# WETLAND DETERMINATION DATA FORM
## Northcentral and Northeast Region

Stantec

| | | | |
|---|---|---|---|
| Project/Site: | Line 6B Phase 2 Replacement Project | Stantec Project #: | 193701660 |
| Applicant: | Enbridge | | |
| Investigator #1: | D. Tersteeg | Investigator #2: | -- |
| Soil Unit: | Pewamo silty clay loam | NWI/WWI Classification: | -- |
| Landform: | -- | Local Relief: | none (flat) |
| Slope (%): | 0 | Latitude: -- | Longitude: -- Datum: -- |

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

Are Vegetation ☐ , Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

| | |
|---|---|
| Date: | 05/25/12 |
| County: | Lake |
| State: | Indiana |
| Wetland ID: | W-471b |
| Sample Point: | 1u |
| Community ID: | upland |
| Section: | 10 |
| Township: | 35 N |
| Range: | 8 Dir: W |

## SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks: --

## 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
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ 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
- ☐ Other (Explain)

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 | ☑ No | Depth: n/a | (in.) |
| Water Table Present? | ☐ Yes | ☑ No | Depth: >18 | (in.) |
| Saturation Present? | ☐ Yes | ☑ No | Depth: >18 | (in.) |

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

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

Remarks: --

## SOILS

Map Unit Name: Pewamo silty clay loam — Series Drainage Class: very poorly

Taxonomy (Subgroup): Typic Argiaquolls — 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; Locaiton: PL=Pore Lining, M=Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix Color (Moist) | Matrix | Matrix % | Mottles Color (Moist) | Mottles | Mottles % | Mottles Type | Mottles Location | Texture (e.g. clay, sand, loam) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 14 | 1 | 10YR | 2/2 | 100 | -- | -- | -- | -- | -- | sandy clay loam |
| 14 | 18 | 2 | 10YR | 4/2 | 90 | 10YR | 4/6 | 10 | C | M | clay loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

**NRCS Hydric Soil Field Indicators** (check here if indicators are not present ☑):
- ☐ 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)

[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: | Line 6B Phase 2 Replacement Project | Wetland ID: | W-471b | Sample Point | 1u |
|---|---|---|---|---|---|

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

Tree Stratum (Plot size: 10 meter radius)

| | Species Name | % Cover | Dominant | Ind.Status |
|---|---|---|---|---|
| 1. | *Acer saccharinum* | 60 | Y | FACW |
| 2. | *Tilia americana* | 20 | Y | FACU |
| 3. | *Ulmus americana* | 20 | Y | FACW |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| | Total Cover = | 100 | | |

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

| | | | | |
|---|---|---|---|---|
| 1. | *Acer saccharinum* | 10 | Y | FACW |
| 2. | *Sambucus racemosa* | 5 | Y | NI |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| | Total Cover = | 15 | | |

Herb Stratum (Plot size: 2 meter radius)

| | | | | |
|---|---|---|---|---|
| 1. | *SOLANUM DULCAMARA* | 5 | Y | FAC |
| 2. | *Galium aparine* | 10 | Y | FACU |
| 3. | *PHALARIS ARUNDINACEA* | 5 | Y | FACW |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6 | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| | Total Cover = | 20 | | |

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: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***62.5%*** (A/B)

### Prevalence Index Worksheet

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL spp. | 0 | x 1 = | 0 |
| FACW spp. | 95 | x 2 = | 190 |
| FAC spp. | 5 | x 3 = | 15 |
| FACU spp. | 30 | x 4 = | 120 |
| UPL spp. | 5 | x 5 = | 25 |
| Total | 135 (A) | | 350 (B) |

Prevalence Index = B/A = ***2.593***

### 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: Invasive reed canary grass present. While hydric vegetation is present, the absence of wetland hydrology and soils supports an upland determination.

**Additional Remarks:**

--

# WETLAND DETERMINATION DATA FORM
## Northcentral and Northeast Region

Stantec

| | | | |
|---|---|---|---|
| Project/Site: | Line 6B Phase 2 Replacement Project | Stantec Project #: | 193701660 |
| Applicant: | Enbridge | | |
| Investigator #1: | D. Tersteeg | Investigator #2: | -- |
| Soil Unit: | Pewamo silty clay loam | NWI/WWI Classification: | -- |
| Landform: | -- | Local Relief: | -- |
| Slope (%): | -- | Latitude: -- | Longitude: -- Datum: -- |

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

Are Vegetation ☐ , Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

| | |
|---|---|
| Date: | 05/25/12 |
| County: | Lake |
| State: | Indiana |
| Wetland ID: | W-471b |
| Sample Point: | 1w |
| Community ID: | EM1 |
| Section: | 10 |
| Township: | 35 N |
| Range: | 8 Dir: W |

## SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Type 1/7 seasonally flooded flat in the woods dominated by cattail with silver maple and cottonwood.

## 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
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ 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
- ☐ Other (Explain)

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 | ☑ No | Depth: n/a | (in.) |
| Water Table Present? | ☐ Yes | ☑ No | Depth: >18 | (in.) |
| Saturation Present? | ☐ Yes | ☑ No | Depth: >18 | (in.) |

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

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

Remarks: --

## SOILS

Map Unit Name: Pewamo silty clay loam — Series Drainage Class: very poorly

Taxonomy (Subgroup): Typic Argiaquolls — 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; Locaiton: PL=Pore Lining, M=Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix Color (Moist) | | Matrix % | Mottles Color (Moist) | | Mottles % | Mottles Type | Mottles Location | Texture (e.g. clay, sand, loam) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 10 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | -- | clay loam |
| 10 | 18 | 2 | 2.5Y | 5/2 | 90 | 10YR | 4/6 | 10 | C | M | clay loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

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

[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: Line 6B Phase 2 Replacement Project | Wetland ID: W-471b | Sample Point: 1w

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

Tree Stratum (Plot size: 10 meter radius)

| | Species Name | % Cover | Dominant | Ind.Status |
|---|---|---|---|---|
| 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. | *TYPHA ANGUSTIFOLIA* | 70 | Y | OBL |
| 2. | *POLYGONUM PERSICARIA* | 20 | N | FACW |
| 3. | *PHALARIS ARUNDINACEA* | 10 | N | FACW |
| 4. | *SOLANUM DULCAMARA* | 5 | N | FAC |
| 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: 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. | 70 | x 1 = | 70 |
| FACW spp. | 30 | x 2 = | 60 |
| FAC spp. | 5 | x 3 = | 15 |
| FACU spp. | 0 | x 4 = | 0 |
| UPL spp. | 0 | x 5 = | 0 |
| Total | 105 (A) | | 145 (B) |

Prevalence Index = B/A = ***1.381***

### 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: Invasive reed canary grass present.

**Additional Remarks:**

--

# WETLAND DETERMINATION DATA FORM
## Northcentral and Northeast Region

| | | | |
|---|---|---|---|
| Project/Site: | Line 6B Phase 2 Replacement Project | Stantec Project #: | 193701660 |
| Applicant: | Enbridge | | |
| Investigator #1: | D. Tersteeg | Investigator #2: | -- |
| Soil Unit: | Pewamo silty clay loam | NWI/WWI Classification: | -- |
| Landform: | slope | Local Relief: | none |
| Slope (%): | 2 | Latitude: -- | Longitude: -- Datum: -- |

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

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

| | |
|---|---|
| Date: | 05/25/12 |
| County: | Lake |
| State: | Indiana |
| Wetland ID: | W-471c |
| Sample Point: | 1u |
| Community ID: | upland |
| Section: | 10 |
| Township: | 35 N |
| Range: | 8 Dir: W |

## SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks: --

## 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
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ 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
- ☐ Other (Explain)

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 ☑ No | Depth: | n/a | (in.) |
| Water Table Present? | ☐ Yes ☑ No | Depth: | >18 | (in.) |
| Saturation Present? | ☐ Yes ☑ No | Depth: | >18 | (in.) |

