



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

June 24, 2013

REPLY TO
ATTENTION OF:

Operations Division
Regulatory Branch
Project Manager
Stephen D. Pfeffer
(504) 862-2227

SUBJECT: MVN-2010-00787-MS

PUBLIC NOTICE

Interested parties are hereby notified that an application has been received by the District engineer for a Department of the Army permit to authorize the following pursuant to (X) Section 10 of the Rivers and Harbors Act of March 3, 1899 (30 Stat. 1151; 33 USC 403); and/or (X) Section 404 of the Clean Water Act (86 Stat. 816; 33 USC 1344).

PROPOSED EASTERN SHORE MITIGATION BANK IN LAFOURCHE PARISH

NAME OF APPLICANT: ATLLT, LLC c/o Maurepas Environmentalists, 39016 S. Thibodeaux Road, Ponchatoula, Louisiana 70454.

LOCATION OF WORK: The project area is located in all or portions of Sections 1, 2, 6,7,8,9,10,11,12,47,69,70,71,73,80,81 and 91, Township 17S, Range 19E, between Larose and Grand Bois in Lafourche Parish, Louisiana within the West-Central Louisiana Coastal (HUC 08090302) watershed.

CHARACTER OF WORK: The Sponsor proposes to establish a wetland mitigation bank to include the cumulative rehabilitation and enhancement of 5,844.7 acres of various habitats including bottomland hardwoods, cypress swamp, and fresh/intermediate marsh. Additional details of the proposed restoration plan are attached for review in the mitigation banking prospectus.

The comment period will close **30 days** from the date of this public notice advertisement. Written comments, including suggestions for modifications or objections to the proposed work, stating reasons therefore, are being solicited from anyone having interest in this permit request. Letters must reference the applicant's name and the subject number, be addressed and mailed to the above address, ATTENTION: REGULATORY BRANCH.

The decision whether to issue a permit will be based on an evaluation of the probable impact including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit that reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, consideration of property ownership and, in general, the needs and welfare of the people.

The Corps of Engineers is soliciting comments from the public; federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

No properties listed in the National Register of Historic Places are near the proposed work. The possibility exists that the proposed work may damage or destroy presently unknown archeological, scientific, pre-historical or historical sites or data. Copies of this notice are being sent to the State Archeologist and the State Historic Preservation Officer.

Our initial finding is that the proposed work would neither affect any species listed as endangered by the U.S. Department of Interior nor affect any habitat designated as critical to the survival and recovery of any endangered species.

This notice initiates the Essential Fish Habitat (EFH) consultation requirements of the Magnus-Stevens Fishery Conservation and Management Act. The applicant's proposal would result in the alteration of 0 acres of EFH utilized by various life stages of red drum and penaeid shrimp. Our initial determination is that the proposed action would not have a substantial adverse impact on EFH or federally managed fisheries in the Gulf of Mexico. Our final determination relative to project impacts and the need for mitigation measures is subject to review by and coordination with the National Marine Fisheries Service.

If the proposed work involves deposits of dredged or fill material into navigable waters, the evaluation of the probable impacts will include the application of guidelines established by the Administrator of the Environmental Protection Agency and certification that the proposed activity will not violate applicable water quality standards will be required from the Louisiana Department of Environmental Quality, Office of Water Resources, before a permit is issued.

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearings shall state, with particularity, the reasons for holding a public hearing.

You are requested to communicate the information contained in this notice to any other parties whom you deem likely to have interest in the matter.

Martin S. Mayer
Chief, Regulatory Branch

MITIGATION PROSPECTUS

EASTERN SHORE MITIGATION BANK

Lafourche Parish, Louisiana

May 2013

Prepared for:

Angel Templet, Lucy, Lorise and Thomas, LLC
ATLLT, LLC
130 Templet Lane
Larose, LA 70373

Prepared By:

Thom Barlow d.b.a Maurepas Environmentalists
39016 S. Thibodeaux Road
Ponchatoula, La. 70454
(985) 386-4281

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Mitigation Prospectus for the
Eastern Shore Mitigation Bank
Larose, Louisiana
Lafourche Parish

1.0 Introduction

Angel Templet, Lucy, Lorise and Thomas, L.L.C (ATLLT, L.L.C.), as Owner and Sponsor, respectfully presents this prospectus to establish the Eastern Shore Mitigation Bank (Bank), to the United States Army Corps of Engineers, New Orleans District (CEMVN), and the Interagency Review Team (IRT). The Sponsor proposes to reestablish/rehabilitate/enhance approximately 5,844.7 acres of wetlands that were previously degraded as a result of past land management practices. The proposed work would be conducted in seven phases (Figs. 5-33). Habitats, as defined by the Louisiana Department of Wildlife and Fisheries, Natural Heritage Program (2009) to be ~~restored~~ ~~rehabilitated~~/enhanced include: Live Oak Forest (LOF, which are to be considered upland inclusion were noted on Habitat maps), Hackberry-American Elm-Green Ash Bottomland Forest (BLH), Baldcypress Swamp (Swamp), Mixed Swamp and BLH, restored Fresh Water Marsh (FWM) and Intermediate Marsh (IM).

Bank lands were historically bottomland hardwood forest and cypress swamp which were cut more than 50-100 years ago. Once cut these areas were used to produce commodity crops and more recently to grass cattle and raise hay. Other areas are fresh water and intermediate marsh damaged by channels dredged for logging, and oil and gas development. Other areas are non-reproducing swamp, where no trees have grown back. Additionally, some areas are man-made ponds used for crawfish production. In the last decade, the land has lain idle and has been used for hunting with large areas being regularly maintained by bush hogging and/or burning.

The Bank is located in all or portions of Sections 1, 2, 6,7,8,9,10,11,12,47,69,70,71,73,80,81 and 91 , Township 17S, Range 19E, between of the Cities of Larose and Grand Bois in Lafourche Parish, Louisiana as depicted in figure 2 and 3. LA Hwy 24 traverses through the center of the bank dividing the bank into north and south halves. The approximate center of the site is located at Latitude 29.53480 and Longitude 90.40237 as depicted in figure 4.

The Bank is located on both the North Side and South Side of La. Hwy. 24 between Larose and Grand Bois. This is the most southern ridge in Lafourche Parish, everything south of this ridge is becoming either marsh or open water. By creating the 5,844.7 acre Mitigation Bank, the Bank will protect the ridge that La Hwy 24 is located on by replanting vegetation to a slowly sinking area of Lafourche Parish.

2.0 Goals and Objectives

This project will benefit coastal wetlands by restoring high quality coastal habitat in an area is currently losing wetlands at a rate of 3.9 square miles per year³. The Terrebonne Basin is an important estuarine system supporting many ecological and economic functions and values. Recent threats to this sensitive area include land loss due to hydrologic alterations and land use change. It is estimated that 36% of the wetlands basin would be lost by 2040. The proposed mitigation bank is located within the Fields Sub-basin located in the northeastern portion of the

Terrebonne Basin. This sub-basin has seen a 17% loss in coastal wetlands since 1939 primarily due to altered or controlled hydrology and land use change and it is estimated that approximately 7,000 acres of freshwater marsh could be lost by 2040 if no action is taken¹. This proposed mitigation bank seeks to restore hydrology and reintroduce native bottomland hardwood, bald cypress-tupelo-green ash stands and freshwater and intermediate marsh vegetation to create and maintain wetland functions and values associated with these habitat types.

Specific objectives of the bank would be to ~~restore (reestablish and)~~ rehabilitate and enhance wetlands and non-wetlands that exist or previously existed within the proposed ~~5754.6~~ 5,844.7 acre area. The sponsor proposes to ~~restore~~ rehabilitate approximately ~~48~~ 93 acres of LOF, ~~814~~ 650.4 acres of BLH, ~~370.7~~ 220.8 of Mixed Swamp and BLH, ~~3,876.5~~ 3862.9 acres of Cypress Swamp, and ~~restore~~ 195.2 acres of FM, 450.5 acres of IM, and enhance 299.9 BLH. This area also contains non-mitigation types such as: 9.4 acres of pipe line, 24.6 acres of open water to be used as duck hunting ponds, 38 acres to be used as food plots for the white tail deer.

Table 1 provides the acreage of each habitat by mitigation type. Obtaining these objectives would increase biodiversity, provide higher quality wildlife habitat, provide water quality enhancement and provide storm water abatement, all of which are important to the residents in the immediate project vicinity, within the larger Terrebonne and Barataria hydrologic basins and Louisiana.

The surface hydrology ~~restoration and~~ rehabilitate of marsh and forest vegetation will result in improved water quality through a reduction in non-point source runoff. The restored marsh will provide enhanced habitat for fish and wildlife such as migratory and resident birds (waterfowl, neo-tropical migrants, etc.); alligators (*Alligator mississippiensis*), fur-bearing mammals, and other game and nongame species which utilize aquatic or semi-aquatic habitat. The proposed hydrology improvement will provide access for aquatic species within the adjacent, existing freshwater and intermediate marshes to the restored marsh area.

The Sponsor's efforts to increase wetland functions, values and services will produce wetland "credits" which result from the restoration of wetland plant communities. These credits could be used to compensate for unavoidable impacts associated with Department of the Army ("DA") Section 10 and/or 404 permits issued by the United States Army Corps of Engineers - New Orleans District ("CEMVN"). The intent of the Sponsor would be to sell mitigation credits developed by the proposed restoration/enhancement work to offset the losses to bottomland hardwood forest, cypress swamps, freshwater marsh, and/or intermediate marshes in the surrounding areas of the Lafourche and Terrebonne parishes caused by projects authorized through the USACE permit program and/or other regulatory programs that may require adverse impacts be mitigated. Through the USACE mitigation program, the restoration and enhancement of these wetlands will provide 5754.6 acres of credits to offset the destruction of similar wetland habitats by future development in Lafourche and Terrebonne parishes within HUC 08090302 and possibly other watersheds within the Deltaic Plain of coastal Louisiana.

The details regarding the bank's terms to operate as Eastern Shore Mitigation Bank will be defined in the Mitigation Banking Instrument (MBI).

2.1 Mitigation Summary Table

Mitigation Type	Habitat Type	Acreage
Phase #1 (Figure # 5)		
Rehabilitate	Cypress Swamp	677.8 Acres
Rehabilitate	Intermediate Marsh	79.8 Acres
Rehabilitate	BLH	43.8 Acres
Rehabilitate	Mix BLH/ Cypress Swamp	70.8 Acres
Non-Mitigation	Wet Pipe Line	9.4 Acres
Non-Mitigation	Water	5.3 Acres
Enhancement Upland Inclusion	Live Oak Forest	7.2 Acres
Total		894.1 Acres
Mitigation Type	Habitat Type	Acreage
Phase #2 (Figure # 9)		
Rehabilitate	BLH	164.1 Acres
Rehabilitate	Cypress Swamp	578.3 Acres
Rehabilitate	Intermediate Marsh	325.7 Acres
Enhancement Upland Inclusion	Live Oak Forest	15.0 Acres
Non -Mitigation	Food Plots	10 .0 Acres
Non Mitigation	Water	9.9 Acres
Total		1,103.0 Acres
Mitigation Type	Habitat Type	Acreage
Phase #3 (Figure # 13)		
Rehabilitate	Mix Cypress Swamp/BLH	150.0 Acres
Enhancement	BLH	299.9 Acres
Rehabilitate	Cypress Swamp	375.2 Acres
Restoration	Intermediate Marsh	45.0 Acres
Total		870.1 Acres
Mitigation Type	Habitat Type	Acreage
Phase #4 (Figure # 17)		
Rehabilitate	Cypress Swamp	851.3 Acres
Non Mitigation	Food Plots	10.0 Acres
Total		861.3 Acres
Mitigation Type	Habitat Type	Acreage
Phase #5 (Figure # 21)		
Rehabilitate	Cypress Swamp	679.8 Acres
Rehabilitate	BLH	210.8 Acres
Rehabilitate	Fresh Water Marsh	195.2 Acres
Enhancement Upland Inclusion	Live Oak Forest	30.9Acres
Non Mitigation	Food Plots	5.0 Acres
Total		1,121.7 Acres
Mitigation Type	Habitat Type	Acreage
Phase #6 (Figure # 25)		
Rehabilitate	Cypress Swamp	569.7 Acres

Rehabilitate	BLH	79.9 Acres
Enhancement Upland Inclusion	Live Oak Forest	30.9 Acres
Non Mitigation	Food Plots	5.0 Acres
Non Mitigation	Water	9.4 Acres
Total		694.9 Acres
Mitigation Type	Habitat Type	Acreage
Phase #7 (Figure # 29)		
Rehabilitate	Cypress Swamp	130.8 Acres
Rehabilitate t	BLH	151.8 Acres
Enhancement Upland Inclusion	Live Oak Forest	9.0 Acres
Non Mitigation	Food Plots	8 .0 Acres
Total		299.6 Acres
	Grand Total	5844.7 Acres

3.0 Ecological Suitability of the Site

3.1 Site Hydrology

The Bank is located along an abandoned distributary of the Mississippi River most likely laid down during the Teche Phase and reworked during the Lafourche Phase of formation of the Current Mississippi River Delta. Prior to development of Lafourche and Terrebonne parishes, remnant distributaries now named Bayou Manuel, Bayou Lau Bleu, Bayou Blue, Grand Bayou and other unnamed tributaries traversed the property from a westerly to an easterly direction. These channels continued to receive and distribute flood waters from the Mississippi River until flows were cut off by the construction of levees along the Mississippi River. The loss of flow from the Mississippi River seriously reduced freshwater input reducing the freshwater head and allowing intrusion of saltwater during periods of low rainfall.

During the 1930's, the GIWW was constructed immediately north of the proposed bank and significantly altered hydrology in the vicinity of the GIWW. The GIWW provided an input of freshwater during periods of high river stages by shunting Atchafalaya floodwaters into the area when available. However, it also provides an avenue for saltwater during the remainder of the year which has seriously impacted freshwater marsh along the GIWW. Additionally, the GIWW continues to expand in width as a result of erosion of the highly erodible marsh soils adjacent to the waterway.

Land use has brought about changes to the surface hydrology. Construction of the St. Louis Canal and other canals (Figure 4) on the property were initially dug to access and remove timber from area forests. Later these canals were extended to provide enhanced drainage of areas to the north. Agricultural use of the property required the construction of numerous small field drains to channel excessive surface water from the fields. Other land uses have also had some impact on surface hydrology. These include crawfish ponds and a dredge canal for oil exploration, as well as, the "Larose to Golden Meadow, Louisiana Hurricane Protection Levee" along the far-east property line of the Bank

The marshes and areas which once supported swamp are permanently or nearly permanently inundated. Surface water sources include storm water runoff, overbank flooding from high water

in the GIWW and tidal flooding. Based on tide gages on Company Canal at the salt barrier near Lockport, La., water levels normal fluctuate about 0.2 feet daily. Salinities levels generally are less than 0.2.5 ppt. The highest salinity level recorded at this stage in 2012 was 3.7 ppt on July 1, 2012. Because of the Bank's close proximity to the Gulf of Mexico (approximately 33 miles north of Timbalier Island), storm surges from major storm events, i.e., hurricanes and strong lingering tropical storms are capable of pushing storm surges over the Bank. Waters generally do not overtop La Hwy 24 but do affect areas north of the highway as water from the GIWW rise and covers the north side of the bank. Waters can potentially remain on the bank for as long as a week following these events.

3.2 Current Ecological Characteristics of the Site

3.2.1 Site Suitability to Achieve Objectives

The Sponsor proposes to replace wetland habitats that naturally were found on the Bank. The limits of each habitat were set using soil types and current water elevations so as to assure self-sustaining conditions with minimal controls. The majority of the site has been determined to be composed of hydric soils typical of those associated with the lower Mississippi River floodplain between New Orleans, and the Gulf of Mexico (Attachment B). This makes it highly likely that wetland functions, services and values can be successfully ~~restored~~ **rehabilitated** and enhanced on the Bank.

3.2.2. Existing Site Conditions

Land use: The previous land use of the part of the Bank area was the cultivation of Sugar cane, potatoes, soy bean and corn, i.e. P.C.C. The land was also used to graze cattle. Crawfish ponds were also built on the land. One of the Crawfish ponds is located in the northern portion of Phase 1 and the second Crawfish pond is located in southeastern portion of Phase 3. The BLH and Cypress Swamp was cut out more than 50-100 years ago.

Vegetation: The vegetation in areas to be restored and enhanced is presently a sparse mixture of black willow (*Silax nigra*), green ash (*Fraxinus pennsylvanica*), tupelo gum (*Nyssa aquatic*), southern wax myrtle (*Myrica cerifera*), red maple (*Acer drummundii*), sweet gum *Liquidumbar styraciflua*, and false willow (*Baccharis angustifolia*).

Hydrology: The project area is located in a low, poorly drained area adjacent to the north and south of Louisiana Highway 24 starting at 1.49 miles west of Larose/Cutoff continuing on Hwy 24 heading west for 8.81 miles towards the community of Grand Bois. The Bank ends at the west edge of U.S. Liquids. All the waterways on the Bank contribute to surface hydrology during the rainy periods of the year.

The depth of the water in the ponds range from dry during summer drought to 1.5 feet during duck hunting season and the depth of the water in the "floating marsh" (Flotant) ranges from 6 inches in the summer drought to 2 feet during duck hunting season. The flotant area was originally a cypress swamp and will be planted with salt water tolerant Cypress trees will (*Louisiana State Nursery has stated that they can push the growth of a 1 year old salt water tolerant cypress seedling to as high as 4 feet*)

The property is traversed by:

1. In Phase 1, Bayou Manuel flows in a west to east direction and Grand Bayou flows in a north to south direction. Also in Phase 1 an unnamed tributary traverses the property on the east Side of Grand Bayou just south of the northeast corner of the Bank heading from a westward direction to an eastward direction;

2. In Phase 2, traversed from east to west by an unnamed canal dug to float the logged Cypress trees. Phase 2 is bordered on the south side by a parish drainage canal;

3. In Phase 3, there are 2 unnamed canals. One cuts the bank in a north to south direction and the other, in a west to east direction. Surface hydrology is influenced by daily tides flowing from south to north;

4. In Phase 4, the St Louis canal cuts the Bank in a north to south direction;

5. In Phase 5, the St Louis canal and Bayou Blue traverse the bank from west to east and the GIWW over flows its banks during high water. Also, boat traffic in the GIWW pushes/draws water onto and off the Bank. Also there is an unnamed canal that traverses the Bank from east to west allowing the water from Phase 6 to flow into Phase 5;

6. In Phase 6, there are several unnamed canals/ that traverse the bank from in east to west, west to east, and north to south direction, as well as Bayou Blue traverse west to east. Also, the GIWW over flows during high water as well as wave action from boat traffic; and

7. In Phase 7, there are unnamed canals, Bayou Blue and Bayou Lau Bleu flowing from west to east.

Soils: the Soil Survey: Lafourche Parish (US Department of Agriculture-Soil Conservation Service) lists 8 major soil types and 1 minor soil type (Figs 8,12,16,20,24,28,and33 delineate soils by Bank phase). Soil types found on the Bank include:

1. **AE- Allemands muck.** This level, very poorly drained semi-fluid, organic soil is in freshwater marshes. This land is ponded and is flooded most of the time. Some trees found in **AE.** are bald cypress, water tupelo, and black willow. This soil is classified as a Hydric Soil.

2. **AN- Allemands-Larose.** This level, very poorly drained, semi-fluid, organic and mineral soils are in water marshes. Some trees suggested to be planted would be bald cypress and water tupelo .This soil is classified as a Hydric soil.

3. **BB- Barbary- Fausse.** This level, very poorly drained soils are in swamps. They have are ponded most of the time and are frequently flooded. The Barbary soil is in the lowest position. The Fausse soil is on low natural levees of distributary channels. Some of the trees that grow naturally in these areas are bald cypress, water tupelo , water hickory, and overcup oaks. This soil is classified as a Hydric soil.

4. **Co-Cancienne silty clay loam.** This level, somewhat poorly drained, firm mineral soil is on intermediate positions on natural levees, along Bayou Lafourche and its distributaries. Some trees that grow naturally in **Co** are green ash, eastern cotton wood, nutall oaks, water oaks, bitter pecan, (?)American sycamore, and sweet gum all trees are classified either **Fac.**, **FacW.** or **Obl**,

signifying a Hydric Soil. This soil is classified as a Potential Hydric soil.

5. **FA- Fausse-Sharkey.** The very poorly drained Fausse soil and the poorly drained Sharkey soils are firm, mineral soils and are frequently flooded. In addition Fausse soil is ponded most of the time. The Fausse soil is in swamps, and the Sharkey soil is on slightly higher positions natural levees. Some of the trees that grow naturally in these soils are water tupelo, bald cypress, Water Hickory, overcup oaks, green ash, eastern cottonwood, cherry bark oak, bitter pecan, American sycamore, sweet gum, and water oak. This soil is classified as a Hydric soil.

6. **Ra-Rita muck.** This level, poorly drained, firm, mineral soil is in former fresh water marshes that are drained and protected from most floods. Some trees to be suggested to be planted are bald cypress and water tupelo. This soil is classified as a Hydric soil.

7. **Sk-Sharkey clay** This level, poorly drained, firm, mineral soil is on lower parts of the natural Levees along Bayou Lafourche and its distributaries. This soil is well suited to woodlands. Natural occurring trees are American sycamore, cherry bark oak, eastern cotton wood, green ash, bitter pecan and sweet gum. This soil is classified as a Hydric soil.

8. **Sr-Sharkey clay, occasionally flooded** This level, poorly drained, firm, mineral soil is on low positions on natural levees of distributaries. This soil is moderately suited for overcup oak, nutall oak, water oak, sweet gum, eastern cotton wood, water hickory, and green ash. This soil is classified as a Hydric soil.

9. **Tn- Gramercy silty clay.** This level, poorly drained, firm, mineral soil is on lower positions on the natural levees. It is subject to frequent flooding. Some trees suggested for planting would be bald cypress and water tupelo. This is classified as a Hydric soil.

10. **Water-** was once classified as either **BB** or **AE** .These areas were originally a cypress swamp. Because of erosion, it is now open water. This area shall be replanted with bald cypress trees or fresh water and intermediate marsh.

3.2.3. Water Source

The Bank is subject to daily tidal fluctuations and rainfall (see discussion above in 3.1 Site Hydrology). According to the NRCS soil book for Lafourche Parish the regular rainfall for the Lafourche Parish area is 63.6 inches a year, but 2 years in 10 there can be a low of 51.66 inches and a high of 80.96 inches. The average numbers of day with rainfall of .010 inches or more is 80 days.

3.2.4. Hydroperiod

According to the NRCS Soil Book for Lafourche Parish the average rain fall for Lafourche Parish is 50 inches, but 2 years in 10 there can be a low average of 45.66 inches and a high of 80 inches. The average number of days with a rainfall of 0.10 inches or more is 80 days. During the months of January, February, March, April, August, September, October, November and December, all the named tributaries, unnamed tributaries, and tidal influences frequently totally inundates the property with as high as 1 foot to 3 feet of flood water over 95% of the total

acreage of Bank. The average inundation is for 7 days before water drains off.

3.2.5. Contributing Drainage Area

(See discussion under 3.1 Site Hydrology)

3.2.6. Jurisdictional Determination

Seven Jurisdictional Determinations were issued on February 23rd, 2011 MVN #- 2010-016550SQ, and MVN #- 2010-016510SQ, February 24th 2011 MVN #-2010-01653-SQ and MVN # -2010-01656-SQ, March 18th 2011 MVN # 2010-01652-SQ and MNV # -2010-01650-SQ, and on April 11th 2011 MVN # 2010-01654-SQ by Bill Nethery. (Copies included as Attachment C.)

3.3 General Need for the Project in this Area

Since the aftermath of Hurricane Katrina, there has been a need for new levee system to protect southern Louisiana from another huge tidal surge. The size of this Bank will help supply the mitigation credits needed to off-set the destruction of wetlands because of the new levee system being proposed by the Terrebonne and Lafourche Parish Levee Commission as well as new pipelines that are waiting for the need of mitigation. Additionally, significant growth areas occur in Lafourche and Terrebonne parishes. The Bank will provide in-kind, in-watershed compensation for BLH, Swamp and Fresh and intermediate marsh impacts that can fully offset functional losses not only within the HUC 08090302 but also, other areas within the Mississippi River Deltaic Plain.

Additionally, the ~~restoration~~ **rehabilitation** and enhancement of forested and marsh systems will provide structure that will protect State Highway 24 from storm erosion damage. This main road not only provides a vital transportation route between lower Lafourche and Terrebonne Parish but also provides storm surge protection that protects residences, businesses, and industry to the north of the bank from the effects of Gulf storms. The Bank is located on both the North Side and South Side of La. Hwy. 24 between Larose and Grand Bois. This is the most southern ridge in Lafourche Parish, everything south of this ridge is becoming either marsh or open water.. By creating the 5,746.3 acre Mitigation Bank, the Bank will protect the ridge that La Hwy 24 is located on by replanting vegetation to a slowly sinking area of Lafourche Parish.

There are no watershed plans developed for this watershed. However, the Coastal Protection and Restoration Authority released an updated draft five-year master plan in January 2012. The 2012 Coastal Master Plan (Plan) addresses losses to coastal wetlands and identifies immediate and long-term projects that will provide relief to hard hit areas and laying groundwork for the large scale efforts that are essential if we are to protect communities and sustain our landscape. Although the Bank is not identified as a component, the Bank will work in conjunction with other future projects in the Plan to provide protection to communities within the project area.

3.4 Technical Feasibility

Work required to ~~restore~~ **rehabilitate and enhance** existing wetlands is not highly technical or

elaborate but, is routine in nature and feasible, consisting primarily of vegetative plantings and requiring very little soil work. ~~Restoration~~ **Rehabilitation and enhancement** of forested habitats simply entails removing minor field drains if present and then planting tree seedlings appropriate to edaphic and hydrologic conditions. Enhancement of existing forested systems could entail removal of some of the less desirable species and replanting with desirable mast producers but generally under planting will be sufficient as the canopy in most of the enhancement areas is open.

To ~~reestablish~~ **rehabilitate** freshwater and intermediate marsh in the open water areas, the Sponsor will use seeding, plugging and planting of appropriate herbaceous species as necessary. Additionally, as the hydrology improves, natural regeneration will take place in these areas. Monitoring of these areas of the freshwater and intermediate marshlands that are seeded or planted will follow the same protocols as areas planted in trees.

The depth of the water in the ponds range from dry during summer drought to 1.5 feet during duck hunting season and the depth of the water in the “floating marsh” (Flotant) ranges from 6 inches in the summer drought to 2 feet during duck hunting season. The flotant area was originally a cypress swamp and will be planted with salt water tolerant Cypress trees will. There is a very small amount of flotant in Phase 3. The flotant was only mentioned because that is one of the habitats that is indicative to this area. *(Louisiana State Nursery has stated that they can push the growth of a 1 year old salt water tolerant cypress seedling to as high as 4 feet)*

4.0 Establishment of the Mitigation Bank

This section describes how the mitigation bank will be established [33 CFR 332.8(d)(2) (ii)], the technical feasibility of the proposed mitigation bank [33 CFR 332.8(d)(2) (iv)], and the assurance of sufficient water rights to support the long-term sustainability of the mitigation bank [CFR 332.8(d)(2)(vii)(A)].

4.1 Site Restoration Plan

4.1.1. Forest Habitats

The Sponsor intends to ~~reestablish~~ **rehabilitate and enhance** the original BLH wetland vegetation, cypress swamp, by conducting plantings within the mitigation areas. The site will first be mowed to remove tall vegetation, areas graded to remove shallow drains, and then herbicides will be used to treat undesired/exotic vegetation. Plantings will be conducted during the first planting season of December 15 – March 15. Appropriate seedlings of mixed BLH species and salt water tolerant cypress trees will then be planted at approximately 9’ X 9’ spacing at an initial stand density of, at minimum, 538 stems per acre. Hard mast species shall comprise of not less than 50% or greater than 80% of the planted seedlings. Selection of species to be planted shall be made in consultation with resource members of the IRT. A list of potential species is included as Attachment D.

The Sponsor intends to enhance wooded areas which were originally a BLH or Cypress swamp. The vegetation in areas to be restored is presently a sparse mixture of black willow (*Silax nigra*), green ash (*Fraxinus pennsylvanica*), tupelo gum (*Nyssa aquatic*), southern wax myrtle (*Myrica*

cerifera), red maple (*Acer drummundii*), and false willow (*Baccharis angustifolia*).

There are areas of the Bank that have a large amount of Chinese tallow tree. The Sponsor will remove existing Chinese tallow using physical, chemical, and or mechanical methods as necessary. In addition, following planting seedlings in the reestablishment and enhancement areas of the Bank, the Sponsor will control Chinese tallow and any other undesirable/exotic species as part of the maintenance and monitoring plan.

4.1.2. Marsh Habitats

The Sponsor intends to **rehabilitate** the freshwater marsh, some of which is a “floating marsh”(flotant), which occurs in the Deltaic plain of Louisiana, where the vegetation is typified by cattails (*Typha domingensis*), bull tongue arrowhead (*Sagittaria lancifolia*), whorled pennywort (*Hydrocotyle verticillata*), alligator weed (*Alternanthera philoxeroides*), and pickerel weed (*Pontederia cordata*).

To **rehabilitate** freshwater and intermediate marsh, the Sponsor will use seeding, plugging and planting of appropriate herbaceous species as necessary. Additionally, as the hydrology improves **naturally**, natural regeneration will take place in these areas. Monitoring of these areas of the freshwater and intermediate marshlands that are seeded or planted will follow the same protocols as areas planted in trees.

4.2 Current Site Risks

4.2.3. Potential Threats to the Bank

The bank is located approximately 13.2 miles north of Lake Chien, a large open body of water now directly open to Lake Felicity which is open to Lake Barre and then Terrebonne Bay. The marshes in the general vicinity of these water bodies have been seriously degraded due to human disturbances and land subsidence both of which have led to saltwater intrusion which threatens not only the general project vicinity but also all of coastal Louisiana. Major storm events, i.e., hurricanes and strong lingering tropical storms, are capable of pushing storm surges over the Bank. Waters generally do not overtop La Hwy 24 but do affect areas north of the highway as water from the Gulf Intracoastal Waterway (GIWW) rise and covers the north side of the bank. Waters can potentially remain on the bank for as long as a week following these events.

The Terrebonne-Lafourche Levee District is in initial stages of constructing a levee system to the south and east of the site. This levee system is designed to lessen the storm surge and saltwater intrusion in this area. In the future, storm surges over the property should be less severe but, land subsidence will continue to be a threat to perpetual maintenance of the bank as is the case for all coastal Louisiana.

4.2.4. Hydrologic improvements

Although wetland hydrology is already present on the property, the sponsor will make some minor hydrological improvements to remove small drains that hasten removal of surface water from the Bank. This will be accomplished by grading areas to fill drains returning the site to a flat topography and remove any other existing disturbances that affectively remove surface

water. This activity will create more natural elevations and will further increase surface water retention time within the project area as well as reduce the amount of soil erosion and runoff from onsite.

The presence of manmade and natural waterways and their potential affect on hydrologic improvement/restoration was thoroughly considered when developing the hydrology restoration/improvement plan. The Sponsor does not foresee any adverse impacts resulting from the necessary exclusion of any of these waterways from the mitigation work plan. Also, there are no hydrologic disturbances outside of the project area that would adversely affect successful establishment of a sheet flow hydrologic regime over which the sponsor has no control.

4.2.5. Known Encumbrances; Mortgages, Liens, Rights-Of-Way, Servitudes, Easements, etc.

The Bank is free from any encumbrances, mortgages, liens..

There are several different pipe lines servitudes that traverse through the Phase 1 area all leading to the natural gas processing plant. These pipe lines are managed by Chevron, Williams and Hill Corporations

There is a high power electrical line servitude that traverses Phases 3 and 6. This power line is managed by Plains Electrical Company

4.2.6. Zoning and Any Existing and/or Proposed Development Adjacent to the Bank

The Bank is bordered on the north by the GIWW. The Sponsor owns the property north of Phases 6 and 7 all the way to the GIWW, approximately 2600 acres. This area is undeveloped, rural land consisting of cutover BLH or cutover cypress swamp. To the south of the proposed bank, the area is predominantly freshwater and intermediate marsh owned by the Apache Land Company. The Apache property has a number of abandoned well sites which were accessed by land only. No additional development is proposed on this property.

The west side of the Bank is bordered by the small community of Grand Bois bordering LA Hwy 24. Additionally, U.S. Liquids operates a treatment and disposal facility for waste generated from the drilling and production of oil and gas wells. The area due south of Grand Bois is also undeveloped/rural property consisting of cutover BLH, cutover cypress swamp or prior converted croplands.

The eastern boundary of the Bank is “Larose to Golden Meadow, Louisiana Hurricane Protection Levee”. Nothing can be built on the levee.

4.3 Long-Term Sustainability of the Site

Maintenance activities will be conducted throughout the life of the Bank, as certain ecological performance standards are reviewed, and as monitoring reports are completed. This will assure that certain milestones are met as defined in the mitigation banking instrument. All scheduled maintenance activities will be approved by the CEMVN in the mitigation banking instrument. Prior to and following commencement of any maintenance activity, the Sponsor will notify the CEMVN, in accordance with the mitigation banking instrument.

Levees, ~~weirs~~, and culverts will be inspected annually to make sure that they are allowing proper hydrology flow through the areas ~~where these structures are located or needed throughout the bank. The details regarding these inspections will be outlined in the Mitigation Banking Instrument (MBI), i.e. Work Plan.~~

~~The levees are located in Phases 1, 2, 3, and 6. They will be breached as depicted in figures 41, 42, and 43 to allow natural sheet flow through these areas. The existing culverts that will be converted to flap gate culverts, letting the natural sheet flow flow out of the bank and not allowing saltwater/ brackish water to flow into the bank are located in Phases 1, 2, and 6 as depicted in figures 41, 42 and 43.~~

.5.0 Proposed Service Area

The Bank is located within the United States Geological Survey (USGS) cataloging unit 08090302, which includes parts of Lafourche, Assumption, and St. Martin parishes and all Terrebonne Parish. Considering a watershed approach, this cataloging unit will serve as the primary service area for unavoidable impacts to wetlands and “Waters of the United States”. In addition, the bank is influenced not only by waters from within this watershed but also by coastal processes affecting the coastal areas of the larger Deltaic Plain of the Mississippi River. As such, the watershed approach would allow the use of the bank to offset impacts within the coastal areas of adjacent HUC’s; HUC 08090301, 08090203, 08080101 and 08080102. Use beyond this area will be determined by the CEMVN on a case-by case basis.

6.0 Operation of the Mitigation Bank

This section describes mitigation bank operation, as stated in 33 CFR 332.8(d)(2) (ii) and provide details on the proposed ownership arrangements and long-term management strategy for the mitigation bank, as stated in 33 CFR 332.8(d)(2) (v.)

6.1 Project Representatives

Landowner & Sponsor: Angel Templet, Lucy, Lorise and Thomas, LLC
ATLLT, L.L.C
130 Templet Lane
Larose LA. 70373

Agent: Thom Barlow d.b.a. Maurepas Environmentalists
39016 S. Thibodeaux Road
Ponchatoula, La. 70454
Phone (985) 386-4281,
(email)thombarl@yahoo.com

6.2 Qualifications of the Sponsor

Although the sponsor has extensive experience in land management activities such as raising

agriculture crops, and managing the forested areas this L.L.C. is new to the mitigation banking system. The Sponsor has secured the expertise of Maurepas Environmentalists who is experienced with mitigation banking. Maurepas Environmentalists will oversee the work to restore and enhance wetlands.

Maurepas Environmentalists has overseen, and will continue to oversee the planting of the Ponder Land Company Umbrella Mitigation Bank, in Holden La., Livingston Parish, and the Woodland Road Mitigation Bank in Amite La, Tangipahoa Parish, the proposed Mei Gum Mitigation Bank also in Tangipahoa Parish, the proposed Jamestown Mitigation Bank in Livingston Parish and the proposed Wadesboro Road Mitigation Bank in Livingston Parish and the proposed Tchefuncta Umbrella M.B. in St Tammany Parish. Maurepas Environmentalists has been retained to oversee the monitoring of all 3 said banks, plus three additional bank sites proposed for incorporation into the Ponder Land Company Umbrella Mitigation Banking Instrument.

In addition, the principals of Maurepas Environmentalists have completed the Basics of Forested Wetlands Construction and Restoration and Wetland Delineation courses offered by the Wetland Training Institute. The Agent has also completed a course for “Wetland Functional Assessment for Determining Wetland Mitigation for the Gulf Coast”. This course was sponsored by The Society of Wetland Scientists on October 2011 in Lafayette, Louisiana.

6.3 Proposed Long-Term Ownership and Management Representatives

The Bank is currently owned by ATLLT, L.L.C., who will maintain ownership upon implementation of the banking instrument (i.e. conservation servitude filing and implementation of the mitigation work plan). ATLLT, L.L.C. will also serve as the Sponsor and the long-term manager and steward of the Bank.

6.4 Site Protection

A perpetual conservation servitude (pursuant to the Louisiana Conservation Servitude Act, R.S. 9:1271 *et seq.*) will be placed on the ~~5754.6~~ 5844.7 acres Bank, to ensure long-term protection. This servitude shall be held by Maurepas Environmental Association, Inc., a non-profit entity dedicated to conservation land management. The conservation servitude is binding to and runs with the title of the property ensuring that any heirs/transferees associated with the Bank must adhere to any and all provision set forth in the approved MBI.

The conservation servitude will specifically prohibit activities (clearing, filling, etc.), that would reduce the quality of the wetlands. The servitude will also specify permissive activities (i.e., hunting, fishing, recreational use and mineral exploration) given the activity does not negatively affect the functions, services and values of the restored wetlands.

6.5 Long-Term Strategy

A perpetual, conservation servitude (pursuant to the Louisiana Conservation Servitude Act, R.S. 9:1271 *et seq.*) will be placed on the 5844.7 acre Bank This servitude will be held by Maurepas Environmental Association, Inc. a non-profit organization dedicated to conservation land management. The conservation servitude will be binding to and run with the title of the

property. This conservation servitude will prohibit activities that would reduce the quality and quantity of the restored/enhanced wetlands, such as clear cutting, the discharge of fill, construction activities, and cattle grazing or other agricultural activities. The servitude will also specify permissive activities such as hunting, fishing, recreational use, and mineral exploration given the activity does not negatively affect the functions and values of the rehabilitated, re-established and enhanced wetlands.

Maintenance activities will be conducted throughout the life of the Bank, as certain ecological performance standards are reviewed, and as monitoring reports are completed. This will assure that certain milestones are met as defined in the mitigation banking instrument. All scheduled maintenance activities will be approved by the CEMVN in the mitigation banking instrument. Prior to and following commencement of any maintenance activity, the Sponsor will notify the CEMVN, in accordance with the mitigation banking instrument.

Levees and culverts will be inspected annually to make sure that they are allowing proper hydrological flow through the areas.

The bank will initiate the different phases when the owner can financially afford to initiate a new phase or when there is a need for more mitigation credits in the Terrebone Watershed and the current phase does not have any credits available to be sold according to the MBI's outline of credit distribution.

7.0 REFERENCES

Web Soil Survey for Lafourche and Terrebone Parishes

Attachment A

Habitat Definitions as defined by LDWF

Bottomland Hardwood Forest: a type of wetland community found along the floodplains of rivers and streams. The timing duration and frequency of the flooding play important roles in determining the type of vegetations present in these forests. Bottomland hardwood swamp communities have soils saturated with water much of the time and may have water 10-12 months a year. These areas are dominated by flood-tolerant trees species such as cypress and water tupelo. Areas with drier soils support additional hardwood trees such as cherrybark oak, sweet pecan, and winged elm, which are adapted to less frequent flooding. Most of these forests were cleared for agriculture. As the bottomland hardwood forests disappeared, so did the Ivory-billed woodpecker. Bottomland hardwood forests are also important for flood protection and groundwater recharge.

Bald Cypress-Tupelo Gum Swamp (also known as Freshwater Swamp, Brake, and Swamp Forest): “forested, alluvial swamps growing on intermittently exposed soils. The soils are inundated or saturated by surface water or ground water on a nearly permanent basis throughout the growing season except during periods of extreme drought. Bayous commonly intersect these wetlands. There is relatively low floristic diversity. *Taxodium distichum* (baldcypress) and *Nyssa aquatica* (tupelo gum) are co-dominants. Common associates are *Nyssa sylvatica* var. *biflora* (swamp blackgum), *Acer rubrum* var. *drummondii* (swamp red maple), *Salix nigra* (black willow), *Fraxinus profunda* (pumpkin ash), *F. pennsylvanica* (green ash), *Planera aquatica* (water elm), *Gleditsia aquatica* (water locust), *Itea virginica* (Virginia willow), and *Cephalanthu occidentalis* (buttonbush). Composition of associate species may vary widely from site to site. Undergrowth is often sparse because of low light intensity and long hydroperiod.

Intermediate Marsh: This natural community lies between Brackish Marsh and Fresh Marsh, although it infrequently may be adjacent to the Gulf. Intermediate Marsh has an irregular tidal regime, is oligohaline, and is dominated by narrow-leaved, persistent species. Small pools or ponds may be scattered. Plant diversity and soil organic matter content is higher than in Brackish Marsh. This marsh is characterized by a diversity of species, many of which are found in Freshwater Marsh and some of which are found in Brackish Marsh. It is often dominated by *Spartina patens* (wire grass). Other characteristic species include *Phragmites communis* (roseau cane), *Sagittaria lancifolia*= *S. falcata* (bulltongue), *Bacopa monnieri* (coastal water hyssop), *Eleocharis* spp. (spikesedge), *Scirpus olneyi* (three-cornered grass), *S. californicus* (giant bulrush), *S. americanus* (common threesquare), *Vigna luteola* (deer pea), *Paspalum vaginatum* (seashore paspalum), *Panicum virgatum* (switch grass), *Leptochloa fascicularis* (bearded sprangletop), *Pluchea camphorata* (camphor-weed), *Echinonchloa walteri* (walter millet), *Cyperus odoratus* (fragrant flatsedge), *Alternanthera philoxeroides* (alligator weed), *Najas guadalupensis* (southern naiad), *Spartina cynosuroides* (big cordgrass), and *S. spartineae* (gulf cordgrass). Two other major autotrophic groups in Intermediate Marsh are epiphytic and benthic algae. Intermediate Marsh occupies the least acreage of any of the four marsh types. Salinity averages about 3.3 ppt. This marsh type is very productive of many species of wildlife and is important to larval marine organisms (see Salt Marsh for other functions). The community may be changed to one of the other marsh types by shifts in salinity. The acreage of Intermediate Marsh appears to be decreasing, quite probably due to salt water intrusion.”

Freshwater Marsh: normally located adjacent to Intermediate Marsh along the northern most extent of the coastal marshes, although it may occur beside coastal bays where freshwater is entering the bay (e.g., Atchafalaya Bay). Small pools or ponds may be scattered. The floristic composition of these sites is quite heterogeneous and is variable from site to site. Frequency and duration of flooding which are intimately related to microtopography seem to be the primary factors governing species distributions. Substrate, current flow, salinity, competition, and allelopathy are also important in determining species distribution patterns. Freshwater Marsh has the greatest plant diversity and highest soil organic matter content of any marsh type. It is frequently dominated by *Panicum hemitomon* (maidencane). Other characteristic species include *Eleocharis* spp. (spikesedge), *Sagittaria lancifolia* = *S. falcata* (bulltongue), *Alternanthera philoxeroides* (alligator weed), *Spartina patens* (wire grass), *Phragmites communis* (roseau cane), *Bacopa monnieri* (coastal water hyssop), *Ceratophyllum demersum* (coontail), *Cyperus odoratus* (fragrant flatsedge), *Eichhornia crassipes* (water hyacinth), *Pontederia cordata* (pickerelweed), *Peltandra virginica* (arrow arum), *Hydrocotyle* spp. (pennyworts), *Lemna minor* (common duckweed), *Myriophyllum* spp. (water milfoils), *Nymphaea odorata* (white waterlily), *Typha* spp.(cattail), *Utricularia* spp. (bladderworts), *Vigna luteola* (deer pea), and *Zizaniopsis miliacea* (southern wildrice). Epiphytic and benthic algae are two other major autotroph groups in Freshwater Marsh. A significant portion of Freshwater Marsh is floating marsh (flotant). Salinities are usually less than 2 ppt. and normally average about 0.5-1 ppt. Wildlife populations are generally highest in this marsh type. As the other marsh types, Freshwater Marsh acts as important nursery areas for the young of many marine species, such as, croaker, seatrout, blackdrum, and flounder (see Salt Marsh for other functions). The community may change to a more saline marsh type with the invasion of salt water or may become openwater. Freshwater Marsh has undergone the largest reduction in acreage of any of the marsh types over the past twenty years due to salt water intrusion.”_

Live Oak Forest: Synonym: Natural Levee Forest, Front land Forest. This area is described by the Natural Heritage as “This community occurs principally in southeastern Louisiana on natural levees or frontlands and on islands within marshes and swamps. It is similar in some respects to coastal live oak-hackberry forest in that both develop on natural ridges in the coastal zone and overstory dominants are comparable. *Quercus virginiana* (live oak) typically dominates the stand, but *Q. nigra* (water oak), *Ulmus americana* (American elm), *Celtis laevigata* (hackberry), *Acer rubrum* var. *drummondii* (Drummond red maple), and *Fraxinus pennsylvanica* (green ash) are usually prominent community members, and maybe predominant in areas. Overstory associates may include *Q. falcata* var. *pagodaefolia* (cherrybark oak), *Q. nuttallii* (Nuttall oak), *Gleditsia triacanthos* (honey locust), *Liquidambar styraciflua* (sweetgum), and *Acer negundo* (box-elder), *Nyssa aquatica* (tupelo gum) and *Taxodium distichum* (baldcypress) are often present in wet depressions or on edges. *Sabal minor* (dwarf palmetto) is usually the most conspicuous midstory and understory shrub, often attaining heights of up to 10 feet.

Attachment B

The Bank would be developed in 7 Phases as follows:

Phase 1 (Figure 5) totals approximately 894.1 acres. Based on soils and existing conditions, the following acreage amounts by habitat will be either restored, rehabilitated, enhanced or preserved; 15 acres of LOF (restored?) 47.4 43.8 acres BLH restored, 70.8 acres mix cypress bottomland hardwood enhanced, 7.2 acres of Live Oak Forest upland inclusion enhancement 79.85 acres IM restored, and 681.1 677.8 acres Cypress swamp restored enhanced, 9.4 acres of non-mitigation areas consisting of pipe lines, 5.3 acres of canals/water .

Phase 2 (Figure 9) totals approximately 1,093.1 1,103.0 acres. Based on soils and existing conditions, the following acreage amounts by habitat will be either restored, rehabilitated, enhanced or preserved; approximately 25 15 acres LOF restored Live Oak Forest upland inclusion enhanced, approximately 164.1 BLH restored enhanced, approximately 325.7 acres IM restored , and approximately 578.3 acres Cypress swamp restored , 10 acres non-mitigation for food plots, and 9.9 acres non-mitigation for open water .

Phase 3 (Figure 13) totals approximately 870.1 acres. Based on soils and existing conditions, the following acreage amounts by habitat will be either restored, rehabilitated, enhanced or preserved; 45 acres IM restored, approximately 150 acres BLH restored enhanced, approximately 299.9 acres mixed Cypress swamp/BLH restored enhanced, and approximately 375.2 acres swamp restored enhanced.

Phase 4 (Figure 8) totals approximately 861.3 851.3 acres of Cypress swamp would be restored enhanced, and 10 acres non-mitigation for food plots.

Phase 5 (Figure 21) totals approximately 1090.8 1,121.7 acres. Based on soils and existing conditions, the following acreage amounts by habitat will be either restored, rehabilitated, enhanced or preserved; 195.2 acres FM restored, 215.8 210.8 acres of BLH restored enhanced, and 679.8 acres of Cypress Swamp restored enhanced, 30.9 acres Live Oak Forest upland inclusion enhanced, and 5 acres non-mitigation for food plots.

Phase 6 (Figure 25) totals approximately 654.6 694.9 acres. Based on soils and existing conditions, the following acreage amounts by habitat will be either restored, rehabilitated, enhanced or preserved; 84.9 79.9 acres BLH restored enhanced, and 569.7 acres of Cypress swamp restored enhanced, 30.9 Live Oak Forest upland inclusion enhanced, 9.4 acres of water and 5 acres non-mitigation for food plots.

Phase 7 (Figure 29) totals approximately 290.6 299.6 acres. Based on soils and existing conditions, the following acreage amounts by habitat will be either restored, rehabilitated, enhanced or preserved; 8 9 acres of Live Oak Forest upland inclusion enhanced LOF restored, 151.8 acres BLH restored enhanced , and 130.8 acres of Cypress swamp enhanced restored , and 8 acres non-mitigation for food plots.

