## WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Pittsboro Goldston | City/County: Goldston Chatham | Sampling Date: 8/6/2022

Applicant/Owner: Bobby Branch | State: NC | Sampling Point: A5

Investigator(s): Samuel Adam Carter | Section, Township, Range: Goldston

Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): Convex | Slope (%): 5%

Subregion (LRR or MLRA): LRRP | Lat: 35.60408 | Long: -79.319565 | Datum: NAD83

Soil Map Unit Name: Cid-Lignum complex, 2 to 6 percent slopes | NWI classification: Upland Forest

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 [ ] | **Is the Sampled Area within a Wetland?** Yes [ ] No [✔] |
| Hydric Soil Present? | Yes [ ] | No [✔] | |
| Wetland Hydrology Present? | Yes [ ] | No [✔] | |

Remarks:

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is 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 two 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:

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

Sampling Point: _____

| Tree Stratum (Plot size: _____) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| | _____ = Total Cover | | |

50% of total cover: _____ 20% of total cover: _____

| Sapling Stratum (Plot size: _____) | | | |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| | _____ = Total Cover | | |

50% of total cover: _____ 20% of total cover: _____

| Shrub Stratum (Plot size: _____) | | | |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| | _____ = Total Cover | | |

50% of total cover: _____ 20% of total cover: _____

| Herb Stratum (Plot size: _____) | | | |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | _____ = Total Cover | | |

50% of total cover: _____ 20% of total cover: _____

| Woody Vine Stratum (Plot size: _____) | | | |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | _____ = Total Cover | | |

50% of total cover: _____ 20% of total cover: _____

**Dominance Test worksheet:**

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

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

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

**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]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]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, 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** _____

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

## SOIL

Sampling Point: _____

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

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

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

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

___ 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 Mucky 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 Soils[3]:**

___ 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)

[3]Indicators 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:

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Pittsboro Goldston Rd City/County: Goldston Chatham Sampling Date: 8/6/2022

Applicant/Owner: Bobby Branch State: NC Sampling Point:

Investigator(s): Adam Carter Section, Township, Range: Goldston

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 3%

Subregion (LRR or MLRA): LRRP Lat: 35.606195 Long: -79.319295 Datum: NAD83

Soil Map Unit Name: CmB-Cid Lignum Complex 2 to 6% slope NWI classification: Headwater Wetland

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 [ ] | **Is the Sampled Area within a Wetland?** Yes [✔] No [ ] |
| Hydric Soil Present? | Yes [✔] | No [ ] | |
| Wetland Hydrology Present? | Yes [✔] | No [ ] | |

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is 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 two 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): 8inches |
| Saturation Present? (includes capillary fringe) | Yes [✔] | No [ ] | Depth (inches): 5inches |

**Wetland Hydrology Present?** Yes [✔] No [ ]

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

Remarks:

**VEGETATION (Five Strata) –** Use scientific names of plants. Sampling Point: _____

| Tree Stratum (Plot size: 25ft x 25ft) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. Red Maple (Acer rubrum) | 8% | Yes | FAC/FA |
| 2. Swamp Chestnut Oak (Quercus michauxii) | 5% | Yes | FACW |
| 3. Tulip Poplar (Liriodendron tulipifera) | 5% | Yes | FACU/I |
| 4. - | | | - |
| 5. - | | | - |
| 6. - | | | - |
| | 18 | = Total Cover | |
| 50% of total cover: 9 | | 20% of total cover: 3.6 | |

| Sapling Stratum (Plot size: 25ft x 25ft) | | | |
|---|---|---|---|
| 1. Red Maple (Acer rubrum) | 5% | Yes | FAC/FA |
| 2. - | | | - |
| 3. - | | | - |
| 4. - | | | - |
| 5. - | | | - |
| 6. - | | | - |
| | 5 | = Total Cover | |
| 50% of total cover: 2.5 | | 20% of total cover: 1 | |

| Shrub Stratum (Plot size: 25ft x 25ft) | | | |
|---|---|---|---|
| 1. American Holly (Ilex opaca) | 5% | Yes | FAC |
| 2. River Birch (Betula nigra) | 3% | Yes | FACW |
| 3. Black Willow (Salix nigra) | 3% | Yes | OBL |
| 4. - | | | - |
| 5. - | | | - |
| 6. - | | | - |
| | 11 | = Total Cover | |
| 50% of total cover: 5.5 | | 20% of total cover: 2.2 | |

| Herb Stratum (Plot size: 25ft x 25ft) | | | |
|---|---|---|---|
| 1. False nettle (Boehmeria cylindrica) | 2% | No | FACW |
| 2. Microstegium vimineum | 5% | Yes | FAC |
| 3. Rush (Juncus spp.) | 5% | Yes | FACW |
| 4. - | | | - |
| 5. - | | | - |
| 6. - | | | - |
| 7. - | | | - |
| 8. - | | | - |
| 9. - | | | - |
| 10. - | | | - |
| 11. - | | | - |
| | 12 | = Total Cover | |
| 50% of total cover: 6 | | 20% of total cover: 2.4 | |

| Woody Vine Stratum (Plot size: 25ft x 25ft) | | | |
|---|---|---|---|
| 1. Grape (Vitis spp.) | 1% | Yes | FACW |
| 2. Poison Ivy (Toxicodendron radicans) | 1% | Yes | FAC |
| 3. Saw Greenbrier, Bullbrier (Smilax bona-nox) | 1% | Yes | FAC |
| 4. - | | | - |
| 5. - | | | - |
| | 3 | = Total Cover | |
| 50% of total cover: 1.5 | | 20% of total cover: 0.6 | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 12 (A)

Total Number of Dominant Species Across All Strata: 12 (B)

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

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | | x 1 = | 0 |
| FACW species | | x 2 = | 0 |
| FAC species | | x 3 = | 0 |
| FACU species | | x 4 = | 0 |
| UPL species | | x 5 = | 0 |
| Column Totals: | 0 (A) | | 0 (B) |

Prevalence Index = B/A = NaN

**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.

**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, 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 ☐

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

## SOIL

Sampling Point: _____

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

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

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

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- ☐ 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 Mucky 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 Soils[3]:**

- ☐ 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)

[3]Indicators 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: