

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: B5700/Bridge 45 **City/County:** Cumberland **Sampling Date:** 09-Feb-16
Applicant/Owner: NCDOT **State:** NC **Sampling Point:** B-5700 WA Up
Investigator(s): K. Hamlin, W. Smith **Section, Township, Range:** S T R
Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** none **Slope:** 0.0 % / 0.0 °
Subregion (LRR or MLRA): MLRA 133A in LRR P **Lat.:** 34.9874 **Long.:** -78.6413 **Datum:** NAD83
Soil Map Unit Name: GoA - Goldsboro fine sandy loam, 0 to 2 percent slopes **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:	

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): 4 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:		

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

				Sampling Point: B-5700 WA UP		
		Dominant Species?				
Tree Stratum (Plot size: 50')	Absolute % Cover	Rel.Strat. Cover	Indicator Status			
1. <u>Pinus taeda</u>	20	☒ 50.0%	FAC	Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>7</u> (A) Total Number of Dominant Species Across All Strata: <u>8</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>87.5%</u> (A/B)		
2. <u>Liquidambar styraciflua</u>	10	☒ 25.0%	FAC			
3. <u>Acer rubrum</u>	10	☒ 25.0%	FAC			
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>20</u> 20% of Total Cover: <u>8</u>		40	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>5</u> x 2 = <u>10</u> FAC species <u>65</u> x 3 = <u>195</u> FACU species <u>5</u> x 4 = <u>20</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>75</u> (A) <u>225</u> (B) Prevalence Index = B/A = <u>3.000</u>			
Sapling or Sapling/Shrub Stratum (Plot size: _____)						
1. _____	0	☐ 0.0%				
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>0</u> 20% of Total Cover: <u>0</u>		0	Hydrophytic Vegetation Indicators: ☐ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is > 50% ☒ 3 - Prevalence Index is ≤3.0 ¹ ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.			
Shrub Stratum (Plot size: 30')						
1. <u>Ilex opaca</u>	10	☒ 50.0%				FAC
2. <u>Morella cerifera</u>	10	☒ 50.0%				FAC
3. _____	0	☐ 0.0%				_____
4. _____	0	☐ 0.0%				_____
5. _____	0	☐ 0.0%				_____
6. _____	0	☐ 0.0%				_____
50% of Total Cover: <u>10</u> 20% of Total Cover: <u>4</u>		20	Definition of 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. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. 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, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine - All woody vines, regardless of height.			
Herb Stratum (Plot size: _____)						
1. _____	0	☐ 0.0%				
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>0</u> 20% of Total Cover: <u>0</u>		0	Hydrophytic Vegetation Present? Yes ☒ No ☐			
Woody Vine Stratum (Plot size: 15')						
1. <u>Smilax laurifolia</u>	5	☒ 33.3%				FACW
2. <u>Lonicera japonica</u>	5	☒ 33.3%				FACU
3. <u>Toxicodendron radicans</u>	5	☒ 33.3%				FAC
4. _____	0	☐ 0.0%				_____
5. _____	0	☐ 0.0%				_____
50% of Total Cover: <u>7.5</u> 20% of Total Cover: <u>3</u>		15				Remarks: (If observed, list morphological adaptations below).
Footnote: *Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.						

SOIL

Sampling Point: B-5700 WA UP

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		
0-6	10YR	2/1	100				Clay Loam	
6-12+	10YR	6/3	90				Sandy Clay Loam	
6-12+	10YR	6/6	100					

¹ Type: 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:

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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:	

HYDROLOGY

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Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): _____ Water Table Present? Yes ☒ No ☐ Depth (inches): 0 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:		

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

Sampling Point: B-5700 WA WET

Tree Stratum (Plot size: 50')		Absolute % Cover	Species? Rel.Strat. Cover	Indicator Status
1.	Pinus taeda	20	☒ 50.0%	FAC
2.	Liquidambar styraciflua	10	☒ 25.0%	FAC
3.	Acer rubrum	10	☒ 25.0%	FAC
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
50% of Total Cover: 20 20% of Total Cover: 8		40	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot size:)				
1.		0	☐ 0.0%	
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: 0 20% of Total Cover: 0		0	= Total Cover	
Shrub Stratum (Plot size: 30')				
1.	Ilex opaca	10	☒ 50.0%	FAC
2.	Morella cerifera	10	☒ 50.0%	FAC
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
50% of Total Cover: 10 20% of Total Cover: 4		20	= Total Cover	
Herb Stratum (Plot size:)				
1.		0	☐ 0.0%	
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: 0 20% of Total Cover: 0		0	= Total Cover	
Woody Vine Stratum (Plot size: 15')				
1.	Smilax laurifolia	5	☒ 33.3%	FACW
2.	Lonicera japonica	5	☒ 33.3%	FACU
3.	Toxicodendron radicans	5	☒ 33.3%	FAC
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
50% of Total Cover: 7.5 20% of Total Cover: 3		15	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 87.5% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 5	x 2 = 10
FAC species 65	x 3 = 195
FACU species 5	x 4 = 20
UPL species 0	x 5 = 0
Column Totals: 75 (A)	225 (B)
Prevalence Index = B/A = 3.000	

Hydrophytic Vegetation Indicators:

☐ 1 - Rapid Test for Hydrophytic Vegetation

☒ 2 - Dominance Test is > 50%

☒ 3 - Prevalence Index is ≤3.0 ¹

☐ Problematic Hydrophytic Vegetation ¹ (Explain)

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

Definition of 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.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

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, and 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 ☐

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

SOIL

Sampling Point: B-5700 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	2/1	100				Clay Loam	
12+	10YR	6/3	95				Sandy Clay Loam	
12+	10YR	6/6	50					mottle

¹ Type: 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: