	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		70		
Herb Stratum (Plot size: 2 meter radius)				
1.	<i>Solidago gigantea</i>	30	Y	FACW
2.	<i>Carex stricta</i>	20	Y	OBL
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		50		
Woody Vine Stratum (Plot size: 10 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
5.	--	--	--	--
4.	--	--	--	--
Total Cover =		0		

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: 100.0% (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	<u>100</u>	x 1 =	<u>100</u>
FACW spp.	<u>40</u>	x 2 =	<u>80</u>
FAC spp.	<u>70</u>	x 3 =	<u>210</u>
FACU spp.	<u>0</u>	x 4 =	<u>0</u>
UPL spp.	<u>0</u>	x 5 =	<u>0</u>
Total		<u>210</u> (A)	<u>390</u> (B)
Prevalence Index = B/A =		<u>1.857</u>	

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. 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:

Additional Remarks:



WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Line 6B Phase 2 Replacement Project
Stantec Project #: 193701660
Date: 04/26/12
Applicant: Enbridge
County: Porter
Investigator #1: D. Tersteeg
Investigator #2: A. Brasch
State: Indiana
Soil Unit: Tracy sandy loam
NW/WWI Classification: --
Wetland ID: w-492c
Landform: slope
Local Relief: convex
Sample Point: 1u
Slope (%): 2
Latitude: --
Longitude: --
Datum: --
Community ID: upland
Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) [x] Yes [] No
Section: 11
Are Vegetation [x], Soil [], or Hydrology [] significantly disturbed?
Are normal circumstances present?
Are Vegetation [], Soil [], or Hydrology [] naturally problematic? [x] Yes [] No
Township: 36 N
Range: 5 Dir: W

SUMMARY OF FINDINGS
Hydrophytic Vegetation Present? [] Yes [x] No
Wetland Hydrology Present? [] Yes [x] No
Hydic Soils Present? [] Yes [x] No
Is This Sampling Point Within A Wetland? [x] Yes [] No
Remarks: Upland cultivated agriculture, just planted.

HYDROLOGY
Wetland Hydrology Indicators (Check here if indicators are not present): [x]
Primary:
[] A1 - Surface Water
[] A2 - High Water Table
[] A3 - Saturation
[] B1 - Water Marks
[] B2 - Sediment Deposits
[] B3 - Drift Deposits
[] B4 - Algal Mat or Crust
[] B5 - Iron Deposits
[] B7 - Inundation Visible on Aerial Imagery
[] B8 - Sparsely Vegetated Concave Surface
Secondary:
[] B6 - Surface Soil Cracks
[] B10 - Drainage Patterns
[] C2 - Dry-Season Water Table
[] C8 - Crayfish Burrows
[] C9 - Saturation Visible on Aerial Imagery
[] D1 - Stunted or Stressed Plants
[] D2 - Geomorphic Position
[] D5 - FAC-Neutral Test
[] B9 - Water-Stained Leaves
[] B13 - Aquatic Fauna
[] B14 - True Aquatic Plants
[] C1 - Hydrogen Sulfide Odor
[] C3 - Oxidized Rhizospheres on Living Roots
[] C4 - Presence of Reduced Iron
[] C6 - Recent Iron Reduction in Tilled Soils
[] C7 - Thin Muck Surface
[] D9 - Gauge or Well Data
[] Other (Explain)

Field Observations:
Surface Water Present? [] Yes [x] No Depth: na (in.)
Water Table Present? [] Yes [x] No Depth: na (in.)
Saturation Present? [] Yes [x] No Depth: na (in.)
Wetland Hydrology Present? [] Yes [x] No

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

SOILS
Map Unit Name: Tracy sandy loam Series Drainage Class: well
Taxonomy (Subgroup): Ultic Hapludalfs Field Observations Confirm Mapped Type? [x] Yes [] No
Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)
Table with columns: Top Depth, Bottom Depth, Horizon, Matrix (Color (Moist), %), Mottles (Color (Moist), %), Type, Location, Texture (e.g. clay, sand, loam)

NRCS Hydic Soil Field Indicators (check here if indicators are not present): [x]
Indicators for Problematic Soils 1
[] A1 - Histosol
[] A2 - Histic Epipedon
[] A3 - Black Histic
[] A4 - Hydrogen Sulfide
[] A5 - Stratified Layers
[] A10 - 2 cm Muck
[] A11 - Depleted Below Dark Surface
[] A12 - Thick Dark Surface
[] S1 - Sandy Muck Mineral
[] S3 - 5 cm Mucky Peat or Peat
[] S4 - Sandy Gleyed Matrix
[] S5 - Sandy Redox
[] S6 - Stripped Matrix
[] F1 - Loamy Muck Mineral
[] F2 - Loamy Gleyed Matrix
[] F3 - Depleted Matrix
[] F6 - Redox Dark Surface
[] F7 - Depleted Dark Surface
[] F8 - Redox Depressions
[] A16 - Coast Prairie Redox
[] F12 - Iron-Manganese Masses
[] Other (Explain in Remarks)

Restrictive Layer (If Observed) Type: N/A Depth: N/A
Hydic Soil Present? [] Yes [x] No
Remarks:

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



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Line 6B Phase 2 Replacement Project**

Wetland ID: **w-492c**

Sample Point **1u**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Sapling/Shrub Stratum (Plot size: 5 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Herb Stratum (Plot size: 2 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		0		
Woody Vine Stratum (Plot size: 10 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
5.	--	--	--	--
4.	--	--	--	--
Total Cover =		0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

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

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL spp. 0 x 1 = 0

FACW spp. 0 x 2 = 0

FAC spp. 0 x 3 = 0

FACU spp. 0 x 4 = 0

UPL spp. 0 x 5 = 0

Total 0 (A) 0 (B)

Prevalence Index = B/A = NA

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. 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: **No vegetation, just planted agricultural field.**

Additional Remarks:



WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Line 6B Phase 2 Replacement Project
Stantec Project #: 193701660
Date: 04/26/12
Applicant: Enbridge
County: Porter
Investigator #1: D. Tersteeg
Investigator #2: A. Brasch
State: Indiana
Soil Unit: Tracy sandy loam
NW/WWI Classification: PEMA
Landform: depression
Local Relief: concave
Wetland ID: w-492c
Slope (%): 0
Latitude: --
Longitude: --
Datum: --
Sample Point: 1w
Community ID: EM1
Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) [x] Yes [] No
Section: 11
Are Vegetation [], Soil [], or Hydrology [] significantly disturbed?
Are normal circumstances present?
Are Vegetation [], Soil [], or Hydrology [] naturally problematic? [x] Yes [] No
Township: 36 N
Range: 5 Dir: W

SUMMARY OF FINDINGS
Hydrophytic Vegetation Present? [x] Yes [] No
Wetland Hydrology Present? [x] Yes [] No
Hydric Soils Present? [x] Yes [] No
Is This Sampling Point Within A Wetland? [x] Yes [] No
Remarks: Type 2 reed canary grass dominated wet meadow with black willow fringe, farmed agricultural surrounding wetland.

HYDROLOGY
Wetland Hydrology Indicators (Check here if indicators are not present): []
Primary:
[] A1 - Surface Water
[] A2 - High Water Table
[x] A3 - Saturation
[] B1 - Water Marks
[] B2 - Sediment Deposits
[] B3 - Drift Deposits
[] B4 - Algal Mat or Crust
[] B5 - Iron Deposits
[] B7 - Inundation Visible on Aerial Imagery
[] B8 - Sparsely Vegetated Concave Surface
Secondary:
[] B6 - Surface Soil Cracks
[] B10 - Drainage Patterns
[] B13 - Aquatic Fauna
[] B14 - True Aquatic Plants
[] C1 - Hydrogen Sulfide Odor
[] C2 - Dry-Season Water Table
[] C3 - Oxidized Rhizospheres on Living Roots
[] C4 - Presence of Reduced Iron
[] C8 - Crayfish Burrows
[] C9 - Saturation Visible on Aerial Imagery
[] C6 - Recent Iron Reduction in Tilled Soils
[] D1 - Stunted or Stressed Plants
[] D2 - Geomorphic Position
[] D5 - FAC-Neutral Test
[] D9 - Gauge or Well Data
[] Other (Explain)

Field Observations:
Surface Water Present? [] Yes [x] No Depth: na (in.)
Water Table Present? [x] Yes [] No Depth: 16 (in.)
Saturation Present? [x] Yes [] No Depth: 10 (in.)
Wetland Hydrology Present? [x] Yes [] No

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

SOILS
Map Unit Name: Tracy sandy loam Series Drainage Class: well
Taxonomy (Subgroup): Ultic Hapludalfs Field Observations Confirm Mapped Type? [] Yes [x] No
Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)
Table with columns: Top Depth, Bottom Depth, Horizon, Matrix (Color (Moist), %), Mottles (Color (Moist), %), Type, Location, Texture (e.g. clay, sand, loam)

NRCS Hydric Soil Field Indicators (check here if indicators are not present): []
Indicators for Problematic Soils 1
[] A1 - Histosol
[] A2 - Histic Epipedon
[] A3 - Black Histic
[] A4 - Hydrogen Sulfide
[] A5 - Stratified Layers
[] A10 - 2 cm Muck
[] A11 - Depleted Below Dark Surface
[] A12 - Thick Dark Surface
[] S1 - Sandy Muck Mineral
[] S3 - 5 cm Mucky Peat or Peat
[] S4 - Sandy Gleyed Matrix
[] S5 - Sandy Redox
[] S6 - Stripped Matrix
[] F1 - Loamy Muck Mineral
[] F2 - Loamy Gleyed Matrix
[x] F3 - Depleted Matrix
[x] F6 - Redox Dark Surface
[] F7 - Depleted Dark Surface
[] F8 - Redox Depressions
[] A16 - Coast Prairie Redox
[] F12 - Iron-Manganese Masses
[] Other (Explain in Remarks)

Restrictive Layer (If Observed) Type: N/A Depth: N/A
Hydric Soil Present? [x] Yes [] No
Remarks:

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



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Line 6B Phase 2 Replacement Project**

Wetland ID: **w-492c**

Sample Point **1w**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>Salix nigra</i>	20	Y	OBL
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		20		
Sapling/Shrub Stratum (Plot size: 5 meter radius)				
1.	<i>ROSA MULTIFLORA</i>	5	Y	FACU
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		5		
Herb Stratum (Plot size: 2 meter radius)				
1.	<i>Impatiens capensis</i>	20	Y	FACW
2.	<i>Equisetum arvense</i>	80	Y	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		100		
Woody Vine Stratum (Plot size: 10 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
5.	--	--	--	--
4.	--	--	--	--
Total Cover =		0		

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: 75.0% (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	<u>20</u>	x 1 =	<u>20</u>
FACW spp.	<u>20</u>	x 2 =	<u>40</u>
FAC spp.	<u>80</u>	x 3 =	<u>240</u>
FACU spp.	<u>5</u>	x 4 =	<u>20</u>
UPL spp.	<u>0</u>	x 5 =	<u>0</u>
Total		<u>125</u> (A)	<u>320</u> (B)
Prevalence Index = B/A =		<u>2.560</u>	

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. 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:

Additional Remarks:



WETLAND DETERMINATION DATA FORM Midwest Region

Stantec

Project/Site: Line 6B Phase 2 Replacement Project	Stantec Project #: 193701660	Date: 04/26/12
Applicant: Enbridge	Investigator #1: D. Tersteeg	County: Porter
Investigator #2: A. Brasch	NWI/WWI Classification: --	State: Indiana
Soil Unit: Riddles silt loam	Local Relief: concave	Wetland ID: w-492d
Landform: slope	Slope (%): 2	Sample Point: 1u
Latitude: --	Longitude: --	Community ID: upland
Datum: --	Section: 11	
Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Township: 36 N
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Range: 5 Dir: W
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		
Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<u>Primary:</u> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> D9 - Gauge or Well Data <input type="checkbox"/> Other (Explain)	<u>Secondary:</u> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D5 - FAC-Neutral Test
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Field Observations:

Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: na (in.)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: na (in.)	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: na (in.)	

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

Remarks:

SOILS

Map Unit Name: **Riddles silt loam** Series Drainage Class: **well**

Taxonomy (Subgroup): **Typic Hapludalfs** Field Observations Confirm Mapped Type? Yes No

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Texture (e.g. clay, sand, loam)		
			Color (Moist)	%	Color (Moist)	%	Type	Location			
0	14	1	10YR	2/2	100	--	--	--	--	sandy loam	
14	18	2	10YR	6/3	90	10YR	5/6	10	C	M	loamy sand
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat	<input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> F1 - Loamy Muck Mineral <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	Indicators for Problematic Soils¹ <input type="checkbox"/> A16 - Coast Prairie Redox <input type="checkbox"/> F12 - Iron-Manganese Masses <input type="checkbox"/> Other (Explain in Remarks)
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: **N/A** Depth: **N/A**

Hydric Soil Present? Yes No

Remarks:



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Line 6B Phase 2 Replacement Project**

Wetland ID: **w-492d**

Sample Point **1u**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>Acer saccharum</i>	40	Y	FACU
2.	<i>Tilia americana</i>	40	Y	FACU
3.	<i>Fraxinus americana</i>	20	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		100		
Sapling/Shrub Stratum (Plot size: 5 meter radius)				
1.	<i>ROSA MULTIFLORA</i>	10	N	FACU
2.	<i>Acer saccharum</i>	60	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		70		
Herb Stratum (Plot size: 2 meter radius)				
1.	<i>Podophyllum peltatum</i>	60	Y	FACU
2.	<i>Geranium maculatum</i>	10	N	FACU
3.	<i>Viola sororia</i>	20	Y	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		90		
Woody Vine Stratum (Plot size: 10 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
5.	--	--	--	--
4.	--	--	--	--
Total Cover =		0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FACU: 1 (A)
 Total Number of Dominant Species Across All Strata: 6 (B)
 Percent of Dominant Species That Are OBL, FACW, or FACU: 16.7% (A/B)

Prevalence Index Worksheet

Total % Cover of:	Multiply by:
OBL spp. <u>0</u>	x 1 = <u>0</u>
FACW spp. <u>0</u>	x 2 = <u>0</u>
FAC spp. <u>20</u>	x 3 = <u>60</u>
FACU spp. <u>240</u>	x 4 = <u>960</u>
UPL spp. <u>0</u>	x 5 = <u>0</u>
Total <u>260</u> (A)	<u>1020</u> (B)
Prevalence Index = B/A = <u>3.923</u>	

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. 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:

Additional Remarks:



WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Line 6B Phase 2 Replacement Project	Stantec Project #: 193701660	Date: 04/26/12
Applicant: Enbridge	Investigator #1: D. Tersteeg	County: Porter
Investigator #2: A. Brasch	NWI/WWI Classification: --	State: Indiana
Soil Unit: Fluvaquents	Local Relief: concave	Wetland ID: w-492d
Landform: depression	Slope (%): 0	Sample Point: 1w
Latitude: --	Longitude: --	Community ID: FO1
Datum: --	Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Section: 11
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Township: 36 N
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Range: 5 Dir: W

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks: **Type 7, forested wetland. Green ash, slippery elm, American elm, black willow, with open water pool and spicebush fringe.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input checked="" type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface	<input checked="" type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> D9 - Gauge or Well Data <input checked="" type="checkbox"/> Other (Explain)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input checked="" type="checkbox"/> D5 - FAC-Neutral Test
--	--	---

Field Observations:

Surface Water Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 1 (in.)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 0 (in.)	
Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 0 (in.)	

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

Remarks: **Butressed roots**

SOILS

Map Unit Name: **Fluvaquents** Series Drainage Class: **poorly**

Taxonomy (Subgroup): **N/A** Field Observations Confirm Mapped Type? Yes No

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Texture (e.g. clay, sand, loam)		
			Color (Moist)	%	Color (Moist)	%	Type	Location			
0	5	1	10YR	2/1	100	--	--	--	--	mucky silt loam	
5	12	2	10YR	3/1	90	10YR	3/6	10	C	M	silty clay loam
12	18	3	10YR	4/2	90	10YR	4/6	10	C	M	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck <input type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat	<input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> F1 - Loamy Muck Mineral <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input checked="" type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A16 - Coast Prairie Redox <input type="checkbox"/> F12 - Iron-Manganese Masses <input type="checkbox"/> Other (Explain in Remarks)
---	---	--

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A	Depth: N/A	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Remarks:		



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Line 6B Phase 2 Replacement Project**

Wetland ID: **w-492d** Sample Point **1w**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>Fraxinus pennsylvanica</i>	20	Y	FACW
2.	<i>Ulmus americana</i>	40	Y	FACW
3.	<i>Ulmus rubra</i>	20	Y	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		80		
Sapling/Shrub Stratum (Plot size: 5 meter radius)				
1.	<i>Lindera benzoin</i>	30	Y	FACW
2.	<i>Tilia americana</i>	10	N	FACU
3.	<i>Fraxinus pennsylvanica</i>	20	Y	FACW
4.	<i>Ulmus americana</i>	10	N	FACW
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		70		
Herb Stratum (Plot size: 2 meter radius)				
1.	<i>Solidago gigantea</i>	40	Y	FACW
2.	<i>Impatiens capensis</i>	20	Y	FACW
3.	<i>Carex tribuloides</i>	5	N	FACW
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		65		
Woody Vine Stratum (Plot size: 10 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
5.	--	--	--	--
4.	--	--	--	--
Total Cover =		0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

Total % Cover of:	Multiply by:
OBL spp. <u>0</u>	x 1 = <u>0</u>
FACW spp. <u>185</u>	x 2 = <u>370</u>
FAC spp. <u>20</u>	x 3 = <u>60</u>
FACU spp. <u>10</u>	x 4 = <u>40</u>
UPL spp. <u>0</u>	x 5 = <u>0</u>
Total <u>215</u> (A)	<u>470</u> (B)
Prevalence Index = B/A = <u>2.186</u>	

Hydrophytic Vegetation Indicators:

Yes No Rapid Test for Hydrophytic Vegetation

Yes No Dominance Test is > 50%

Yes No Prevalence Index is ≤ 3.0 *

Yes No Morphological Adaptations (Explain) *

Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. 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:

Additional Remarks:



WETLAND DETERMINATION DATA FORM Midwest Region

Stantec

Project/Site: Line 6B Phase 2 Replacement Project		Stantec Project #: 193701660	Date: 04/26/12
Applicant: Enbridge		Investigator #1: D. Tersteeg	Investigator #2: A. Brasch
Soil Unit: Riddles silt loam		NWI/WWI Classification: --	Wetland ID: w-492e
Landform: terrace	Local Relief: none		Sample Point: 1u
Slope (%): --	Latitude: --	Longitude: --	Datum: --
Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			Community ID: upland
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Section: 11	Township: 36 N
		Range: 5	Dir: W

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> D9 - Gauge or Well Data <input type="checkbox"/> Other (Explain)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D5 - FAC-Neutral Test
---	--	---

Field Observations:

Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: na (in.)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: na (in.)	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: na (in.)	

