

**WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont**

Project/Site: North Branch Pigeon Creek Mitigation Bank City/County: Eighty Four/ Washington Sampling Date: 1/15/13  
 Applicant/Owner: First Pennsylvania Resource, LLC. State: PA Sampling Point: FDS-4  
 Investigator(s): Jason Bohdan Section, Township, Range: Somerset Township  
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): none  
 Slope (%): 0-0.5 Lat: 31 58 69.05 N Long: 131 33 25.23 W Datum: NAD-83  
 Soil Map Unit Name: Nw (Newark silt loam) NWI classification: none

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

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

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks:	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1)                      ___ True Aquatic Plants (B14) ___ High Water Table (A2)                      ___ Hydrogen Sulfide Odor (C1) ___ Saturation (A3)                                  ___ Oxidized Rhizospheres on Living Roots (C3) ___ Water Marks (B1)                              ___ Presence of Reduced Iron (C4) ___ Sediment Deposits (B2)                      ___ Recent Iron Reduction in Tilled Soils (C6) ___ Drift Deposits (B3)                              ___ Thin Muck Surface (C7) ___ Algal Mat or Crust (B4)                        ___ Other (Explain in Remarks) ___ Iron Deposits (B5) ___ Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9) ___ Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): <u>0</u> Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): <u>&gt;16</u> Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): <u>&gt;16</u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Five Strata) – Use scientific names of plants.**

Sampling Point: FDS-4

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: _____ )				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
<b>Sapling Stratum</b> (Plot size: _____ )				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
<b>Shrub Stratum</b> (Plot size: _____ )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1- Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
<b>Herb Stratum</b> (Plot size: <u>15</u> _____ )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. <u>Lolium arundinaceum</u>	95	YES	FACU	
2. <u>Cichorium intybus</u>	5	NO	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: _____ )				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <input checked="" type="checkbox"/>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				

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

**SOIL**

Sampling Point: FDS-4

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	10 YR 3/3	100					Silty Loam	
12-14	10 YR 3/4	100					Silty Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (**LRR N**)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) (**LRR N, MLRA 147, 148**)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) (**MLRA 147, 148**)
- Thin Dark Surface (S9) (**MLRA 147, 148**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (**LRR N, MLRA 136**)
- Umbric Surface (F13) (**MLRA 136, 122**)
- Piedmont Floodplain Soils (F19) (**MLRA 148**)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) (**MLRA 147**)
- Coast Prairie Redox (A16) (MLRA 147, 148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_  
 Depth (inches): 0.00

Hydric Soil Present? Yes \_\_\_\_\_ No

Remarks:

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: North Branch Pigeon Creek Mitigation Bank City/County: Eighty Four/ Washington Sampling Date: 1/15/13  
 Applicant/Owner: First Pennsylvania Resource, LLC. State: PA Sampling Point: FDS-5  
 Investigator(s): Jason Bohdan Section, Township, Range: Somerset Township  
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): none  
 Slope (%): 0-0.5 Lat: 31 51 35.64 N Long: 131 37 24.46 W Datum: NAD83  
 Soil Map Unit Name: Nw (Newark silt loam) NWI classification: none

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Near K-6 10 feet in wetland	

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>0</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>4</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>4</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

**VEGETATION (Five Strata) – Use scientific names of plants.**

Sampling Point: FDS-5

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: _____ )				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
<b>Sapling Stratum</b> (Plot size: _____ )				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
<b>Shrub Stratum</b> (Plot size: _____ )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1- Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
<b>Herb Stratum</b> (Plot size: <u>15</u> _____ )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. <u>Carex alopecoidea</u>	15	YES	FACW	
2. <u>Juncus tenuis</u>	15	YES	FAC	
3. <u>Aster puniceus</u>	10	YES	OBL	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
40 = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: _____ )				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				

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

**SOIL**

Sampling Point: FDS-5

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-8	10 YR 3/1	100	5 YR 3/4	15			Silty Clay Loam	
8-14	10 YR 3/1	100	5 YR 3/4	5			Silty Clay Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (**LRR N**)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) (**LRR N, MLRA 147, 148**)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) (**MLRA 147, 148**)
- Thin Dark Surface (S9) (**MLRA 147, 148**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (**LRR N, MLRA 136**)
- Umbric Surface (F13) (**MLRA 136, 122**)
- Piedmont Floodplain Soils (F19) (**MLRA 148**)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) (**MLRA 147**)
- Coast Prairie Redox (A16) (MLRA 147, 148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_  
 Depth (inches): 0.00

Hydric Soil Present? Yes  No

Remarks:

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: North Branch Pigeon Creek Mitigation Bank City/County: Eighty Four/ Washington Sampling Date: 1/15/13  
 Applicant/Owner: First Pennsylvania Resource, LLC. State: PA Sampling Point: FDS-6  
 Investigator(s): Jason Bohdan Section, Township, Range: Somerset township  
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): none  
 Slope (%): 0-0.5 Lat: 31 51 64.43 N Long: 131 37 31.86 W Datum: NAD83  
 Soil Map Unit Name: Nw (Newark silt loam) NWI classification: none

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

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Near K-6 10 feet in wetland	

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>0</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>&gt;16</u> Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>&gt;16</u>	<b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

**VEGETATION (Five Strata) – Use scientific names of plants.**

Sampling Point: FDS-6

<u>Tree Stratum</u> (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>0</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
4. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = _____ FACW species <u>0</u> x 2 = _____ FAC species <u>0</u> x 3 = _____ FACU species <u>95</u> x 4 = <u>380</u> UPL species <u>5</u> x 5 = <u>25</u> Column Totals: <u>100</u> (A) <u>405</u> (B)  Prevalence Index = B/A = <u>4.05</u>
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				
<u>Sapling Stratum</u> (Plot size: _____ )	_____	_____	_____	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				
<u>Shrub Stratum</u> (Plot size: _____ )	_____	_____	_____	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				
<u>Herb Stratum</u> (Plot size: <u>15</u> )	_____	_____	_____	
1. <u>Lolium arundinaceum</u>	<u>95</u>	<u>YES</u>	<u>FACU</u>	
2. <u>Daucus carota</u>	<u>2.5</u>	<u>NO</u>	<u>UPL</u>	
3. <u>Solanum carolinense</u>	<u>2.5</u>	<u>NO</u>	<u>UPL</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
_____ = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____ )	_____	_____	_____	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				

**Hydrophytic Vegetation Indicators:**

1- Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0<sup>1</sup>

4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

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

**Definitions of Five Vegetation Strata:**

**Tree** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

**Sapling** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

**Shrub** – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

**Herb** – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

**Woody vine** – All woody vines, regardless of height.

**Hydrophytic Vegetation Present?** Yes \_\_\_\_\_ No

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



**APPENDIX B  
REPRESENTATIVE SITE PHOTOGRAPHS**



Photo 1 - Photograph of a degraded PEM wetland at FDS-1. (1/15/13, J. Bohdan)



Photo 2 - Photograph of an upland area at FDS-2. (1/15/13, J. Bohdan)



Photo 3 - Photograph of a PEM wetland at FDS-3. (1/15/13, J. Bohdan)



Photo 4 - Photograph of an upland area at FDS-4. (1/15/13, J. Bohdan)



Photo 5 - Photograph of a degraded PEM wetland at FDS-5. (1/15/13, J. Bohdan)



Photo 6 - Photograph of an upland area at FDS-6. (1/15/13, J. Bohdan)



Photo 7 - Photograph of the main tributary within the upstream portion of the stream reach.  
(11/13/12, M. Hepner)



Photo 8 - Photograph of a PEM wetland seep that provides hydrology to the main tributary in the  
upstream portion of the stream reach. (11/13/12, M. Hepner)



Photo 9 - Photograph of an incised channel on the main tributary. (11/13/12, M. Hepner)



Photo 10 - Photograph of tortuous meander in the downstream portion of the main tributary.  
(11/13/12, M. Hepner)



Photo 11 – Facing downstream of the unnamed contributing stream. (11/13/12, M. Hepner)



Photo 12 - Photograph of culvert in the downstream section of the western reach tributary.  
(11/13/12, M. Hepner)

**APPENDIX C**  
**COE JD REQUEST FORM**



## Request for a Jurisdictional Determination

This form can be used when you want to determine if areas on your property fall under regulatory requirements of the U.S. Army Corps of Engineers (USACE). Please supply the following information and supporting documents described below. This form can be filled out online and then printed. It **must be signed by the property owner** to be considered a formal request. Submitting this request authorizes the US Army Corps of Engineers to field inspect the property site, if necessary, to help in the determination process. The printed form and supporting documents should be mailed to:

Pittsburgh, Regulatory Branch  
U.S. Army Corps of Engineers, Pittsburgh District  
1000 Liberty Avenue  
Pittsburgh, PA 15222

Please contact us at 412-395-7155 if you need any assistance with filling out this form.

### Location and Information about Property to be subject to a Jurisdictional Determination

Property Address/Location: North Branch Pigeon Creek Mitigation Bank - 187 Brownlee Road

City (name) or Unincorporated: Eighty Four State: PA Zip: 15330

County: Washington Township name: \_\_\_\_\_

Lat/Long in Decimal Degrees: 40.17463 °N -80.09553 °W

Size of Property in Acres: 54.2 (Include a survey of the property)

Prior or related USACE project number: N/A

Is the property subject to a conservation easement or deed restriction? ( Yes or  No)  
If yes, please explain and submit details of the project area.

### The Site is a proposed Stream and Wetland Mitigation Bank.

Was the property a site for mitigation pursuant to a project previously permitted by USACE?  
( Yes or  No) If yes, please explain and submit details of the project area.

Is the property neighboring/adjacent to/bordering a project previously permitted by the USACE?  
( Yes or  No) If yes, please explain and submit the name of the project, the permittee's name and/or address, and Corps permit number, if available:

**Property Owner Contact Information:**

Property Owner Name: Will Donaldson - First Pennsylvania Resource LLC.

Mailing Address: 380 Southpointe Blvd., Suite 405

City: Canonsburg State: PA Zip: 15317

Daytime Telephone: 504-493-6148 Fax: \_\_\_\_\_

E-Mail Address: will@res.us

If the person requesting the Jurisdictional Determination is **not** the Property Owner, please also supply the Requestor's contact information here:

Requestor Name: Jason Bohdan - Timmons Group

Mailing Address: 1001 Boulders Parkway, Suite 300

City: Richmond State: VA Zip: 23225

Daytime Telephone: 804-839-2938 Fax: 804-560-1648

E-Mail Address: jason.bohdan@timmons.com

Please provide a map with the Latitude and Longitude for each water including wetlands; and/or copy of the plat of survey identifying the physical boundaries of the property. Additionally, if you have any of the following information, please include it with your request: wetland delineation, relevant maps, drain tile survey, topographic survey, and site photographs.

If you are considering doing work on the property, please identify on the required site map, plat of survey, or in a separate drawing: the footprint, location, and type of potential work. It will assist us in the determination process and reduce unnecessary delays of processing subsequent permits, if required.