SOILS BY PHASE:

Phase #1 894.1 Acres as depicted in figure # 8

AE: Allemands muck 338.3 Acres - 37.8% (Hydric) This level, very poorly drained semi-fluid, organic soil

AN: Allemands-Larose 3.0 Acres - 0.04% (Hydric) This level, very poorly drained, semi-fluid, organic and mineral soils

BB: Barbary-Fausse 213.2 Acres - 23.8% (Hydric) This level, very poorly drained soils are in s

swamps

RA: Rita muck 56.2 Acres - 6.3% (Hydric) This level, poorly drained, firm, mineral soil is in former fresh water marshes that are drained and protected from most floods.

Tn: Gramercy silty clay 272.8 Acres - 30.86% (Hydric) This level, poorly drained, firm, mineral soil is on lower positions on the natural levees

W: Water 10.6 Acres - 1.2%

Phase #2 ~~1,093.1~~ 1,103.0 Acres as depicted in figure # 12

AE: Allemands muck 351.8 Acres - 33.0% (Hydric) This level, very poorly drained semi-fluid, organic soil

BB: Barbary-Fausse 216.9 Acres - 19.6% (Hydric) This level, very poorly drained soils are in swamps

Co: Cancienne silty clay 82.8 Acres - 7.5% (Potentially Hydric) This level, somewhat poorly drained, firm mineral soil is on intermediate positions on natural levees

FA: Fausse- Shriever 164.2 Acres - 14.8% (Hydric) The very poorly drained Fausse soil and the poorly drained Sharkey soils are firm, mineral soils and are frequently flooded

Tn : Gramercy silty clay ~~75.6~~ 85.5 Acres - 6.8% (Hydric) This level, poorly drained, firm, mineral soil is on lower positions on the natural levees

W: Water 201.8 Acres - 18.2%

Phase #3 870.1 Acres as depicted in figure # 16

AE: Allemands muck ~~373.6~~ 373.5 Acres - 42.9% (Hydric) This level, very poorly drained semi-fluid, organic soil

BB: Barbary-Fausse 260.4 Acres - 29.9% (Hydric) This level, very poorly drained soils are in swamps

Co: Cancienne silty clay 29.3 Acres - 3.4% (Potentially Hydric) This level, somewhat poorly drained, firm mineral soil is on intermediate positions on natural levees

FA: Fausse-Schriever 172.4 Acres - 19.8% (Hydric) The very poorly drained Fausse soil and the poorly drained Sharkey soils are firm, mineral soils and are frequently flooded

Sr: Schriever clay, occ. flooded 18.5 Acres - 2.1% (Hydric) This level, poorly drained, firm, mineral soil is on low positions on natural levees of distributaries

Tn: Gramercy silty clay, freq. flooded 15.6 Acres - 1.8% (Hydric) This level, poorly drained, firm, mineral soil is on lower positions on the natural levees

W: Water 0.4 Acres- 0.0%

Phase # 4 861.3 Acres as depicted in figure # 20

AE: Allemands muck 80.9 Acres - 9.4% (Hydric) This level, very poorly drained semi-fluid, organic soil

BB: Barbary-Fausse 234.2 Acres - 27.2% (Hydric) This level, very poorly drained soils are in swamps

FA: Fausse-Schriever ~~492.3~~ 492.2 Acres - 57.2% (Hydric) The very poorly drained Fausse soil and the poorly drained Sharkey soils are firm, mineral soils and are frequently flooded

Sk: Schriever clay 6.8 Acres – 0.8% (Hydric) This level, poorly drained, firm, mineral soil is on lower parts of the natural Levees along Bayou Lafourche and its distributaries

Sr: Schriever clay, occ. flooded 45.9 Acres – 5.3% (Hydric) This level, poorly drained, firm, mineral soil is on low positions on natural levees of distributaries

W: Water 1.3 Acres- 0.2%

Phase# 5 ~~1,090.8~~ 1,121.7 Acres as depicted in figure # 24

AN: Allemands-Larose 282.5 Acres – 24.3% (Hydric) This level, very poorly drained, semi-fluid, organic and mineral soils

BB: Barbary-Fausse 515.5 Acres – 45.8% (Hydric) This level, very poorly drained soils are in swamps

Co: Cancienne silty clay 17.3 Acres – 3.2% (Potentially Hydric) This level, somewhat poorly drained, firm mineral soil is on intermediate positions on natural levees

FA: Fausse-Schriever ~~125.6~~ 156.5 Acres – 13.8%(Hydric) The very poorly drained Fausse soil and the poorly drained Sharkey soils are firm, mineral soils and are frequently flooded

Sk: Schriever clay 3.4 Acres – 0.3% (Hydric) This level, poorly drained, firm, mineral soil is on lower parts of the natural Levees along Bayou Lafourche and its distributaries

Sr: Schriever clay, occ. flooded 18.7 Acres – 1.6% (Hydric) This level, poorly drained, firm, mineral soil is on low positions on natural levees of distributaries

W: Water 127.8 Acres 11.0%

Phase # 6 ~~654.6~~ 694.9 Acres as depicted in figure # 28

AN: Allemands-Larose 244.6 Acres – 37.4% (Hydric) This level, very poorly drained, semi-fluid, organic and mineral soils

BB: Barbary-Fausse ~~101.6~~ 141.9 Acres - 15.5% (Hydric) This level, very poorly drained soils are in swamps

Co: Cancienne silty clay 31.1 Acres - 4.7% (Potentially Hydric) This level, somewhat poorly drained, firm mineral soil is on intermediate positions on natural levees

FA: Fausse-Schriever 87.3 Acres - 13.3% (Hydric) The very poorly drained Fausse soil and the poorly drained Sharkey soils are firm, mineral soils and are frequently flooded

Sr: Schriever clay, occ. flooded 173.7 Acres – 26.5% (Hydric) This level, poorly drained, firm, mineral soil is on low positions on natural levees of distributaries

W: Water 16.3 Acres – 2.5%

Phase # 7 ~~290.6~~ 299.6 Acres as depicted in figure # 33

BB: Barbary-Fausse 86.5 Acres – 27.9% (Hydric) This level, very poorly drained soils are in swamps

Co: Cancienne silty clay 119.6 Acres - 44.9% (Potentially Hydric) This level, somewhat poorly drained, firm mineral soil is on intermediate positions on natural levees

Sr: Schriever clay, occ.flooded ~~83.3~~ 92.3 Acres - 26.8% (Hydric) This level, poorly drained, firm, mineral soil is on low positions on natural levees of distributaries

W: Water 1.2 Acres – 0.4%

Attachment C:

Jurisdictional Determinations

Seven Jurisdictional Determinations were issued on February 23rd, 2011 MVN #- 2010-016550SQ, and MVN #- 2010-016510SQ, February 24th 2011 MVN #-2010-01653-SQ and MVN # -2010-01656-SQ, March 18th 2011 MVN # 2010-01652-SQ and MNV # -2010-01650-SQ, and on April 11th 2011 MVN # 2010-01654-SQ by Bill Nethery. (Copies included as Attachment

Attachment D. Recommended Tree Species and Herbaceous plants to be planted include:

Hard Mast and Soft Mast For Wetland Area And Cypress Swamp				
Species	Scientific Name	Mast	TPA*	%/Acre
Nuttall Oak	<i>Quercus nuttallii</i>	Hard	538	5-10%
Water Oak	<i>Quercus nigra</i>	Hard	538	5-10%
Cherrybark Oak	<i>Quercus falcata var. pagodafolia</i>	Hard	538	5-10%
Chestnut Oak	<i>Quercus michauxii</i>	Hard	538	5-10%
Willow Oak	<i>Quercus phellos</i>	Hard	538	5-10%
Water Hickory	<i>Carya aquatica</i>	Hard	538	5-10%
Bitter Pecan	<i>Carya illinoensis</i>	Hard	538	5-10%
Sweetbay Magnolia	<i>Magnolia virginiana</i>	Hard	538	5-10%
Hackberry	<i>Celtis occidentalis</i>	Hard	538	5-10%
Bald Cypress	<i>Taxodium distichum</i>	Soft	538	20-30% in areas designated Cypress Swamp, 5-10% in Wetlands
Tulip Poplar	<i>Liriodendron tulipifera</i>	Soft	538	2-5%
Swamp Blackgum	<i>Nyssa biflora</i>	Soft	538	2-5%
Tupelo Gum	<i>Nyssa aquatica</i>	Soft	538	2-5%
Water Ash	<i>Fraxinus caroliniana</i>	Soft	538	2-5%
Green Ash	<i>F. pennsylvanica</i>	Soft	538	2-5%
Pumpkin Ash	<i>Fraxinus profunda</i>	Soft	538	2-5%
Water Elm	<i>Planera aquatica</i>	Soft	538	2-5%
Mayhaw	<i>Crataegus opaca</i>	Soft	538	2-5%
Persimmon	<i>Diospyros virginiana</i>	Soft	538	2-5%
Buttonbush	<i>Cephalanthu occidentalis</i>	Soft	538	2-5%
Total				100%

Hard Mast and Soft Mast For Non-Wetland Area				
Species	Scientific Name	Mast	TPA*	%/Acre
Live Oak	<i>Quercus virginiana</i>	Hard	538	5-10%
Southern RedOak	<i>Quercus falcata</i>	Hard	538	2-5%
White Oak	<i>Quercus alba</i>	Hard	538	2-5%
Water Oak	<i>Quercus nigra</i>	Hard	538	2-5%
Cherrybark Oak	<i>Quercus falcata var. pagodafolia</i>	Hard	538	2-5%
Nuttall Oak	<i>Quercus nuttallii</i>	Hard	538	2-5%
American elm	<i>Ulmus americana</i>	Hard	538	2-5%
Hackberry	<i>Celtis occidentalis</i>	Hard	538	2-5%
Green Ash	<i>F. pennsylvanica</i>	Soft	538	2-5%
Tupelo Gum	<i>Nyssa aquatica</i>	Soft	538	2-5%
Bald Cypress	<i>Taxodium distichum</i>	Soft	538	2%
Total				100%

Recommended Herbaceous Species For Intermediate and Fresh Water Marsh

Species	Scientific Name			%/Acre
Smooth Cord Grass	<i>Spartina alterniflora</i>			5-10%
California bulrush	<i>Schoenoplectus californicus</i>			5-10%
Bull tongue Arrowhead	<i>Sagittaria lancifolia</i>			5-10%
Pickerel Weed	<i>Pontederia cordata</i>			5-10%
Maidencane	<i>Panicum hemitomon</i>			5-10%
Carex ssp,	<i>Carex ssp</i>			5-10%
Juncus ssp.	<i>Juncus ssp</i>			5-10%
Southern Wildrice	<i>Zizaniopsis miliacea</i>			5-10%
Roseau Cane	<i>Sagittaria lancifolia</i>			5-10%
Three-Cornered Grass	<i>Scirpus olneyi</i>			5-10%
Total				100%

Figure 1 Eastern Shore Louisiana State Vicinity Map



Figure # 2 Eastern Shore M.B. Topo Vicinity Map(5844.7 Acres)

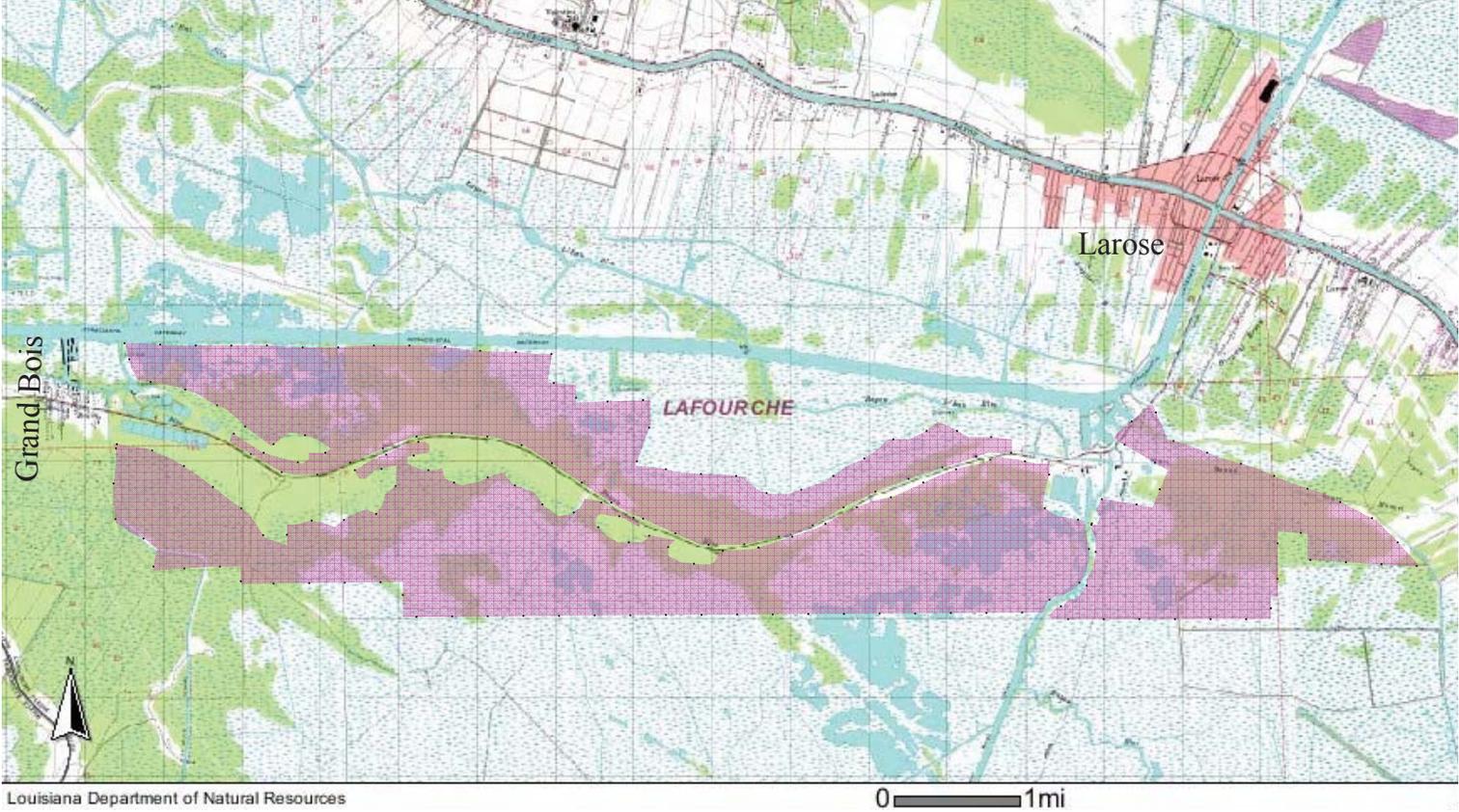
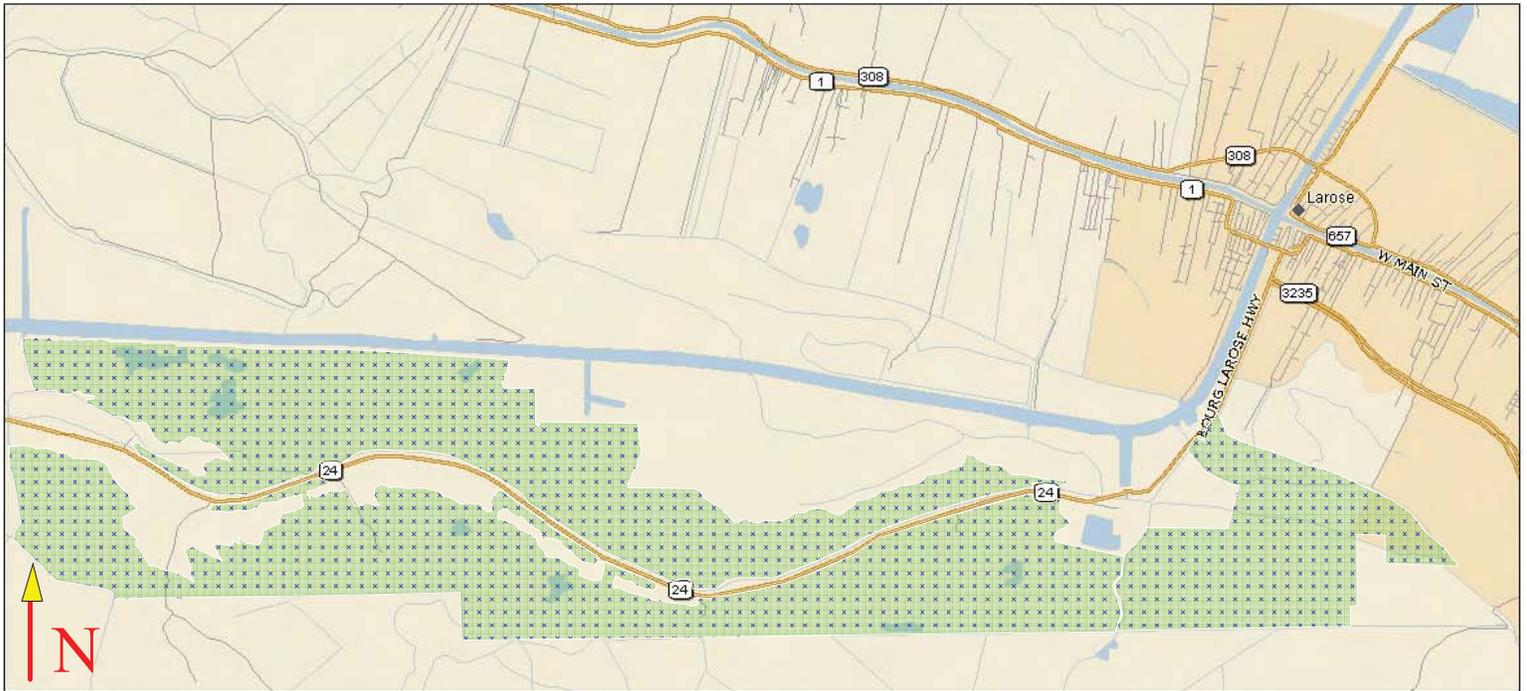


Figure 3 Eastern Shore Road Vicinity Map (5,844.7 Acres)



(Drawn 11/26/12)

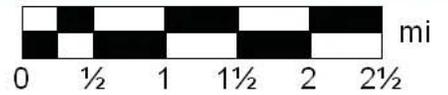
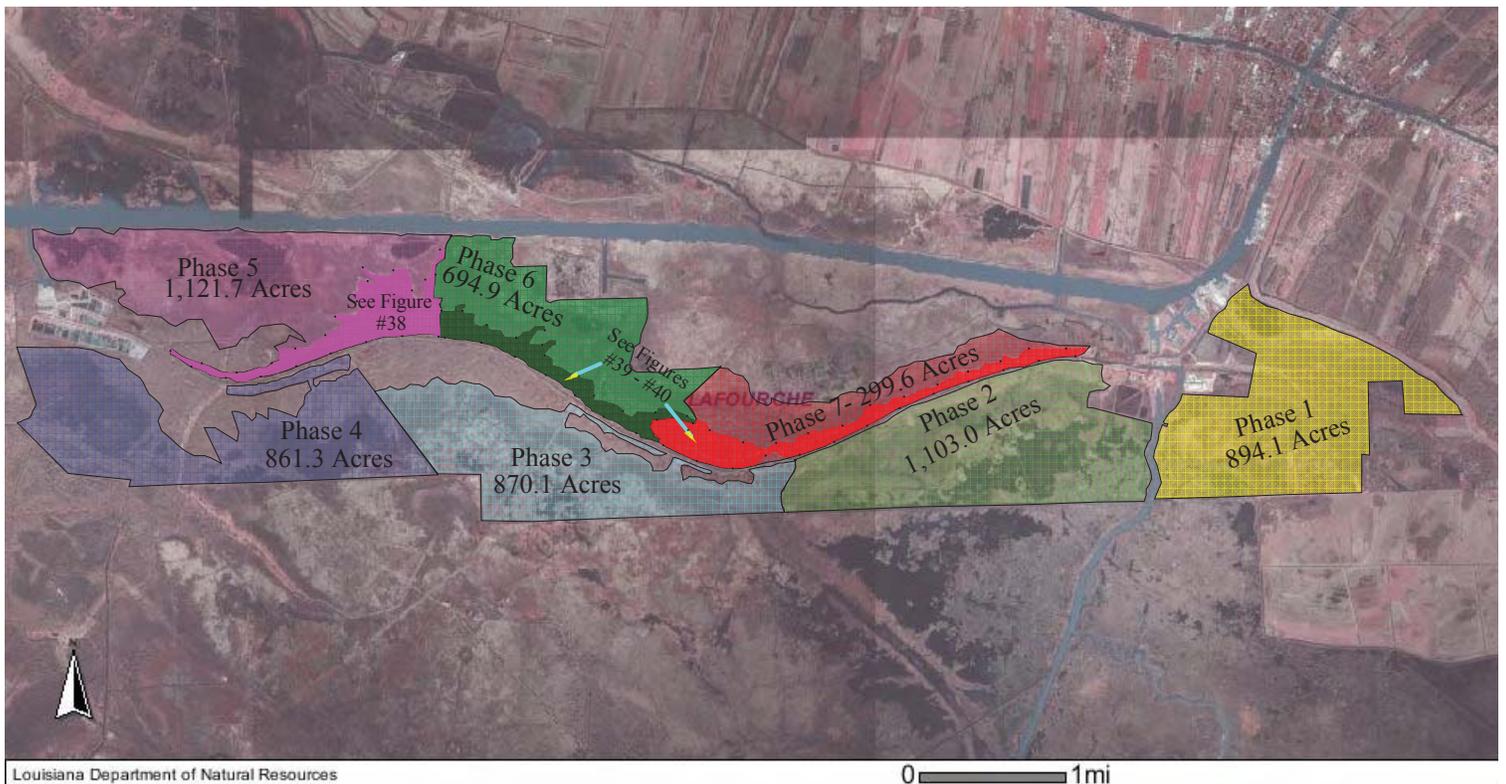


Figure #3

Figure # 4 Eastern Shore Different Phases Acreage Areas (5,844.7 Acres)



This is also the map for the Conservation Servitude. (Drawn 11/26/12)
Phases' 1-7 Enhancement and Rehabilitatio Areas
Will Be Planted With The Suggested Hydrophitic
Plants in The Prospectus' Attachment "D"

Figure # 5 Eastern Shore M.B. Phase # 1 Habitats (894.1 Acres) (Drawn 2 /16/12)

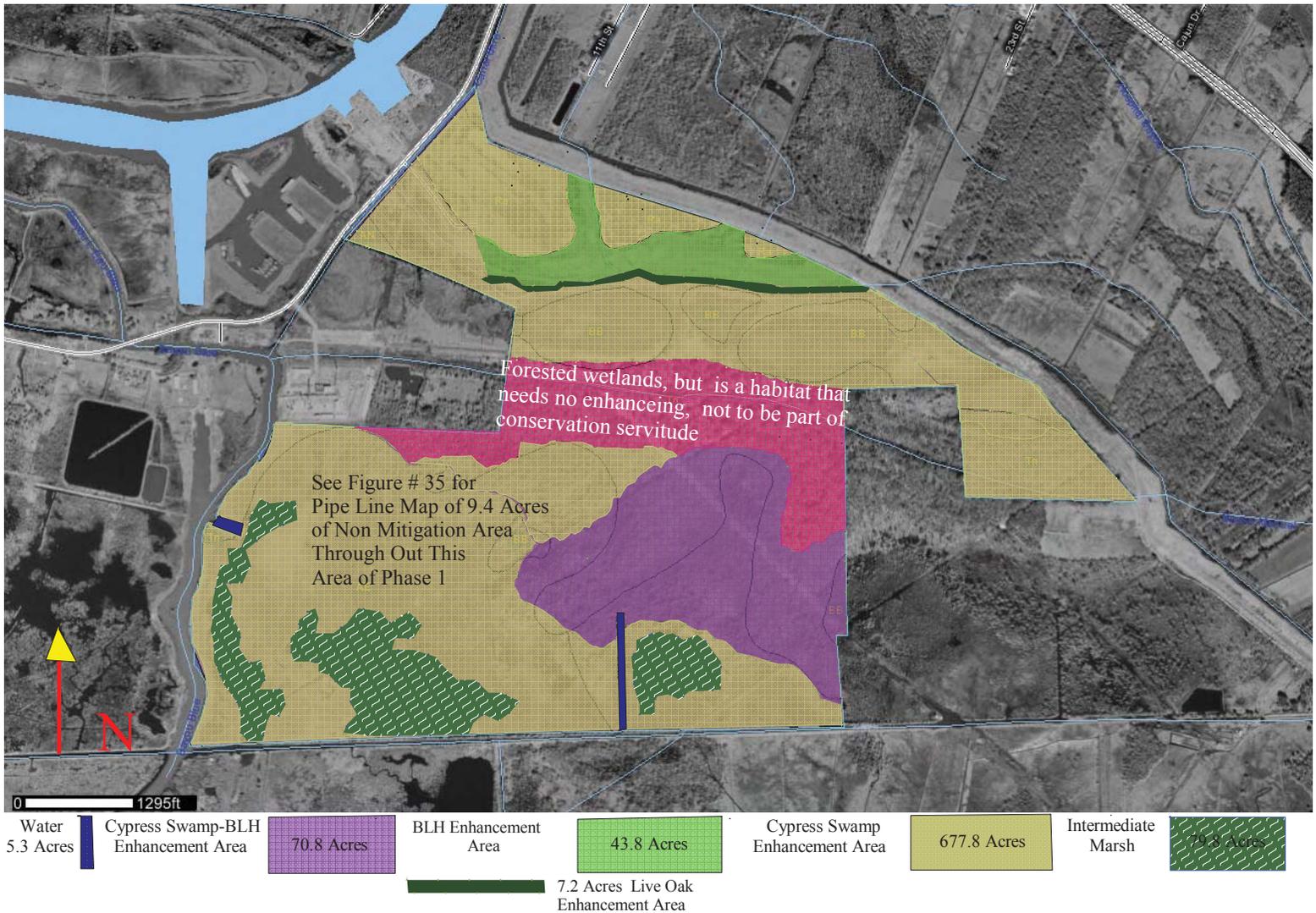
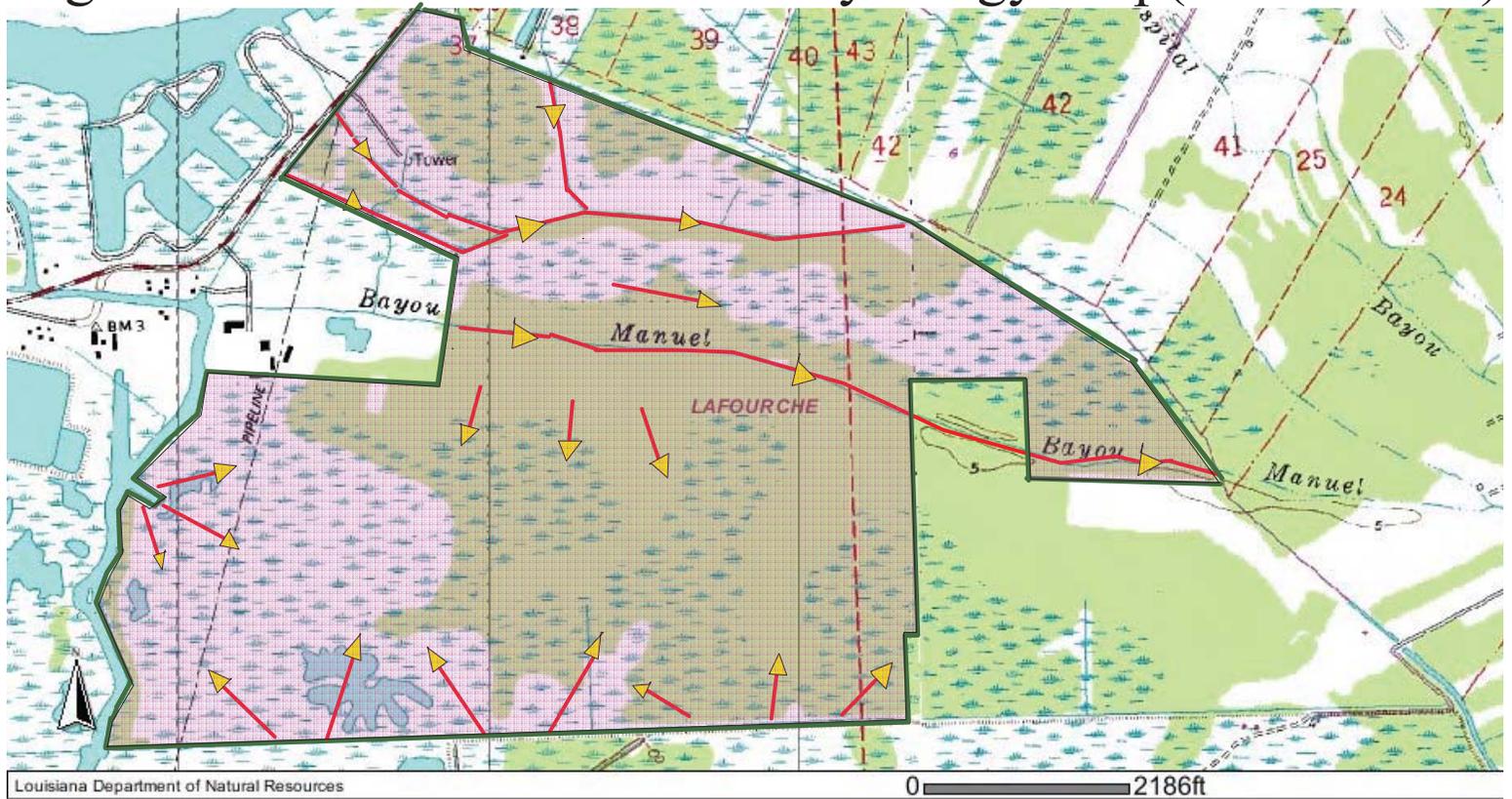
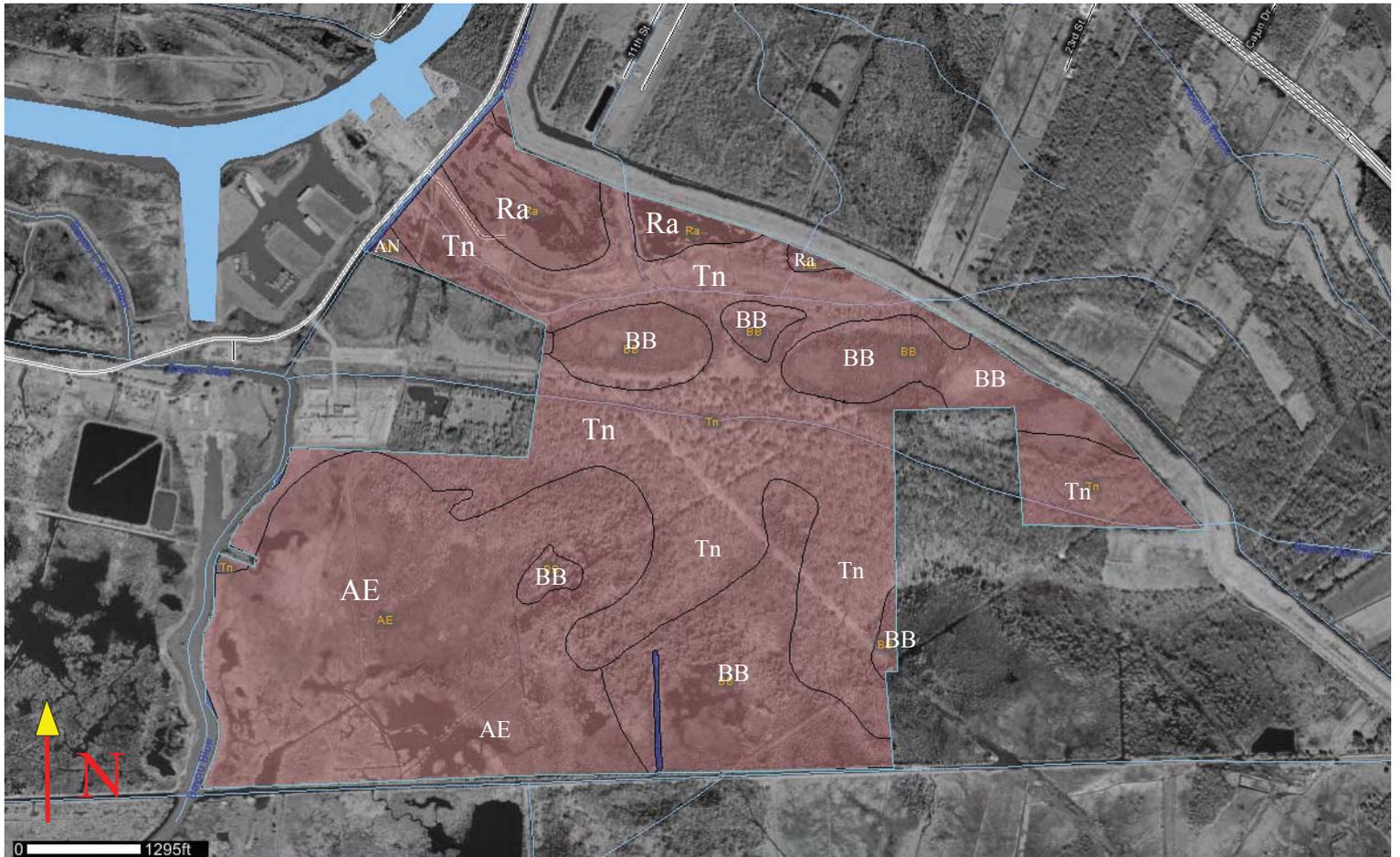


Figure 7 Eastern Shore Phase 1 Hydology Map(894.1 Acres)



Directions of Flows, Overflows,
and Tidal Influences 

Figure 8 Eastern Shore Phase 1 : Soil Map -894.1 Acres (Drawn 11/26/12)



AE : Allemands muck 338.3 Acres , AN Allemands-Larose 3.0 Acres , BB : Barbary-Fausse 213.2 Acres , RA : Rita muck 56.2 Acres ,
 Tn : Gramercy silty clay 272.8 Acres , W : Water 10.6 Acres

Figure 9 Eastern Shore Phase 2 Habitat Areas (1,103.0Acres)

(Drawn 11/26/12)

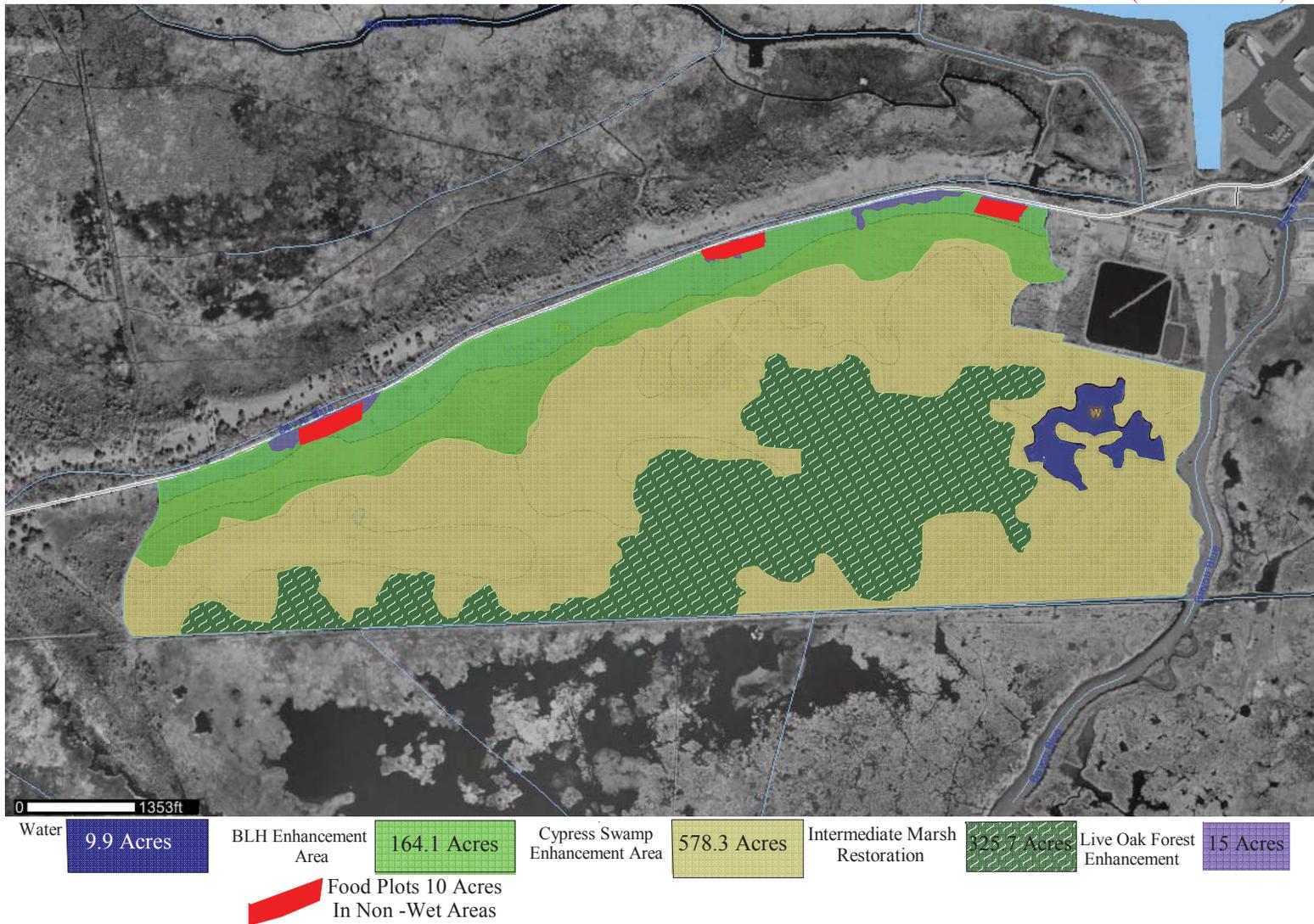
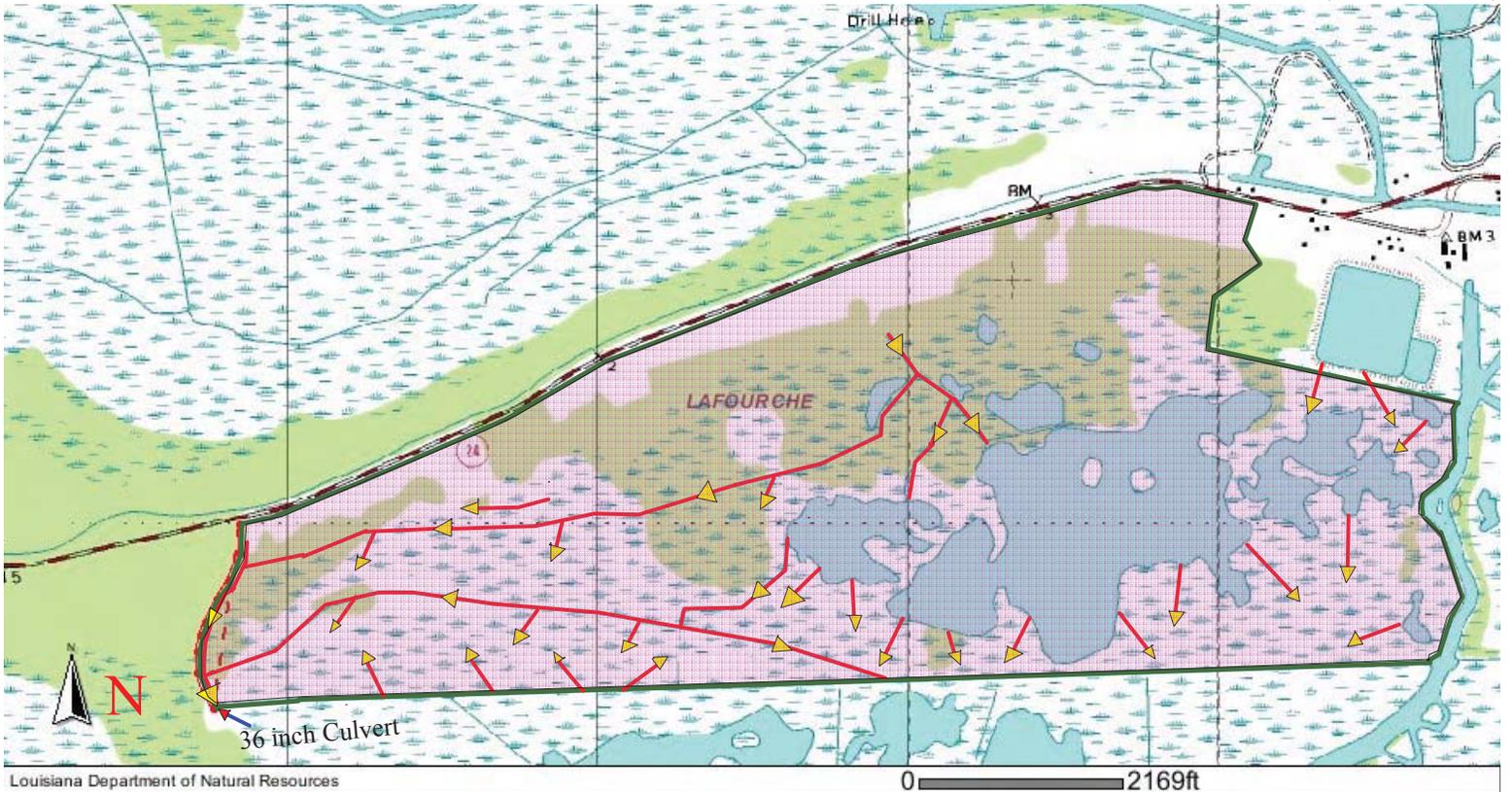


Figure 11 Eastern Shore Phase 2 Hydology Map(1,103.0 Acres)

(Drawn 11/26/12)



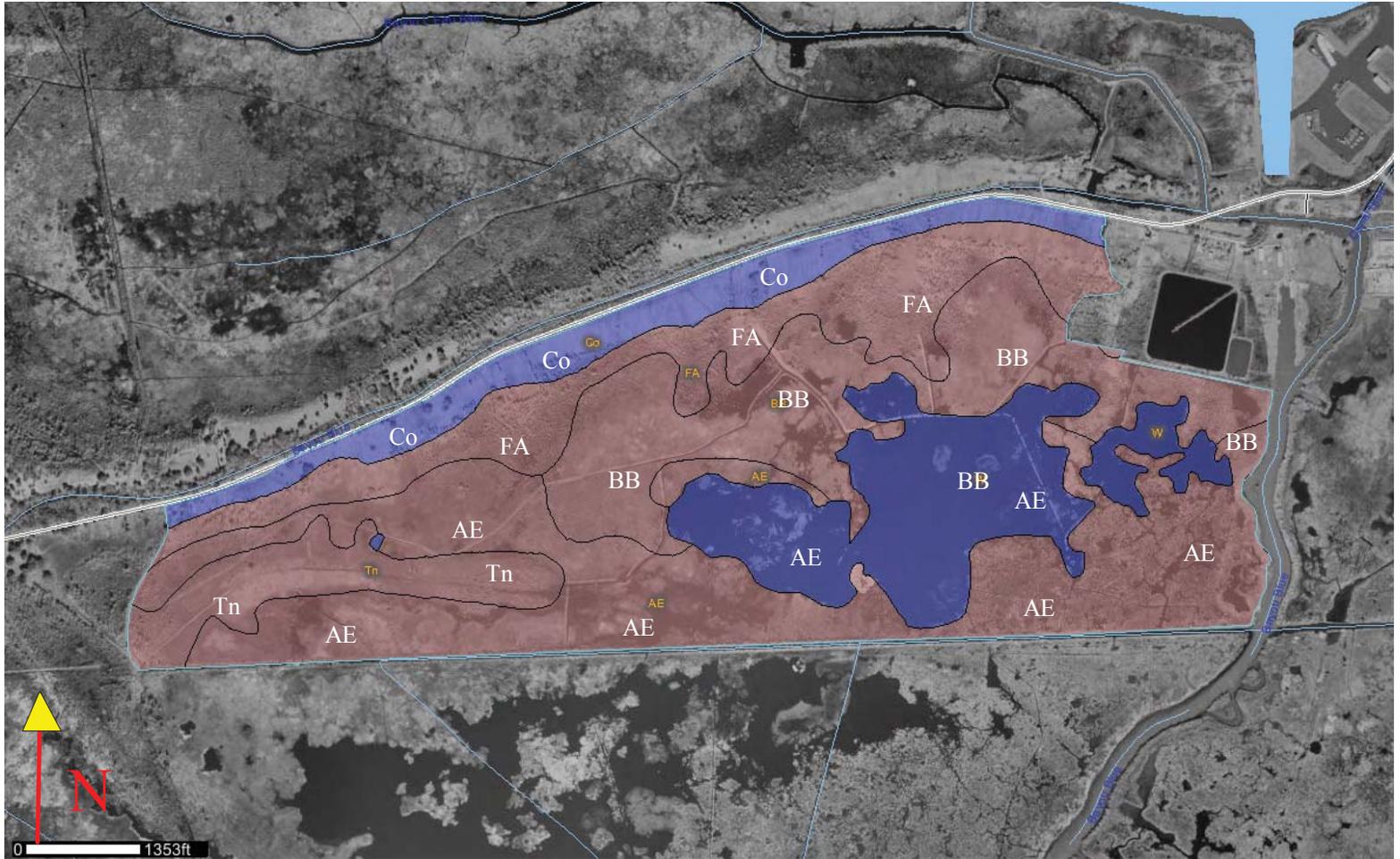
Directions of Flows, Overflows,
and Tidal Influences



Figure # 10

Figure 12 Eastern Shore Phase 2: Soil Map -1,103..0 Acres

(Drawn 11/26/12)



AE : Allemands muck 351.8 Acres , BB : Barbary-Fausse 216.9Acres , Co : Cancienne silty clay 82.8 Acres , FA : Fausse- Shriever,164.2 Acres ,
Tn : Gramercy silty clay 85.5Acres , W : W : Water 201.8 Acres

Figure 13 Eastern Shore M.B. Phase 3 - 870.1 Acre Habitat Map

Drawn 2/10/13



Louisiana Department of Natural Resources

0 2235ft

Cypress Swamp-BLH
Enhancement Area

150 Acres

BLH Enhancement
Area

299.9 Acres

Cypress Swamp
Enhancement Area

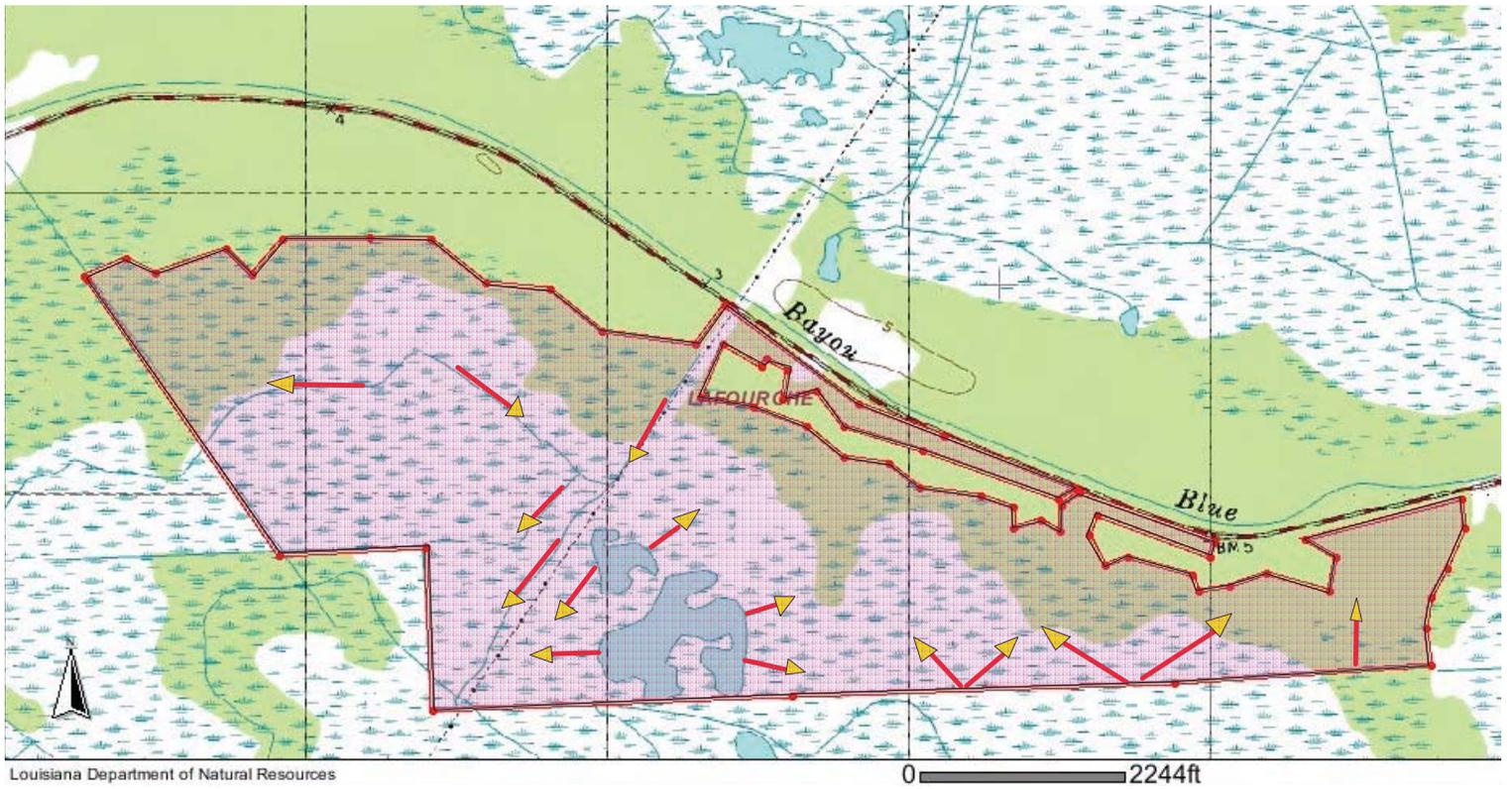
375.2 Acres

Intermediate
Marsh
Restoration

45 Acres

Food Plots Are in Non-Wet Areas
Areas, Not in Bank

Figure 15 Eastern Shore Phase 3 Hydrology Map (870.1 Acres)

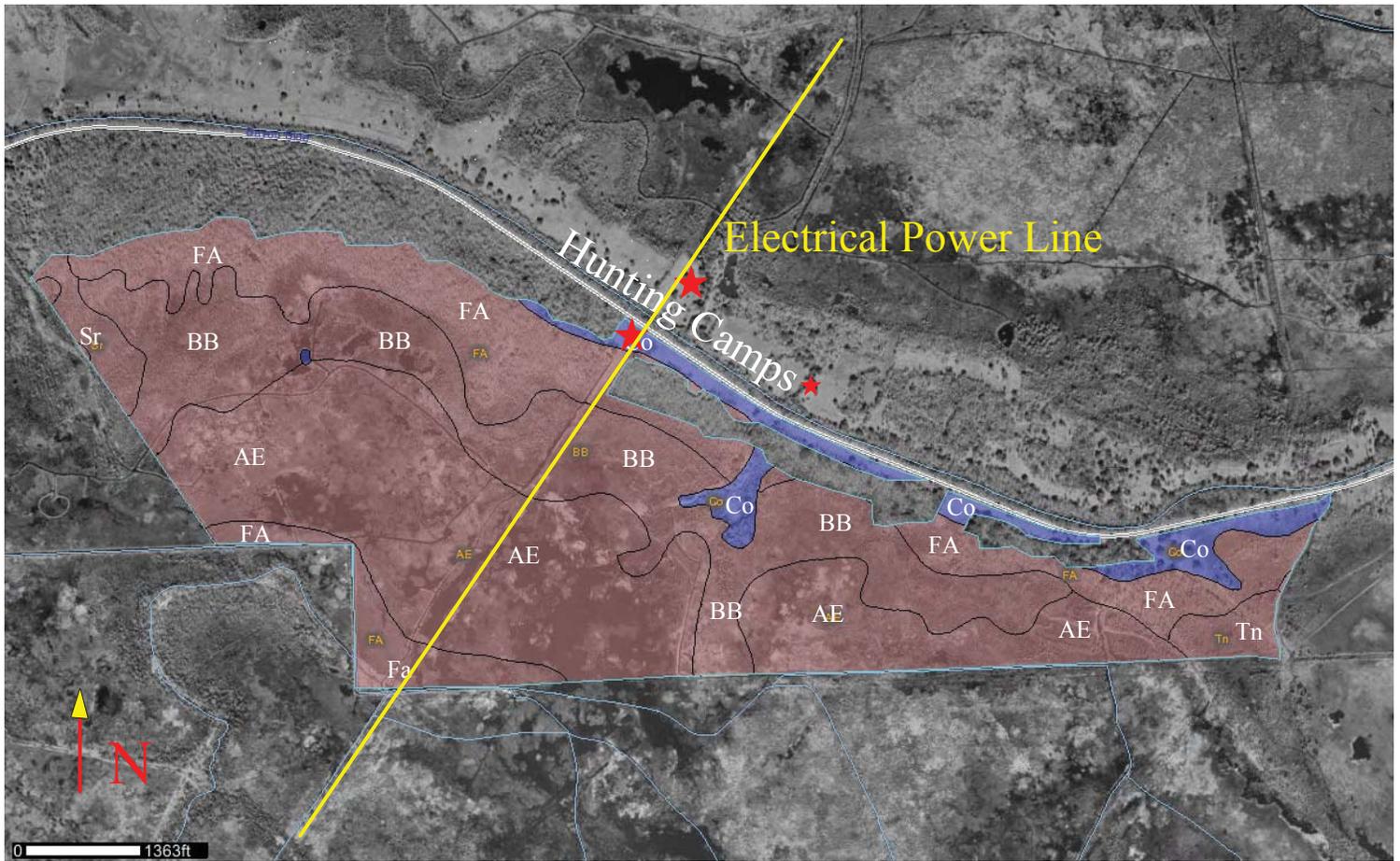


Directions of Flows, Overflows,
and Tidal Influences



(Drawn 11/26/12)

Figure 16 Eastern Shore Phase 3 :Soil Map 870.1 Acres (Drawn 11/26/12)



AE: Allemands muck 373.5 Acres(Hydric) BB: Barbary-Fausse 260.4 Acres(Hydric) Co: Cancienne silty clay 29.3 Acres(Potentially Hydric)
 FA: Fausse-Schriever 172.4 Acres(Hydric) Sr: Schriever clay, occ. flooded 18.5 Acres(Hydric) Tn: Gramercy silty clay, freq. flooded 15.6 Acres(Hydric) W: Water 0.4 Acres

Figure 17 Eastern Shore M.B. Phase 4 Habitat Map(861.3Acres) (Drawn 2/10/13)

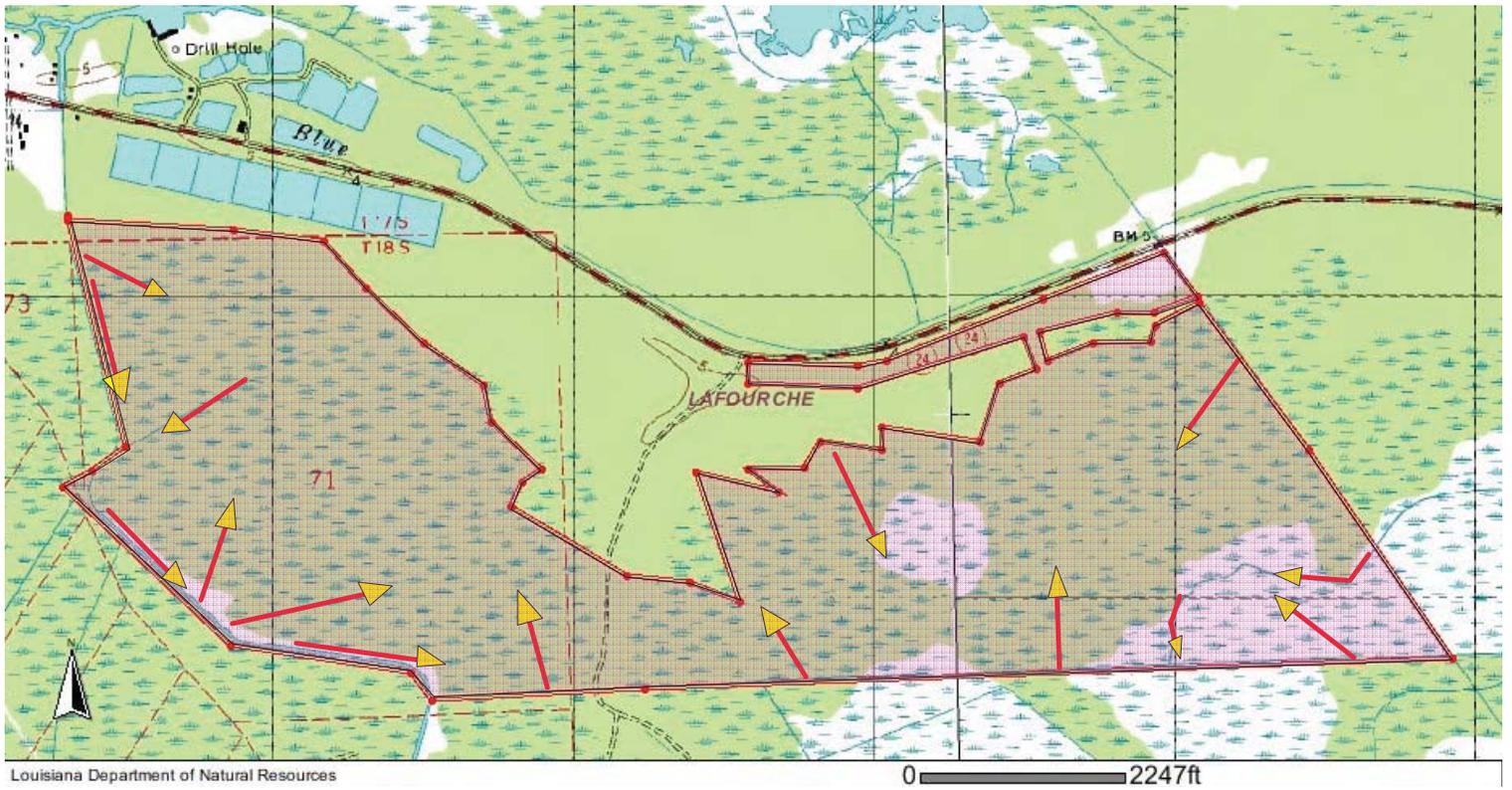


Louisiana Department of Natural Resources

0 2193ft



Figure 19 Eastern Shore Phase 4 Hydrology Map (861.3 Acres)



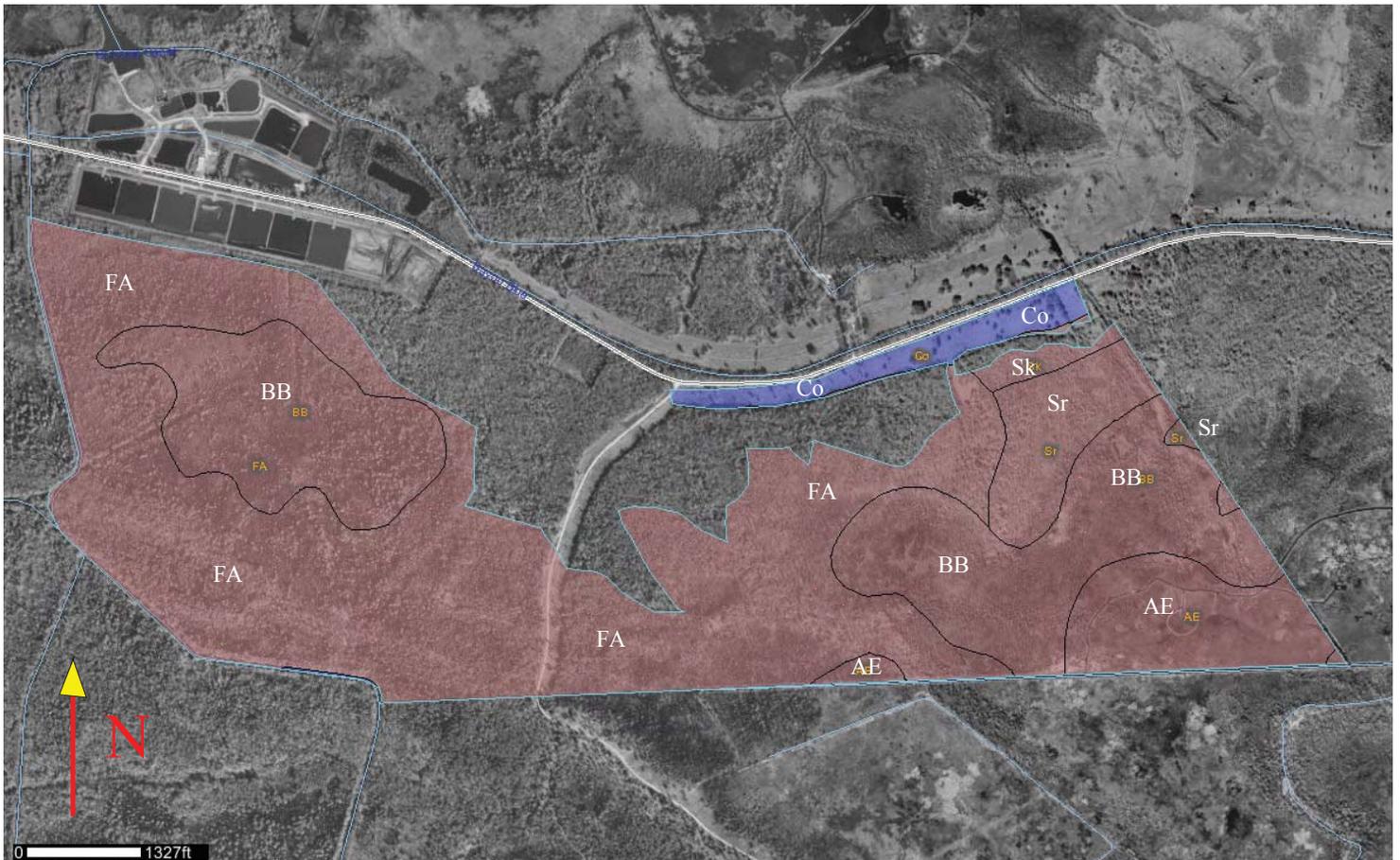
Directions of Flows, Overflows,
and Tidal Influences



(Drawn 11/26/12)

Figure 20 Eastern Shore Phase 4 Soil Map 861.3 Acres

(Drawn 11/26/12)



AE : Allemands muck 80.9 Acres(Hydric) BB: Barbary-Fausse 234.2 Acres(Hydric) FA: Fausse-Schriever 492.2 Acres(Hydric)
 Sk: Schriever clay 6.8 Acres(Hydric) Sr: Schriever clay, occ. flooded 45.9 Acres(Hydric) W: Water 1.3 Acres

Figure 21 Eastern Shore Phase 5 Habitat Map 1,121.7 Acres

(Date Drawn 2/10/13)



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0 2355ft

Fresh Water Marsh
Restoration

195.2 Acres

Cypress Swamp
Enhancement

679.8 Acres

Bottomland Hardwood
Enhancement

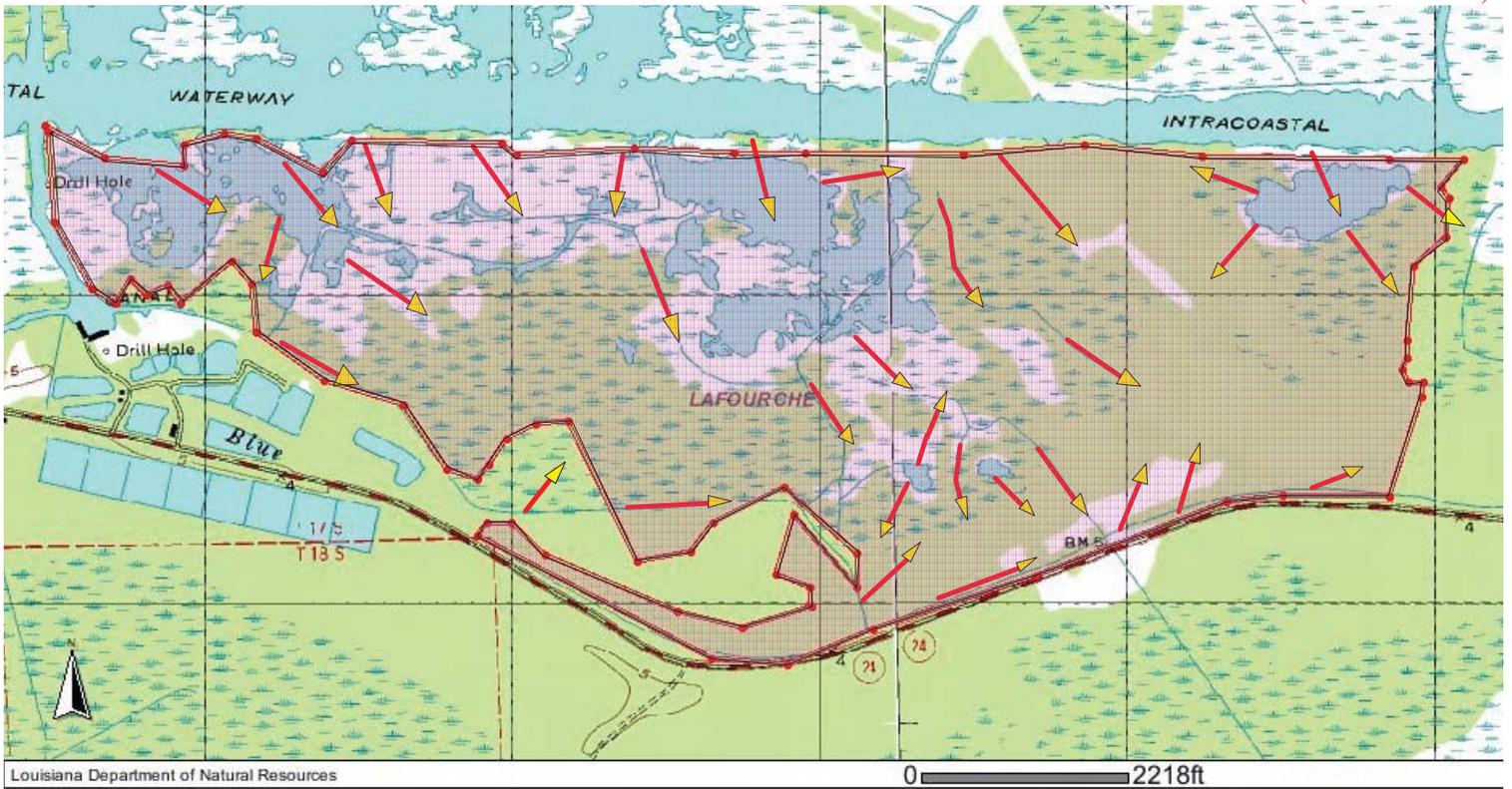
210.8 Acres

Non-Wet : Enhancement
Live Oak-Hackberry Forest

30.9 Acres

Food Plots 5 Acres

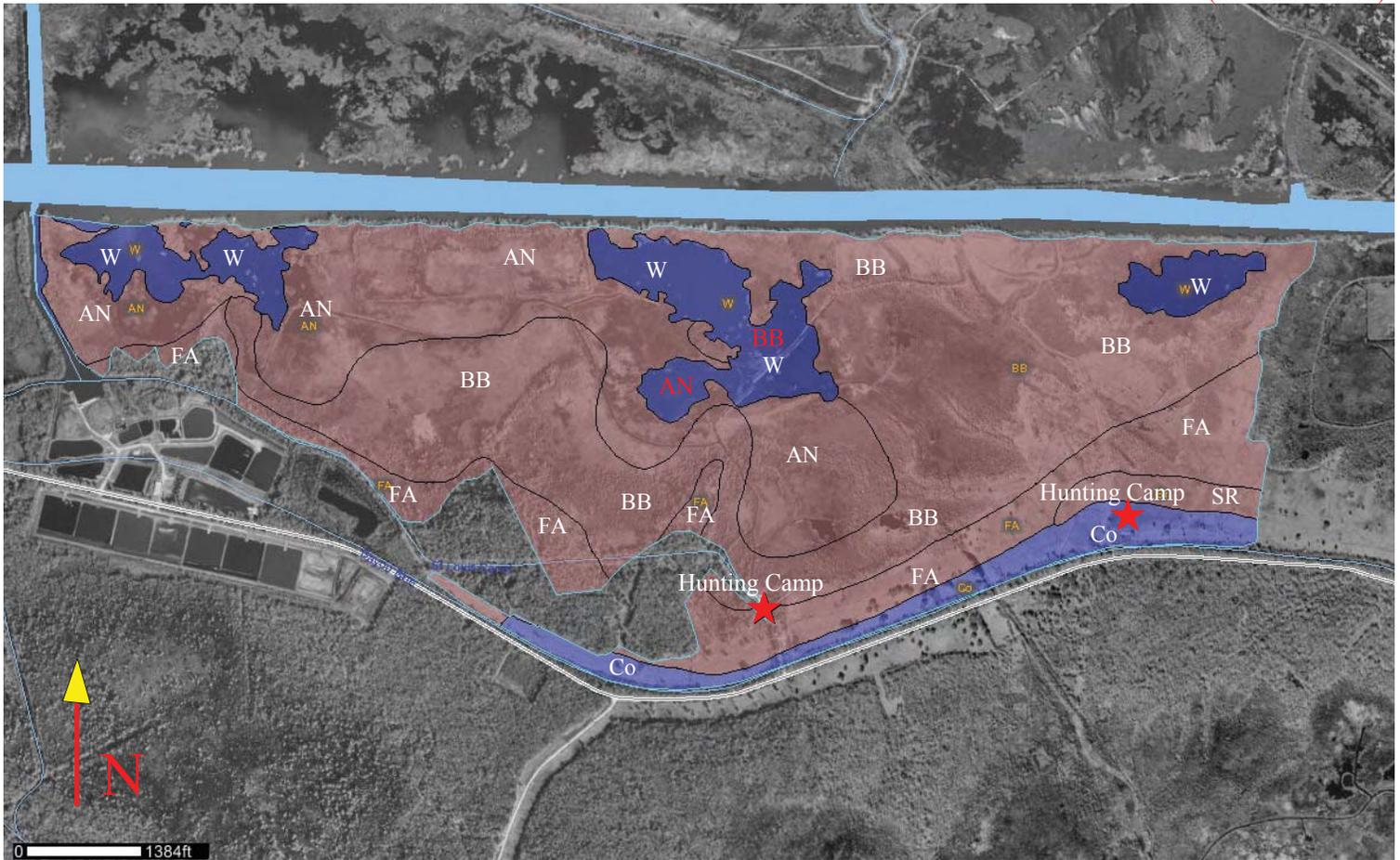
Figure 23 Eastern Shore Phase 5 Hydrology Map (1,121.7 Acres)
(Drawn 11/26/12)



Directions of Flows, Overflows and Tidal Influences 

Figure 24 Eastern Shore Phase 5 Soil Map- 1,121.7 Acres

(Drawn 11/26/12)



AN : Allemands-Larose 282.5Acres(Hydric) BB: Barbary-Fausse 515.5Acres(Hydric) Co: Cancienne silty clay 17.3Acres(Potentially Hydric)
 FA: Fausse-Schriever 156.5 Acres(Hydric) Sk: Schriever clay 3.4 Acres(Hydric) Sr: Schriever clay, occ. flooded 18.7 Acres(Hydric)
 W:Water 127.8 Acres

Figure 25 Eastern Shore Phase 6 Habitat Map (694.9 Acres)

(Drawn 2/10/13)



Louisiana Department of Natural Resources

0 2323ft

Non-Wet:
Live Oak/ Hackberry Forest
Enhancement Area **30.9 Acres**

BLH Enhancement
Area **79.9 Acres**

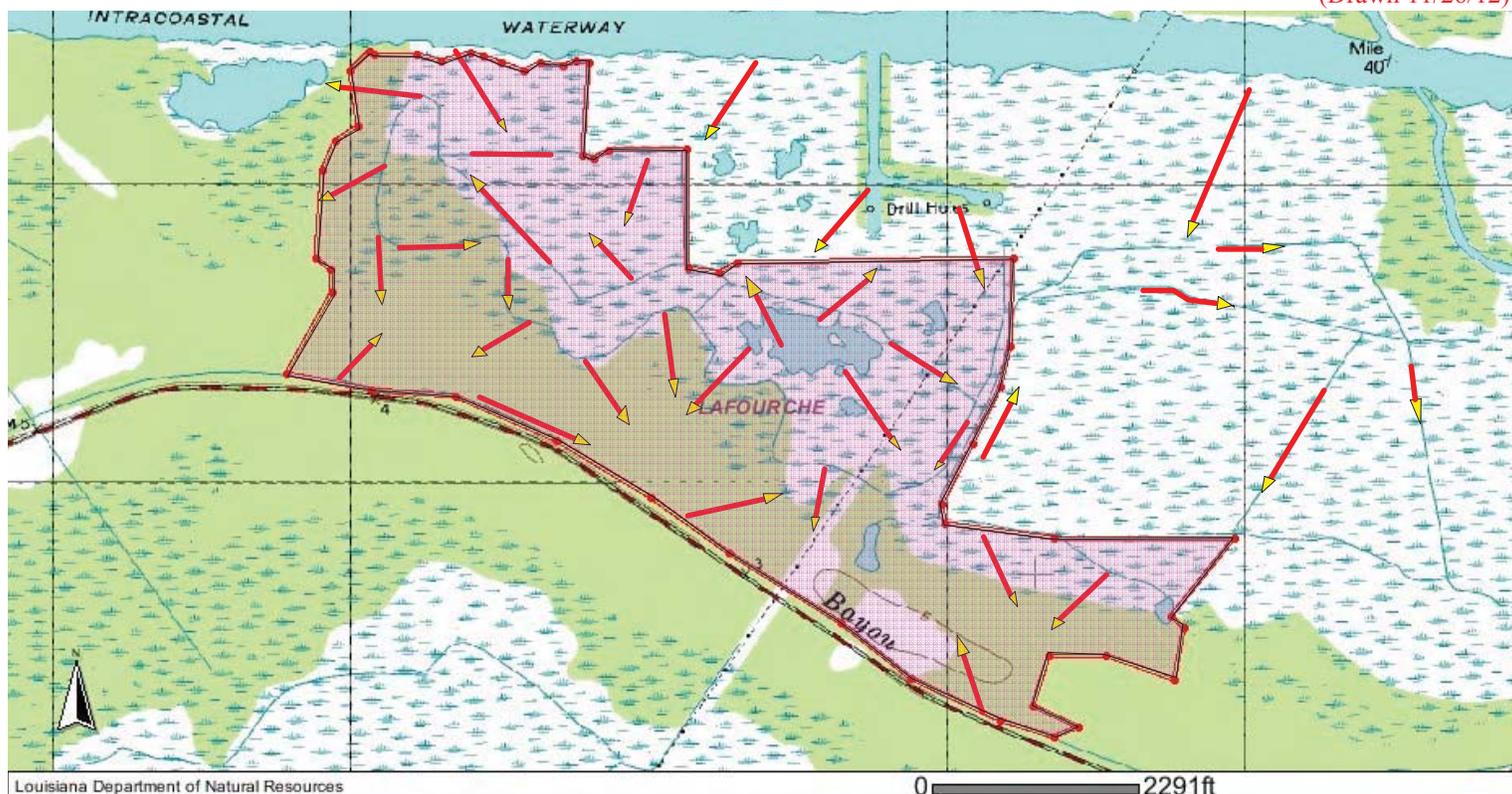
Cypress Swamp
Enhancement Area **569.7 Acres**

Water **9.4
Acres**

Food Plots **5 Acres**

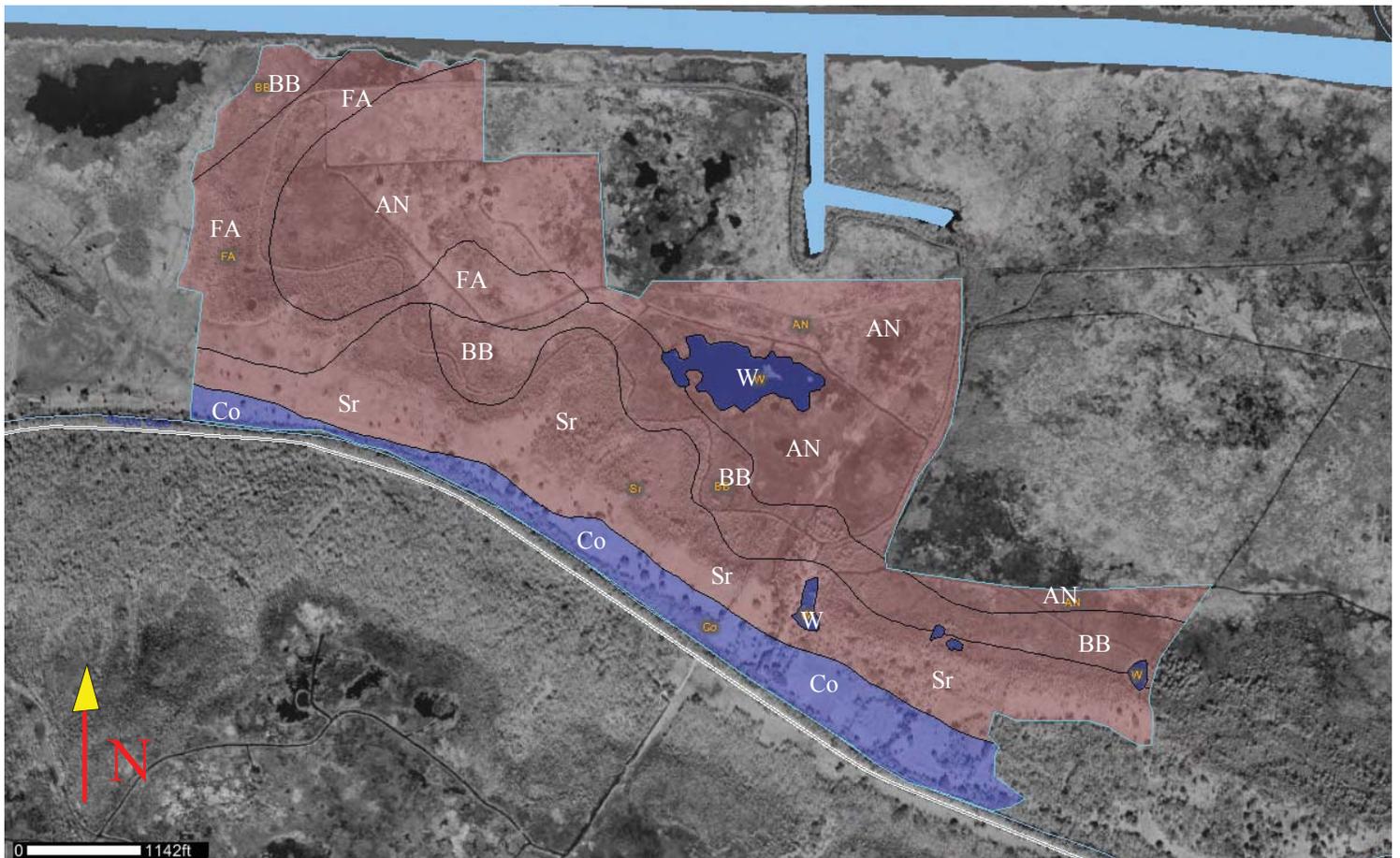
Figure 27 Eastern Shore Phase 6 Hydrology Map (694.9 Acres)

(Drawn 11/26/12)



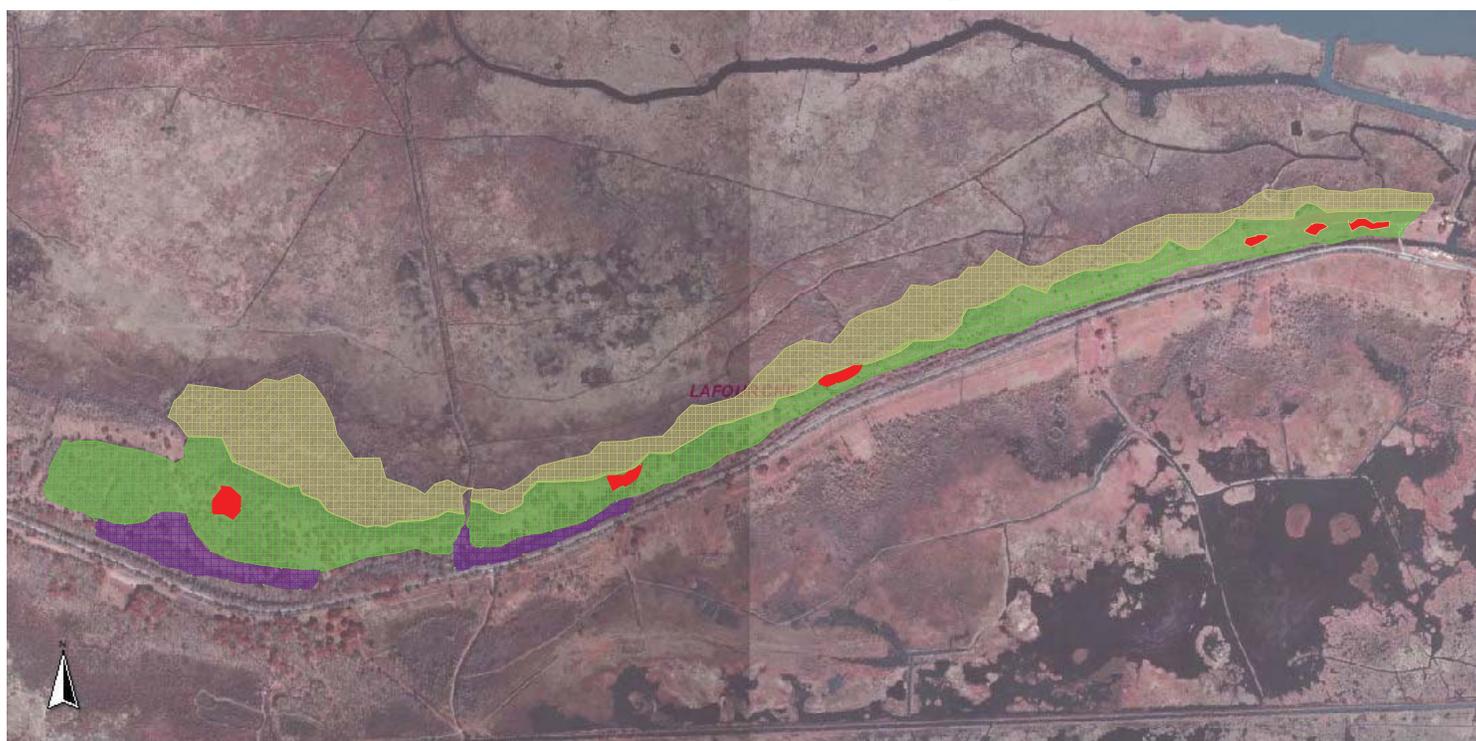
Directions of Flows, Overflows and Tidal Influences 

Figure 28 Eastern Shore Phase 6 Soil Map (Drawn 11/26/12)



AN : Allemands-Larose 244.6 acres(Hydric) BB: Barbary-Fausse 141.9Acres(Hydric) Co: Cancienne silty clay 31.1Acres(Potentially Hydric)
 FA: Fausse-Schriever 87.3 Acres(Hydric) Schriever clay, occ. flooded 173.7Acres(Hydric) W : Water 16.3 Acres

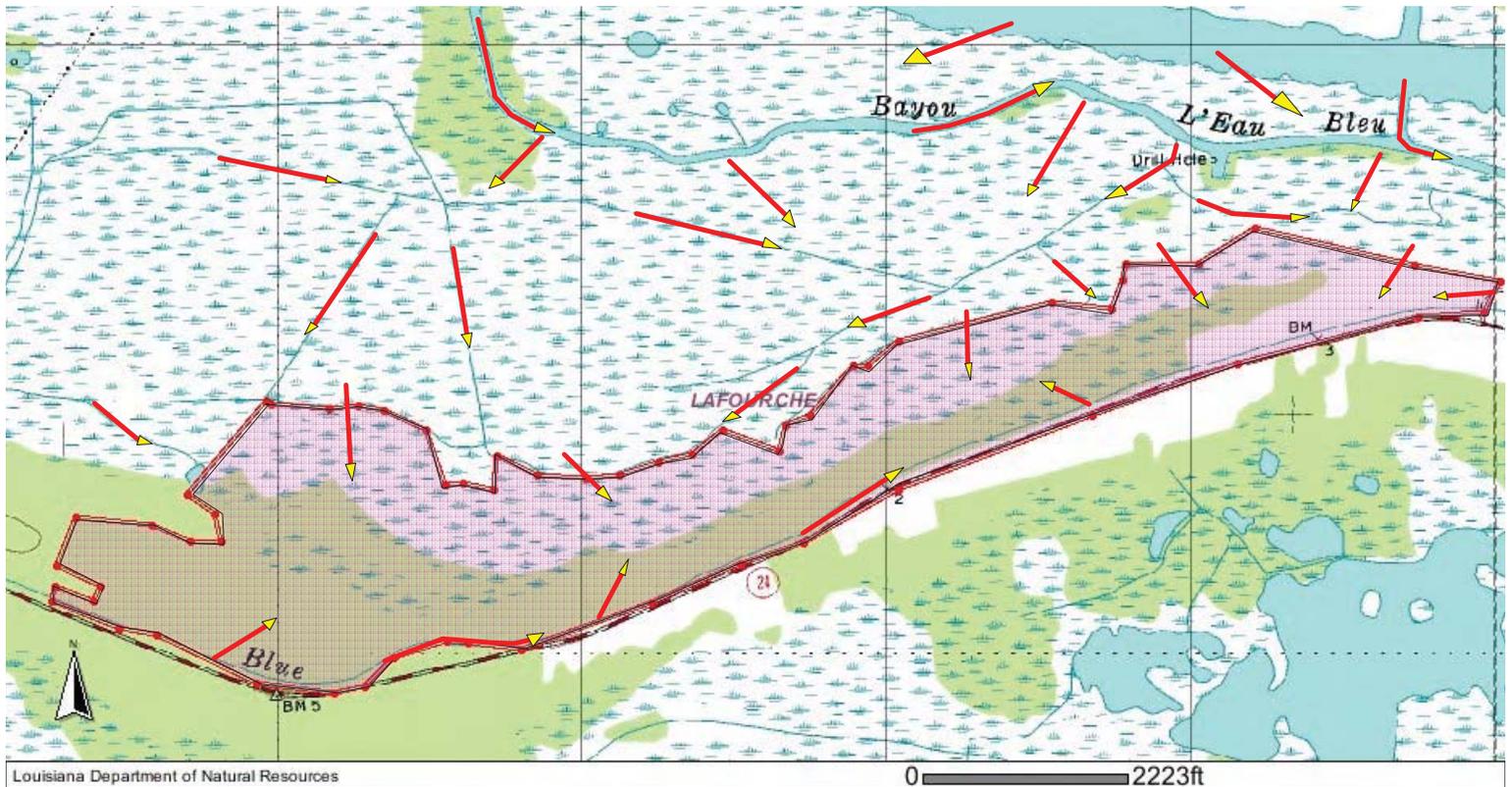
Figure 29 Eastern Shore M.B.Phase 7 Habitat Map 299.6 Acres (Date drawn 2/10/13)



Louisiana Department of Natural Resources

Non-Wet: Live Oak/ Hackberry Forest Enhancement Area	9 Acres	Bottomland Hardwood Enhancement	151.8 Acres	Cypress Swamp Enhancement	130.8 Acres
		Food Plots	8 Acres		

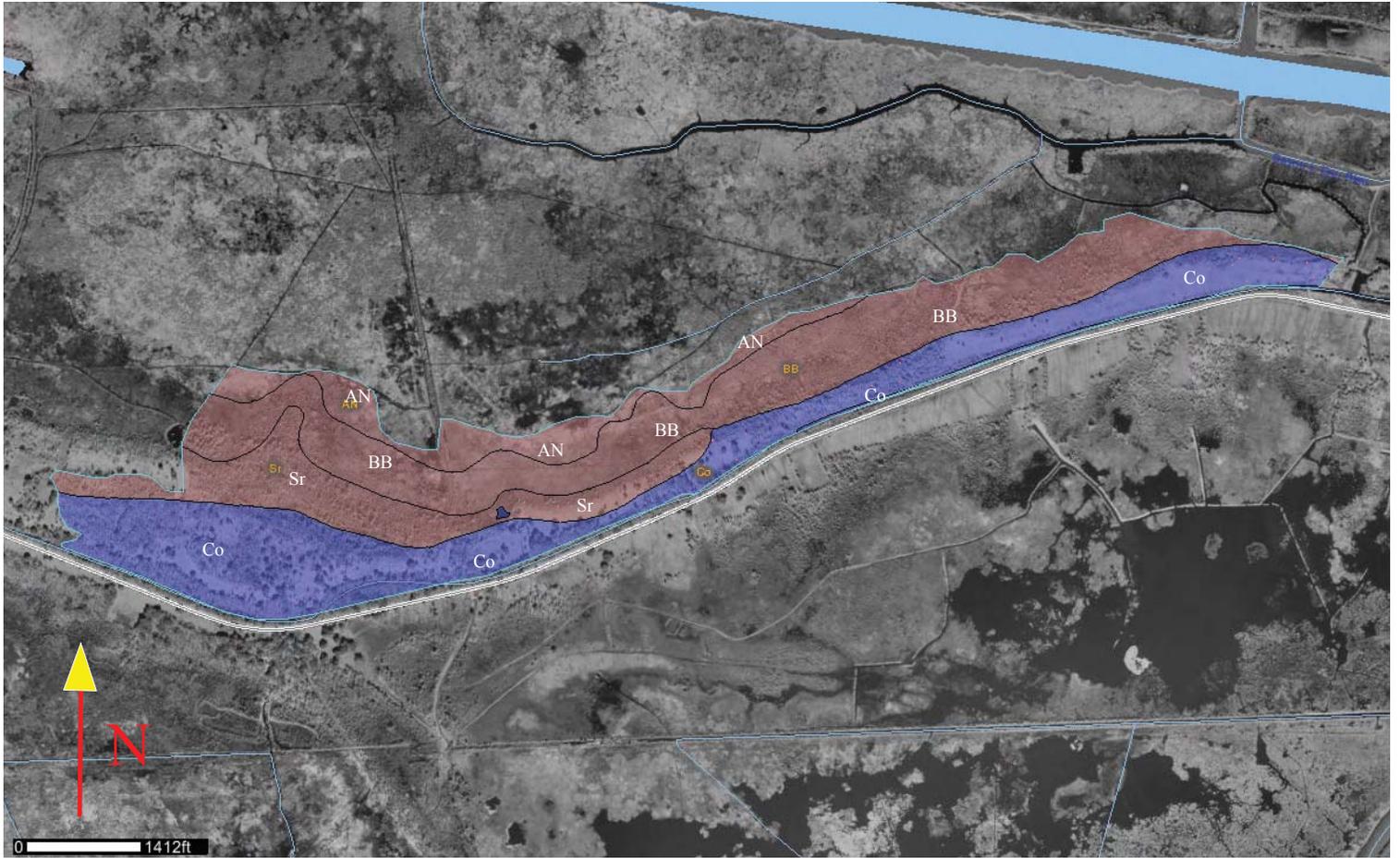
Figure 32 Eastern Shore Phase 7 Hydrology Map (Drawn 11/26/12)



Directions of Flows , Overflows
and Tidal Influences 

Figure 33 Eastern Shore Phase 7 Soil Map 299.6 Acres

(Drawn 11/26/12)



BB: Barbary-Fausse 86.5 Acres(Hydric) Co: Cancienne silty clay 128.6 Acres(Potentially Hydric) Sr: Schriever clay, occ.flooded 83.3 Acres(Hydric)
W: Water 1.2 acres

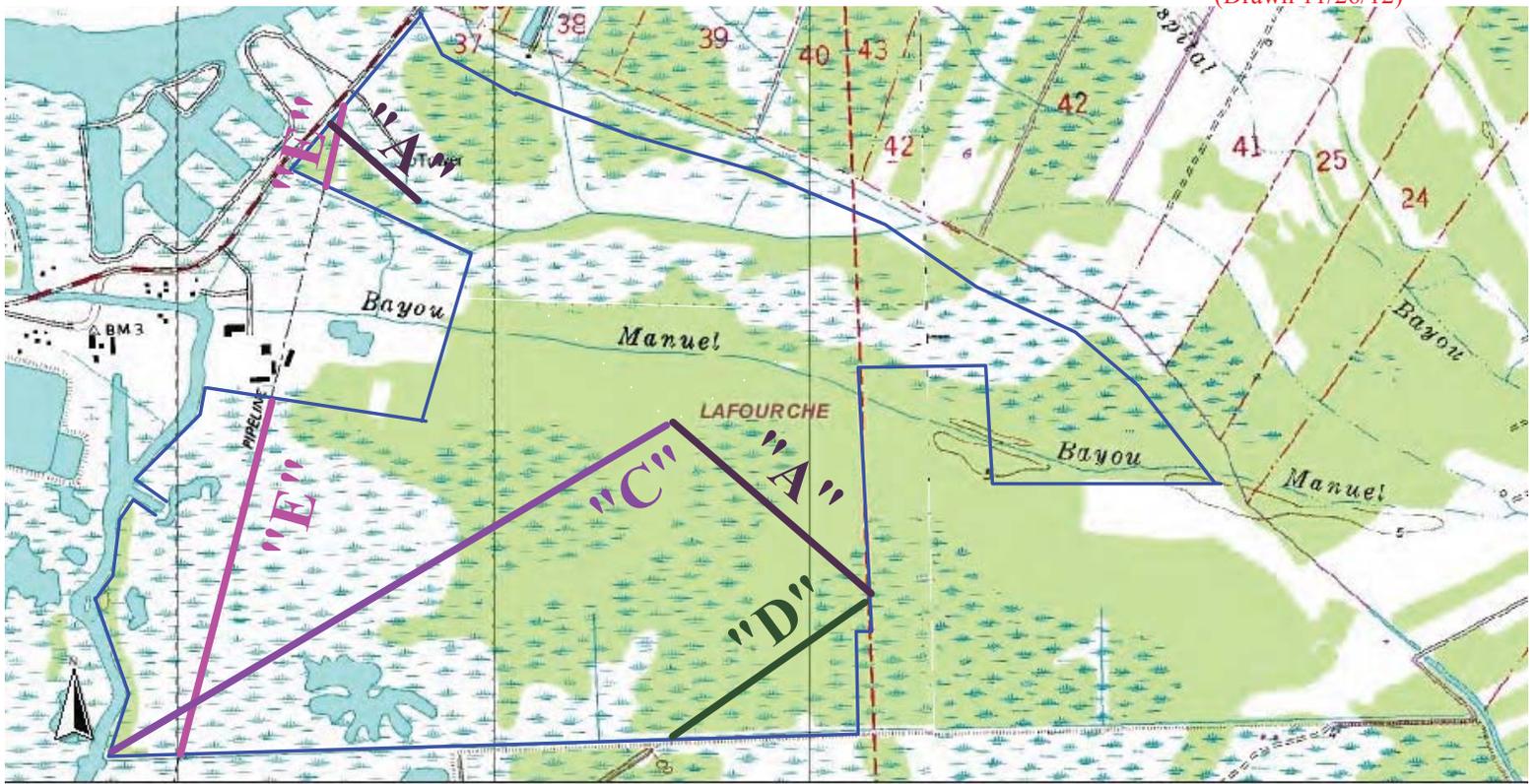
Figure 34 Eastern Shore M.B. Water Shed

(Drawn 11/26/12)



Figure 35 Eastern Shore Pipe Line R.O.W. Location Map

(Drawn 11/26/12)



Louisiana Department of Natural Resources

0 2186ft

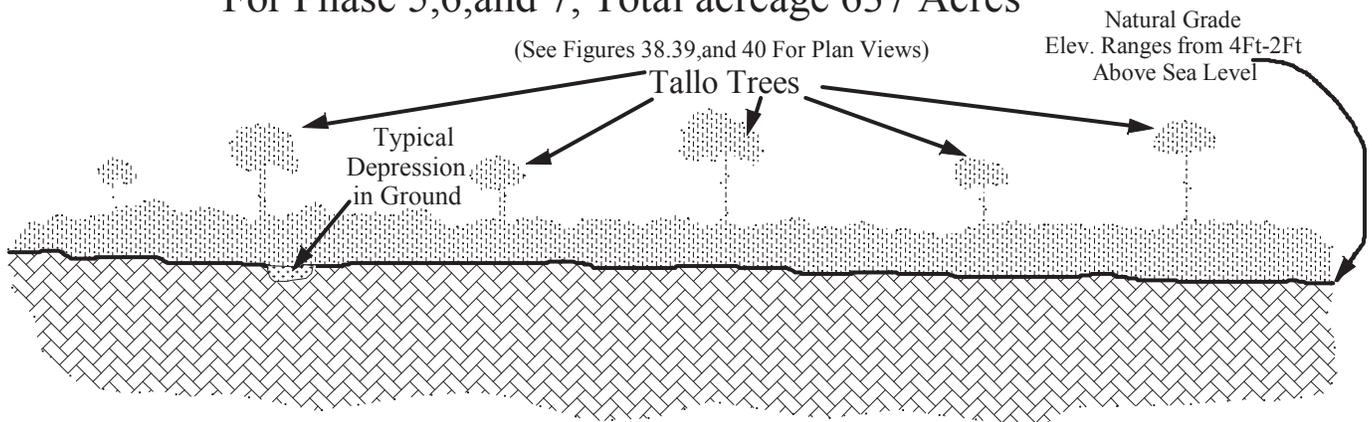
Pipe Line "A"
2.5 Acres

Pipe Line "C"
3 Acres

Pipe Line "D"
1.2 Acres

Pipe Line "E"
2.7 Acres

Figure 36 : Eastern Shore Mitigation Bank
Ecological Enhancement Drawing
Prior to Clearing and Invasive Species Removal for Planting,
No Change in Natural Contour of Landscape
Minimal Amount of Soil Will Be Redistributed in Depressions
To Restore Natural Hydrology
For Phase 5,6,and 7, Total acreage 637 Acres

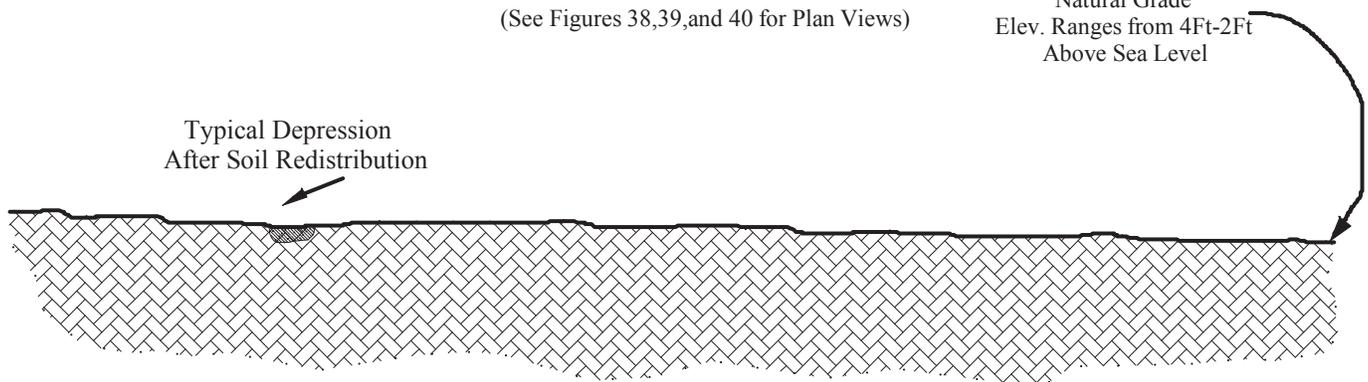


Not Drawn To Scale

Figure 37 : Eastern Shore Mitigation Bank:
Ecological Enhancement drawing
after clearing and invasive species removal for Planting,
No Change in Natural Contour of Landscape
Minimal amount of Soil will Be Redistributed in Depressions in
to Restore Natural Hydrology
(For Phase 5,6,and7, Total Acreage 637 Acres)

(See Figures 38,39,and 40 for Plan Views)

Natural Grade
Elev. Ranges from 4Ft-2Ft
Above Sea Level



Not Drawn To Scale

Figure 38 Eastern Shore Phase 5 Environmental Enhancement Restoration Acres

(Date Drawn 2/16/12)



Louisiana Department of Natural Resources

0 2355ft

Environmental Enhancement
Restoration Area

237.6 Acres

Figure 39 Eastern Shore Phase 6: Environmental Enhancement Restoration Area

(Drawn 11/26/12)



Louisiana Department of Natural Resources

0 2323ft

Environmental Enhancement
Restoration Area

221.9 Acres

Figure 40 Eastern Shore Phase 7 Environmental Enhancement Restoration
(Drawn 2/16/12)



Louisiana Department of Natural Resources

0 2427ft

Environmental Enhancement
Restoration Area 177.5 Acres

Figure # 41 Eastern Shore Phase 1 Levee Map

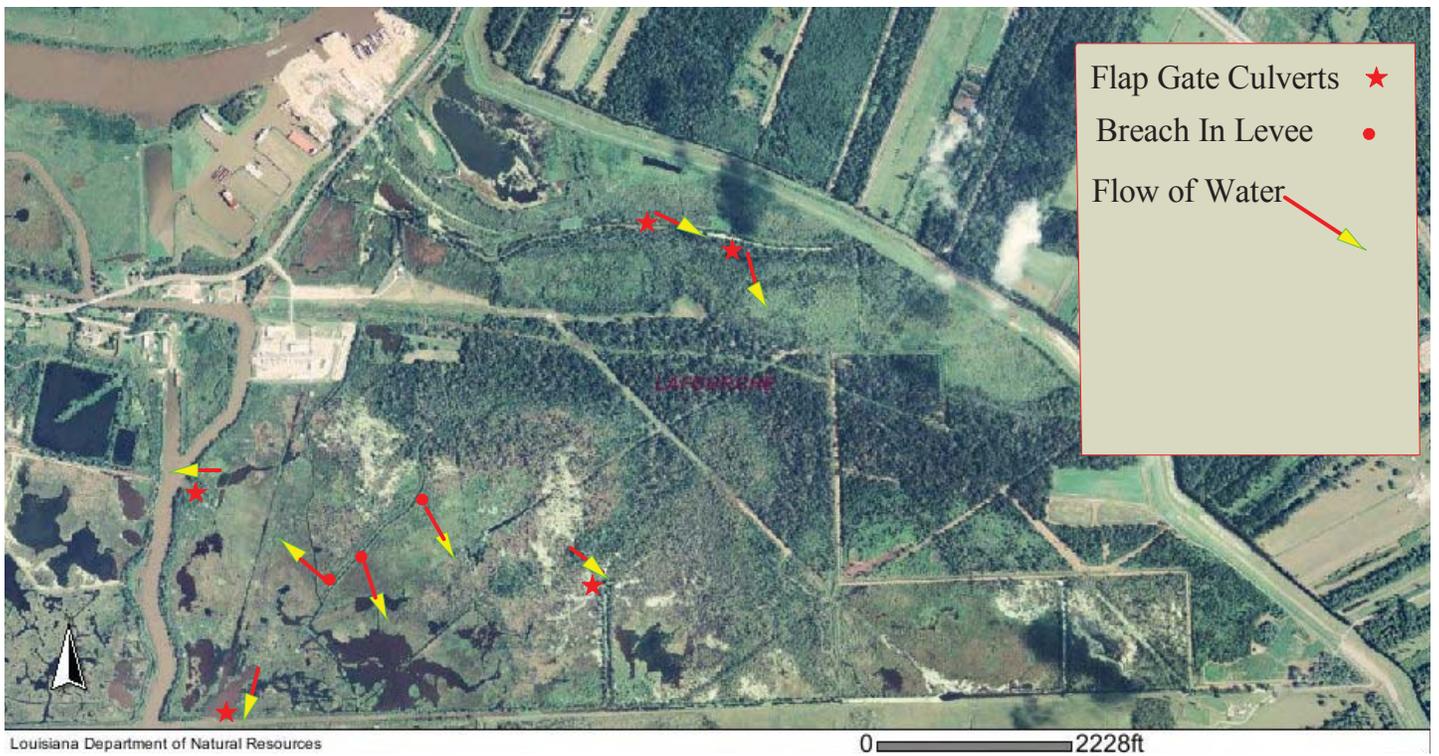


Figure #42 Eastern Shore Phase 2 Levee Map

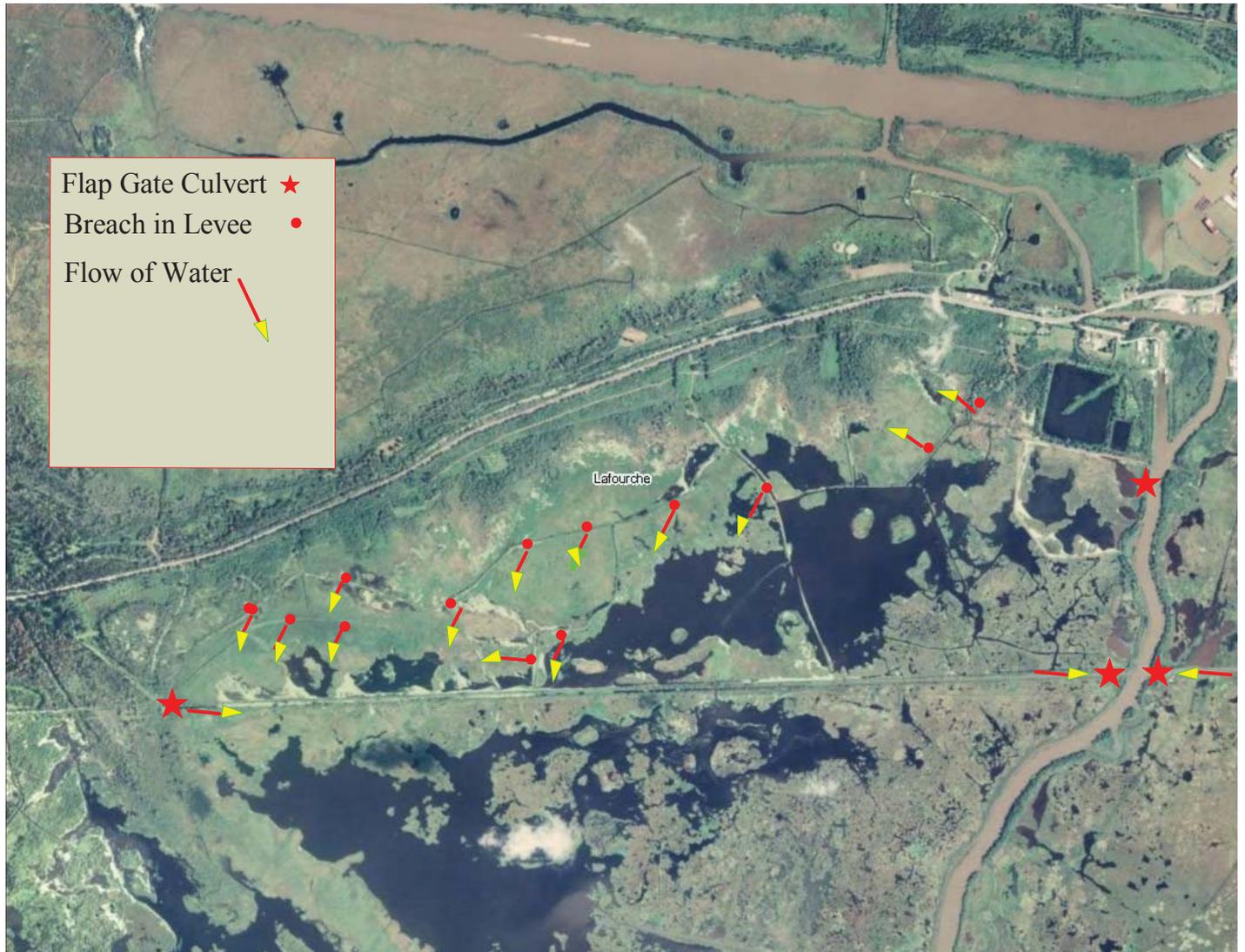
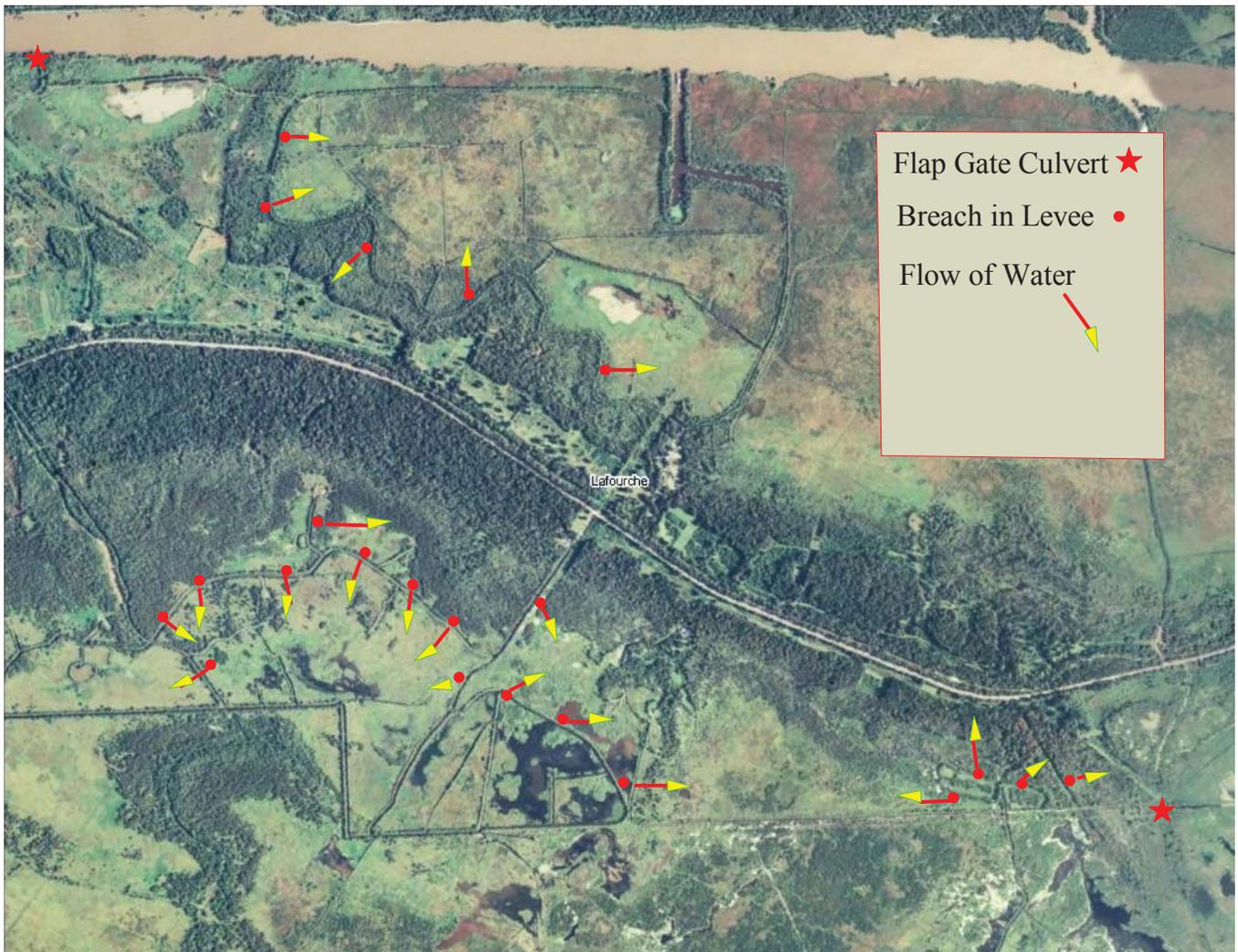


Figure # 43 Eastern Shore Phases 3 and 6 Levee Map





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

REPLY TO
ATTENTION OF

Operations Division
Surveillance and Enforcement Section

MAR 18 2011

Mr. Thom Barlow
Maurepas Environmentalist
39016 South Thibodeaux Road
Ponchatoula, Louisiana 70454

Dear Mr. Barlow:

Reference is made to your request for a U.S. Army Corps of Engineers' (Corps) jurisdictional determination on property located in Sections 1, 2, 11, and 12, Township 18 South, Range 20 East, and Section 47, Township 18 South, Range 21 East, Lafourche Parish, Louisiana (enclosed map). Specifically, this project is identified as Area A of the proposed Eastern Shore Mitigation Bank, located on and north of Louisiana Highway 24.

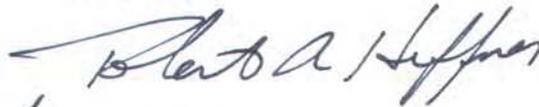
Based on review of recent maps, aerial photography, soils data, information provided with your request, and a brief field inspection on November, 17, 2010, we have determined that part of the property is wetland and subject to Corps' jurisdiction. The approximate limits of the wetland are designated 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 this wetland. Portions of this wetland are also tidal, and, along with tidal canals and tidal creeks (shown in blue on the map), are subject to Corps' jurisdiction under Section 10 of the Rivers and Harbors Act. A DA Section 10 permit will be required prior to any work in these waterways or the tidal portions of the wetland.

You and your client are advised that this approved 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.

Please be advised that this property is in the Louisiana Coastal Zone. For additional information regarding coastal use permit requirements, contact Ms. Christine Charrier, Coastal Management Division, Louisiana Department of Natural Resources at (225) 342-7953.

Should there be any questions concerning these matters, please contact Mr. Bill Nethery at (504) 862-1267 and reference our Account No. MVN-2010-01650-SQ. The New Orleans District Regulatory Branch is committed to providing quality and timely service to our customers. If you have specific questions regarding the permit process or permit applications, please contact our Western Evaluation Section at (504) 862-1950. In an effort to improve customer service, please take a moment to complete the attached Customer Service Survey and return it in the envelope provided or go to the survey found on our web site at <http://per2.nwp.usace.army.mil/survey.html>.

Sincerely,



Pete J. Serio
Chief, Regulatory Branch

Enclosures



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

REPLY TO
ATTENTION OF

FEB 23 2011

Operations Division
Surveillance and Enforcement Section

Mr. Thom Barlow
Maurepas Environmentalist
39016 South Thibodeaux Road
Ponchatoula, Louisiana 70454

Dear Mr. Barlow:

Reference is made to your request for a U.S. Army Corps of Engineers' (Corps) jurisdictional determination on property located in Sections 2, 3, 4, 8, 9, 10, and 11, Township 18 South, Range 20 East, Lafourche Parish, Louisiana (enclosed map). Specifically, this property is identified as Area B of the proposed Eastern Shore Mitigation Bank, on and south of Highway 24 (Bourg-LaRose Highway).

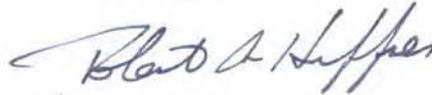
Based on review of recent maps, aerial photography, soils data, information provided with your request, and a brief field inspection on November 17, 2010, we have determined that part of the property is wetland and subject to Corps' jurisdiction. A Department of the Army (DA) permit under Section 404 of the Clean Water Act will be required prior to the deposition or redistribution of dredged or fill material into this wetland. Portions of this wetland are also tidal and, along with tidal canals and tidal creeks (shown in blue on the map), are subject to Corps' jurisdiction under Section 10 of the Rivers and Harbors Act. A DA Section 10 permit will be required prior to any work in these waterways or the tidal portions of the wetland.

You and your client are advised that this approved 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.

Please be advised that this property is in the Louisiana Coastal Zone. For additional information regarding coastal use permit requirements, contact Ms. Christine Charrier, Coastal Management Division, Louisiana Department of Natural Resources at (225) 342-7953.

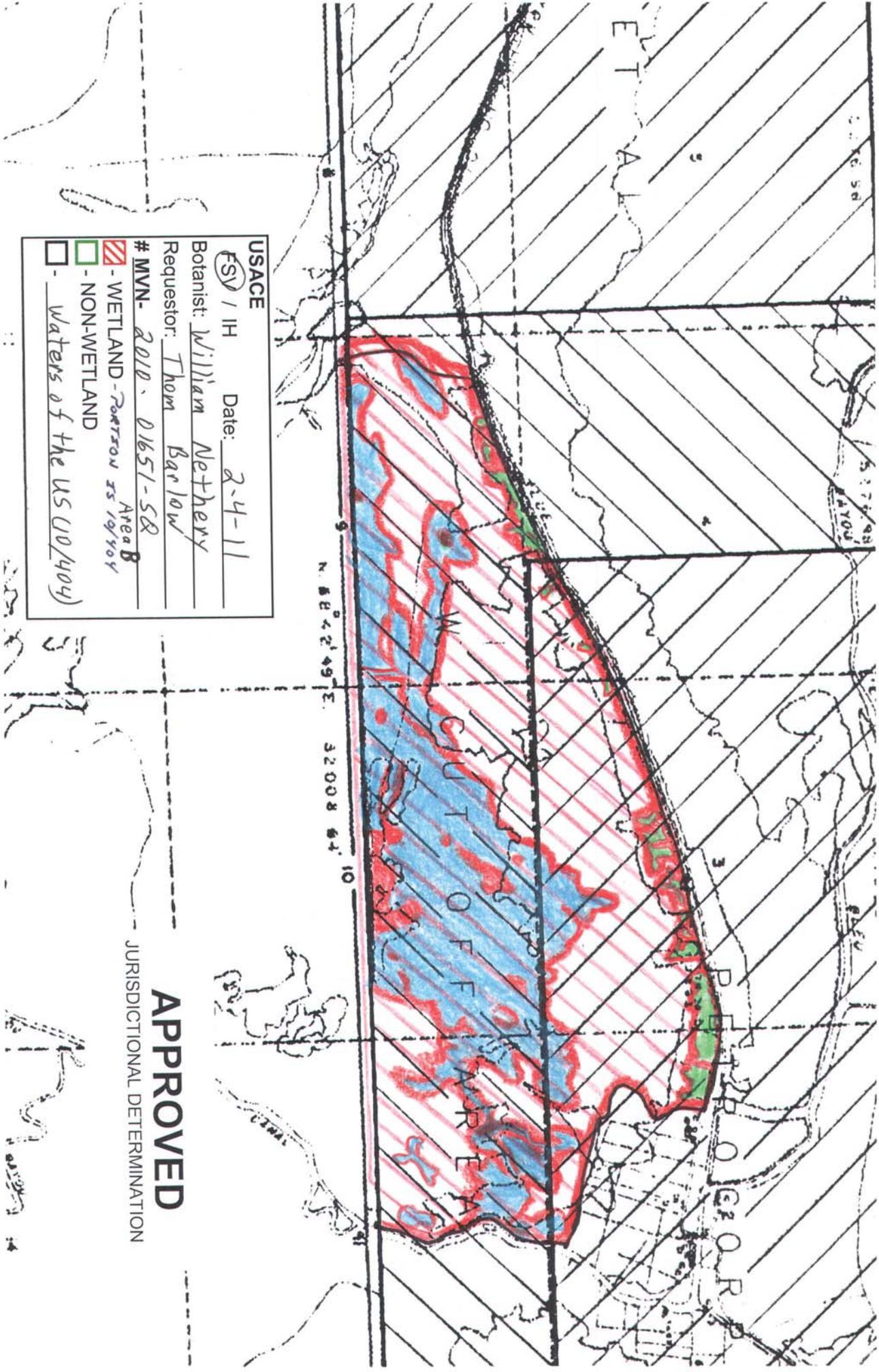
Should there be any questions concerning these matters, please contact Mr. Bill Nethery at (504) 862-1267 and reference our Account No. MVN 2010-01651-SQ. If you have specific questions regarding the permit process or permit applications, please contact Mr. Stephen Pfeffer of our Special Projects Team at (504) 862-2227. 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 and return the enclosed Customer Service Survey or complete the survey on our web site at <http://per2.nwp.usace.army.mil/survey.html>.

Sincerely,

A handwritten signature in black ink, appearing to read "Pete J. Serio".

for Pete J. Serio
Chief, Regulatory Branch

Enclosures



USACE
 FSV / IH Date: 2-4-11
 Botanist: William Nethery
 Requestor: Thom Barlow
 # MVN- 2010- 01651-58 Area B
 - WETLAND - PORTON 25/10/104
 - NON-WETLAND
 - Waters of the US (00/104)

APPROVED
 JURISDICTIONAL DETERMINATION

W



REPLY TO
ATTENTION OF

Operations Division
Surveillance and Enforcement Section

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

MAR 18 2011

Mr. Thom Barlow
Maurepas Environmentalist
39016 South Thibodeaux Road
Ponchatoula, Louisiana 70454

Dear Mr. Barlow:

Reference is made to your request for a U.S. Army Corps of Engineers' (Corps) jurisdictional determination on property located in Sections 5, 6, 7, 8, and 9, Township 18 South, Range 20 East, and Sections 68 and 69, Township 18 South, Range 19 East, Lafourche Parish, Louisiana (enclosed map). Specifically, this project is identified as Area C of the proposed Eastern Shore Mitigation Bank, located on and south of Louisiana Highway 24.

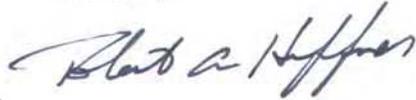
Based on review of recent maps, aerial photography, soils data, information provided with your request, and a brief field inspection on November 17, 2010, we have determined that part of the property is wetland and subject to Corps' jurisdiction. The approximate limits of the wetland are designated in 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 this wetland. Portions of this wetland are also tidal, and, along with tidal canals and tidal creeks (shown in blue on the map), are subject to Corps' jurisdiction under Section 10 of the Rivers and Harbors Act. A DA Section 10 permit will be required prior to any work in these waterways or the tidal portions of the wetland.

You and your client are advised that this approved 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.

Please be advised that this property is in the Louisiana Coastal Zone. For additional information regarding coastal use permit requirements, contact Ms. Christine Charrier, Coastal Management Division, Louisiana Department of Natural Resources at (225) 342-7953.

Should there be any questions concerning these matters, please contact Mr. Bill Nethery at (504) 862-1267 and reference our Account No. MVN-2010-01652-SQ. The New Orleans District Regulatory Branch is committed to providing quality and timely service to our customers. If you have specific questions regarding the permit process or permit applications, please contact our Western Evaluation Section at (504) 862-1950. In an effort to improve customer service, please take a moment to complete the attached Customer Service Survey and return it in the envelope provided or go to the survey found on our web site at <http://per2.nwp.usace.army.mil/survey.html>.

Sincerely,

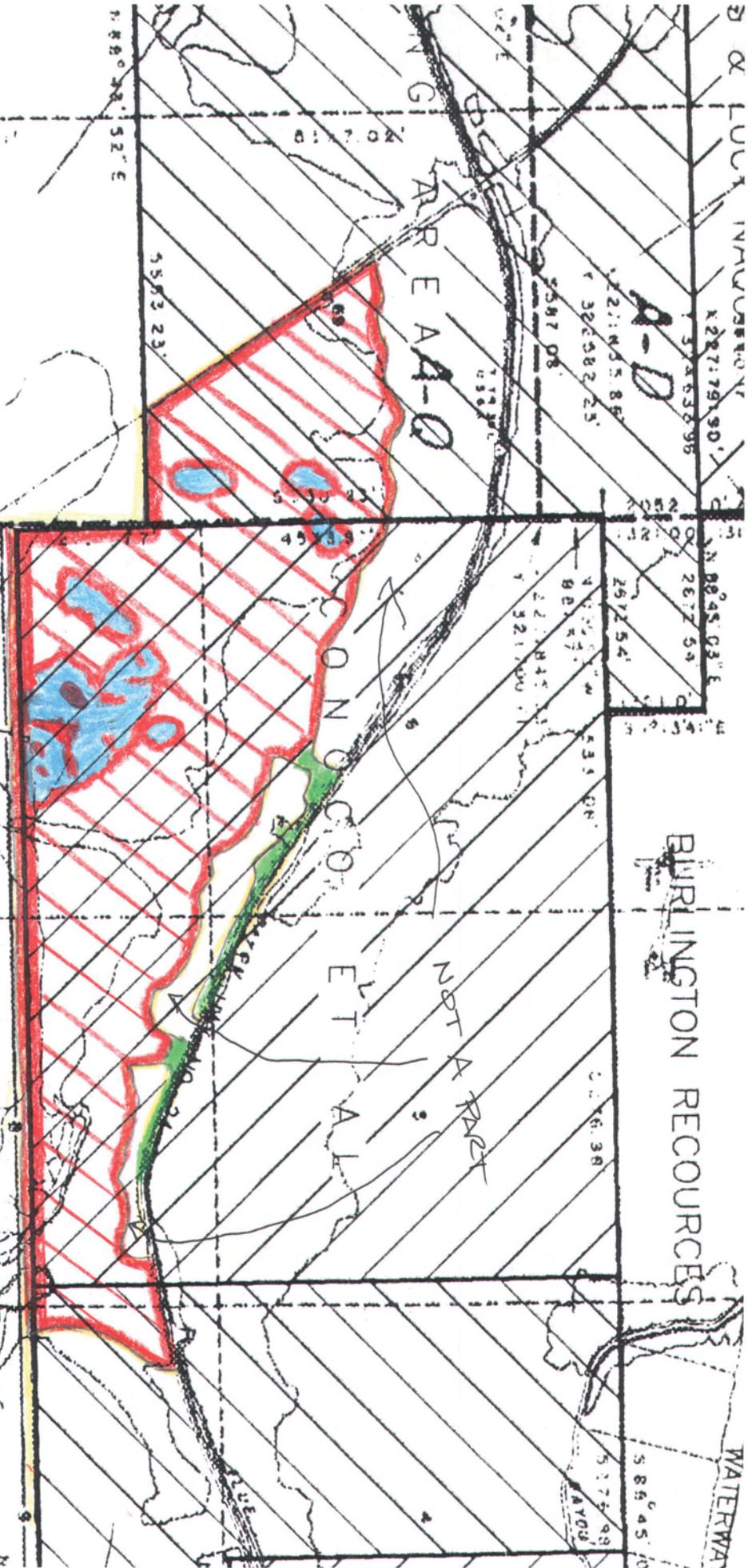


Pete J. Serio
Chief, Regulatory Branch

Enclosures

BURLINGTON RECOURCES

WATERWAY



APPROVED
 JURISDICTIONAL DETERMINATION

USACE
 FSV IH Date: 3-16-11

Botanist: William Netter
 Requestor: Thom Barlow

MVN-2910-01658-50

-  - WETLAND, Portion 10 & 404
-  - NON-WETLAND
-  - WAREDS OF THE US (POLY)

N 81

18

17

16



REPLY TO
ATTENTION OF

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

FEB 24 2011

Operations Division
Surveillance and Enforcement Section

Mr. Thom Barlow
Maurepas Environmentalist
39016 South Thibodeaux Road
Ponchatoula, Louisiana 70454

Dear Mr. Barlow:

Reference is made to your request for a U.S. Army Corps of Engineers' (Corps) jurisdictional determination on property located in Sections 69, 70, 71, 73, 39, 40, and 41, Township 18 South, Range 19 East, Lafourche Parish, Louisiana (enclosed map). Specifically, this property is identified as Area D of the proposed Eastern Shore Mitigation Bank, on and south of Highway 24 (Bourg-LaRose Highway).

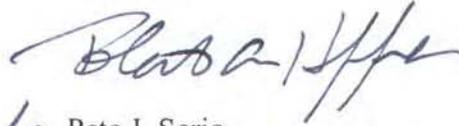
Based on review of recent maps, aerial photography, soils data, information provided with your request, and a brief field inspection on November 17, 2010, we have determined that part of the property is wetland and subject to Corps' jurisdiction. A Department of the Army (DA) permit under Section 404 of the Clean Water Act will be required prior to the deposition or redistribution of dredged or fill material into this wetland. Portions of this wetland are also tidal and, along with tidal canals and tidal creeks (shown in blue on the map), are subject to Corps' jurisdiction under Section 10 of the Rivers and Harbors Act. A DA Section 10 permit will be required prior to any work in these waterways or the tidal portions of the wetland.

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Should there be any questions concerning these matters, please contact Mr. Bill Nethery at (504) 862-1267 and reference our Account No. MVN 2010-01653-SQ. If you have specific questions regarding the permit process or permit applications, please contact Mr. Stephen Pfeffer of our Special Projects Team at (504) 862-2227. 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 and return the enclosed Customer Service Survey or complete the survey on our web site at <http://per2.nwp.usace.army.mil/survey.html>.

Sincerely,

A handwritten signature in black ink, appearing to read "Pete J. Serio".

 Pete J. Serio
Chief, Regulatory Branch

Enclosures



REPLY TO
ATTENTION OF

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

APR 11 2011

Operations Division
Surveillance and Enforcement Section

Mr. Thom Barlow
Maurepas Environmentalist
39016 South Thibodeaux Road
Ponchatoula, Louisiana 70454

Dear Mr. Barlow:

Reference is made to your request for a U.S. Army Corps of Engineers' (Corps) jurisdictional determination on property located in Sections 79, 80, and 81, Township 17 South, Range 19 East, and Sections 69, 70, and 71, Township 18 South, Range 19 East, Lafourche Parish, Louisiana (enclosed map). Specifically, this project is identified as Area E of the proposed Eastern Shore Mitigation Bank, located on and north of Louisiana Highway 24.

Based on review of recent maps, aerial photography, soils data, information provided with your request, and a brief field inspection on November 17, 2010, we have determined that part of the property is wetland and 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 this wetland. Portions of this wetland are also tidal, and, along with tidal canals and tidal creeks (shown in blue on the map), are subject to Corps' jurisdiction under Section 10 of the Rivers and Harbors Act. A DA Section 10 permit will be required prior to any work in these waterways or the tidal portions of the wetland.

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Sincerely,


ps Pete J. Serio
Chief, Regulatory Branch

Enclosures

Eastern Shore M. B. Area "E" Habitat Map (1164.84 Acres)



USACE
 FSV / IH Date: 3/31/11
 Botanist: WILLIAM NETHERLY
 Requestor: THOM BARLOW
 # MVN-2010-01654-SQ
 - WETLAND (PORTION 10/14/04)
 - NON-WETLAND
 - WATERS OF THE U.S. (10/14/04)

APPROVED
 JURISDICTIONAL DETERMINATION

0 2169ft
 Cypress Swamp
 Re-Establishment Area

Figure # 9



REPLY TO
ATTENTION OF

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

FEB 23 2011

Operations Division
Surveillance and Enforcement Section

Mr. Thom Barlow
Maurepas Environmentalist
39016 South Thibodeaux Road
Ponchatoula, Louisiana 70454

Dear Mr. Barlow:

Reference is made to your request for a U.S. Army Corps of Engineers' (Corps) jurisdictional determination on property located in Townships 17 and 18 South, Ranges 19 and 20 East, Lafourche Parish, Louisiana (enclosed map). Specifically, this property is identified as Area F of the proposed Eastern Shore Mitigation Bank, on and north of Highway 24 (Bourg-LaRose Highway).

Based on review of recent maps, aerial photography, soils data, information provided with your request, and a brief field inspection on November 17, 2010, we have determined that part of the property is wetland and subject to Corps' jurisdiction. 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 this wetland. Portions of this wetland are also tidal and, along with tidal canals and tidal creeks (shown in blue on the map), are subject to Corps' jurisdiction under Section 10 of the Rivers and Harbors Act. A DA Section 10 permit will be required prior to any work in these waterways or the tidal portions of the wetland.

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Sincerely,



for Pete J. Serio
Chief, Regulatory Branch

Enclosures

USAGE
 FSV / IH Date: 2-4-11

Botanist: William Nethery

Requestor: Thom Barlow

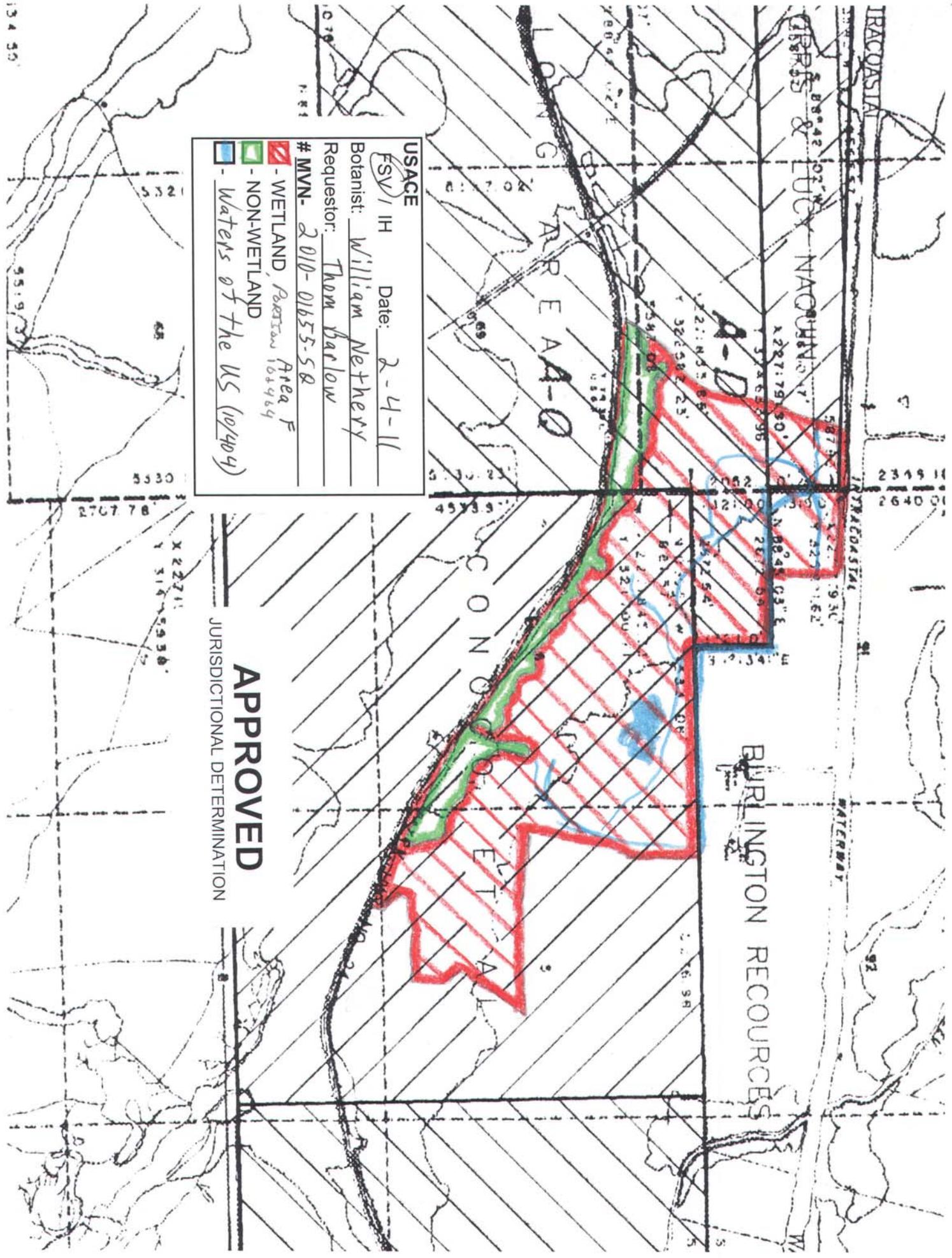
MVN- 2010-01655-58

Legend:

- ▣ - WETLAND, *Partia Area F*
- ▣ - NON-WETLAND
- ▣ - Waters of the US (10/404)

APPROVED

JURISDICTIONAL DETERMINATION



134 50'

2767.78' 5530

X 22711
 Y 31645938

BURLINGTON RECOURCES

WATERWAY

CONCORD

LONG AREA A-0

A-D

IRACOSTIA

IRACOSTIA & UCC NAQUUN

2349 11
 2640 01

92

276.98

W

2



REPLY TO
ATTENTION OF

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

FEB 24 2011

Operations Division
Surveillance and Enforcement Section

Mr. Thom Barlow
Maurepas Environmentalist
39016 South Thibodeaux Road
Ponchatoula, Louisiana 70454

Dear Mr. Barlow:

Reference is made to your request for a U.S. Army Corps of Engineers' (Corps) jurisdictional determination on property located in Sections 2, 3, 4, 5, 8, and 9, Township 18 South, Range 20 East, Lafourche Parish, Louisiana (enclosed map). Specifically, this property is identified as Area G of the proposed Eastern Shore Mitigation Bank, on and north of Highway 24 (Bourg-LaRose Highway).

Based on review of recent maps, aerial photography, soils data, information provided with your request, and a brief field inspection on November 17, 2010, we have determined that part of the property is wetland and subject to Corps' jurisdiction. 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 this wetland. Portions of this wetland are also tidal and, along with tidal canals and tidal creeks (shown in blue on the map), are subject to Corps' jurisdiction under Section 10 of the Rivers and Harbors Act. A DA Section 10 permit will be required prior to any work in these waterways or the tidal portions of the wetland.

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Should there be any questions concerning these matters, please contact Mr. Bill Nethery at (504) 862-1267 and reference our Account No. MVN 2010-01656-SQ. If you have specific questions regarding the permit process or permit applications, please contact Mr. Stephen Pfeffer of our Special Projects Team at (504) 862-2227. 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 and return the enclosed Customer Service Survey or complete the survey on our web site at <http://per2.nwp.usace.army.mil/survey.html>.

Sincerely,



 Pete J. Serio
Chief, Regulatory Branch

Enclosures

APPROVED

JURISDICTIONAL DETERMINATION

USACE

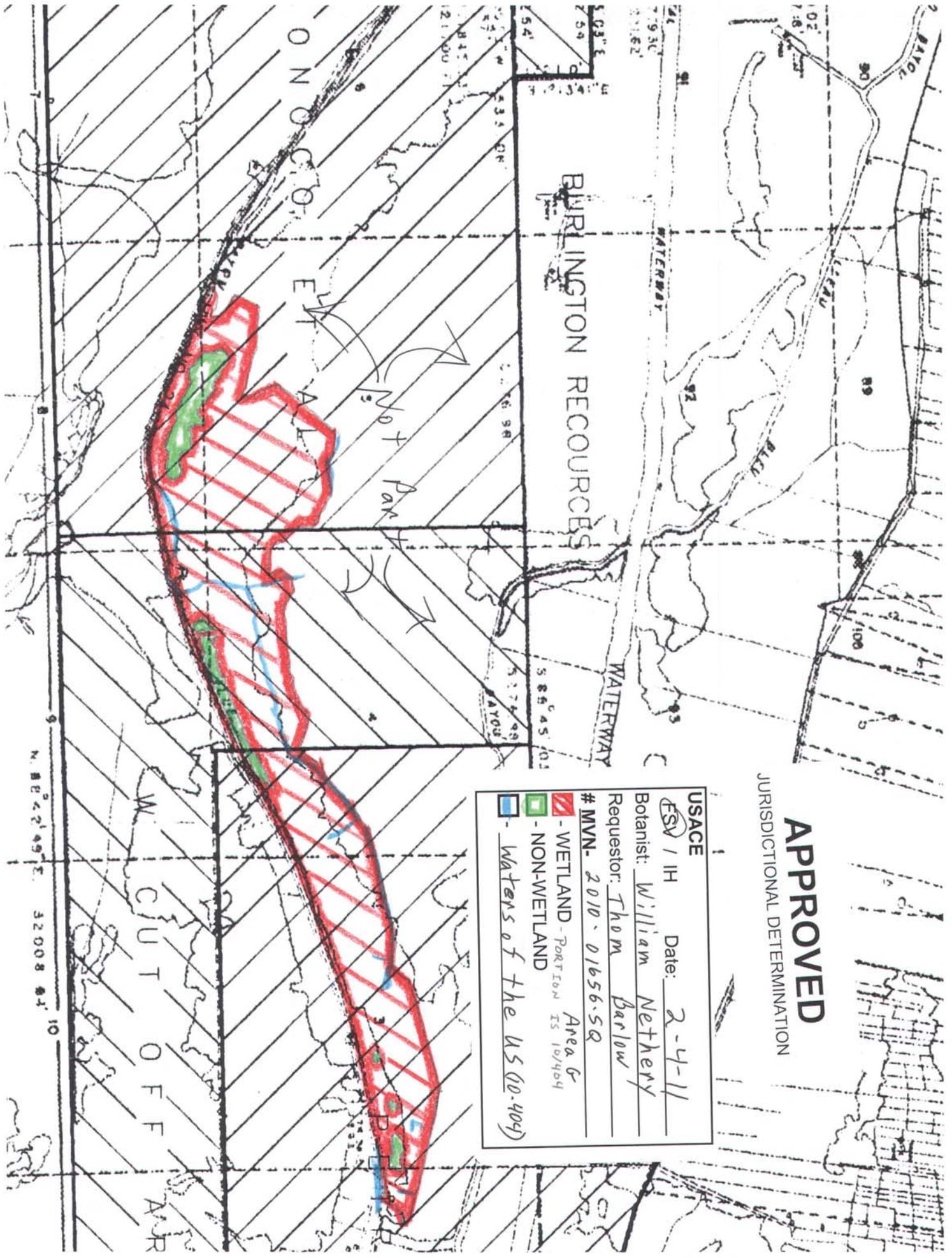
FSV / IH Date: 2-4-11

Botanist: William Nethery

Requestor: Thom Barlow

MVN- 2010-01656-50 Area 6

-  - WETLAND - PORTION IS 10/404
-  - NON-WETLAND
-  - Waters of the US (00-404)



BURLINGTON RECOURCES

WATERWAY

WATERWAY

90

89

100

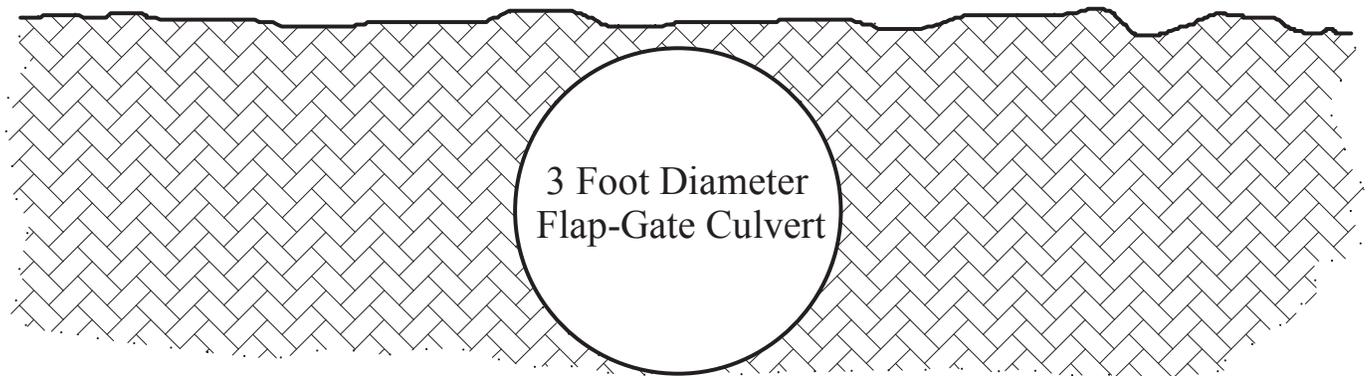
ON OCCO

WATERWAY

CUT OFF

N. 88° 42' 49" E. 32008 8.4' 10

Figure 51: Typical Eastern Shore Flap-Gate Culvert Drawing
Front View



Not Drawn To Scale

Figure 52: Typical Cross Section of Flap Gate Culvert for Eastern Shore M.B. Lengths Range from 8 feet to 20 Feet

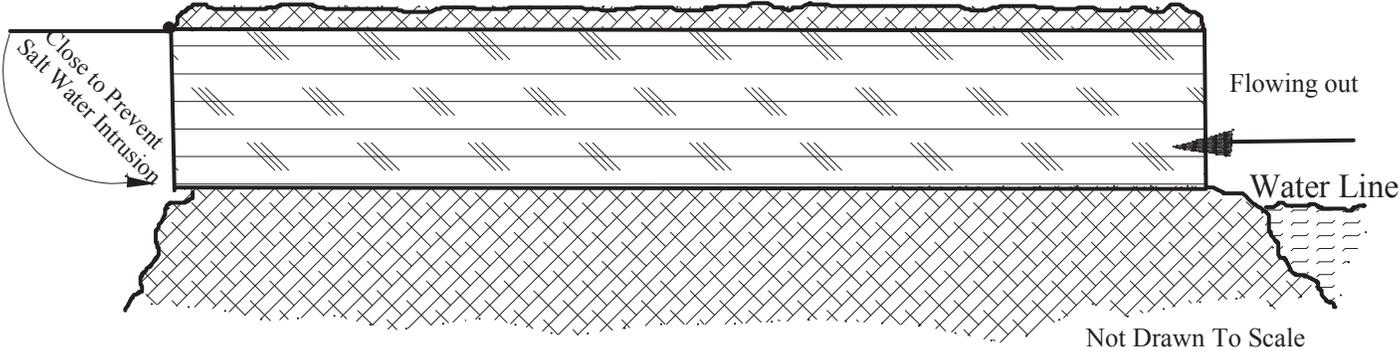
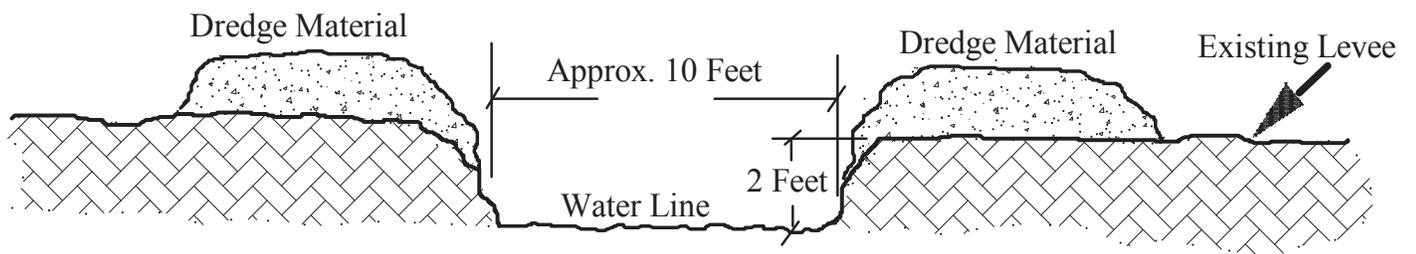


Figure 53: Typical Breach In Levee throughout Eastern Shore M.B.



Not Drawn To Scale

Figure 54: Typical Eastern Shore Levee Breach : Plan View