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

Remarks:

SOILS

Map Unit Name: **Riddles silt loam** Series Drainage Class: **well**

Taxonomy (Subgroup): **Typic Hapludalfs** Field Observations Confirm Mapped Type? Yes No

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Texture (e.g. clay, sand, loam)
			Color (Moist)	%	Color (Moist)	%	Type	Location	
0	14	1	10YR	2/2	100	--	--	--	sandy loam
14	18	2	10YR	4/4	100	--	--	--	loamy fine sand
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat	<input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> F1 - Loamy Muck Mineral <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A16 - Coast Prairie Redox <input type="checkbox"/> F12 - Iron-Manganese Masses <input type="checkbox"/> Other (Explain in Remarks)
--	---	--

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A	Depth: N/A	Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Remarks:		



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Line 6B Phase 2 Replacement Project**

Wetland ID: **w-492e** Sample Point **1u**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>Acer saccharum</i>	80	Y	FACU
2.	<i>Fraxinus pennsylvanica</i>	10	N	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		90		
Sapling/Shrub Stratum (Plot size: 5 meter radius)				
1.	<i>Acer saccharum</i>	60	Y	FACU
2.	<i>Lindera benzoin</i>	20	Y	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		80		
Herb Stratum (Plot size: 2 meter radius)				
1.	<i>Podophyllum peltatum</i>	70	Y	FACU
2.	<i>Trillium recurvatum</i>	30	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		100		
Woody Vine Stratum (Plot size: 10 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
5.	--	--	--	--
4.	--	--	--	--
Total Cover =		0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 20.0% (A/B)

Prevalence Index Worksheet

Total % Cover of:	Multiply by:
OBL spp. <u>0</u>	x 1 = <u>0</u>
FACW spp. <u>30</u>	x 2 = <u>60</u>
FAC spp. <u>0</u>	x 3 = <u>0</u>
FACU spp. <u>240</u>	x 4 = <u>960</u>
UPL spp. <u>0</u>	x 5 = <u>0</u>
Total <u>270</u> (A)	<u>1020</u> (B)
Prevalence Index = B/A = <u>3.778</u>	

- Hydrophytic Vegetation Indicators:**
- Yes No Rapid Test for Hydrophytic Vegetation
 - Yes No Dominance Test is > 50%
 - Yes No Prevalence Index is ≤ 3.0 *
 - Yes No Morphological Adaptations (Explain) *
 - Yes No Problem Hydrophytic Vegetation (Explain) *
- * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. 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:

Additional Remarks:



WETLAND DETERMINATION DATA FORM

Midwest Region

Stantec

Project/Site: Line 6B Phase 2 Replacement Project	Stantec Project #: 193701660	Date: 04/26/12
Applicant: Enbridge	Investigator #1: D. Tersteeg	County: Porter
Investigator #2: A. Brasch	NWI/WWI Classification: PFO1C	State: Indiana
Soil Unit: Riddles silt loam	Local Relief: concave	Wetland ID: w-492e
Landform: depression	Slope (%): -- Latitude: -- Longitude: -- Datum: --	Sample Point: 1w
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Community ID: FO1
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Section: 11
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Township: 36 N
		Range: 5 Dir: W

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Remarks: Type 1 forested seasonal pool, matted leaf litter, no herbaceous, open pool, pin oak, green ash, slippery and American elm, cottonwood dominated.		

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<u>Primary:</u> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input checked="" type="checkbox"/> B8 - Sparsely Vegetated Concave Surface	<input checked="" type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> D9 - Gauge or Well Data <input checked="" type="checkbox"/> Other (Explain)	<u>Secondary:</u> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input checked="" type="checkbox"/> D5 - FAC-Neutral Test
--	--	---

Field Observations:	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: na (in.)	
Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 3 (in.)	
Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 0 (in.)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **na**Remarks: **Buttressed roots****SOILS**

Map Unit Name: Riddles silt loam	Series Drainage Class: well										
Taxonomy (Subgroup): Typic Hapludalfs	Field Observations Confirm Mapped Type? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No										
Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)											
Top Depth	Bottom Depth	Horizon	Matrix			Mottles				Texture (e.g. clay, sand, loam)	
			Color (Moist)	%	Color (Moist)	%	Type	Location			
0	2	1	10YR	2/1	100	--	--	--	--	--	mucky silt loam
2	12	2	10YR	3/1	90	10YR	3/6	10	C	M	silty clay loam
12	18	3	10YR	4/2	80	10YR	4/6	20	C	M	sandy clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present): <input type="checkbox"/>	Indicators for Problematic Soils ¹
<input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat	<input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> F1 - Loamy Muck Mineral <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input checked="" type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions <input type="checkbox"/> A16 - Coast Prairie Redox <input type="checkbox"/> F12 - Iron-Manganese Masses <input type="checkbox"/> Other (Explain in Remarks)

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A	Depth: N/A	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
--	-------------------	---

Remarks:



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Line 6B Phase 2 Replacement Project**

Wetland ID: **w-492e**

Sample Point **1w**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>Fraxinus pennsylvanica</i>	30	Y	FACW
2.	<i>Acer saccharinum</i>	10	Y	FACW
3.	<i>Acer saccharum</i>	10	Y	FACU
4.	<i>Ulmus americana</i>	5	N	FACW
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		55		
Sapling/Shrub Stratum (Plot size: 5 meter radius)				
1.	<i>Lindera benzoin</i>	10	Y	FACW
2.	<i>Ulmus americana</i>	5	Y	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		15		
Herb Stratum (Plot size: 2 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		0		
Woody Vine Stratum (Plot size: 10 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
5.	--	--	--	--
4.	--	--	--	--
Total Cover =		0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FACU: 4 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FACU: 80.0% (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	<u>0</u>	x 1 =	<u>0</u>
FACW spp.	<u>60</u>	x 2 =	<u>120</u>
FACU spp.	<u>10</u>	x 3 =	<u>30</u>
UPL spp.	<u>0</u>	x 4 =	<u>0</u>
Total		<u>70</u> (A)	<u>160</u> (B)
Prevalence Index = B/A =		<u>2.286</u>	

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. 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:

Additional Remarks:



WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Line 6B Phase 2 Replacement Project
Stantec Project #: 193701660
Date: 04/26/12
Applicant: Enbridge
County: Porter
Investigator #1: D. Tersteeg
Investigator #2: A. Brasch
State: Indiana
Soil Unit: Riddles silt loam
NW/WWI Classification: --
Wetland ID: w-493a
Landform: slope
Local Relief: none
Sample Point: 1u
Slope (%): 2
Latitude: --
Longitude: --
Datum: --
Community ID: upland
Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) [x] Yes [] No
Section: 11
Are Vegetation [], Soil [], or Hydrology [] significantly disturbed?
Are normal circumstances present?
Are Vegetation [], Soil [], or Hydrology [] naturally problematic? [x] Yes [] No
Township: 36 N
Range: 5 Dir: W

SUMMARY OF FINDINGS
Hydrophytic Vegetation Present? [] Yes [x] No
Wetland Hydrology Present? [] Yes [x] No
Hydric Soils Present? [] Yes [x] No
Is This Sampling Point Within A Wetland? [x] Yes [] No
Remarks:

HYDROLOGY
Wetland Hydrology Indicators (Check here if indicators are not present): [x]
Primary:
[] A1 - Surface Water
[] A2 - High Water Table
[] A3 - Saturation
[] B1 - Water Marks
[] B2 - Sediment Deposits
[] B3 - Drift Deposits
[] B4 - Algal Mat or Crust
[] B5 - Iron Deposits
[] B7 - Inundation Visible on Aerial Imagery
[] B8 - Sparsely Vegetated Concave Surface
Secondary:
[] B6 - Surface Soil Cracks
[] B10 - Drainage Patterns
[] C2 - Dry-Season Water Table
[] C8 - Crayfish Burrows
[] C9 - Saturation Visible on Aerial Imagery
[] D1 - Stunted or Stressed Plants
[] D2 - Geomorphic Position
[] D5 - FAC-Neutral Test
[] B9 - Water-Stained Leaves
[] B13 - Aquatic Fauna
[] B14 - True Aquatic Plants
[] C1 - Hydrogen Sulfide Odor
[] C3 - Oxidized Rhizospheres on Living Roots
[] C4 - Presence of Reduced Iron
[] C6 - Recent Iron Reduction in Tilled Soils
[] C7 - Thin Muck Surface
[] D9 - Gauge or Well Data
[] Other (Explain)

Field Observations:
Surface Water Present? [] Yes [x] No Depth: na (in.)
Water Table Present? [] Yes [x] No Depth: na (in.)
Saturation Present? [] Yes [x] No Depth: na (in.)
Wetland Hydrology Present? [] Yes [x] No

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

SOILS
Map Unit Name: Riddles silt loam Series Drainage Class: well
Taxonomy (Subgroup): Typic Hapludalfs Field Observations Confirm Mapped Type? [] Yes [x] No
Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)
Table with columns: Top Depth, Bottom Depth, Horizon, Matrix (Color (Moist), %), Mottles (Color (Moist), %), Type, Location, Texture (e.g. clay, sand, loam)

