

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: Bridge 67 Green Level Rd City/County: Apex / Wake Sampling Date: 9/19/11
 Applicant/Owner: NC DOT State: NC Sampling Point: WAWB, WC, WD
 Investigator(s): Jim Mason, Chris Underwood, Melissa Miller Section, Township, Range: Wet pt
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 0-2
 Subregion (LRR or MLRA): P Lat: 35.7811 N Long: 78.8991 W Datum: NAD83
 Soil Map Unit Name: Wn Wehadkee silt loam NWI classification: PFO1C

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? No Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? No (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 ☐	Is the Sampled Area within a Wetland?	Yes ☒ No ☐
Hydric Soil Present?	Yes ☒ No ☐		
Wetland Hydrology Present?	Yes ☒ No ☐		
Remarks: <u>Classifies as Bottomland Hardwood Forest according to NC WAM</u>			

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)			
☐ Surface Water (A1)	☐ True Aquatic Plants (B14)	☐ Surface Soil Cracks (B6)	
☒ High Water Table (A2)	☐ Hydrogen Sulfide Odor (C1)	☐ Sparsely Vegetated Concave Surface (B8)	
☒ Saturation (A3)	☐ Oxidized Rhizospheres on Living Roots (C3)	☐ Drainage Patterns (B10)	
☐ Water Marks (B1)	☐ Presence of Reduced Iron (C4)	☐ Moss Trim Lines (B16)	
☐ Sediment Deposits (B2)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ Dry-Season Water Table (C2)	
☐ Drift Deposits (B3)	☐ Thin Muck Surface (C7)	☐ Crayfish Burrows (C8)	
☐ Algal Mat or Crust (B4)	☐ Other (Explain in Remarks)	☒ Saturation Visible on Aerial Imagery (C9)	
☐ Iron Deposits (B5)		☐ Stunted or Stressed Plants (D1)	
☐ Inundation Visible on Aerial Imagery (B7)		☒ Geomorphic Position (D2)	
☒ Water-Stained Leaves (B9)		☐ Shallow Aquitard (D3)	
☐ Aquatic Fauna (B13)		☐ Microtopographic Relief (D4)	
		☐ FAC-Neutral Test (D5)	
Field Observations:			
Surface Water Present?	Yes ☐ No ☒ Depth (inches): <u> </u>	Wetland Hydrology Present? Yes ☒ No ☐	
Water Table Present?	Yes ☒ No ☐ Depth (inches): <u>10</u>		
Saturation Present? (includes capillary fringe)	Yes ☒ No ☐ Depth (inches): <u>0</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: <u>w/in 20 feet of standing water.</u>			

Bridge 67

WA, WB
WC, WD wet
pt

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point:

Tree Stratum (Plot size: 30' Rad)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<i>Acer rubrum</i>	70	Y	FAC
2.	<i>Liquidambar styraciflua</i>	20	Y	FAC
3.	<i>Quercus alba</i>	5	N	FACU
4.	<i>Ulmus rubra</i>	5	N	FAC
5.				
6.				
7.				
8.				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 8 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Sapling/Shrub Stratum (Plot size: 30' Rad)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<i>Viburnum dentatum</i>	25	Y	FAC
2.	<i>Ilex decidua</i>	7.5	Y	FACW
3.	<i>Quercus phellos</i>	5	N	FACW
4.				
5.				
6.				
7.				
8.				
9.				
10.				

Prevalence Index worksheet:

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 = _____

Herb Stratum (Plot size: 30' Rad)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<i>Microstegium vimineum</i>	40	Y	FAC
2.	<i>Arundinaria gigantea</i>	30	Y	FACW
3.	<i>Carex</i> sp.	10	N	FACW
4.	<i>Elephantopus scindicus</i>	5	N	FAC
5.	<i>Solidago</i> sp.	5	N	FAC
6.				
7.				
8.				
9.				
10.				
11.				
12.				

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

☒ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0¹

___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation¹ (Explain)

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

Woody Vine Stratum (Plot size: 30' Rad)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<i>Toxicodendron radicans</i>	5	Y	FAC
2.	<i>Smilax rotundifolia</i>	5	Y	FAC
3.	<i>Lonicera japonica</i>	2.5	N	FAC
4.	<i>Bignonia capreolata</i>	2.5	N	FAC
5.				
6.				

Definitions of Four Vegetation Strata:

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

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

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ☒ No ☐

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

Sampling Point:

Bridge 67
WA, WB
int: WC, WD wet
PT

[illegible]²Location: PL=Pore Lining, M=Matrix.

Indicators for Problematic Hydric Soils³:

- | | | |
|--|--|--|
| ☐ 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) | ☐ 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) |
|--|--|--|
- ³Indicators of hydrophytic vegetation and wetland hydrology must be present unless disturbed or problematic.

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

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

F3 condition met

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: Bridge 607 Green Level Rd City/County: Apex / Wake Sampling Date: 9/19/11
 Applicant/Owner: NC DOT State: _____ Sampling Point: Upd for WA
WB
WC
WD
 Investigator(s): Jim Mason, Chris Underwood, Melissa Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Slight slope, Florida Local relief (concave, convex, none): 0 Slope (%): 1-2
 Subregion (LRR or MLRA): P Lat: 35.7811 N Long: 78.8987 W Datum: NAD83
 Soil Map Unit Name: CrCz Creedmoor sandy loam NWI classification: _____

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? No Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (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:	Secondary Indicators (minimum of two required)
<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)	☐ 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)
<u>Field Observations:</u> Surface Water Present? Yes _____ No ☒ Depth (inches): _____ Water Table Present? Yes _____ No ☒ Depth (inches): _____ Saturation Present? Yes _____ No ☒ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No ☒
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: No hydrology indicators met	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: WA, WR
WLC, WD upland
PT

Bridge 67

Tree Stratum (Plot size: <u>30' Rad</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Quercus alba</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>8</u> (A)
2. <u>Quercus nigra</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	Total Number of Dominant Species Across All Strata: <u>10</u> (B)
3. <u>Pinus taeda</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80</u> (A/B)
4. <u>Liriodendron tulipifera</u>	<u>7.5</u>	<u>N</u>	<u>FAC</u>	
5. <u>Carya tomentosa</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
6. <u>sp 9/19/11</u>				
7. <u>sp 9/19/11</u>				
8. <u>sp 9/19/11</u>				
<u>82.5</u> = Total Cover				Prevalence Index worksheet:
				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 = _____
				Hydrophytic Vegetation Indicators:
				☐ 1 - Rapid Test for Hydrophytic Vegetation
				☒ 2 - Dominance Test is >50%
				☐ 3 - Prevalence Index is ≤3.0 ¹
				☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
				☐ Problematic Hydrophytic Vegetation ¹ (Explain)
				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
				Definitions of Four Vegetation Strata:
				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
				Woody vine – All woody vines greater than 3.28 ft in height.
				Hydrophytic Vegetation Present? Yes ☒ No ☐

Sapling/Shrub Stratum (Plot size: <u>30' Rad</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Viburnum dentatum</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>
2. <u>Vaccinium corymbosum</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>
3. <u>Cornus Florida</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>
4. <u>Liquidambar styraciflua</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>
5. <u>sp 9/19/11</u>			
6. <u>sp 9/19/11</u>			
7. <u>sp 9/19/11</u>			
8. <u>sp 9/19/11</u>			
9. <u>sp 9/19/11</u>			
10. <u>sp 9/19/11</u>			
<u>25</u> = Total Cover			

Herb Stratum (Plot size: <u>30' Rad</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Smilax rotundifolia</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>
2. <u>Vitis rotundifolia</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>
3. <u>sp 9/19/11</u>			
4. <u>sp 9/19/11</u>			
5. <u>sp 9/19/11</u>			
6. <u>sp 9/19/11</u>			
7. <u>sp 9/19/11</u>			
8. <u>sp 9/19/11</u>			
9. <u>sp 9/19/11</u>			
10. <u>sp 9/19/11</u>			
11. <u>sp 9/19/11</u>			
12. <u>sp 9/19/11</u>			
<u>10</u> = Total Cover			

Woody Vine Stratum (Plot size: <u>30' Rad</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Toxicodendron radicans</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>
2. <u>Smilax rotundifolia</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>
3. <u>sp 9/19/11</u>			
4. <u>sp 9/19/11</u>			
5. <u>sp 9/19/11</u>			
6. <u>sp 9/19/11</u>			
<u>10</u> = Total Cover			

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

Bridge 67

WA WB
WB WD Wpl
Ptd

SP 9/19/11

²Location: PL=Pore Lining, M=Matrix.

Indicators for Problematic Hydric Soils³:

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

Hydric Soil Present? Yes ☐ No ☒

Remarks:

No hydric soil indicators met.

