WETLAND DELINEATION

Stennis Airport Site 10
KILN, HANCOCK COUNTY, MISSISSIPPI

Prepared for:
Hancock County Board of Supervisors

Prepared by:
NEEL-SCHAFFER

Report Date: August 28, 2024
Project Number: 17448.013

TABLE OF CONTENTS

LIST OF FIGURES

APPENDICES

Signature of Environmental Professional:

The senior author has the specific qualifications based on education, training, and experience to assess a property of the nature and setting of the subject property. The senior author has performed the wetland determination in accordance with the standards set forth in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0) dated November 2010.

Prepared By:

Lisa D. Morrison R.P.G.
Senior Geologist /Project Manager

1 INTRODUCTION

The Clean Water Act (CWA) is the cornerstone of surface water quality protection in the United States. The statute employs a variety of regulatory and non-regulatory tools to sharply reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. These tools are employed to achieve the broader goal of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters so that they can support "the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water."

Section 404 of the Clean Water Act regulates activities that result in the discharge of dredged or fill material into waters of the U.S. including wetlands. Work in a river, stream or wetland typically requires a Section 404 permit from the U.S. Army Corps of Engineers (USACE). In addition, a Section 401 Water Quality Certification is also required from the State of Mississippi. To determine if a property contains wetlands, a wetland determination or delineation must be performed. An applicant requesting a Section 404 permit must show that they have attempted to avoid impact to a wetland, minimize the impact if it is not completely avoidable, and in some cases mitigate for all unavoidable impacts.

A wetland is defined as an area that has wetland vegetation, hydric soils, and exhibits wetland hydrology. As defined in the Corps of Engineers Wetlands Delineation Manual, wetlands are: "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." An area must have all three parameters – hydrophytic vegetation, hydric soils, and wetland hydrology – to be identified as a wetland. Therefore, a wetland delineation considers these three components.

1.1 Project Location

The survey area is located on Fred and Al Key Road in Kiln, Mississippi. The Project is bordered on the south by the Hancock County Port and Harbor Commission (HCPHC), on the east by a commercial facility, on the west by Fred and Al Key Road, and on the north by John C. Robinson Road. A site vicinity map is shown on Figure 1 (Appendix A).

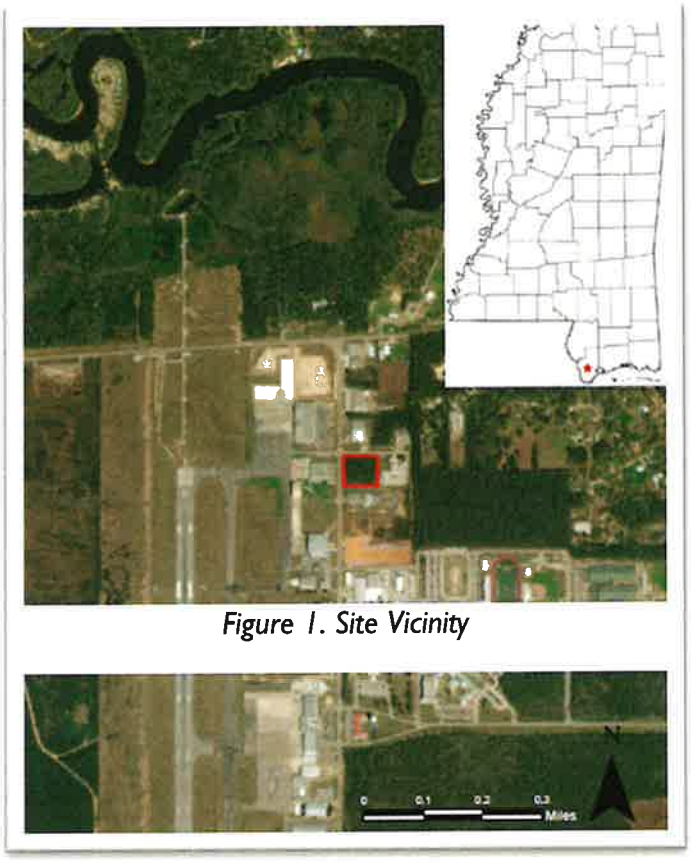


Figure 1. Site Vicinity

1.2 Project Description

The Hancock County Port and Harbor Commission has retained Neel-Schaffer, Inc. to complete a wetland delineation of the survey area.

Figure 2 shows the survey area on a 2024 aerial photograph (Appendix A).

Figure 2 – Survey Area

2 METHODOLOGY

The wetland and other waters delineation was conducted in accordance with the U.S. Army Corps of Engineers (USACE) guidelines. Reference materials included the 1987 Corps of Engineers Wetlands Delineation Manual and the 2010 Atlantic and Gulf Coastal Plain Regional Supplement Version 2.0.

A preliminary wetland investigation of the project site included a review of USGS topographic maps, U.S. Fish and Wildlife Service's National Wetland Inventory (NWI) maps and aerial photography. In addition, a review of the Hydric Soil Report generated by the Natural Resource Conservation Services (NRCS) Web Soil Survey was completed. Copies of these resources are provided in Appendix B.

Site investigation of the property was conducted by Neel-Schaffer, Inc. in May of 2024 by walking the project site and conducting shovel tests. Vegetation and visual indicators of wetland hydrology were noted, and soil profiles investigated. Points were collected along wetland boundaries using a handheld DGPS. Wetland boundaries and locations were located by a Trimble TDC600 Handheld Data Collector. Spatial data collected in the field were used to map wetland features, other waters, and non-wetland features using ArcGIS 10.8.1. Wetland determination data forms were used to document the findings, and are provided in Appendix C.

Soil, vegetation, and hydrologic data collected from the site inspection were analyzed. A map of the subject property was created showing the locations of the wetland areas identified. Site photographs are provided in Appendix D.

3 EXISTING CONDITIONS

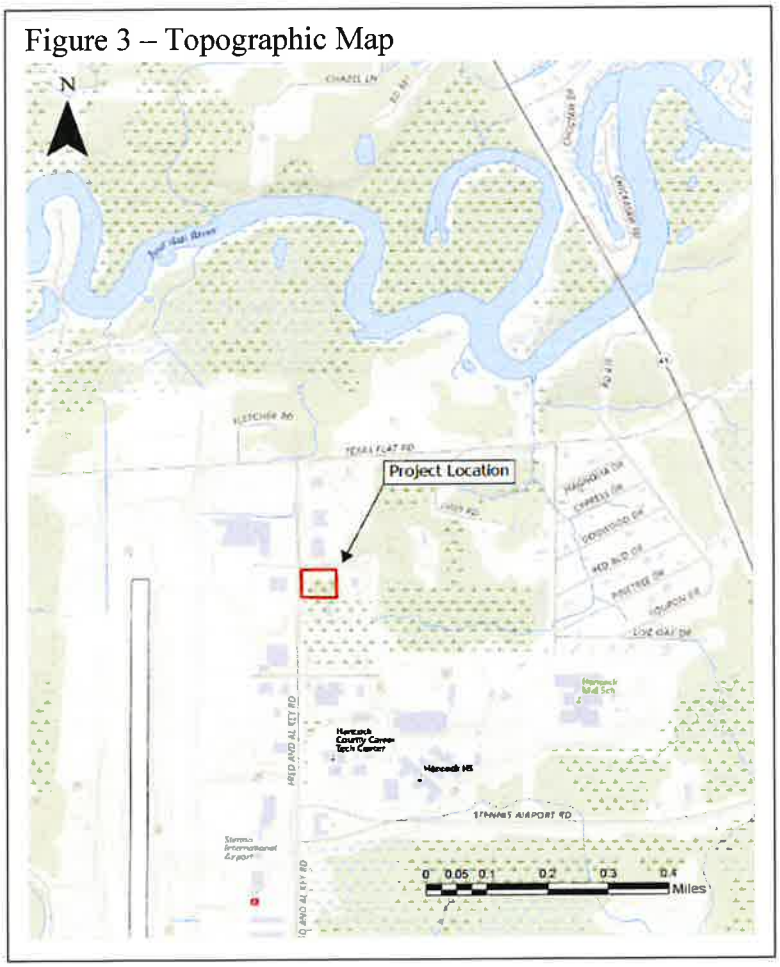
3.1 Landscape Setting

The Survey Site consists of undeveloped classified as freshwater forested/shrub wetland by the National Wetlands Inventory. The area surrounding the survey site consists of developed properties and undeveloped areas; developed properties in the area are a mixture of commercial/ private businesses and government owned property.

3.2 Topography

The U.S. Geological Survey (USGS) 7.5-minute topographic map for Kiln, Mississippi (dated 2020) covering the site was reviewed for the topographic setting. Based on the USGS topographic map the site topography ranges in elevation from approximately 15 to 20-feet (NAVD88). The lowest point in elevation within the survey area is the center and has a gradual upwards slope towards the north and south. Figure 3 shows the topography of the area (Appendix A).

Figure 3 – Topographic Map



3.3 Hydrology

One parameter to be evaluated during a wetland determination is hydrology. According to the Regional Supplement, hydrology indicators are often the most transitory of wetland indicators and are used as evidence to support that a continuing wetland hydrologic regime exists on a site.

Onsite hydrology assessment was conducted by interpretation of background resources in conjunction with data gathered during onsite inspections. A series of test holes were dug throughout to determine if changes in hydrology occurred. Wetland hydrology in the form of saturated soil, and standing water was identified in several locations.

3.4 Vegetation

Another parameter to be evaluated during a wetland determination is vegetation. A wetland must possess a hydrophytic plant community in order to meet this required parameter. The Corps of Engineers Wetland Delineation Manual defines hydrophytic vegetation as: "...the community of macrophytes that occurs in areas where inundation or soil saturation is either permanent or of sufficient frequency and duration to exert a controlling influence on the plant species present."

Hydrophytic vegetation was identified in areas where standing water or hydric soils were present. Tables 1 and 2 list species of vegetation encountered in wetland and upland areas, respectively.

Table 1. Vegetation Encountered in Wetland Areas

Common Name	Scientific Name	Wetland Indicator Status
Slash Pine	*Pinus elliottii*	FACW
Sweetbay	*Magnolia virginiana*	FACW
Southern Magnolia	*Magnolia grandiflora*	FAC
Inkberry	*Ilex glabra*	FACW
Yaupon	*Ilex vomitoria*	FAC
Longleaf Pine	*Pinus palustris*	FAC
Laurel Greenbriar	*Smilax Laurifolia*	FACW
Evening Trumpet Flower	*Gelsemium sempervirens*	FAC
Bahia Grass	*Paspalum notatum*	FACU
Erect Centella	*Centella erecta*	FACW
Bitter Panicgrass	*Panicum amarum*	FAC
Toad Rush	*Juncus bufonius*	FACW
Dwarf Sundew	*Drosera brevifolia*	OBL

Table 2. Vegetation Encountered in Upland Areas

Common Name	Scientific Name	Wetland Indicator Status
Bermuda Grass	*Cynodon dactylon*	FACU
Bahia Grass	*Paspalum notatum*	FACU
Erect Centella	*Centella erecta*	FACU

3.5 Soils

The final parameter to be evaluated during a wetland determination is soil morphology. The National Technical Committee on Hydric Soils (NTCHS) defines a hydric soil as: "a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part" (USDA Soil Conservation Service 1994). USDA soil data shows two mapped soil types within the survey area. Figure 4 shows the location and extent of the soil types (Appendix A).

Atmore silt loam soils with 0-2% slopes (At) are poorly drained and listed as hydric (85%) in Hancock County. The Atmore series consists of very deep, poorly drained, moderately slowly permeable soils in depressions and interstream divides. They formed in sandy and loamy marine sediments in the Southern Coastal Plain. Near the type location the mean annual air temperature is about 62 degrees F., and the mean annual precipitation is about 58 inches. Slopes range from 0 to 8 percent.

Figure 4. USDA Mapped Soils

- Beauregard silt loam (Be) soils are moderately well-drained and listed as partially hydric (9%) in Hancock County. The Beauregard series consists of very deep, moderately well drained, slowly permeable soils that formed in loamy alluvial sediments of Pleistocene age. These soils are on broad, nearly level and gently sloping Coastal Plains. They are saturated for short periods during winter and early spring. Water runs off the surface at a medium to slow rate. Slope is dominantly 1 to 3 percent but ranges from 0 to 5 percent.

4 DELINEATION RESULTS

This wetland assessment was conducted according to the methods outlined in the Corps of Engineers Wetlands Delineation Manual, published January 1987, by the United States Army Corps of Engineers and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region, published in November 2010 by the United States Army Corps of Engineers. As defined in the Corps of Engineers Wetlands Delineation Manual, wetlands are: "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Wetlands identified within the survey area are shown on Figure 5.

Figure 5. Wetland Delineation

Disclaimer:

The purpose of this report is to convey an objective, factual picture of the extent and location of wetlands and other waters of the U.S. on a subject property. However, use of this report should recognize the subjectivity associated with studies of this type and the limitations of the methods required by the Corps of Engineers Wetland Delineation Manual and its subsequent regional supplement. The findings of Neel-Schaffer, Inc., including wetland boundaries, are subject to agency verification and approval. Violation of Section 10 of the Rivers and Harbors Act of 1899 and/or Section 404 of the Clean Water Act of 1972 can result in both civil and criminal penalties.

Conclusion:

Based on the field investigation at the subject property and evidence of hydrophytic vegetation, hydric soils, and hydrology, approximately 1.68 acres of wetland are present within the survey area. Ultimately, jurisdiction is determined by the Army Corp of Engineer's Regulatory Branch.

5 REFERENCES

Lichvar, R.W., D.L., Banks, W.N., Kirchner, and N.C. Melvin. 2016. Atlantic and Gulf Coastal Plain 2016 Regional Wetland Plant List Wetland Ratings, Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X.

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USACE. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain. November 2010: v 2.0. 180 pp.

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USGS. The National Map US Topo Kiln Quadrangle Mississippi Jackson County 7.5-Minute Series Map. 2021.

USGS. The National Map US Topo Waveland Quadrangle Mississippi Jackson County 7.5-Minute Series Map. 2021.

APPENDIX A: FIGURES

Figure 1. Site Vicinity

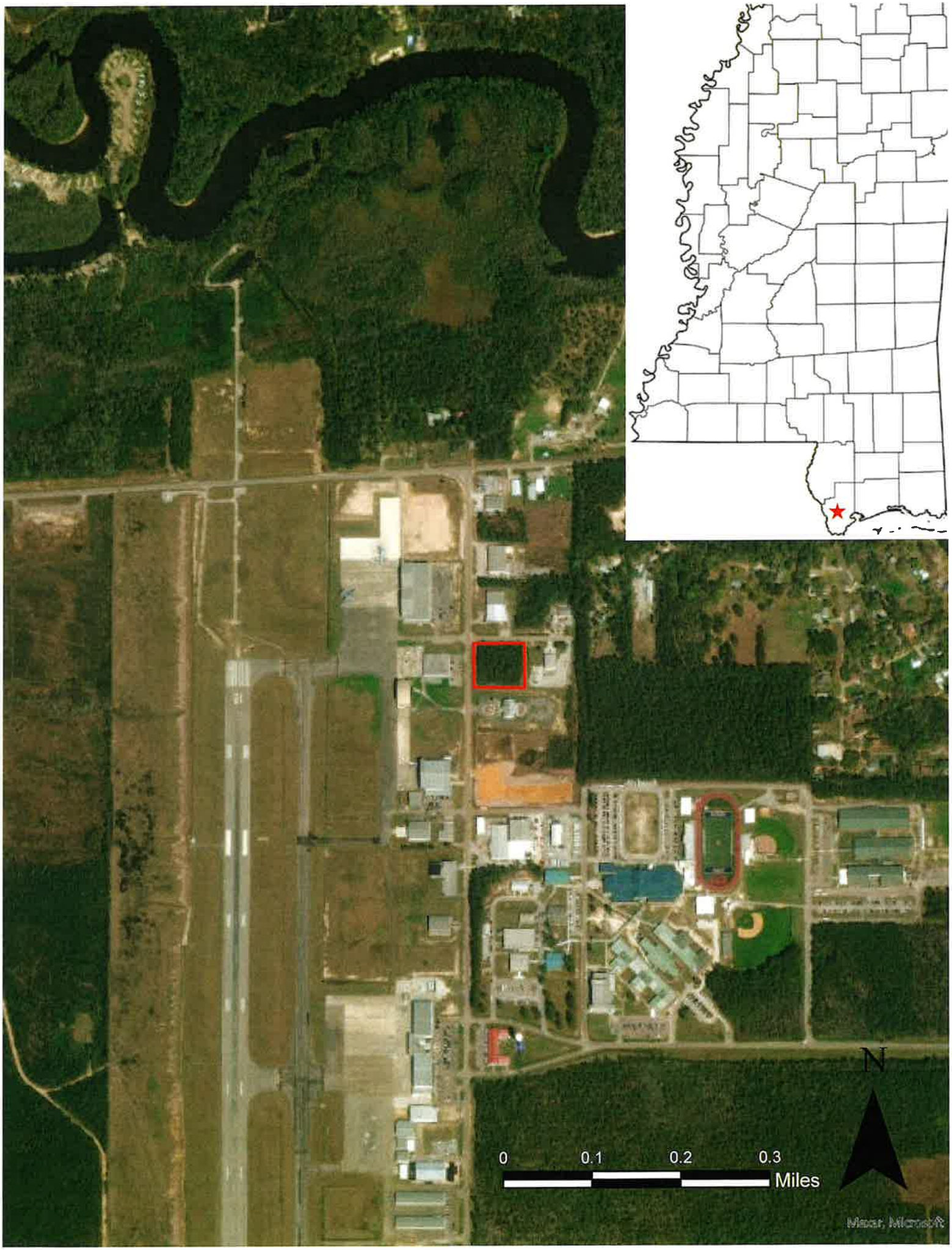

N
0
0.1
0.2
0.3
Miles
Maxar, Microsoft

Figure 2. Survey Area


Maxar, Microsoft

Figure 3. Topographic Map


N
CHAZEL LN
RD 431
CHOCTAW DR
CHICKASAW RD
Jourdan River
43
RD 419
FLETCHER RD
TEXAS FLAT RD
Project Location
LINO RD
MAGNOLIA DR
CYPRESS DR
DOGWOOD DR
RED BUD DR
PINETREE DR
YOUPON DR
LIVE OAK DR
Hancock Mid Sch
Hancock County Career Tech Center
Hancock HS
FRED AND AL KEY RD
STENNIS AIRPORT RD
Stennis International Airport
0 0.05 0.1 0.2 0.3 0.4
Miles

Figure 4. USDA Mapped Soils

Hydric Rating by Map Unit—Hancock County, Mississippi
(Site 10 wetland)

Map Scale: 1:824 if printed on A landscape (11" x 8.5") sheet.

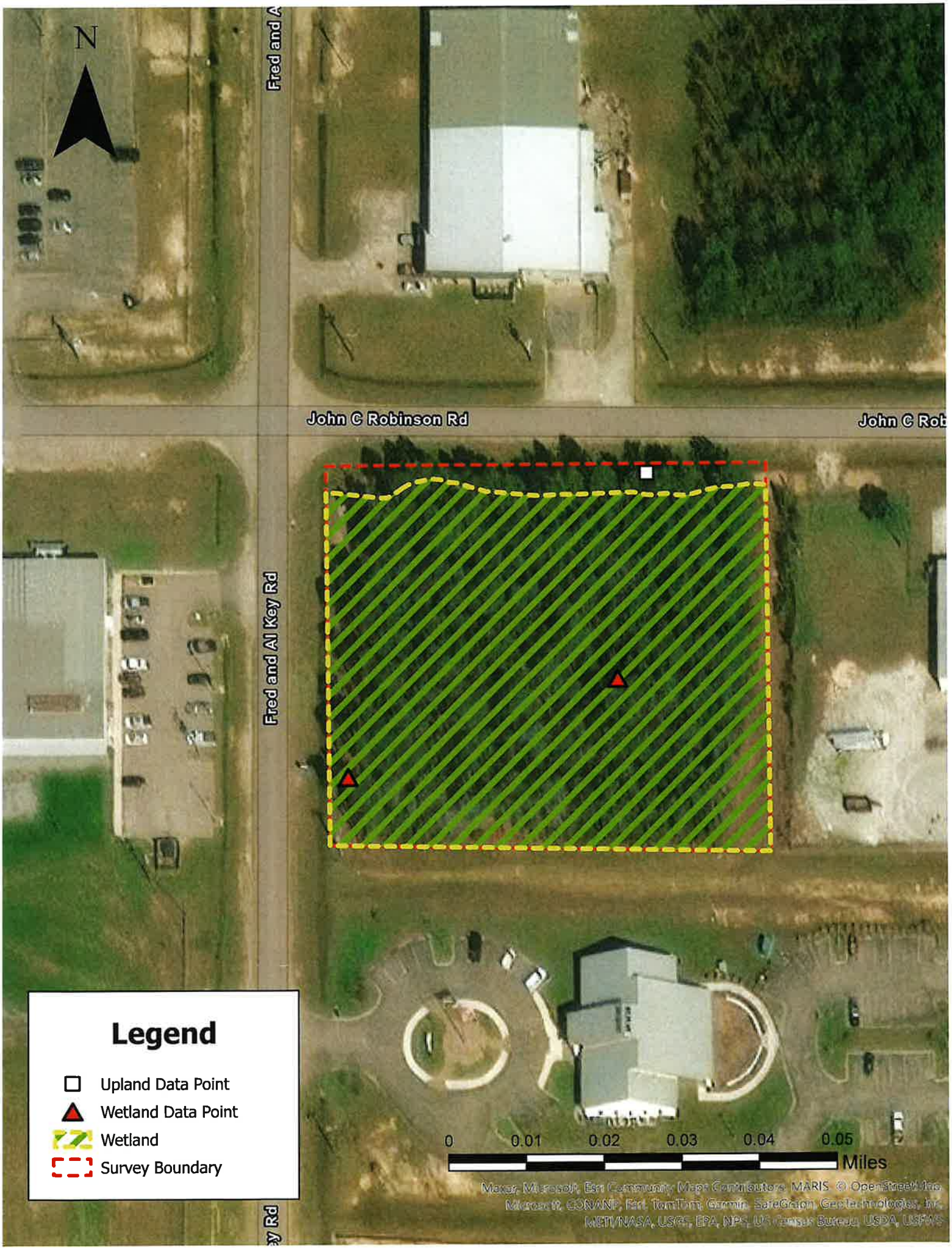
N

Meters: 0 10 20 40 60

Feet: 0 40 80 160 240

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

Figure 5. Wetland Delineation


N
Fred and A
John C Robinson Rd
John C Rob
Fred and Al Key Rd
Legend
Upland Data Point
Wetland Data Point
Wetland
Survey Boundary
0
0.01
0.02
0.03
0.04
0.05
Miles

APPENDIX B: BACKGROUND RESOURCES

Hydric Rating by Map Unit—Hancock County, Mississippi
(Site 10 wetland)

Map Scale: 1:824 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 10 20 40 60

Feet
0 40 80 160 240

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Lines
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Points
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Hancock County, Mississippi
Survey Area Data: Version 20, Sep 9, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 13, 2023—Feb 19, 2023

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
At	Atmore silt loam, 0 to 2 percent slopes	85	1.1	42.5%
Be	Beauregard silt loam	9	1.4	57.5%
Totals for Area of Interest			**2.5**	**100.0%**

Description

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

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Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Rating Options

Aggregation Method: Percent Present

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

U.S. Fish and Wildlife Service

National Wetlands Inventory

NWI

May 21, 2024

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

APPENDIX C: DATASHEETS

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Site 10 City/County: Hancock County Sampling Date: 5/29/2024

Applicant/Owner: Hancock County Port and Harbor Commission State: MS Sampling Point: 1

Investigator(s): Lisa Morrison and Chase Hughes Section, Township, Range: S1 T8S R15W

Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): None Slope (%): 2

Subregion (LRR or MLRA): LRR-T Lat: 30.379331 Long: -89.449492 Datum: NVGD83

Soil Map Unit Name: Beauregard Silt Loam NWI classification: PFO4B

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:

Data Point representative of the surrounding wooded area.

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:

Fac Neutral test 4-0

Data Point located within NWI recognized wetland area.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: 1

Tree Stratum (Plot size: 30X30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus elliottii	40	yes	FACW
2. Magnolia virginiana	30	yes	FACW
3. Magnolia grandiflora	10	no	FAC
4.			
5.			
6.			
7.			
8.			
	80.0 = Total Cover		
50% of total cover: 40.0	20% of total cover: 20		

Sapling/Shrub Stratum (Plot size: 30X30)			
1. Ilex glabra	50	yes	FACW
2. Ilex vomitoria	20	yes	FAC
3. Pinus palustris	10	no	FAC
4.			
5.			
6.			
7.			
8.			
	80.0 = Total Cover		
50% of total cover: 40.0	20% of total cover: 16		

Herb Stratum (Plot size: 30X30)			
1. Smilax Laurifolia	10	yes	FACW
2. Gelsemium sempervirens	10	yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	20.0 = Total Cover		
50% of total cover: 10.0	20% of total cover: 4		

Woody Vine Stratum (Plot size: 30X30)			
1.			
2.			
3.			
4.			
5.			
	0.0 = Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (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 =
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 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: (If observed, list morphological adaptations below).

Buttressing of tree trucks observed

SOIL

Sampling Point: 1

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
0-6	10YR 3/1	68	10YR 5/6	2	C	PL	lo/cl=loamy-cla	
0-6	10YR 6/2	30			D	M	lo/cl=loamy-cla	
6-12	10YR 6/1	80	10YR 5/6	20	C	PL	lo/cl=loamy-cla	

[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: Site 10 City/County: Hancock County Sampling Date: 5/29/2024

Applicant/Owner: Hancock County Port and Harbor Commission State: MS Sampling Point: 2

Investigator(s): Lisa Morrison and Chase Hughes Section, Township, Range: S1 T8S R15W

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Convex Slope (%): 4

Subregion (LRR or MLRA): LRR-T Lat: 30.379719 Long: -89.449436 Datum: NVGD83

Soil Map Unit Name: Beauregard Silt Loam NWI classification: Upland

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:

Data Point representative of area adjacent to northern border of survey area.

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:

Fac Neutral Test 0/2

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

Sampling Point: 2

Tree Stratum (Plot size: 15X15)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0.0 = Total Cover		

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

Sapling/Shrub Stratum (Plot size: 15X15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0.0 = Total Cover		

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

Herb Stratum (Plot size: 15X15)			
1. Cynodon dactylon	30	yes	FACU
2. Paspalum notatum	30	yes	FACU
3. Centella erecta	10	no	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	70.0 = Total Cover		

50% of total cover: 35.0 20% of total cover: 14

Woody Vine Stratum (Plot size: 15X15)			
1.			
2.			
3.			
4.			
5.			
	0.0 = Total Cover		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	60	x 4 =	240
UPL species	0	x 5 =	0
Column Totals:	70 (A)		260 (B)

Prevalence Index = B/A = 3.71

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 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: (If observed, list morphological adaptations below).

SOIL

Sampling Point: 2

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
0-6	10YR 6/2	45	10YR 5/8	5	C	PL	lo/cl=loamy-cla	6/2 and 7/1 mottled together
0-6	10YR 7/1	40					lo/cl=loamy-cla	
6-12	10YR 5/4	83	10YR 5/6	2	C	PL	lo/cl=loamy-cla	5/4 and 4/2 mottled together.
6-12	10YR 4/2	15					lo/cl=loamy-cla	

[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:

Pieces of asphalt and fill clay observed within soil sample and around the data point.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Site 10 City/County: Hancock County Sampling Date: 5/29/2024

Applicant/Owner: Hancock County Port and Harbor Commission State: MS Sampling Point: 3

Investigator(s): Lisa Morrison and Chase Hughes Section, Township, Range: S1 T8S R15W

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

Subregion (LRR or MLRA): LRR-T Lat: 30.379144 Long: -89.450075 Datum: NVGD88

Soil Map Unit Name: Atmore Silt Loam NWI classification: PFO4B

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:

Vegetation is significantly disturbed but, shows evidence that a hydrophytic plant community would exist under normal circumstances.

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 (Four Strata) – Use scientific names of plants.

Sampling Point: 3

Tree Stratum (Plot size: 15x15)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0.0 = Total Cover		
50% of total cover: ____	20% of total cover: ____		
Sapling/Shrub Stratum (Plot size: 15x15)			
1. Paspalum notatum	40	yes	FACU
2. Centella erecta	15	yes	FACW
3. Panicum amarum	10	no	FAC
4. Juncus bufonius	5	no	FACW
5. Drosera brevifolia	3	no	OBL
6.			
7.			
8.			
	73.0 = Total Cover		
50% of total cover: 36.5	20% of total cover: 14.6		
Herb Stratum (Plot size: 15x15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	0.0 = Total Cover		
50% of total cover: ____	20% of total cover: ____		
Woody Vine Stratum (Plot size: 15x15)			
1.			
2.			
3.			
4.			
5.			
	0.0 = Total Cover		
50% of total cover: ____	20% of total cover: ____		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	3	x 1 =	3
FACW species	20	x 2 =	40
FAC species	10	x 3 =	30
FACU species	40	x 4 =	160
UPL species		x 5 =	
Column Totals:	73 (A)		233 (B)

Prevalence Index = B/A = 3.19

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 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: (If observed, list morphological adaptations below).

Area is mowed frequently and cleared of all vegetation taller than just a few inches. The presence of multiple hydrophytic species of plants growing amongst a grass commonly used in landscaping indicate that vegetation within this area is significantly disturbed.

SOIL

Sampling Point: 3

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
0-6	10YR 5/2	67	10YR 5/8	3	C	PL	lo/cl=loamy-cla	
0-6	10YR 6/1	30			D	M	lo/cl=loamy-cla	

[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:

APPENDIX D: SITE PHOTOGRAPHS

Photo 1: View facing north at data point one.

Photo 2: Soil profile of data point one.

Photo 3: View facing north at data point three.

Photo 4: Soil profile of data point three.

Photo 5: View facing east at data point two.

Photo 6: Soil profile of data point two.