

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: B-770422 **City/County:** Robeson **Sampling Date:** 04-May-17
Applicant/Owner: NCDOT **State:** NC **Sampling Point:** WA UP
Investigator(s): E. Black, J. Mathis **Section, Township, Range:** S T R
Landform (hillslope, terrace, etc.): Floodplain **Local relief (concave, convex, none):** rolling **Slope:** 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR P **Lat.:** 34.633974 **Long.:** -79.914566 **Datum:** NAD83
Soil Map Unit Name: BB - Bibb soils **NWI classification:** PFO1

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 ☐ Hydric Soil Present? Yes ☐ No ☒ Wetland Hydrology Present? Yes ☐ No ☒	Is the Sampled Area within a Wetland? Yes ☐ No ☒
Remarks: Sample point not within wetland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) ☐ Surface Water (A1) ☐ Aquatic Fauna (B13) ☐ High Water Table (A2) ☐ Marl Deposits (B15) (LRR U) ☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1) ☐ Water Marks (B1) ☐ Oxidized Rhizospheres along Living Roots (C3) ☐ Sediment Deposits (B2) ☐ Presence of Reduced Iron (C4) ☐ Drift Deposits (B3) ☐ Recent Iron Reduction in Tilled Soils (C6) ☐ Algal Mat or Crust (B4) ☐ Thin Muck Surface (C7) ☐ Iron Deposits (B5) ☐ Other (Explain in Remarks) ☐ Inundation Visible on Aerial Imagery (B7) ☐ Water-Stained Leaves (B9)		Secondary Indicators (minimum of 2 required) ☐ 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) ☐ Geomorphic Position (D2) ☐ Shallow Aquitard (D3) ☐ FAC-Neutral Test (D5) ☐ Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): _____ Water Table Present? Yes ☐ No ☒ Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): _____	Wetland Hydrology Present? Yes ☐ No ☒	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 		
Remarks: Hydrology does not meet wetland criteria.		

VEGETATION (Five/Four Strata) - Use scientific names of plants.