NRCS Hydric Soil Field Indicators (check here if indicators are not present): [x]
Indicators for Problematic Soils 1
[] A1 - Histosol
[] A2 - Histic Epipedon
[] A3 - Black Histic
[] A4 - Hydrogen Sulfide
[] A5 - Stratified Layers
[] A10 - 2 cm Muck
[] A11 - Depleted Below Dark Surface
[] A12 - Thick Dark Surface
[] S1 - Sandy Muck Mineral
[] S3 - 5 cm Mucky Peat or Peat
[] S4 - Sandy Gleyed Matrix
[] S5 - Sandy Redox
[] S6 - Stripped Matrix
[] F1 - Loamy Muck Mineral
[] F2 - Loamy Gleyed Matrix
[] F3 - Depleted Matrix
[] F6 - Redox Dark Surface
[] F7 - Depleted Dark Surface
[] F8 - Redox Depressions
[] A16 - Coast Prairie Redox
[] F12 - Iron-Manganese Masses
[] Other (Explain in Remarks)

Restrictive Layer (If Observed) Type: N/A Depth: N/A
Hydric Soil Present? [] Yes [x] No
Remarks:

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



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Line 6B Phase 2 Replacement Project**

Wetland ID: **w-493a**

Sample Point **1u**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>Quercus rubra</i>	20	Y	FACU
2.	<i>Acer saccharinum</i>	10	Y	FACW
3.	<i>Liriodendron tulipifera</i>	10	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		40		
Sapling/Shrub Stratum (Plot size: 5 meter radius)				
1.	<i>Lindear benzoin</i>	20	Y	FACW
2.	<i>Prunus serotina</i>	10	Y	FACU
3.	<i>Liriodendron tulipifera</i>	10	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		40		
Herb Stratum (Plot size: 2 meter radius)				
1.	<i>Podophyllum peltatum</i>	50	Y	FACU
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		50		
Woody Vine Stratum (Plot size: 10 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
5.	--	--	--	--
4.	--	--	--	--
Total Cover =		0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FACU: 2 (A)
 Total Number of Dominant Species Across All Strata: 7 (B)
 Percent of Dominant Species That Are OBL, FACW, or FACU: 28.6% (A/B)

Prevalence Index Worksheet

Total % Cover of:	Multiply by:
OBL spp. <u>0</u>	x 1 = <u>0</u>
FACW spp. <u>30</u>	x 2 = <u>60</u>
FAC spp. <u>0</u>	x 3 = <u>0</u>
FACU spp. <u>100</u>	x 4 = <u>400</u>
UPL spp. <u>0</u>	x 5 = <u>0</u>
Total <u>130</u> (A)	<u>460</u> (B)
Prevalence Index = B/A = <u>3.538</u>	

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. 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:

Additional Remarks:



WETLAND DETERMINATION DATA FORM Midwest Region

Stantec

Project/Site: Line 6B Phase 2 Replacement Project	Stantec Project #: 193701660	Date: 04/26/12
Applicant: Enbridge	Investigator #1: D. Tersteeg	County: Porter
Investigator #2: A. Brasch	NWI/WWI Classification: --	State: Indiana
Soil Unit: Riddles silt loam	Local Relief: concave	Wetland ID: w-493a
Landform: depression	Slope (%): 0 Latitude: -- Longitude: -- Datum: --	Sample Point: 1w
Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Community ID: FO1/SS1
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Section: 11
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Township: 36 N
		Range: 5 Dir: W

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks: **Type 6/7 forested wetland with shrub scrub center. Silver maple dominated and spicebush / buttonbush dominated open water center.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input checked="" type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> B9 - Water-Stained Leaves <input checked="" type="checkbox"/> A2 - High Water Table <input type="checkbox"/> B13 - Aquatic Fauna <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> D9 - Gauge or Well Data <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface <input checked="" type="checkbox"/> Other (Explain)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input checked="" type="checkbox"/> D5 - FAC-Neutral Test
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Field Observations:

Surface Water Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 1 (in.)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 0 (in.)	
Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 0 (in.)	

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

Remarks: **buttressed roots**

SOILS

Map Unit Name: **Riddles silt loam** Series Drainage Class: **well**

Taxonomy (Subgroup): **Typic Hapludalfs** Field Observations Confirm Mapped Type? Yes No

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Texture (e.g. clay, sand, loam)		
			Color (Moist)	%	Color (Moist)	%	Type	Location			
0	3	1	10YR	2/1	100	--	--	--	--	mucky silt loam	
3	10	2	10YR	3/2	90	10YR	3/6	10	C	M	silty loam
10	18	3	10YR	4/2	80	10YR	4/6	20	C	M	silty clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat	<input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> F1 - Loamy Muck Mineral <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input checked="" type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	Indicators for Problematic Soils¹ <input type="checkbox"/> A16 - Coast Prairie Redox <input type="checkbox"/> F12 - Iron-Manganese Masses <input type="checkbox"/> Other (Explain in Remarks)
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A	Depth: N/A	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Remarks:		



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Line 6B Phase 2 Replacement Project**

Wetland ID: **w-493a**

Sample Point **1w**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>Acer saccharinum</i>	60	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		60		
Sapling/Shrub Stratum (Plot size: 5 meter radius)				
1.	<i>Lindera benzoin</i>	20	Y	FACW
2.	<i>Fraxinus pennsylvanica</i>	10	Y	FACW
3.	<i>Prunus serotina</i>	5	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		35		
Herb Stratum (Plot size: 2 meter radius)				
1.	<i>Carex vulpinoidea</i>	10	Y	OBL
2.	<i>Impatiens capensis</i>	20	Y	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		30		
Woody Vine Stratum (Plot size: 10 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
5.	--	--	--	--
4.	--	--	--	--
Total Cover =		0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FACU: 5 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FACU: 100.0% (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	<u>10</u>	x 1 =	<u>10</u>
FACW spp.	<u>110</u>	x 2 =	<u>220</u>
FACU spp.	<u>0</u>	x 3 =	<u>0</u>
FACU spp.	<u>5</u>	x 4 =	<u>20</u>
UPL spp.	<u>0</u>	x 5 =	<u>0</u>
Total		<u>125</u> (A)	<u>250</u> (B)
Prevalence Index = B/A =		<u>2.000</u>	

Hydrophytic Vegetation Indicators:

Yes No Rapid Test for Hydrophytic Vegetation

Yes No Dominance Test is > 50%

Yes No Prevalence Index is ≤ 3.0 *

Yes No Morphological Adaptations (Explain) *

Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. 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:

Additional Remarks:



WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Line 6B Phase 2 Replacement Project	Stantec Project #: 193701660	Date: 04/26/12
Applicant: Enbridge	Investigator #1: D. Tersteeg	County: Porter
Investigator #2: A. Brasch	NWI/WWI Classification: --	State: Indiana
Soil Unit: Haskins loam	Local Relief: none	Wetland ID: w-493c
Landform: slope	Slope (%): 2	Sample Point: 1u
Latitude: --	Longitude: --	Community ID: upland
Datum: --	Section: 11	
Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Township: 36 N
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Range: 5 Dir: W
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		
Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks: **Cultivated agricultural field, no vegetation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> D9 - Gauge or Well Data <input type="checkbox"/> Other (Explain)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D5 - FAC-Neutral Test
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Field Observations:

Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: na (in.)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: na (in.)	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: na (in.)	

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

Remarks:

SOILS

Map Unit Name: **Haskins loam** Series Drainage Class: **somewhat poorly**

Taxonomy (Subgroup): **Aeric Epiaqualfs** Field Observations Confirm Mapped Type? Yes No

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles				Texture (e.g. clay, sand, loam)
			Color (Moist)	%	Color (Moist)	%	Type	Location		
0	12	1	10YR	3/3	100	--	--	--	--	clay loam
12	18	2	10YR	2/1	100	--	--	--	--	clay loam
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat	<input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> F1 - Loamy Muck Mineral <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A16 - Coast Prairie Redox <input type="checkbox"/> F12 - Iron-Manganese Masses <input type="checkbox"/> Other (Explain in Remarks)
--	---	--

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A	Depth: N/A	Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Remarks: Buried A horizon		



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Line 6B Phase 2 Replacement Project**

Wetland ID: **w-493c**

Sample Point **1u**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Sapling/Shrub Stratum (Plot size: 5 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Herb Stratum (Plot size: 2 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		0		
Woody Vine Stratum (Plot size: 10 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
5.	--	--	--	--
4.	--	--	--	--
Total Cover =		0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

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

Prevalence Index Worksheet

Total % Cover of:	Multiply by:
OBL spp. <u>0</u>	x 1 = <u>0</u>
FACW spp. <u>0</u>	x 2 = <u>0</u>
FAC spp. <u>0</u>	x 3 = <u>0</u>
FACU spp. <u>0</u>	x 4 = <u>0</u>
UPL spp. <u>0</u>	x 5 = <u>0</u>
Total <u>0</u> (A)	<u>0</u> (B)
Prevalence Index = B/A = <u>NA</u>	

Hydrophytic Vegetation Indicators:

Yes No Rapid Test for Hydrophytic Vegetation

Yes No Dominance Test is > 50%

Yes No Prevalence Index is ≤ 3.0 *

Yes No Morphological Adaptations (Explain) *

Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. 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: **No vegetation, agricultural field.**

Additional Remarks: