

**BID DOCUMENTS
FOR
BAYOU BONFOUCA MARSH CREATION
PROJECT (PO-104)
ST. TAMMANY PARISH, LOUISIANA**



**STATE OF LOUISIANA
COASTAL PROTECTION AND RESTORATION
AUTHORITY**

FEBRUARY, 2016

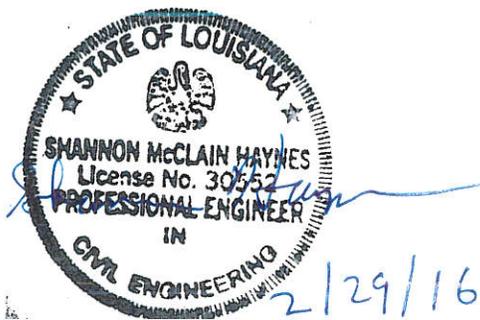


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LIST OF DRAWING SHEETS

<u>SHEET NO.</u>	<u>DESCRIPTION</u>
1.	TITLE SHEET
2.	GENERAL NOTES
3.	PROJECT LAYOUT
4.	BORROW AREA LAYOUT
5.	MARSH CREATION AREA 1 LAYOUT
6.	MARSH CREATION AREA 2 LAYOUT
7.	MARSH CREATION AREA 3 LAYOUT
8.	MARSH CREATION AREA 4 LAYOUT
9-10.	TYPICAL SECTIONS
11-12.	DETAILS
13.	2011 DESIGN SURVEY AND SOIL BORING LAYOUT
14.	2014 DESIGN SURVEY LAYOUT
15.	CONSTRUCTION SURVEY LAYOUT
16-40.	SECTIONS

ADVERTISEMENT FOR BIDS

Sealed bids will be received for the State of Louisiana by the Division of Administration, Office of Facility Planning and Control, Claiborne Office Building, 1201 North Third Street, Conference Room 1-145, Post Office Box 94095, Baton Rouge, Louisiana 70804-9095 until 2:00 P.M. Thursday, May 26, 2016.

ANY PERSON REQUIRING SPECIAL ACCOMMODATIONS SHALL NOTIFY FACILITY PLANNING AND CONTROL OF THE TYPE(S) OF ACCOMMODATION REQUIRED NOT LESS THAN SEVEN (7) DAYS BEFORE THE BID OPENING.

FOR: **BAYOU BONFOUCA MARSH CREATION PROJECT**

PROJECT NUMBER: **PO-104**

Complete Bid Documents for this project are available in electronic form. They may be obtained without charge and without deposit from <http://coastal.la.gov/resources/doing-business-with-cpra/bids/>. Printed copies can also be obtained from:

COASTAL PROTECTION AND RESTORATION AUTHORITY (CPRA)

450 Laurel Street, Suite 1501
Baton Rouge, Louisiana, 70801

Attn: Renee McKee

Email: cpra.bidding@la.gov

Phone: (225) 342-0811

Fax: (225) 342-4674

All bids shall be accompanied by bid security in an amount of five percent (5.0%) of the sum of the base bid and all alternates. The form of this security shall be as stated in the Instructions to Bidders included in the Bid Documents for this project.

The successful Bidder shall be required to furnish a Performance and Payment Bond written as described in the Instructions to Bidders included in the Bid Documents for this project.

A MANDATORY PRE-BID CONFERENCE WILL BE HELD

at 9:30 AM on Monday, May 16, 2016 at the United States Fish and Wildlife Service Southeast Louisiana Refuges' Headquarters, 61389 Highway 434, Lacombe, LA 70445.

Bids shall be accepted only from those bidders who attend the Mandatory Pre-Bid Conference in its entirety.

A HIGHLY ENCOURAGED JOBSITE VISIT WILL BE HELD

at 1:30 PM on Monday, May 16, 2016 at the Bayou Liberty Marina, 58047 Bayou Liberty Road, Slidell, LA 70460.

The jobsite visit is not mandatory, but it is highly encouraged for those submitting a bid. Bidders are advised that they will be required to state on the bid form that they have personally inspected and are familiar with the project site. The jobsite visit being conducted by CPRA will facilitate access to project features that are located on national wildlife refuge property and private property. Outside of the recommended site visit, the Contractor may not have access to the features located on these properties. Contractors shall be responsible for providing their own air boat and any rental and boat launching fees.

Contact Luke Prendergast at (504) 280-1005 if directions are needed to the Mandatory Pre-Bid Conference or the highly encouraged Jobsite Visit.

Bids shall be accepted from Contractors who are licensed under LA. R.S. 37:2150-2192 for the classification of Heavy Construction. In accordance with LA. R.S. 37:2163(D), anyone objecting to the classification must send a certified letter to both the Louisiana State Licensing Board for Contractors and the CPRA at the address listed above. The letter must be received no later than ten (10) working days prior to the day on which bids are to be opened.

Bidder is required to comply with provisions and requirements of LA R.S.38:2212(B)(5). No bid may be withdrawn for a period of forty-five (45) calendar days after receipt of bids, except under the provisions of LA. R.S. 38:2214.

The Owner reserves the right to reject any and all bids for just cause. In accordance with La. R.S. 38:2212(B)(1), the provisions and requirements of this Section; and those stated in the bidding documents shall not be waived by any entity.

When this project is financed either partially or entirely with State Bonds or financed in whole or in part by federal or other funds which are not readily available at the time bids are received, the award of this Contract is contingent upon the granting of lines of credit, or the sale of bonds by the Bond Commission or the availability of federal or other funds. The State shall incur no obligation to the Contractor until the Contract Between Owner and Contractor is fully executed.

Coastal Protection and Restoration Authority is a participant in the Small Entrepreneurship (SE) Program (the Hudson Initiative) and the Veteran-Owned and Service-Connected Disabled Veteran-Owned (LaVet) Small Entrepreneurships Program. Bidders are encouraged to consider participation. Information is available from Coastal Protection and Restoration Authority or on its website at <http://www.coastal.la.gov/>.

STATE OF LOUISIANA
DIVISION OF ADMINISTRATION
FACILITY PLANNING AND CONTROL
MARK A. MOSES, DIRECTOR

INSTRUCTIONS TO BIDDERS

COMPLETION TIME:

The Bidder shall agree to fully complete the contract within **Three Hundred-Sixty-Three (363)** consecutive calendar days for the Base Bid, subject to such extensions as may be granted under Section GP-44 of the General Provisions and acknowledges that this construction time will start on or before the date specified in the written "Notice to Proceed" from the Owner.

LIQUIDATED DAMAGES:

The Bidder shall agree to pay as Liquidated Damages the amount of **Three Thousand-One Hundred-Thirty Dollars (\$3,130.00)** for each consecutive calendar day for which the work is not complete, beginning with the first day beyond the contract completion date stated on the "Notice to Proceed" or as amended by change order.

ARTICLE 1

DEFINITIONS

1.1 The Bid Documents include the following:

Advertisement for Bids
Instructions to Bidders
Bid Form
Bid Bond
General Provisions
Special Provisions
Technical Specifications
Construction Drawings
Contract Between Owner and Contractor
and Performance and Payment Bond
Affidavit
User Agency Documents (if applicable)
Change Order Form
Recommendation of Acceptance
Other Documents (if applicable)
Addenda issued during the bid period and
acknowledged in the Bid Form

1.2 All definitions set forth in the General Provisions and the Special Provisions are applicable to the Bid Documents, unless otherwise specifically stated or written.

1.3 Addenda are written and/or graphic instruments issued by the Engineer prior to the opening of bids

which modify or interpret the Bid Documents by additions, deletions, clarifications, corrections and prior approvals.

1.4 A bid is a complete and properly signed proposal to do the work or designated portion thereof for the sums stipulated therein supported by data called for by the Bid Documents.

1.5 Base bid is the sum stated in the bid for which the Bidder offers to perform the work described as the base, to which work may be added, or deleted for sums stated in alternate bids.

1.6 An alternate bid (or alternate) is an amount stated in the bid to be added to the amount of the base bid if the corresponding change in project scope or materials or methods of construction described in the Bid Documents is accepted.

1.7 A Bidder is one who submits a bid for a prime Contract with the Owner for the work described in the Bid Documents.

1.8 A Sub-bidder is one who submits a bid to a Bidder for materials and/or labor for a portion of the work.

1.9 Where the word "Engineer" is used in any of the documents, it shall refer to the Prime Designer of the project, regardless of discipline.

ARTICLE 2

PRE-BID CONFERENCE

2.1 A Pre-Bid Conference may be held at the time and location described in the Advertisement for Bids. The purpose of the Pre-Bid Conference is to familiarize Bidders with the requirements of the Project and the intent of the Bid Documents, and to receive comments and information from interested Bidders. If the Pre-Bid Conference and/or Job Site Visit is stated in the Advertisement for Bids to be a Mandatory Pre-Bid Conference and/or Mandatory Job Site Visit, bids shall be accepted only from those bidders who attend the Pre-Bid Conference and/or Job Site Visit. Contractors who are not in attendance for the entire Pre-Bid Conference and/or Job Site Visit will be considered to have not attended.

2.2 Any revision of the Bid Documents made as a result of the Pre-Bid Conference shall not be valid unless included in an addendum.

ARTICLE 3

BIDDER'S REPRESENTATION

3.1 Each Bidder by making his bid represents that:

3.1.1 He has read and understands the Bid Documents and his bid is made in accordance therewith.

3.1.2 He has visited the site and has familiarized himself with the local conditions under which the work is to be performed.

3.1.3 His bid is based solely upon the materials, systems and equipment described in the Bid Documents as advertised and as modified by addenda.

3.1.4 His bid is not based on any verbal instructions contrary to the Bid Documents and addenda.

3.1.5 He is familiar with the Code of Governmental Ethics requirement that prohibits public servants and/or their immediate family members from bidding on or entering into contracts; he is aware that the Designer and its

principal owners are considered Public Servants under the Code of Governmental Ethics for the limited purposes and scope of the Design Contract with the State on this Project (see Ethics Board Advisory Opinion, No. 2009-378 and 2010-128); and neither he nor any principal of the Bidder with a controlling interest therein has an immediate family relationship with the Designer or any principal within the Designer's firm. (see La. R.S. 42:1113). Any Bidder submitting a bid in violation of this clause shall be disqualified and any contract entered into in violation of this clause shall be null and void.

3.2 The Bidder must be fully qualified under any State or local licensing law for Contractors in effect at the time and at the location of the work before submitting his bid. In the State of Louisiana, Revised Statutes 37:2150, et seq. will be considered, if applicable.

The Contractor shall be responsible for determining that all of his Sub-bidders or prospective Subcontractors are duly licensed in accordance with law.

ARTICLE 4

BID DOCUMENTS

4.1 Copies

4.1.1 Bid Documents may be obtained from the Coastal Protection and Restoration Authority as stated in the Advertisement for Bids.

4.1.1.2 In addition to the availability of printed Bid Documents, the Coastal Protection and Restoration Authority will provide the Bid Documents in electronic format. They may be obtained without charge and without deposit as stated in the Advertisement for Bids.

4.1.1.2.2 Where electronic distribution is provided, all other plan holders are responsible for their own reproduction costs.

4.1.2 Complete sets of Bid Documents shall be used in preparing bids; neither the Owner nor the Engineer assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bid Documents.

4.1.3 The Owner or Engineer in making copies of the Bid Documents available on the above terms, do so only for the purpose of obtaining bids on the work and do not confer a license or grant for any other use.

4.2 Interpretation or Correction of Bid Documents

4.2.1 Bidders shall promptly notify the Coastal Protection and Restoration Authority contact person listed in the Advertisement for Bids of any ambiguity, inconsistency or error which they may discover upon examination of the Bid Documents or of the site and local conditions.

4.2.2 Bidders requiring clarification or interpretation of the Bid Documents shall make a written request to the Coastal Protection and Restoration Authority contact person listed in the Advertisement for Bids, to reach him at least seven days prior to the date for receipt of bids.

4.2.3 Any interpretation, correction or change of the Bid Documents will be made by addendum. Interpretations, corrections or changes of the Bid Documents made in any other manner will not be binding and Bidders shall not rely upon such interpretations, corrections and changes.

4.3 Substitutions

4.3.1 The materials, products and equipment described in the Bid Documents establish a standard of required function, dimension, appearance and quality to be met by any proposed substitution. No substitutions shall be allowed after bids are received.

4.3.2 No substitution will be considered unless written request for approval has been submitted by the Proposer and has been received by the Engineer at least seven (7) working days prior to the opening of bids. (RS38:2295C) Each such request shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitute including model numbers, drawings, cuts, performance and test data and any other information necessary for an evaluation. A statement setting forth any changes in other materials, equipment or work that incorporation of

the substitute would require shall be included. It shall be the responsibility of the proposer to include in his proposal all changes required of the Bid Documents if the proposed product is used. Prior approval is given contingent upon supplier being responsible for any costs which may be necessary to modify the space or facilities needed to accommodate the materials and equipment approved.

4.3.3 If the Engineer approves any proposed substitution, such approval will be set forth in an addendum. Bidders shall not rely upon approvals made in any other manner.

4.4 Addenda

4.4.1 Addenda will be mailed or delivered to all who are known by the Coastal Protection and Restoration Authority to have received a complete set of Bid Documents.

4.4.2 Copies of addenda will be made available for inspection wherever Bid Documents are on file for that purpose.

4.4.3 Except as described herein, addenda shall not be issued within a period of seventy-two (72) hours prior to the advertised time for the opening of bids, excluding Saturdays, Sundays, and any other legal holidays. If the necessity arises of issuing an addendum modifying the Bid Documents within the seventy-two (72) hour period prior to the advertised time for the opening of bids, then the opening of bids shall be extended at least seven but no more than twenty-one (21) working days, without the requirement of re-advertising. The revised time and date for the opening of bids shall be stated in the addendum.

4.4.4 Each Bidder shall ascertain from the Coastal Protection and Restoration Authority prior to submitting his bid that he has received all addenda issued, and he shall acknowledge their receipt on the Bid Form.

4.4.5 The Owner shall have the right to extend the bid date by up to (30) thirty days without the requirement of re-advertising. Any such extension shall be made by addendum issued by the Coastal Protection and Restoration Authority.

ARTICLE 5
BID PROCEDURE

5.1 Form and Style of Bids

5.1.1 Bids shall be submitted on the Louisiana Uniform Public Work Bid Form provided by the Engineer.

5.1.2 All blanks on the Bid Form shall be filled in manually in ink or typewritten.

5.1.3 Bid sums shall be expressed in both words and figures, and in case of discrepancy between the two, the written words shall govern.

5.1.4 Any interlineation, alteration or erasure must be initialed by the signer of the bid or his authorized representative.

5.1.5 Bidders are cautioned to complete all alternates should such be required in the Bid Form. Failure to submit alternate prices will render the bid non responsive and shall cause its rejection.

5.1.6 Bidders are cautioned to complete all unit prices should such be required in the Bid Form. Unit prices represent a price proposal to do a specified quantity and quality of work.

5.1.7 Bidders are strongly cautioned to ensure that all blanks on the bid form are completely and accurately filled in.

5.1.8 Bidder shall make no additional stipulations on the Bid Form nor qualify his bid in any other manner.

5.1.9 The bid shall include the legal name of Bidder. Written evidence of the authority of the person signing the bid shall be submitted at the time of bidding.

The authority of the signature of the person submitting the bid shall be deemed sufficient and acceptable under any of the following conditions:

(a) Signature on bid is that of any corporate officer listed on the most current annual report on file with the Secretary of State, or the signature on the bid is that of any member of a partnership, limited liability company, limited liability partnership, or

other legal entity listed in the most current business records on file with the Secretary of State.

(b) Signature on bid is that of authorized representative as documented by the legal entity certifying the authority of the person.

(c) Legal entity has filed in the appropriate records of the Secretary of State, an affidavit, resolution or other acknowledged or authentic document indicating the names of all parties authorized to submit bids for public contracts. Such document on file with the Secretary of State shall remain in effect and shall be binding upon the principal until specifically rescinded and canceled from the records of the office. A bid submitted by an agency shall have a current Power of Attorney attached certifying agent's authority to bind Bidder. The name and license number on the envelope shall be the same as the entity identified on the Bid Form.

5.1.10 On any bid in excess of fifty thousand dollars (\$50,000.00), the Contractor shall certify that he is licensed under R.S. 37: 2150-2173 and show his license number on the bid above his signature or his duly authorized representative.

5.2 Bid Security

5.2.1 No bid shall be considered or accepted unless the bid is accompanied by bid security in an amount of five percent (5.0%) of the base bid and all alternates.

The bid security shall be in the form of a certified check or cashier's check drawn on a bank insured by the Federal Deposit Insurance Corporation, or a Bid Bond written by a surety company licensed to do business in Louisiana and signed by the surety's agent or attorney-in-fact. The Bid Bond shall be written on the Coastal Protection and Restoration Authority Bid Bond Form, and the surety for the bond must meet the qualifications stated thereon. The Bid Bond shall include the legal name of the bidder be in favor of the State of Louisiana, Coastal Protection and Restoration Authority, and shall be accompanied by appropriate power of attorney. The Bid Bond must be signed by both the bidder/principal and the surety in the space provided on the Coastal Protection and Restoration Authority Bid Bond Form. Failure by the bidder/principal or the surety to sign the bid bond shall result in the rejection of

the bid.

Bid security furnished by the Contractor shall guarantee that the Contractor will, if awarded the work according to the terms of his proposal, enter into the Contract and furnish Performance and Payment Bonds as required by these Bid Documents, within ten (10) days after written notice that the instrument is ready for his signature.

Should the Bidder refuse to enter into such Contract or fail to furnish such bonds, the amount of the bid security shall be forfeited to the Owner as liquidated damages, not as penalty.

5.2.2 The Owner will have the right to retain the bid security of Bidders until either (a) the Contract has been executed and bonds have been furnished, or (b) the specified time has elapsed so that bids may be withdrawn, or (c) all bids have been rejected.

5.3 Submission of Bids

5.3.1 The Bid shall be sealed in an opaque envelope. The bid envelope shall be identified on the outside with the name of the project, and the name, address, and license number of the Bidder. The envelope shall contain **only one bid form** and will be received until the time specified and at the place specified in the Advertisement for Bids. It shall be the specific responsibility of the Bidder to deliver his sealed bid to Facility Planning and Control Department at the appointed place and prior to the announced time for the opening of bids. Late delivery of a bid for any reason, including late delivery by United States Mail, or express delivery, shall disqualify the bid.

If the bid is sent by mail, the sealed envelope shall be enclosed in a separate mailing envelope with the notation "Bid Enclosed" on the face thereof. Such bids shall be sent by Registered or Certified Mail, Return Receipt Requested, addressed to:

Facility Planning and Control,
P. O. Box 94095
Baton Rouge, Louisiana, 70804-9095.

Bids sent by express delivery shall be delivered to:
Facility Planning and Control
Suite 7-160
Claiborne Office Building

1201 North Third Street
Baton Rouge, Louisiana 70802

5.3.2 Bids shall be deposited at the designated location prior to the time on the date for receipt of bids indicated in the Advertisement for Bids, or any extension thereof made by addendum. Bids received after the time and date for receipt of bids will be returned unopened.

5.3.3 Bidder shall assume full responsibility for timely delivery at location designated for receipt of bids.

5.3.4 Oral, telephonic or telegraphic bids are invalid and shall not receive consideration. Owner shall not consider notations written on outside of bid envelope which have the effect of amending the bid. Written modifications enclosed in the bid envelope, and signed or initialed by the Contractor or his representative, shall be accepted.

5.4 Modification or Withdrawal of Bid

5.4.1 A bid may not be modified, withdrawn or canceled by the Bidder during the time stipulated in the Advertisement for Bids, for the period following the time and bid date designated for the receipt of bids, and Bidder so agrees in submitting his bid, except in accordance with R.S. 38:2214 which states, in part, "Bids containing patently obvious mechanical, clerical or mathematical errors may be withdrawn by the Contractor if clear and convincing sworn, written evidence of such errors is furnished to the public entity within forty eight hours of the Bid Opening excluding Saturdays, Sundays and legal holidays".

5.4.2 Prior to the time and date designated for receipt of bids, bids submitted early may be modified or withdrawn only by notice to the party receiving bids at the place and prior to the time designated for receipt of bids.

5.4.3 Withdrawn bids may be resubmitted up to the time designated for the receipt of bids provided that they are then fully in conformance with these Instructions to Bidders.

5.4.4 Bid Security shall be in an amount sufficient for the bid as modified or resubmitted.

ARTICLE 6

CONSIDERATION OF BIDS

6.1 Opening of Bids

6.1.1 The properly identified Bids received on time will be opened publicly and will be read aloud, and a tabulation abstract of the amounts of the base bids and alternates, if any, will be made available to Bidders.

6.2 Rejection of Bids

6.2.1 The Owner shall have the right to reject any or all bids and in particular to reject a bid not accompanied by any required bid security or data required by the Bid Documents or a bid in any way incomplete or irregular.

6.3 Acceptance of Bid

6.3.2 It is the intent of the Owner, if he accepts any alternates, to accept them in the order in which they are listed in the Bid Form. Determination of the Low Bidder shall be on the basis of the sum of the base bid and the alternates accepted. However, the Owner shall reserve the right to accept alternates in any order which does not affect determination of the Low Bidder.

ARTICLE 7

POST-BID INFORMATION

7.1 Submissions

7.1.1 The Contractor shall submit all required deliverables in conformance with Section SP-4 of the Special Provisions.

It is the preference of the Owner that, to the greatest extent possible or practical, the Contractor utilize Louisiana Subcontractors, manufacturers, suppliers and labor.

7.1.2 The Contractor will be required to establish to the satisfaction of the Engineer the reliability and responsibility of the proposed Subcontractors to furnish and perform the work described in the sections of the Specifications pertaining to such proposed Subcontractor's respective trades. The General Contractor shall be

responsible for actions or inactions of Subcontractors and/or material suppliers.

The General Contractor is totally responsible for any lost time or extra expense incurred due to a Subcontractor's/or Material Supplier's failure to perform. Failure to perform includes, but is not limited to, a Subcontractor's financial failure, abandonment of the project, failure to make prompt delivery, or failure to do work up to standard. Under no circumstances shall the Owner mitigate the General Contractor's losses or reimburse the General Contractor for losses caused by these events.

7.1.3 Subcontractors and other persons and organizations selected by the Bidder must be used on the work for which they were proposed and shall not be changed except with the written approval of the Owner and the Engineer.

In accordance with La. R.S. 38:2227, LA. R.S. 38:2212.10 and LA. R.S. 23:1726(B) the low bidder on this project must submit the completed Attestations Affidavit (Past Criminal Convictions of Bidders, Verification of Employees and Certification Regarding Unpaid Workers Compensation Insurance) form found within this bid package. The Attestations Affidavit form shall be submitted to Coastal Protection and Restoration Authority contact person listed in the Advertisement For Bids within 10 days after the opening of bids.

ARTICLE 8

PERFORMANCE AND PAYMENT BOND

8.1 Bond Required

8.1.1 The Contractor shall furnish and pay for a Performance and Payment Bond written by a company licensed to do business in Louisiana, which shall be signed by the surety's agent or attorney-in-fact, in an amount equal to 100% of the Contract amount. Surety must be listed currently on the U. S. Department of Treasury Financial Management Service List (Treasury List) as approved for an amount equal to or greater than the contract amount, or must be an insurance company domiciled in Louisiana or owned by Louisiana residents. If surety is qualified other than by listing on the Treasury list, the contract

amount may not exceed fifteen percent of policyholders' surplus as shown by surety's most recent financial statements filed with the Louisiana Department of Insurance and may not exceed the amount of \$500,000. However, a Louisiana domiciled insurance company with at least an A-rating in the latest printing of the A. M. Best's Key Rating Guide shall not be subject to the \$500,000 limitation, provided that the contract amount does not exceed ten percent of policyholders' surplus as shown in the latest A. M. Best's Key Rating Guide nor fifteen percent of policyholders' surplus as shown by surety's most recent financial statements filed with the Louisiana Department of Insurance. The Bond shall be signed by the surety's agent or attorney-in-fact. The Bond shall be in favor of the Coastal Protection and Restoration Authority.

8.2 Time of Delivery and Form of Bond

8.2.1 The Bidder shall deliver the required bond to the Owner simultaneous with the execution of the Contract.

8.2.2 Bond shall be in the form furnished by the Coastal Protection and Restoration Authority, entitled CONTRACT BETWEEN OWNER AND CONTRACTOR AND PERFORMANCE AND PAYMENT BOND, a copy of which is included in the Bid Documents.

8.2.3 The Bidder shall require the Attorney-in-Fact who executes the required bond on behalf of the surety to affix thereto a certified and current copy of his power of Attorney.

ARTICLE 9

FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR

9.1 Form to be Used

9.1.1 Form of the Contract to be used shall be furnished by the Coastal Protection and Restoration Authority, an example of which is bound in the Bid Documents.

9.2 Award

9.2.1 Before award of the Contract, the

successful Bidder shall furnish to the Owner a copy of a Disclosure of Ownership Affidavit stamped by the Secretary of State, a certified copy of the minutes of the corporation or partnership meeting which authorized the party executing the bid to sign on behalf of the Contractor.

9.2.2 In accordance with Louisiana Law, when the Contract is awarded, the successful Bidder shall, at the time of the signing of the Contract, execute the Non-Collusion Affidavit included in the Contract Documents

9.2.3 When this project is financed either partially or entirely with State Bonds, the award of this Contract is contingent upon the sale of bonds by the State Bond Commission. The State shall incur no obligation to the Contractor until the Contract between Owner and Contractor is duly executed.

LOUISIANA UNIFORM PUBLIC WORK BID FORM

TO: Facility Planning and Control
P.O. Box 94095
Claiborne Building
Baton Rouge, LA 70804
(Owner to provide name and address of owner)

BID FOR: Bayou Bonfouca
Marsh Creation
Project
(PO-104)
(Owner to provide name of project and other identifying information)

The undersigned bidder hereby declares and represents that she/he; a) has carefully examined and understands the Bidding Documents, b) has not received, relied on, or based his bid on any verbal instructions contrary to the Bidding Documents or any addenda, c) has personally inspected and is familiar with the project site, and hereby proposes to provide all labor, materials, tools, appliances and facilities as required to perform, in a workmanlike manner, all work and services for the construction and completion of the referenced project, all in strict accordance with the Bidding Documents prepared by: CPRA
and dated: 2/29/2016
(Owner to provide name of entity preparing bidding documents.)

Bidders must acknowledge all addenda. The Bidder acknowledges receipt of the following **ADDENDA:** (Enter the number the Designer has assigned to each of the addenda that the Bidder is acknowledging) _____ .

TOTAL BASE BID: For all work required by the Bidding Documents (including any and all unit prices designated "Base Bid" * but not alternates) the sum of:
_____ Dollars (\$ _____)

ALTERNATES: For any and all work required by the Bidding Documents for Alternates including any and all unit prices designated as alternates in the unit price description.

Alternate No. 1 *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:
NOT APPLICABLE _____ Dollars (\$ NOT APPLICABLE)

Alternate No. 2 *((Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:
NOT APPLICABLE _____ Dollars (\$ NOT APPLICABLE)

Alternate No. 3 *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:
NOT APPLICABLE _____ Dollars (\$ NOT APPLICABLE)

NAME OF BIDDER: _____

ADDRESS OF BIDDER: _____

LOUISIANA CONTRACTOR'S LICENSE NUMBER: _____

NAME OF AUTHORIZED SIGNATORY OF BIDDER: _____

TITLE OF AUTHORIZED SIGNATORY OF BIDDER: _____

SIGNATURE OF AUTHORIZED SIGNATORY OF BIDDER **: _____

DATE: _____

* The Unit Price Form shall be used if the contract includes unit prices. Otherwise it is not required and need not be included with the form. The number of unit prices that may be included is not limited and additional sheets may be included if needed.

** If someone other than a corporate officer signs for the Bidder/Contractor, a copy of a corporate resolution or other signature authorization shall be required for submission of bid. Failure to include a copy of the appropriate signature authorization, if required, may result in the rejection of the bid unless bidder has complied with La. R.S. 38:2212(B)(5).

BID SECURITY in the form of a bid bond, certified check or cashier's check as prescribed by LA RS 38:2218.A is attached to and made a part of this bid.

LOUISIANA UNIFORM PUBLIC WORK BID FORM

UNIT PRICE FORM

TO: Facility Planning and Control
 P.O. Box 94095
 Claiborne Building
 Baton Rouge, LA 70804
 (Owner to provide name and address of owner)

BID FOR: Bayou Bonfouca
 Marsh Creation
 Project
 (PO-104)
 (Owner to provide name of project and other identifying information)

UNIT PRICES: This form shall be used for any and all work required by the Bidding Documents and described as unit prices. Amounts shall be stated in figures and only in figures.

DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ Hydraulic Dredge Mobilization and Demobilization (TS-100)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
1	1	Lump Sum		

DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ Dredge Pipeline Mobilization, Installation and Demobilization (TS-101)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
2	1	Lump Sum		

DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ General Mobilization and Demobilization (TS-102)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
3	1	Lump Sum		

DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ Surveys (TS-210)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
4	1	Lump Sum		

DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ Grade Stakes (TS-220)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
5	73	Each		

DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ Settlement Plates (TS-250)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
6	8	Each		

DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ Earthen Containment Dikes (TS-300)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
7	57,773	Linear Foot		

DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ Earthen Containment Dike Degradation (TS-350)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
8	5,699	Linear Foot		

Wording for "DESCRIPTION" is to be provided by the Owner.
All quantities are estimated. The contractor will be paid based upon actual quantities as verified by the Owner.

LOUISIANA UNIFORM PUBLIC WORK BID FORM

UNIT PRICE FORM

TO: Facility Planning and Control
P.O. Box 94095
Claiborne Building
Baton Rouge, LA 70804
(Owner to provide name and address of owner)

BID FOR: Bayou Bonfouca
P.O. Box 94095
Claiborne Building
Baton Rouge, LA 70804
(Owner to provide name of project and other identifying information)

UNIT PRICES: This form shall be used for any and all work required by the Bidding Documents and described as unit prices. Amounts shall be stated in figures and only in figures.

DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ Temporary Earthen Plug (TS-390)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION <i>(Quantity times Unit Price)</i>
9	1	Lump Sum		

DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ Hydraulic Dredging and Marsh Creation (TS-400)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION <i>(Quantity times Unit Price)</i>
10	3,454,569	Cubic Yard		

DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ CIAP Funding Sign (TS-850)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION <i>(Quantity times Unit Price)</i>
11	1	Lump Sum		

DESCRIPTION: <input type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ Not Applicable				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION <i>(Quantity times Unit Price)</i>
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

DESCRIPTION: <input type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ Not Applicable				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION <i>(Quantity times Unit Price)</i>
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

DESCRIPTION: <input type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ Not Applicable				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION <i>(Quantity times Unit Price)</i>
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

DESCRIPTION: <input type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ Not Applicable				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION <i>(Quantity times Unit Price)</i>
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

DESCRIPTION: <input type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ Not Applicable				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION <i>(Quantity times Unit Price)</i>
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

Wording for "DESCRIPTION" is to be provided by the Owner.
All quantities are estimated. The contractor will be paid based upon actual quantities as verified by the Owner.

BID BOND

FOR

COASTAL PROTECTION AND RESTORATION AUTHORITY PROJECTS

Date: _____

KNOW ALL MEN BY THESE PRESENTS:

That _____ of _____, as Principal, and _____, as Surety, are held and firmly bound unto the State of Louisiana, Coastal Protection and Restoration Authority (Obligee), in the full and just sum of five (5%) percent of the total amount of this proposal, including all alternates, lawful money of the United States, for payment of which sum, well and truly be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally firmly by these presents.

Surety represents that it is listed on the current U. S. Department of the Treasury Financial Management Service list of approved bonding companies as approved for an amount equal to or greater that the amount for which it obligates itself in this instrument or that it is a Louisiana domiciled insurance company with at least an A - rating in the latest printing of the A. M. Best's Key Rating Guide. If surety qualifies by virtue of its Best's listing, the Bond amount may not exceed ten percent of policyholders' surplus as shown in the latest A. M. Best's Key Rating Guide.

Surety further represents that it is licensed to do business in the State of Louisiana and that this Bond is signed by surety's agent or attorney-in-fact. This Bid Bond is accompanied by appropriate power of attorney.

THE CONDITION OF THIS OBLIGATION IS SUCH that, whereas said Principal is herewith submitting its proposal to the Obligee on a Contract for:

NOW, THEREFORE, if the said Contract be awarded to the Principal and the Principal shall, within such time as may be specified, enter into the Contract in writing and give a good and sufficient bond to secure the performance of the terms and conditions of the Contract with surety acceptable to the Obligee, then this obligation shall be void; otherwise this obligation shall become due and payable.

PRINCIPAL (BIDDER)

SURETY

BY: _____
AUTHORIZED OFFICER-OWNER-PARTNER

BY: _____
AGENT OR ATTORNEY-IN-FACT(SEAL)

STATE OF LOUISIANA

PARISH OF ST. TAMMANY

ATTESTATIONS AFFIDAVIT

Before me, the undersigned notary public, duly commissioned and qualified in and for the parish and state aforesaid, personally came and appeared Affiant, who after being duly sworn, attested as follows:

LA. R.S. 38:2227 PAST CRIMINAL CONVICTIONS OF BIDDERS

A. No sole proprietor or individual partner, incorporator, director, manager, officer, organizer, or member who has a minimum of a ten percent (10%) ownership in the bidding entity named below has been convicted of, or has entered a plea of guilty or nolo contendere to any of the following state crimes or equivalent federal crimes:

- | | |
|---------------------------------------|-----------------------------------|
| (a) Public bribery (R.S. 14:118) | (c) Extortion (R.S. 14:66) |
| (b) Corrupt influencing (R.S. 14:120) | (d) Money laundering (R.S. 14:23) |

B. Within the past five years from the project bid date, no sole proprietor or individual partner, incorporator, director, manager, officer, organizer, or member who has a minimum of a ten percent (10%) ownership in the bidding entity named below has been convicted of, or has entered a plea of guilty or nolo contendere to any of the following state crimes or equivalent federal crimes, during the solicitation or execution of a contract or bid awarded pursuant to the provisions of Chapter 10 of Title 38 of the Louisiana Revised Statutes:

- | | |
|--|--|
| (a) Theft (R.S. 14:67) | (f) Bank fraud (R.S. 14:71.1) |
| (b) Identity Theft (R.S. 14:67.16) | (g) Forgery (R.S. 14:72) |
| (c) Theft of a business record
(R.S.14:67.20) | (h) Contractors; misapplication of
payments (R.S. 14:202) |
| (d) False accounting (R.S. 14:70) | (i) Malfeasance in office (R.S. 14:134) |
| (e) Issuing worthless checks
(R.S. 14:71) | |

LA. R.S. 38:2212.10 Verification of Employees

- A. At the time of bidding, Appearer is registered and participates in a status verification system to verify that all new hires in the state of Louisiana are legal citizens of the United States or are legal aliens.
- B. If awarded the contract, Appearer shall continue, during the term of the contract, to utilize a status verification system to verify the legal status of all new employees in the state of Louisiana.
- C. If awarded the contract, Appearer shall require all subcontractors to submit to it a sworn affidavit verifying compliance with Paragraphs (A) and (B) of this Subsection.

LA. R.S. 23:1726(B) Certification Regarding Unpaid Workers Compensation Insurance

- A. R.S. 23:1726 prohibits any entity against whom an assessment under Part X of Chapter 11 of Title 23 of the Louisiana Revised Statutes of 1950 (Alternative Collection Procedures & Assessments) is in effect, and whose right to appeal that assessment is exhausted, from submitting a bid or proposal for or obtaining any contract pursuant to Chapter 10 of Title 38 of the Louisiana Revised Statutes of 1950 and Chapters 16 and 17 of Title 39 of the Louisiana Revised Statutes of 1950.
- B. By signing this bid /proposal, Affiant certifies that no such assessment is in effect against the bidding / proposing entity.

NAME OF BIDDER

NAME OF AUTHORIZED SIGNATORY OF BIDDER

DATE

TITLE OF AUTHORIZED SIGNATORY OF BIDDER

**SIGNATURE OF AUTHORIZED
SIGNATORY OF BIDDER/AFFIANT**

Sworn to and subscribed before me by Affiant on the ____ day of _____, 20__ .

Notary Public

FOR INFORMATION ONLY

This document will be prepared by the Coastal Protection and Restoration Authority in the form appropriate for the project.

**CONTRACT BETWEEN OWNER AND CONTRACTOR
AND PERFORMANCE AND PAYMENT BOND**

This agreement entered into this _____ day of _____, 2016, by (CONTRACTOR NAME) hereinafter called the "Contractor", whose business address is _____, and the State of Louisiana Coastal Protection and Restoration Authority, herein represented by its Executive Director executing this contract, and hereinafter called the "Owner".

Witnesseth that the Contractor and the Owner, in consideration of premises and the mutual covenants; consideration and agreement herein contained, agree as follows:

Statement of Work: The contractor shall furnish all labor and materials and perform all of the work required to build, construct and complete in a thorough and workmanlike manner:

Project No. _____
State ID No. _____ Site Code _____

in strict accordance with Contract Documents prepared by Owner.

It is recognized by the parties herein that said Contract Documents, including by way of example and not of limitation, the Plans, Specifications (including General Provisions, Special Provisions, and Technical Specifications), Any Addenda thereto, Instructions To Bidders, this Contract, Advertisement For Bids, Affidavit, Bid Form, Bonds (Bid, Performance, and Payment),any Submitted Post-Bid Documentation, Notice of Award, Notice to Proceed, Change Orders, and Claims, if any, impose duties and obligations upon the parties herein, and said parties thereby agree that they shall be bound by said duties and obligations. For these purposes, all of the provisions contained in the aforementioned Contract Documents are incorporated herein by reference with the same force and effect as though said Contract Documents were herein set out in full.

Time for Completion: The work shall be commenced on a date to be specified in a written order of the Owner and shall be completed within _____ consecutive calendar days from and after the said date.

Liquidated Damages: Contractor shall be assessed Liquidated Damages in the amount of \$ _____ per day for each consecutive calendar day which work is not complete beginning with the first day beyond the completion time.

Compensation to be paid to the Contractor: The Owner will pay and the Contractor will accept in full consideration for the performance of the contract the sum of _____ **Dollars (\$)** which sum represents the Contract Price.

Performance and Payment Bond: To these presents personally came and intervened _____, herein acting for _____, a corporation organized and existing under the laws of the State of _____, and duly authorized to transact business in the State of Louisiana, as surety, who declared that having taken cognizance of this contract and of the Construction Documents mentioned herein, he hereby in his capacity as its Attorney in Fact obligates his said company, as Surety for the said Contractor, unto the said Owner, up to the sum of _____ **Dollars (\$)**. By issuance of this bond, the surety acknowledges they are in compliance with R.S. 38:2219.

The condition of this performance and payment bond shall be that should the Contractor herein not perform the contract in accordance with the terms and conditions hereof, or should said Contractor not fully indemnify and save harmless the Owner, from all cost and damages which he may suffer by said Contractor's non-performance or should said Contractor not pay all persons who have and fulfill obligations to perform labor and/or furnish materials in the prosecution of the work provided for herein, including by way of example workmen, laborers, mechanics, and furnishers of materials, machinery, equipment and fixtures, then said Surety agrees and is bound to so perform the contract and make said payment(s).

Provided, that any alterations which may be made in the terms of the contract or in the work to be done under it, or the giving by the Owner of any extensions of time for the performance of the contract, or any other forbearance on the part of either the Owner or the Contractor to the other shall not in any way release the Contractor or the Surety from their liability hereunder, notice to the Surety of any such alterations, extensions or other forbearance being hereby waived.

The Contractor agrees to abide by the requirements of the following as applicable: Title VI and VII of the Civil Rights Act of 1964, as amended by the Equal Opportunity Act of 1972, Federal Executive Order 11246, the Federal Rehabilitation Act of 1973, as amended, the Vietnam Era Veteran's Readjustment Assistance Act of 1974, Title IX of the Education Amendments of 1972, the Age Act of 1972, and contractor agrees to abide by the requirements of the Americans with Disabilities Act of 1990.

Contractor agrees not to discriminate in its employment practices, and will render services under this contract without regard to race, color, sex, religion, national origin, genetic information, age or disabilities. Any act of discrimination committed by Contractor or failure to comply with these statutory obligations when applicable shall be grounds for termination of this contract.

In Witness whereof, the parties hereto on the day and year first above written have executed this agreement in eight (8) counterparts, each of which shall, without proof or accountancy for the other counterparts, be deemed an original thereof.

WITNESSES:

**STATE OF LOUISIANA
COASTAL PROTECTION AND
RESTORATION AUTHORITY**

BY: _____
Michael Ellis, Executive Director

BY: _____

SURETY: _____

BY: _____
ATTORNEY IN FACT

ADDRESS

TELEPHONE NUMBER

STATE OF LOUISIANA
PARISH OF ST. TAMMANY

PROJECT NO.: PO-104

NAME: BONFOUCA MARSH CREATION PROJECT

LOCATION: SLIDELL, LA

AFFIDAVIT

Before me, the undersigned authority, duly commissioned and qualified within and for the State and Parish aforesaid, personally came and appeared _____ representing who, being by me first duly sworn deposed and said that he has read this affidavit and does hereby agree under oath to comply with all provisions herein as follows:

PART I.

Section 2224 of Part II of Chapter 10 of Title 38 of the Louisiana Revised Statutes, as amended.

(1) That affiant employed no person, corporation, firm, association, or other organization, either directly or indirectly, to secure the public contract under which he received payment, other than persons regularly employed by the affiant whose services in connection with the construction, alteration or demolition of the public building or project or in securing the public contract were in the regular course of their duties for affiant; and

(2) That no part of the Contract price received by affiant was paid or will be paid to any person, corporation, firm, association, or other organization for soliciting the Contract, other than the payment of their normal compensation to persons regularly employed by the affiant whose services in connection with the construction, alteration or demolition of the public building or project were in the regular course of their duties for affiant.

PART II.

Section 2190 of Part I of Chapter 10 of Title 38 of the Louisiana Revised Statutes, as amended.

That affiant, if an architect or engineer, or representative thereof, does not own a substantial financial interest, either directly or indirectly, in any corporation, firm, partnership, or other organization which supplies materials for the construction of a public work when the architect or engineer has performed architectural or engineering services, either directly or indirectly, in connection with the public work for which the materials are being supplied.

For the purposes of this Section, a "substantial financial interest" shall exclude any interest in stock being traded on the American Stock Exchange or the New York Stock Exchange.

That affiant, if subject to the provisions of this section, does hereby agree to be subject to the penalties involved for the violation of this section.

AFFIANT

SWORN TO AND SUBSCRIBED BEFORE ME THIS _____ DAY OF _____, 2016.

NOTARY

PART I GENERAL PROVISIONS

GP-1. DEFINITION OF TERMS

Whenever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to the singular or plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs and the titles of other documents or forms.

Unless stated otherwise in the Contract Documents, words or phrases which have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

- a. Acceptance: A written approval from the Engineer which certifies that specific items of work in the Contract have been completed and/or obligations have been fulfilled by the Contractor.
- b. Addenda: Those written or graphic documents which are issued prior to opening of Bids in accordance with the Bidding Requirements and clarify or change the bidding requirements or the proposed Contract Documents.
- c. Application of Payment: That form which is used by the Contractor to request partial and final payment and is deemed acceptable to the Owner. It shall be accompanied by any supporting documentation required by the Contract Documents.
- d. A.S.T.M.: American Society for Testing and Materials.
- e. Bid: An offer or proposal submitted on the prescribed form setting forth the prices for the Work.
- f. Bidder: The person, association of persons, firm, or corporation submitting a proposal for the Work.
- g. Bidding Requirements: The Advertisement for Bids, Instructions to Bidders, Form of Bid Security, if any, and Bid Form with any supplements.
- h. Change Order: A written order which is submitted to the Contractor, signed by the Owner, and authorizes an addition, deletion, or revision in the Work, or an adjustment in the contract price or the contract time issued after the effective date of the Contract.
- i. Claim: A written demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both or other relief with respect to the terms of the Contract.
- j. Contract: The written agreement between the Owner and the Contractor which defines the work to be completed and shall be understood to also include all Contract Documents.

- k. Contract Documents: The Contract, all addenda which pertains to the Contract Documents, Bid Documents and specified Attachments accompanying the Bid and any post-bid documentation submitted prior to the Notice of Award, Contractor's Bid when attached as an exhibit to the Agreement, the Bonds (Bid and Performance/Payment), General Provisions, Special Provisions, Technical Specifications, Plans, and all Field or Change Orders issued after the execution of the Agreement. Shop Drawings and other submittals by the Contractor are not Contract Documents.
- l. Contract Price: The moneys payable by the Owner to the Contractor for the Work in accordance with the Contract Documents as stated in the Contract.
- m. Contract Time: The number of calendar days specified in the Contract for completion of the Work, together with any extensions authorized through change orders.
- n. Contractor: The person, association of persons, firm, or corporation entering into the duly awarded Contract.
- o. Contracting Agency: The State of Louisiana, Coastal Protection and Restoration Authority (CPRA).
- p. Day: When any period of time is referred to in the Contract Documents using days, it will be computed to exclude the first day and include the last day of such period. If the last day of any such period falls on a Saturday, Sunday, or a legal holiday, that day will be omitted from the computation. A calendar day is measured as twenty-four (24) hour period starting at midnight and ending the following midnight.
- q. Design Report: A written report by the Engineer which provides the design methodology for the Work.
- r. Effective Date of the Contract: The date indicated in the Contract on which it becomes effective.
- s. Engineer: The State of Louisiana, Coastal Protection and Restoration Authority, or its designee.
- t. Equipment: All machinery, implements, and power-tools, in conjunction with the necessary supplies for the operation, upkeep, maintenance, and all other tools and apparatuses necessary for the proper construction and acceptable completion of the Work.
- u. Extension of Contract: Any extension of time for completion of Work beyond the Contract Time which is granted by the Owner, recommended by the Engineer and approved by the Coastal Protection and Restoration Authority in the form of a Change Order.
- v. Federal Sponsor: The federal agency which has been tasked, if applicable, to manage the implementation of the project.
- w. Field Order: A written order issued by the Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or Contract Time.

- x. Laboratory: The firm, company, or corporation which is used to test materials and is approved for use by the Engineer.
- y. Laws and Regulations; Laws or Regulations: Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
- z. Materials: Any substance used in the Work to build structures, but does not include material used in false work or other temporary structures not incorporated in the Work.
- aa. Milestone: A principal event specified in the Contract Documents relating to an intermediated completion date or time prior to the Contract Times.
- bb. Notice of Award: A written notice to the successful Bidder stating that the Bid has been accepted by the Owner and that the successful Bidder is required to execute the Contract and furnish the Payment and Performance Bond and Non-Collusion Affidavit.
- cc. Notice to Proceed: The written notice to the Contractor by the Owner which provides the starting date for the Contract Time.
- dd. Owner: The Owner is the State of Louisiana (State) which acts through the Contracting Agency.
- ee. Performance and Payment Bond: The approved form of security furnished by the Contractor and Surety for the faithful performance of the Work, and the payment for all labor, materials, and/or obligations incurred by the Contractor in the prosecution thereof.
- ff. Plans: That part of the Contract Documents prepared or approved by the Engineer which graphically shows the scope, intent, and character of the Work to be completed by the Contractor.
- gg. Project Site: The location where the Work is to be performed as stated in the Contract Documents.
- hh. Resident Project Representative: An authorized representative of the Engineer who is responsible to inspect the Work and materials furnished by the Contractor.
- ii. Right-of-way: That entire area reserved for constructing, maintaining, and protecting the proposed improvement, structures, and appurtenances of the Work.
- jj. Samples: Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portions of the Work will be judged.
- kk. Shop Drawings: All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for the Contractor and submitted by the Contractor to illustrate some portion of the Work to be performed.

- ll. Specifications: That part of the Contract Documents consisting of written technical descriptions of materials, equipment, systems, standards, and workmanship as applied to the work to be performed and certain administrative details applicable thereto.
- mm. State: The State of Louisiana.
- nn. Structures: Bridges, plugs, weirs, bulkheads, berms, dams, levees, and other miscellaneous construction encountered during the Work and not otherwise classified herein.
- oo. Subcontractor: Any person, association of persons, firm, or corporation who contracts with the Contractor to perform any part of the project covered by the Contract.
- pp. Submittals: Certificates, samples, shop drawings, and all other project data which are submitted to the Engineer in order to verify that the correct products will be installed on the project.
- qq. Successful Bidder: The lowest responsible Bidder whom the Owner makes an award.
- rr. Special Provisions: That part of the Contract Documents which amends or supplements these General Provisions.
- ss. Surety: The corporate body, licensed to do business in Louisiana, bound with and for the Contractor's primary liability, and engages to be responsible for payment of all obligations pertaining to acceptable performance of the Work contracted.
- tt. Temporary Structures: Any non-permanent structure required while engaged in the prosecution of the Contract.
- uu. Work: All work specified herein or indicated on the Plans.
- vv. Work Plan: A written plan by the Contractor that details how the Work will be provided including layout drawings, projected schedule (Initial Progress Schedule), and a list of labor hours, materials, and equipment.

GP-2. BID REQUIREMENTS

The Contract and Bonds which govern the Work shall be performed in accordance with the Plans, Specifications, and the Louisiana Standard Specifications for Roads and Bridges, 2006 edition. The Bidder understands that all quantities for performing the Work have been estimated by the Engineer, and that the Bid shall be the sum of the quantities multiplied by their respective unit rates. The Contract shall be awarded by the Owner through a comparison of all bids. It is the responsibility of each Bidder before submitting a Bid to:

- 2.1. Examine the Bidding Documents including the Plans and Specifications and any Addenda or related data identified in the Bidding Documents;
- 2.2. Visit the Project Site to become familiar with the local conditions if they are believed to affect cost, progress, or the completion of the Work;

- 2.3. Become familiar and satisfied with all federal, state, and local Laws and Regulations that may affect cost, progress, or the completion of the Work;
- 2.4. Study and correlate all information known to the Bidder including observations obtained from Bidder's visits, if any, to the Project Site, with the Bidding Documents;
- 2.5. Submit a written notice to the Engineer within three (3) days regarding any conflicts, errors, ambiguities, or discrepancies discovered in the Bidding Documents and confirm that the written resolution thereof by the Engineer is acceptable to the Bidder; and
- 2.6. Determine that the Bidding Documents are generally sufficient to convey an understanding of all terms and conditions for completing the required Work.

The submission of a Bid will constitute an incontrovertible representation that the Bidder has complied with every requirement of these Specifications. The Bidder shall comply with all other requirements specified in the Advertisement For Bids and the Instruction To Bidders.

GP-3. AVAILABILITY OF PLANS AND SPECIFICATIONS

One (1) set of Plans and Specifications shall be furnished to each Bidder. Three (3) sets of the Plans and Specifications shall be furnished to the Contractor upon award of the Contract. Additional sets may be furnished to the Contractor upon request from the Engineering Division of the Coastal Protection and Restoration Authority, 450 Laurel Street, 11th Floor, Baton Rouge, Louisiana 70801.

GP-4. LAWS, REGULATIONS, STANDARDS, SPECIFICATIONS, AND CODES

Bidders are required to become familiar and remain in compliance with all Federal, State, and local laws, ordinances, and regulations and all orders and decrees of bodies or tribunals having any jurisdiction or authority which may affect those employed for the execution of the Work or which may affect the conduct of the Work. The Contractor shall indemnify the Owner and its representatives against any claim or liability arising from all violations of any laws, bylaws, ordinances, codes, regulations, orders, or decrees, whether by the Contractor or by the Contractor's employees. The filing of a bid will be presumptive evidence that the Bidder has complied with this requirement. The Owner will not be responsible for any inaccurate interpretations or conclusions drawn by the Contractor from information and documentation provided by the Owner.

References to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws and Regulations, whether such reference be specific or by implication, may not be in effect at the time of opening the Bids (or on the Effective Date of the Contract if there were no Bids), except as may be otherwise specifically stated in the Contract Documents. No provision of any such standard, specification, manual, or code, or any instruction of a supplier shall be effective to change the duties or responsibilities of the Owner or Engineer, or any of their Subcontractors, consultants, agents, or employees from those set forth in the Bid Documents. No such provision shall be effective to assign to the Owner or Engineer, or any of their consultants, agents, or employees any duty or authority to supervise or direct the performance of the Contractor's obligations or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

The obligations imposed by these specifications are in addition to and are not to be construed in any way as a limitation of any rights available to the Engineer or Owner which are otherwise imposed by any laws or regulations or other provisions within the Contract Documents.

The Contractor shall abide by laws set forth in the Davis-Bacon Act of 1931 which states that all laborers and mechanics employed by recipients, the recipient's contractors, or subcontractors on this project shall be paid wages at rates no less than those prevailing on projects of a character similar in the locality as determined by the Secretary of Labor in accordance with Subchapter IV of Chapter 31 of Title 40 United States Code. Additionally, with respect to the labor standards specified in this section, the Secretary of Labor shall have the authority and functions set forth in Reorganization Plan Number 14 of 1950 (64 Stat. 1267; 5 U.S.C. App.) and The Copeland Act of Title 40 (40 U.S.C. § 3145). Prevailing Wage Determination Schedules, as determined by the United States Department of Labor, are provided in the Appendix. Prevailing Wage Determination Schedules are subject to modification by the United States Department of Labor. The Contractor is responsible for utilizing the most current Prevailing Wage Determination Schedule. These documents can be downloaded from the following link: <http://www.wdol.gov/dba.aspx#3>. Modifications to Prevailing Wage Determination Schedules shall be effective if received (or posted) no less than 10 days prior to bid opening.

GP-5. PRE-BID CONFERENCE AND SITE VISIT

A Pre-Bid Conference will be held at the location and on the date provided in the Advertisement For Bids. If the Pre-Bid Conference is stated in the Advertisement for Bids to be a MANDATORY Pre-Bid Conference, bids shall be accepted only from those bidders who attend the Pre-Bid Conference in its entirety. Failure to attend a mandatory Pre-Bid Conference in its entirety will result in a null or void Bid.

A site visit may also be held at the Project Site as specified in the Advertisement For Bids or at the Pre-Bid conference. If held, bidders will be required to furnish their own transportation to the Project Site. Representatives of the Owner and Engineer will attend the Pre-Bid conference and site visit, if held, to discuss the Work.

All questions shall be in writing and faxed or emailed to the Coastal Protection and Restoration contact person listed in the Advertisement For Bids after the Pre-Bid Conference and by the due date announced at the Pre-Bid conference. In order to ensure adequate response time, all questions and/or requests for clarification or interpretation of the Bid Documents should be received by the Coastal Protection and Restoration Authority at least seven days prior to the date for receipt of bids. Oral statements will not be binding or legally effective. The Coastal Protection and Restoration Authority will issue addenda in response to all questions arising at the Pre-Bid Conference and site visit to all prospective Bidders on record. All prospective Bidders on record may contact the Coastal Protection and Restoration Authority contact person for any additional information.

GP-6. NOTICE OF AWARD

The Owner, or its designated bidding agent, shall provide written notice to the Successful Bidder stating that the Owner will sign and deliver the Contract upon compliance with the conditions enumerated therein and within the time specified.

GP-7. NOTICE TO PROCEED AND CONTRACT TIME

The Contractor shall start the Work and begin the Contract Time on the dates provided in the Notice to Proceed. The Work shall be conducted using sufficient labor, materials, and equipment as necessary to ensure completion within the Contract Time. The Contract Time for completion of the Base Bid for the Work is provided in the Instructions To Bidders, unless an extension is granted to the Contract Time as specified in GP-44. If the Bid contains an Alternate Bid(s), and the Alternate Bid(s) is awarded and included in the Contract, the Contract Time associated with the Alternate Bid(s) will be as provided in the Special Provisions.

GP-8. WORK PLAN

The Contractor shall develop a written Work Plan which accounts for all of the construction activities required by the Contract Documents. The Work Plan shall include a list of the individual construction tasks to be completed and the estimated dates for beginning and completing the tasks. It shall also include all other items which are applicable to completing the Work such as, but not limited to, the following:

- a. Typical report form for the Bi-Weekly Progress Meeting;
- b. Typical form for Daily Progress Report;
- c. Hurricane and Severe Storm Plan;
- d. Site-specific Health and Safety Plan;
- e. The delivery method and source(s) of all construction materials (company or producer name, mailing and physical address, phone number, and name of contact person).
- f. The personnel, material, subcontractors, fabricators, suppliers, types of equipment, and equipment staging areas the Contractor proposes to use for construction;
- g. Shop drawings, test results, and sample submittals;
- h. Survey layout and stakeout;
- i. All supplemental items specified in the Special Provisions.

The Work Plan shall be submitted to the Engineer prior to the Pre-Construction Conference by the date provided in the Special Provisions. The Engineer shall review the Work Plan and have the Contractor make any necessary revisions prior to Acceptance of the plan. **No payment for mobilization will be made until the Work Plan has been accepted by the Engineer.**

GP-9. PROGRESS SCHEDULE

The Contractor shall develop a written Progress Schedule which provides for an orderly progression of the Work, submittals, tests, and deliveries in order to complete the Work within the specified Milestones and Contract Time. All of the items listed in the Work Plan shall be integrated into the Progress Schedule. The format of the schedule shall be composed using Microsoft Project®, or any other software deemed acceptable by the Engineer. It shall be updated weekly by the Contractor, at a minimum. The Progress Schedule shall also include, but not be limited to the following:

- a. All of the elements in the Work Plan, including updates;
- b. A work order issued from Louisiana One Call ordering all their subscribers in the project area to mark their utilities;
- c. A telephone log verifying that all property owners and utilities have been contacted. This log should list the time, date, and names of the personnel representing the property owners, utilities, and Contractor;

The following table defines the monthly anticipated adverse weather days that are expected to occur during the Contract Time and will constitute the baseline monthly weather time for evaluations. The schedule is based upon National Oceanic and Atmospheric Administration (NOAA) or similar data for the regional geographic area.

Monthly Anticipated Adverse Weather Calendar Days											
Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
5	5	4	4	4	5	7	7	5	3	3	4

The Progress schedule must reflect these anticipated adverse weather delays on all weather dependent activities. Adverse weather days must prevent Work for fifty percent (50%) or more of the work day and delay work critical to the timely completion of the project. The number of actual adverse weather days shall be calculated chronologically from the first to the last day of each month.

The Progress Schedule shall be submitted to the Engineer prior to the Pre-Construction Conference by the date provided in the Special Provisions. The Engineer shall perform a review and have the Contractor make any necessary revisions prior to Acceptance of the schedule. Acceptance will not impose responsibility on the Owner or Engineer for the sequencing, scheduling, or progression of the Work. The Contractor is fully responsible for progression of the Work in order to maintain the compliance with the Progress Schedule.

GP-10. DAILY PROGRESS REPORTS

The Contractor shall record the following daily information on Daily Progress Reports:

- a. Date and signature of the author of the report;
- b. Dollar amount of all bid items that are fabricated, installed, backfilled, pumped, constructed, damaged, replaced, etc. The amount of material shall be expressed in the units stated in the bid;
- c. Field notes of all surveys;
- d. Notes on all inspections;
- e. Details of Health and Safety meetings;
- f. A brief description of any Change Orders, Field Orders, Claims, Clarifications, or Amendments;
- g. Condition of all navigation aides (I.E., warning signs, lighted marker buoys) and any repairs performed on them;
- h. Weather conditions (adverse weather day, wind speed and direction, temperature, wave height, precipitation, etc.);
- i. The amount of time lost to severe weather or personnel injury, etc;
- j. Notes regarding compliance with the Progress Schedule;
- k. Visitor log (Instructions for format will be furnished by the Field Engineer).

The daily progress reports shall be submitted to the Engineer at the Bi-Weekly Progress Meetings specified in GP-13 in both hard copy and digital format (Adobe Acrobat® Format, or approved equal). The typical form for Daily Progress Reports shall be developed by the Contractor and incorporated into the Work Plan.

GP-11. HURRICANE AND SEVERE STORM PLAN

The Contractor shall develop and maintain a written Hurricane and Severe Storm Plan. The Plan shall include, but not be limited to, the following:

- a. What type of actions will be taken before storm strikes at the Project Site. The plan should specify what weather conditions or wave heights will require shutdown of the Work and removal of equipment, personnel, etc.
- b. Notes from continuous monitoring of NOAA marine weather broadcasts and other local commercial weather forecasts.
- c. Equipment list with details on their ability to handle adverse weather and wave conditions.

- d. List of safe harbors or ports and the distance and travel time required to transfer equipment from the Project Site.
- e. Hard copies of any written approvals or operations schedules associated with the use of the safe harbors or ports.
- f. Method of securing equipment at the safe harbors or ports.
- g. List of tug boats and work boats and their respective length, horsepower, etc. which will adequately transfer the equipment to safe harbor or port under adverse weather conditions.
- h. Methods which will be used to secure equipment left onsite during adverse weather conditions.
- i. Evacuation or immediate reaction plans to be taken by personnel for sudden storm occurrences.
- j. Operations procedures which will be used to secure critical dredging equipment such as spuds, swing wires, anchor wires, or tugs during adverse weather conditions.
- k. Communications protocol with local law enforcement and fire and rescue agencies.

The Contractor shall incorporate the Hurricane and Severe Storm Plan into the Work Plan. The Owner and Engineer are not responsible for the adequacy of this plan.

GP-12. HEALTH AND SAFETY PLAN AND INSPECTIONS

The Contractor shall develop and maintain a written Health and Safety Plan which allows the Work to be performed in compliance with all applicable laws, ordinances, rules, and regulations of any government agency having jurisdiction over the safety of personnel or property. This includes maintaining compliance with the Code of Federal Regulations, Title 29, Occupational Safety and Health Administration (OSHA) and all applicable Health and Safety Provisions of the State of Louisiana.

The Contractor shall institute a daily inspection program to assure that the requirements of the Health and Safety Plan are being fulfilled. Inspections shall include the nature of deficiencies observed, corrective action taken or to be taken, location of inspection, date, and signature of the person responsible for its contents. The results of the inspections shall be recorded on Daily Progress Reports and kept at the Project Site during the Work.

The Contractor shall incorporate the Health and Safety Plan into the Work Plan. The Owner and Engineer are not responsible for the adequacy of this plan.

GP-13. PROGRESS MEETINGS AND REPORTS

The Engineer shall schedule meetings to review the progress of the Work, coordinate future efforts, discuss compliance with the Progress Schedule and resolve miscellaneous problems. The Engineer or Resident Project Representative, Contractor, and all Subcontractors actively working at the Project Site shall attend each meeting. Representatives of suppliers, manufacturers, and other Subcontractors may also attend at the discretion of the Contractor.

The Contractor shall record the details of each meeting in a Progress Report. The format of this report shall be developed by the Contractor, approved by the Engineer, and included in the Work Plan. The progress meetings and reports shall be scheduled according to the Special Provisions.

GP-14. PRE-CONSTRUCTION CONFERENCE

A Pre-Construction Conference shall be held by the Contractor, Owner, Engineer, local stakeholders, and other appropriate personnel prior to starting construction on the date specified in the Special Provisions. This conference shall serve to establish a mutual understanding of the Work to be performed, the elements of the Progress Schedule and Work Plan, expectations for bi-weekly progress meetings, the Plans and Specifications, processing Applications for Payment, and any other items of concern. If any subcontractors are not present, another Pre-Construction conference will be required.

GP-15. CONTRACT INTENT

The Bid Documents are complementary; what is called for by one is as binding as if called for by all. Clarifications and interpretations or notifications of minor variations and deviations of the Contract Documents will be issued by Engineer as provided in these Specifications. Any labor, documentation, services, materials, or equipment that may reasonably be inferred from the Bid Documents or from prevailing custom or trade usage as being required to produce the intended result will be provided at no additional cost to the Owner.

GP-16. ENGINEER AND AUTHORITY OF ENGINEER

The Engineer will be the designated representative of the Owner, the initial interpreter of the Contract Documents and the judge over acceptability of all the Work. Claims, disputes, and other matters relating to the acceptability of the Work, performance by the Contractor or the interpretation of the requirements of the Contract Documents must be submitted to the Engineer in writing. Upon written request from the Contractor, the Engineer shall issue written clarifications or interpretations which are consistent with the overall intent of the Contract Documents. Such written clarifications and interpretations will be binding on the Owner and the Contractor. Either the Owner or the Contractor may make a Claim if a written clarification or interpretation justifies an adjustment in the Contract Price or Contract Times.

The Engineer has the authority to suspend the Work in whole or in part due to failure of the Contractor to correct conditions unsafe for workmen or the general public, carry out provisions of the Contract, perform conformance work, or to carry out orders. The Engineer shall submit a written order to the Contractor for work which must be suspended or resumed. Nothing in this provision shall be construed as establishing responsibility on the part of the Engineer for safety which is the responsibility of the Contractor.

The Engineer or Resident Project Representative shall keep a daily record of weather and flood conditions and may suspend the Work as deemed necessary due to periods of unsuitable weather, conditions considered unsuitable for execution of the Work, or for any other condition or reason deemed to be in the public interest.

GP-17. CONFORMITY WITH PLANS AND SPECIFICATIONS

All work and materials involved with the Work shall conform with the lines, grades, cross sections, dimensions, and other requirements shown on the Plans or indicated in these Specifications unless otherwise approved by the Engineer.

GP-18. CLARIFICATIONS AND AMENDMENTS TO CONTRACT DOCUMENTS

The Contract Documents may be clarified or amended by the Engineer to account for additions, deletions, and revisions to the Work after the Effective Date of the Contract. The clarifications and amendments shall be addressed by either a Change Order or a written clarification by the Engineer. The Contractor shall not proceed with the Work until the Change Order or clarification has been issued by the Engineer. The Contractor shall not be liable to the Owner or Engineer for failure to report any such discrepancy unless the Contractor had reasonable knowledge.

The Contractor may request a clarification or amendment for the following:

- a. Any conflict, error, ambiguity, or discrepancy within the Contract Documents; or
- b. Any conflict, error, ambiguity, or discrepancy between the Bid Documents and the provision of any Law or Regulation applicable to the performance of the Bid; or
- c. Any standard, specification, manual, or code (whether or not specifically incorporated by reference in the Bid Documents); or
- d. Instructions by a supplier.

The official form for a written clarification is provided in Appendix A. This form shall be filled out appropriately by the Contractor and submitted to the Engineer. The Engineer shall clarify the issue in writing on either the clarification form, Field Order or a Change Order and submit it to the Contractor.

GP-19. SUBCONTRACTS

The Contractor shall provide the names of all Subcontractors to the Engineer in writing before awarding any Subcontracts. The Contractor shall be responsible for the coordination of the trades and Subcontractors engaged in the Work. The Contractor is fully responsible to the Owner for the acts and omissions of all the Subcontractors. The Owner and Engineer will not settle any differences between the Contractor and Subcontractors or between Subcontractors. The Contractor shall have appropriate provisions in all Subcontracts to bind Subcontractors to the Contractor by the terms of the General Provisions and other Contract Documents, as applicable to the Work of Subcontractors. The provisions should provide the Contractor the same power regarding termination of Subcontracts that the Owner may exercise over the Contractor under any provisions of the Contract Documents.

GP-20. WORKERS, METHODS, AND EQUIPMENT

The Contractor shall provide competent, qualified, and trained personnel to perform the Work. The Contractor shall not employ any person found objectionable by the Engineer. Any person employed by the Contractor or any Subcontractor who, in the opinion of the Engineer, does not perform the Work in a proper, skillful, and orderly manner shall be immediately removed upon receiving a written order by the Engineer. The Engineer may also suspend the Work until the Contractor removes the employee or provides a suitable replacement. Such an employee shall not be re-employed in any portion of the Work without written approval from the Engineer.

The on-site superintendent for the Contractor shall be competent, English-speaking, and qualified to receive orders, supervise, and coordinate all Work for the Contractor and any Subcontractors. The qualifications of the superintendent must be established and approved by the Engineer prior to commencement of the Work. The superintendent shall be furnished by the Contractor regardless of how much Work may be sublet. In the performance of the Work under this Contract, the Contractor shall conduct operations to avoid interference with any other Contractors.

All equipment, products, and material incorporated into the Work shall be as specified, or if not specified, shall be new, of good quality, and protected, assembled, used, connected, applied, cleaned, and conditioned in accordance with the manufacturer's instructions, except as otherwise may be provided in the Bid Documents. All equipment shall be of sufficient size and mechanical condition to meet the requirements of the Work and produce a satisfactory quality of work. Equipment shall not damage adjacent property throughout the performance of the Work. The Plant and Equipment Schedule should be completed by the Contractor.

The Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures used to complete the Work in conformance with the Contract Documents.

The Contractor shall obtain permission from the Engineer if a method or type of equipment other than specified in the Contract is desired. The request shall be in writing and shall include a full description of the methods, equipment proposed, and reasons for the modification. A proposed item of material or equipment may be considered by the Engineer to be functionally equal to an item specified in the Contract if:

- a. It is at least equal in quality, durability, appearance, strength, and design characteristics;
- b. There is no increase in any cost including capital, installation, or operating to the Owner;
- c. The proposed item will conform substantially, even with deviations, to the detailed requirements of the item named in the Bid Documents.

If, after trial use of the substituted methods or equipment, the Engineer determines that the Work produced does not meet Contract requirements, the Contractor shall discontinue use of the substituted methods or equipment and shall complete the Work with the specified methods and equipment. The Contractor shall remove the deficient Work and replace it with Work of specified quality or take other corrective action as directed. No change will be made

in basis of payment for construction items involved or in Contract Time as a result of authorizing a change in methods or equipment.

GP-21. ACCIDENT PREVENTION, INVESTIGATIONS, AND REPORTING

The Contractor shall be responsible to develop and maintain all safeguards and safety precautions necessary to prevent damage, injury, or loss throughout the performance of the Work. All accidents at the Project Site shall be investigated by the immediate supervisor of employee(s) involved and reported to the Engineer or Resident Project Representative within one (1) working day. A complete and accurate written report of the accident including estimated lost time days shall be submitted to the Engineer within four (4) calendar days. A follow-up report shall be submitted to the Engineer if the estimated lost time days differ from the actual lost time days.

GP-22. PRESERVATION AND RESTORATION OF PROPERTY, MONUMENTS, ETC.

The Contractor shall comply with all applicable laws, ordinances, rules, and regulations of any government agency having jurisdiction over the preservation and protection of public and private property. The Contractor shall install and maintain suitable safeguards and safety precautions during the Work as necessary to prevent damage, injury, or loss to property. This responsibility shall remain with the Contractor until the Work has been completed and accepted. Any damage, injury, or loss to property which is caused by the Contractor or Subcontractors shall be repaired or replaced at the expense of the Contractor.

The Contractor shall protect all land monuments, State and United States bench marks, geodetic and geological survey monuments, and property markers from disturbance or damage until an authorized agent has witnessed or otherwise referenced their location. The Contractor shall also provide protection for all public and private property including trees, utilities, pipes, conduits, structures, etc. These items shall not be removed unless directed by the Engineer.

The Contractor shall be responsible to completely repair all damages to public or private property due to any act, omission, neglect, or misconduct in the execution of the Work unless it is due to unforeseeable causes beyond the control of and without the fault or negligence of the Contractor, including but not restricted to acts of God, public enemies, or governmental authorities. The damage must be repaired at the expense of the Contractor before final Acceptance of the Work can be granted by the Engineer. If the Contractor fails to repair the damage within forty-eight (48) hours, the Owner may independently proceed with the repairs at the expense of the Contractor by deducting the cost from the Contract. If the Contractor cannot provide for the cost of repairs, the Surety of the Contractor shall be held until all damages, suits, or claims have been settled.

GP-23. PROTECTION OF THE WORK, MATERIALS, AND EQUIPMENT

It shall be the responsibility of the Contractor to protect the Work, materials, and equipment from damages or delays due to inflows, tidal rise, and storm water runoff which may occur at the Project Site. The Owner shall not be held liable or responsible for these types of delays or damages.

GP-24. LAND RIGHTS

The Owner has been granted all of the temporary easements, servitudes, and right-of-way agreements from public and private landowners in order to perform the Work. A land rights memorandum which lists all known responsible contacts and required stipulations is provided in Appendix D. The Contractor is responsible to notify all of the contacts and abide by stipulations listed in that memorandum.

GP-25. UTILITIES

The Owner has been granted all of the temporary easements, servitudes, and right-of-way agreements from known public and private utilities in order to perform the Work. The utilities include, but are not limited to telephone, telegraph, power poles or lines, water or fire hydrants, water or gas mains and pipelines, sewers, conduits, and other accessories or appurtenances of a similar nature which are fixed or controlled by a city, public utility company or corporation.

The Contractor shall conduct the Work in such a manner as to cooperate and minimize inconveniences with utilities. Prior to commencement of the Work, the Contractor is responsible to notify all of the utilities and abide by stipulations required by the utility company(s). The Contractor shall also call Louisiana One Call at 1-800-272-3020 a minimum of 5 working days prior to construction to locate existing utilities at the Project Site.

Any damage to utilities that is caused by the Contractor within the Project Site shall be repaired at the expense of the Contractor. The Owner will not be responsible for any delay or damage incurred by the Contractor due to working around or joining the Work to utilities left in place or for making adjustments.

Any unidentified pipes or structures which may be discovered within the limits of the Project Site shall not be disturbed and shall be reported to the Engineer as soon as possible. Construction or excavation shall not be performed around unidentified utilities without prior approval from the Engineer.

GP-26. PERMITS

Federal and State permits that are required to perform the Work, such as the Department of the Army Permit, Coastal Use Permit, LDEQ Clean Water Permit, and the LDWF Fill Material License have been secured by the Owner. Permit conditions affecting the construction processes have been included in these Specifications. Copies of these permits will be provided to the Contractor at the Pre-Construction conference. These permits will not relieve the responsibility of the Contractor from obtaining any additional permits which may be needed to complete the Work. Copies of any special permits that are obtained by the Contractor must be submitted to the Owner. The Contractor shall conform to the requirements therein and display copies of the permits in a public setting at the Project Site at all times.

GP-27. PROJECT SITE CLEAN-UP

The Contractor shall keep the Project Site free from accumulations of waste material or trash at all times. All trash and waste materials shall be removed by the Contractor and disposed off-site in an approved waste disposal facility. In addition, all equipment, tools, and non-conforming work shall also be removed prior to the Work being accepted. No materials shall be placed outside of the Project Site.

GP-28. OWNER INSPECTION

The Owner, Resident Project Representative, and Federal Sponsor shall have the right to perform reasonable inspections and testing of the Work at the Project Site. Access shall be granted to the entire Project Site including all materials intended for use in the Work. The Contractor shall allow reasonable time for these inspections and tests to be performed. The inspections shall not relieve the Contractor from any obligation in accordance with the requirements of the Contract.

The Owner shall notify the Contractor prior to all tests, inspections, and approvals of the Work which are to be conducted at the Project Site. The Owner shall also provide the Contractor with the written results of all inspections and tests. Inspections, tests, or Payments made by the Owner shall not constitute Acceptance of non-conforming Work of prejudice the Owner's rights under the Contract.

GP-29. DUTIES OF RESIDENT PROJECT REPRESENTATIVE

A Resident Project Representative shall be assigned by the Engineer to the Project Site to observe the Contractor and monitor the progress and manner in which the Work is being performed. The Resident Project Representative will also report to the Engineer and Contractor whenever materials or Work fail to comply with the Contract. The Resident Project Representative is authorized to reject any materials or suspend work which does not comply with the Contract until the issue is resolved by the Engineer.

However, the Resident Project Representative is not authorized to revoke, alter, enlarge, relax, or release any requirements of the Contract, or to approve or accept any portion of the Work, or to issue instructions contrary to the Plans and Specifications. The Resident Project Representative shall not manage or perform duties for the Contractor.

GP-30. CONSTRUCTION STAKES, LINES, AND GRADES

The Engineer shall direct the Contractor to all control points necessary for setting stakes and establishing lines and grades as shown on the Plans. The Contractor shall be responsible for laying out all of the Work. All layouts shall be witnessed and verified by the Engineer or Resident Project Representative prior to beginning the Work. The Contractor shall be responsible for proper execution of the Work according to the layouts after receiving verification from the Engineer.

The Contractor shall be responsible for furnishing and maintaining stakes such that the Work can be verified for Acceptance. The Engineer may suspend the Work at any time if it cannot be adequately verified due to the number, quality, or condition of the stakes.

GP-31. CONTRACTOR'S RESPONSIBILITY FOR WORK

The Contractor shall execute all items covered by the Contract, and shall furnish, unless otherwise definitely provided in the Contract, all materials, implements, machinery, equipment, tools, supplies, transportation, and labor necessary to complete the Work. The Contractor shall pay constant attention to the progress of the Work and shall cooperate with the Engineer in every way possible. The Contractor shall maintain a complete copy of the Contract at all times, including the Plans, Specifications, and any authorized modifications.

GP-32. ENVIRONMENTAL PROTECTION

The Contractor shall comply with and abide by all federal, state, and local laws and regulations controlling pollution of the environment, including air, water, and noise. The Contractor shall take precautions to prevent pollution of waters and wetlands with fuels, oils, bituminous materials, chemicals, sewage, or other harmful materials and contaminants, and to prevent pollution of the atmosphere from particulate and gaseous matter, in accordance with all terms and conditions of federal, state, and local air and water pollution control laws and programs and their rules and regulations, including the federal Clean Air Act and the federal Clean Water Act.

The Contractor shall adhere to the provisions which require compliance with all standards, orders, or requirements contained under Section 306 of the Clean Air Act and Section 508 of the Clean Water Act, which prohibit the use under non-exempt Federal contracts, grants, or loans, of facilities included on the Environmental Protection Agency (EPA) list of Violating Facilities.

Construction operations in rivers, streams, lakes, tidal or coastal waters, reservoirs, canals, wetlands, and any other impoundments shall be restricted to areas where it is necessary to accomplish the Work and performed in accordance with any applicable federal, state, and local laws, regulations, permit requirements, and guidelines, and the Contractor shall conduct the Work in a manner that will not cause damaging concentrations of silt or pollution to water.

Contractor shall maintain and operate equipment to minimize noise, dust, and vibration near noise, dust and vibration-sensitive areas such as churches, hospitals, schools, and residential areas, and assure that any activities conducted near such areas are not unduly disruptive. Contractor shall maintain all equipment with properly functioning mufflers.

The Contractor shall be responsible for determining and utilizing any erosion and pollution control features or methods that may be necessary to comply with all federal, state, and local laws and regulations.

GP-33. SANITARY PROVISION

The Contractor shall provide and maintain sanitary accommodations for use by all employees and Subcontractors. Facilities shall comply with the requirements of the Louisiana State Board of Health and Hospitals and other authorities having jurisdiction. Committing public nuisance on the Project Site is prohibited.

GP-34. PAYMENT OF TAXES

The Contractor shall be responsible for all taxes and duties that maybe levied under existing State, Federal, and local laws during the completion of the Work. The Owner will presume that the amount of such taxes is included in the unit prices bid by the Contractor and will not provide additional reimbursement.

GP-35. RADIO AND TELEPHONES

The Contractor shall furnish and maintain radio and telephone equipment throughout the Contract Time which will allow communication between the Contractor and the Engineer or Resident Project Representative.

GP-36. NAVIGATION

All marine vessels shall comply with the following Federal Laws and Regulations:

- a. The International Navigational Rules Act of 1977 (Public Law 95-75, 91 Stat. 308, or 33 U.S.C. 1601-1608); and
- b. The Inland Navigation Rules Act of 1980 (Public Law 96-591, 94 Stat. 3415, 33 U.S.C. 2001-2038).

These rules can be found on the Internet at:
<http://www.navcen.uscg.gov/?pageName=navRulesContent>.

All marine vessels shall display the lights and day shapes required by Part C- Lights and Shapes of the Inland Navigation Rules. The location, type, color, and size of the lights and day shape shall be in accordance with Annex I - Positioning and Technical Details of Lights and Shapes. Any vessel engaged in dredging is considered a "Vessel restricted in her ability to maneuver" and shall display all the lights and shapes required in Rule 27, "Vessel Not Under Control."

GP-37. OBSTRUCTION TO NAVIGATION

The Contractor shall minimize all obstructions to navigation in compliance with pertinent U. S. Coast Guard regulations while conducting the Work. The Contractor shall promptly move any floating equipment or marine vessels which obstruct safe passage of other marine vessels. Upon completion of the Work, the Contractor shall remove all marine vessels and other floating equipment such as temporary ranges, buoys, piles, and other marks or objects that are not permanent features of the Work.

GP-38. MARINE VESSELS AND MARINE ACTIVITIES

All marine vessels regulated by the USCG shall have the required USCG documentation that is current before being placed in service. A copy of any USCG Form 835 issued to the vessel in the preceding year shall be made available to the Owner and Engineer and a copy shall be on board the vessel. All officers and crew shall possess valid USCG licenses as required by USCG regulations. These certificates, classifications, and licenses shall be posted in a public area on board each vessel.

All dredges and quarter boats not subject to USCG inspection and certification or not having a current ABS classification shall be inspected in the working mode annually by a marine surveyor accredited by the National Association of Marine Surveyors (NAMS) or the Society of Accredited Marine Surveyors (SAMS) and having at least 5 years' experience in commercial marine plant and equipment. The inspection certificate shall be posted in a public area on board each dredge and/or quarter boat.

All other plant and support vessels shall be inspected before being placed in service and at least annually by a qualified person. The inspection certificate shall be posted in a public area on board each plant and/or vessel.

GP-39. RECORD KEEPING

The Contractor shall maintain orderly records of the Progress Schedule, Daily Progress Reports, Progress Meetings, correspondence, submittals, reproductions of original Contract Documents, Change Orders, Field Orders, certificates, additional drawings issued subsequent to the executed Contract, clarifications and interpretations of the Contract Documents by the Engineer, and other related documents at the Project Site until all of the Work is accepted by the Engineer.

GP-40. CERTIFICATES OF COMPLIANCE

Any certificates required for demonstrating proof of compliance of materials with specification requirements shall be executed in three (3) copies. Each certificate shall be certified by an authorized agent of the supplying company and shall contain the name and address of the Contractor, the project name and location, and the quantity and date of shipment. Copies of laboratory test reports submitted with certificates shall contain the name and address of the testing laboratory and the testing date. The Contractor shall also certify that all materials and test reports conform to the requirements of the Contract. Certification shall not be construed as relieving the Contractor from furnishing satisfactory material if the material is tested and determined to be in nonconformance.

GP-41. SUBMITTALS

The Contractor shall review all Submittals for compliance with the requirements of the Contract prior to delivery to the Engineer. Each Submittal shall contain a signed statement by the Contractor that it complies with the Contract requirements with any exceptions explicitly listed. The Contractor shall comply with these requirements for Submittals from Subcontractors, manufacturers, and suppliers.

All Submittals shall include sufficient data to demonstrate that the requirements of the Contract are met or exceeded. All submittals shall be legible and marked with the project title and clearly identify the item submitted. Each submittal package shall include an itemized list of the items submitted.

All Submittals will be reviewed within fourteen (14) days after being received by the Engineer. The Contractor shall allow the Engineer sufficient time for review, corrections, and resubmission of all Submittals prior to beginning the associated Work. The Contract Time shall not be extended based on incorrect or incomplete Submittals.

GP-42. CLAIMS FOR EXTRA COST

The Contractor is expected to complete the Work according to the Contract Price specified in the Bid Documents. If the Contractor deems additional compensation is due for work, materials, delays or other additional costs/or expenses not covered in the Contract or not ordered as extra work, the Contractor shall give the Engineer written notice thereof within fourteen (14) calendar days after the receipt of such instructions and, in any event, before commencing the procedure. The Contractor shall justify the claim for extra cost by providing supporting data and calculations. The Engineer shall determine whether the Contractor is entitled to be compensated for such extra cost and shall make any required adjustments of the Contract in accordance with GP-43. If no written claim is made within this fourteen (14) calendar-day period, the Contractor will be deemed to have waived any claim for extra cost for such work.

Claim for damages or delays of the Work shall not be made by the Contractor for a relocation of the construction operation or portions thereof to other locations within the geographical scope of the project, when in the opinion of the Engineer, such relocation is necessary for the most effective prosecution of the Work and may be accomplished without undue hardship.

GP-43. ALTERATION OF THE CONTRACT AND COMPENSATION

Using Change Orders, Field Orders, or Written Amendments, the Owner may order extra work or make changes by altering the details of construction, add to or deduct from the Work. The requirements and stipulations of these documents shall be binding on the Owner and Contractor throughout the remainder of the Contract. Any claim for an extension of Contract Time caused thereby shall be adjusted at the time of ordering such change.

The value of any such extra work or change shall be determined in one or more of the following ways and in the following priority:

- a. By application of the unit prices in the Contract to the quantities of the items involved or subsequently agreed upon; or
- b. By mutual Acceptance between the Owner and Contractor of a lump sum.

If none of the above methods is agreed upon, the Contractor, provided he is so ordered by the Owner in writing, shall proceed with the Work on a "force account" basis. In such a case, the Contractor shall keep and preserve in such form as the Engineer may direct, a correct itemized account of the direct cost of labor, materials, equipment, together with vouchers bearing written certification by the Contractor. In any case, the Engineer shall certify to the amount, including an allowance of fifteen percent (15%) for jobsite and home office overhead indirect expenses and profit due to the Contractor. Where such change involves a subcontractor, an allowance of fifteen percent (15%) for overhead and profit shall be due the subcontractor and an allowance of ten percent (10%) shall be due the Contractor. Pending final determination of value, payments on account of changes shall be made on the Engineer's estimate and as approved in an executed Change Order.

If the Contractor is prevented from completing the Work according to the Contract Price due to the Owner, the Contractor may be entitled to any reasonable and necessary addition of cost as determined by the Engineer. Neither the Owner nor the Contractor shall be entitled to any

damages arising from events or occurrences which are beyond their control, including but not limited to fires, floods, epidemics, abnormal weather conditions, acts of God, acts of war, and other like matters. The provisions of this section exclude recovery for damages caused by the Contractor and compensation for additional professional services by either party.

GP-44. EXTENSION OF CONTRACT TIME

The Contractor is expected to complete the Work within the Contract Time specified in the Bid Documents. A legitimate increase of the Contract time may be requested by the Contractor throughout the course of the Work. This Claim must be submitted to the Engineer in writing within fourteen (14) days of the event which caused the time delay to the Contractor. If an extension of Contract Time involves an increase in Contract Price, both claims shall be submitted together. The Contractor shall justify the increase of the Contract Time in the Claim using supporting data and calculations. The Engineer may deny the claim if there is insufficient information to make a determination. If the Claim is approved, the Engineer shall issue a Change Order within thirty (30) days of the Claim. The Contract Time shall be increased on a basis that is commensurate with the amount of additional or remaining Work. For example, the Contract Time can be increased where the number of actual adverse weather days exceeds the number of days estimated in the Contract.

GP-45. OWNER'S RIGHT TO TERMINATE CONTRACT FOR CAUSE OR CONVENIENCE

45.1 TERMINATION FOR CAUSE

The Owner shall submit a written notice to the Contractor and Surety which justifies placement of the Contractor in default if:

- a. The Work is not begun within the time specified in the Notice to Proceed; or
- b. The Work is performed with insufficient workmen, equipment, or materials to assure prompt completion; or
- c. The Contractor performs unsuitable, neglected or rejected work, refuses to remove materials; or
- d. The Work is discontinued; or
- e. The Work is not completed within the Contract Time or time extension; or
- f. Work is not resumed within a reasonable time after receiving a notice to continue; or
- g. The Contractor becomes insolvent or is declared bankrupt, or commits any act of bankruptcy or insolvency; or
- h. The Contractor allows any final judgment to stand unsatisfied for a period of ten (10) days; or
- i. The Contractor makes an assignment for the benefit of creditors; or

j. The Work is not performed in an acceptable manner.

If the Contractor or Surety does not remedy all conditions cited in the written notice within ten (10) days after receiving such a notice, the Contractor will be in default and the Owner shall remove the Contractor from the Work. If the Contractor is placed into default, the Owner may obtain the necessary labor, materials, and equipment or enter into a new Contract in order to complete the Work. All costs incurred by the Owner for completing the Work under the new Contract will be deducted from the payment due the Contractor. If the expense exceeds the sum payable under the Contract, the Contractor and Surety shall be liable to pay the Owner the difference.

45.2 TERMINATION FOR CONVENIENCE

Owner may, at any time, terminate this Contract or any portion thereof, for Owner's convenience, upon providing written notice to the Contractor. In such case, Contractor shall be paid for all work completed through the date notice was provided (less payments already received) and reasonable demobilization and restocking charges incurred and reasonable overhead and profit based upon industry standards on the work performed. In no event shall the Contractor be entitled to payment of overhead and profit on work not performed. In the event it is determined that the Contractor was wrongfully terminated for cause, pursuant to Section GP 45.1 above, such termination shall be automatically converted to a termination for convenience under and payment made as provided under this Section.