				Sampling Point: <u>WA UP</u>																										
		Dominant Species?																												
Tree Stratum (Plot size: <u>30' Linear</u>)	Absolute % Cover	Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:																										
1. <u>Liquidambar styraciflua</u>	40	☒ 72.7%	FAC	Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A)																										
2. <u>Acer rubrum</u>	10	☐ 18.2%	FAC	Total Number of Dominant Species Across All Strata: <u>3</u> (B)																										
3. <u>Quercus nigra</u>	5	☐ 9.1%	FAC	Percent of dominant Species That Are OBL, FACW, or FAC: <u>66.7%</u> (A/B)																										
4. _____	0	☐ 0.0%		Prevalence Index worksheet: Total % Cover of: Multiply by: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">OBL species</td> <td style="width: 10%; text-align: center;"><u>2</u></td> <td style="width: 10%; text-align: center;">x 1 =</td> <td style="width: 50%; text-align: center;"><u>2</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>5</u></td> <td style="text-align: center;">x 2 =</td> <td style="text-align: center;"><u>10</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>55</u></td> <td style="text-align: center;">x 3 =</td> <td style="text-align: center;"><u>165</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>5</u></td> <td style="text-align: center;">x 4 =</td> <td style="text-align: center;"><u>20</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 5 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>67</u></td> <td style="text-align: center;">(A)</td> <td style="text-align: center;"><u>197</u></td> <td style="text-align: center;">(B)</td> </tr> </table> Prevalence Index = B/A = <u>2.940</u>		OBL species	<u>2</u>	x 1 =	<u>2</u>	FACW species	<u>5</u>	x 2 =	<u>10</u>	FAC species	<u>55</u>	x 3 =	<u>165</u>	FACU species	<u>5</u>	x 4 =	<u>20</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>67</u>	(A)	<u>197</u>	(B)
OBL species	<u>2</u>	x 1 =	<u>2</u>																											
FACW species	<u>5</u>	x 2 =	<u>10</u>																											
FAC species	<u>55</u>	x 3 =	<u>165</u>																											
FACU species	<u>5</u>	x 4 =	<u>20</u>																											
UPL species	<u>0</u>	x 5 =	<u>0</u>																											
Column Totals:	<u>67</u>	(A)	<u>197</u>	(B)																										
5. _____	0	☐ 0.0%																												
6. _____	0	☐ 0.0%																												
7. _____	0	☐ 0.0%																												
8. _____	0	☐ 0.0%																												
50% of Total Cover: <u>27.5</u> 20% of Total Cover: <u>11</u>		<u>55</u>	= Total Cover																											
Sapling or Sapling/Shrub Stratum (Plot size: <u>30' Linear</u>)	Absolute % Cover	Rel.Strat. Cover	Indicator Status																											
1. <u>Celtis occidentalis</u>	5	☒ 100.0%	FACU																											
2. _____	0	☐ 0.0%																												
3. _____	0	☐ 0.0%																												
4. _____	0	☐ 0.0%																												
5. _____	0	☐ 0.0%																												
6. _____	0	☐ 0.0%																												
7. _____	0	☐ 0.0%																												
8. _____	0	☐ 0.0%																												
50% of Total Cover: <u>2.5</u> 20% of Total Cover: <u>1</u>		<u>5</u>	= Total Cover																											
Shrub Stratum (Plot size: <u>15'</u>)	Absolute % Cover	Rel.Strat. Cover	Indicator Status																											
1. <u>Sambucus nigra</u>	5	☒ 100.0%	FACW																											
2. _____	0	☐ 0.0%																												
3. _____	0	☐ 0.0%																												
4. _____	0	☐ 0.0%																												
5. _____	0	☐ 0.0%																												
6. _____	0	☐ 0.0%																												
50% of Total Cover: <u>2.5</u> 20% of Total Cover: <u>1</u>		<u>5</u>	= Total Cover																											
Herb Stratum (Plot size: <u>5'</u>)	Absolute % Cover	Rel.Strat. Cover	Indicator Status																											
1. <u>Juncus effusus</u>	2	☐ 100.0%	OBL																											
2. _____	0	☐ 0.0%																												
3. _____	0	☐ 0.0%																												
4. _____	0	☐ 0.0%																												
5. _____	0	☐ 0.0%																												
6. _____	0	☐ 0.0%																												
7. _____	0	☐ 0.0%																												
8. _____	0	☐ 0.0%																												
9. _____	0	☐ 0.0%																												
10. _____	0	☐ 0.0%																												
11. _____	0	☐ 0.0%																												
12. _____	0	☐ 0.0%																												
50% of Total Cover: <u>1</u> 20% of Total Cover: <u>0.4</u>		<u>2</u>	= Total Cover																											
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Rel.Strat. Cover	Indicator Status																											
1. _____	0	☐ 0.0%																												
2. _____	0	☐ 0.0%																												
3. _____	0	☐ 0.0%																												
4. _____	0	☐ 0.0%																												
5. _____	0	☐ 0.0%																												
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>		<u>0</u>	= Total Cover																											

Remarks: (If observed, list morphological adaptations below).

Vegetation meets wetland criteria.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Hydrophytic Vegetation Present? Yes ☒ No ☐

SOIL

Sampling Point: WA UP

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :
☐ Histosol (A1)	☐ Polyvalue Below Surface (S8) (LRR S, T, U)	☐ 1 cm Muck (A9) (LRR O)
☐ Histic Epipedon (A2)	☐ Thin Dark Surface (S9) (LRR S, T, U)	☐ 2 cm Muck (A10) (LRR S)
☐ Black Histic (A3)	☐ Loamy Mucky Mineral (F1) (LRR O)	☐ Reduced Vertic (F18) (outside MLRA 150A,B)
☐ Hydrogen Sulfide (A4)	☐ Loamy Gleyed Matrix (F2)	☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
☐ Stratified Layers (A5)	☐ Depleted Matrix (F3)	☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
☐ Organic Bodies (A6) (LRR P, T, U)	☐ Redox Dark Surface (F6)	☐ Red Parent Material (TF2)
☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)	☐ Depleted Dark Surface (F7)	☐ Very Shallow Dark Surface (TF12)
☐ Muck Presence (A8) (LRR U)	☐ Redox Depressions (F8)	☐ Other (Explain in Remarks)
☐ 1 cm Muck (A9) (LRR P, T)	☐ Marl (F10) (LRR U)	
☐ Depleted Below Dark Surface (A11)	☐ Depleted Ochric (F11) (MLRA 151)	
☐ Thick Dark Surface (A12)	☐ Iron-Manganese Masses (F12) (LRR O, P, T)	
☐ Coast Prairie Redox (A16) (MLRA 150A)	☐ Umbric Surface (F13) (LRR P, T, U)	
☐ Sandy Muck Mineral (S1) (LRR O, S)	☐ Delta Ochric (F17) (MLRA 151)	
☐ Sandy Gleyed Matrix (S4)	☐ Reduced Vertic (F18) (MLRA 150A, 150B)	
☐ Sandy Redox (S5)	☐ Piedmont Floodplain Soils (F19) (MLRA 149A)	
☐ Stripped Matrix (S6)	☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
☐ Dark Surface (S7) (LRR P, S, T, U)		

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes ☐ No ☒
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Remarks:

Soil does not meet hydric criteria.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: B-770422 **City/County:** Robeson **Sampling Date:** 04-May-17
Applicant/Owner: NCDOT **State:** NC **Sampling Point:** WA WET
Investigator(s): E. Black, J. Mathis **Section, Township, Range:** S T R
Landform (hillslope, terrace, etc.): Floodplain **Local relief (concave, convex, none):** concave **Slope:** 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR P **Lat.:** 34.633997 **Long.:** -79.914563 **Datum:** NAD83
Soil Map Unit Name: BB - Bibb soils **NWI classification:** PFO1

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 ☐ Hydric Soil Present? Yes ☒ No ☐ Wetland Hydrology Present? Yes ☒ No ☐	Is the Sampled Area within a Wetland? Yes ☒ No ☐
Remarks: Sample point within wetland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) ☐ Surface Water (A1) ☒ High Water Table (A2) ☒ Saturation (A3) ☐ Water Marks (B1) ☐ Sediment Deposits (B2) ☐ Drift Deposits (B3) ☐ Algal Mat or Crust (B4) ☐ Iron Deposits (B5) ☐ Inundation Visible on Aerial Imagery (B7) ☐ Water-Stained Leaves (B9) ☐ Aquatic Fauna (B13) ☐ Marl Deposits (B15) (LRR U) ☐ Hydrogen Sulfide Odor (C1) ☐ Oxidized Rhizospheres along Living Roots (C3) ☐ Presence of Reduced Iron (C4) ☐ Recent Iron Reduction in Tilled Soils (C6) ☐ Thin Muck Surface (C7) ☐ Other (Explain in Remarks)		Secondary Indicators (minimum of 2 required) ☐ 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) ☐ Geomorphic Position (D2) ☐ Shallow Aquitard (D3) ☒ FAC-Neutral Test (D5) ☐ Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): _____ Water Table Present? Yes ☒ No ☐ Depth (inches): -2 Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): 0	Wetland Hydrology Present? Yes ☒ No ☐	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Hydrology meets wetland criteria.		

