

WETLANDS DELINEATION
HANCOCK COUNTY PORT AND HARBOR COMMISSION
STENNIS INTERNATIONAL AIRPORT – SITE 1
KILN, MISSISSIPPI
NS Project # 13531.001.023

Prepared For:

Hancock County Port and Harbor Commission

Prepared By:

Neel-Schaffer, Inc.
772 Howard Avenue
Biloxi, Mississippi 39530
(228) 374-1211

Report Date: August 7, 2018

TABLE OF CONTENTS

1.0	SITE LOCATION	1
2.0	WETLAND PROPERTIES	1
	2.1 HYDRIC SOIL	1
	2.2 HYDROPHYTIC VEGETATION	2
	2.3 WETLAND HYDROLOGY	2
3.0	CONCLUSIONS	3
4.0	REFERENCES	4

FIGURES

- Figure 1 – Site Location Map**
- Figure 2 – 2016 Aerial Photograph**
- Figure 3 – National Wetlands Inventory Map**
- Figure 4 – NRCS Soil Survey Map**
- Figure 5 – Wetlands Identified on Property**

APPENDICES

- Appendix A – Wetland Data Sheets**
- Appendix B – Site Photographs**

EXECUTIVE SUMMARY

Hancock County Port and Harbor Commission (HCPHC) is anticipating new development within Stennis International Airport. Stennis Airport is located north of Interstate 10, west of Mississippi Highway 603, and south of Texas Flat Road in Kiln, Hancock County, Mississippi. HCPHC is requesting an approved jurisdictional determination for Site 1, located adjacent to the south of Texas Flat Road and adjacent to the west of Fred and Al Key Road. Site 1 is undeveloped and routinely mowed by Stennis Airport staff. Based on historical aerial photographs dating back to 1998, Site 1 was cleared by Stennis Airport sometime between 2002 and 2004. Prior to that time, the property was forested. Neel-Schaffer, Inc. is of the opinion Site 1 should be classified as an upland site through the approved jurisdictional determination process facilitated by the U.S. Army Corps of Engineers (USACE).

At the time of the site visit on July 31, 2018, Site 1 indicated evidence of hydrology, hydrophytic vegetation, and hydric soils along 71% (4.88 acres) of the 6.8-acre property. Surface water, groundwater, and saturation was evident within the identified wetland area. Secondary indicators of hydrology observed included crayfish burrows and saturation via aerial imagery. Major hydrophytic vegetation species were fairly uniform across the entire site and included *Centella erecta* (erect centella), *Hypericum brachyphyllum* (coastal plain St. Johnswort), *Panicum repens* (torpedo grass), *Rhynchospora cephalantha* (bunched beaksedge), and *Sarracenia alata* (yellow trumpets). Below two inches of the soil surface, hydric features were identified as iron and manganese concentrations comprising between two and five percent of the soil matrix.

1.0 SITE LOCATION

Site 1 is located just west of the northern terminus of Fred and Al Key Road, within the boundaries of Stennis International Airport, Kiln, Mississippi, Section 1, Township 8 South, Range 15 West, approximately 2.10 miles north of Interstate 10. The approximately 6.5-acre site is undeveloped and routinely mowed. There is an improved drainage basin adjacent to the west of the property and manmade drainage on the west side between the site and the Stennis International Airport runway. Adjacent to the north is Texas Flat Road, across from which are residential and commercial properties. Adjacent to the east is Fred and Al Key Road, across from which are commercial properties. To the south are Tyonek aircraft hangars and an asphalt parking lot. A site location map and 2016 aerial photograph are included as Figures 1 and 2.

2.0 WETLAND PROPERTIES

The USACE has jurisdiction over wetland habitats as authorized in Section 404 of the Clean Water Act (CWA). The USACE defines wetlands based on positive evidence of three parameters: hydric soil, hydrophytic vegetation, and wetland hydrology. This wetland delineation is based on reference materials, including a U.S. Geological Survey (USGS) topographic map (see Figure 1), an aerial photograph (see Figure 2), National Wetlands Inventory (NWI) data (see Figure 3), National Resource Conservation Service (NRCS) soil survey data (see Figure 4), Google Earth historical aerial imagery, as well as data collected during the site visit on July 31, 2018. Wetland data sheets are included in Appendix A, and photographs are included in Appendix B. The investigation recorded the following information and observations.

2.1 Hydric Soil

The NRCS soil survey depicts five soil series on the site:

- 1) Atmore silt loam – 0-2% slopes; found in depressions, terraces, and flats on divides; poorly drained; considered hydric
- 2) Beauregard silt loam – 0-1% slopes; found along coastal plains; moderately well drained; considered non-hydric
- 3) Poarch fine sandy loam – prime farmland soil; 2-5% slopes; found along ridges; well drained; considered non-hydric
- 4) Saucier fine sandy loam – prime farmland soil; 2-5% slopes; found along fluviomarine terraces; moderately well drained, considered non-hydric
- 5) Sulfaquepts – 0-5% slopes; found along crests and shoulders; poorly drained; considered hydric

Of the five soil series mapped within Site 1, two are considered hydric, and three are considered non-hydric. Two soil series are considered prime farmland soil. The wetland data point was taken within the Beauregard silt loam series. Additional data points were not taken within the mapped boundaries of the remaining four soil series due to the relative homogeneity of upland and wetland site features.

2.2 Hydrophytic Vegetation

Vegetation observed on the site is typical of coastal Mississippi. Within the property boundaries, one habitat type was observed. Scrub/shrub wetlands and disturbed barren uplands were observed throughout Site 1. Vegetation along the entire site was predominantly facultative, with some facultative upland and facultative wetland species intermixed. Dominant vegetation species consisted of *Andropogon glaucopsis* (purple bluestem), *Centella erecta* (erect centella), *Cirsium horridulum* (yellow thistle), *Diodia* spp. (buttonweed), *Hypericum brachyphyllum* (coastal plain St. Johnswort), *Panicum repens* (torpedo grass), *Rhynchospora cephalantha* (bunched beaksedge), and *Sarracenia alata* (yellow trumpets), *Schoenoplectus tabernaemontani* (softstem bulrush), *Scleria* spp. (nutrush), and *Verbascum thapsus* (common mullein).

2.3 Wetland Hydrology

The third feature in determining the presence or absence of wetland habitats is “evidence of hydrology.” The most subjective of the three wetland parameters, hydrology, can be difficult to identify and prove in relatively flat areas, such as this property. There is sufficient evidence of hydrology in the wetland portion of the site including surface water, groundwater, and saturation. Secondary indicators of hydrology observed included crayfish burrows and saturation via aerial imagery. The most recent significant rain event for Stennis International Airport was on July 29, 2018.

3.0 CONCLUSIONS

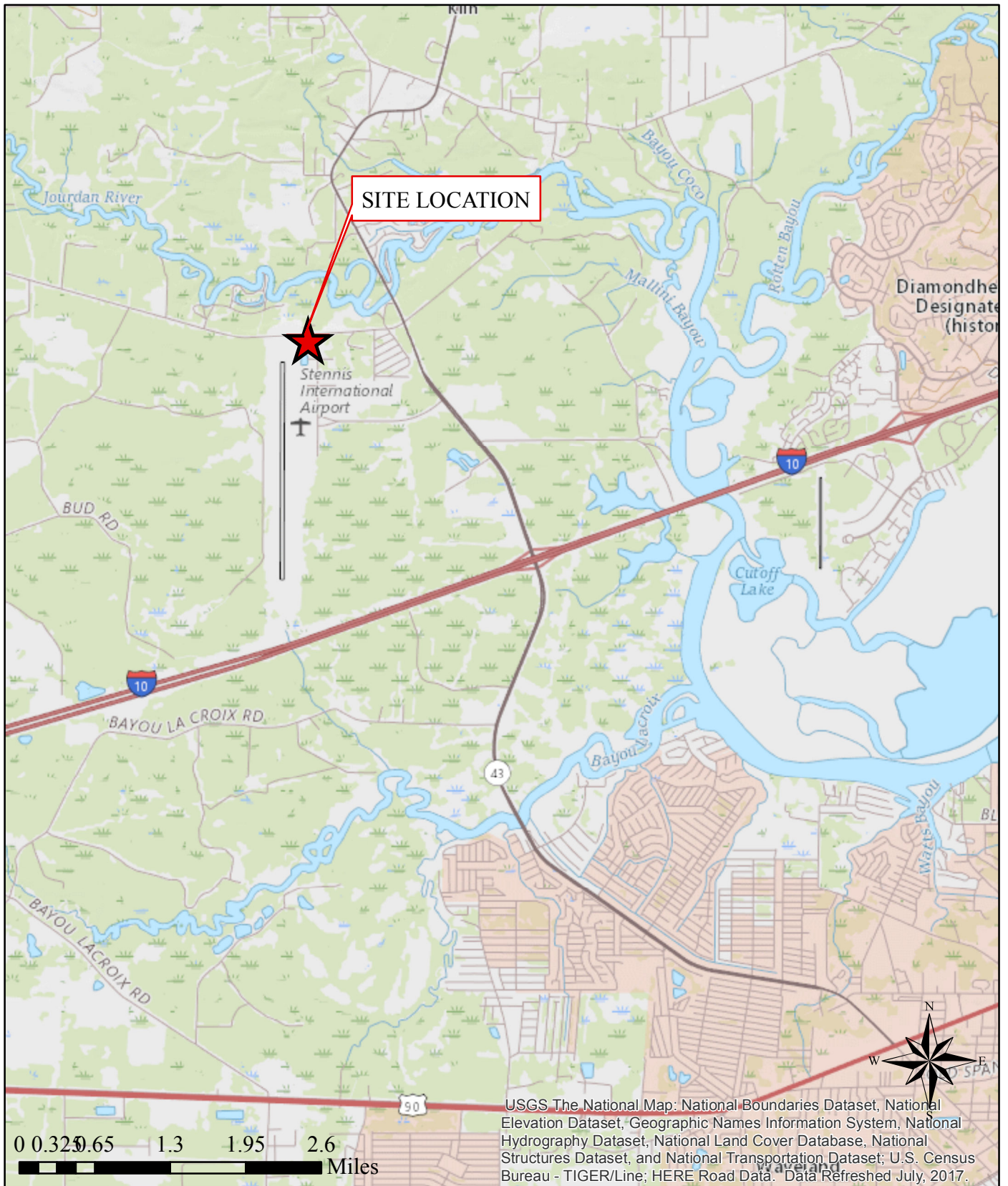
Two sampling points were taken within property boundaries to determine the extent of any wetlands or other waters of the United States. Based on a walking survey of the property, data collected at the sampling point, as well as the above information, it is the opinion of Neel-Schaffer, Inc. that the USACE and other agencies would consider 4.88 acres of the 6.8-acre site as jurisdictional wetlands. Wetland determination data forms are included in Appendix A. Site photographs taken on July 31, 2018 are included in Appendix B.

For wetlands that are proposed to be impacted, coordination will be required from the USACE, Mississippi Department of Marine Resources, and the Mississippi Department of Environmental Quality. During construction, appropriate erosion control fencing should be placed around the perimeter of the construction zone to prevent any off-site release of materials which could work their way into other wetland areas. The USACE application and permitting process allows for fill of wetland habitat for specific, justified projects, as long as appropriate compensatory mitigation is made. Other factors considered during the application process include wastewater treatment, alternatives analysis, and floodplain impacts.

4.0 REFERENCES

- Grand Bay and Weeks Bay National Estuarine Research Reserves. *Selected Plants of Coastal Mississippi and Alabama*. 2010.
- Miller, James H. and Miller, Karl V. *Forest Plants of the Southeast and their Wildlife Uses*. Revised Edition. 2005. The University of Georgia Press. 454 pp.
- Munsell Color. Munsell Soil-Color Charts. 2010.
- U.S. Army Corps of Engineers. *Wetlands Delineation Manual*, Technical Report Y-87-1. Vicksburg, Mississippi: U.S. Army Corps of Engineers, Waterways Experiment Station, January 1987.
- U.S. Army Corps of Engineers. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0)*. Vicksburg, Mississippi: U.S. Army Corps of Engineers, U.S. Army Engineer Research and Development Center, November 2010.
- U.S. Department of Agriculture, Natural Resources Conservation Service. *Field Indicators of Hydric Soils in the United States*. Version 8.1. 2017. 45 pp.
- U.S. Department of Agriculture, Natural Resources Conservation Service. Web Soil Survey. Website accessed May 13, 2018.
<https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>
- U.S. Fish and Wildlife Service. Wetlands Mapper. Website accessed May 13, 2018.
<https://www.fws.gov/wetlands/data/mapper.html>
- Weather Underground. *Weather History for KHSa – April 2018*. Website accessed August 1, 2018. <https://www.wunderground.com/weather/us/ms/kiln>

