DEPARTMENT OF THE ARMY
NEW ORLEANS DISTRICT, CORPS OF ENGINEERS
P.O. BOX 60267
NEW ORLEANS, LOUISIANA 70160-0267

REPLY TO
ATTENTION OF

SEP 10 2013

Operations Division
Surveillance and Enforcement Section

Exhibit BB. Grace Farms East P. Jurisdictional Determination & Wetlands Delineation Report

Mr. Leonard McCauley
G.E.C. Inc.
9357 Interline Avenue
Baton Rouge, Louisiana 70809

Dear Mr. McCauley:

Reference is made to your request, on behalf of Baton Rouge Area Chamber, for a U.S. Army Corps of Engineers' (Corps) jurisdictional determination on property located in Iberville Parish, Louisiana (enclosed map). Specifically, this property is identified as Grace Farms East: 456.5 acre tract north of I-10, east of LA-3000 between Bayou Maringouin and Bogan Bayou.

Based on review of recent maps, aerial photography, soils data, and the information provided with your request, we have determined that part of the property is wetland and may be subject to Corps' jurisdiction. The approximate limits of the wetland are designated in red on the map. A Department of the Army (DA) permit under Section 404 of the Clean Water Act will be required prior to the deposition or redistribution of dredged or fill material into wetlands that are waters of the United States.

This delineation/determination has been conducted to identify the limits of the Corps' Clean Water Act jurisdiction for the particular site identified in your request. This delineation/determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985, as amended. If the property owner or tenant is a USDA farm participant, or anticipates participation in USDA programs, a certified wetland determination should be requested from the local office of the Natural Resources Conservation Service prior to starting work.

You and your client are advised that this preliminary jurisdictional determination is valid for a period of 5 years from the date of this letter unless new information warrants revision prior to the expiration date or the District Commander has identified, after public notice and comment, that specific geographic areas with rapidly changing environmental conditions merit re-verification on a more frequent basis.

Should there be any questions concerning these matters, please contact Mr. Brian Oberlies at (504) 862-2275 and reference our Account No. MVN-2013-01004-SY. If you have specific questions regarding the permit process or permit applications, please contact our Central Evaluation Section at (504) 862-2577. The New Orleans District Regulatory Branch is committed to providing quality and timely service to our customers. In an effort to improve customer service, please complete the survey on our web site at http://per2.nwp.usace.army.mil/survey.html.

Sincerely,

Martin S. Mayer
Chief, Regulatory Branch

Enclosures

PRELIMINARY
JURISDICTIONAL DETERMINATION

USACE
FSV / IH Date: 9-9-13
Botanist:
Requestor: McCAULEY
MVN- 2013-01004-SY
- WETLAND
- NON-WETLAND
- WATERS OF THE US/404

WETLAND MAP

Grace Farms East
Iberville Parish, Louisiana

Data Source: ESRI Bing Maps Aerial

GEC

Figure: 3
Date: March 2013
Scale: 1:10,000
Source: GEC/Bing
Map ID: 132122013001-3060

Gulf Engineers & Consultants

G.E.C., Inc.
8282 Interline Avenue
Baton Rouge, Louisiana 70806
(225) 612-3000 Fax (225) 612-3015
Verdi Adam, P.E., President
Stephen Spohrer, P.E., Chief Operating Officer

ENR TOP 500 DESIGN FIRMS

March 25, 2013

U.S. Army Engineer District, New Orleans
Regulatory Branch
ATTN: Martin Mayer
7400 Leake Avenue
New Orleans, LA 70118

RE:
WETLAND DELINEATION REPORT
456.5-ACRE GRACE FARMS EAST
IBERVILLE PARISH, LOUISIANA

Dear Mr. Mayer:

On behalf of, the Baton Rouge Area Chamber, GEC is pleased to forward one copy of the 514.6-acre Grace Farms East Wetland Delineation Report. The enclosed document presents the habitat data gathered and a delineation of the wetland habitats within the study area.

GEC is requesting a **Jurisdictional Determination** on behalf of the Baton Rouge Area Chamber.

Thank you for your attention in this project. Please do not hesitate to contact me at (225) 612-4175 or lmccauley@gecinc.com if you have any comments or require additional information.

Sincerely,

Leonard McCauley

Enclosures

March 2013

456.5-ACRE GRACE FARMS EAST IBERVILLE PARISH, LOUISIANA

WETLAND DELINEATION REPORT

Prepared for

Baton Rouge Area Chamber
564 Laurel Street
Baton Rouge, Louisiana 70801

Prepared by

Gulf Engineers & Consultants

Baton Rouge, Louisiana

GRACE FARMS EAST
IBERVILLE PARISH, LOUISIANA

WETLAND DELINEATION REPORT

Prepared by

Gulf Engineers & Consultants
8282 Goodwood Blvd
Baton Rouge, Louisiana 70806
Phone – 225/612-3000

GEC Project No. 0013.2122013.001

Grace Farms **March 2013**
Baton Rouge Area Chamber
564 Laurel Street
Baton Rouge, Louisiana 70801

TABLE OF CONTENTS

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF PHOTOGRAPHS

Photograph **Page**

WETLAND DELINEATION REPORT

GRACE FARMS EAST
IBERVILLE PARISH, LOUISIANA

1.0 INTRODUCTION

G.E.C., Inc. (GEC), on behalf of the Baton Rouge Area Chamber, recently conducted a wetland delineation within the proposed site boundary. The purpose of this delineation was to determine wetland and stream boundaries within the site boundary. Figures 1 through 3 provide an overview of the site boundary and the features identified during the survey. More detailed descriptions and figures of each site are provided in Section 3.0 of this report.

2.0 METHODOLOGY

GEC conducted the wetland delineation in accordance with Section D, Subsection 2 of Technical Report Y-87-1, Corps of Engineers Wetlands Delineation Manual. Prior to the initiation of field work to identify the potential extent of wetlands present on the subject property, the following were reviewed: aerial photography; Natural Resources Conservation Service (NRCS), Iberville Parish, soil survey map; and U.S. Geological Survey (USGS) topographic quadrangle maps.

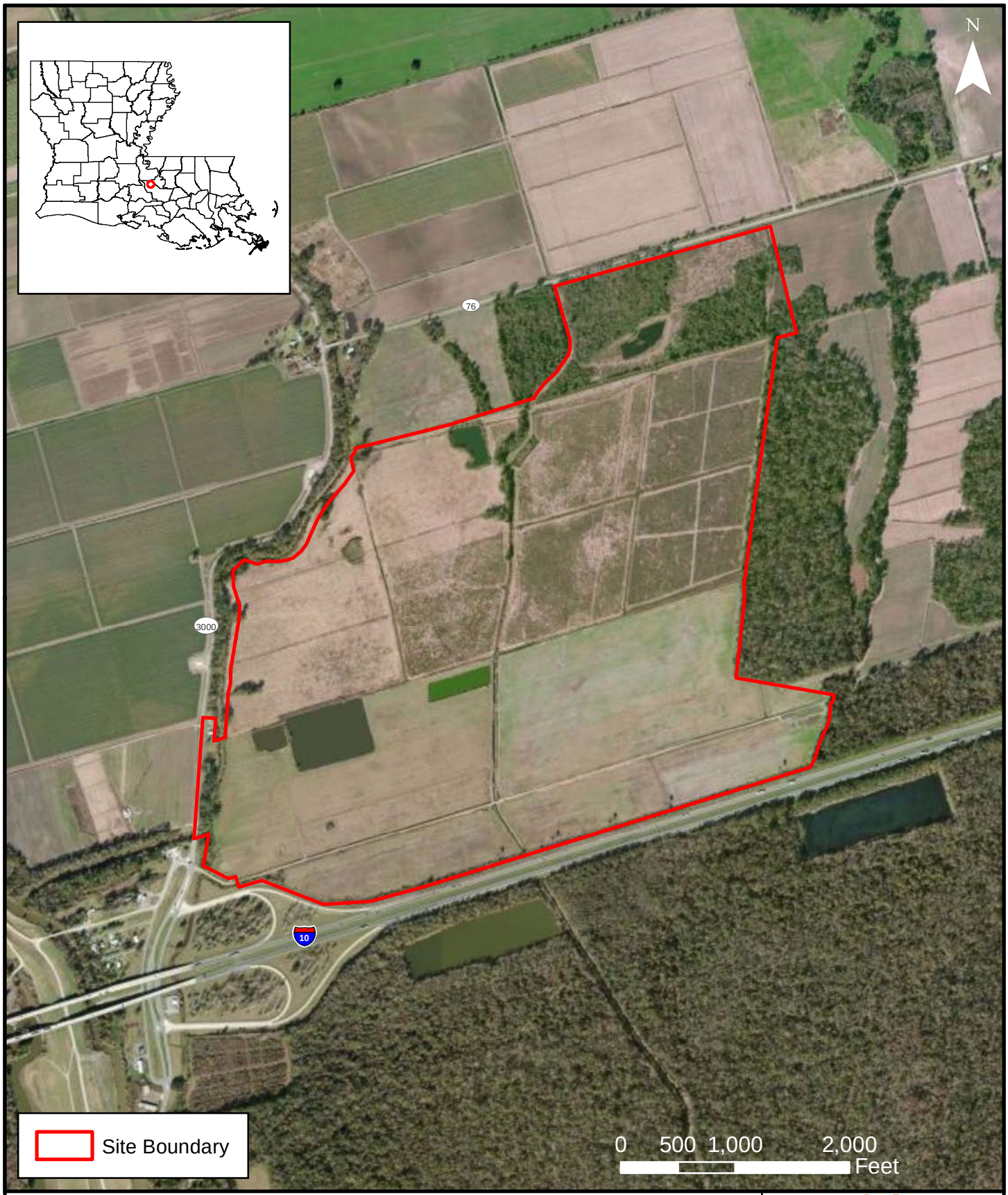
Regional Supplement Data forms for the Southeast, as approved by Headquarters, U.S. Army Corps of Engineers (USACE) 10/2008, were completed for each vegetation community encountered at each identified feature. These data forms contain sufficient information regarding the presence or absence of hydric soils, hydrophytic vegetation, and wetland hydrology to support the demarcation of a wetland or other waters boundary.

Dominant vegetation was recorded on the data forms, along with the indicator status as listed in the *National List of Plant Species Occurring in Wetlands (Region 2)* published by the U.S. Fish and Wildlife Service. Once vegetation was recorded and evaluated, if more than 50 percent of the dominant vegetation had an indicator status of facultative (FAC), facultative wet (FACW), or obligate (OBL), the hydrophytic vegetation criterion was recorded as being met.

A soil pit was excavated to a depth of approximately 15 inches at each plot. The pit remained open for at least 15 minutes to allow the pit to fill with water, if present. Soils were sampled at 10 inches. Information recorded on the data forms included soil colors (hue, value, and chroma as per the 1992 revised edition of the Munsell Color Chart), size, color, abundance, and depth of mottles, as well as soil texture. Soil texture was determined using the “texture by feel” analysis.

Wetland hydrology indicators were also recorded at each plot site as per the USACE requirements. If at least one primary or two secondary hydrology indicators were present, the sample site was classified as having wetland hydrology.

Photographs were taken at each sample site where a data form was completed. These photographs show a representative soil profile as well as an overview of the sample site from the plot center and are provided after each of the site descriptions.



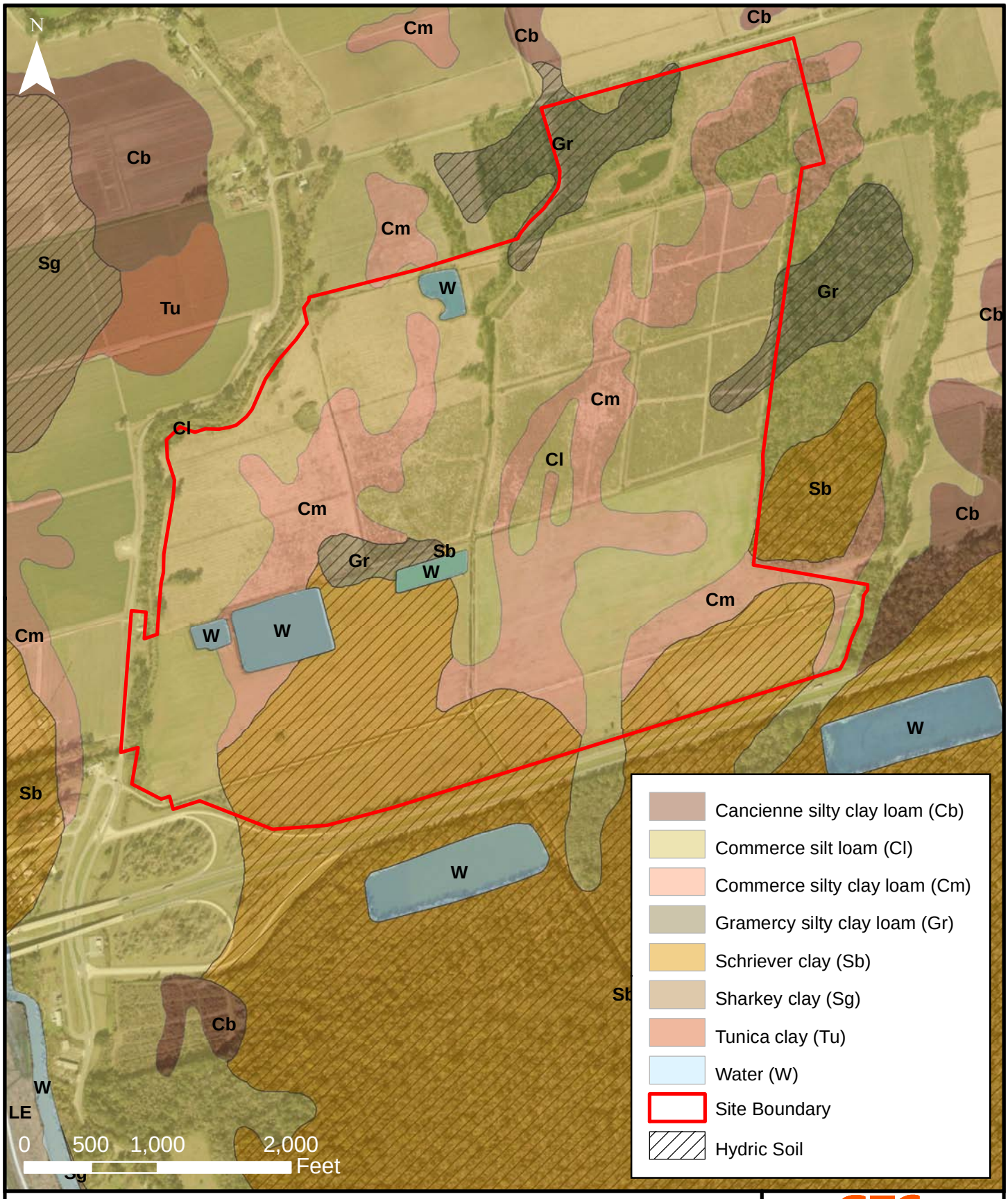
SITE VICINITY

Grace Farms East, Iberville Parish

Data Source: ESRI Bing Maps Aerial

Gulf Engineers & Consultants

Figure: 1
Date: March 2013
Scale: 1:14,000
Source: GEC/Bing
Map ID: 132122013001-3060

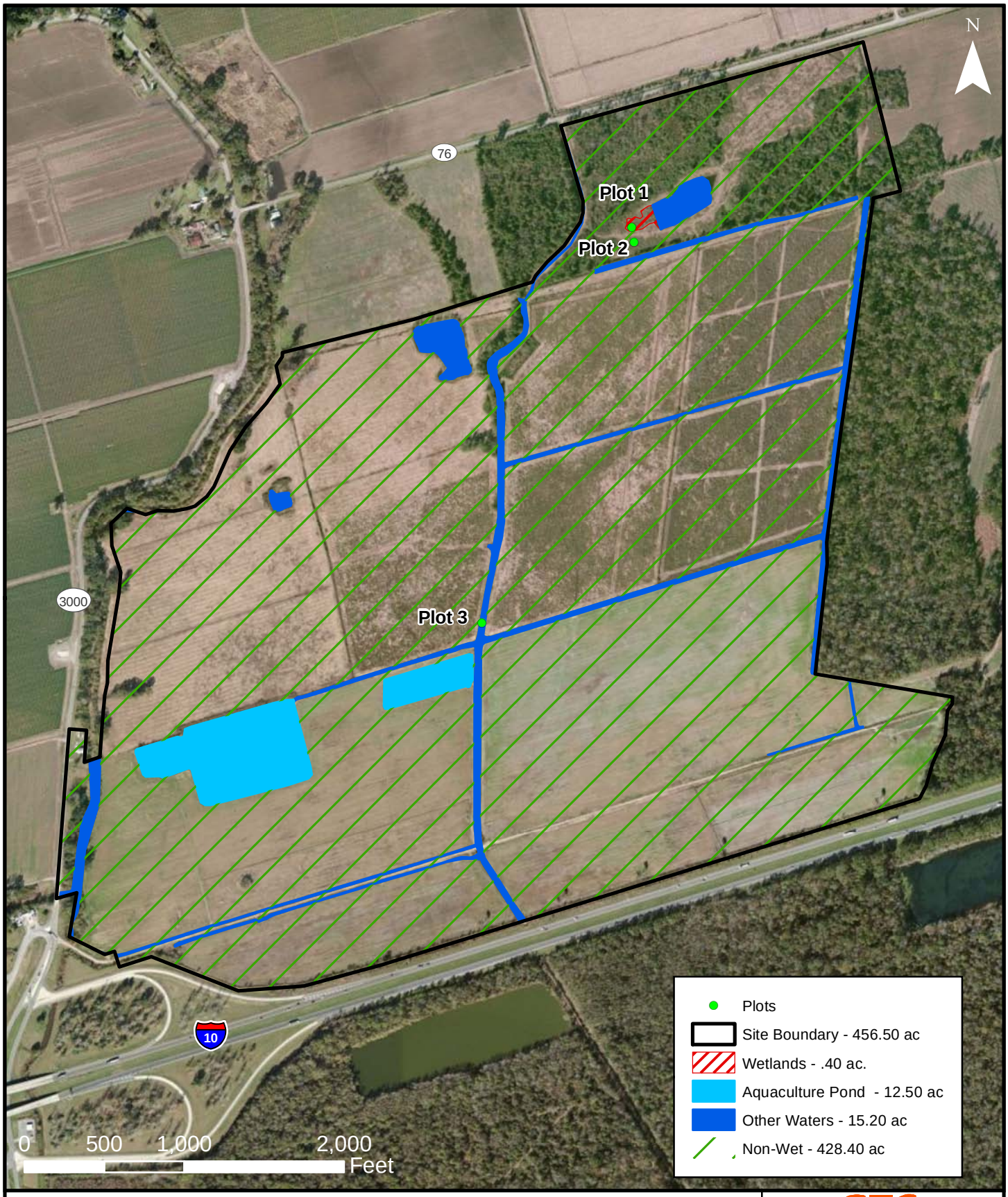


SOILS MAP

Grace Farms East
Iberville Parish, Louisiana

Data Source: ESRI Bing Maps Aerial

Figure: 2
Date: March 2013
Scale: 1:12,000
Source: GEC/NRCS
Map ID: 132122013001-3060

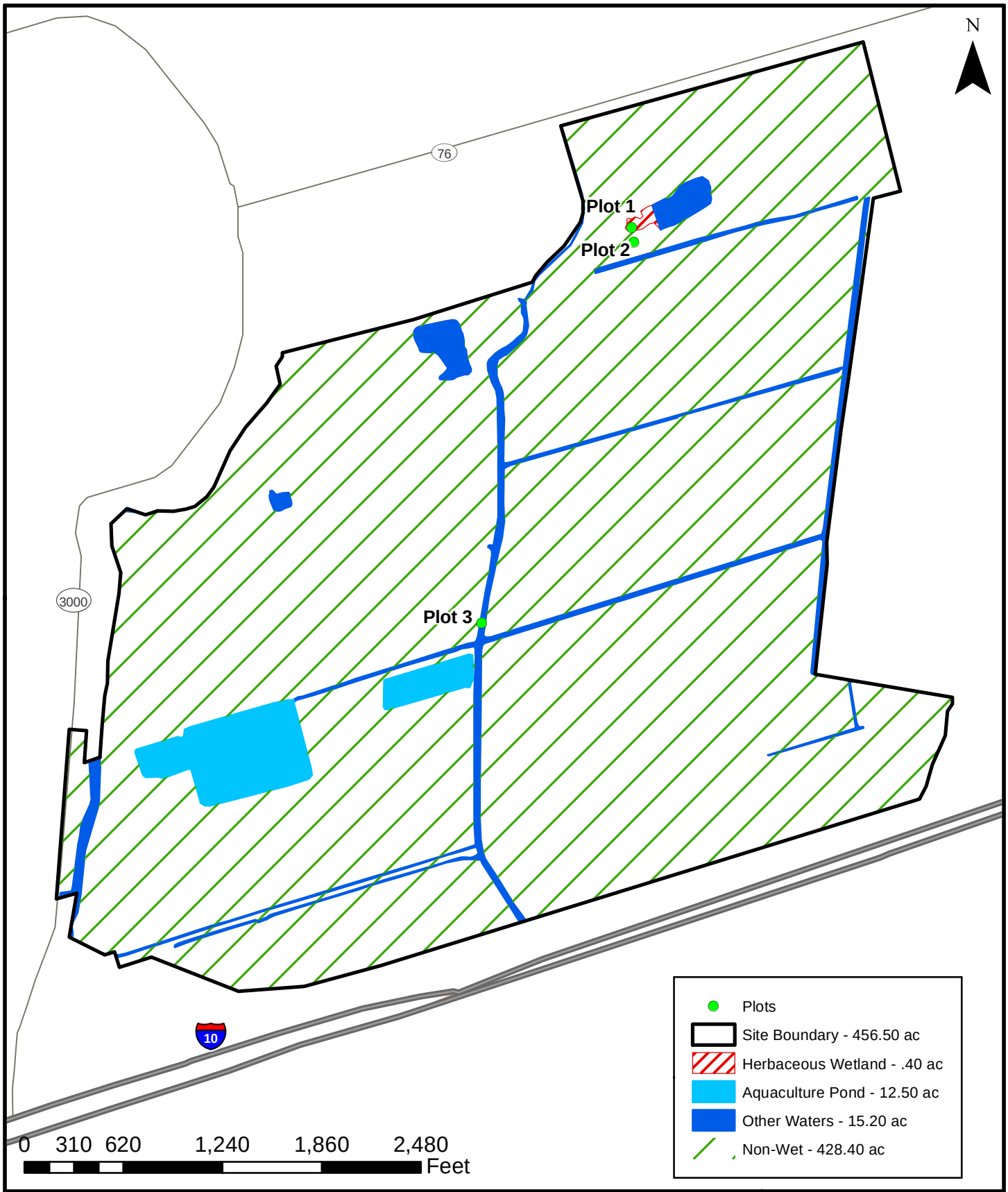


WETLAND MAP

Grace Farms East
Iberville Parish, Louisiana

Data Source: ESRI Bing Maps Aerial

Figure: 3
Date: March 2013
Scale: 1:10,000
Source: GEC/Bing
Map ID: 132122013001-3060



WETLAND MAP

Grace Farms East
Iberville Parish, Louisiana

Data Source: ESRI Bing Maps Aerial

Figure: 4
Date: March 2013
Scale: 1:10,000
Source: GEC/Bing
Map ID: 132122013001-3060

3.0 RESULTS

The following subsections provide descriptions of each of the plots investigated during the field survey. Descriptions of vegetation, soil characteristics, and hydrology indicators at each sample plot recorded are provided, along with photographs of the sites and a map depicting the location, shape, and size of the features mapped.

The site consists of agricultural land, non-wetland habitats, and wetland habitats. A total of three plots were taken within the site boundary, to characterize the different wetland and upland habitats within the site boundary.

3.1 Plot 1

Sample Plot 1 consists of an edge habitat of a agricultural pond. This plot is located at 30.4156 N and 91.4955 W. The location of this plot is presented in Figure 4.

The herbaceous stratum was dominated by curly dock (*Rumex crispus*) and Pennsylvania smartweed (*Polygonum pensylvanicum*). The hydrophytic vegetation criteria were met at this site.

The soil series mapped by the NRCS at Plot 1 as Commerce Silt Loam; field investigations confirm this soil type. The primary wetland hydrology indicator was saturation. It is GEC's opinion that this feature does meet the criteria for a wetland based on all three parameters being met. Photographs 1 and 2 depict the soil profile and an overview of the plot location.

Photograph 1. Soil Profile Observed at Plot 1

Photograph 2. Overview of Plot 1

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Grace Farms East City/County: Ramah/Iberville Parish Sampling Date: 3/4/2013

Applicant/Owner: BRAC State: LA Sampling Point: Plot 1

Investigator(s): J. Avant Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Ag field Local relief (concave, convex, none): None Slope (%): 0%

Subregion (LRR or MLRA): LRR O Lat: _____ Long: _____ Datum: NAD 1983

Soil Map Unit Name: _____ 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? 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:

Plot taken on the upstream edge of an agricultural pond.

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): 6-18
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 6-18

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: Plot 1

Tree Stratum (Plot size: 30 ft rad.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling/Shrub Stratum (Plot size: 30 ft rad.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 30 ft rad.)			
1. Rumex crispus	30	yes	FAC
2. Polygonum pensylvanicum	15	yes	FACW
3. Ludwigia arcuata	10	no	OBL
4. Verbena brasiliensis	5	no	FAC
5. Carex frankii	3	no	OBL
6. Lythrum lineare	3	no	OBL
7. Ranunculus muricatus	1	no	FACW
8.			
9.			
10.			
11.			
12.			
	67 = Total Cover		
50% of total cover: 33.5	20% of total cover: 13.4		
Woody Vine Stratum (Plot size: 30 ft rad.)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	6	x 1 =	6
FACW species	16	x 2 =	32
FAC species	35	x 3 =	105
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	57 (A)		153 (B)

Prevalence Index = B/A = 2.6842105263

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: Plot 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
0-3	Gley 1 3/10Y	100					ZC	
3-7	10 YR 4/1	90	7.5 YR 5/6	10	C	PL	ZC	
7-18	10 YR 5/1	95	7.5 YR 5/6	5	C	M	ZC	

[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: None observed

Depth (inches): N/A

Hydric Soil Present? Yes ✓ No ___

Remarks:

3.2 Plot 2

Sample Plot 2 consists of an agricultural field currently used for pasture. This plot is located at 30.4154 N and 91.4955 W. The location of this plot is presented in Figure 4.

The herbaceous stratum was dominated by white clover (*Trifolium repens*) and bahiagrass (*Paspalum notatum*). The hydrophytic vegetation criteria were not met at this site.

The soil series mapped by the NRCS at Plot 2 as Commerce Silt Loam; field investigations confirm this soil type. No wetland hydrology indicator was noted. It is GEC's opinion that this feature does not meet the criteria for a wetland based on all three parameters not being met. Photographs 3 and 4 depict the soil profile and an overview of the plot location.

Photograph 3. Soil Profile Observed at Plot 2

Photograph 4. Overview of Plot 2

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Grace Farms East City/County: Ramah/Iberville Parish Sampling Date: 3/4/2013

Applicant/Owner: BRAC State: LA Sampling Point: Plot 2

Investigator(s): J. Avant Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 0-1

Subregion (LRR or MLRA): LRR O Lat: _____ Long: _____ Datum: NAD 1983

Soil Map Unit Name: _____ 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? 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:
Plot taken in a field used for cattle grazing

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: Plot 2

Tree Stratum (Plot size: 30 ft rad.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling/Shrub Stratum (Plot size: 30 ft rad.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 30 ft rad.)			
1. Trifolium repens	55	yes	FACU
2. Paspalum notatum	20	yes	FACU
3. Poa annua	10	no	FACU
4. Sida rhombifolia	5	no	FACU
5. Verbena brasiliensis	5	no	FAC
6. Sisyrinchium atlanticum	3	no	FACW
7. Rumex crispus	1	no	FAC
8.			
9.			
10.			
11.			
12.			
	99 = Total Cover		
50% of total cover: 49.5	20% of total cover: 19.8		
Woody Vine Stratum (Plot size: 30 ft rad.)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (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 = 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 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: Plot 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
0-7	10 YR 4/3	98	10 YR 5/1	1	D	M	ZC	
			10 YR 5/6	1	C	PL	ZC	
7-18	10 YR 4/1	75	7.5 YR 4/6	25	C	M	ZC	

[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: None observed

Depth (inches): N/A

Hydric Soil Present? Yes _____ No ✓

Remarks:

3.3 Plot 3

Sample Plot 3 consists of edge habitat of an agricultural ditch. This plot is located at 30.4088 N and 91.4985 W. The location of this plot is presented in Figure 4.

The herbaceous stratum was dominated by duck potato (*Sagittaria platyphylla*) and alligator weed (*Alternanthera philoxeroides*). The hydrophytic vegetation criteria was met at this site.

The soil series mapped by the NRCS at Plot 3 as Commerce Silty Clay Loam field investigations confirm this soil type. The primary wetland hydrology indicator was surface water and saturation. It is GEC's opinion that this feature does meet the criteria for a wetland based on all three parameters being met. Photographs 5 and 6 depict a soil profile and an overview of the plot location.

Photograph 5. Soil Profile Observed at Plot 3

Photograph 6. Overview of Plot 3

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Grace Farms East City/County: Ramah/Iberville Parish Sampling Date: 3/4/2013

Applicant/Owner: BRAC State: LA Sampling Point: Plot 3

Investigator(s): J. Avant Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR or MLRA): LRR O Lat: _____ Long: _____ Datum: NAD 1983

Soil Map Unit Name: _____ 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? 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:

Plot taken in the basin of a large ditch 15-20 feet wide.

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): 12-18 in
Water Table Present?	Yes ✓	No _____	Depth (inches): 0 in
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0-18

Wetland Hydrology Present? Yes ✓ No _____

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

Remarks:

Plot taken on the edge of the water.

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

Sampling Point: Plot 3

Tree Stratum (Plot size: 30 ft rad.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling/Shrub Stratum (Plot size: 30 ft rad.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 30 ft rad.)			
1. Sagittaria platyphylla	25	yes	OBL
2. Alternanthera philoxeroides	25	yes	OBL
3. Lythrum lineare	3	no	OBL
4. Rumex crispus	1	no	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	54 = Total Cover		
50% of total cover: 27	20% of total cover: 10.8		
Woody Vine Stratum (Plot size: 30 ft rad.)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (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 = 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 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: Plot 3

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10 YR 4/2	100					C	
4-18	10 YR 4/1	93	5YR 5/8	7	C	M	C	

[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: None observed

Depth (inches): N/A

Hydric Soil Present? Yes ✓ No ___

Remarks:

4.0 CONCLUSIONS

Data was gathered at three plots within the 456.5 acre site, two of which were found to meet all three parameters of a wetland. One plot failed to be classified as wetlands due to lack of all three wetland criteria.

Total acreage of wetland areas within the site based on this delineation is approximately 0.4 acres. Approximately 15.2 acres of other water and 12.50 acres of shallow aquaculture ponds surrounded by small levees (crawfish ponds) were also identified within the site boundary.

5.0 DISCLAIMER

Although GEC uses the same criteria and methodology as that of the USACE, due to the degree of subjectivity associated with studies of this type, there may be some degree of variance in the demarcation of the wetland boundary. Consequently, GEC's opinion may not necessarily reflect that of the USACE, nor does it relieve our client of any legal obligations to consult with the USACE for wetland verification and, if necessary, obtain a Department of the Army Section 404 permit prior to performing any dredging, filling, and/or construction operations in waters of the United States, including wetlands.