I hereby certify that the information contained in the Request for a Jurisdictional Determination is accurate and complete:

**Signature of Property Owner:**

**Date:**

 Timmons Group

6/7/13

**ENCLOSURE C**  
**DESCRIPTION OF AQUATIC HABITAT**

## **North Branch Pigeon Creek Mitigation Bank Enclosure C – Description of Aquatic Habitat**

The proposed stream and wetland restoration for the proposed “North Branch Pigeon Creek Mitigation Bank” (“NBPCMB”) includes 17.4 acres of overall land area which includes proposed resources of 4.14 acres of wetlands and a 2,539 linear feet of stream channel onsite following project completion. Both wetlands and streams onsite have been degraded through anthropogenic alterations including historic agricultural activities (i.e. direct livestock access and grazing), culverting, and the planting and maintaining of non-native pasture grasses (i.e. fescue).

The stream channels onsite proposed for restoration exist in a degraded condition and exhibit poor channel dimension, pattern, and profile resulting in stream bank instability. Fine sediment generated from the actively eroding banks covers much of the natural gravel/cobble substrate and has significantly reduced the available aquatic habitat. The installation of culverts has also negatively impacted the stream channel by eliminating the potential for benthic macroinvertebrate migration. A current lack of diversity of aquatic species can be attributed to the shortage of available habitat, a poor riparian buffer, a physical barrier eliminating aquatic migration, and a lack of submerged woody and leafy debris.

The proposed project area was screened for potential impacts to species of special concern using the “Pennsylvania Natural Diversity Inventory” (“PNDI”) Project Planning Review tool. The PNDI Review verified that records indicate no known impacts to threatened and endangered species and/or special concern species and resources within the Site. Additionally, a bog turtle habitat screening was not performed given that the Site is located within Washington County and not within the recognized range of bog turtles within Pennsylvania.

The majority of the Site’s hydrology originates from multiple hillside seeps/springs adjacent to the stream. The upper half of the North Branch Pigeon Creek receives added hydrology from a perennial stream, located in the northeastern portion of the Site. Hydrology within the floodplain is derived from a high groundwater table and inundation during high water events. Degraded “palustrine emergent” (“PEM”) wetlands exist throughout the Site, along the stream corridor. These PEM wetlands exist as degraded systems, due to their location within active livestock pasture and planted fescue. In the southwestern portion of the North Branch of Pigeon Creek, additional hydrology is contributed from the adjacent valley and PEM wetlands, west of the main channel.

Water quality was assessed throughout the stream reach onsite using an electronic water quality meter. Water quality parameters analyzed included dissolved oxygen, pH, temperature, and conductivity, all of which fell within a normal range. Contributors to water pollution onsite consist of sediment from unstable banks and nutrient and bacterial inputs from direct livestock access. Bank stabilization, restoration of the riparian buffer, removal of the in-line culverts and removal of livestock within the zone of influence would improve water quality.

In-stream structures, increased woody and leafy debris, and toe wood along stream banks, will provide habitat for potential benthic macroinvertebrates. The removal of the in-line culverts will create opportunity for benthic macroinvertebrates to migrate upstream from the receiving waters

to the east. Added vegetation in the surrounding stream corridor will create additional food sources for game and non-game species. Recreational hiking and plant/wildlife observation will be enhanced with the added bio-diversity of wetland and upland plant species, planted throughout the riparian buffer. A decrease in sedimentation will allow for a more aesthetically appealing stream as well. Although the primary onsite stream is identified as a "Warm Water Fishery" ("WWF"), a productive game species fishery is absent given the small size of the stream. However, the restoration and conservation of this degraded resource represents an opportunity to provide direct and supplementing improvements to support benthic macroinvertebrates in the receiving waters, Pigeon Creek.

The contributing drainage area at the northwestern, unnamed tributary to the North Branch Pigeon Creek extent of the Site is 158.9 acres. The contributing drainage area at the northern, North Branch Pigeon Creek extent of the Site is 394.5 acres. The land use within the contributing drainage areas includes actively grazed pasture, hay production, open pasture and native mid-successional hardwood forest. Land use downstream is dominated by mid-successional forest and residential use. The Pigeon Creek, the overall receiving stream, is designated as a WWF.