FIGURES





Legend

 Property

NWI CLASSIFICATION

 Estuarine and Marine Deepwater

 Estuarine and Marine Wetland

 Freshwater Emergent Wetland

 Freshwater Forested/Shrub Wetland

 Freshwater Pond

 Lake

 Other

 Riverine

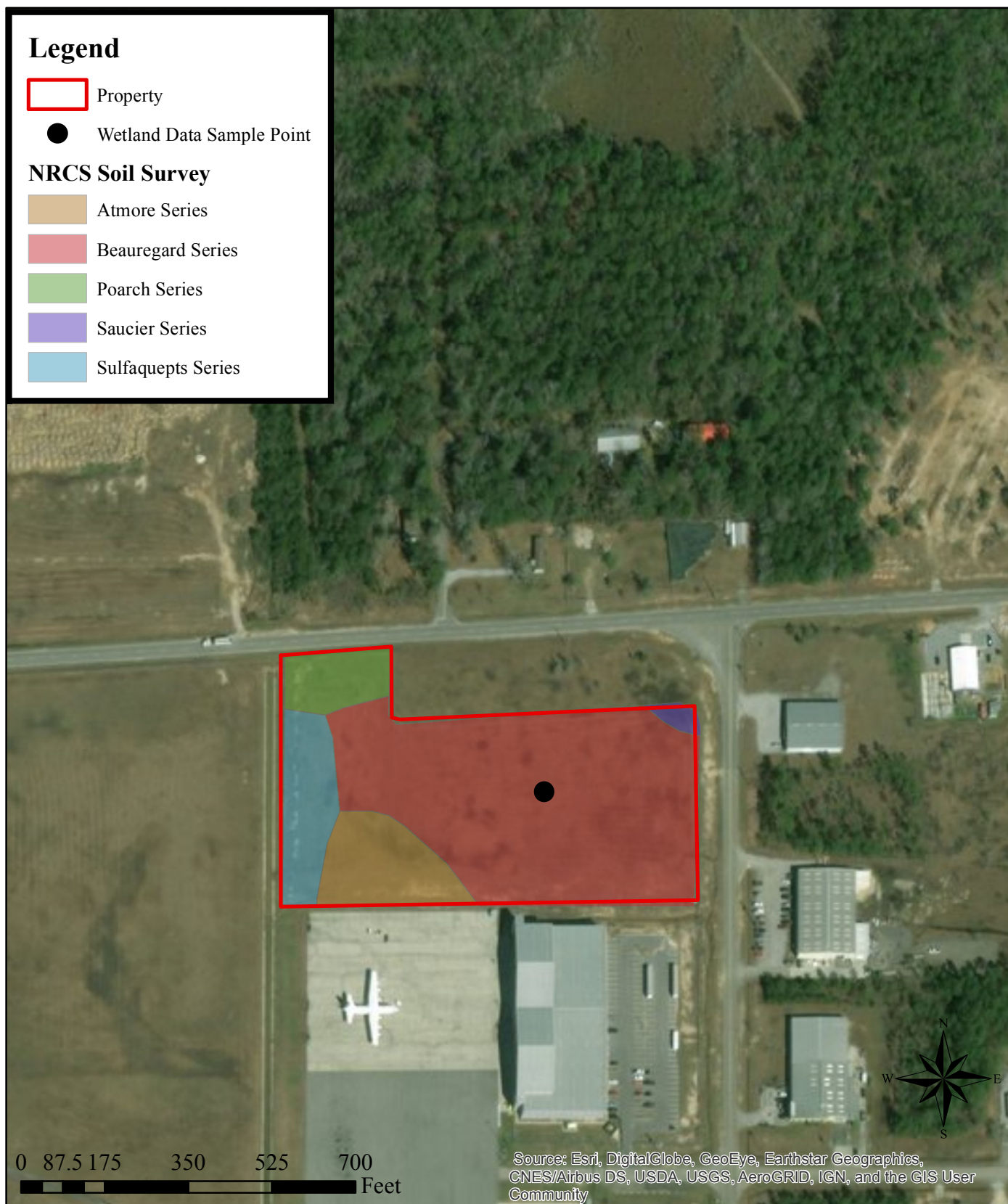


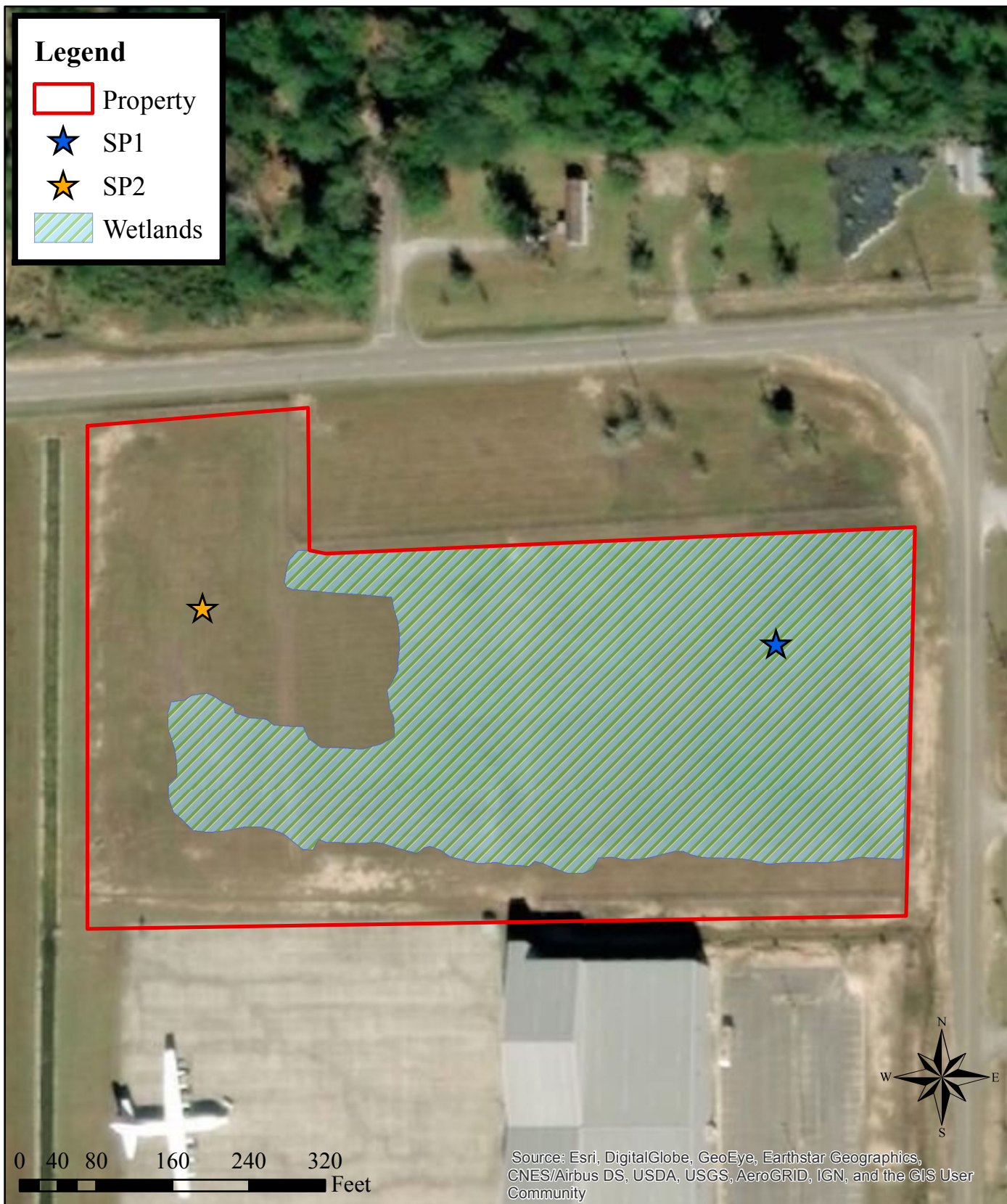
Legend

- Property
- Wetland Data Sample Point

NRCS Soil Survey

- Atmore Series
- Beauregard Series
- Poarch Series
- Saucier Series
- Sulfaquepts Series





APPENDIX A

WETLAND DATA SHEETS

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Stennis Site 1 City/County: Kiln/Hancock Sampling Date: 7/31/18
 Applicant/Owner: Hancock County Port and Harbor Commission State: MS Sampling Point: 1SP1
 Investigator(s): Cori L. Gavin Section, Township, Range: Section 1, Township 8S, Range 15W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 0-1
 Subregion (LRR or MLRA): LRR T Lat: 30.3818310 Long: -89.4507829 Datum: WGS84
 Soil Map Unit Name: Beauregard silt loam NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Area routinely mowed, and has been a green space for Stennis Airport since some time between 2002 and 2004. Historical aerial photographs dating back to 1998 do not depict any natural drainage pathways through the property or typical signs of wetland vegetation. Ground and surface water flow are to the south-southeast.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is 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 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 <u>X</u> Depth (inches): _____ Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>12</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>12+</u> (includes capillary fringe)		Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Most recent rain event was July 29, 2018 at 6:53 a.m. with an accumulation of 0.3 inches.		

Sampling Point: 1SP1

				Dominance Test worksheet:	
Tree Stratum (Plot size: _____)				Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)	
1. _____				Total Number of Dominant Species Across All Strata: 1 (B)	
2. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)	
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
_____ = Total Cover					
50% of total cover: _____ 20% of total cover: _____					
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet:	
1. _____				Total % Cover of: Multiply by:	
2. _____				OBL species 10 x 1 = 10	
3. _____				FACW species 90 x 2 = 180	
4. _____				FAC species x 3 = _____	
5. _____				FACU species x 4 = _____	
6. _____				UPL species x 5 = _____	
7. _____				Column Totals: 100 (A) 190 (B)	
8. _____				Prevalence Index = B/A = 1.9	
_____ = Total Cover				Hydrophytic Vegetation Indicators:	
50% of total cover: _____ 20% of total cover: _____				___ 1 - Rapid Test for Hydrophytic Vegetation	
				___ 2 - Dominance Test is >50%	
				___ 3 - Prevalence Index is ≤3.0 ¹	
				___ Problematic Hydrophytic Vegetation ¹ (Explain)	
Herb Stratum (Plot size: 1M _____)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1. Panicum repens 85 Y FACW				Definitions of Four Vegetation Strata:	
2. Rhynchospora cephalantha 10 N OBL				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
3. Hypericum brachyphyllum 5 N FACW				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
4. _____				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
5. _____				Woody vine – All woody vines greater than 3.28 ft in height.	
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
12. _____					
_____ = Total Cover					
50% of total cover: 50 20% of total cover: 20					
Woody Vine Stratum (Plot size: _____)					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover					
50% of total cover: _____ 20% of total cover: _____					
Remarks: (If observed, list morphological adaptations below).				Hydrophytic Vegetation Present? Yes X No _____	

SOIL

Sampling Point: 1SP1

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		
0-1	10YR 3/2	100					loam	
1-7	10YR 3/2	98	5YR 4/6	1	C	PL	loam	Fe
1-7	10YR 3/2	98	10YR 2/1	1	C	M	loam	Mn
7-12	10YR 4/2	85	7.5YR 2.5/1	15	C	M	loam	Mn

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

²Location: 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 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 X No _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Stennis Site 1 City/County: Kiln/Hancock Sampling Date: 7/31/18
 Applicant/Owner: Hancock County Port and Harbor Commission State: MS Sampling Point: 1SP2
 Investigator(s): Cori L. Gavin Section, Township, Range: Section 1, Township 8S, Range 15W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): convex Slope (%): 0-1
 Subregion (LRR or MLRA): LRR T Lat: 30.3817293 Long: -89.4522668 Datum: WGS84
 Soil Map Unit Name: Beauregard silt loam NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Area routinely mowed, and has been a green space for Stennis Airport since some time between 2002 and 2004. Historical aerial photographs dating back to 1998 do not depict any natural drainage pathways through the property or typical signs of wetland vegetation. Ground and surface water flow are to the south-southeast. Vegetation was barely hydrophytic, no evidence of hydrology, and soils did not meet any hydric standards. Neel-Schaffer is not of the opinion this portion of the site is a wetland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is 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 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 <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes _____ No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Most recent rain event was July 29, 2018 at 6:53 a.m. with an accumulation of 0.3 inches.		

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

 Sampling Point: 1SP2

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
_____ = Total Cover				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>25</u></td> <td>x 1 = <u>25</u></td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species <u>35</u></td> <td>x 3 = <u>105</u></td> </tr> <tr> <td>FACU species <u>40</u></td> <td>x 4 = <u>160</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>290</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>2.9</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>25</u>	x 1 = <u>25</u>	FACW species _____	x 2 = _____	FAC species <u>35</u>	x 3 = <u>105</u>	FACU species <u>40</u>	x 4 = <u>160</u>	UPL species _____	x 5 = _____	Column Totals: <u>100</u> (A)	<u>290</u> (B)	Prevalence Index = B/A = <u>2.9</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>25</u>	x 1 = <u>25</u>																			
FACW species _____	x 2 = _____																			
FAC species <u>35</u>	x 3 = <u>105</u>																			
FACU species <u>40</u>	x 4 = <u>160</u>																			
UPL species _____	x 5 = _____																			
Column Totals: <u>100</u> (A)	<u>290</u> (B)																			
Prevalence Index = B/A = <u>2.9</u>																				
50% of total cover: _____ 20% of total cover: _____																				
Sapling/Shrub Stratum (Plot size: _____)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
_____ = Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				
Herb Stratum (Plot size: <u>1M</u>)																				
1. <u>Plantago virginica</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>	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)																
2. <u>Paspalum setaceum</u>	<u>35</u>	<u>Y</u>	<u>FAC</u>																	
3. <u>Rhynchospora cephalantha</u>	<u>25</u>	<u>N</u>	<u>OBL</u>																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
_____ = Total Cover																				
50% of total cover: <u>50</u> 20% of total cover: <u>20</u>																				
Woody Vine Stratum (Plot size: _____)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
_____ = Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				
Remarks: (If observed, list morphological adaptations below).				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 <u>X</u> No _____																

SOIL

Sampling Point: 1SP2

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		
1-4	7.5YR 4/2	99	7.5YR 4/6	1	C	M	loam	
4-8	7.5YR 4/3	99	5YR 3/4	1	C	M	loam	Fe
8-12	7.5YR 5/2	98	7.5YR 5/6	2	C	M	loam	Fe

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils³:**

- | | | |
|---|---|---|
| ☐ 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) | ☐ 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 ^X _____

Remarks:

APPENDIX B
SITE PHOTOGRAPHS



Photograph of Site 1, facing east



Photograph of Site 1, facing south



Photograph of Site 1, facing east from the western edge



Photograph of Site 1, facing west from the eastern edge



Vegetation at SP1



Soil profile at SP1



Vegetation at SP2



Soil profile at SP2