

# JOINT PUBLIC NOTICE

July 27, 2015

United States Army  
Corps of Engineers  
New Orleans District  
Regulatory Branch  
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MVN 2015-01489 MB

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Project Manager  
Elizabeth Hill  
WQC Application Number  
WQC 150720-02

Interested parties are hereby notified that a permit application has been received by the New Orleans District of the U.S. Army Corps of Engineers 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).

Application has also been made to the Louisiana Department of Environmental Quality, Water Quality Certifications, for a Water Quality Certification (WQC) in accordance with statutory authority contained in LRS30:2047 A(3), and provisions of Section 401 of the Clean Water Act (P.L.95-17).

## **PROPOSED LAUREL VALLEY COASTAL MITIGATION BANK AMENDMENT ONE IN LAFOURCHE PARISH**

**NAME OF APPLICANT:** Delta Land Services, LLC, 1090 Cinclare Drive, Port Allen, Louisiana 70767.

**LOCATION OF WORK:** The project area is located in Sections 29, 30, 72 and 74, Township 14 South, Range 17 East in Lafourche Parish, approximately 4 miles north of LA Highway 1 in Thibodaux, Louisiana. (LAT 29.826758° Long: -90.769511°).

**CHARACTER OF WORK:** The Sponsor proposes expansion of a wetland mitigation bank to incorporate an additional 247.7 acres. The proposed expansion includes approximately 159.2 acres of bottomland hardwood and 66.9 acres cypress swamp re-establishment, rehabilitation, and enhancement. The Sponsor proposes to restore the hydrology at the project area by degrading an external levee and backfilling the adjacent borrow canal. The Sponsor will reforest the site with an assemblage of species indicative of bottomland hardwood and baldcypress swamp wetland forests in this area. Additional details of the proposed restoration plan are attached for review in the mitigation banking instrument.

The comment period for the Department of the Army Permit and the Louisiana Department of

Environmental Quality WQC will close **30 days** from the date of this joint public notice. Written comments, including suggestions for modifications or objections to the proposed work, stating reasons thereof, are being solicited from anyone having interest in this permit and/or this WQC request and must be mailed so as to be received before or by the last day of the comment period. Letters concerning the Corps of Engineers permit application must reference the applicant's name and the Permit Application Number, and be mailed to the Corps of Engineers at the address above, **ATTENTION: REGULATORY BRANCH.** **Individuals or parties may request an extension of time in which to comment on the proposed work by writing or e-mailing the Corps of Engineers Project Manager listed above. Any request must be specific and substantively supportive of the requested extension, and received by this office prior to the end of the initial comment period. The Section Chief will review the request and the requestor will be promptly notified of the decision to grant or deny the request. If granted, the time extension will be continuous to the initial comment period and, inclusive of the initial comment period, will not exceed a total of 30 calendar days.**

The application for this proposed project is on file with the Louisiana Department of Environmental Quality and may be examined during weekdays between 8:00 a.m. and 4:30 p.m. Copies may be obtained upon payment of costs of reproduction.

### **Corps of Engineers Permit Criteria**

The decision whether to issue a permit will be based on an evaluation of the probable impacts, 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 which 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, considerations of property ownership and, in general, the needs and welfare of the people.

The U.S. Army 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 U.S. Army Corps of Engineers to determine whether to make, 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 other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an 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.

The New Orleans District is unaware of properties listed on the National Register of Historic Places near the proposed work. The possibility exists that the proposed work may damage or destroy presently unknown archeological, scientific, prehistorical, historical sites, or data. Issuance of this public notice solicits input from the State Archeologist and State Historic Preservation Officer regarding potential impacts to cultural resources.

Our initial finding is that the proposed work would not affect any species listed as endangered by the U.S. Departments of Interior or Commerce, nor affect any habitat designated as critical to the survival and recovery of any endangered species. Utilizing Standard Local Operating Procedure for Endangered Species in Louisiana (SLOPES), dated October 22, 2014, between the U.S. Army Corps of Engineers, New Orleans and U.S. Fish and Wildlife Service, Ecological Services Office, the Corps has determined that the proposed activity would have no effect on any listed species.

This notice initiates the Essential Fish Habitat (EFH) consultation requirements of the Magnuson-Stevens Fishery Conservation and Management Act. The applicant's proposal would result in the destruction or alteration of **0.0** 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. Also, a certification that the proposed activity will not violate applicable water quality standards will be required from the Department of Environmental Quality, Water Quality Certifications, 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.

The applicant has certified that the proposed activity described in the application complies with and will be conducted in a manner that is consistent with the Louisiana Coastal Resources Program. The Department of the Army permit will not be issued unless the applicant received approval or a waiver of the Coastal Use Permit by the Department of Natural Resources.

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

Enclosure

**LAUREL VALLEY COASTAL MITIGATION BANK**

**BANKING INSTRUMENT**

**AMENDMENT ONE**

**Based on the 2013 CEMVN Template**

**A Baldcypress Swamp and Bottomland Hardwood Re-establishment,  
Rehabilitation and Enhancement Project**

**Lafourche Parish, Louisiana**

**Sponsored By:**

**Delta Land Services, LLC**

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# MITIGATION BANKING INSTRUMENT

## Laurel Valley Coastal Mitigation Bank Amendment One

This Mitigation Banking Instrument (MBI) establishing Amendment One of the Laurel Valley Coastal Mitigation Bank (Bank) is made and entered into by and among Delta Land Services, LLC (Sponsor), Laurel Valley Mitigation, LLC (Owner) and the Interagency Review Team (IRT) composed of the U.S. Army Corps of Engineers New Orleans District (CEMVN), the Louisiana Department of Natural Resources (LDNR), Region VI of the U.S. Environmental Protection Agency (EPA), the U.S. Fish and Wildlife Service (FWS), and the Louisiana Department of Wildlife and Fisheries (LDWF). This MBI is a binding agreement among the parties and incorporates the detailed Mitigation Work Plan (MWP) and any other specified attachments to this MBI as a part hereof.

### **I. PURPOSE OF MBI**

The purpose of the MBI remains as defined in Section I of the May 16, 2015 MBI.

### **II. LOCATION AND OWNERSHIP OF BANK PROPERTY (PROPERTY)**

#### ***A. Property Location***

The property location is described in Section I of the MWP.

#### ***B. Property Ownership***

The property ownership (Owner) remains as defined in the May 16, 2015 MBI.

#### ***C. Property Legal Definition***

A certain parcel of land, designated as "Laurel Valley Coastal Mitigation Bank, Amendment One" located in Sections Twenty Nine (29), Thirty (30), Seventy-Two (72) and Seventy-Four (74), Township Fourteen South (T-14-S), Range Seventeen East (R-17-E), Southeastern Land District, West of the Mississippi River, Parish of Lafourche, State of Louisiana, containing 10,788,723 Sq. Ft. (247.675 Acres), together with all buildings and improvements thereon, and all of the rights, ways, privileges, servitudes, prescriptions, advantages and appurtenances thereunto belonging, or in anywise appertaining, situated as stated above and more fully described as follows:

Commencing at a point (P.O.C.) being a calculated point being on the Westerly right-of-way limits of Laurel Valley Plantation Road and having a State Plane Coordinate of North 484077.65 feet, East 3463544.81 feet; thence South 73°10'05" West (Title Bearing: South 73°10'05" West) a distance of 350.14 feet (Title Dimension: 350.14 feet) to a calculated point; thence South 16°30'10" West (Title Bearing: South 16°30'10"

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West) a distance of 30.57 (Title Dimension: 30.57 feet) feet to a calculated point; thence South 3°19'11" West (Title Bearing: South 3°19'11" West) a distance of 36.80 feet (Title Dimension: 36.80 feet) to a calculated point; thence South 2°40'31" West (Title Bearing: South 2°40'31" West) a distance of 54.20 feet (Title Dimension: 54.20 feet) to a calculated point; thence South 15°54'42" West (Title Bearing: South 15°54'42" West) a distance of 40.63 feet (Title Dimension: 40.63 feet) to a calculated point; thence South 37°32'46" West (Title Bearing: South 37°32'46" West) a distance of 42.49 feet (Title Dimension: 42.49 feet) to a calculated point; thence South 75°24'23" West (Title Bearing: South 75°24'23" West) a distance of 36.75 feet (Title Dimension: 36.75 feet) to a calculated point; thence South 86°27'14" West (Title Bearing: South 86°27'14" West) a distance of 161.60 feet (Title Dimension: 161.60 feet) to a calculated point; thence North 87°41'47" West (Title Bearing North 87°41'47" West) a distance of 55.23 (Title Dimension: 55.23 feet) feet to a calculated point being the Point of Beginning (P.O.B.);

thence South 1°30'59" West a distance of 81.63 feet to a calculated point; thence South 18°54'41" East a distance of 81.02 feet to a calculated point; thence South 34°41'03" West a distance of 2139.98 feet to a calculated point; thence South 87°03'46" West a distance of 125.09 feet to a calculated point; thence South 28°22'23" West a distance of 27.57 feet to a calculated point; thence North 72°21'54" West a distance of 2621.70 feet to a calculated point; thence South 26°31'24" West a distance of 27.71 feet to a calculated point; thence North 73°06'24" West a distance of 92.40 feet to a calculated point; thence South 25°18'56" West a distance of 1094.59 feet to a calculated point; thence South 24°17'20" West a distance of 896.54 feet to a calculated point; thence South 22°44'44" West a distance of 110.11 feet to a calculated point; thence North 61°12'44" West (Title Bearing: North 61°12'44" West) a distance of 1282.82 feet to a calculated point; thence North 68°19'01" West (Title Bearing: North 68°19'01" West) a distance of 22.36 feet (Title Dimension: 22.36 feet) to a calculated point; thence North 21°59'48" East (Title Bearing: North 21°59'48" East) a distance of 2722.88 feet (Title Dimension: 2722.88 feet) to a calculated point; thence North 22°10'06" East (Title Bearing: North 22°10'06" East) a distance of 1436.00 feet (Title Dimension: 1436.00 feet) to a calculated point; thence South 1°27'03" East a distance of 178.96 feet to a calculated point; thence South 86°16'26" East a distance of 105.17 feet to a calculated point; thence North 78°18'18" East a distance of 28.59 feet to a calculated point; thence North 55°50'56" East a distance of 29.68 feet to a calculated point; thence South 4°36'58" East a distance of 43.69 feet to a calculated point; thence South 21°20'59" East a distance of 156.69 feet to a calculated point; thence South 33°39'22" East a distance of 183.24 feet to a calculated point; thence South 59°06'25" East a distance of 1070.75 feet to a calculated point; thence South 61°48'44" East a distance of 620.59 feet to a calculated point; thence South 65°39'14" East a distance of 89.12 feet to a calculated point; thence South 45°10'55" East a distance of 66.24 feet to a calculated point; thence South 84°58'14" East a distance of 108.58 feet to a calculated point; thence North 82°27'14" East a distance of 26.51 feet to a calculated point; thence North 89°42'58" East a distance of 447.08 feet to a calculated point; thence South 75°27'34" East a distance of 39.29 feet to a calculated point; thence North 86°57'24" East a distance of 348.12 feet to a calculated point; thence North 89°42'54" East a distance of 435.40 feet to a calculated point; thence North 81°33'22" East a



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distance of 47.23 feet to a calculated point; thence North 89°42'51" East a distance of 444.15 feet to a calculated point; thence North 88°41'41" East a distance of 377.01 feet to calculated point; thence South 80°58'54" East a distance of 41.45 feet to a calculated point; thence South 87°41'55" East a distance of 164.39 feet to a calculated point being the point of beginning (P.O.B.).

***D. Recorded Liens, Encumbrances, Easements, Servitudes or Restrictions***

Clear and merchantable title to the Property has been documented by a title report/opinion (Attachment B) generated by the Law Offices of Jewell & Jewell on January 22, 2015 and will be **updated two weeks prior to execution of the conservation servitude**. There is an exception to the real estate title which will result in 2.6 acres that are not subordinate to the conservation servitude as described in Section X.A of this MBI. This acreage includes a pipeline rights-of-way and associated appurtenances within the LVCMB Amendment One area. Although this acreage will be part of the overall conservation servitude area, no mitigation credit is being assessed from this acreage and the existence of these features is factored into the credit assessment model for any potential negative influences these features may have. Should these exceptions be terminated in the future, the conservation servitude would become the dominant instrument over these specific acres.

A portion of the Property is included in a Spoil Disposal Easement granted by Laurel Valley Sugars, Inc. to the United States of America on June 29, 1934 for the construction, improvement and maintenance of Bayou Lafourche (Attachment B). The Spoil Disposal Easement states that no spoils will be deposited over any portion of the property under cultivation, unless requested to do so by the grantor. On June 9, 2015, the CEMVN determined the use of the Property for the purpose of establishing a mitigation bank qualifies as cultivation therefore Laurel Valley Mitigation, LLC (Owner) is exercising a right that was reserved under the terms of the Spoil Disposal Easement (Attachment B).

**III. RESPONSIBILITIES OF PARTIES**

The responsibilities of the parties are as described in Sections III. A through E of the May 16, 2015 MBI.

**IV. GOALS AND OBJECTIVES**

Goals, objectives and contributions to overall watershed/regional functions provided by the LVCMB Amendment One are described in Section II of the MWP (Attachment C).

**V. PERFORMANCE STANDARDS**

Performance standards used to measure the success of the Bank are described in Section VIII of the MWP (Attachment C).

## **VI. MONITORING PLAN AND REPORTING PROTOCOLS**

Monitoring and reporting remain as defined in Sections VI.A and VI.B of the May 16, 2015 MBI. Monitoring and Reporting requirements are established in Section IX and Section X of the MWP, respectively (Attachment C).

## **VII. CONTINGENCIES AND REMEDIAL ACTIONS**

Contingencies and Remedial Actions remain as defined in Section VII.A through Section VII.E of the May 16, 2015 MBI. The Adaptive Management Plan is defined in Section XII of the MWP (Attachment C).

## **VIII. INSPECTION BY IRT AND HOLDER**

Inspection provisions remain as defined in the May 16, 2015 MBI.

## **IX. FUNDING**

### ***A. Construction and Establishment (C&E) Funds***

#### **1. PURPOSE**

The Sponsor agrees to provide Financial Assurances sufficient to ensure satisfactory completion of the work described in the MWP (Attachment C) and the Adaptive Management Plan (Section XII of the MWP). The Sponsor further agrees to establish a Construction and Establishment (C & E) financial assurance to ensure the availability of sufficient funds to perform work required to attain long-term success criteria.

#### **2. ESTIMATE OF FUNDS REQUIRED**

Section XIV of the MWP outlines the method of assessing initial construction costs and ongoing management funds required for a third party to construct or manage and monitor the lands through the first 15 years for forested systems. Summaries of the construction costs, establishment costs, and itemization sheets will be provided as Attachment B of the MWP.

#### **3. C & E FUNDING MECHANISM**

The Sponsor is establishing the Construction and Establishment (C & E) financial assurance to assure sufficient funds are available to perform work required to construct and maintain the Bank through successful attainment of long term success criteria. An assessment of the initial and capital costs and ongoing management funds required to manage and monitor the Bank is included in the MWP and provides an estimate of work and cost requirements for construction and establishment of the Bank through

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achievement of long term success criteria. The funding information for this account is provided in Section XIV (Funding) of the MWP.

**4. C & E FINANCIAL ASSURANCES:**

- a. The sponsor shall provide copies of annual status of the financial assurances to CEMVN upon request and/or in their monitoring reports.
- b. The financial assurances shall guarantee payment to a third party, as determined appropriate by the CEMVN, in consultation with the IRT, in the event that the Sponsor does not fulfill its obligations to perform, as specified in this MBI.
- c. Payment to Sponsor, or if necessary, to a third party as identified by CEMVN, of a specified amount of the financial assurances shall be made upon written notification by CEMVN to the financial institution.

**5. C & E RELEASE SCHEDULE**

The Financial Assurances shall be reduced as success criteria are achieved and the probability decreases that those funds would be needed, according to the schedule as shown in Section XIV C. of the MWP.

***B. Long Term Maintenance/Management Funds***

To ensure long-term sustainability of the resource, the Sponsor will describe the Maintenance/Management Funds needed in Section XIV of the MWP (Attachment C) of this MBI.

**1. ANNUAL COST ESTIMATES FOR LONG-TERM NEEDS <sup>1</sup>**

The cost of long-term management for years 16 to 50 and adjusted for inflation every five years is discussed in the Section XIV of the MWP.

**2. LONG-TERM MAINTENANCE AND PROTECTION FUNDING MECHANISM**

The Sponsor shall establish a Long-Term Maintenance and Protection Fund as discussed in Section XIV of the MWP.

**X. LONG-TERM PROTECTION AND MAINTENANCE**

All provisions regarding the conservation servitude are defined in Section X.A of the May 16, 2015 MBI. The Long-Term Maintenance Plan is outlined in the MWP (Attachment C). The funding of long-term maintenance is described in Section XIV.B of the MWP (Attachment C).

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<sup>1</sup> The deposit value per credit acre must reflect, at a minimum, the total fund value divided by no more than 90% of anticipated credits.

## **XI. BANK USE**

Provisions governing bank use remain as defined in Section XI of the May 16, 2015 MBI unless otherwise stated below.

### **A. Bank Service Area**

The Bank Service Area remains as defined in Section XI. A of the May 16, 2015 MBI.

### **B. Projects Eligible to Use the Bank**

Provisions for projects eligible to use the bank remain as defined in Section XI.B of the May 16, 2015 MBI.

### **C. Determination of Bank Credits**

To determine the amount of acres required to offset a particular impact to wetlands, CEMVN will use either best professional judgment or a CEMVN approved assessment method to determine the number of credits per acre available at the bank and the number of credits lost as a result of an impact. The same assessment method will be used to calculate both credits available and credits lost.

Credit Determination is tied to the ecological restoration and/or enhancement outlined in the MWP (Attachment C. Section XI).

### **D. Schedule of Credit Availability**

Credit release is tied to achieving all the milestones within the success criteria at specific monitoring times as outlined in the Section VII of the MWP.

### **E. Credit Transactions**

#### **1. STIPULATIONS REGARDING THE SALE OF CREDITS**

a. By entering the transaction into the Regulatory In-lieu Fee & Bank Information Tracking System (RIBITS), the Sponsor acknowledges and agrees to assume legal responsibility for the permittee's compensatory mitigation requirements identified in a permittee's DA permit. Immediately following this entry, the Sponsor will provide signed documentation (Attachment E) that confirms that he has accepted the legal responsibility for providing the required compensatory mitigation. In so doing, the Sponsor acknowledges that he has agreed to accept the legal responsibility for the establishment, long-term management, maintenance, monitoring and protection of the restored wetlands represented by the transferred credits. If the Sponsor fails to provide the required compensatory mitigation, CEMVN may pursue enforcement measures

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against the Sponsor to ensure compliance with the mitigation requirements of the Department of the Army Permit (DA Permit).

**b.** For each credit transaction the Sponsor shall complete and sign the written declaration (Attachment E) that the Sponsor accepts the responsibility to provide the compensatory mitigation required by the permittee's DA Permit. The declaration is to include the DA Permit number and is to specify the number and resources type(s) of credits that the Sponsor has transferred. The Sponsor will forward the declaration to CEMVN the same date it enters the transaction information into RIBITS.

**c.** Prior to the sale of credits, the Sponsor shall contact the CEMVN project manager for DA Permit transactions to obtain approval to sell credits and to verify acreage requirements and necessary ledger information. Where a credit transaction is not related to a CEMVN DA Permit, the Sponsor must contact the CEMVN bank project manager for approval to sell those credits. Sale will generally be approved unless there is a DA Permit pending that proposes to use all or part of the requested credits. A credit transaction for a CEMVN DA Permit will take precedence over all other credit transactions. CEMVN will provide written confirmation of its decision.

**d.** The Sponsor shall not commit to providing mitigation that is not available or is committed for other projects. Should the number of credits sold exceed the number available, the Sponsor, at its own cost and expense, shall secure credits from another CEMVN approved mitigation bank within the watershed in an amount necessary to fully offset the credit shortage.

**e.** Credits will be sold in no less than tenth acre increments.

## **2. PROCEDURE FOR SELLING BANK CREDITS**

**a.** CEMVN, with input from interested resource agencies, will determine the number and types of mitigation credits that must be secured to fully compensate for a proposed project's wetland impacts when those impacts are associated with a DA Permit. The CEMVN project manager will provide the applicant with a list of CEMVN approved mitigation banks that are appropriate for offsetting the unavoidable adverse impacts associated with his proposed project. The amount of mitigation required is determined by the CEMVN project manager and will be rounded to the nearest one-tenth (0.1) acre.

**b.** If the permit applicant selects the Bank, the applicant will contact the Sponsor and arrange for the purchase of the necessary acres as determined by CEMVN. Prior to the sale of credits the Sponsor must obtain approval from CEMVN in accordance with the provisions of paragraph 1.a above.

## **3. CREDIT SALE NOTIFICATION**

**a.** Upon contracting for the credit sales, the Sponsor shall enter the necessary information into the RIBITS. The information will include the Corps jurisdiction, date of transaction,

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permittee name, credits debited, permit number, wetland type impacted, acres impacted, impact project's USGS 8-digit HUC, and impact latitude and longitude.

**b.** The acreage required by the DA Permit will be deducted from the Bank's credit balance at the time it is entered into RIBITS. Sale terms including price and payment are matters of contract between Sponsor and permittees. For any credit transaction once the credits are debited, the Sponsor is legally responsible for provision of the compensatory mitigation required by the DA Permit. Any failure by the permittee to comply with the terms of the sale will not affect either the credit debiting or Sponsor's responsibility to provide the mitigation required by the DA Permit.

***F. Requirements for Initial Credit Release***

No Credits will be released until the Sponsor has provide a signed statement stating that all of the following requirements have been met and has provided copies of the following executed documents, as appropriate:

- 1. Permits:** Obtain all necessary permits (including DA Permits), approvals, and authorizations required to construct, operate, and maintain the Bank. This MBI does not fulfill or substitute for such authorization.
- 2. Holder Qualifications:** Evidence that the entity proposed to hold the conservation servitude is a CEMVN approved Holder.
- 3. Conservation Servitude:** An executed perpetual conservation servitude with an copy of this MBI with proof of recordation in the Mortgage and Conveyances Records Office of the parish in which the Property is located.
- 4. Financial Assurance:** Documentation establishing the C&E financial assurances stipulated in Section IX and the Long-Term Maintenance and Protection financial assurances described in Section X of this MBI and in Section XIV of the MWP.
- 5. Property Ownership:** A title search that identifies all known encumbrances including mortgages, liens, rights-of-way, servitudes, easements, etc. and documentation that the conservation servitude is not subordinate to any other easement or major lien. Sponsor shall provide a copy of the recorded document evidencing that any mortgages encumbering the property have been subordinated to the conservation servitude.
- 6. Execution of MBI:** MBI signed by the Owner, Sponsor and CEMVN District Commander or his representative and approval by all participant IRT agencies; and
- 7. Work Schedule:** Submission of the timetable for implementing work identified in the permit, MWP or elsewhere in this MBI.

### **G. Subsequent Credit Releases**

Prior to each credit release, the Sponsor shall provide to CEMVN an electronic copy of the monitoring report with information necessary to document successful attainment of required milestones. Following review of such documentation and a finding that required milestones were achieved. CEMVN will notify the Sponsor and the IRT in writing of its findings with respect to the Bank's attainment of its success criteria and determination for the number of credits approved for release.

## **XII. MODIFICATION OF THIS MBI**

### **A. Minor Modification to MBI**

1. This MBI is subject to written modification as mutually agreed to by the IRT and the Sponsor. The streamlined review process set forth in 33 CFR 332.8(g)(2) may be used for modifications that involve changes reflecting adaptive management for the Bank, credit release, changes in credit releases and credit release schedules, and changes that the district engineer determines not to be significant in accordance to procedures in 33 CFR 332.8(g)(2) *Streamlined Review Process*.

2. Should changes in this MBI be required by CEMVN that are not acceptable to the Sponsor, the Sponsor may elect to end his participation and close the Bank. At that time, the procedures outlined in Section XII.C. below will be followed.

### **B. Major Modifications to the MBI**

#### **1. Expansion of Addendum to the Bank**

Modification of the MBI to include the expansion of the Bank to include additional acreage will be processed in accordance with 33 CFR 332.8(d) and 332.8(g)(1). Requests to expand the Bank will be considered only in instances where (1) the additional acreage is located on the same parcel of land or on a parcel of land contiguous to the Bank and (2) CEMVN determines that the natural composition, structure, functions, and processes performed by the restored/enhanced wetland community are the same as those outlined in this MBI. For the modification of this MBI the amendment will contain the following:

**a.** Detailed description of existing conditions of the Property identifying existing and prior land uses, vegetation, hydrology alterations and soils;

**b.** A MWP that details the proposed hydrologic and vegetative restoration/enhancement work that is necessary to produce the mitigation credits;

**c.** Drawings depicting the site showing its location to other mitigation sites authorized by this MBI, different mitigation types, soils and hydrology; also drawings depicting the work required; vicinity map, a plan view depicting the proposed work and typical cross-sections of that work;

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- d. A Department of the Army issued wetland determination;
- e. A title opinion and survey clearly identifying any existing encumbrances on the Property;
- f. A draft conservation servitude;
- g. A draft of the mechanism to be used to secure the necessary Construction and Establishment financial assurance; and
- h. A draft of the mechanism to be used to establish the necessary Long-Term Maintenance and Protection account.

CEMVN will determine if the work identified in the MWP requires a DA permit. A DA permit application is not required with the prospectus, but the Sponsor may choose to submit an application at this time as obtaining any and all permits is a prerequisite to selling credits.

A public interest review will be required for each addendum. The prospectus, MWP and drawings will be advertised by public notice for a minimum of thirty days to obtain public comments.

CEMVN, in consultation with the IRT, will evaluate each proposed property. The evaluation will typically require an inspection of the property and review of the prospectus and restoration plan. If warranted, the IRT will recommend modifications to the proposed restoration plan. By signing this MBI, the agencies are under no obligation to accept future addenda. Each addendum will be evaluated on its own merit.

A separate credit assessment will be conducted to determine habitat values of each addendum.

The mutually agreed upon MWP will be signed by designated authorities for each IRT member and included as an amendment to this MBI and subject to all its requirements, conditions and terms.

## **2. Exclusions of Approved Mitigation Site**

The Sponsor may elect to exclude a portion of the Property on which no credits have been sold from the Bank. However, notification and approval by CEMVN must be obtained by the Sponsor prior to removal from the Bank.

Reduction in Bank size may adversely affect future releases of mitigation credits and financial assurances. Additionally, CEMVN, in consultation with the IRT, will re-evaluate the credit value per acre for the portion of the site remaining in the Bank. Should the re-evaluation of credits determine that debits exceed the available credits produced by the acres remaining in the Bank, CEMVN may require that a portion of the area to be



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excluded remain in the Bank to make up the credit difference caused by the reduction in Bank size.

After CEMVN, in consultation with the IRT, has approved the exclusion, the Owner may, with approval from the Sponsor, Holder and CEMVN, modify the conservation servitude to remove the servitude from that portion of the Property excluded, allowing however, as sufficient buffer to protect the integrity of the remaining bank.

**C. Termination of This MBI**

1. Should CEMVN, in consultation with the IRT, determine that the Sponsor is in material default of any provision of the MBI for this Bank, CEMVN may require such corrective actions as, as it deems necessary. If CEMVN determines that the Sponsor (or its agents or employees) has engaged in any misrepresentation, misapplication, misappropriation, improper management, or non-disclosure of pertinent information, CEMVN may require termination of this MBI or such other corrective action as it deems appropriate. Owner and Sponsor acknowledge and agree that all obligations hereunder that pertain to the credits sold or transferred prior to termination of the MBI shall have no effect on the perpetual conservation servitude granted by Owner over the Property in accordance with Louisiana law La. R.S. 9:1271, et seq. and 33 CFR § 332.8(t) except as set forth in paragraph C.3. below.

2. In the event that the MBI is terminated, CEMVN will:

a. Revise the Bank's credit allotment based on the work completed at closure

b. Review the credits already sold by the Bank and the corresponding mitigation requirements for DA Permits assumed by the Sponsor; and

c. Determine whether the success criteria achieved by the previously sold credits/acreage are sufficient to meet current and outstanding mitigation requirements or whether additional credits are required to satisfy the DA Permit mitigation obligations assumed by the Sponsor. Should additional credits be needed to satisfy the Sponsor's DA Permit mitigation obligations, those obligations (as determined by CEMVN) may be satisfied by either:

i). Completion of implementation of the MWP and achievement of the performance standards set forth in the MWP on additional acreage within the Bank; or

ii). The purchase of appropriate mitigation credits from another CEMVN approved Bank.

3. Upon termination of this MBI, the conservation servitude shall remain in full force and effect on those lands for which credits have been sold. In addition, a buffer sufficient to protect the integrity of the Bank, as determined by CEMVN in consultation with the IRT, shall be established and protected by the conservation servitude. Depending on the success level of the acreage sold as credits, additional acreage also

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may be required to satisfy the mitigation obligations assumed by the Sponsor. The Owner shall record any CEMVN approved and duly executed, revised conservation servitude in the Mortgage and Conveyance Office of the parish where the land is located and shall provide a copy of the recorded document to CEMVN. The conservation servitude shall remain in full force and effect on:

- a. that portion of the Property representing credits sold;
- b. that portion of the Property representing any deficit between the mitigation obligations assumed by the Sponsor (through credits sold) and the mitigation obligation satisfied by the Bank as described in 2.c. above; and
- c. that portion of the Property determined necessary by CEMVN in consultation with the IRT, to provide a buffer sufficient to protect the integrity of the Bank.

4. In the event of the negligent or wrongful act or failure to act of the Owner, Sponsor or their respective managers, partners, employees, contractors, or agents, including but not limited to misrepresentation, misapplication, misappropriation, improper management, non-disclosure of pertinent information or non-compliance with the terms of this MBI, CEMVN and other IRT members may void their recognition of the Bank and/or terminate their future participation in this MBI. All funds in the Long-term escrow account, if any, will be forfeited to the Holder or to a long-term Steward or a CEMVN designee. Additionally, CEMVN and the IRT reserve the right to prosecute any negligent or wrongful act or failure to act including any intentional misrepresentation, misappropriation, non-disclosure of pertinent information, or non-compliance with the terms of this MBI to the fullest extent of the law.

***D. Termination of Participation***

IRT members may terminate their participation upon written notification to all signatory parties without invalidating this MBI. Participation of the IRT member seeking termination will end 30 days after written notification. Termination by one member of the IRT of its involvement in this MBI shall not terminate the MBI or affect the roles of the remaining members of the IR, or the Sponsor or Owner. Remaining credits authorized solely under the authority of the withdrawing agency for use in that agency's programs will no longer be available for use to satisfy the requirements of that agency's program. Nothing in this Section is intended or shall be construed to limit the legal or equitable remedies (including specific performance and injunctive relief) available to the IRT members in the event of a threatened or actual breach of this MBI by the Sponsor.

**XIII. TRANSFER OF PROPERTY OR SPONSORSHIP**

Transfer of Property or Sponsorship remains as defined in Section XIII of the May 16, 2015 MBI.

#### **XIV. ESTABLISHMENT OF STEWARD**

Establishment of Steward provisions remain as defined in Section XIV of the May 16, 2015 MBI.

#### **XV. BANK LIFE**

Provisions for Bank Life remain as defined in Section XV of the May 16, 2015 MBI.

#### **XVI. OTHER PROVISIONS**

##### ***A. Disclaimer and Notice.***

This MBI does not in any manner affect statutory authorities and responsibilities of the signatory parties.

USACE approval of this Instrument constitutes the regulatory approval required for the Laurel Valley Coastal Mitigation Bank Amendment One to be used to provide compensatory mitigation for Department of the Army permits pursuant to 33 C.F.R. 332.8(a)(1). This Instrument is not a contract between the Sponsor or Property Owner and USACE or any other agency of the federal government. Any dispute arising under this Instrument will not give rise to any claim by the Sponsor or Property Owner for monetary damages. This provision is controlling notwithstanding any other provision or statement in the Instrument to the contrary.

##### ***B. Warranties and Representations of Owner/Sponsor/Holder.***

Owner/Sponsor hereby represents and warrants as follows:

1. It is a limited liability company (or other legal entity) in good standing in the state of its organization and that it is qualified to do business in Louisiana and in every jurisdiction in which it is required to be qualified.
2. It has the full power and authority to enter into this MBI and that its signatories are authorized to transact business and enter contracts on its behalf; and
3. The execution and performance of its obligations under the MBI will not constitute a breach of any other agreement or a violation of any ordinance statute, law or regulation to which it is a party or by which it is bound.

##### ***C. Compliance with Laws.***

Owner and Sponsor and Holder and/or Third Party each represent, warrant and covenant that it is and will remain in compliance and abide with any and all statutes,

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laws, ordinances, rules and regulations promulgated by any government entity which are applicable to it.

***D. Non-reporting NWP.***

The Sponsor agrees not to utilize a non-reporting Nationwide Permit or Regional Permit under Section 404 of the Clean Water Act to impact any Waters of the United States on the Property. Notification shall be required for the use of any Nationwide Permit and/or Regional Permit in connection with this Bank.

***E. Dispute Resolution.***

Resolution of disputes about amendments to this MBI shall be in accordance with 33 CFR § 332.8(e). If a dispute arises about the application of this MBI any party may raise the issue to CEMVN. CEMVN will convene a meeting of the IRT, or initiate another appropriate forum for communication, typically within twenty days of receipt of notice of the dispute. CEMVN will fully consider comments provided by the IRT and the Sponsor, if provided, in reaching its decision. Ultimately CEMVN is responsible for making final decisions regarding the use and performance of the Bank and the sale of its credits. Disputes related to satisfaction of success criteria may be subject to independent review from government agencies or academia that is not part of the IRT. The IRT will evaluate this input and determine whether the success criteria are met.

Any dispute arising under this Instrument will not give rise to any claim by Sponsor or Property Owner for monetary damages.

***F. Overall Performance.***

If the IRT determines that the Bank is not performing according to the standards and criteria set forth in this MBI, credit sales will be suspended until the Sponsor in consultation with CEMVN has developed an approved remedial action plan and performed the work defined in the remedial action plan necessary to produce additional credits. The Sponsor will provide to the IRT the remedial action plan within 60 days of notification of any deficiency. Following IRT approval of the remedial action plan, the Sponsor will conduct the remedial action measures prior to the end of the nearest growing season. Subsequent adaptive management measures may be required by the IRT. Sale of credits will not resume until remedial actions have been taken. The Sponsor will continue to provide monitoring reports as specified in this document unless determined to be unnecessary by the IRT.

***G. Specific Language of MBI Shall Be Controlling.***

The Parties intend the provisions of this MBI and each of the documents incorporated by reference in it to be consistent with each other, and for each document to be binding in accordance with its terms. To the fullest extent possible, these documents shall be interpreted in a manner that avoids or limits any conflict between or

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among them. However, if and to the extent that specific language in this MBI conflicts with specific language in any document, other than the Conservation Servitude, that is incorporated into this MBI by reference, the specific language within the MBI shall be controlling.

**H. Notice.**

Any notice required or permitted hereunder shall be deemed to have been given either (i) when delivered by hand, or (ii) three (3) days following the date deposited in the United States mail, postage prepaid, by registered or certified mail, return receipt requested, or (iii) sent by Federal Express or similar next day nationwide delivery system, addressed as follows (or addressed in such other manner as the party being notified shall have requested by written notice to the other party):

Sponsor, Delta Land Services, LLC  
1090 Cinclare Drive  
Port Allen, LA 70767  
Attn: Daniel Bollich, Ecological Program Director  
Phone: (225) 343-3900  
Email: daniel@deltaland-services.com

Owner, Laurel Valley Mitigation, LLC  
830 Laurel Valley Rd  
Thibodaux, Louisiana 70301  
Attn: Jerome McKee, Manager  
Phone: (985) 447-7352

U.S. Army Corps of Engineers New Orleans District (CEMVN)  
7400 Leake Ave.  
New Orleans, Louisiana 70118  
Attn: Brian Breaux  
Phone: (504) 862-1938  
Email: brian.w.breaux@usace.army.mil

Louisiana Department of Natural Resources (LDNR)  
Office of Coastal Management (OCM)  
P.O. Box 94396  
Baton Rouge, Louisiana 70804  
Attn: Kelly Templet  
Phone: (225) 342-3124  
Email: kelly.templet@la.gov

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Region VI of the U.S. Environmental Protection Agency (USEPA)  
1445 Ross Avenue  
Dallas, Texas 75202  
Attn: Raul Gutierrez  
Phone: 214-665-7482  
Email: gutierrez.raul@epa.gov

U.S. Fish and Wildlife Service (USFWS)  
646 Cajundome Blvd., Ste. 400  
Lafayette, La 70506  
Attn: Seth Bordelon  
Phone: 337-291-3138  
Email: seth\_bordelon@fws.gov

Louisiana Department of Wildlife and Fisheries (LDWF)  
2000 Quail Dr., Room 433  
Baton Rouge, Louisiana 70898-9000  
Attn: Kyle Balkum  
Phone: 225-765-2819  
Email: kbalkum@wlf.la.gov

***I. Entire Agreement.***

This MBI constitutes the entire agreement between the parties concerning the subject matter hereof and supersedes all prior agreements or undertakings.

***J. Invalid Provisions.***

In the event any one or more of the provisions contained in this MBI are held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability will not affect any other provisions hereof, and this MBI shall be construed as if such invalid, illegal or unenforceable provision had not been contained herein.

***K. Headings and Captions.***

Any paragraph heading or captions contained in this MBI shall be for convenience of reference only and shall not affect the construction or interpretation of any provisions of this MBI.

***L. Counterparts.***

This MBI may be executed by the parties in any combination, in one or more counterparts, all of which together shall constitute but one and the same instrument.

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***M. Binding.***

This MBI shall be immediately, automatically, and irrevocably binding upon the Sponsor and its heirs, successors, assigns and legal representatives upon execution by the Sponsor and the CEMVN, even though it may not, at that time or in the future, be executed by the other potential parties to this MBI. The execution of this MBI by EPA, LDWF, or the U.S. Fish and Wildlife Service, or other agency, city or county shall cause the executing agency to become a party to this MBI upon execution, even though all or any of the other potential parties have not signed the MBI. Execution does not signify the agencies' agreement with the use of credits in the Bank in connection with any specific permit or project.

***N. Liability of Regulatory Agencies.***

The responsibility for financial success or loss and any risk to the investment undertaken by the Sponsor rests solely with the Sponsor. The regulatory agencies that are parties to this MBI administer their regulatory programs to best protect and serve the public's interest in its waterways, and not to guarantee the financial success of Banks, specific individuals, or entities. Accordingly, there is no guarantee of profitability for any individual Bank. Sponsors should not construe this MBI as a guarantee in any way that the agencies will ensure sale of credits from this Bank or that the agencies will forgo other mitigation options that may also serve the public interest. Since the agencies do not control the number of mitigation banks proposed or the resulting market impacts upon success or failure of individual banks, in depth market studies of the potential and future demand for credits are the sole responsibility of the bank proponent. Sponsor shall have no right to money damages and shall have no right to claim or to recover a loss of anticipated revenues based on any decision by CEMVN and/or based on CEMVN's administration of its mitigation banking program and/or this mitigation bank.

**XVII. Signature pages**

***A. Property owner***

---

**Jerome S. McKee**

**Manager**

**Laurel Valley Mitigation, LLC**

**Laurel Valley Coastal Mitigation Bank Amendment One**

---

**Date**



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***B. Sponsor***

---

**George Guerin**  
**Chief Operating Office**  
**Delta Land Services, LLC**  
**Laurel Valley Coastal Mitigation Bank**

---

**Date**

Laurel Valley Coastal Mitigation Bank, Amendment One  
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***C. CEMVN***

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**Martin S. Mayer**  
**CHIEF, REGULATORY BRANCH**  
**CEMVN**  
**Laurel Valley Coastal Mitigation Bank**

---

**Date**

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***D. OCM***

---

**Keith Lovell**  
**Assistant Secretary**  
**LDNR OCM**  
**Laurel Valley Coastal Mitigation Bank**

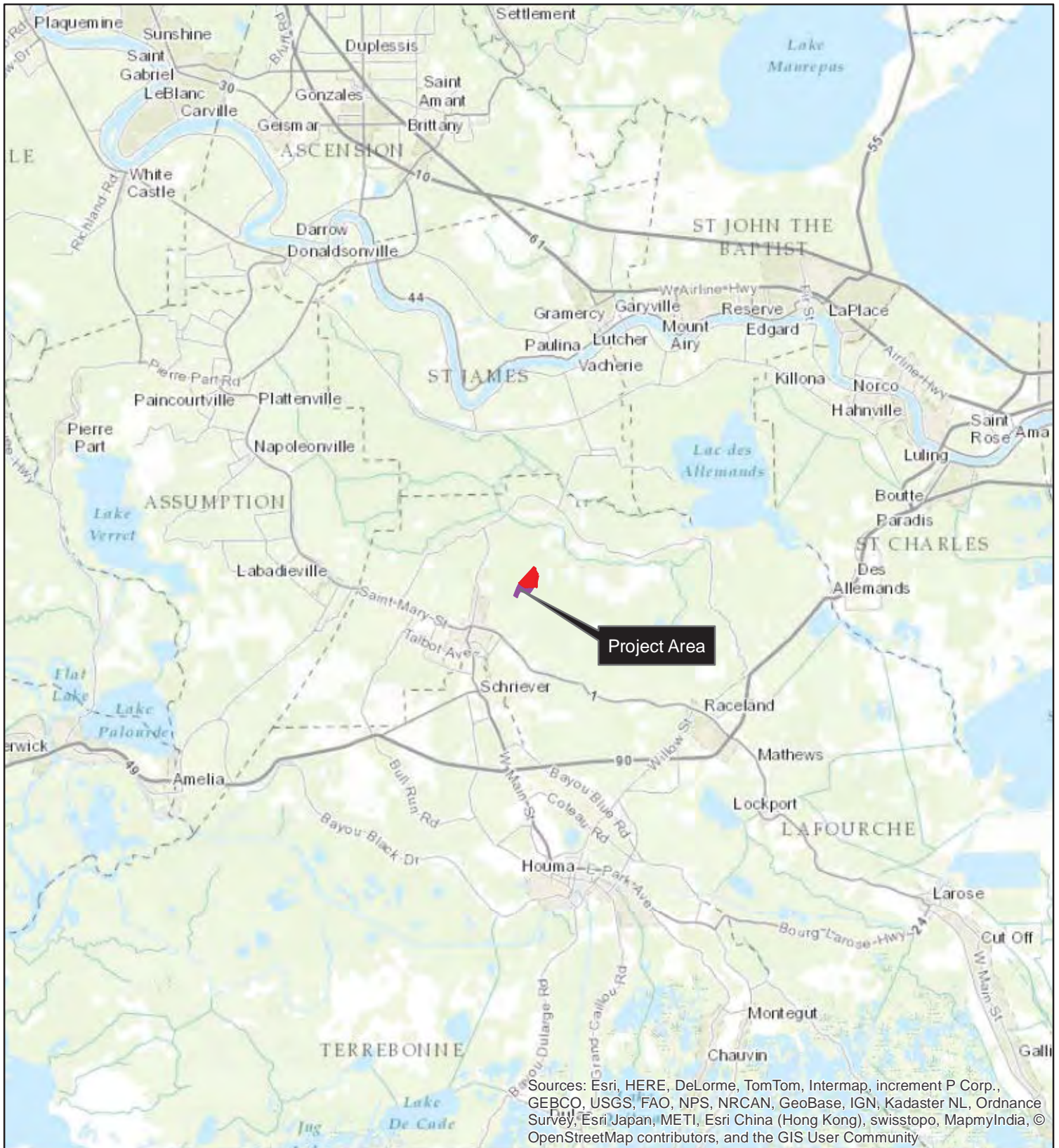
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**Date**

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**XVIII. Attachments**

**Attachment A – Maps**




**Legend**

- Laurel Valley Coastal Mitigation Bank
- Laurel Valley Coastal Mitigation Bank Amendment One



8.5   4.25   0   8.5




Miles

**Laurel Valley Coastal Mitigation Bank Amendment One**

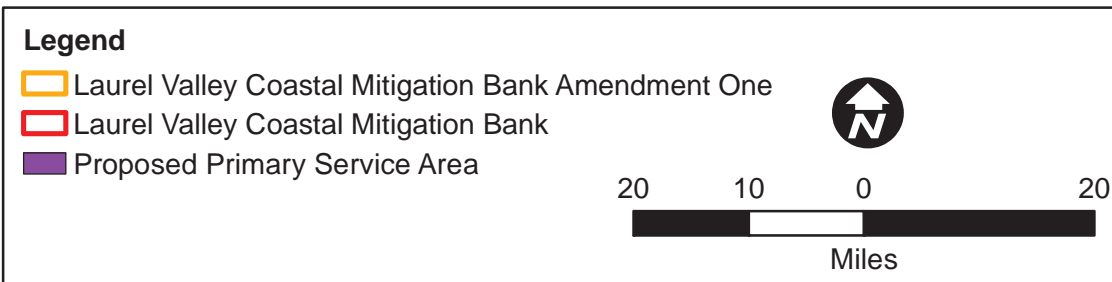
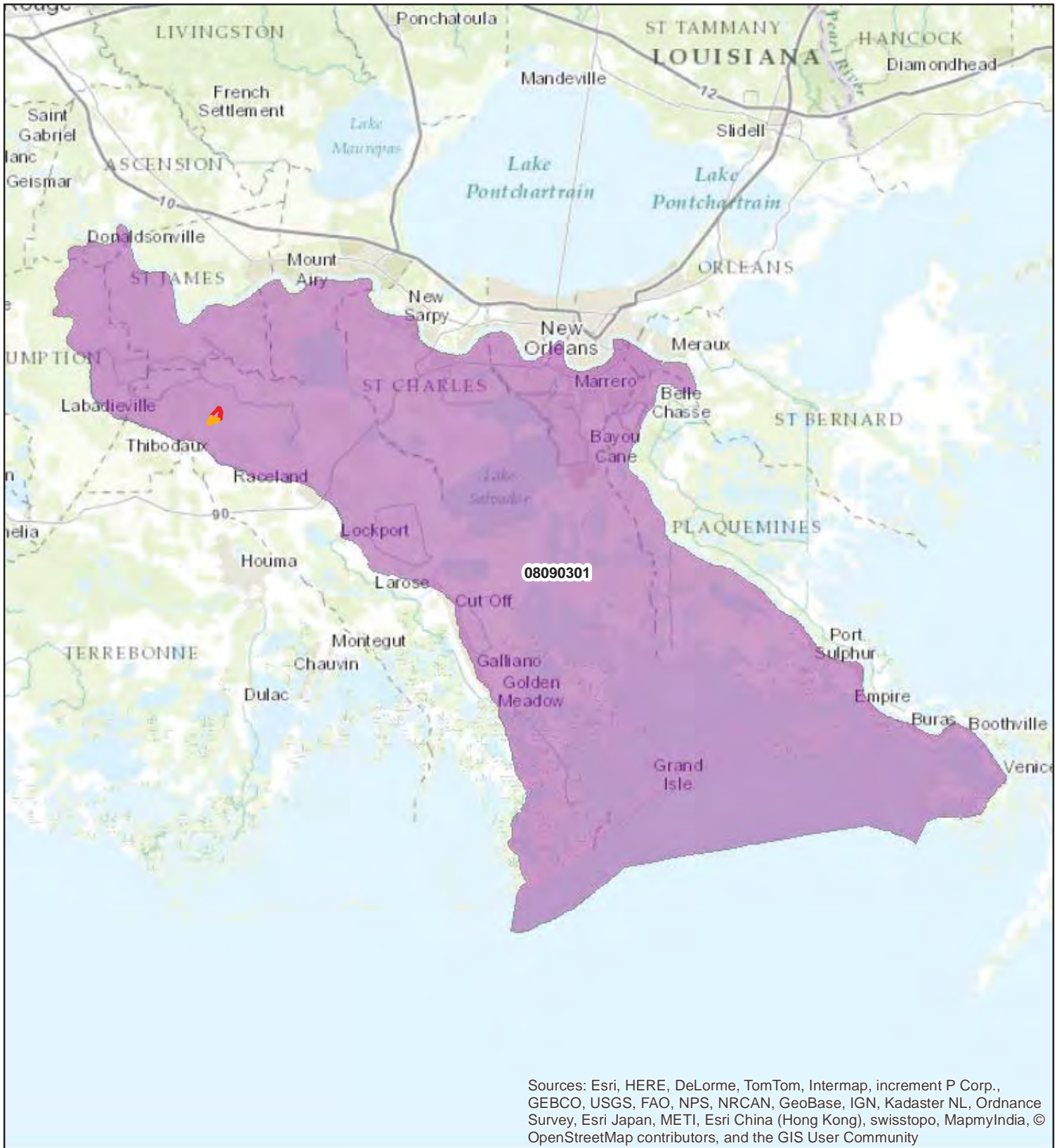
**Vicinity Map**

**Lafourche Parish, Louisiana**

Created : LJV/AM10.2	
Approved : ---	
Date : 06/09/2015	
Map No. : F01_Vicinity Map	

**FIGURE 1**






**Laurel Valley Coastal Mitigation Bank Amendment One**

**Geographic Service Area**

**Lafourche Parish, Louisiana**

Created : DEB/AM10.2.1	
Approved : ---	
Date : 07/15/2014	
Map No. : F02_Service Area	

**FIGURE 2**

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**Attachment B-Title Information**

- **Survey Plat (January 20, 2015)**
- **Jewell and Jewell Title Report (January 22, 2015)**
- **Corps Disposal Easement (June 24, 1934)**
- **Corps Electronic Mail Stating No Real Estate Instrument Required (June 9, 2015)**





LAW OFFICES OF  
**JEWELL & JEWELL**  
P.O. BOX 156  
143 EAST MAIN STREET, SUITE 3  
NEW ROADS, LOUISIANA 70760

J.P. JEWELL, JR. (1910-2007)  
JOHN WAYNE JEWELL  
STEPHEN P. JEWELL

TELEPHONE (225) 638-3311  
FAX (225) 638-8319

January 22, 2015

Delta Land Services, L.L.C.  
1090 Cinclare Drive  
Port Allen, Louisiana 70767

Re: Title Opinion: Laurel Valley Coastal Mitigation Bank,  
Amendment One (247.675 Acres)

Gentlemen:

As requested, I have examined an abstract of the indices to the conveyance and mortgage records of the Parish of Lafourche, State of Louisiana, for the period commencing on January 1, 1893 and ending on September 5, 2013, as well as an update thereof through November 3, 2014, all prepared by Beta Land Services, L.L.C., pertaining to the following described property, to-wit:

A certain tract or parcel of land designated as "**Laurel Valley Coastal Mitigation Bank, Amendment One**" located in Sections Twenty-Nine (29), Thirty (30), Seventy-Two (72) and Seventy-Four (74), Township Fourteen South (T-14-S), Range Seventeen East (R-17-E), Southeastern Land District, West of the Mississippi River, Parish of Lafourche, State of Louisiana, containing 10,788,723 Sq. Ft. (**247.675 Acres**). Said tract or parcel is more particularly described according to Patin Engineers & Surveyors, Inc. as follows:

Commencing at a point (P.O.C.) being a calculated point being on the Westerly right-of-way limits of Laurel Valley Plantation Road and having a State Plane Coordinate of North 484077.65 feet, East 3463544.81 feet; thence South 73°10'05" West (Title Bearing: South 73°10'05" West) re a distance of 350.14 feet (Title Dimension: 350.14 feet) to a calculated point; thence South 16°30'10" West (Title Bearing: South 16°30'10" West) a distance of 30.57 (Title Dimension: 30.57 feet) feet to a calculated point; thence South 3°19'11" West (Title Bearing: South 3°19'11" West) a distance of 36.80 feet (Title Dimension: 36.80 feet) to a calculated point; thence South 2°40'31" West (Title Bearing: South 2°40'31" West) a distance of 54.20 feet (Title Dimension: 54.20 feet) to a calculated point; thence South 15°54'42" West (Title Bearing: South 15°54'42" West) a distance of 40.63 feet (Title Dimension: 40.63 feet) to a calculated point; thence South 37°32'46" West (Title Bearing: South 37°32'46" West) a distance of 42.49 feet (Title Dimension: 42.49 feet) to a calculated point; thence South 75°24'23" West



(Title Bearing: South 75°24'23" West) a distance of 36.75 feet (Title Dimension: 36.75 feet) to a calculated point; thence South 86°27'14" West (Title Bearing: South 86°27'14" West) a distance of 161.60 feet (Title Dimension: 161.60 feet) to a calculated point; thence North 87°41'47" West (Title Bearing North 87°41'47" West) a distance of 55.23 (Title Dimension: 55.23 feet) feet to a calculated point being the Point of Beginning (P.O.B.);

thence South 1°30'59" West a distance of 81.63 feet to a calculated point; thence South 18°54'41" East a distance of 81.02 feet to a calculated point; thence South 34°41'03" West a distance of 2139.98 feet to a calculated point; thence South 87°03'46" West a distance of 125.09 feet to a calculated point; thence South 28°22'23" West a distance of 27.57 feet to a calculated point; thence North 72°21'54" West a distance of 2621.70 feet to a calculated point; thence South 26°31'24" West a distance of 27.71 feet to a calculated point; thence North 73°06'24" West a distance of 92.40 feet to a calculated point; thence South 25°18'56" West a distance of 1094.59 feet to a calculated point; thence South 24°17'20" West a distance of 896.54 feet to a calculated point; thence South 22°44'44" West a distance of 110.11 feet to a calculated point; thence North 61°12'44" West (Title Bearing: North 61°12'44" West) a distance of 1282.82 feet to a calculated point; thence North 68°19'01" West (Title Bearing: North 68°19'01" West) a distance of 22.36 feet (Title Dimension: 22.36 feet) to a calculated point; thence North 21°59'48" East (Title Bearing: North 21°59'48" East) a distance of 2722.88 feet (Title Dimension: 2722.88 feet) to a calculated point; thence North 22°10'06" East (Title Bearing: North 22°10'06" East) a distance of 1436.00 feet (Title Dimension: 1436.00 feet) to a calculated point; thence South 1°27'03" East a distance of 178.96 feet to a calculated point; thence South 86°16'26" East a distance of 105.17 feet to a calculated point; thence North 78°18'18" East a distance of 28.59 feet to a calculated point; thence North 55°50'56" East a distance of 29.68 feet to a calculated point; thence South 4°36'58" East a distance of 43.69 feet to a calculated point; thence South 21°20'59" East a distance of 156.69 feet to a calculated point; thence South 33°39'22" East a distance of 183.24 feet to a calculated point; thence South 59°06'25" East a distance of 1070.75 feet to a calculated point; thence South 61°48'44" East a distance of 620.59 feet to a calculated point; thence South 65°39'14" East a distance of 89.12 feet to a calculated point; thence South 45°10'55" East a distance of 66.24 feet to a calculated point; thence South 84°58'14" East a distance of 108.58 feet to a calculated point; thence North 82°27'14" East a distance of 26.51 feet to a calculated point; thence North 89°42'58" East a distance of 447.08 feet to a calculated point; thence South 75°27'34" East a distance of 39.29 feet to a calculated point; thence North 86°57'24" East a distance of 348.12 feet to a calculated point; thence North 89°42'54" East a distance of 435.40 feet to a calculated point; thence North 81°33'22" East a distance of 47.23 feet to a calculated point; thence North



89°42'51" East a distance of 444.15 feet to a calculated point; thence North  
88°41'41" East a distance of 377.01 feet to calculated point; thence South  
80°58'54" East a distance of 41.45 feet to a calculated point; thence South  
87°41'55" East a distance of 164.39 feet to a calculated point being the point of  
beginning (P.O.B.).

Said tract or parcel of land is bound as follows: Northerly, Westerly, Southerly &  
Easterly by property now or formerly of Laurel Valley.

Based on the aforementioned abstract of the indices to said records during said time  
period, and the update thereof, it is my opinion that as of November 3, 2014 a good, valid and  
merchantable title to the hereinabove described property was vested in fee simple in:

**LAUREL VALLEY MITIGATION, L.L.C.;**

free from mortgages, liens, encumbrances or defects, except:

1. Pipeline right-of-way to Texas Gas Transmission Corporation, dated June 30, 1960,  
filed and recorded at Conveyance Book 268, Page 86, Entry No. 183303.

This opinion does not protect you from or against: (1) Any encumbrances,  
encroachments, boundary line disputes or other matters which may be reflected by an accurate  
current survey of the subject property; (2) Rights or claims of parties in possession of the subject  
property not shown by the public records; (3) Any lien, or right to a lien, for services, labor or  
materials heretofore or hereafter furnished, imposed by law and not shown by the public records;  
(4) The exercise of governmental zoning authority; (5) The exercise of inheritance rights of  
illegitimate children; (6) The results or consequences of any fraudulent statements or acts, or acts  
of forgery, in any way related to ownership of or title to the subject property; (7) Any claim  
which may be asserted by the State of Louisiana or any other governmental authority to any part  
of the subject property as being part of the bottom, bed and/or bank of a navigable body of water;  
(8) The results which may be occasioned by the involuntary or voluntary filing of a petition for  
bankruptcy by any current, former or future owner of the subject property; or (9) Any other  
matter which is not shown by the public records.

Should you have any questions or comments about this matter, please give me a call.  
With kindest regards, I remain,

Yours truly,



Stephen P. Jewell

## Daniel Bollich

---

**From:** Cruppi, Janet R MVK <Janet.R.Cruppi@usace.army.mil>  
**Sent:** Tuesday, June 09, 2015 3:12 PM  
**To:** Daniel Bollich; Winship Songy; George Guerin  
**Cc:** Breaux, Brian W MVN; Mayer, Martin S MVN; Buatte, Carla J MVK @ MVN; Labure, Linda C MVK; Spokane, Chrystal MVK  
**Subject:** RE: MVN-2013-02798: Laurel Valley Coastal Mitigation Bank Project-Lafourche Parish, LA- Corps Real Estate Interest Issue. (UNCLASSIFIED)  
**Attachments:** LandownerReleaseRequest\_20150602.pdf; BayouLafourcheTracts45-1&2.pdf; LaurelValleyMitigationOverlapBayouLafourcheSpoilDisposalAreaMap.pdf

Classification: UNCLASSIFIED

Caveats: NONE

Daniel/Winship/George,

After further review of this situation, we offer the following regarding the issue of a portion of your proposed mitigation bank overlapping our spoil disposal interest on our Tract No. 45-1, as identified in Government records:

(1) The attached Servitude Agreement states "It is further understood that no spoils will be deposited over any portion of the property under cultivation, unless requested to do so by the grantor herein." Therefore, it appears that the Grantee, Laurel Valley Sugars, Inc., reserved the right to cultivate the land;

(2) Utilizing this area, shaded in green (within Sections 19, 29 & 30, T14S, 17E, Lafourche Parish) on the attached map, as a mitigation bank, the current landowners, Laurel Valley Plantation, L.L.C. and Laurel Valley Mitigation, L.L.C. (both Successors to Laurel Valley Sugars, Inc.) plan to plant, grow, and maintain bottomland hardwood trees for which mitigation credits will be sold;

(3) The definitions of "cultivate" include: "to promote the growth or development of"; "to prepare and work on land in order to raise crops"; "to promote the growth of a plant, etc. by labor and attention". In addition, the definitions of "cultivation" include: "the planting, tending, improving, or harvesting of crops or plants"; "the preparation of ground to promote growth".

(4) Therefore, it appears that no real estate instrument is needed since the landowners are exercising a right that was reserved under the terms of the Servitude Agreement.

Documentation of this action will be annotated on our audit map for future record.

Janet R. Cruppi, SR/WA

Deputy District Chief of Real Estate, New Orleans Chief, New Orleans Management and Disposal Section Real Estate Region South Division U.S. Army Corps of Engineers P.O. Box 60267 New Orleans, Louisiana 70160-0267

Phone: (504)862-1982

Fax: (504)862-1299

janet.r.cruppi@us.army.mil

-----Original Message-----

June 1<sup>st</sup>, 2015

U.S. Army Corps of Engineers  
Attn: Janet R. Cruppi  
P.O. Box 60267  
New Orleans, Louisiana 70160-0267

RE: Release of Disposal Easement (Laurel Valley Sugars, Inc. to United States of America)

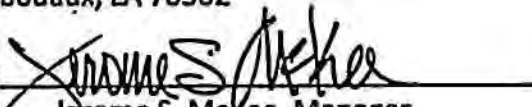
Dear Ms. Cruppi:

Laurel Valley Plantation, L.L.C. and Laurel Valley Mitigation, L.L.C. both successors to Laurel Valley Sugars, Inc., request a release of the disposal easement granted in favor of the United States of America from Laurel Valley Sugars, Inc. A copy of the enclosed easement is included and was recorded in the property records of Lafourche Parish on October 1, 1934 (Instrument 27261; conveyance Book 72, page 76).

Thank you for your attention to this matter and we look forward to a quick resolution.

Respectfully,

LAUREL VALLEY PLANTATION, L.L.C.  
936 Laurel Valley Road  
Thibodaux, LA 70302

By:   
Jerome S. McKee, Manager

AND

LAUREL VALLEY MITIGATION, L.L.C.  
830 Laurel Valley Road  
Thibodaux, LA 70302

By:   
Mina C. McKee, Manager

Enclosure

92-1  
45-2

DUMPING PRIVILEGE  
In 8 Sheets

2

STATE OF LOUISIANA,

PARISH OF **Lafourche**

45 - 1 & 2

This contract entered into on this **29th**  
day of **June**, 1934, between **Laurel Valley Sugars Inc.**  
hereinafter designated as Grantor, and the UNITED STATES OF AMERICA,  
witnesseth:

WHEREAS, THE UNITED STATES OF AMERICA proposes to construct,  
improve and maintain Bayou Lafourche from Lockport to Napoleonville and  
from Larose to the Gulf of Mexico via Pass Fourchon; and,

WHEREAS, no widening of the natural waterway is necessary  
through or adjacent to the property of the grantor herein;

NOW, THEREFORE, in consideration of the benefits to accrue  
to the grantor in the added convenience for the use of said water-  
way, and the enhanced value that will result to grantor's adjacent  
lands as the result of the construction and maintenance thereof, and,  
in order to facilitate the UNITED STATES OF AMERICA in the construction  
of said waterway over said land, the grantor hereby give and grant  
unto the UNITED STATES OF AMERICA the right, privilege, power and author-  
ity to deposit such earth or spoils or other material excavated in the  
construction and maintenance of said waterway on the property of the  
grantor herein on or along said waterway, the said grantor hereby  
expressly waiving and releasing the UNITED STATES OF AMERICA, its officers,  
agents, servants and contractors from any and all claims for damages that  
may result to the grantor or remaining property.

THIS PRIVILEGE of depositing the earth or spoils produced in  
the construction of said waterway shall be and is a servitude or priv-  
ilege, running with the land, and binding upon grantor herein,  
and assigns, and shall cover the property  
more particularly described as follows:

DUMPING PRIVILEGE

45-1

Those two tracts of ~~XXXXXXSERVITUDEXXXXXX~~, situated in the Parish of Lafourche State of Louisiana, known as Laurel Valley Plantation, Laruel Valley Sugars Inc. property, 10 arpents frontage on the east bank of Bayou Lafourche and an average of 19,000 feet deep, bounded upstream by property of V.C. Bourgeois and George E. Marshall and downstream by property of Harise Melancon and Octavia Plantation, as shown on sheets No. 29 & 30 of Map of Bayou Lafourche, La. dated Feb-April 1912, File R & S 29/1.

Second Melodia P lantation, Laurel Valley Sugars Inc. property, arpents frontage on the east bank of Bayou Lafourche and 19,000 feet deep, bounded upstream by property of Tracimond Babin and downstream by property of Bush Grove Plantation, as shown on sheets No. 32 & 33 of map of Bayou Lafourche, La. dated Feb-April 1912, File R & S 29/1.

45-2

It is understood and agreed that the excavated material will be deposited on the low parts of the above-described property. It is further understood that no spoils will be deposited over any portion of the property under cultivation, unless requested to do so by the grantor herein.

TO HAVE AND TO HOLD the said servitude and all rights and privileges granted hereunder unto the UNITED STATES OF AMERICA, its successors and assigns, for the purposes aforesaid, forever, and with full and general warranty of title, and with full subrogation and substitution to all rights and actions in warranty held by the grantor.

THIS DONE AND SIGNED in the Parish of Lafourche on the day and date first above written, in the presence of

Evan J. McCall & James C. Anderson

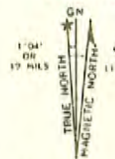
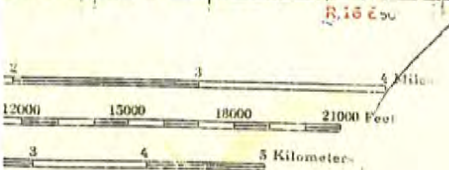
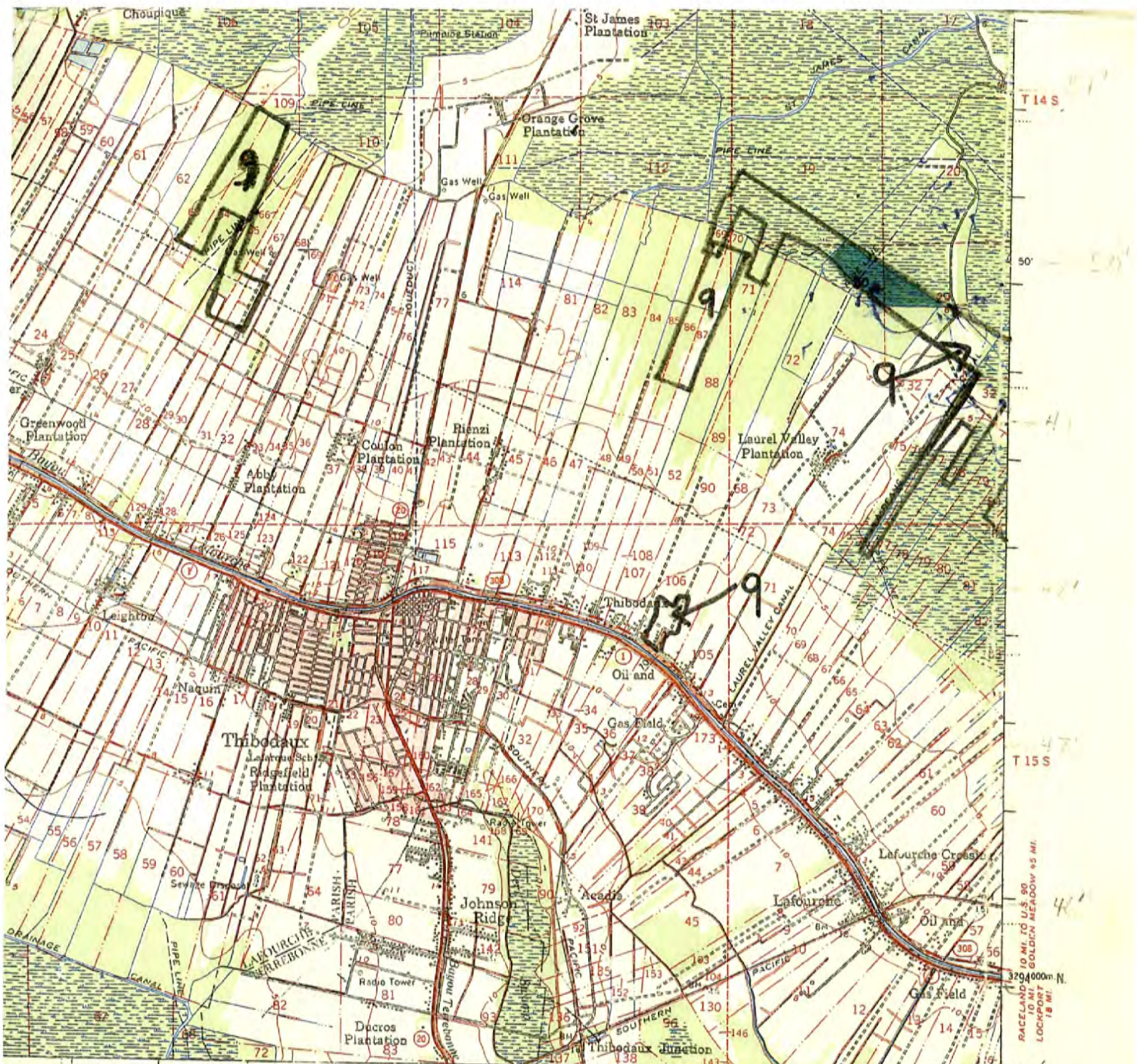
lawful witnesses, who have signed with said grantor and the UNITED STATES OF AMERICA after due reading of the whole.

WITNESSES:

Laurel Valley Sugars Inc  
By J. Wilson Lepine  
UNITED STATES OF AMERICA

By \_\_\_\_\_





APPROXIMATE MEAN DECLINATION 1960 FOR CENTER OF SHEET ANNUAL MAGNETIC CHANGE 3' WESTERLY

Distances on Mississippi River, above Head of Passes, are shown at 5 mile intervals  
 Distances on Bayou Lafourche, above mouth, are shown at 5 mile intervals

PRINTED BY ARMY-M.R.C., VICKSBURG, MISS. 2-65 1138

LEGEND

Levee		Levee Station	LS
Secondary Levee		Towhead	TH
Retards and dikes		River Gage	G
Revelment			

ROAD DATA 1964

In developed areas, only through roads are classified

Hard surface, heavy duty		2 LANE 10 LAN
Hard surface, medium duty		4 LANE 8 LAN
Loose surface, graded and drained, or narrow hard surface road		
Improved dirt road or street		
Unimproved dirt road, trail		
Interstate Route		
U.S. Route		
State Route		

EL  
 MERCATOR GRID ZONE 19  
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 TEO BY OOTED TICKS  
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 s, Corps of Engineers

**50**

THIBODAUX, LA  
 EDITION OF 1964  
 N2945-W9045/15

RACELAND 10 MI. TO S. 88  
 LOCKPORT 10 MI. TO S. 88  
 GOLDEN MEADOW 4.5 MI.  
 1.8 MI.  
 (Houma)  
 U.S.C.S.



Laurel Valley Coastal Mitigation Bank, Amendment One  
Mitigation Banking Instrument

**Attachment C-Mitigation Work Plan**

ATTACHMENT C: MITIGATION WORK PLAN  
 FOR BOTTOMLAND HARDWOOD AND BALDCYPRESS SWAMP HABITAT  
 LAUREL VALLEY COASTAL MITIGATION BANK, AMENDMENT ONE

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LAUREL VALLEY COASTAL MITIGATION BANK, AMENDMENT ONE

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Attachment MWP-B-Preliminary Jurisdictional Determination

Attachment MWP-C-Credit Determination

Attachment MWP-D-Estimated Construction, Establishment and Long-Term  
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ATTACHMENT C: MITIGATION WORK PLAN  
FOR BOTTOMLAND HARDWOOD AND BALDCYPRESS SWAMP HABITAT  
LAUREL VALLEY COASTAL MITIGATION BANK, AMENDMENT ONE

## I. Bank Property Location

The center point of the Laurel Valley Coastal Mitigation Bank Amendment One (Bank) is located at latitude 90.769511° North and longitude 29.826758° in Lafourche Parish, Louisiana (Mitigation Work Plan (MWP) Attachment A: Figure 1). The property is located in the East Central Louisiana Coastal Subregion (US Geological Survey [USGS] Hydrologic Unit Code [HUC] 08090301) and Barataria Drainage Basin (MWP Attachment A: Figure 2).

The Bank is located within the Mississippi Delta Cotton and Feed Grains Land Resource Region (O) and the Southern Mississippi River Alluvium Major Land Resource Area (MLRA 131A) (Natural Resource Conservation Service [NRCS] 2006). The Bank is also located in the Mississippi Alluvial Plains Level III Ecoregion (73) and the Inland Swamps (73n) and Southern Holocene Meander Belts (73k) Level IV Ecoregions. The site is located within the Louisiana Coastal Zone Boundary and adjacent to the Louisiana Coastal Wetlands Conservation Plan (LCWCP) Boundary (MWP Attachment A: Figure 3).

Driving directions to the site are as follows: from the intersection of LA Hwy 20 and LA Hwy 308 in Thibodaux, proceed south on LA Hwy 308 for approximately 2.1 miles. Turn left onto Laurel Valley Road and proceed approximately 3.4 miles to the entrance located on the left. This is the entry point into the Bank. This entry point is a private road and public access is restricted from this point forward.

## II. Objective

### A. Aquatic Resource Type and Functions to be Restored/Enhanced/Preserved

This Bank will re-establish<sup>1</sup>, rehabilitate<sup>2</sup>, and enhance<sup>3</sup> 159.2 acres of Bottomland Hardwood (BLH) and 66.9 acres of southern Baldcypress-Tupelo Swamp (Swamp) forested wetland ecosystems (MWP Attachment A: Figure 4).

As defined by *The Natural Communities of Louisiana* published in 2009 by the Louisiana Department of Wildlife and Fisheries (LDWF) and the Louisiana Natural Heritage program (LNHP), BLH forests are forested, alluvial wetlands occupying broad

---

<sup>1</sup> Re-establishment is defined in 33 CFR § 332.2 as *the manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area and functions.*

<sup>2</sup> Rehabilitation is defined in 33 CFR § 332.2 as *the manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.*

<sup>3</sup> Enhancement is defined in 33 CFR § 332.2 as *the manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.*

ATTACHMENT C: MITIGATION WORK PLAN  
FOR BOTTOMLAND HARDWOOD AND BALDCYPRESS SWAMP HABITAT  
LAUREL VALLEY COASTAL MITIGATION BANK, AMENDMENT ONE

floodplain areas that flank large river systems. BLH forests may be called fluctuating water level ecosystems characterized and maintained by a natural hydrologic regime of alternating wet and dry periods. These forests support distinct assemblages of plants and animals associated with particular landforms, soils, and hydrologic regimes. They are important natural communities for maintenance of water quality, providing a very productive habitat for a variety of fish and wildlife, and are important in regulation of flooding and stream recharge. Swamps are forested, alluvial wetlands growing on intermittently exposed soils. The soils are inundated or saturated by surface water or groundwater on a nearly permanent basis throughout the growing season except during periods of extreme drought. Bayous commonly intersect these wetlands. There is a low floristic diversity. Baldcypress (*Taxodium distichum*) is the dominant overstory species<sup>4</sup>. Many aquatic food webs depend on the input of allochthonous material in the form of leaf litter or other organic debris that the wetland forest provides. Net primary productivity of Swamp forests seems to be increased by periodic flooding or increased water flow and decreased by slow water movement or stagnation.

The restoration<sup>5</sup> and enhancement of BLH and Swamp forests will provide additional wetland functions and values such as outdoor recreational experiences, flood storage, Nearctic-Neotropical bird habitat, and habitat for other aquatic fauna that are not currently realized under existing conditions and land use. Localized and downstream water quality will increase by removing livestock, afforestation<sup>6</sup> with native wetland tree species, and increasing surface-water retention time for vegetative nutrient uptake and sedimentation. Wildlife habitat will improve for resident biota and Nearctic-Neotropical migrating bird species (e.g. staging, resting, feeding, escape cover, etc.) through the afforestation with native wetland tree and shrub species.

## **B. Watershed Contributions**

### 1. Watershed Need

The Bank is in the upper reach of the Barataria-Terrebonne estuary complex. The Barataria-Terrebonne National Estuary Program (BTNEP) was established in 1990 by the State of Louisiana and the EPA for the purpose of preserving, protecting and restoring this estuary complex. BTNEP in conjunction with local stakeholders developed the Comprehensive Conservation and Management Plan (CCMP) which outlined 12 goals to accomplish this objective.

---

<sup>4</sup> The aforementioned and all subsequent plant scientific nomenclature is from NRCS 2013<sup>a</sup>.

<sup>5</sup> Restoration is defined in 33 CFR § 332.2 as the *manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.*

<sup>6</sup> The SAF (2014) defines afforestation as “the establishment of a forest or stand in an area where the preceding vegetation or land use was not forest whereas reforestation is the re-establishment of forest cover either naturally (by natural seeding, coppice, or root suckers) or artificially (by direct seeding or planting) —note reforestation usually maintains the same forest type and is done promptly after the previous stand or forest was removed —synonym regeneration”.

## ATTACHMENT C: MITIGATION WORK PLAN FOR BOTTOMLAND HARDWOOD AND BALDCYPRESS SWAMP HABITAT LAUREL VALLEY COASTAL MITIGATION BANK, AMENDMENT ONE

The Partners in Flight (PIF) Bird Conservation Plan for the Mississippi Alluvial Valley recommends increasing the interior area of forested fragments to increase habitat for forest-dwelling, or silvicolous, bird species (Twedt et al. 1999). The planting of densely-spaced seedlings in areas within largely forested landscapes encourage the recruitment of breeding populations of thamnisc and silvicolous bird species (Twedt et al. 2010). Swallow-tailed kites (*Elanoides forficatus*) are a particular species of concern which would benefit through increased forested wetland acreage within the Barataria-Terrebonne basins as these species requires vast amounts of BLH and Swamp forest (DeMay et al 2007). Large expanses of bottomland hardwoods are vital for the management of mallards (*Anas platyrhynchos*), wood ducks (*Aix sponsa*), and American woodcock (*Scolopax minor*) (North American Waterfowl Management Plan 2004, Kelly and Rau 2006).

DeMay et al. (2007) list Swamp forests within the BTNEP basins as important to migratory species such as yellow-crowned night herons (*Nyctanassa violacea*), Acadian flycatchers (*Empidonax virescens*), northern parulas (*Setophaga americana*), hooded warblers (*Setophaga citrina*), prothonotary warblers (*Protonotaria citrea*) and yellow-throated warblers (*Setophaga dominica*) and nonmigratory species such as great blue herons (*Ardea herodias*), wood ducks, red-shouldered hawks (*Buteo lineatus*), barred owls (*Strix varia*) and pileated woodpeckers (*Dryocopus pileatus*). Common winter migrants include yellow-bellied sapsuckers (*Sphyrapicus varius*), eastern phoebes (*Sayornis phoebe*) and yellow-rumped warblers (*Setophaga coronata*). Bottomland hardwoods within the BTNEP basins are important habitat for migratory passerine birds such as yellow-billed cuckoos (*Coccyzus americanus*), summer tanagers (*Piranga rubra*), red-eyed vireos (*Vireo olivaceus*) and great-crested flycatchers (*Myiarchus crinitus*). Resident birds of these habitats include eastern screech-owls (*Myiarchus crinitus*), northern cardinals (*Cardinalis cardinalis*), blue jays (*Cyanocitta cristata*) and Carolina chickadees (*Poecile carolinensis*), while winter inhabitants included sharp-shinned hawks (*Accipiter striatus*), American woodcocks, hermit thrushes (*Catharus guttatus*), ruby-crowned kinglets (*Regulus calendula*), blue-headed vireos (*Vireo solitarius*) and white-throated sparrows (*Zonotrichia albicollis*).

The Mississippi Museum of Natural Science (MMNS 2005) purports that old-growth BLH forests are critical habitat for 11 of the 18 species of bats known to the Southeast. Two of these species, the Southeastern myotis (*Myotis austroriparius*) and Rafinesque's big-eared bat (*Corynorhinus rafinesquii*) prefer large, hollow trees in mature BLH and Swamp habitats, respectively (Lower Mississippi River Joint Venture [LMRJV] 2007; Taylor 2006).

### 2. Watershed Benefits

The restoration of the Bank is in solidarity with 4 of the 12 goals of the CCMP which are 1) preservation and restoration of wetlands, 2) support for diverse, natural biological communities; 3) to develop and meet water quality standards which protect

ATTACHMENT C: MITIGATION WORK PLAN  
FOR BOTTOMLAND HARDWOOD AND BALDCYPRESS SWAMP HABITAT  
LAUREL VALLEY COASTAL MITIGATION BANK, AMENDMENT ONE

estuary resources; and 4) to work in conjunction with natural processes (Moore and River 1996).

The restoration and protection of the Bank accommodates four of the Ecological Management Action plans outlined in the CCMP, which are as follows:

- Action Plan EM-1: Hydrologic Restoration
- Action Plan EM-11: Reduction of Agricultural Pollution
- Action Plan EM-15: Protection of Habitat for Migratory and Resident Birds
- Action Plan EM-16: Reduction of Impacts from Exotic Vegetation.

The restoration and protection of the Bank supports the stated purposes of the Lafourche Parish Coastal Zone Management (Lafourche Parish Government 2013) as follows:

- Recognize the value in natural coastal ecosystems;
- Protect, restore, and enhance the coastal zone as a natural storm barrier, flood control system and water infiltration system;
- Protect, restore, and enhance the coastal zone as a habitat for wildlife, an aquatic resource, an aesthetic resource, a parish, state and national resource, and a historic cultural resource; and to
- Protect, restore, and enhance the coastal zone as a legacy to future generations

The restoration and protection of the Bank supports the recommendation of the Coastal Wetland Forest Science Working Group (CWFSWG 2005) as follows:

- Place priority on conserving, restoring and managing coastal wetland forests to ensure their functions and ecosystem services will be available to citizens;
- Actively pursue restoration of degraded wetland forests;
- Enhance wetland forest ecosystem functions and values as part of hydrologic management decisions;
- Establish and maintain long-term monitoring of coastal wetland forest conditions which supplement other monitoring programs such as the Coastal Reference Monitoring System (CRMS) and the Forest Inventory Analysis; and
- Insure mitigation of impacts on coastal wetland forests are of similar resource type and occur within a proper watershed approach.

Restoration of the site is consistent with the Coastal Protection and Restoration Authority of Louisiana (CPRA) Louisiana's Comprehensive Master Plan for a Sustainable Coast (Master Plan) in that the project will restore natural hydrologic patterns by conveying freshwater, tidal flow into areas that have been cut off by anthropogenic features. The increase in forested wetlands, particularly freshwater swamp, can potentially reduce the effects of tropical storm surges and wind speed through attenuation and abatement thereby protecting the valuable agricultural lands

ATTACHMENT C: MITIGATION WORK PLAN  
FOR BOTTOMLAND HARDWOOD AND BALDCYPRESS SWAMP HABITAT  
LAUREL VALLEY COASTAL MITIGATION BANK, AMENDMENT ONE

and historic properties, such as the features associated with the Laurel Valley Plantation. The project would provide ecosystem services in the form of nutrient uptake and provide increased habitat for alligators (*Alligator mississippiensis*) (CPRA Master Plan 2012). Protection of this coastal forested site with a conservation servitude is consistent with the goals of the Coastal Forest Conservation Initiative (CFCI) administered by the Office of Coastal Protection and Restoration (OCPR) (Louisiana Department of Natural Resources [LDNR] Office of Coastal Management [OCM] 2010). The restoration of forests near extant tracts of bottomland hardwoods will provide benefit to various species of wildlife such as Nearctic-Neotropical migrant birds, resident birds, and bats.

### **III. Site Selection**

The primary factors considered during site selection were the presence of hydric soils, the high likelihood of restoration and enhancement, the compatibility of the project with existing watershed and management plans and the compatibility with surrounding land uses. The adjacent and surrounding land use is primarily tidally-influenced, woody wetlands (58%) and the Laurel Valley Coastal Mitigation Bank (12%) which both have a low probability of being developed and therefore reducing the risk of potential negative influences coming to bear on the Bank due to development activity (MWP Attachment A: Figure 5).

### **IV. Site Protection Instrument**

**(See Section X. Long-Term Protection and Maintenance, Subsection A. “Conservation Servitude” of this MBI.)**

### **V. Baseline Information**

This section contains both the historical and current ecological and physical information about the Bank Site.

#### **A. Land Use**

##### **1. Historical Land Use**

The historical land use of the project area was agricultural land primarily used for the production of sugarcane (*Saccharum officinarum*) and cattle grazing. The surrounding land use was historically forested wetlands. The sugar plantation and mill complex Laurel Valley Plantation was established in 1832. The sugar mill operation continued until 1926. However sugarcane production continued at Laurel Valley Plantation and it, along with cattle production, remains the predominant agricultural activity (MWP Attachment A: Figures 6 through 14).



ATTACHMENT C: MITIGATION WORK PLAN  
FOR BOTTOMLAND HARDWOOD AND BALDCYPRESS SWAMP HABITAT  
LAUREL VALLEY COASTAL MITIGATION BANK, AMENDMENT ONE

## 2. Current Land Use

The current land use of the project area is cattle/pasture with the remainder comprised of forest, some of which is utilized by cattle for grazing and shade (MWP Attachment A: Figure 15). The project area has been utilized for the current land use for over 25 years.

### **B. Soils**

Soils mapped within the project area are listed as Cancienne silt loam (Cm), Cancienne silty clay loam (Co), Fausse-Schriever association (FA); and Schriever clay, occasionally flooded (Sr) (MWP Attachment A: Figure 16). The FA and Sr series consist of very deep, very poorly drained, and very slowly permeable soils formed in clayey alluvium. These soil formations are typically found on the lower parts of natural levees and in low, ponded backswamp areas of the lower Mississippi River alluvial plain. The Cm series soils are level to gently undulating somewhat poorly drained mineral soils that are moderately slowly permeable and typically found on high and intermediate positions of natural levees in the same region. Eighty-six percent of the Bank is mapped as potentially having hydric components (NRCS 2013<sup>b</sup>). However, all soils observed during the field delineation exhibited indicators indicative of hydric soils. The results of these observations are contained within the wetland delineation report submitted to the CEMVN on June 19, 2013.

Natural topography within the Bank is generally flat with some natural levee and backswamp topographic features. Typical slope is less than 1%; however, artificial features such as levees, spoil banks and drainage ditches are prominent within the Bank and exhibit slopes in excess of 60%. Natural elevation ranges from zero feet to approximately four feet North American Vertical Datum (NAVD). The perimeter levee may exceed five feet NAVD (MWP Attachment A: Figure 17).

### **C. Hydrology**

#### 1. Historical Hydrology and Drainage Patterns

The historical hydrology of the site prior to the conversion to agricultural land was primarily surface water flooding from the surrounding area given the sites physiographic position on a lower natural levee and backswamp. The first artificial drainage system, a drainage wheel, was installed in 1867 at Laurel Valley. A Menge pump, which is a patent propeller drainage machine, first appeared around 1890 and was replaced by a centrifugal pump around 1920<sup>7</sup>.

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<sup>7</sup> Historic drainage information taken from Laurel Valley Sugar Plantation: Drainage Plant (1867, 1890-1920, 1920) drawings from the Library of Congress Historic American Engineering Record, National Park Service, delineated by Richard Howard and Margaret Mook.

ATTACHMENT C: MITIGATION WORK PLAN  
FOR BOTTOMLAND HARDWOOD AND BALDCYPRESS SWAMP HABITAT  
LAUREL VALLEY COASTAL MITIGATION BANK, AMENDMENT ONE

2. Existing Hydrology and Drainage Patterns

Hydrology is primarily driven from high water tables and precipitation. Surface hydrology is altered by drainage through an active pumping system which is operated by the landowner in conjunction with the ongoing agricultural operations of the Laurel Valley Plantation. Some of the lands utilized as pasture contain drainage laterals throughout the fields which are designed to expedite the movement of surface water out of the pasture areas and into the perimeter canal. The water from this canal is pumped from the Bank into La Peans Canal which traverses the adjacent swamps and discharges into Grand Bayou, Bayou Boeuf and Lac des Allemandes (MWP Attachment A: Figure 18). The pump currently in use is operated by the landowner and neither the pump nor the associated levee system is within any local, state or federal drainage or flood protection system.

The surrounding forests outside of the perimeter levee system are subject to fluctuating flooding that is influenced by tidal amplitude. According to adjacent Louisiana Office of Coastal Protection and Restoration Coastwide Reference Monitoring System (CRMS) (2013) stations 0206 and 0218, the Adjusted Water Elevation to Datum in the surrounding area averaged 1.6 feet NAVD over a period from September 26, 2008 to October 5, 2010. During this period the water ranged from a high of 3.6 feet NAVD (Station 0218) to a low of -0.4 feet NAVD (Station 0206). On June 5, 2013, DLS personnel observed water marks at approximately 30 inches above the ground elevation on trees outside of the perimeter levee system.

**D. Vegetation**

1. Historical Plant Community

Based on soil type and landscape position, native vegetation on the site was comprised of baldcypress and mixed, deciduous BLH tree species.

2. Existing Plant Community

The Bank consists of a combination of improved pasture, wetland forest, and pipeline rights-of-way (MWP Attachment A: Figure 15). Vegetation in the pasture areas is managed to support production of livestock. Nonwetland pastures were comprised of dominant species such as Vasey's grass (*Paspalum urvillei*), Bermuda grass (*Cynodon dactylon*), perennial ryegrass (*Lolium perenne*) and Virginia buttonweed (*Diodia virginiana*) while the wetter pasture (emergent wetlands) produced dominant species such as barnyardgrass (*Echinochloa crus-galli*), pale spikerush (*Eleocharis macrostachya*) and common rush (*Juncus effusus*). Active cattle grazing occurs in all of the pastures.

The wetland forests on site were dominated by Drummond red maple (*Acer rubrum var. drummondii*), water oak (*Quercus nigra*), boxelder (*Acer negundo*),

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American elm (*Ulmus americana*), Chinese tallow (*Triadica sebifera*) and sugarberry (*Celtis laevigata*) with typical herbaceous vegetation consisting of poison ivy (*Toxicodendron radicans*), dwarf palmetto (*Sabal minor*), lizard's tail (*Saururus cernuus*) and greenbrier (*Smilax rotundifolia*).

## VI. Description of Work

This Bank will provide 159.2 acres of BLH and 66.9 acres of Swamp to compensate for unavoidable wetland impacts within the Barataria Drainage Basin area (MWP Attachment A: Figure 4, Table 1). The proposed MWP involves the cessation of cattle production, afforestation, surface hydrology restoration, and the implementation of effective short-term, interim, and long-term management strategies. The Bank will re-establish 124.9 acres of BLH and 21.6 acres of Swamp and will rehabilitate 34.3 acres of BLH and 42.1 acres of Swamp by planting selected tree species as described by the LNHP (2009), Lester et al. (2005), and Barrow et al. (2005) (MWP Attachment A: Figure 4 and Table 1). Areas above 2.0 feet NAVD will be restored to a combination of a sugarberry-American elm-green ash (Type 2) and a sweetgum-water oak (Type 3) BLH. Areas between 1.2 and 2.0 feet NAVD will be restored as a mosaic of an overcup-water hickory (Type 1) BLH. Areas below 1.2 feet NAVD will be restored to Swamp. Approximately 3.2 acres of existing forest will be re-established/enhanced through hydrology restoration and supplemental planting with desirable Swamp species to increase diversity and resilience in anticipation of the restored hydrologic regime. In order to accomplish this task, the Sponsor shall complete the following soils, hydrologic and habitat work.

### A. Soils/Hydrologic Work Plan

Hydrology restoration will include degrading 5,075 feet of perimeter levee and filling of borrow canal along the west boundary, and the cessation of pumping activity (MWP Attachment A: Figures 19 through 21). The levee degradation and borrow fill will provide natural ingress and egress of water to the forested wetland restoration and enhancement acres in order to be in equilibrium with the water levels of the adjacent, tidally-influenced forested areas.

The CWFSWG, in its report titled *Conservation, Protection and Utilization of Louisiana's Coastal Wetland Forests*, found that artificial regeneration is impractical when water levels exceed two feet in depth (2005). Based on these findings, the Sponsor will continue to maintain the existing pumping system described in Section V.C.2 to facilitate site preparation and planting of the initial 213.2-acre<sup>8</sup> BLH/Swamp restoration and species enhancement acres until the first fall following the initial planting. At that time the Sponsor will cease pumping activity, degrade the 5,075-linear foot of the perimeter levee, and back-fill the canal adjacent to this 5,075-linear foot

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<sup>8</sup> The 213.2 acres of BLH/Swamp restoration and enhancement is the summation of the 210-acre BLH/Swamp and the 3.2-acre Swamp re-establishment/species enhancement area.

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section with the degraded spoil material. Following the completion of these activities, the Sponsor will plant the 12.9-acre footprint associated with this activity as described in Section VI.B.

Hydrology restoration will re-establish wetland hydrology to the 226.1 acres of afforested and existing forested areas (i.e. BLH and Swamp re-established areas) that were historically wetland as well as increase the duration of surface water retention and soil saturation; reduce nonpoint source runoff; and improve water quality through nutrient immobilization (uptake) by vegetation. The Sponsor anticipates no long-term structural management requirements will be needed to assure sustained hydrology.

***B. Vegetation***

All livestock and interior fencing will be removed from the Bank prior to site preparation activities. Site preparation for the initial 213.2-acre restoration planting will be accomplished by applying herbicide as needed, cultivating the soil surface, and sub-soiling (ripping) at equidistant intervals to a depth of approximately 18 inches (Allen et al. 2001). Site preparation will include the removal and control of any invasive species through herbicide treatments, mechanized clearing, cutting, shredding, or a combination thereof. A second planting event will occur on the 12.9 acres of BLH restoration associated with the degradation of the 5,075-linear feet of the western perimeter levee described in Section VI.A. This event will occur in the winter following completion of the degradation activity.

Preparation efforts within the 3.2-acre Swamp species enhancement area will consist of herbicide treatment of invasive and noxious tree species through individual stem treatments, specifically Chinese tallow and boxelder. Approximately one half of all Drummond red maple stems within this area will be deadened by individual stem treatments to allow greater sunlight infiltration to benefit the supplemental plantings.

Afforestation and supplemental planting activities will include the planting of native BLH and Swamp species during the first planting season (December 15 through March 15) following site preparation. The species selected will be site-appropriate in terms of habitat design, soil-moisture regime, and species richness. Ten or more species may be represented in the planting assemblage to insure adequate species richness (Twedt and Best 2004). The distribution of stems will create a mosaic of hard and soft mast species that will provide seasonally available forages for a wide range of indigenous wildlife.

Hard mast species should account for at least 60 percent of all BLH afforestation plantings with the remaining 40 percent accounted for by soft mast tree species. Baldcypress and swamp tupelo should account for 100 percent of all planted species within the 3.2-acre Swamp enhancement area given the amount of soft mast currently present. The exact species and quantities for planting will be determined by

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the availability of such species from commercial nurseries providing localized ecotype seedlings. Planting densities will be at approximately 538 stems per acre within restored afforested areas and approximately 100 stems per acre within the 3.2-acre Swamp species enhancement area (MWP Attachment A: Tables 2 and 3). Seedlings will be mixed upon planting so that areas are not comprised of a single species (Twedt and Best 2004). A zone approximately 300 feet in width along the current forestland-cropland interface may be planted all with heavier seeded species due to the anticipated natural recruitment of light-seeded hardwood species within this area. Twedt (2004) documented that natural regeneration within this zone is sufficient without incorporating artificial regeneration methods.

The re-establishment of a forested wetland plant community will reduce runoff by canopy and leaf litter interception of rainfall and increased stem density will reduce surface water sheet flow velocities. The result is a reduction in erosion runoff and an increase in soil infiltration (Richardson et al. 2001). As an adaptation to expected increase in flood levels following restoration, all species selected for planting have flood tolerance classes ranging from constant inundation for up to one year (Class I) to long-term seasonal flooding (Class III) as purported by Shankman (1996).

### **VII. Maintenance Plan**

The Sponsor will use all prudent efforts, physical, chemical, or mechanical, to eliminate existing undesirable/exotic vegetation present such as Chinese tallow on the site during site preparation activities. The Sponsor will continue to monitor the site through annual inspections to document the following:

1. the effectiveness of control efforts and
2. record the extent and degree of invasive species present
3. record the extent and degree of any herbivory damage
4. record the condition and functionality of any hydrological structures

Following such monitoring, invasive species and herbivore control will be implemented as necessary and hydrologic structures will be replaced if determined necessary.

### **VIII. Performance Standards**

In order for the Bank to be considered acceptable for mitigating wetland impacts associated with DA permits, the Bank will be restored in accordance with the MWP such that it meets wetland criteria as described in the 1987 Corps of Engineers Wetland Delineation Manual (the 1987 Manual) as well as the November 2010 Regional Supplement for the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region Version 2.0. Performance standards (success criteria) used to measure the success of the Bank are provided below.

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**A. Initial Success Criteria**

1. Hydrology: Ground surface elevations must be conducive to establishment and support of hydrophytic vegetation, and re-establishment and maintenance of hydric soil characteristics. To that end, all alterations of the natural topography (ditching, spoil banks, land leveling, bedding, fire breaks, etc) that have affected the duration and extent of surface water have been removed or otherwise rendered ineffective in accordance with this MWP.

2. Vegetation: A minimum of 250 planted seedlings per acre must survive through the end of the second spring following the planting (i.e., Year 1). Those surviving seedlings must be representative both in species composition and percentage identified in this MWP. This criterion will apply to initial plantings, as well as, any subsequent replanting that may be needed to meet this requirement.

**B. Interim Success Criteria**

1. Hydrology: By Year 3 (two years following attainment of the one-year survivorship criteria) site hydrology will be restored such that the Property meets the wetland criterion as described in the 1987 Manual as well as the November 2010 Regional Supplement to the Corps of Engineers wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region Version 2.0. Data demonstrating that wetland hydrology has been re-established is to be collected by the Sponsor and submitted to CEMVN in the monitoring report for the interim success criteria

2. Vegetation and Vegetative Plantings: a. For a given planting, a minimum of 250 seedlings/saplings per acre must be present (with a 60 to 40 hard mast to soft mast ratio) at the end of the fourth year (i.e. Year 5) following successful attainment of the one-year survivorship criteria. Trees established through natural recruitment may be included in this tally; however, no less than 125 hard mast-producing seedlings per acre must be present. Surviving hard mast seedlings must be representative of the species composition and percentage identified in this MWP. Exotic/invasive species may not be included in this tally.

b. By Year 5 (four years following successful attainment of the one-year survivorship criteria) the Bank and the perimeter will be virtually free (approximately 5% or less on an acre-by-acre basis) of exotic/invasive vegetative species.

c. Developing plant community must exhibit characteristics and diversity indicative of a viable native forested wetland community commensurate with stand age and site conditions by Year 5. Achievement of wetland vegetation dominance is defined as a vegetation community where more than 50 percent of all dominant species are facultative (FAC) or wetter, excluding FAC- plants, using "routine delineation methods" as described in the 1987 Manual as well as the November 2010 Regional Supplement

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to the Corps of Engineers wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region Version 2.0.

**C. Long-Term Success Criteria**

1. Forest canopy coverage exceeds eighty percent of forested land mass as measured by an approved method. Forest canopy species abundance and composition is consistent with the restoration goals identified in the restoration plan and credit assessment methodologies. The long term species composition should fall within the range of 50:50 to 40:60 soft mast to hard mast ratio.

2. When forest canopy coverage exceeds eighty percent, the Bank will be essentially void of exotic/invasive vegetation (all seed-producing trees removed from Bank and perimeter and less than 3% of the understory on an acre per acre basis). An active treatment program will continue as part of the long-term maintenance program.

3. If thinning to maintain or enhance the ecological value of the Bank is determined necessary by the IRT at this time, the Sponsor/Steward will develop a thinning plan in coordination with the IRT. Thinning operations shall be performed by the Sponsor/Steward per the requirements of the thinning plan.

4. The Sponsor will provide documentation that the "Long-Term Maintenance and Protection" escrow account is fully funded.

**IX. Monitoring Requirements**

The Sponsor agrees to perform all work necessary to monitor the Bank to demonstrate compliance with the success criteria established in this MWP. The Sponsor will monitor the Bank in the spring of each monitoring year using the guidelines in Section VIII of this MWP.

Surveys of permanent monitoring stations will occur in the following time frame:

1. Immediately following planting of the Bank to establish baseline information.
2. In Year 1, 3, 5 and after achieving interim success criteria, monitoring will occur every 3 years until an average canopy coverage of 80 percent is established.
3. If thinning is required after successfully achieving the long-term success criteria, the site will be surveyed prior to and following the first thinning operation following plantings.

If monitoring for any given year determines that the Bank is not progressing as expected, monitoring will continue on an annual basis until the Bank successfully meets or exceeds established milestones. After achieving the interim success criteria,

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monitoring will occur every 3 years until average canopy coverage of 80 percent is obtained. If thinning is required after successfully achieving the long-term success criteria, the site will be surveyed prior to and following the first thinning operation following plantings.

The survey of the permanent monitoring stations will collect data to evaluate the survival rate of planted vegetation; number, species and growth rates (average heights and diameter). In addition to planted seedlings, surveys will include the number by species of volunteering trees, shrubs and woody vines. Surveys will also collect information regarding colonizing plant species, the wetland plant status (scaled from obligate (OBL) to upland (UPL) of each and the number by species of exotic/noxious specimens.

***A. Permanent circular monitoring stations***

Immediately following initial planting of the Bank, the Sponsor will randomly establish a permanent circular monitoring station for every 20 acres on the Bank. Each station will have a minimum area of 1/20<sup>th</sup> acre (radius=26 feet). Stations will be identified with a permanent marker (e.g., an 8-foot PVC pipe anchored with a metal T post at plot center) and GPS coordinates will be recorded for each station. A map will be provided to CEMVN (See Reporting Protocols below) that depicts the location of the monitoring stations as well as a coordinating list containing the coordinates for each station. All individual planted seedlings/saplings falling within each monitoring station will be marked with a numbered tag that uniquely identifies each seedling. A document providing seedling information shall be presented (to CEMVN) for each monitoring station and this document shall not only list the specific tag number for each seedling within the monitoring station, but also the species (by scientific and common name), height, diameter, wetland rating, hard mast or soft mast categorization, and general condition of each stem.

To establish baseline information this data will be obtained immediately following the initial planting of the Bank site or phase of the Bank.

***B. Transects***

The Sponsor shall establish transects along planted rows to be used to determine overall survivorship of planted seedlings. Transects shall make up approximately 3 percent of the total number of rows and arranged so that a representative sample of the entire track is obtained. The beginning and ending points of each transect shall be marked with a permanent marker (e.g., an 8-foot PVC pipe anchored with a metal T post) and GPS coordinates shall be recorded for these points.

To establish baseline information transects will be surveyed to determine the number by species of planted seedlings within 60 days of planting. Transects will be surveyed until successful attainment of the interim success criteria. Initial and interim



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transect surveys shall record the species present, the number of living seedlings for each species, the wetland indicator status of each species, the mast type of each species and describe the general condition of the seedlings. Any failed areas of plantings should be noted along with an explanation for the failure.

***C. Soil Profile***

The Sponsor will collect data on the hydrologic conditions of the Bank as necessary. Sufficient data shall be provided to accurately demonstrate variations in soil conditions. Information to demonstrate hydric properties within the soil shall be provided as a description of the upper 12 inches of the soil profile. Such data will be presented as points with GPS coordinates for each point, a hydric indication for each point, and an explanation to support the information for each point. This information shall also be provided on a referenced map included as an attachment.

The Sponsor will be required to submit a Corps issued JD (at year 3) to show that the Property meets the wetland criterion as described in the 1987 Manual as well as the Regional Supplement of the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region Version 2.0.

***D. Floristic Survey***

To document the attainment of the long-term success criteria the Sponsor will complete a comprehensive floristic survey for the Bank as part of the monitoring requirements.

A floristic survey should be comprehensive over the entire site, and should be conducted using systematic field techniques. This survey should provide a list of plants and communities existing on the site. If adverse conditions such as disease, drought, predation, or herbivory, etc. exist and have impacted the plantings then this information and these conditions need to be discussed in the report.

***E. Photographs***

Digital images shall be taken from ground level at each monitoring station and from elevated positions throughout the Bank to document overall conditions. These ground level images should provide a North, South, East, and West image for each station.

***F. Qualitative Analysis***

The Sponsor shall evaluate the entire extent of the Bank (or phase of the Bank that this report represents) and provide observations concerning overall seeding survivorship, colonization of the Bank by volunteer plant species, wildlife utilization and any other information that is pertinent to achievement of initial success criteria.

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**G. Hydrologic Conditions**

A description of the condition of any applicable hydrology altering features (culverts, ditches, plugs, etc.) and a general discussion of hydrologic conditions at monitoring stations shall be provided.

**H. Ledgers**

The Sponsor will utilize the Regulatory In-Lieu Fee and Bank Information Tracking System (RIBITS) as a ledger to show all transactions. The Sponsor will input the following information: transaction date, permittee name, credits/acres sold and DA permit number. No other reporting measures are required.

**X. Monitoring Reports**

Independent of the As-built report the Sponsor will submit monitoring reports documenting monitoring efforts at the Bank to the CEMVN by July 31<sup>st</sup> of the year monitoring occurs. Besides monitoring results for that monitoring year, reports will include a financial assurance report documenting withdrawals and deposits. The monitoring reports will follow the guidelines listed below:

The monitoring report will include data sufficient for comparison to the performance standards found in Section VIII. of this MWP. The Sponsor shall also include, in these reports, a discussion of all activities which took place at the Bank.

**A. As-Built Report**

An as-built report will be submitted to CEMVN within 60 days following completion of all work required to restore or enhance special aquatic sites. The as-built report will describe in detail the work performed and provide a list of species planted, the number of each species, the hard or soft mast categorization, and the wetland rating. No deviation from the MWP may occur without prior approval from the IRT. The as-built report will include a discussion of the coordination with IRT members, a description of and reasons for any approved deviation. The as-built report shall provide:

- a. A survey showing finished grades and plantings with written documentation, plan view and cross sectional drawings of all construction and establishment work implemented on the bank.
- b. Survey data collected from the permanent monitoring stations and the transects. This survey data should include the number and species of the seedlings planted, timing of all work events, and maps showing the location (including latitude/longitude) of all monitoring stations as described in this Work Plan. .
- c. Detailed descriptions of site preparation, planting procedures, etc.

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***B. Initial Success Criteria Report***

The Sponsor shall monitor the Bank in the spring (March 15-May 31) of its second growing season following initial planting of the Bank. The Sponsor will provide an Initial Success Criteria Report by July 31<sup>st</sup> of that year.

The Sponsor shall provide details in accordance with this MWP, on any maintenance/management work conducted on the Bank after submission of the As-Built Report. The Sponsor shall provide a brief description of any anticipated maintenance/management work to be conducted prior to attainment of interim success criteria.

**1. Vegetation**

a. Permanent Circular Plot Data

The Sponsor shall provide plot data in tabular form on all planted seedlings falling within each permanent circular monitoring plot as described and as established in accordance with Section IX. of this MWP. A description of the general condition of the seedlings, including the number and species of surviving seedlings in each monitoring station, the tag number and a discussion of likely causes of mortality for the non-survivors shall be provided. A number (by species) of exotic/invasive species, including, a description of the generalized degree of distribution and whether they are seed bearing trees or seedlings will also be provided.

b. Transect Data

The Sponsor shall provide data in tabular form for the total number of planted seedlings as described in IX.B of this MWP. A description of the general condition of the seedlings and the discussion of likely causes of mortality, if appropriate shall also be provided. Exotic/invasive species should be noted along with information on the generalized amount of each and whether they are seed bearing trees or seedlings.

**2. Hydrologic Data**

The Sponsor shall provide a description of the condition of any applicable hydrology altering features (culverts, ditches, plugs, etc.) and a general discussion of hydrologic conditions at monitoring stations.

**3. Photographs**

The Sponsor must submit digital photographs in accordance with section IX.E. of this MWP.

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#### **4. Qualitative Analysis**

The Sponsor must provide a qualitative analysis of the site as described in IX.F. of this MWP.

#### **5. Funding**

The Sponsor shall provide CEMVN with copies of the most recent financial account statements for both the financial assurance accounts and the Long-term Maintenance and Protection Fund. If any escrowed funds were used, the Sponsor will include a narrative describing that use, the justification for that use and supporting documentation (e.g. receipts). The Sponsor shall also provide any justification for any requested release from financial assurance accounts.

#### ***C. Interim Success Criteria Report***

The Sponsor shall monitor the Bank in the spring (March 15-May 31) of its third growing season following attainment of the one-year survivorship criteria for the Bank. The Sponsor will provide an Interim Success Criteria Report by July 31<sup>st</sup> of that year.

#### **1. Vegetation**

Note: For a given planting, a minimum of 250 seedlings/saplings per acre must be present at the end of the fourth year (i.e. Year 5) following successful attainment of the one-year survivorship criteria. Trees established through natural recruitment may be included in this tally; however, no less than 125 hard mast-producing seedlings per acre must be present. Surviving hard mast seedlings must be representative of the species composition and percentage identified in this MWP. Exotic/invasive species may not be included in this tally.

##### **a. Permanent Circular Plot Data**

The Sponsor shall provide plot data in tabular form on all planted seedlings falling within each permanent circular monitoring plot as described and as established in accordance with Section IX. of this MWP. A description of the general condition of the seedlings, including the number and species of surviving seedlings in each monitoring station, the tag number and a discussion of likely causes of mortality for the non-survivors shall be provided. A number (by species) of exotic/invasive species, including, a description of the generalized degree of distribution and whether they are seed bearing trees or seedlings will also be provided.

##### **b. Transect Data**

The Sponsor shall provide data in tabular form for the total number of planted seedlings as described in IX.B of this MWP. A description of the general condition of the seedlings and the discussion of likely causes of mortality, if appropriate shall also be

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provided. Exotic/invasive species should be noted along with information on the generalized amount of each and whether they are seed bearing trees or seedlings.

## 2. Hydrologic Data

By Year 3, two years following attainment of the one-year survivorship criteria, the Sponsor **must provide a CEMVN issued wetland determination to prove that site hydrology has been restored** such that the Property meets the wetland criterion as described in the 1987 Manual as well as the November 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region Version 2. The Sponsor shall submit a wetland delineation report and a request for a jurisdictional determination to CEMVN.

## 3. Photographs

The Sponsor must submit digital photographs in accordance with Section IX.E. of this MWP.

## 4. Qualitative Analysis

The Sponsor must provide a qualitative analysis of the site as described in Section IX.F. of this MWP. The Sponsor shall provide details on any maintenance/management work conduction on the Bank after submission of the Initial Success Criteria Report. The Sponsor shall provide a brief description of any anticipated maintenance/management work to be conducted prior to attainment of long-term success criteria. Note: By year 5, four years following successful attainment of the one-year survivorship criteria, the developing community must exhibit characteristics and diversity indicative of a viable native forested wetland community commensurate with stand age and site conditions; the Bank and the perimeter will be virtually free (approximately 5 percent or less on an acre-by-acre basis) of exotic/invasive vegetation.

## 5. Funding

The Sponsor shall provide CEMVN with copies of the most recent financial account statements for both the financial assurance accounts and the Long-term Maintenance and Protection Fund. If any escrowed funds were used, the Sponsor will include a narrative describing that use, the justification for that use and supporting documentation (e.g. receipts). The Sponsor shall also provide any justification for any requested release from financial assurance accounts.

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**D. Long Term Success Criteria Report**

**1. Vegetation**

Note: For a given planting, a minimum of 250 seedlings/saplings per acre must be present at the end of the fourth year (i.e. Year 5) following successful attainment of the one-year survivorship criteria. Trees established through natural recruitment may be included in this tally; however, no less than 125 hard mast-producing seedlings per acre must be present. Surviving hard mast seedlings must be representative of the species composition and percentage identified in this MWP. Exotic/invasive species may not be included in this tally.

a. Permanent Circular Plot Data

The Sponsor shall provide plot data in tabular form on all planted seedlings falling within each permanent circular monitoring plot as described and as established in accordance with Section IX. of this MWP. A description of the general condition of the seedlings, including the number and species of surviving seedlings in each monitoring station, the tag number and a discussion of likely causes of mortality for the non-survivors shall be provided. A number (by species) of exotic/invasive species, including, a description of the generalized degree of distribution and whether they are seed bearing trees or seedlings will also be provided.

b. Transect Data

The Sponsor shall provide data in tabular form for the total number of planted seedlings as described in Section IX.B of this MWP. A description of the general condition of the seedlings and the discussion of likely causes of mortality, if appropriate shall also be provided. Exotic/invasive species should be noted along with information on the generalized amount of each and whether they are seed bearing trees or seedlings.

**2. Hydrologic Data**

Note: By Year 3, two years following attainment of the one-year survivorship criteria, the Sponsor **must provide a CEMVN issued wetland determination to prove that site hydrology has been restored** such that the Property meets the wetland criterion as described in the 1987 Manual as well as the November 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region Version 2. The Sponsor shall submit a wetland delineation report and a request for a jurisdictional determination to CEMVN.

Provide supporting documentation that the hydrology achieved at year three still exists on the site.

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### **3. Photographs**

The Sponsor must submit digital photographs in accordance with Section IX.E. of this MWP.

### **4. Qualitative Analysis**

The Sponsor must provide a qualitative analysis of the site as described in Section IX.F. of this MWP. The Sponsor shall provide details on any maintenance/management work conduction on the Bank after submission of the Initial Success Criteria Report. The Sponsor shall provide a brief description of any anticipated maintenance/management work to be conducted prior to attainment of long-term success criteria. Note: By year 5, four years following successful attainment of the one-year survivorship criteria, the developing community must exhibit characteristics and diversity indicative of a viable native forested wetland community commensurate with stand age and site conditions; the Bank and the perimeter will be virtually free (approximately 3% or less on an acre-by-acre basis) of exotic/invasive vegetation.

### **5. Funding**

The Sponsor shall provide CEMVN with copies of the most recent financial account statements for both the financial assurance accounts and the Long-term Maintenance and Protection Fund. If any escrowed funds were used, the Sponsor will include a narrative describing that use, the justification for that use and supporting documentation (e.g. receipts). The Sponsor shall also provide any justification for any requested release from financial assurance accounts.

## **XI. Bank Credits**

### ***A. Credit Determination***

Refer to Attachment MWP-C.

### ***B. Schedule of Credit Availability***

Upon submittal of all appropriate documentation by the Sponsor, and subsequent approval by CEMVN in consultation with the IRT, CEMVN will release credits for use by the Sponsor according to the following schedule:

1. Thirty percent (30%) of total anticipated project credits will be available for debiting upon confirmation that all items in Section XI. F (1-7) of the MBI has been completed.
2. An additional ten percent (10%) of total anticipated credits will be available for debiting upon providing documentation that the initial 210.1-acre vegetative plantings

ATTACHMENT C: MITIGATION WORK PLAN  
FOR BOTTOMLAND HARDWOOD AND BALDCYPRESS SWAMP HABITAT  
LAUREL VALLEY COASTAL MITIGATION BANK, AMENDMENT ONE

and 3.2-acre enhancement work have been conducted as outlined in Section VI of this Work Plan.

3. An additional ten percent (10%) of total anticipated credits will be available for debiting upon providing documentation of the completion of the work necessary to restore site topography and wetland hydrology of the Bank (i.e. 5,075-feet of west perimeter levee degraded) and the 12.9- acre second vegetative planting event has been completed per Section VI of this Work Plan.
4. An additional twenty percent (20%) of the total anticipated credits would be released upon successfully completing the initial success criteria (Section VIII. A)
5. An additional twenty percent (20%) of the total anticipated credits would be released upon successfully completing the interim success criteria (Section VIII B).
6. The remaining ten percent (10%) of the total anticipated credits would be released once the long-term success criteria (Section VIII. C) are met.

## **XII. Adaptive management plan**

An adaptive management strategy, contingency, and remedial responsibilities shall be in place, and will be implemented in the event monitoring reveals that certain success criteria have not been met. In the event of a deficiency, the Sponsor shall provide a notice to the CEMVN. This notice shall include an explanation for the deficiency, and will outline specific practices and measures that will guide decisions for revising compensatory mitigation plans if needed.

If performance standards are not met as specified in Section VIII of this MWP the Sponsor shall take appropriate actions, as recommended by the CEMVN, to address the causes of mortality and shall replace seedlings of the appropriate species during the following planting season. Replanting, monitoring and reporting, as previously described, shall occur as needed to achieve and document the required survival rate.

If the performance standard is not met after three unsuccessful attempts, the CEMVN will convene a meeting with the Sponsor to decide if replanting should continue. Should the CEMVN determine that achieving the required survival rate would not be likely; the Sponsor shall be required to provide replacement mitigation for the increment of value that did not accrue within the unsuccessful areas within one year of this decision.

If wetland hydrology is not documented by Year 5, the Sponsor shall document in the monitoring report those areas where attention is needed. The CEMVN may require the Sponsor to conduct adaptive management measures in order to obtain adequate hydrology. With approval of the CEMVN, the Sponsor would establish a means of increasing the amount of available water to the site.



ATTACHMENT C: MITIGATION WORK PLAN  
FOR BOTTOMLAND HARDWOOD AND BALDCYPRESS SWAMP HABITAT  
LAUREL VALLEY COASTAL MITIGATION BANK, AMENDMENT ONE

**XIII. Long Term Protection and Maintenance**

To ensure long-term sustainability of the resource, the Sponsor shall burden the property with a perpetual conservation servitude as described in Section X of this MBI.

**XIV. Funding**

Section IX. A of this MBI provides specific details about the funding for the Construction and Establishment (C & E) Activities for the Bank.

**A. Construction and Establishment (C&E) Funds**

**1. Estimate of C & E Funds Required**

The amount required for a third-party to construct and manage the Bank as specified in this MWP through the first 15 years is estimated at \$326,008.53. The construction cost (Year 0) is estimated at \$230,184.45 and the establishment costs over the first 15 years (Years 1-15) are estimated at \$95,851.95. MWP Attachment C is an estimate of work and costs requirements for constructing and establishment of the Bank.

**2. C&E Funding Mechanism**

To fund this account the Sponsor proposes to establish an escrow account in the amount identified in Section XIV.A.1 of this MWP.

**3. C & E Release Schedule**

The Financial assurances shall be reduced as success criteria are achieved and the probability decreases that those funds would be needed according to the following schedule:

1. Upon verification that all hydrologic modifications, construction, and planting as described in this MWP (Attachment C of the MBI) have been completed to the satisfaction of CEMVN, in consultation with the IRT, CEMVN shall advise the Sponsor and the financial institution that the C & E financial assurance may be reduced to \$95,851.95.
2. Upon verification by CEMVN, in consultation with the IRT, that the initial success criteria have been attained for all tracts to the satisfaction of CEMVN, in consultation with the IRT, CEMVN shall advise the Sponsor and the financial institution that the C & E financial that assurance may be reduced to \$58,262.47.
3. Upon verification by CEMVN, in consultation with the IRT, that the interim success criteria have been attained for all tracts to the satisfaction of CEMVN, in consultation with

ATTACHMENT C: MITIGATION WORK PLAN  
FOR BOTTOMLAND HARDWOOD AND BALDCYPRESS SWAMP HABITAT  
LAUREL VALLEY COASTAL MITIGATION BANK, AMENDMENT ONE

the IRT, CEMVN shall advise the Sponsor and the financial institution that the C&E financial assurance may be reduced to \$20,108.14.

4. Upon verification by CEMVN, in consultation with the IRT, that the long-term success criteria have been attained for all tracts to the satisfaction of CEMVN, in consultation with the IRT, CEMVN shall notify the Sponsor and the financial institution that the remaining C&E financial assurance may be released to the Sponsor.

***B. Long Term Maintenance/Management Funds***

**1. Long-term Management Needs**

To ensure the long-term sustainability of the resource, the Sponsor will continue monitoring efforts and maintenance as described in Section VII of this MWP. These include, but are not limited to, invasive species control, boundary maintenance every five years, payment of property taxes and continued monitoring.

**2. Annual Cost Estimates for Long-Term Needs**

The cost of long-term management is \$70,579.78 from year 16 to year 50. This amounts to \$113,308.79 when adjusted for inflation every five years. Attachment D contains a description of the necessary work and an itemization of costs to perform the work for long term management and protection of the Bank.

**3. Long-Term Maintenance and Protection Funding Mechanism**

To ensure that sufficient funds are available to provide for the perpetual maintenance and protection of the Bank, the Sponsor is establishing the "Long-Term Maintenance and Protection" escrow account. This account will be administered by a federally-insured depository that is "well capitalized" or "adequately capitalized" as defined in Section 38 of the Federal Deposit Insurance Act. The account will be incrementally funded by deposit a minimum of \$360.90 into the account per credit /acre sold at the time of credit sale. The deposit value per credit/acre must reflect, at a minimum, the total fund value divided by no more than 90 percent of anticipated credits. Once the account is fully funded (\$81,634.89), no incremental fund per credit sale is required. The account shall be fully funded by the time 70 percent of the total number of credits are sold or upon successful achievement of the Long-term Success Criteria, whichever occurs first. If the Long-term Success Criteria are met prior to fully funding the escrow account then the Sponsor must deposit into the escrow account the difference between the amount determined to be full funding and the account balance difference between the amount determined to be full funding and the account balance. Documentation that the account is fully funded is a prerequisite for release of the remaining credits following attainment of the Long-term Success Criteria as identified in this MWP. Accrued interest in excess of the value of the fully funded account may only be used for the administration, operation, maintenance and/or other purposes that directly benefit the Bank. The principal shall not be used and shall

ATTACHMENT C: MITIGATION WORK PLAN  
FOR BOTTOMLAND HARDWOOD AND BALDCYPRESS SWAMP HABITAT  
LAUREL VALLEY COASTAL MITIGATION BANK, AMENDMENT ONE

remain as part of the Bank's assets to ensure that sufficient funds are available should perpetual maintenance responsibilities be assumed by a third party. The Sponsor or Long-term Steward may withdraw the accumulated interest only with written approval from CEMVN and only to be used to maintain the Bank. The Sponsor shall provide copies of depository account statements to CEMVN upon request and in their monitoring reports.

ATTACHMENT MWP A  
TABLES AND FIGURES

**Table 1. Pre-Restoration Conditions and Post-Restoration Mitigation Habitat Types at the Laurel Valley Coastal Mitigation Bank Amendment One in Lafourche Parish, Louisiana.**

<b>Baseline Condition</b>	<b>Mitigation Habitat and Type</b>	<b>Acres</b>
Non-wetland Pasture	Type 2 and 3 Bottomland Hardwood Re-establishment (>2.0 feet NAVD)	48.5
Wetland Pasture	Type 2 and 3 Bottomland Hardwood Rehabilitation (>2.0 feet NAVD)	5.5
Non-wetland Pasture	Type 1 Bottomland Hardwood Re-establishment (1.2 to 2.0 feet NAVD)	63.6
Wetland Pasture	Type 1 Bottomland Hardwood Rehabilitation (1.2 to 2.0 feet NAVD)	28.8
West Perimeter Levee/Borrow Canal	Type 2 and 3 Bottomland Hardwood Re-establishment (1.2 to 2.0 feet NAVD)	12.9 <sup>1</sup>
Wetland Pasture	Baldcypress Swamp Rehabilitation (<1.2 feet NAVD)	42.1
Non-wetland Pasture	Baldcypress Swamp Re-establishment (<1.2 feet NAVD)	21.6
Wetland Forest	Baldcypress Swamp Species Composition Enhancement	3.2
Wetland Forest	Hydric Inclusion	8.3
	<b><i>Total Restoration and Enhancement Credit Acreage</i></b>	<b><i>226.2</i></b>
	<b><i>Total Inclusion Acreage</i></b>	<b><i>8.3</i></b>
	<b><i>Total Restoration, Enhancement and Inclusion Acreage</i></b>	<b><i>234.5</i></b>
Canal	Canal to Remain	4.8
Pasture	Pipeline Rights-of-way	2.6
Pasture	Access Roads	5.8
	<b><i>Total Non-mitigation Acreage</i></b>	<b><i>13.2</i></b>
	<b>Total Conservation Servitude Acreage</b>	<b>247.7</b>

<sup>1</sup> These acres are associated with the degradation of the 5,075-foot west perimeter levee.

<sup>2</sup> The 12.9 acres are associated with the degradation of the 5,075-foot west perimeter levee. This 12.9 acres combined with the 48.5 acres on non-wetland equals the 61.4 total acres of Type 1 BLH Re-establishment on Figure 4 of the Mitigation Work Plan.

**Table 2. Mitigation Habitat Types at the Laurel Valley Coastal Mitigation Bank Amendment One in Lafourche Parish, Louisiana.**

<b>Mitigation Habitat and Type</b>	<b>Acres</b>
Type 2 and 3 Bottomland Hardwood Re-establishment (>2.0 feet NAVD)	61.4
Type 2 and 3 Bottomland Hardwood Rehabilitation (>2.0 feet NAVD)	5.5
Type 1 Bottomland Hardwood Re-establishment (1.2 to 2.0 feet NAVD)	63.6
Type 1 Bottomland Hardwood Rehabilitation (1.2 to 2.0 feet NAVD)	28.8
Swamp Rehabilitation (<1.2 feet NAVD)	42.1
Swamp Re-establishment (<1.2 feet NAVD)	21.6
Swamp Species Composition Enhancement	3.2
Hydric Inclusion	8.3
<b><i>Total Restoration and Enhancement Credit Acreage</i></b>	<b><i>226.2</i></b>
<b><i>Total Inclusion Acreage</i></b>	<b><i>8.3</i></b>
<b><i>Total Restoration, Enhancement and Inclusion Acreage</i></b>	<b><i>234.5</i></b>
Canal to Remain	4.8
Pipeline Rights-of-way	2.6
Access Roads	5.8
<b><i>Total Non-mitigation Acreage</i></b>	<b><i>13.2</i></b>
<b>Total Conservation Servitude Acreage</b>	<b>247.7</b>

**Table 3. Planting Composition of Re-established and Rehabilitated Baldcypress-Tupelo Swamp and Bottomland Hardwood Forest at the Laurel Valley Coastal Mitigation Bank Amendment One in Lafourche Parish, Louisiana<sup>1</sup>.**

<b>Baldcypress Swamp Species</b>			
<b>Common Name</b>	<b>Scientific Name</b>	<b>Indicator Status<sup>2</sup></b>	<b>Composition<sup>3</sup></b>
baldcypress	<i>Taxodium distichum</i>	OBL	50-80%
swamp tupelo	<i>Nyssa biflora</i>	OBL	≤20%
overcup oak	<i>Quercus lyrata</i>	OBL	≤20%
Nuttall oak	<i>Quercus texana</i>	FACW	≤20%
Drummond red maple	<i>Acer rubrum</i> var. <i>drummondii</i>	OBL <sup>4</sup>	≤10%
mayhaw	<i>Crataegus opaca</i>	OBL	≤10%
buttonbush	<i>Cephalanthus occidentalis</i>	OBL	≤10%
Carolina ash	<i>Fraxinus caroliniana</i>	OBL	≤10%
eastern swampprivet	<i>Forestiera acuminata</i>	OBL	≤10%
pumpkin ash	<i>Fraxinus profunda</i>	OBL	≤10%
<b>Type 1 Bottomland Hardwood Species (Approximately 60% Hard Mast and 40% Soft Mast)</b>			
<b>Common Name</b>	<b>Scientific Name</b>	<b>Indicator Status</b>	<b>Composition</b>
overcup oak	<i>Quercus lyrata</i>	OBL	≤20%
Nuttall oak	<i>Quercus texana</i>	FACW	≤20%
willow oak	<i>Quercus phellos</i>	FACW	≤20%
water hickory	<i>Carya aquatica</i>	OBL	≤20%
baldcypress	<i>Taxodium distichum</i>	OBL	≤50%
Drummond red maple	<i>Acer rubrum</i> var. <i>drummondii</i>	OBL <sup>4</sup>	≤10%
mayhaw	<i>Crataegus opaca</i>	OBL	≤10%
eastern swampprivet	<i>Forestiera acuminata</i>	OBL	≤10%
green ash	<i>Fraxinus pennsylvanica</i>	FACW	≤10%
redbay	<i>Persea borbonia</i>	FACW	≤10%
<b>Type 2 and 3 Bottomland Hardwood Species (Approximately 60% Hard Mast and 40% Soft Mast)</b>			
<b>Common Name</b>	<b>Scientific Name</b>	<b>Indicator Status</b>	<b>Composition</b>
cow oak	<i>Quercus michauxii</i>	FACW	≤20%
willow oak	<i>Quercus phellos</i>	FACW	≤20%
Nuttall oak	<i>Quercus texana</i>	FACW	≤20%
Delta post oak	<i>Quercus similis</i>	FACW	≤20%
water oak	<i>Quercus nigra</i>	FAC	≤10%
Shumard's oak	<i>Quercus shumardii</i>	FAC	≤10%
sugarberry	<i>Celtis laevigata</i>	FACW	≤10%
green ash	<i>Fraxinus pennsylvanica</i>	FACW	≤10%
sweetgum	<i>Liquidambar styraciflua</i>	FAC	≤10%
red mulberry	<i>Morus rubra</i>	FACU <sup>5</sup>	≤10%
American sycamore	<i>Platanus occidentalis</i>	FACW	≤10%
redbay	<i>Persea borbonia</i>	FACW	≤10%
eastern cottonwood	<i>Populus deltoides</i>	FAC	≤10%
American elm	<i>Ulmus americana</i>	FAC	≤10%

<sup>1</sup> All species selected have flood tolerances of Class I, II, or III as described in Shankman 1996.

<sup>2</sup> Indicator status from 2013 National Wetland Plant List (Lichvar and Kortezs 2009)

<sup>3</sup> Exact species and quantities to be determined by seedling availability from commercial sources providing seedlings grown from localized ecotypes.

<sup>4</sup> Indicator status from 1988 National Wetland Plant List, Region 2

<sup>5</sup> These species are designated as UPL on the 2013 National Wetland Plant List but were FAC species on the 1988 National Wetland Plant List for Region 2. These species were previously listed as FAC on the 1988 National Wetland Plants List for Region 2. Although potentially upland species, these are native to the site and will provide increased habitat value given the goals of the project. The occurrence of the species at the specified composition will not affect the targeted plant community from being classified as a hydrophytic plant community in accordance with the methodology prescribed in the Atlantic and Gulf Coastal Plain Regional Supplement (USACE 2010).