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

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

Remarks: --

## SOILS

Map Unit Name: Pewamo silty clay loam — Series Drainage Class: very poorly

Taxonomy (Subgroup): Typic Argiaquolls — 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; Locaiton: PL=Pore Lining, M=Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix Color (Moist) | | Matrix % | Mottles Color (Moist) | | Mottles % | Mottles Type | Mottles Location | Texture (e.g. clay, sand, loam) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 14 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | -- | clay loam |
| 14 | 18 | 2 | 10YR | 3/2 | 90 | 10YR | 3/6 | 10 | C | M | clay loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

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

- ☐ 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)

[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: | Line 6B Phase 2 Replacement Project | Wetland ID: | W-471c | Sample Point | 1u |
|---|---|---|---|---|---|

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

Tree Stratum (Plot size: 10 meter radius)

| | Species Name | % Cover | Dominant | Ind.Status |
|---|---|---|---|---|
| 1. | *Acer negundo* | 10 | Y | FACW |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| | Total Cover = | 10 | | |

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

| | | | | |
|---|---|---|---|---|
| 1. | *Malus sp.* | 30 | Y | -- |
| 2. | *Sambucus racemosa* | 10 | Y | NI |
| 3. | *Juglans nigra* | 5 | N | FACU |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| | Total Cover = | 45 | | |

Herb Stratum (Plot size: 2 meter radius)

| | | | | |
|---|---|---|---|---|
| 1. | *POA PRATENSIS* | 60 | Y | FAC |
| 2. | *Parthenocissus quinquefolia* | 20 | Y | FAC |
| 3. | *TARAXACUM OFFICINALE* | 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 | | |

### 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

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL spp. | 0 | x 1 = | 0 |
| FACW spp. | 10 | x 2 = | 20 |
| FAC spp. | 80 | x 3 = | 240 |
| FACU spp. | 25 | x 4 = | 100 |
| UPL spp. | 10 | x 5 = | 50 |
| Total | 125 (A) | | 410 (B) |

Prevalence Index = B/A = ***3.280***

### 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
## Northcentral and Northeast Region

Stantec

| | | | |
|---|---|---|---|
| Project/Site: | Line 6B Phase 2 Replacement Project | Stantec Project #: | 193701660 |
| Applicant: | Enbridge | | |
| Investigator #1: | D. Tersteeg | Investigator #2: | -- |
| Soil Unit: | Pewamo silty clay loam | NWI/WWI Classification: | -- |
| Landform: | Depression | Local Relief: | concave |
| Slope (%): | 2 | Latitude: -- | Longitude: -- Datum: -- |

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

Are Vegetation ☐ , Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

| | |
|---|---|
| Date: | 05/25/12 |
| County: | Lake |
| State: | Indiana |
| Wetland ID: | W-471c |
| Sample Point: | 1w |
| Community ID: | SS1 |
| Section: | 10 |
| Township: | 35 N |
| Range: | 8 Dir: W |

## SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Very low quality wetland, Type 2/3. Northern half of wetland W-471b (this wetland is bisected by the railroad). Dominated by cattail, phragmites, sedges, and red-osier dogwood. Substrate is potentially fill.

## 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
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ 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
- ☐ Other (Explain)

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 | ☑ No | Depth: n/a | (in.) |
| Water Table Present? | ☐ Yes | ☑ No | Depth: >18 | (in.) |
| Saturation Present? | ☐ Yes | ☑ No | Depth: >18 | (in.) |

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

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

Remarks: --

## SOILS

Map Unit Name: Pewamo silty clay loam — Series Drainage Class: very poorly

Taxonomy (Subgroup): Typic Argiaquolls — 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; Locaiton: PL=Pore Lining, M=Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix Color (Moist) | | Matrix % | Mottles Color (Moist) | | Mottles % | Mottles Type | Mottles Location | Texture (e.g. clay, sand, loam) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 8 | 1 | 10YR | 3/2 | 100 | 10YR | 4/6 | 10 | C | M | clay loam |
| 8 | 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 ☐):

- ☐ 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)

[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: | Line 6B Phase 2 Replacement Project | Wetland ID: | W-471c | Sample Point | 1w |
|---|---|---|---|---|---|

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

Tree Stratum (Plot size: 10 meter radius)

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

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

| | | | | |
|---|---|---|---|---|
| 1. | *Salix exigua subsp. interior* | 30 | Y | OBL |
| 2. | *Cornus stolonifera* | 10 | Y | FACW |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| | Total Cover = | 40 | | |

Herb Stratum (Plot size: 2 meter radius)

| | | | | |
|---|---|---|---|---|
| 1. | *TYPHA ANGUSTIFOLIA* | 80 | Y | OBL |
| 2. | *PHALARIS ARUNDINACEA* | 20 | 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 | | |

### Dominance Test Worksheet

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

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

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

### Prevalence Index Worksheet

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL spp. | 110 | x 1 = | 110 |
| FACW spp. | 30 | x 2 = | 60 |
| FAC spp. | 0 | x 3 = | 0 |
| FACU spp. | 0 | x 4 = | 0 |
| UPL spp. | 0 | x 5 = | 0 |
| Total | 140 (A) | | 170 (B) |

Prevalence Index = B/A = ***1.214***

### 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
## Northcentral and Northeast Region

| | | | |
|---|---|---|---|
| Project/Site: | Line 6B Phase 2 Replacement Project | Stantec Project #: | 193701660 |
| Applicant: | Enbridge | | |
| Investigator #1: | D. Tersteeg | Investigator #2: | -- |
| Soil Unit: | Darroch loam | NWI/WWI Classification: | -- |
| Landform: | flat | Local Relief: | none |
| Slope (%): | 0 | Latitude: -- | Longitude: -- Datum: -- |

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

Are Vegetation ☐ , Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

| | |
|---|---|
| Date: | 05/25/12 |
| County: | Lake |
| State: | Indiana |
| Wetland ID: | W-472c |
| Sample Point: | 1u |
| Community ID: | upland |
| Section: | 10 |
| Township: | 35 N |
| Range: | 8 Dir: W |

## SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks: --

## 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
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ 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
- ☐ Other (Explain)

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 | ☑ No | Depth: n/a | (in.) |
| Water Table Present? | ☐ Yes | ☑ No | Depth: >18 | (in.) |
| Saturation Present? | ☐ Yes | ☑ No | Depth: >18 | (in.) |

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

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

Remarks: --

## SOILS

Map Unit Name: Darroch loam — Series Drainage Class: somewhat poorly

Taxonomy (Subgroup): Aquic Argiudolls — 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; Locaiton: PL=Pore Lining, M=Matrix)

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

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

- ☐ 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)

[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: First layer appears to be fill.

# WETLAND DETERMINATION DATA FORM
## Northcentral and Northeast Region

| Project/Site: | Line 6B Phase 2 Replacement Project | Wetland ID: | W-472c | Sample Point | 1u |
|---|---|---|---|---|---|

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

Tree Stratum (Plot size: 10 meter radius)

| | Species Name | % Cover | Dominant | Ind.Status |
|---|---|---|---|---|
| 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* | 70 | Y | FAC |
| 2. | *TRIFOLIUM PRATENSE* | 20 | Y | FACU |
| 3. | *TARAXACUM OFFICINALE* | 10 | N | 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 | | |

### 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)

### Prevalence Index Worksheet

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL spp. | 0 | x 1 = | 0 |
| FACW spp. | 0 | x 2 = | 0 |
| FAC spp. | 70 | x 3 = | 210 |
| FACU spp. | 30 | x 4 = | 120 |
| UPL spp. | 0 | x 5 = | 0 |
| Total | 100 (A) | | 330 (B) |

Prevalence Index = B/A = ***3.300***

### 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:**

--

Stantec

# WETLAND DETERMINATION DATA FORM
## Northcentral and Northeast Region

| | | | |
|---|---|---|---|
| Project/Site: | Line 6B Phase 2 Replacement Project | Stantec Project #: | 193701660 |
| Applicant: | Enbridge | | |
| Investigator #1: | D. Tersteeg | Investigator #2: | -- |
| Soil Unit: | Darroch loam | NWI/WWI Classification: | -- |
| Landform: | Depression | Local Relief: | concave |
| Slope (%): | -- | Latitude: -- | Longitude: -- Datum: -- |

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

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

| | |
|---|---|
| Date: | 05/25/12 |
| County: | Lake |
| State: | Indiana |
| Wetland ID: | W-472c |
| Sample Point: | 1w |
| Community ID: | EM1 |
| Section: | 10 |
| Township: | 35 N |
| Range: | 8 Dir: W |

## SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Type 1 wetland - excavated square basin dominated by *Phragmites*, *Juncus*, and *Polygonum*

## 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
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ 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
- ☐ Other (Explain)

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 | ☑ No | Depth: n/a | (in.) |
| Water Table Present? | ☐ Yes | ☑ No | Depth: >18 | (in.) |
| Saturation Present? | ☐ Yes | ☑ No | Depth: >18 | (in.) |

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

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

Remarks: --

## SOILS

Map Unit Name: Darroch loam — Series Drainage Class: somewhat poorly

Taxonomy (Subgroup): Aquic Argiudolls — 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; Locaiton: PL=Pore Lining, M=Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix Color (Moist) | | Matrix % | Mottles Color (Moist) | | Mottles % | Mottles Type | Mottles Location | Texture (e.g. clay, sand, loam) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 12 | 1 | 10YR | 4/2 | 80 | 10YR | 4/6 | 20 | C | M | clay loam |
| 12 | 18 | 2 | 10YR | 4/1 | 70 | 10YR | 4/6 | 30 | C | M | clay loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

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

- ☐ 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)

[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: | Line 6B Phase 2 Replacement Project | Wetland ID: | W-472c | Sample Point | 1w |
|---|---|---|---|---|---|

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

Tree Stratum (Plot size: 10 meter radius)

| | Species Name | % Cover | Dominant | Ind.Status |
|---|---|---|---|---|
| 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. | *PORTULACA OLERACEA* | 50 | Y | FAC |
| 2. | *Phragmites australis* | 30 | Y | FACW |
| 3. | *POLYGONUM PERSICARIA* | 10 | N | FACW |
| 4. | *Juncus sp.* | 5 | N | -- |
| 5. | -- | -- | -- | -- |
| 6 | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| | Total Cover = | 95 | | |

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: 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. | 0 | x 1 = | 0 |
| FACW spp. | 40 | x 2 = | 80 |
| FAC spp. | 50 | x 3 = | 150 |
| FACU spp. | 0 | x 4 = | 0 |
| UPL spp. | 0 | x 5 = | 0 |
| Total | 90 (A) | | 230 (B) |

Prevalence Index = B/A = ***2.556***

### 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: Dominants include invasive common reed.

**Additional Remarks:**

--

Stantec

# WETLAND DETERMINATION DATA FORM
## Northcentral and Northeast Region

| | | | |
|---|---|---|---|
| Project/Site: | Line 6B Phase 2 Replacement Project | Stantec Project #: | 193701660 |
| Applicant: | Enbridge | | |
| Investigator #1: | J. Delmedico | Investigator #2: | S. Carlson |
| Soil Unit: | Morley silt loam, 2 to 6 percent slopes | NWI/WWI Classification: | -- |
| Landform: | -- | Local Relief: | -- |
| Slope (%): | -- | Latitude: -- | Longitude: -- Datum: -- |

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

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

| | |
|---|---|
| Date: | 04/18/12 |
| County: | Lake |
| State: | Indiana |
| Wetland ID: | W-473a |
| Sample Point: | 1u |
| Community ID: | upland |
| Section: | 11 |
| Township: | 35 N |
| Range: | 8 Dir: W |

## SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks: --

## 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
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ 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
- ☐ Other (Explain)

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 | ☑ No | Depth: n/a | (in.) |
| Water Table Present? | ☐ Yes | ☑ No | Depth: >12 | (in.) |
| Saturation Present? | ☐ Yes | ☑ No | Depth: >12 | (in.) |

**Wetland Hydrology Present?** ☐ 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, 2 to 6 percent slopes 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; Locaiton: PL=Pore Lining, M=Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix Color (Moist) | Matrix | % | Mottles Color (Moist) | Mottles | % | Type | Location | Texture (e.g. clay, sand, loam) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 6 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | -- | sandy loam |
| 6 | 12 | 2 | 2.5Y | 6/2 | 80 | 10YR | 6/8 | 20 | C | M | sandy loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

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

- ☐ 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)

[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: 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: | Line 6B Phase 2 Replacement Project | Wetland ID: | W-473a | Sample Point | 1u |
|---|---|---|---|---|---|

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

Tree Stratum (Plot size: 10 meter radius)

| | Species Name | % Cover | Dominant | Ind.Status |
|---|---|---|---|---|
| 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* | 40 | Y | FAC |
| 2. | *MELILOTUS OFFICINALIS* | 10 | N | FACU |
| 3. | *TRIFOLIUM PRATENSE* | 5 | N | FACU |
| 4. | *Solidago canadensis* | 20 | Y | FACU |
| 5. | -- | -- | -- | -- |
| 6 | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| | Total Cover = | 75 | | |

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: 2 (B)

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

### Prevalence Index Worksheet

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL spp. | 0 | x 1 = | 0 |
| FACW spp. | 0 | x 2 = | 0 |
| FAC spp. | 40 | x 3 = | 120 |
| FACU spp. | 35 | x 4 = | 140 |
| UPL spp. | 0 | x 5 = | 0 |
| Total | 75 (A) | | 260 (B) |

Prevalence Index = B/A = ***3.467***

### 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: | Line 6B Phase 2 Replacement Project | Stantec Project #: | 193701660 |
| Applicant: | Enbridge | | |
| Investigator #1: | J. Delmedico | Investigator #2: | S. Carlson |
| Soil Unit: | Milford silt loam, overwash | NWI/WWI Classification: | -- |
| Landform: | -- | Local Relief: | -- |
| Slope (%): | -- | Latitude: -- | Longitude: -- Datum: -- |

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

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

| | |
|---|---|
| Date: | 04/18/12 |
| County: | Lake |
| State: | Indiana |
| Wetland ID: | W-473a |
| Sample Point: | 1w |
| Community ID: | FO1 |
| Section: | 11 |
| Township: | 35 N |
| Range: | 8 Dir: W |

## SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Point take on top of bank of S-473a, ~ 1 foot above water level of stream

## 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
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ 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
- ☐ Other (Explain)

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 | ☑ No | Depth: n/a | (in.) |
| Water Table Present? | ☑ Yes | ☐ No | Depth: 24 | (in.) |
| Saturation Present? | ☑ Yes | ☐ No | Depth: 12 | (in.) |

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

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

Remarks: --

## SOILS

Map Unit Name: Milford silt loam, overwash — Series Drainage Class: poorly - very poorly

Taxonomy (Subgroup): Typic Endoaquolls — 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; Locaiton: PL=Pore Lining, M=Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix Color (Moist) | Matrix | % | Mottles Color (Moist) | Mottles | % | Type | Location | Texture (e.g. clay, sand, loam) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 10 | 1 | 10YR | 3/1 | -- | -- | -- | -- | -- | -- | silt loam |
| 10 | 18+ | 2 | 10YR | 3/1 | 95 | 7.5YR | 3/4 | 5 | C | M | silt loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

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

- ☐ 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)

[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: Line 6B Phase 2 Replacement Project | Wetland ID: W-473a | Sample Point: 1w

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

Tree Stratum (Plot size: 10 meter radius)

| | Species Name | % Cover | Dominant | Ind.Status |
|---|---|---|---|---|
| 1. | *Salix nigra* | 40 | Y | OBL |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| | Total Cover = | 40 | | |

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. | *PHALARIS ARUNDINACEA* | 40 | Y | FACW |
| 2. | *Carex vulpinoidea* | 40 | Y | OBL |
| 3. | *Impatiens capensis* | 15 | N | FACW |
| 4. | *ROSA MULTIFLORA* | 5 | N | FACU |
| 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: 3 (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. | 80 | x 1 = | 80 |
| FACW spp. | 55 | x 2 = | 110 |
| FAC spp. | 0 | x 3 = | 0 |
| FACU spp. | 5 | x 4 = | 20 |
| UPL spp. | 0 | x 5 = | 0 |
| Total | 140 (A) | | 210 (B) |

Prevalence Index = B/A = ***1.500***

### 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: Dominated by invasive reed canary grass in the understory.

**Additional Remarks:**

--

# WETLAND DETERMINATION DATA FORM
## Northcentral and Northeast Region

Stantec

| | | | |
|---|---|---|---|
| Project/Site: | Line 6B Phase 2 Replacement Project | Stantec Project #: | 193701660 |
| Applicant: | Enbridge | | |
| Investigator #1: | S. Carlson | Investigator #2: | J. Delmedico |
| Soil Unit: | Milford silt loam, overwash | NWI/WWI Classification: | -- |
| Landform: | -- | Local Relief: | -- |
| Slope (%): | -- | Latitude: -- | Longitude: -- Datum: -- |

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

Are Vegetation ☐ , Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

| | |
|---|---|
| Date: | 04/18/12 |
| County: | Lake |
| State: | Indiana |
| Wetland ID: | W-473a |
| Sample Point: | 2w |
| Community ID: | EM1 |
| Section: | 11 |
| Township: | 35 N |
| Range: | 8 Dir: W |

## SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: --

## 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
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ 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
- ☐ Other (Explain)

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 | ☑ No | Depth: n/a | (in.) |
| Water Table Present? | ☑ Yes | ☐ No | Depth: 12 | (in.) |
| Saturation Present? | ☑ Yes | ☐ No | Depth: 8 | (in.) |

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

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

Remarks:

## SOILS

Map Unit Name: Milford silt loam, overwash — Series Drainage Class: poorly - very poorly

Taxonomy (Subgroup): Typic Endoaquolls — 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; Locaiton: PL=Pore Lining, M=Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix Color (Moist) | | Matrix % | Mottles Color (Moist) | | Mottles % | Mottles Type | Mottles Location | Texture (e.g. clay, sand, loam) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 8 | 1 | 10YR | 3/1 | 100 | -- | -- | -- | -- | -- | silt loam |
| 8 | 24 | 2 | 10YR | 3/1 | 90 | 2.5YR | 4/6 | 10 | C | M | silt loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

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

- ☐ 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)

[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: Line 6B Phase 2 Replacement Project | Wetland ID: W-473a | Sample Point: 2w

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

Tree Stratum (Plot size: 10 meter radius)

| | Species Name | % Cover | Dominant | Ind.Status |
|---|---|---|---|---|
| 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. | *PHALARIS ARUNDINACEA* | 70 | Y | FACW |
| 2. | *Carex vulpinoidea* | 20 | Y | OBL |
| 3. | *Impatiens pallida* | 5 | N | FACW |
| 4. | *Scirpus atrovirens* | 5 | N | OBL |
| 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: 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. | 25 | x 1 = | 25 |
| FACW spp. | 75 | x 2 = | 150 |
| FAC spp. | 0 | x 3 = | 0 |
| FACU spp. | 0 | x 4 = | 0 |
| UPL spp. | 0 | x 5 = | 0 |
| Total | 100 (A) | | 175 (B) |

Prevalence Index = B/A = ***1.750***

### 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: Dominated by invasive reed canary grass.

**Additional Remarks:**

--

# WETLAND DETERMINATION DATA FORM
## Northcentral and Northeast Region

Stantec

| | | | |
|---|---|---|---|
| Project/Site: | Line 6B Phase 2 Replacement Project | Stantec Project #: | 193701660 |
| Applicant: | Enbridge | | |
| Investigator #1: | D. Tersteeg | Investigator #2: | -- |
| Soil Unit: | Borrow pits | NWI/WWI Classification: | -- |
| Landform: | flat | Local Relief: | none |
| Slope (%): | -- | Latitude: -- | Longitude: -- Datum: -- |

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

Are Vegetation ☐ , Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

| | |
|---|---|
| Date: | 05/25/12 |
| County: | Lake |
| State: | Indiana |
| Wetland ID: | W-473y |
| Sample Point: | 1u |
| Community ID: | upland |
| Section: | 11 |
| Township: | 35 N |
| Range: | 8 Dir: W |

## SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks: --

## 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
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ 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
- ☐ Other (Explain)

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 | ☑ No | Depth: na | (in.) |
| Water Table Present? | ☐ Yes | ☑ No | Depth: >18 | (in.) |
| Saturation Present? | ☐ Yes | ☑ No | Depth: >18 | (in.) |

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

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

Remarks: --

## SOILS

Map Unit Name: Borrow pits — 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; Locaiton: PL=Pore Lining, M=Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix Color (Moist) | | Matrix % | Mottles Color (Moist) | | Mottles % | Mottles Type | Mottles Location | Texture (e.g. clay, sand, loam) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 14 | 1 | 10YR | 2/2 | 100 | -- | -- | -- | -- | -- | clay loam |
| 14 | 18 | 2 | 10YR | 5/1 | 95 | 10YR | 4/6 | 5 | C | M | silty clay loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

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

- ☐ 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)

[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: | Line 6B Phase 2 Replacement Project | Wetland ID: | W-473y | Sample Point | 1u |
|---|---|---|---|---|---|

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

Tree Stratum (Plot size: 10 meter radius)

| | Species Name | % Cover | Dominant | Ind.Status |
|---|---|---|---|---|
| 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* | 50 | Y | FAC |
| 2. | *Solidago canadensis* | 30 | Y | FACU |
| 3. | *TARAXACUM OFFICINALE* | 10 | N | FACU |
| 4. | *CIRSIUM ARVENSE* | 5 | N | FACU |
| 5. | *Asclepias syriaca* | 5 | N | UPL |
| 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: 2 (B)

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

### Prevalence Index Worksheet

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL spp. | 0 | x 1 = | 0 |
| FACW spp. | 0 | x 2 = | 0 |
| FAC spp. | 50 | x 3 = | 150 |
| FACU spp. | 45 | x 4 = | 180 |
| UPL spp. | 5 | x 5 = | 25 |
| Total | 100 (A) | | 355 (B) |

Prevalence Index = B/A = ***3.550***

### 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:**

--

Stantec

# WETLAND DETERMINATION DATA FORM
## Northcentral and Northeast Region

| | | | |
|---|---|---|---|
| Project/Site: | Line 6B Phase 2 Replacement Project | Stantec Project #: | 193701660 |
| Applicant: | Enbridge | | |
| Investigator #1: | D. Tersteeg | Investigator #2: | -- |
| Soil Unit: | Borrow pits | NWI/WWI Classification: | -- |
| Landform: | -- | Local Relief: | -- |
| Slope (%): | -- | Latitude: -- | Longitude: -- Datum: -- |

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

Are Vegetation ☐ , Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

| | |
|---|---|
| Date: | 05/25/12 |
| County: | Lake |
| State: | Indiana |
| Wetland ID: | W-473y |
| Sample Point: | 1w |
| Community ID: | EM1 |
| Section: | 11 |
| Township: | 35 N |
| Range: | 8 Dir: W |

## SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Type 2/3 wetland fringe dominated by purple loosestrife, Juncus, and cattail with scattered cottonwoods. Fill on all three upland sides of this wetland has given it a rectangular shape.

## 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
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ 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
- ☐ Other (Explain)

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 | ☑ No | Depth: na | (in.) |
| Water Table Present? | ☑ Yes | ☐ No | Depth: 10 | (in.) |
| Saturation Present? | ☑ Yes | ☐ No | Depth: 10 | (in.) |

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

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

Remarks: --

## SOILS

Map Unit Name: Borrow pits — 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; Locaiton: PL=Pore Lining, M=Matrix)

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

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

- ☐ 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)

[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: | Line 6B Phase 2 Replacement Project | Wetland ID: | W-473y | Sample Point | 1w |
|---|---|---|---|---|---|

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

Tree Stratum (Plot size: 10 meter radius)

| | Species Name | % Cover | Dominant | Ind.Status |
|---|---|---|---|---|
| 1. | *Populus deltoides* | 10 | Y | FAC |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| | Total Cover = | 10 | | |

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

| | | | | |
|---|---|---|---|---|
| 1. | *Populus deltoides* | 10 | Y | FAC |
| 2. | *Salix exigua subsp. interior* | 5 | Y | OBL |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| | Total Cover = | 15 | | |

Herb Stratum (Plot size: 2 meter radius)

| | | | | |
|---|---|---|---|---|
| 1. | *Typha angustifolia* | 40 | Y | OBL |
| 2. | *LYTHRUM SALICARIA* | 50 | Y | OBL |
| 3. | *Juncus sp.* | 10 | N | -- |
| 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: 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. | 95 | x 1 = | 95 |
| FACW spp. | 0 | x 2 = | 0 |
| FAC spp. | 20 | x 3 = | 60 |
| FACU spp. | 0 | x 4 = | 0 |
| UPL spp. | 0 | x 5 = | 0 |
| Total | 115 (A) | | 155 (B) |

Prevalence Index = B/A = ***1.348***

### 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: Herbacous layer dominated by invasive purple loosestrife.

**Additional Remarks:**

--

# WETLAND DETERMINATION DATA FORM
## Northcentral and Northeast Region

| | | | |
|---|---|---|---|
| Project/Site: | Line 6B Phase 2 Replacement Project | Stantec Project #: | 193701660 |
| Applicant: | Enbridge | | |
| Investigator #1: | D. Tersteeg | Investigator #2: | -- |
| Soil Unit: | Milford silt loam, overwash | NWI/WWI Classification: | -- |
| Landform: | Slope | Local Relief: | convex |
| Slope (%): | -- | Latitude: -- | Longitude: -- Datum: -- |

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

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

| | |
|---|---|
| Date: | 05/26/12 |
| County: | Lake |
| State: | Indiana |
| Wetland ID: | W-473z |
| Sample Point: | 1u |
| Community ID: | upland |
| Section: | 11 |
| Township: | 35 N |
| Range: | 8 Dir: W |

## SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks: --

## 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
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ 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
- ☐ Other (Explain)

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 | ☑ No | Depth: n/a | (in.) |
| Water Table Present? | ☐ Yes | ☑ No | Depth: >18 | (in.) |
| Saturation Present? | ☐ Yes | ☑ No | Depth: >18 | (in.) |

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

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

Remarks: --

## SOILS

Map Unit Name: Milford silt loam, overwash — Series Drainage Class: poorly-verypoorly

Taxonomy (Subgroup): Typic Endoaquolls — 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; Locaiton: PL=Pore Lining, M=Matrix)

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

**NRCS Hydric Soil Field Indicators** (check here if indicators are not present ☑):
- ☐ 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)

[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: | Line 6B Phase 2 Replacement Project | Wetland ID: | W-473z | Sample Point | 1u |
|---|---|---|---|---|---|

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

Tree Stratum (Plot size: 10 meter radius)

| | Species Name | % Cover | Dominant | Ind.Status |
|---|---|---|---|---|
| 1. | *Prunus serotina* | 10 | N | FACU |
| 2. | *Quercus alba* | 80 | Y | FACU |
| 3. | *Populus deltoides* | 5 | N | FAC |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| | Total Cover = | 95 | | |

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

| | | | | |
|---|---|---|---|---|
| 1. | *LONICERA TATARICA* | 30 | Y | FACU |
| 2. | *Quercus alba* | 20 | Y | FACU |
| 3. | *ROSA MULTIFLORA* | 10 | N | FACU |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| | Total Cover = | 60 | | |

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: --

### 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. | 0 | x 1 = | 0 |
| FACW spp. | 0 | x 2 = | 0 |
| FAC spp. | 5 | x 3 = | 15 |
| FACU spp. | 150 | x 4 = | 600 |
| UPL spp. | 0 | x 5 = | 0 |
| Total | 155 (A) | | 615 (B) |

Prevalence Index = B/A = ***3.968***

### 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:**

--

Stantec

# WETLAND DETERMINATION DATA FORM
## Northcentral and Northeast Region

| | | | |
|---|---|---|---|
| Project/Site: | Line 6B Phase 2 Replacement Project | Stantec Project #: | 193701660 |
| Applicant: | Enbridge | | |
| Investigator #1: | D. Tersteeg | Investigator #2: | -- |
| Soil Unit: | Milford silt loam, overwash | NWI/WWI Classification: | -- |
| Landform: | floodplain | Local Relief: | concave |
| Slope (%): | -- | Latitude: -- | Longitude: -- Datum: -- |

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

Are Vegetation ☐ , Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

| | |
|---|---|
| Date: | 05/26/12 |
| County: | Lake |
| State: | Indiana |
| Wetland ID: | W-473z |
| Sample Point: | 1w |
| Community ID: | FO1 |
| Section: | 11 |
| Township: | 35 N |
| Range: | 8 Dir: W |

## SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Type 2 wetland - reed canary grass dominated fringe to creek.

## 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
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ 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
- ☐ Other (Explain)

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 | ☑ No | Depth: n/a | (in.) |
| Water Table Present? | ☐ Yes | ☑ No | Depth: 10 | (in.) |
| Saturation Present? | ☐ Yes | ☑ No | Depth: 4 | (in.) |

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

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

Remarks: --

## SOILS

Map Unit Name: Milford silt loam, overwash — Series Drainage Class: poorly-verypoorly

Taxonomy (Subgroup): Typic Endoaquolls — 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; Locaiton: PL=Pore Lining, M=Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix Color (Moist) | | Matrix % | Mottles Color (Moist) | | Mottles % | Mottles Type | Mottles Location | Texture (e.g. clay, sand, loam) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 8 | 1 | 10YR | 3/2 | 90 | 10YR | 3/6 | 10 | C | M / PL | silty clay loam |
| 8 | 18 | 2 | 10YR | 4/1 | 80 | 10YR | 4/6 | 20 | C | M | silty clay loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

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

- ☐ 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)

[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: | Line 6B Phase 2 Replacement Project | Wetland ID: | W-473z | Sample Point | 1w |
|---|---|---|---|---|---|

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

Tree Stratum (Plot size: 10 meter radius)

| | Species Name | % Cover | Dominant | Ind.Status |
|---|---|---|---|---|
| 1. | *Populus deltoides* | 40 | Y | FAC |
| 2. | *Quercus alba* | 5 | N | FACU |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| | Total Cover = | 45 | | |

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

| | | | | |
|---|---|---|---|---|
| 1. | *Fraxinus pennsylvanica* | 10 | Y | FACW |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| | Total Cover = | 10 | | |

Herb Stratum (Plot size: 2 meter radius)

| | | | | |
|---|---|---|---|---|
| 1. | *PHALARIS ARUNDINACEA* | 70 | Y | FACW |
| 2. | *Impatiens capensis* | 10 | N | FACW |
| 3. | *Solidago gigantea* | 20 | Y | FACW |
| 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: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (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. | 0 | x 1 = | 0 |
| FACW spp. | 110 | x 2 = | 220 |
| FAC spp. | 40 | x 3 = | 120 |
| FACU spp. | 5 | x 4 = | 20 |
| UPL spp. | 0 | x 5 = | 0 |
| Total | 155 (A) | | 360 (B) |

Prevalence Index = B/A = ***2.323***

### 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: Dominated by invasive reed canary grass.

**Additional Remarks:**

--

# WETLAND DETERMINATION DATA FORM
## Northcentral and Northeast Region

| | | | |
|---|---|---|---|
| Project/Site: | Indiana Line 6B | Stantec Project #: | 193701313 |
| Applicant: | Enbridge | | |
| Investigator #1: | E. Parker | Investigator #2: | H. Stoffs |
| Soil Unit: | Morley silt loam | NWI/WWI Classification: | -- |
| Landform: | -- | Local Relief: | -- |
| Slope (%): | -- | Latitude: -- | Longitude: -- Datum: -- |

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

Are Vegetation ☐ , Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

| | |
|---|---|
| Date: | 11/09/11 |
| County: | Lake |
| State: | Indiana |
| Wetland ID: | W-475a |
| Sample Point: | 1u |
| Community ID: | Upland |
| Section: | 6 |
| Township: | 35 N |
| Range: | 7 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: --

## 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
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ 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
- ☐ Other (Explain)

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 ☑ No | Depth: | N/A | (in.) |
| Water Table Present? | ☐ Yes ☑ No | Depth: | N/A | (in.) |
| Saturation Present? | ☐ Yes ☑ No | Depth: | N/A | (in.) |

**Wetland Hydrology Present?** ☐ 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: poorly and very poorly

Taxonomy (Subgroup): Typic Endoaquolls — 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; Locaiton: PL=Pore Lining, M=Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix Color (Moist) | Matrix % | Mottles Color (Moist) | Mottles % | Mottles Type | Mottles Location | Texture (e.g. clay, sand, loam) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 6 | 1 | 10YR 4/2 | -- | -- | -- | -- | -- | Silt Loam |
| 6 | 15 | 2 | 2.5Y 5/3 | 90 | 2.5Y 5/6 | 10 | C | M | Silt Loam |
| 15 | 20 | 3 | 2.5Y 4/2 | -- | -- | -- | -- | -- | Silty Clay Loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

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

- ☐ 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)

[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-475a | Sample Point | 1u |
|---|---|---|---|---|---|

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

Tree Stratum (Plot size: 10 meter radius)

| | Species Name | % Cover | Dominant | Ind.Status |
|---|---|---|---|---|
| 1. | *Quercus macrocarpa* | 5 | Y | FAC |
| 2. | *Tilia americana* | 10 | Y | FACU |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| | Total Cover = | 15 | | |

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

| | | | | |
|---|---|---|---|---|
| 1. | *LONICERA MAACKII* | 40 | Y | NI |
| 2. | *ROSA MULTIFLORA* | 15 | Y | FACU |
| 3. | *Rhus glabra* | 15 | Y | UPL |
| 4. | *Fraxinus pennsylvanica* | 5 | N | FACW |
| 5. | *Carya ovata* | 2 | N | FACU |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| | Total Cover = | 77 | | |

Herb Stratum (Plot size: 2 meter radius)

| | | | | |
|---|---|---|---|---|
| 1. | *Hydrophyllum virginianum* | 2 | Y | FACW |
| 2. | *ALLIARIA PETIOLATA* | 1 | Y | FAC |
| 3. | *Aster lateriflorus* | 1 | Y | FACW |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6 | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| | Total Cover = | 4 | | |

Woody Vine Stratum (Plot size: 10 meter radius)

| | | | | |
|---|---|---|---|---|
| 1. | *Smilax lasioneuron* | 5 | Y | NI |
| 2. | *Parthenocissus quinquefolia* | 5 | Y | FAC |
| 3. | *Vitis riparia* | 5 | Y | FACW |
| 5. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| | 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: 11 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***54.5%*** (A/B)

### Prevalence Index Worksheet

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL spp. | 0 | x 1 = | 0 |
| FACW spp. | 13 | x 2 = | 26 |
| FAC spp. | 11 | x 3 = | 33 |
| FACU spp. | 27 | x 4 = | 108 |
| UPL spp. | 60 | x 5 = | 300 |
| Total | 111 (A) | | 467 (B) |

Prevalence Index = B/A = ***4.207***

### 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: While the dominance test is greater than 50%, the prevalence index is greater than 3 and the rapid test was not met. The absence of wetland hydrology and soils support an upland determination.

**Additional Remarks:**

--

# WETLAND DETERMINATION DATA FORM
## Northcentral and Northeast Region

| | | | |
|---|---|---|---|
| Project/Site: | Indiana Line 6B | Stantec Project #: | 193701313 |
| Applicant: | Enbridge | | |
| Investigator #1: | E. Parker | Investigator #2: | H. Stoffs |
| Soil Unit: | Morley silt loam | NWI/WWI Classification: | PFO1C / PEMC |
| Landform: | -- | Local Relief: | -- |
| Slope (%): | -- | Latitude: -- | Longitude: -- Datum: -- |

| | |
|---|---|
| Date: | 11/09/11 |
| County: | Lake |
| State: | Indiana |
| Wetland ID: | W-475a |
| Sample Point: | 1w |
| Community ID: | PEM/FO |
| Section: | 6 |
| Township: | 35 N |
| Range: | 7 Dir: W |

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

Are Vegetation ☐ , Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

## SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☑ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: --

## 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
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☑ 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
- ☐ Other (Explain)

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 | ☐ No | Depth: 1 | (in.) |
| Water Table Present? | ☑ Yes | ☐ No | Depth: 0 | (in.) |
| Saturation Present? | ☑ Yes | ☐ No | Depth: 0 | (in.) |

**Wetland Hydrology Present?** ☑ 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 drained

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; Locaiton: PL=Pore Lining, M=Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix Color (Moist) | Matrix % | Mottles Color (Moist) | Mottles % | Mottles Type | Mottles Location | Texture (e.g. clay, sand, loam) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 10 | 1 | 10Y 3/0 | 90 | 10YR 4/6 | 5 | -- | -- | Silt Loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

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

- ☐ 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)

[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-475a | Sample Point | 1w |
|---|---|---|---|---|---|

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

Tree Stratum (Plot size: 10 meter radius)

| | Species Name | % Cover | Dominant | Ind.Status |
|---|---|---|---|---|
| 1. | *Ulmus americana* | 10 | Y | FACW |
| 2. | *Fraxinus pennsylvanica* | 10 | Y | FACW |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| | Total Cover = | 20 | | |

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

| | | | | |
|---|---|---|---|---|
| 1. | *Fraxinus pennsylvanica* | 5 | Y | FACW |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| | Total Cover = | 5 | | |

Herb Stratum (Plot size: 2 meter radius)

| | | | | |
|---|---|---|---|---|
| 1. | *Aster lateriflorus* | 15 | Y | FACW |
| 2. | *PHALARIS ARUNDINACEA* | 10 | Y | FACW |
| 3. | *POLYGONUM HYDROPIPER* | 5 | N | OBL |
| 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 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. | 5 | x 1 = | 5 |
| FACW spp. | 50 | x 2 = | 100 |
| FAC spp. | 0 | x 3 = | 0 |
| FACU spp. | 0 | x 4 = | 0 |
| UPL spp. | 0 | x 5 = | 0 |
| Total | 55 (A) | | 105 (B) |

Prevalence Index = B/A = ***1.909***

### 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
## Northcentral and Northeast Region

| | | | |
|---|---|---|---|
| Project/Site: | Indiana Line 6B | Stantec Project #: | 193701313 |
| Applicant: | Enbridge | | |
| Investigator #1: | D. Tersteeg | Investigator #2: | J. Currie |
| Soil Unit: | Whitaker loam | NWI/WWI Classification: | -- |
| Landform: | -- | Local Relief: | -- |
| Slope (%): | 1-3 | Latitude: -- | Longitude: -- Datum: -- |

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

Are Vegetation ☐ , Soil ☑, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☑, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

| | |
|---|---|
| Date: | 11/02/11 |
| County: | Lake |
| State: | Indiana |
| Wetland ID: | W-475a |
| Sample Point: | 2u |
| Community ID: | Upland |
| Section: | 7 |
| Township: | 36 N |
| Range: | 7 Dir: W |

## SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks: Soils are are fill soils/disturbed from from powerline

## 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
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ 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
- ☐ Other (Explain)

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 | ☑ No | Depth: n/a | (in.) |
| Water Table Present? | ☐ Yes | ☑ No | Depth: n/a | (in.) |
| Saturation Present? | ☐ Yes | ☑ No | Depth: n/a | (in.) |

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

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

Remarks: --

## SOILS

Map Unit Name: Whitaker loam — Series Drainage Class: Somewhat poor

Taxonomy (Subgroup): Aeric Endoaqualfs — 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; Locaiton: PL=Pore Lining, M=Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix Color (Moist) | Matrix % | Mottles Color (Moist) | Mottles % | Mottles Type | Mottles Location | Texture (e.g. clay, sand, loam) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 5 | 1 | 10YR 3/2 | -- | -- | -- | -- | -- | Silty Clay Loam |
| 5 | 16 | 2 | 10YR 4/3 | 95 | 10YR 4/6 | 5 | C | M | Sandy Clay Loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

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

- ☐ 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)

[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-475a | Sample Point | 2u |
|---|---|---|---|---|---|

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

Tree Stratum (Plot size: 10 meter radius)

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

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

| | | | | |
|---|---|---|---|---|
| 1. | *Rubus idaeus var. strigosus* | 5 | Y | FACW |
| 2. | *Prunus americana* | 2 | Y | UPL |
| 3. | *LONICERA TATARICA* | 2 | Y | FACU |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| | Total Cover = | 9 | | |

Herb Stratum (Plot size: 2 meter radius)

| | | | | |
|---|---|---|---|---|
| 1. | *POA PRATENSIS* | 80 | Y | FAC |
| 2. | *Solidago canadensis* | 20 | N | FACU |
| 3. | *Daucus carota* | 2 | N | UPL |
| 4. | *Solidago rugosa* | 2 | N | FAC |
| 5. | *Potentilla simplex* | 2 | N | FACU |
| 6 | *Aster firmus* | 1 | N | FACW |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| | Total Cover = | 107 | | |

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: 2 (A)

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

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

### Prevalence Index Worksheet

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL spp. | 0 | x 1 = | 0 |
| FACW spp. | 6 | x 2 = | 12 |
| FAC spp. | 82 | x 3 = | 246 |
| FACU spp. | 24 | x 4 = | 96 |
| UPL spp. | 4 | x 5 = | 20 |
| Total | 116 (A) | | 374 (B) |

Prevalence Index = B/A = ***3.224***

### 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
## Northcentral and Northeast Region

| | | | |
|---|---|---|---|
| Project/Site: | Indiana Line 6B | Stantec Project #: | 193701313 |
| Applicant: | Enbridge | | |
| Investigator #1: | D. Tersteeg | Investigator #2: | J. Currie |
| Soil Unit: | Milford-Palms-Wallkill complex | NWI/WWI Classification: | PFO1C |
| Landform: | Floodplain (Deep River) | Local Relief: | -- |
| Slope (%): | -- | Latitude: -- | Longitude: -- Datum: -- |

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

Are Vegetation ☐ , Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

| | |
|---|---|
| Date: | 11/02/11 |
| County: | Lake |
| State: | Indiana |
| Wetland ID: | W-475a |
| Sample Point: | 2w |
| Community ID: | PEM |
| Section: | 7 |
| Township: | 35 N |
| Range: | 7 Dir: W |

## SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: --

## 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
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ 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
- ☐ Other (Explain)

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 | ☑ No | Depth: n/a | (in.) |
| Water Table Present? | ☐ Yes | ☑ No | Depth: n/a | (in.) |
| Saturation Present? | ☐ Yes | ☑ No | Depth: n/a | (in.) |

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

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

Remarks: --

## SOILS

Map Unit Name: Milford-Palms-Wallkill complex — Series Drainage Class: Very poor

Taxonomy (Subgroup): Typic Endoaquolls — 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; Locaiton: PL=Pore Lining, M=Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix Color (Moist) | Matrix | Matrix % | Mottles Color (Moist) | Mottles | Mottles % | Mottles Type | Mottles Location | Texture (e.g. clay, sand, loam) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 8 | 1 | 10YR | 3/1 | 98 | 10YR | 3/6 | 2 | C | PL | Silt Loam |
| 8 | 14 | 2 | 10YR | 4/1 | 90 | 10YR | 4/6 | 10 | C | PL | Silty Clay Loam |
| 14 | 20 | 3 | 10YR | 4/2 | 70 | 10YR | 4/6 | 30 | C | M | Clay Loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

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

- ☐ 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)

[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-475a | Sample Point 2w

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

Tree Stratum (Plot size: 10 meter radius)

| | Species Name | % Cover | Dominant | Ind.Status |
|---|---|---|---|---|
| 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. | *PHALARIS ARUNDINACEA* | 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 | | |

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. | 0 | x 1 = | 0 |
| FACW spp. | 100 | x 2 = | 200 |
| FAC spp. | 0 | x 3 = | 0 |
| FACU spp. | 0 | x 4 = | 0 |
| UPL spp. | 0 | x 5 = | 0 |
| Total | 100 (A) | | 200 (B) |

Prevalence Index = B/A = ***2.000***

### 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: | Line 6B Phase 2 Replacement Project | Stantec Project #: | 193701660 |
| Applicant: | Enbridge | | |
| Investigator #1: | M. Arsenault | Investigator #2: | A. Terwell |
| Soil Unit: | Milford-Palms-Wallkill complex | NWI/WWI Classification: | -- |
| Landform: | slope above floodplain | Local Relief: | -- |
| Slope (%): | 15 | Latitude: -- | Longitude: -- Datum: -- |

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

Are Vegetation ☐ , Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

| | |
|---|---|
| Date: | 05/30/12 |
| County: | Lake |
| State: | Indiana |
| Wetland ID: | W-475-a |
| Sample Point: | 3u |
| Community ID: | upland |
| Section: | 7 |
| Township: | 35 N |
| Range: | 7 Dir: W |

## SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks: --

## 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
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ 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
- ☐ Other (Explain)

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 | ☑ No | Depth: n/a | (in.) |
| Water Table Present? | ☐ Yes | ☑ No | Depth: >8 | (in.) |
| Saturation Present? | ☐ Yes | ☑ No | Depth: >8 | (in.) |

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

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

Remarks: --

## SOILS

Map Unit Name: Milford-Palms-Wallkill complex — Series Drainage Class: very poorly drained

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; Locaiton: PL=Pore Lining, M=Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix Color (Moist) | | Matrix % | Mottles Color (Moist) | | Mottles % | Mottles Type | Mottles Location | Texture (e.g. clay, sand, loam) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 8+ | 1 | 2.5Y | 5/3 | 100 | -- | -- | -- | -- | -- | sandy loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

**NRCS Hydric Soil Field Indicators** (check here if indicators are not present ☑):
- ☐ 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)

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

**Restrictive Layer (If Observed)** Type: hardpan Depth: 8"

**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-475-a | Sample Point | 3u |
|---|---|---|---|---|---|

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

Tree Stratum (Plot size: 10 meter radius)

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

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

| | | | | |
|---|---|---|---|---|
| 1. | *Sambucus canadensis* | 40 | Y | FACW |
| 2. | *Rubus allegheniensis* | 15 | Y | FACU |
| 3. | *LONICERA X BELLA* | 5 | N | FACU |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| | Total Cover = | 60 | | |

Herb Stratum (Plot size: 2 meter radius)

| | | | | |
|---|---|---|---|---|
| 1. | *CIRSIUM ARVENSE* | 7 | N | FACU |
| 2. | *ARCTIUM MINUS* | 7 | N | UPL |
| 3. | *PHALARIS ARUNDINACEA* | 40 | Y | FACW |
| 4. | *Solidago gigantea* | 15 | Y | FACW |
| 5. | *ALLIARIA PETIOLATA* | 15 | Y | FAC |
| 6 | *Galium aparine* | 3 | N | FACU |
| 7. | *Vitis riparia* | 3 | N | FACW |
| 8. | *Boehmeria cylindrica* | 1 | N | OBL |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| | Total Cover = | 91 | | |

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. | 1 | x 1 = | 1 |
| FACW spp. | 98 | x 2 = | 196 |
| FAC spp. | 15 | x 3 = | 45 |
| FACU spp. | 30 | x 4 = | 120 |
| UPL spp. | 7 | x 5 = | 35 |
| Total | 151 (A) | | 397 (B) |

Prevalence Index = B/A = ***2.629***

### 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: While hydric vegetation was observed, the abence of wetland hydrology and soils support an upland determination. Area dominated by invasive reed canary grass, which, while FACW, commonly creeps into upland areas.

**Additional Remarks:**

--

# WETLAND DETERMINATION DATA FORM
## Northcentral and Northeast Region

Stantec

| | | | |
|---|---|---|---|
| Project/Site: | Line 6B Phase 2 Replacement Project | Stantec Project #: | 193701660 |
| Applicant: | Enbridge | | |
| Investigator #1: | M. Arsenault | Investigator #2: | A. Terwell |
| Soil Unit: | Milford-Palms-Wallkill complex | NWI/WWI Classification: | PFO1C |
| Landform: | floodplain | Local Relief: | concave |
| Slope (%): | 15 | Latitude: -- | Longitude: -- Datum: -- |

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

Are Vegetation ☐ , Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

| | |
|---|---|
| Date: | 05/30/12 |
| County: | Lake |
| State: | Indiana |
| Wetland ID: | W-475-a |
| Sample Point: | 3w |
| Community ID: | EM1 |
| Section: | 7 |
| Township: | 35 N |
| Range: | 7 Dir: W |

## SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
**Is This Sampling Point Within A Wetland? ☑ Yes ☐ No**

Remarks: PEM wetland in open transmission line corridor

## 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
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ 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
- ☐ Other (Explain)

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 | ☑ No | Depth: n/a | (in.) |
| Water Table Present? | ☐ Yes | ☑ No | Depth: >20 | (in.) |
| Saturation Present? | ☑ Yes | ☐ No | Depth: 0 | (in.) |

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

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

Remarks: --

## SOILS

Map Unit Name: Milford-Palms-Wallkill complex — Series Drainage Class: very poorly drained

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; Locaiton: PL=Pore Lining, M=Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix Color (Moist) | Matrix | Matrix % | Mottles Color (Moist) | Mottles | Mottles % | Mottles Type | Mottles Location | Texture (e.g. clay, sand, loam) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 8 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | -- | silt loam |
| 8 | 20 | 2 | 2.5Y | 4/2 | 85 | 10YR | 3/4 | 15 | C | M | silt loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

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

- ☐ 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)

[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: Line 6B Phase 2 Replacement Project | Wetland ID: W-475-a | Sample Point: 3w

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

Tree Stratum (Plot size: 10 meter radius)

| | Species Name | % Cover | Dominant | Ind.Status |
|---|---|---|---|---|
| 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. | *PHALARIS ARUNDINACEA* | 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: 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. | 0 | x 1 = | 0 |
| FACW spp. | 100 | x 2 = | 200 |
| FAC spp. | 0 | x 3 = | 0 |
| FACU spp. | 0 | x 4 = | 0 |
| UPL spp. | 0 | x 5 = | 0 |
| Total | 100 (A) | | 200 (B) |

Prevalence Index = B/A = ***2.000***

### 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: Wetland is dominated by invasive reed canary grass with small patches of common reed present.

**Additional Remarks:**

--

# WETLAND DETERMINATION DATA FORM
## Northcentral and Northeast Region

Stantec

| | | | |
|---|---|---|---|
| Project/Site: | Line 6B Phase 2 Replacement Project | Stantec Project #: | 193701660 |
| Applicant: | Enbridge | | |
| Investigator #1: | M. Arsenault | Investigator #2: | A. Terwell |
| Soil Unit: | Milford-Palms-Wallkill complex | NWI/WWI Classification: | PFO1C |
| Landform: | floodplain | Local Relief: | concave |
| Slope (%): | 15 | Latitude: -- | Longitude: -- Datum: -- |

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

Are Vegetation ☐ , Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

| | |
|---|---|
| Date: | 05/30/12 |
| County: | Lake |
| State: | Indiana |
| Wetland ID: | W-475-a |
| Sample Point: | 4w |
| Community ID: | FO1 |
| Section: | 7 |
| Township: | 35 N |
| Range: | 7 Dir: W |

## SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
**Is This Sampling Point Within A Wetland? ☑ Yes ☐ No**

Remarks: Large forested floodplain wetland complex

## 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
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ 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
- ☐ Other (Explain)

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 | ☑ No | Depth: n/a | (in.) |
| Water Table Present? | ☐ Yes | ☑ No | Depth: >18 | (in.) |
| Saturation Present? | ☑ Yes | ☐ No | Depth: 0 | (in.) |

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

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

Remarks: --

## SOILS

Map Unit Name: Milford-Palms-Wallkill complex — Series Drainage Class: very poorly drained

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; Locaiton: PL=Pore Lining, M=Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix Color (Moist) | | Matrix % | Mottles Color (Moist) | | Mottles % | Mottles Type | Mottles Location | Texture (e.g. clay, sand, loam) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 6 | 1 | 2.5Y | 3/2 | 95 | 7.5YR | 4/4 | 5 | C | M | silt loam |
| 6 | 9 | 2 | 2.5Y | 5/1 | 95 | 7.5YR | 4/4 | 5 | C | M | silt loam |
| 9 | 12 | 3 | 2.5Y | 5/2 | 95 | 10YR | 4/6 | 5 | C | M | sandy loam (buried) |
| 12 | 18 | 4 | 2.5Y | 5/1 | 80 | 7.5YR | 4/4 | 20 | C | M | silt loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

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

- ☐ 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)

[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: | Line 6B Phase 2 Replacement Project | Wetland ID: | W-475-a | Sample Point | 4w |
|---|---|---|---|---|---|

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

Tree Stratum (Plot size: 10 meter radius)

| | Species Name | % Cover | Dominant | Ind.Status |
|---|---|---|---|---|
| 1. | *Acer saccharinum* | 40 | Y | FACW |
| 2. | *Morus rubra* | 15 | N | FAC |
| 3. | *Fraxinus pennsylvanica* | 35 | Y | FACW |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| | Total Cover = | 90 | | |

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

| | | | | |
|---|---|---|---|---|
| 1. | *Ulmus americana* | 3 | Y | FACW |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| | Total Cover = | 3 | | |

Herb Stratum (Plot size: 2 meter radius)

| | | | | |
|---|---|---|---|---|
| 1. | *PHALARIS ARUNDINACEA* | 30 | Y | FACW |
| 2. | *LYSIMACHIA NUMMULARIA* | 5 | N | FACW |
| 3. | *Polygonum amphibium* | 1 | N | OBL |
| 4. | *Sium suave* | 1 | N | OBL |
| 5. | -- | -- | -- | -- |
| 6 | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| | Total Cover = | 37 | | |

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: 4 (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. | 2 | x 1 = | 2 |
| FACW spp. | 113 | x 2 = | 226 |
| FAC spp. | 15 | x 3 = | 45 |
| FACU spp. | 0 | x 4 = | 0 |
| UPL spp. | 0 | x 5 = | 0 |
| Total | 130 (A) | | 273 (B) |

Prevalence Index = B/A = ***2.100***

### 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.

**Hydrophytic Vegetation Present** ☑ Yes ☐ No

Remarks: Herbaceous layer dominated by invasive reed canary grass.

**Additional Remarks:**

--

# WETLAND DETERMINATION DATA FORM
## Northcentral and Northeast Region

| | | | |
|---|---|---|---|
| Project/Site: | Indiana Line 6B | Stantec Project #: | 193701313 |
| Applicant: | Enbridge | | |
| Investigator #1: | D. Tersteeg | Investigator #2: | J. Currie |
| Soil Unit: | Sparta fine sand | NWI/WWI Classification: | -- |
| Landform: | -- | Local Relief: | -- |
| Slope (%): | -- | Latitude: -- | Longitude: -- Datum: -- |

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

Are Vegetation ☐ , Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

| | |
|---|---|
| Date: | 11/02/11 |
| County: | Lake |
| State: | Indiana |
| Wetland ID: | W-475b |
| Sample Point: | 1u |
| Community ID: | Upland |
| Section: | 7 |
| Township: | 35 N |
| Range: | 7 Dir: W |

## SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks: --

## 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
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ 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
- ☐ Other (Explain)

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 | ☑ No | Depth: N/A | (in.) |
| Water Table Present? | ☐ Yes | ☑ No | Depth: N/A | (in.) |
| Saturation Present? | ☐ Yes | ☑ No | Depth: N/A | (in.) |

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

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

Remarks: No primary indicators of wetland hydrology were observed; vegetation is dominated by reed canary grass and meets FAC-Neutral. However, given the absence of primary hydrology indicators and the presence of non-hydric soils, the area was determined to be upland.

## SOILS

Map Unit Name: Sparta fine sand — Series Drainage Class: excessively

Taxonomy (Subgroup): Entic Hapludolls — 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; Locaiton: PL=Pore Lining, M=Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix Color (Moist) | Matrix % | Mottles Color (Moist) | Mottles % | Mottles Type | Mottles Location | Texture (e.g. clay, sand, loam) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 10 | 1 | 10YR 2/2 | -- | -- | -- | -- | -- | Sandy Clay Loam |
| 10 | 16 | 2 | 10YR 3/2 | 95 | 10YR 3/6 | 5 | C | M | Sandy Loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

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

- ☐ 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)

[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: --