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Dominant Species?					Sampling Point: <u>WA WET</u>
Tree Stratum (Plot size: <u>30' Linear</u>)	Absolute % Cover	Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:	
1. <u>Fraxinus pennsylvanica</u>	20	☒	40.0%	FACW	Number of Dominant Species That are OBL, FACW, or FAC: <u>8</u> (A)
2. <u>Liquidambar styraciflua</u>	10	☒	20.0%	FAC	
3. <u>Acer rubrum</u>	10	☒	20.0%	FAC	Total Number of Dominant Species Across All Strata: <u>8</u> (B)
4. <u>Salix nigra</u>	10	☒	20.0%	OBL	
5. _____	0	☐	0.0%	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
6. _____	0	☐	0.0%	_____	
7. _____	0	☐	0.0%	_____	
8. _____	0	☐	0.0%	_____	
50% of Total Cover: <u>25</u> 20% of Total Cover: <u>10</u> = Total Cover					
Sapling or Sapling/Shrub Stratum (Plot size: <u>15'</u>)	Absolute % Cover	Rel.Strat. Cover	Indicator Status	Prevalence Index worksheet:	
1. <u>Alnus serrulata</u>	5	☒	100.0%	FACW	Total % Cover of: <u>20</u> Multiply by: <u>1</u> = <u>20</u>
2. _____	0	☐	0.0%	_____	OBL species <u>20</u> x <u>1</u> = <u>20</u>
3. _____	0	☐	0.0%	_____	FACW species <u>40</u> x <u>2</u> = <u>80</u>
4. _____	0	☐	0.0%	_____	FAC species <u>20</u> x <u>3</u> = <u>60</u>
5. _____	0	☐	0.0%	_____	FACU species <u>0</u> x <u>4</u> = <u>0</u>
6. _____	0	☐	0.0%	_____	UPL species <u>0</u> x <u>5</u> = <u>0</u>
7. _____	0	☐	0.0%	_____	Column Totals: <u>80</u> (A) <u>160</u> (B)
8. _____	0	☐	0.0%	_____	Prevalence Index = B/A = <u>2.000</u>
50% of Total Cover: <u>2.5</u> 20% of Total Cover: <u>1</u> = Total Cover					
Shrub Stratum (Plot size: _____)	Absolute % Cover	Rel.Strat. Cover	Indicator Status	Hydrophytic Vegetation Indicators:	
1. _____	0	☐	0.0%	_____	☐ 1 - Rapid Test for Hydrophytic Vegetation
2. _____	0	☐	0.0%	_____	☒ 2 - Dominance Test is > 50%
3. _____	0	☐	0.0%	_____	☒ 3 - Prevalence Index is ≤3.0 ¹
4. _____	0	☐	0.0%	_____	☐ Problematic Hydrophytic Vegetation ¹ (Explain)
5. _____	0	☐	0.0%	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
6. _____	0	☐	0.0%	_____	
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u> = Total Cover					
Herb Stratum (Plot size: <u>5' linear</u>)	Absolute % Cover	Rel.Strat. Cover	Indicator Status	Definition of Vegetation Strata:	
1. <u>Impatiens capensis</u>	10	☒	40.0%	FACW	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).
2. <u>Juncus effusus</u>	10	☒	40.0%	OBL	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
3. <u>Boehmeria cylindrica</u>	5	☒	20.0%	FACW	Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.
4. _____	0	☐	0.0%	_____	Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
5. _____	0	☐	0.0%	_____	Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
6. _____	0	☐	0.0%	_____	Woody vine - All woody vines, regardless of height.
7. _____	0	☐	0.0%	_____	
8. _____	0	☐	0.0%	_____	
9. _____	0	☐	0.0%	_____	
10. _____	0	☐	0.0%	_____	
11. _____	0	☐	0.0%	_____	
12. _____	0	☐	0.0%	_____	
50% of Total Cover: <u>12.5</u> 20% of Total Cover: <u>5</u> = Total Cover					
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Rel.Strat. Cover	Indicator Status	Hydrophytic Vegetation Present? Yes ☒ No ☐	
1. _____	0	☐	0.0%	_____	
2. _____	0	☐	0.0%	_____	
3. _____	0	☐	0.0%	_____	
4. _____	0	☐	0.0%	_____	
5. _____	0	☐	0.0%	_____	
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u> = Total Cover					

Remarks: (If observed, list morphological adaptations below).
Vegetation meets wetland criteria.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: WA WET

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 ¹	Loc ²		
0-12	10YR	5/2	32	10YR	5/8	2	C	M	Sand	base colors; stripped sand
	10YR	2/1	32	10YR	5/8	2	C	M	Sand	base colors; stripped sand
	10YR	4/2	32	10YR	5/8	2	C	M	Sand	base colors; stripped sand

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☒ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)

☐ Polyvalue Below Surface (S8) (LRR S, T, U)☐ Thin Dark Surface (S9) (LRR S, T, U)☐ Loamy Mucky Mineral (F1) (LRR O)☐ Loamy Gleyed Matrix (F2)☐ Depleted Matrix (F3)☐ Redox Dark Surface (F6)☐ Depleted Dark Surface (F7)☐ Redox Depressions (F8)☐ Marl (F10) (LRR U)☐ Depleted Ochric (F11) (MLRA 151)☐ Iron-Manganese Masses (F12) (LRR O, P, T)☐ Umbric Surface (F13) (LRR P, T, U)☐ Delta Ochric (F17) (MLRA 151)☐ Reduced Vertic (F18) (MLRA 150A, 150B)☐ Piedmont Floodplain Soils (F19) (MLRA 149A)☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Soil meets hydric criteria. Soils represent 96% soil base color with 4% mottles.