**Table 4. Planting Composition of Enhanced Baldcypress-Tupelo Swamp Forest Post Treatment at the Laurel Valley Coastal Mitigation Bank in Lafourche Parish, Louisiana<sup>1</sup>.**

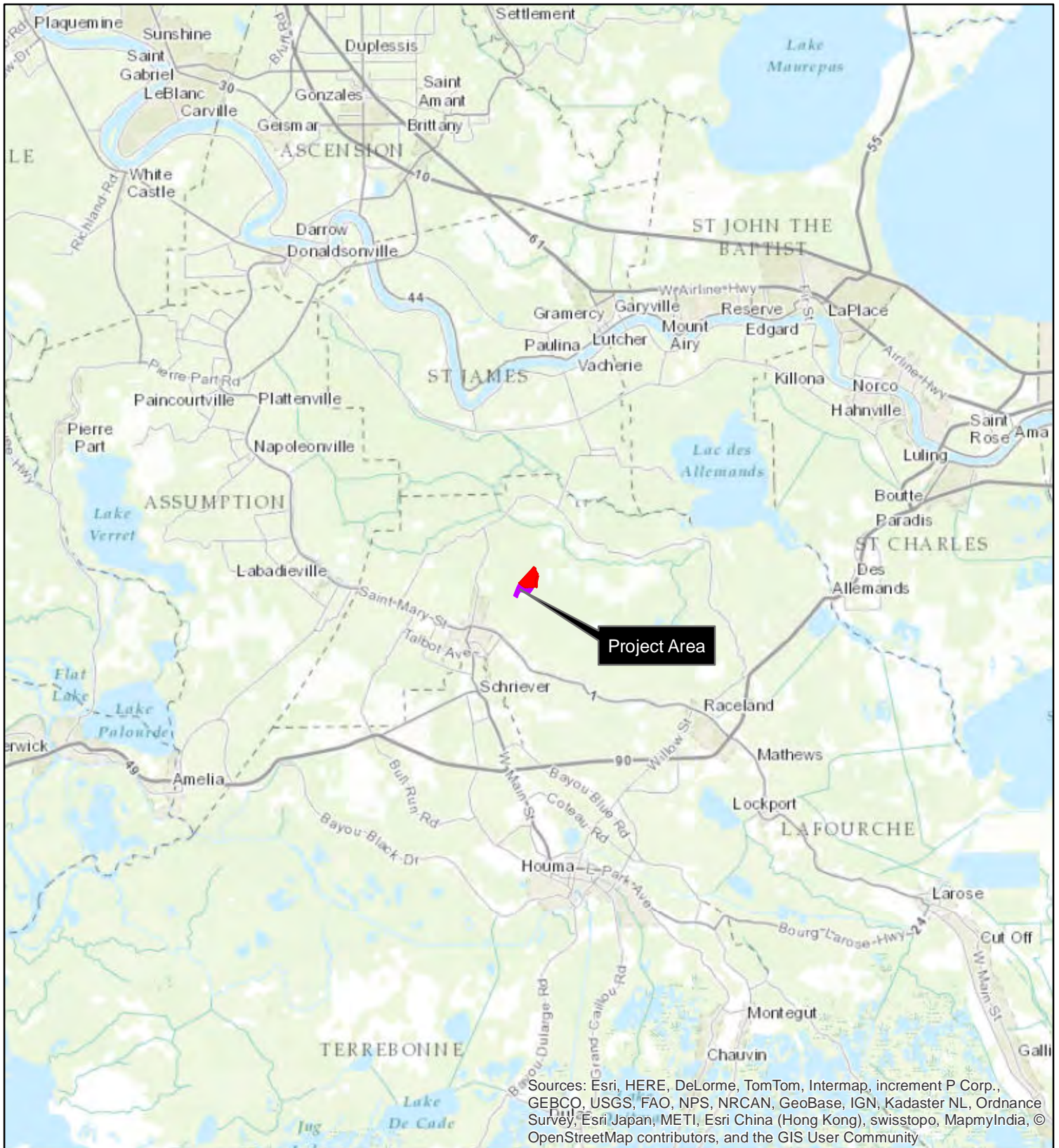
<b>Swamp Species</b>			
<b>Common Name</b>	<b>Scientific Name</b>	<b>Indicator Status<sup>2</sup></b>	<b>Composition<sup>3</sup></b>
baldcypress	<i>Taxodium distichum</i>	OBL	50-80%
swamp tupelo	<i>Nyssa biflora</i>	OBL	≤20%

<sup>1</sup> All species selected have flood tolerances of Class I, II, or III as described in Shankman 1996.

<sup>2</sup> Indicator status from 2013 National Wetland Plant List (Lichvar and Kortesz 2009)


<sup>3</sup> Exact species and quantities to be determined by seedling availability from commercial sources providing seedlings grown from localized ecotypes.






**Legend**

- Laurel Valley Coastal Mitigation Bank
- Laurel Valley Coastal Mitigation Bank Amendment One



8.5   4.25   0   8.5




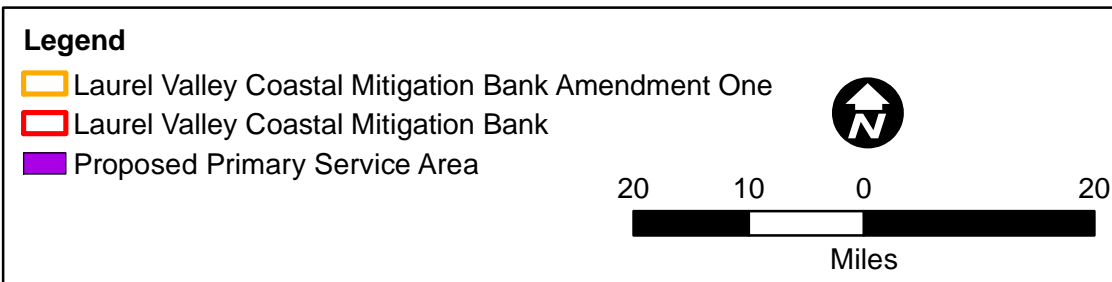
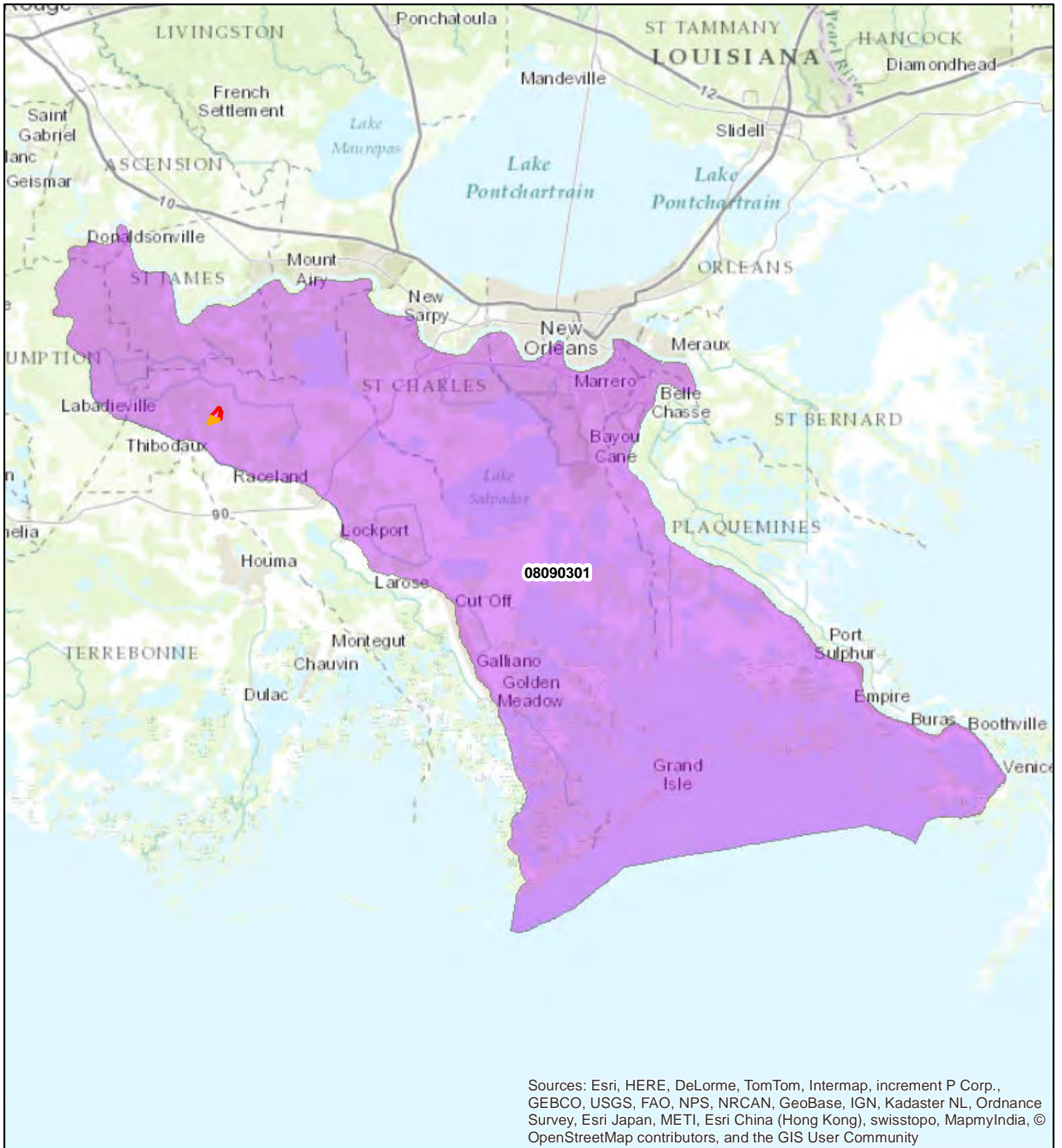
Miles

**Laurel Valley Coastal Mitigation Bank Amendment One**

**Vicinity Map**

**Lafourche Parish, Louisiana**


Created : LJV/AM10.2	
Approved : ---	
Date : 06/09/2015	
Map No. : F01_Vicinity Map	
<b>FIGURE 1</b>	



**Laurel Valley Coastal Mitigation Bank Amendment One**

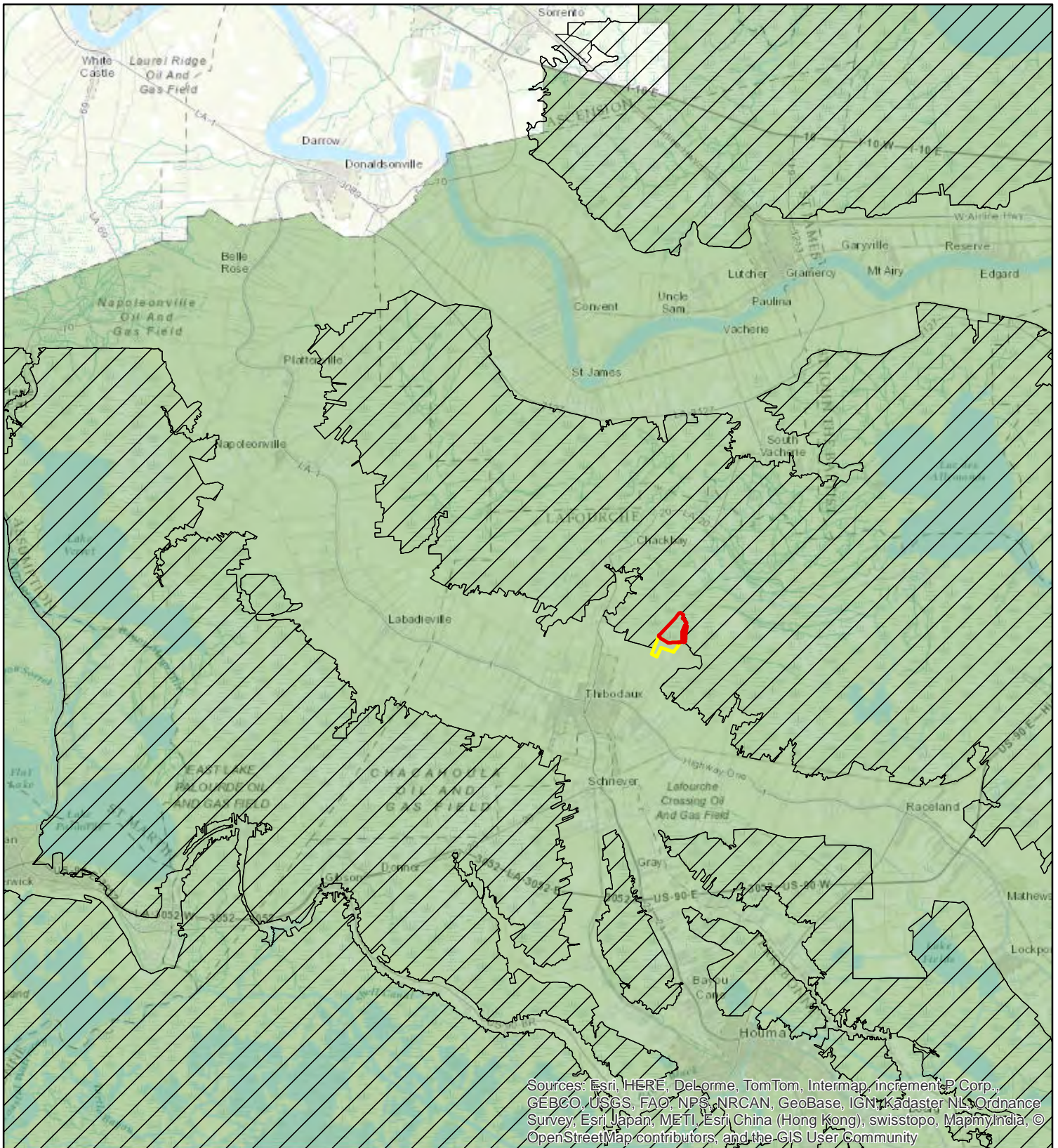
**Geographic Service Area**

**Lafourche Parish, Louisiana**

Created : DEB/AM10.2.1	
Approved : ---	
Date : 07/15/2014	
Map No. : F02_Service Area	


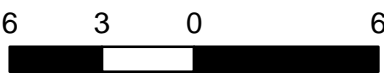
**FIGURE 2**





Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Laurel Valley Coastal Mitigation Bank Amendment One  
 Laurel Valley Coastal Mitigation Bank  
 Coastal Wetlands Conservation Plan Boundary  
 Coastal Zone Boundary



  


Miles

**Laurel Valley Coastal Mitigation Bank Amendment One**

**Coastal Zone and Coastal Wetlands Conservation Plan Boundary**

**Lafourche Parish, Louisiana**

Created : LJW/AM10.1	
Approved : ---	
Date : 02/10/2015	
Map No. : F03_Coastal Boundaries	

**FIGURE 3**

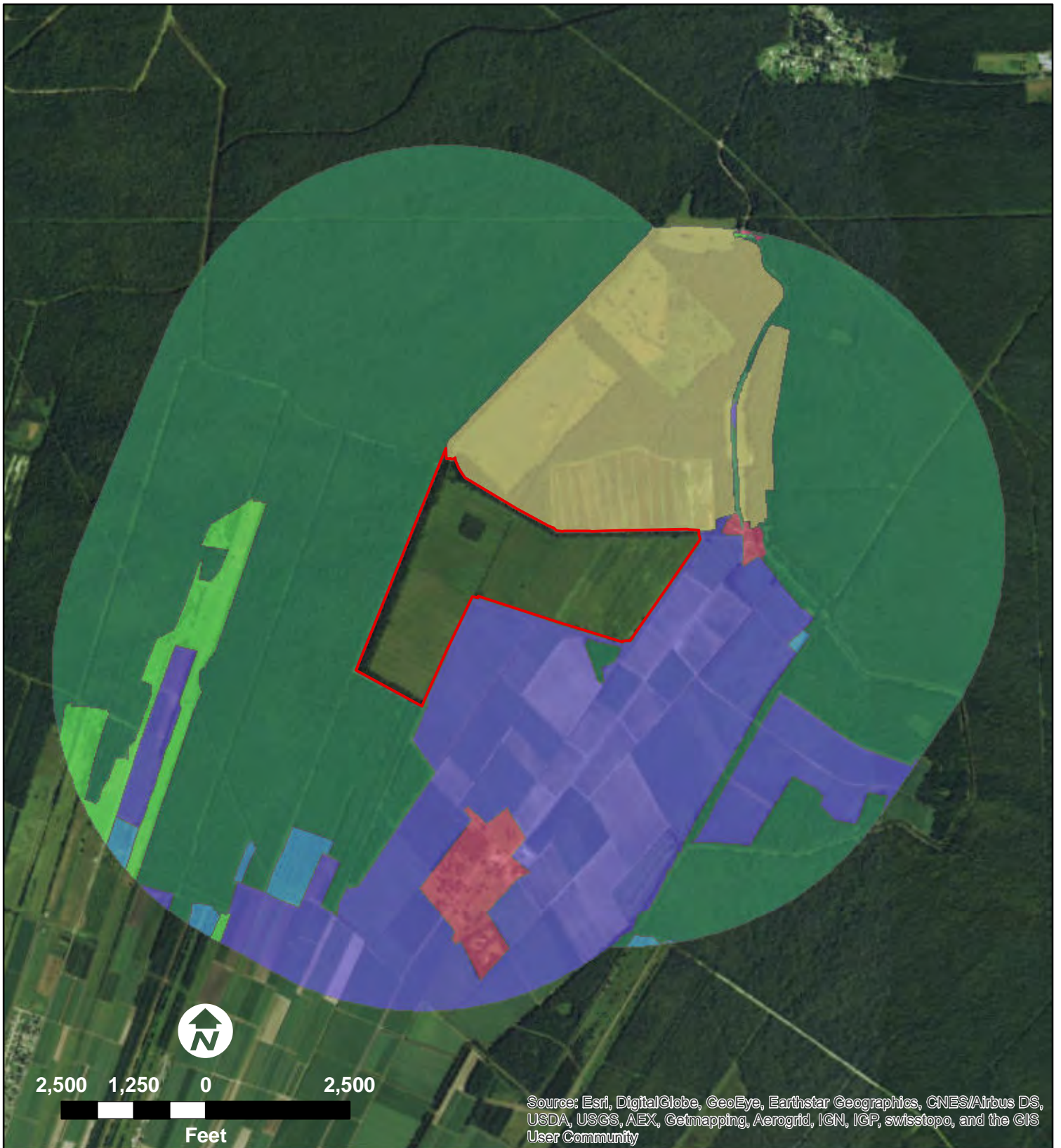




	Project Area (247.7 Acres)		Swamp Re-establishment (21.6 Acres)
	Type 1 BLH Re-establishment (63.6 Acres)		Swamp Enhancement (3.2 Acres)
	Type 1 BLH Rehabilitation (28.8 Acres)		Hydric Inclusion (8.3 Acres)
	Type 2-3 BLH Re-establishment (61.4 Acres)		Access Road (5.8 Acres)
	Type 2-3 BLH Rehabilitation (5.5 Acres)		Canal to Remain (4.8 Acres)
	Swamp Rehabilitation (42.1 Acres)		ROW (2.6 Acres)

Laurel Valley Coastal Mitigation Bank Amendment One	
MITIGATION FEATURES	
Lafourche Parish, Louisiana	
Created : LJV/AM10.2	
Approved : ---	
Date : 022/20/2015	
Map No. : F04_Mitigation Features	
<b>FIGURE 4</b>	





Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Legend	
	Project Area (247.7 Acres)
	Woody Wetlands (58%)
	Cultivated Crops (24%)
	Laurel Valley Coastal Mitigation Bank (12%)
	Pasture/ Hay (3%)
	Developed, Low Intensity (2%)
	Emergent Herbaceous Wetlands (1%)

Laurel Valley Coastal Mitigation Bank Amendment One	
Surrounding Land Use within One Mile	
Lafourche Parish, Louisiana	
Created :	LJW/AM10.1
Approved :	---
Date :	2/20/2015
Map No. :	F05_Land Use
<b>FIGURE 5</b>	





**Legend**

 Laurel Valley Coastal Mitigation Bank Amendment One



**Laurel Valley Coastal  
Mitigation Bank Amendment One  
1940 Aerial Photograph**

**Lafourche Parish, Louisiana**

Created : LJW/AM10.1

Approved : ---

Date : 09/30/2013

Map No. : F06\_1940 Aerial



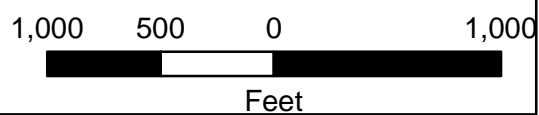
**FIGURE 6**





**Legend**

 Laurel Valley Coastal Mitigation Bank Amendment One



**Laurel Valley Coastal  
Mitigation Bank Amendment One  
1953 Aerial Photograph**

**Lafourche Parish, Louisiana**

Created : LJW/AM10.1

Approved : ---

Date : 06/15/2015

Map No. : F07\_1953 Aerial



**FIGURE 7**





**Legend**

 Laurel Valley Coastal Mitigation Bank Amendment One



**Laurel Valley Coastal  
Mitigation Bank Amendment One  
1957 Aerial Photograph**

**Lafourche Parish, Louisiana**

Created : LJW/AM10.1

Approved : ---

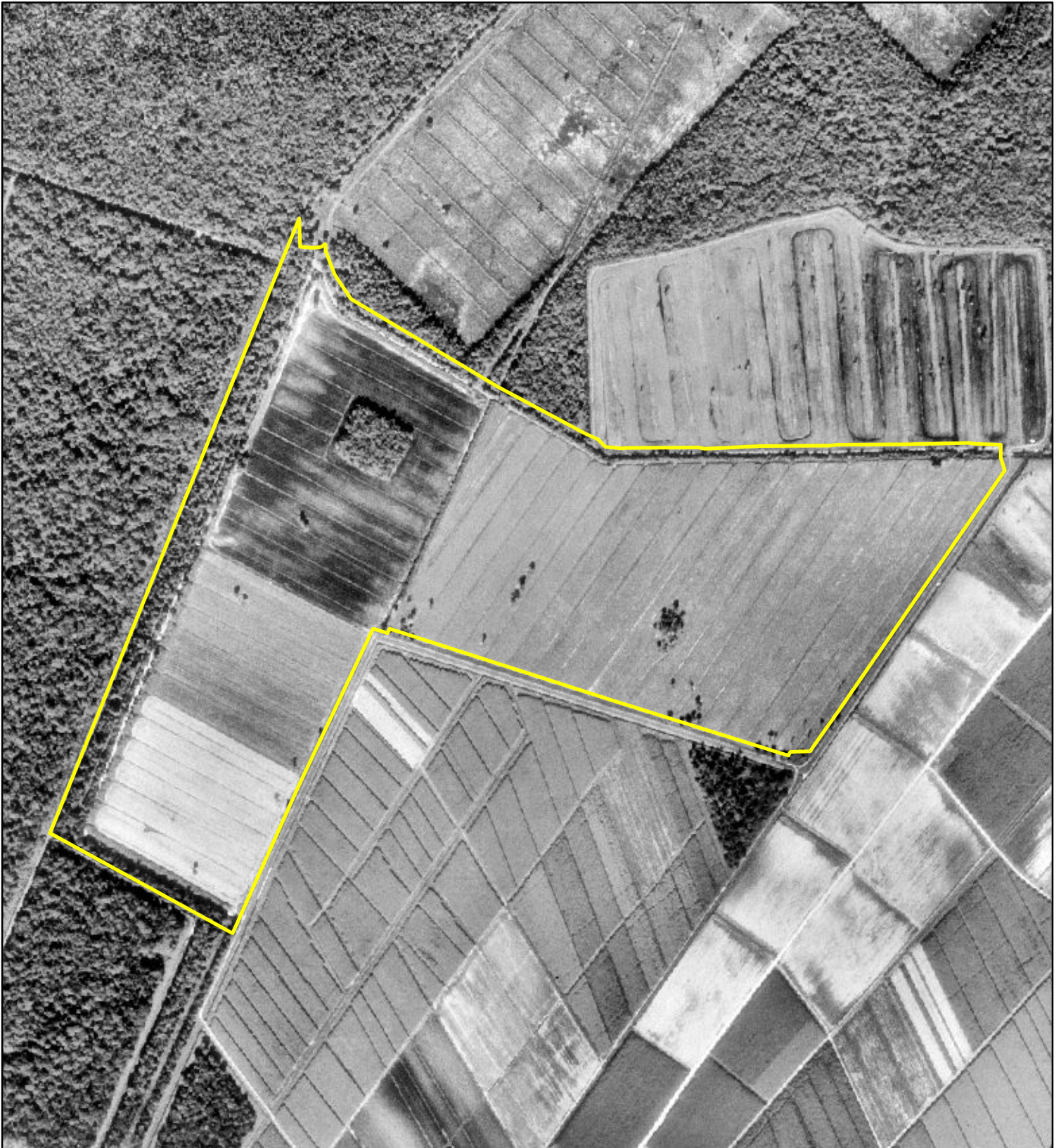
Date : 06/15/2015

Map No. : F08\_1957 Aerial



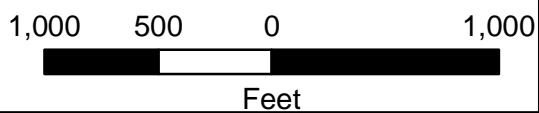
**FIGURE 8**





**Legend**

 Laurel Valley Coastal Mitigation Bank Amendment One



**Laurel Valley Coastal Mitigation Bank Amendment One  
1989 Aerial Photograph**

**Lafourche Parish, Louisiana**

Created : LJW/AM10.1

Approved : ---

Date : 06/15/2015

Map No. : F09\_1989 Aerial



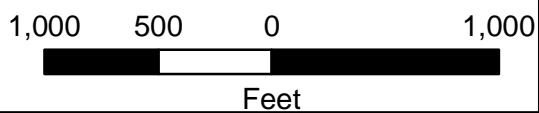
**FIGURE 9**





**Legend**

 Laurel Valley Coastal Mitigation Bank Amendment One



**Laurel Valley Coastal Mitigation Bank Amendment One  
1998 Aerial Photograph**

**Lafourche Parish, Louisiana**

Created : LJW/AM10.1

Approved : ---

Date : 06/15/2015

Map No. : F10\_1998 Aerial



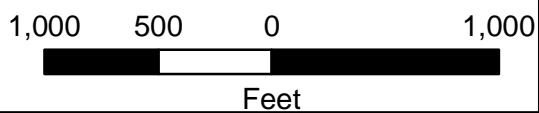
**FIGURE 10**





**Legend**

 Laurel Valley Coastal Mitigation Bank Amendment One



**Laurel Valley Coastal  
Mitigation Bank Amendment One  
2004 Aerial Photograph**

**Lafourche Parish, Louisiana**

Created : LJW/AM10.1

Approved : ---

Date : 06/15/2015

Map No. : F11\_2004 Aerial



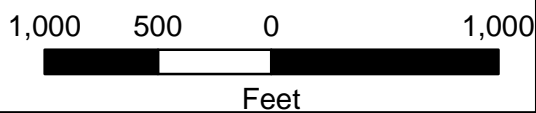
**FIGURE 11**





**Legend**

 Laurel Valley Coastal Mitigation Bank Amendment One



**Laurel Valley Coastal Mitigation Bank Amendment One  
2010 Aerial Photograph**

**Lafourche Parish, Louisiana**

Created : LJW/AM10.1

Approved : ---

Date : 06/15/2015

Map No. : F12\_2010 Aerial



**FIGURE 12**



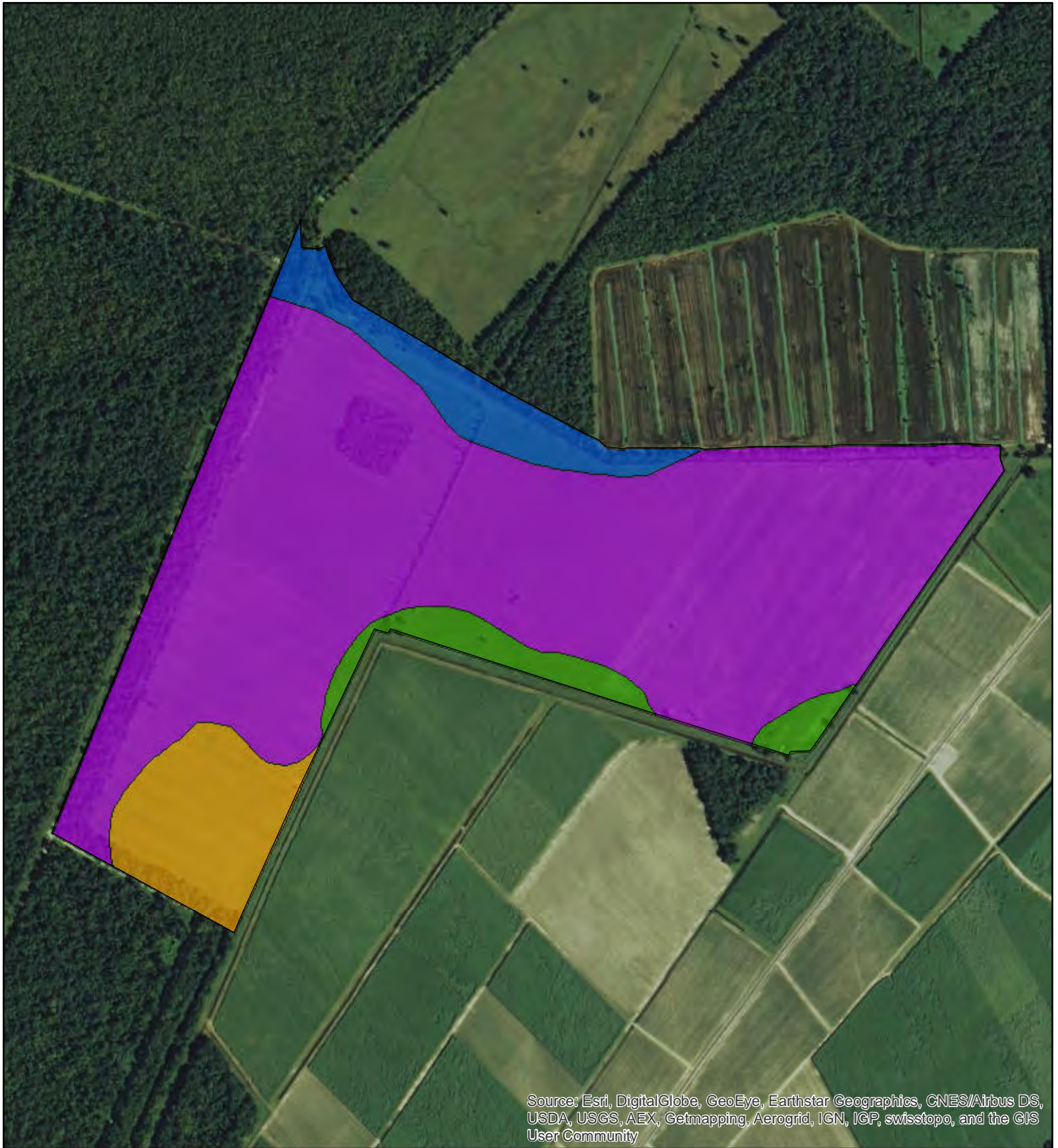


	Project Area (247.7 Acres)
	Pasture (212.6 Acres)
	Nonwetland Forest (22.5 Acres)
	Canal (9.4 Acres)
	Wetland Forest (3.2 Acres)

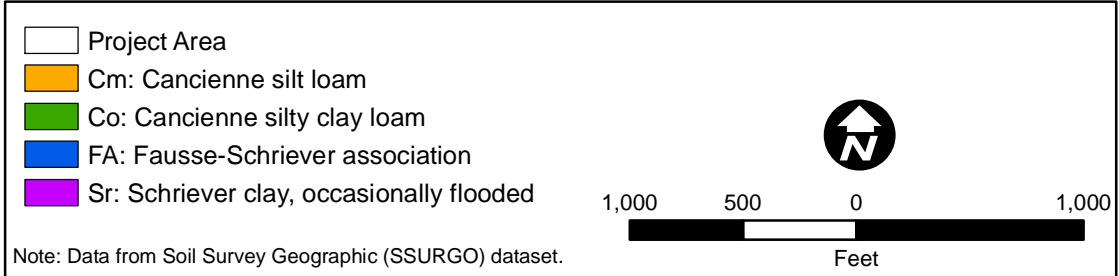
<b>Laurel Valley Coastal Mitigation Bank Amendment One</b>	
<b>EXISTING PLANT COMMUNITY</b>	
<b>Lafourche Parish, Louisiana</b>	
Created :	LJW/AM10.1
Approved :	---
Date :	02/20/2015
Map No. :	F13_ExistingPlantConditions
<b>FIGURE 13</b>	








Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

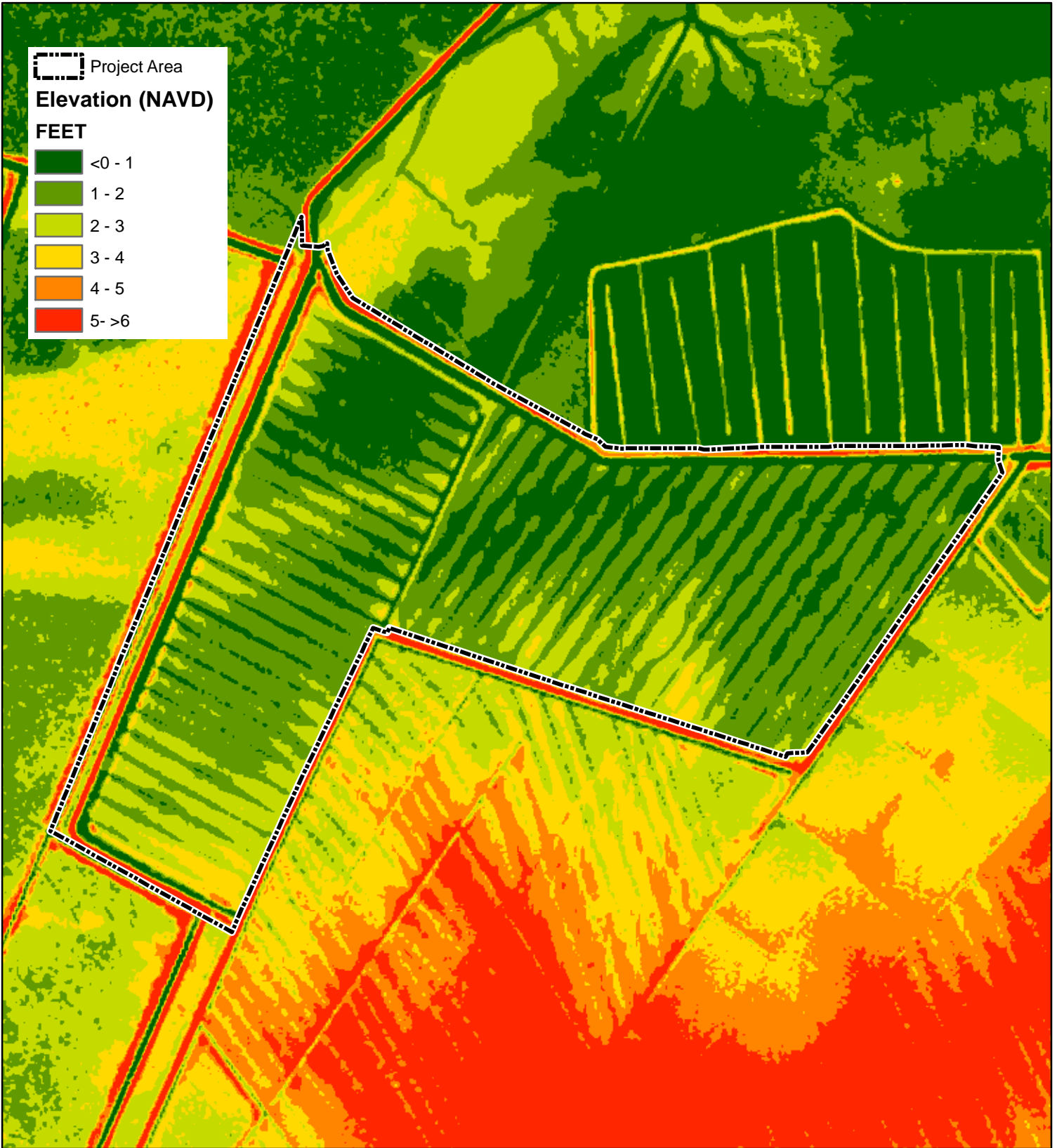



**Laurel Valley Coastal  
Mitigation Bank Amendment One  
NRCS SOILS MAP**

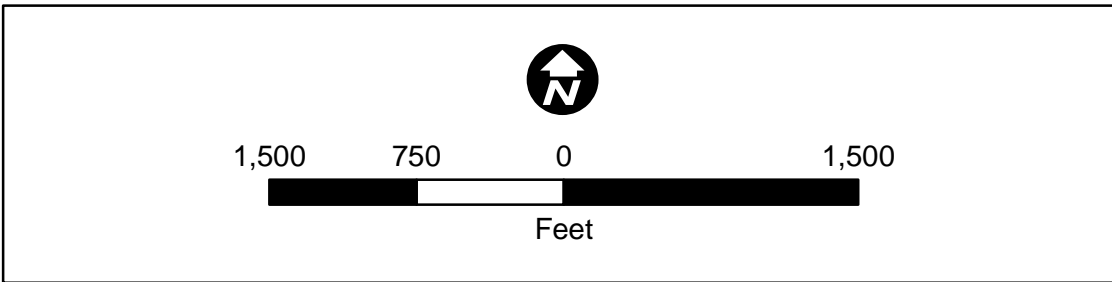
**Lafourche Parish, Louisiana**


Created : LJV/AM10.2	
Approved : ---	
Date : 02/20/2015	
Map No. : F14_NRCS Soils Map	

**FIGURE 14**

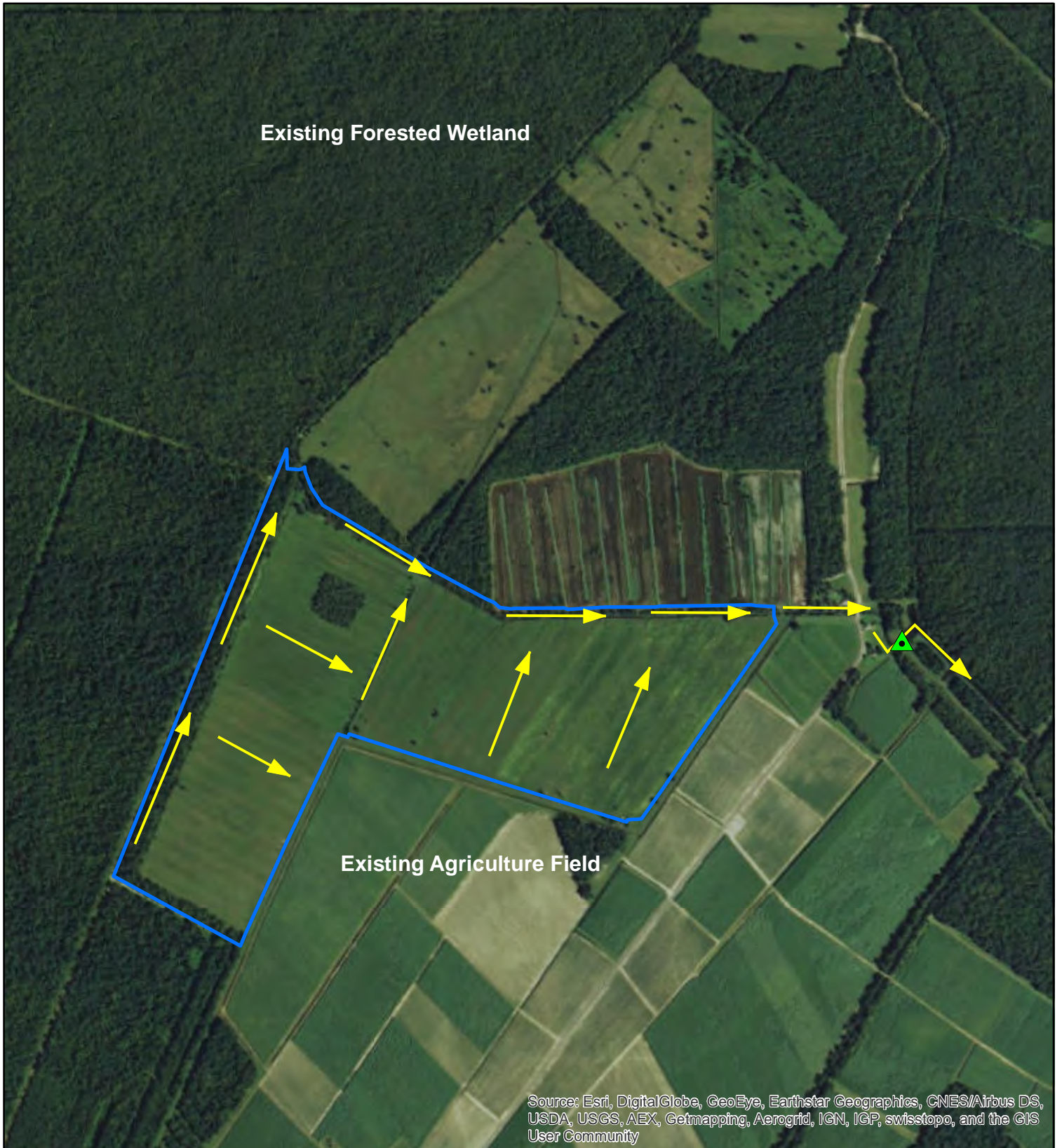


 Project Area  
**Elevation (NAVD)**  
**FEET**  
 <math>< 0 - 1</math>  
 1 - 2  
 2 - 3  
 3 - 4  
 4 - 5  
 5 - >6





<b>Laurel Valley Coastal          Mitigation Bank Amendment One</b> <b>LIDAR Digital Elevation Model</b> <b>Lafourche Parish, Louisiana</b>	
Created :	LJW/AM10.2
Approved :	---
Date :	02/20/2015
Map No. :	F15_LIDAR DEM
	
<b>FIGURE 15</b>	






Laurel Valley Coastal Mitigation Bank Amendment One  
▲ Discharge Pump  
→ Water Flow Path


  
 1,000 500 0 1,000  
  
 Feet

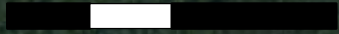
**Laurel Valley Coastal Mitigation Bank Amendment One**  
**EXISTING DRAINAGE PATTERNS**  
**Lafourche Parish, Louisiana**

Created : LJW/AM10.2	
Approved : ---	
Date : 02/20/2015	
Map No. : F16_Existing Drainage	
<b>FIGURE 16</b>	





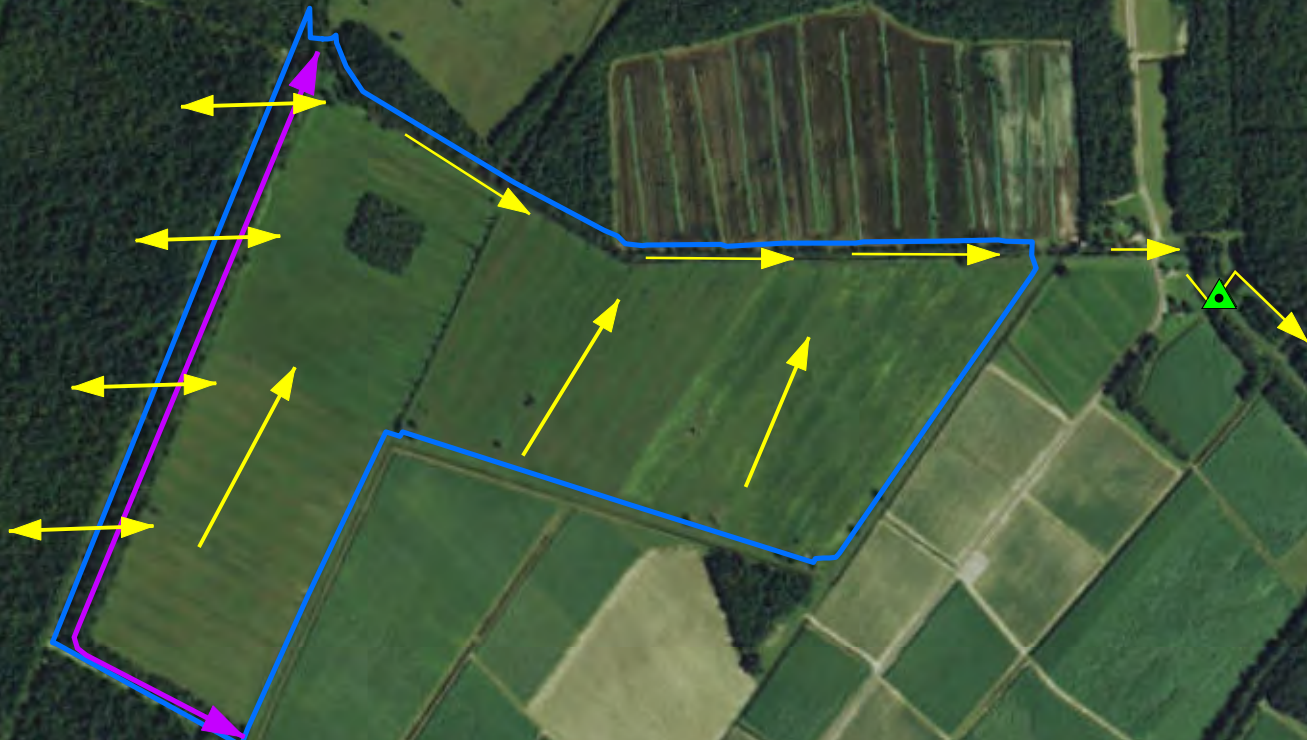
1,000 500 0 1,000







Feet

Existing Wetland Forest


Existing Agricultural Field



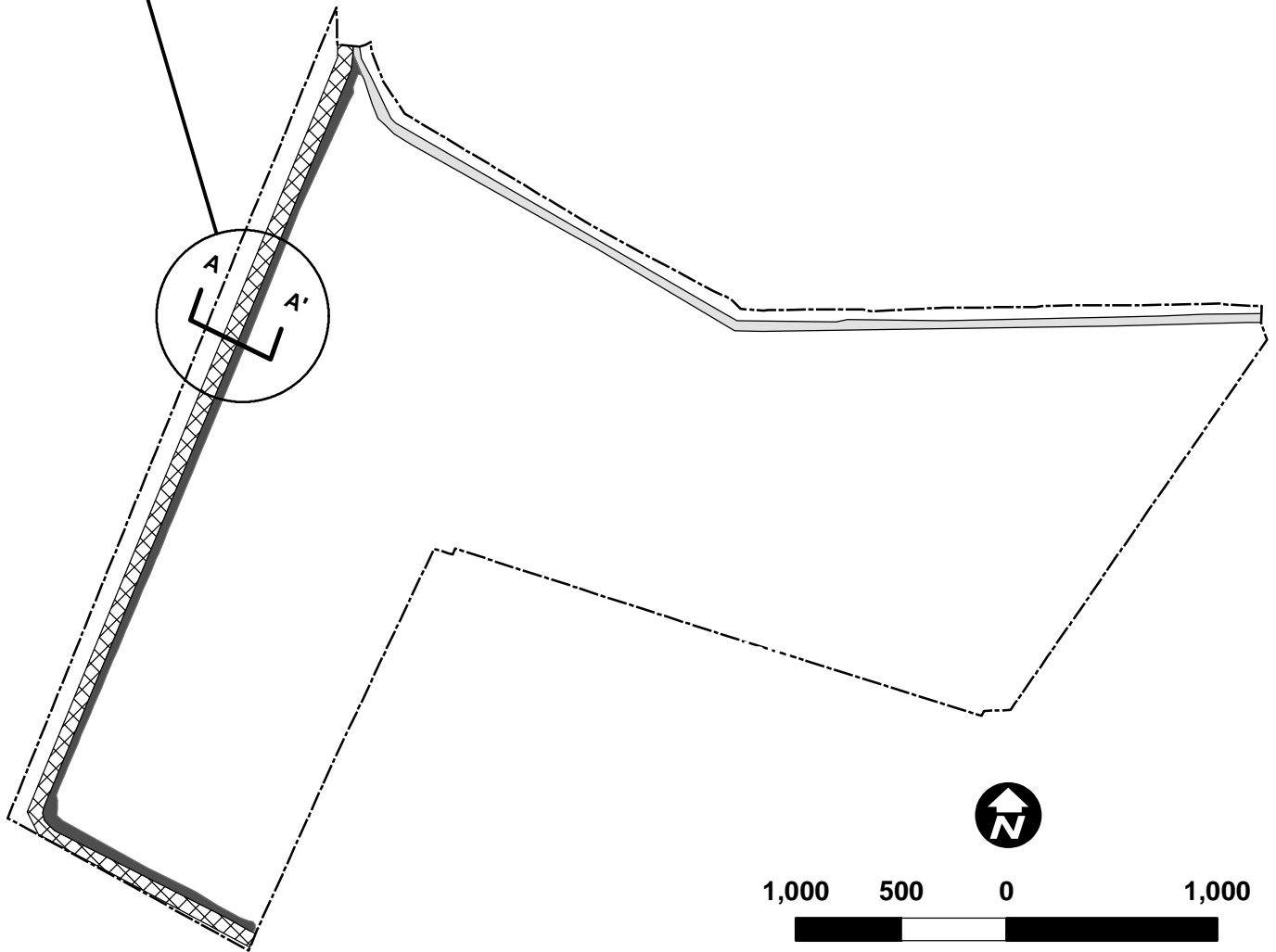
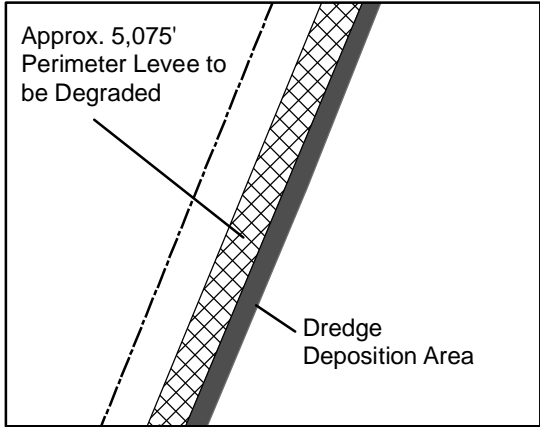
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

-  Laurel Valley Coastal Mitigation Bank Amendment One
-  Discharge Pump
-  Levee Removal
-  Restored Water Flow Path

**Laurel Valley Coastal Mitigation Bank Amendment One  
RESTORED DRAINAGE PATTERNS  
Lafourche Parish, Louisiana**

Created : LJW/AM10.1	
Approved : ---	
Date : 02/20/2015	
Map No. : F17_Restored Drainage	

**FIGURE 17**



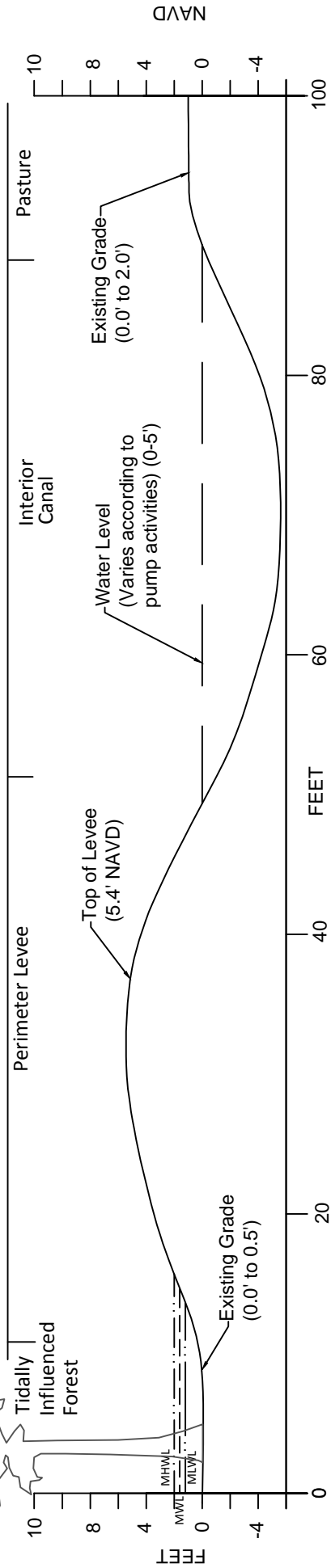
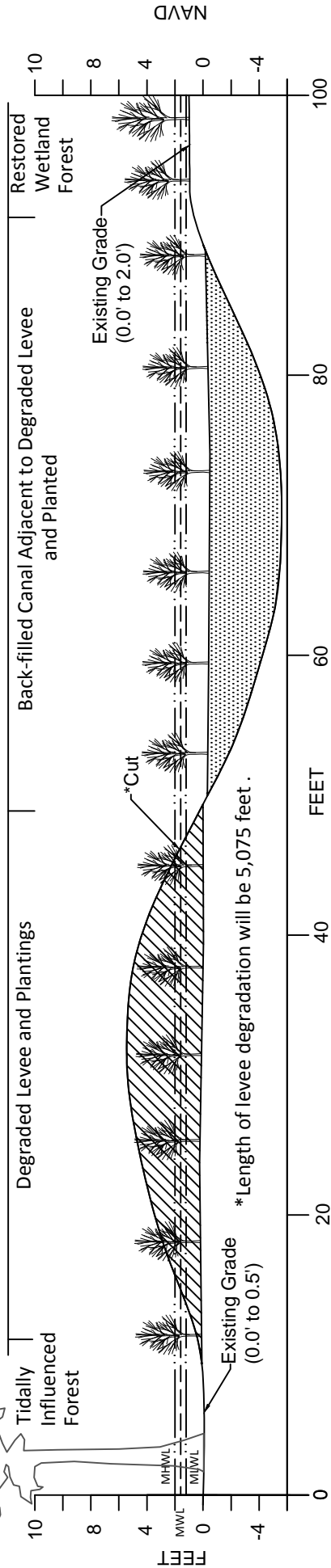
Note: Dredge material from 5,075 feet of levee removal to be placed in borrow canal.

	Project Area
	Perimeter Levee to be Degraded (Maximum Limit of Dredging)
	Canal to Remain
	Canal to be Filled (Maximum Limit of Fill)

**Laurel Valley Coastal  
Mitigation Bank Amendment One  
PLAN VIEW  
Lafourche Parish, Louisiana**

Created : LJW/AM10.1	
Approved : ---	
Date : 02/20/2015	
Map No. : F18_PlanView	

**FIGURE 18**

**A****Existing Cross-Section A****A'****A****Post Restoration Cross-Section A****A'**

PROPOSED EXCAVATION

PROPOSED FILL

MHWL = MEAN HIGH WATER LEVEL IS 2.0 FEET (RANGE 1.5 TO 2.5 FEET)  
 MWL = MEAN WATER LEVEL IS 1.6 FEET (RANGE 1.1 TO 2.0 FEET)  
 MLWL = MEAN LOW WATER LEVEL IS 1.2 FEET (RANGE 0.6 TO 1.7 FEET)

**Notes:**

- The water levels are from the Coastwide Reference Monitoring System (CRMS) stations 0206 and 0218 and based on daily records from September 2008 to October 2010.
- The mean high water level is the average of all recorded levels above the mean water level and the mean low water level is the average of all recorded levels below the mean water level. The mean water level is the average of all recorded levels over this same period.
- Trees not to scale.

**Laurel Valley Coastal Mitigation Bank  
 Amendment One**

**Cross Section A-A'**

LAFOURCHE PARISH, LA

Created:	TSC/AutCAD
Approved:	LJW
Date:	06/16/2015
Dwg. No.:	XsectionA.dwg

**FIGURE 19**

ATTACHMENT MWP B  
PRELIMINARY JURISDICTIONAL  
DETERMINATION



**USACE**

FSV/1 IH Date: 8/20/13

Botanist: WINDHAM

Requestor: JAGREAU

# MVN-2013-01589-5K

▨ - WETLAND (prelim 404)

□ - NON-WETLAND

■ - WATERS OF THE US (prelim 404)

**PRELIMINARY**  
JURISDICTIONAL DETERMINATION

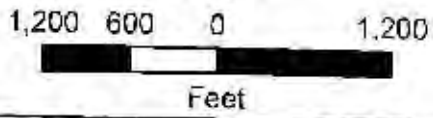


**Legend**

▭ Laurel Valley Coastal Mitigation Bank Amendment One

**Legend**

- ▭ Area of Interest (805.0 ac.)
- Nonwetland
- ▨ Wetland
- Other Waters
- Transects
- Data Points



Laurel Valley Property

**DELINEATION MAP**

Lafourche Parish, LA

Created: UJWAROV EW

Approved: JMJ

Date: 9/05/2013

Map No.: F26 Delineation



**FIGURE 6**

Attachment MWP-C  
Credit Determination

In the event best professional judgment is used instead of a model to assess the compensatory mitigation requirement, CEMVN may use the following table of ratios (impact acres to mitigation acres) to determine the amount of mitigation to offset the impact.

Type of Mitigation Habitat	Habitat Quality of Impacted Wetland		
	Low	Medium	High
Swamp	1:1.1	1:1.9	1:3.6
Bottomland Hardwoods	1:1	1:1.6	1:2.8

ATTACHMENT MWP-D

Estimated Construction, Establishment and Long-Term  
Maintenance Funding Requirements Report



Cost Reference for Laurel Valley Coastal Mitigation Bank, Amendment One  
ver 1.1

Item	Units	Unit Values	Price Per Unit	Total Cost
Boundary Maintenance	Miles	3.8	\$ 150.00	\$ 570.00
Invasive Species Control	Acre	247.7	\$ 90.00	\$ 22,293.00
Invasive Species Control Mobilization	Fixed	Fixed	Fixed	\$ 100.00
Inspections (rate and per diem)	Day	1.0	\$ 790.00	\$ 790.00
Taxes on Project Acreage	Acre	247.7	\$ 3.00	\$ 743.10
Planted Acreage	Acre	226.2	NA	NA
Planting Rate	Trees/Acre	538.0	NA	NA
Seedling Cost (BRS)	Seedling	538.0	\$ 0.22	\$ 118.36
Seedling Installation Rate	Seedling	538.0	\$ 0.17	\$ 91.46
Planting Cost (BRS and Installation)	Seedling	538.0	\$ 0.39	\$ 209.82
Earth Moving	Cubic Yards	72,309	\$ 2.00	\$ 144,618.00
Site Prep and Preemergent Spray	Acres	226.2	\$ 120.00	\$ 27,144.00
Credit Acreage	Acres	226.2	NA	NA
Conservation Servitude Acreage	Acres	247.7	NA	NA
Access Road Maintenance	Acres	21.5	\$ 10.00	\$ 215.00

BRS= bare-root seedlings

Estimated Construction Costs for  
 Laurel Valley Coastal Mitigation Bank, Amendment One  
 Year 0

<i>Item</i>	<i>Units</i>	<i>Unit Values</i>	<i>Price Per Unit</i>	<i>Cost</i>
Hydrology Restoration	Cubic Yards	72,309	\$ 2.00	\$ 144,618.00
Site Prep and Preemergent Spray	Acres	226.2	\$ 120.00	\$ 27,144.00
Planting Costs	Acres	226.2	\$ 209.82	\$ 47,461.28
<b><i>Subtotal</i></b>				<b>\$ 219,223.28</b>
<b>Construction Cost with 5% Contingency</b>				<b>\$ 230,184.45</b>
<b>Cost Per Credit Acre</b>				<b>\$ 1,017.61</b>

Estimated Establishment Costs for  
 Laurel Valley Coastal Mitigation Bank, Amendment One  
 Year 1 to 15

Year	Event	Event Cost	Percent	Occurrences Per Year	Inflation Factor	Cost	Percent of Cost	Release Milestone
1	Monitoring/ Inspection	\$ 790.00	100%	0	1.0000	\$ -		<b>\$95,851.95</b>
1	Replant (30%)	\$ 47,461.28	30%	1	1.0000	\$ 14,238.39		
1	Invasive Species Control (100%)	\$ 22,293.00	100%	1	1.0000	\$ 22,293.00		
1	Invasive Species Mobilization	\$ 100.00	100%	1	1.0000	\$ 100.00		
1	Access Road Maintenance	\$ 215.00	100%	1	1.0000	\$ 215.00		
1	Property Taxes	\$ 743.10	100%	1	1.0000	\$ 743.10		
<b>1</b>	<b>Subtotal</b>					<b>\$ 37,589.49</b>	<b>39.2%</b>	<b>Initial Success</b>
2	Monitoring/ Inspection	\$ 790.00	100%	5	1.0000	\$ 3,950.00		<b>\$37,589.49</b>
2	Replant (10%)	\$ 47,461.28	10%	1	1.0000	\$ 4,746.13		
2	Invasive Species Control (25%)	\$ 22,293.00	25%	1	1.0000	\$ 5,573.25		
2	Invasive Species Mobilization	\$ 100.00	100%	1	1.0000	\$ 100.00		
2	Access Road Maintenance	\$ 215.00	100%	1	1.0000	\$ 215.00		
2	Property Taxes	\$ 743.10	100%	1	1.0000	\$ 743.10		
<b>2</b>	<b>Subtotal</b>					<b>\$ 15,327.48</b>	<b>16.0%</b>	
3	Monitoring/ Inspection	\$ 790.00	100%	5	1.0000	\$ 3,950.00		
3	Invasive Species Control (20%)	\$ 22,293.00	20%	1	1.0000	\$ 4,458.60		
3	Invasive Species Mobilization	\$ 100.00	100%	1	1.0000	\$ 100.00		
3	Access Road Maintenance	\$ 215.00	100%	1	1.0000	\$ 215.00		
3	Property Taxes	\$ 743.10	100%	1	1.0000	\$ 743.10		
<b>3</b>	<b>Subtotal</b>					<b>\$ 9,466.70</b>	<b>9.9%</b>	
4	Monitoring/ Inspection	\$ 790.00	100%	5	1.0000	\$ 3,950.00		
4	Invasive Species Control (10%)	\$ 22,293.00	10%	1	1.0000	\$ 2,229.30		
4	Invasive Species Mobilization	\$ 100.00	100%	1	1.0000	\$ 100.00		
4	Access Road Maintenance	\$ 215.00	100%	1	1.0000	\$ 215.00		
4	Property Taxes	\$ 743.10	100%	1	1.0000	\$ 743.10		
<b>4</b>	<b>Subtotal</b>					<b>\$ 7,237.40</b>	<b>7.6%</b>	
5	Monitoring/ Inspection	\$ 790.00	100%	5	1.0000	\$ 3,950.00		
5	Invasive Species Control (5%)	\$ 22,293.00	5%	1	1.0000	\$ 1,114.65		
5	Invasive Species Mobilization	\$ 100.00	100%	1	1.0000	\$ 100.00		
5	Wildlife Opening and Access Road Maintenance	\$ 215.00	100%	1	1.0000	\$ 215.00		
5	Property Taxes	\$ 743.10	100%	1	1.0000	\$ 743.10		
<b>5</b>	<b>Subtotal</b>					<b>\$ 6,122.75</b>	<b>6.4%</b>	
6	Access Road Maintenance	\$ 215.00	100%	1	1.0000	\$ 215.00		<b>\$38,154.33</b>
6	Property Taxes	\$ 743.10	100%	1	1.0000	\$ 743.10		
<b>6</b>	<b>Subtotal</b>					<b>\$ 958.10</b>	<b>1.0%</b>	<b>\$20,108.14</b>
7	Access Road Maintenance	\$ 215.00	100%	1	1.0000	\$ 215.00		
7	Property Taxes	\$ 743.10	100%	1	1.0000	\$ 743.10		
<b>7</b>	<b>Subtotal</b>					<b>\$ 958.10</b>	<b>1.0%</b>	
8	Access Road Maintenance	\$ 215.00	100%	1	1.0000	\$ 215.00		
8	Property Taxes	\$ 743.10	100%	1	1.0000	\$ 743.10		
<b>8</b>	<b>Subtotal</b>					<b>\$ 958.10</b>	<b>1.0%</b>	
9	Access Road Maintenance	\$ 215.00	100%	1	1.0000	\$ 215.00		
9	Property Taxes	\$ 743.10	100%	1	1.0000	\$ 743.10		
<b>9</b>	<b>Subtotal</b>					<b>\$ 958.10</b>	<b>1.0%</b>	
10	Monitoring/ Inspection	\$ 790.00	100%	5	1.0249	\$ 4,048.36		
10	Invasive Species Control (2%)	\$ 22,293.00	2%	1	1.0249	\$ 456.96		
10	Invasive Species Mobilization	\$ 100.00	100%	1	1.0249	\$ 102.49		
10	Access Road Maintenance	\$ 215.00	100%	1	1.0249	\$ 220.35		
10	Property Taxes	\$ 743.10	100%	1	1.0249	\$ 761.60		
10	Boundary Maintenance	\$ 570.00	100%	1	1.0249	\$ 584.19		
<b>10</b>	<b>Subtotal with Year 10 Adjusted Inflation (2.49%)</b>					<b>\$ 6,173.96</b>	<b>6.4%</b>	
11	Access Road Maintenance	\$ 215.00	100%	1	1.0249	\$ 220.35		
11	Property Taxes	\$ 743.10	100%	1	1.0249	\$ 761.60		
<b>11</b>	<b>Subtotal with Year 11 Adjusted Inflation (2.49%)</b>					<b>\$ 981.96</b>	<b>1.0%</b>	
12	Access Road Maintenance	\$ 215.00	100%	1	1.0249	\$ 220.35		
12	Property Taxes	\$ 743.10	100%	1	1.0249	\$ 761.60		
<b>12</b>	<b>Subtotal with Year 12 Adjusted Inflation (2.49%)</b>					<b>\$ 981.96</b>	<b>1.0%</b>	
13	Access Road Maintenance	\$ 215.00	100%	1	1.0249	\$ 220.35		
13	Property Taxes	\$ 743.10	100%	1	1.0249	\$ 761.60		
<b>13</b>	<b>Subtotal with Year 13 Adjusted Inflation (2.49%)</b>					<b>\$ 981.96</b>	<b>1.0%</b>	
14	Access Road Maintenance	\$ 215.00	100%	1	1.0249	\$ 220.35		
14	Property Taxes	\$ 743.10	100%	1	1.0249	\$ 761.60		
<b>14</b>	<b>Subtotal with Year 14 Adjusted Inflation (2.49%)</b>					<b>\$ 981.96</b>	<b>1.0%</b>	
15	Monitoring/ Inspection	\$ 790.00	100%	5	1.0249	\$ 4,048.36		
15	Invasive Species Control (2%)	\$ 22,293.00	2%	1	1.0249	\$ 456.96		
15	Invasive Species Mobilization	\$ 100.00	100%	1	1.0249	\$ 102.49		
15	Access Road Maintenance	\$ 215.00	100%	1	1.0249	\$ 220.35		
15	Property Taxes	\$ 743.10	100%	1	1.0249	\$ 761.60		
15	Boundary Maintenance	\$ 570.00	100%	1	1.0249	\$ 584.19		
<b>15</b>	<b>Subtotal with Year 15 Adjusted Inflation (2.49%)</b>					<b>\$ 6,173.96</b>	<b>6.4%</b>	<b>Long-Term Success</b>
								<b>\$20,108.14</b>
								<b>\$0.00</b>
	<b>Total</b>					<b>\$ 95,851.95</b>	<b>100.0%</b>	
	<b>Total Per Credit Acre</b>					<b>\$ 423.75</b>		

Years 10-15 adjusted using an inflation rate of 2.49%. This is the average Consumer Price Index (CPI) from 1983-2012.

Estimated Long-Term Annualized Cost Summary  
 Laurel Valley Coastal Mitigation Bank, Amendment One

Item	Units	Unit Values	Price Per Unit	Unit Percent	Cost	Years	Annualized Cost
Boundary Maintenance (10-year event)	Miles	3.8	\$ 150.00	100.0%	\$ 570.00	10	\$ 57.00
0.5% Invasive Species Control (annual event)	Acre	247.7	\$ 90.00	0.5%	\$ 111.47	1	\$ 111.47
Invasive Species Control Mobilization (annual event)	Fixed	Fixed	Fixed	NA	\$ 100.00	1	\$ 100.00
Access Road Maintenance	Acre	21.5	\$ 10.00	100.0%	\$ 215.00	1	\$ 215.00
Inspection (annual event)	Day	5.0	\$ 790.00	20.0%	\$ 790.00	1	\$ 790.00
Taxes (annual event)	Acre	247.7	\$ 3.00	100.0%	\$ 743.10	1	\$ 743.10
<b>Average Annual Cost (Starting at Year 16)</b>							<b>\$ 2,016.57</b>

Estimated Long-Term Costs and Projected Account Activity for  
 Laurel Valley Coastal Mitigation Bank, Amendment One  
 Year 16 to 50

Year	Item	Total Cost	Inflationary Adjustment <sup>1</sup>	Beginning Balance <sup>2</sup>	Ending Balance <sup>3</sup>
15	Annual Cost	\$ -	\$ -	\$ 81,634.89	\$ 81,634.89
16	Annual Cost	\$ 2,016.57	\$ 2,066.78	\$ 84,598.24	\$ 82,531.46
17	Annual Cost	\$ 2,016.57	\$ 2,118.24	\$ 85,527.35	\$ 83,409.11
18	Annual Cost	\$ 2,016.57	\$ 2,170.98	\$ 86,436.86	\$ 84,265.88
19	Annual Cost	\$ 2,016.57	\$ 2,225.04	\$ 87,324.73	\$ 85,099.69
20	Annual Cost	\$ 2,016.57	\$ 2,280.45	\$ 88,188.81	\$ 85,908.36
21	Annual Cost	\$ 2,016.57	\$ 2,337.23	\$ 89,026.83	\$ 86,689.60
22	Annual Cost	\$ 2,016.57	\$ 2,395.43	\$ 89,836.44	\$ 87,441.01
23	Annual Cost	\$ 2,016.57	\$ 2,455.07	\$ 90,615.12	\$ 88,160.05
24	Annual Cost	\$ 2,016.57	\$ 2,516.20	\$ 91,360.26	\$ 88,844.06
25	Annual Cost	\$ 2,016.57	\$ 2,578.86	\$ 92,069.09	\$ 89,490.24
26	Annual Cost	\$ 2,016.57	\$ 2,643.07	\$ 92,738.73	\$ 90,095.66
27	Annual Cost	\$ 2,016.57	\$ 2,708.88	\$ 93,366.14	\$ 90,657.25
28	Annual Cost	\$ 2,016.57	\$ 2,776.33	\$ 93,948.11	\$ 91,171.78
29	Annual Cost	\$ 2,016.57	\$ 2,845.46	\$ 94,481.31	\$ 91,635.85
30	Annual Cost	\$ 2,016.57	\$ 2,916.32	\$ 94,962.23	\$ 92,045.92
31	Annual Cost	\$ 2,016.57	\$ 2,988.93	\$ 95,387.18	\$ 92,398.25
32	Annual Cost	\$ 2,016.57	\$ 3,063.36	\$ 95,752.31	\$ 92,688.95
33	Annual Cost	\$ 2,016.57	\$ 3,139.63	\$ 96,053.56	\$ 92,913.92
34	Annual Cost	\$ 2,016.57	\$ 3,217.81	\$ 96,286.70	\$ 93,068.89
35	Annual Cost	\$ 2,016.57	\$ 3,297.93	\$ 96,447.29	\$ 93,149.35
36	Annual Cost	\$ 2,016.57	\$ 3,380.05	\$ 96,530.67	\$ 93,150.62
37	Annual Cost	\$ 2,016.57	\$ 3,464.22	\$ 96,531.99	\$ 93,067.77
38	Annual Cost	\$ 2,016.57	\$ 3,550.48	\$ 96,446.13	\$ 92,895.66
39	Annual Cost	\$ 2,016.57	\$ 3,638.88	\$ 96,267.77	\$ 92,628.89
40	Annual Cost	\$ 2,016.57	\$ 3,729.49	\$ 95,991.31	\$ 92,261.82
41	Annual Cost	\$ 2,016.57	\$ 3,822.36	\$ 95,610.93	\$ 91,788.57
42	Annual Cost	\$ 2,016.57	\$ 3,917.53	\$ 95,120.50	\$ 91,202.97
43	Annual Cost	\$ 2,016.57	\$ 4,015.08	\$ 94,513.63	\$ 90,498.55
44	Annual Cost	\$ 2,016.57	\$ 4,115.05	\$ 93,783.65	\$ 89,668.60
45	Annual Cost	\$ 2,016.57	\$ 4,217.52	\$ 92,923.57	\$ 88,706.05
46	Annual Cost	\$ 2,016.57	\$ 4,322.53	\$ 91,926.08	\$ 87,603.54
47	Annual Cost	\$ 2,016.57	\$ 4,430.17	\$ 90,783.55	\$ 86,353.39
48	Annual Cost	\$ 2,016.57	\$ 4,540.48	\$ 89,488.02	\$ 84,947.54
49	Annual Cost	\$ 2,016.57	\$ 4,653.54	\$ 88,031.13	\$ 83,377.60
50	Annual Cost	\$ 2,016.57	\$ 4,769.41	\$ 86,404.21	\$ 81,634.80
	<b>Total</b>	<b>\$ 70,579.78</b>	<b>\$ 113,308.79</b>		
	<b>Average</b>	<b>\$ 2,016.57</b>	<b>\$ 3,237.39</b>		

Inflation	0.0249
Interest	0.0363
Per Credit Acre	\$ 360.90
70%	\$ 515.57

1. Adjusted using an inflation rate of 2.49%. This is the average Consumer Price Index (CPI) from 1983-2012.
2. Adjusted using an interest rate of 3.63% applied to the previous years' ending balance. The rate of return is based on a 30-year Treasury Bond rate as of August 13, 2013
3. The ending balance is the beginning balance less the estimated, inflated cost.

Laurel Valley Coastal Mitigation Bank, Amendment One  
Mitigation Banking Instrument

**Attachment D-Acceptance Letter**

US Army Corps of Engineers  
Regulatory Branch  
PO Box 60267  
New Orleans, LA 70160  
ATTN: *{CORPS PROJECT MANAGER}*

Gentlemen:

*{MITIGATION BANK NAME}* has made arrangements with *{PERMITTEE'S NAME}* to purchase *{NUMBER OF ACRES OR CREDITS}* *{ACRES OR CREDITS}* of *{HABITAT TYPE}* for unavoidable impacts associated with work authorized by the Department of the Army permit number *{MVN-XXXX-XXXXX-XX}*. The *{MITIGATION BANK NAME}* assumes the responsibility for the permittee's compensatory mitigation requirements (i.e., to implement, assure performance, and provide long-term management of the compensatory mitigation project) in accordance with provisions of the Mitigation Banking Instrument governing this bank.

*{CLOSING}*

*{NAME}*  
*{TITLE}*

Laurel Valley Coastal Mitigation Bank, Amendment One  
Mitigation Banking Instrument

**Attachment E-DNR Attachment**



**LOUISIANA DEPARTMENT OF NATURAL RESOURCES, OFFICE OF COASTAL  
MANAGEMENT (OCM), MITIGATION BANKING INSTRUMENT AGREEMENT  
(OCMMBIA)**

**State Authority**

Activities within the Louisiana Coastal Zone are regulated and monitored by the Louisiana Department of Natural Resources, Office of Coastal Management (OCM), under authority of the Louisiana Coastal Resources Management Act of 1978, LA. R.S. 49:214.21-214.41. The purpose of this law is to protect, develop, and where feasible, restore or enhance the resources of Louisiana's Coastal Zone. The Coastal Use Permit (CUP) is the basic regulatory tool of the OCM. The purpose of the CUP process is to make certain that any activity affecting the Coastal Zone is performed in accordance with regulations and statutes including activities that result in unavoidable adverse impacts to wetlands. The OCM's authority to require mitigation is found in R.S. 49:214.41. *et seq.* The Louisiana Administrative Code, Title 43, Part I, Chapter 7, 724-729 requires compensatory mitigation for all unavoidable impacts and establishes a specific mitigation sequence as law within the Coastal Zone.

The Coastal Wetlands Planning, Protection, and Restoration Act (Public Law 101-646, Title III- CWPPRA) was enacted and signed into law on November 29, 1990. As required by Section 304 of the Act (16 USC 3953), the State of Louisiana developed the Louisiana Coastal Wetlands Conservation Plan (Plan), which was approved by the Secretary of the Army, the Director of the United States Fish and Wildlife Service, and the Administrator of the Environmental Protection Agency on December 1, 1997. The inland boundary of the Coastal Wetlands Conservation Plan was established by interagency coordination and review of maps and imagery, defining the limits of existing wetland habitats and the inland extent of tidal influence.

The participation by the Department of Natural Resources (DNR) in a particular mitigation bank is discretionary. Each mitigation bank proposal is subject to the negotiation of a written Mitigation Banking Instrument (MBI) upon terms and conditions acceptable to the DNR Secretary. Those proposed mitigation bank sites that occur within the Louisiana Coastal Zone and/or the Conservation Plan Area may be eligible to provide mitigation for CUPs and must be strategically located to work in concert with the State's Comprehensive Master Plan for a Sustainable Coast.

**Additional OCM Requirements**

Mitigation banks shall be required to be maintained, as defined in this MBI, 20 years for marsh and 50 years for forested wetland habitat(s). Maintenance period for each phase/portion of the mitigation bank shall begin upon attainment of initial success criteria. Time periods when subsequent success criteria are not met shall not count towards the overall maintenance period requirement of the bank.

Laurel Valley Coastal Mitigation Bank Amendment One  
Mitigation Banking Instrument

The Sponsor shall provide to the OCM a ledger report by habitat type by January 15 of each year. The ledger will show all transactions at the Bank for the previous reporting

period (January 1 through December 31) and a cumulative tabulation of all transactions to date. At a minimum, each ledger entry must include the following information: Permit number (both CEMVN and Coastal Use Permit [CUP]), permittee name, total credits of each habitat type sold for each permit, date of transaction, total mitigation credits/acres for each habitat type that were authorized to be provided by the Bank, total mitigation credits/acres for each habitat type that have been debited from the Bank to date, and total credits for each habitat type that remain to be debited.

For each transaction, and within 10 days of the transaction, the Sponsor shall provide the OCM with a copy of the letter to CEMVN acknowledging acceptance of the permittee's mitigation responsibilities and include the permittee's name, permit number (both CEMVN and CUP), date of transaction, number and type (habitat) of credits debited.

To meet requirements of LAC 43:I.723.B.2., credits used to satisfy mitigation requirements of CUPs will only be debited from portions of the Bank that are sited below 5 feet in elevation and not within a fastland. In order to accommodate this requirement, the ledger will be separated into coastal (below 5 feet in elevation and not within a fastland) and non-coastal acres and/or credits based on the map associated with the MBI.

For wetland impacts that only require mitigation via a CUP, the OCM will inform the applicant if the Bank is appropriate for offsetting the unavoidable adverse impacts associated with the proposed project and will determine the number of credits that must be secured from the Bank to fully compensate for those impacts. The applicant may choose this Bank or another bank, determined to be appropriate by the OCM to perform the compensatory mitigation or may choose to perform his own appropriate permittee-responsible mitigation project, with the approval of the OCM. Should the permit applicant receive approval from the OCM to use this Bank and chooses to use this Bank, the permit applicant will contact the Bank Sponsor and arrange for the purchase of the necessary credits. The OCM will coordinate with CEMVN to assure that appropriate credits are available.

Copies of all notifications and reports shall be provided to the OCM in the timeframe as required by the MBI and the work plan. Failure to comply with the above requirements could lead to suspension of this bank for the OCM mitigation purposes.