GP-46. TEMPORARY SUSPENSION OF WORK

The Engineer shall have the authority to temporarily suspend the Work in whole or in part. A Field Order shall be issued to the Contractor for any of the Work that is suspended for periods exceeding one (1) calendar day. The Field Order shall include the specific reasons and details for the suspension. The Contract Time shall not be extended if the Work is suspended due to failure by the Contractor to comply with a Field Order or with the Plans and Specifications. If the Work is suspended in the interest of the Owner, the Contractor shall make due allowances for the lost time.

GP-47. NON-CONFORMING AND UNAUTHORIZED WORK

Work not conforming to the Plans, Specifications, Field Orders, or Change Orders shall not be accepted for payment. Unacceptable or unauthorized work shall be removed and replaced in an acceptable manner at the expense of the Contractor in order to obtain final Acceptance of the Work.

If the Contractor should neglect to prosecute the work properly or fail to perform any provision of this Contract, the Owner after seven (7) calendar days written notice to the Contractor, may correct such deficiencies itself or by use of other contractors without prejudice to any other remedy it may have, and may deduct the cost thereof from the payment then or thereafter due to the Contractor.

GP-48. CONTRACTOR'S RIGHT TO TERMINATE CONTRACT

The Contractor may terminate the Contract or Work and recover payment from the Owner for labor and materials if the Work is stopped through no act or fault of the Contractor for more than three (3) months. For example, such an occurrence could be caused by a court order or other public authority. In any case, the Contractor shall submit a written notice to the Engineer at the beginning of the occurrence, and a written Claim to the Owner at the end of the occurrence.

GP-49. BREACH OF CONTRACT

The Owner shall submit a written Claim to the Contractor regarding any breach of the Contract. The Contractor must provide a written response to the Owner regarding the breach of Contract within ten (10) days after the Claim. This response must provide either an admission to the Claim or a detailed denial based on relevant data and calculations. The failure of the Contractor to provide a proper response within ten (10) days shall result in justification of the Claim by default.

GP-50. NO WAIVER OF LEGAL RIGHTS

The Owner shall not be prevented from recovering costs from the Contractor, Surety, or both due to failure of the Contractor to fulfill all of the obligations under the Contract. If a waiver is provided to the Contractor for a breach of Contract by the Owner, it shall not apply to any other breach of Contract. Final Acceptance of the Work shall not prevent the Owner from correcting any measurement, estimate, or certificate. The Contractor shall be liable to the Owner without prejudice to the terms of the Contract or any warranty for latent defects, fraud, or gross negligence.

GP-51. LIABILITY FOR DAMAGES AND INJURIES

To the fullest extent permitted by Laws and Regulations, the Contractor shall indemnify and hold harmless the Owner, Engineer, and their officers, employees, representatives, and/or agents from all suits, actions, claims, costs, losses, demands, and judgments (including but not limited to fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) brought because of injuries or damage sustained by an person or property due to the operations of Contractor; due to negligence in safeguarding the Work, or use of unacceptable materials in constructing the Work,; or any negligent act, omission, or misconduct of the Contractor; or claims or amounts recovered under the Workmen's Compensation Act or other law, ordinance, order, or decree; any money due the Contractor as considered necessary by the Owner for such purpose may be retained for use of the State or in case no money is due, the performance and payment bond may be held until such suits, actions, claims for injuries or damages have been settled and suitable evidence to that effect furnished to the Owner; except that money due the Contractor will not be withheld when the Contractor produces satisfactory evidence that adequate Workman's Compensation, Public Liability, and Property Damage Insurance are in effect.

The indemnification obligations of the Contractor shall not extend to the liability of the Owner, Engineer, and their affiliates arising out of the preparation or approval of the Plans, Specifications, maps, opinions, reports, surveys, or Change Orders, or for providing directions or instructions which are the primary cause of the injury or damage.

Should the Owner or Contractor suffer from any injury or damage due to an error, omission, or act of the other party or their legally liable affiliates, a written Claim shall be submitted to the other party within ten (10) days. The Claim shall provide all details regarding the injury or damage, the results of any investigations, and the action to be taken to prevent any reoccurrence.

GP-52. LIABILITY FOR LOSSES BY ACTS OF THE GOVERNMENT

The Owner shall not be liable for any loss or damage suffered by the Contractor arising out of a cessation of Work under this Contract due to any act or order of any local, state, or federal government agency. If this cessation occurs, the Contractor may request an extension of the Contract Time according to the provisions in GP-44.

GP-53. SUBSTANTIAL COMPLETION

Upon notice from the Contractor that it believes the project has reached substantial completion, and before final Acceptance, the Engineer will make an inspection of the Work. "Substantial Completion" is defined as the date on which the Work is complete in accordance with the Contract Documents in order that the Owner can occupy and use the project for its intended use. The date of Substantial Completion shall be specified in the Notice of Acceptance.

If the Owner or its representative determines the Project is substantially complete, the Owner will issue a Notice of Acceptance identifying the date the Project reached Substantial Completion and attach a punch list, if applicable, identifying the remaining items that must be completed before final payment. The Contractor shall then file the executed Notice of Acceptance with the Clerk of Court in the Parish(s) where the work is performed and shall forward one complete copy of the recorded Acceptance to the Owner and Engineer.

If the inspection discloses any work as being unsatisfactory or incomplete and such work generates a formal punch list, the Engineer will give the Contractor instructions for correction of same, and the Contractor shall immediately comply with such instructions. Upon satisfactory completion of the corrections, when a "Punch List" is generated, the Engineer shall prepare a "Recommendation of Acceptance" incorporating the punch list and submit to the Owner. Upon approval of the Recommendation of Acceptance, the Owner may issue a Notice of Acceptance of the Contract which shall establish the date of Substantial Completion.

Any punch list generated by the Engineer shall be accompanied by a cost estimate to correct the particular items of work the Engineer has developed. The cost estimate shall be developed based on mobilization, labor, material, and equipment costs of correcting each punch list item and shall be retained from monies owed to the Contractor, above and beyond the standard retainage. The Engineer shall retain his working papers used to determine the punch list items cost estimates should the matter be disputed later. The Owner shall not withhold from payment more than the value of the punch list. Punch list items completed shall be paid upon the expiration of the forty-five (45) day lien period. After that payment, none of the remaining funds shall be due the Contractor until all punch list items are completed and are accepted by the Engineer.

If the dollar value of the punch list exceeds the amount of funds, less retainage amount, in the remaining balance of the Contract, the Project shall not be accepted as Substantially Complete. If the funds remaining are less than required to complete the punch list work, the Contractor shall pay the difference. The provisions listed above shall not be subject to waiver.

Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work/project as provided in the Notice of Acceptance, unless otherwise agreed to in writing by the Owner and Contractor. In the instance where the Owner has accepted the Work/project as substantially complete and issued a Notice of Acceptance, and the Contractor must remain on the premises to complete the "Punch List" or for whatever reason, the Contractor shall maintain Commercial General Liability insurance, Auto Liability insurance and Worker's Compensation insurance as set forth herein until the expiration of the forty-five (45) day lien period or upon the completion of the work/project, whichever is later. Builder's Risk insurance, if applicable, may be cancelled only with the written permission of the Owner or the Owner's representative at Substantial Completion.

If the punch list is not completed within forty-five (45) days, through no fault of Owner or Engineer, the Owner may, but is not required, to place the Contractor in default. Thereafter, the Owner shall notify the Surety. If the Surety has not completed the punch list within forty-five days of receipt of notification, the Owner may, but is not required to, complete the remaining punch list items. Any costs incurred shall be paid for first out of any remaining Contract funds. If the costs incurred exceed the remaining Contract funds, the Contractor and its Surety shall be liable for such costs.

Upon completion of the punch list, Contractor shall request Final Inspection.

GP-54. FINAL INSPECTION AND ACCEPTANCE

Whenever the work provided for, or contemplated by the contract, have been satisfactorily completed, all punch list items completed and the final cleaning up is performed, the Engineer shall be notified in writing that said work is completed and ready for final inspection. The Engineer shall, unless otherwise provided, make the final inspection within a reasonable length of time after the receipt of such notification.

If all construction provided for in the contract is found completed to the Engineer's satisfaction, that inspection shall constitute the final inspection and the Engineer will make recommendation to the Owner for final Acceptance and notify the Contractor in writing of this recommendation of Acceptance.

GP-55. AS-BUILT DRAWINGS

The Contractor shall submit all originals and copies of the As-Built Drawings to the Engineer for review and Acceptance in accordance with the Special Provisions. The As-Built Drawings shall provide complete data for quantities, dimensions, specified performance and design criteria, and similar items which clearly represent the services, materials, and equipment the Contractor has provided. All revision sheets shall be clearly stamped with the words "As-Built".

GP-56. COMPLETION OF CONTRACT

Notwithstanding any other provision of this Contract and all applicable and necessary time delays under Louisiana law, completion of the Contract requires all of the Work to be complete, inspected by the Engineer, accepted by the Owner as recommended by the Engineer, and after final payment is made. After the Contract is complete, the Contractor will then be released from further obligation except as set forth in the Contract Bond and Contractor's Guarantee.

GP-57. CONTRACTOR'S GUARANTEE

The Contractor is obligated to provide a written guarantee to the Owner that all of the Work conforms to the Contract Documents. The Work shall be guaranteed to survive for a minimum period of 1 year after final Acceptance, unless otherwise specified in the Technical Specifications.

- a. The guarantee shall include:
 1. A written warranty by the manufacturer for each piece of installed project equipment or apparatus furnished under the Contract.
 2. Any necessary repair or replacement of the warranted equipment during the guarantee period at no cost to the Owner.
 3. Satisfactory operation of installed equipment including, but not limited to, any mechanical and electrical systems furnished and constructed under the Contract during the guarantee period. The Contractor shall repair all equipment which fails due to defective materials or faulty workmanship during the guarantee period. The Contractor shall also be liable for all other ancillary expenses incurred by the Owner due to the failure.
- b. The guarantee shall exclude defects or damage caused by:
 1. Abuse or improper modification, maintenance, or operation by anyone other than the Contractor; or
 2. Wear and tear under normal usage.
- c. This obligation by the Contractor shall be absolute. The following actions will not constitute Acceptance of non-conformance Work or release the Contractor from obligation to furnish the Work in accordance with the Contract Documents:
 1. Observations by the Owner or Engineer; or
 2. Recommendations by the Engineer or payment by the Owner; or
 3. Use of the Work by the Owner; or
 4. Issuance of a notice of Acceptance by the Owner pursuant to the provisions of GP-53, or failure to do so; or

5. Any inspection, test, or approval by others; or
6. Any correction to non-conforming work by the Owner.

GP-58. DISPUTE RESOLUTION

The parties shall use their best efforts to resolve all disputes in an amicable fashion. Prior to filing suit by either party with respect to any claims, or disputes arising between the parties, the disputes shall be submitted first to non-binding mediation. The mediation shall be conducted in accordance with the Construction Industry Mediation Rules of the American Arbitration Association. If the parties cannot agree to a private mediator, then the mediator shall be selected by the American Arbitration Association, upon the filing of a demand for mediation.

If the dispute is not resolved by mediation within 60 days from the request for mediation, then either party may institute legal proceedings. Any litigation involving the Owner and arising under or related to the Contract or the bidding or award thereof shall be instituted exclusively in the 19th Judicial District Court in and for the Parish of East Baton Rouge, State of Louisiana.

GP-59. PAYMENT

The Owner hereby agrees to pay to the Contractor as full compensation for all work performed under the contract, and/or supplemental agreements thereto, the monetary value of the actual quantities in the completed work according to the schedule of unit prices and/or lump sum prices set forth in attached bid proposal and/or duly authorized supplements thereto, and made a part of the Contract.

Partial payments under the Contract shall be made at the request of the Contractor not more than once each month, based upon partial estimates agreed to by the Contractor and Engineer and shall be furnished to the Engineer and approved by the Engineer prior to transmittal to the Owner for approval and payment.

The partial estimates will be approximately stated, and all partial estimates and payments shall be subject to corrections in the estimate rendered following the discovery of any error in any previous estimates.

The payment of the partial estimate shall be taken as verification that the work has been performed and that its quality is satisfactory, however it will in no way serve as a release to the Contractor for the responsibility of any portions thereof. The work and any particulars relating thereto shall be subject to revision and adjustment by the Engineer and/or the Owner at any time prior to final payment, regardless of any previous action taken.

There shall be reserved from the payments provided for the Contract ten percent (10%) for contracts less than \$500,000 or five percent (5%) for contracts of \$500,000 or more, of the estimates submitted, said sum to constitute a trust fund for the protection of and payment to any person or persons, mechanic, subcontractor or materialmen who shall perform any labor upon such contract, or the doing of said work, and all persons who shall supply such person or persons or subcontractors with provisions and supplies for the carrying on of such work, and shall be withheld for a minimum of forty-five (45) calendar days after final Acceptance of the completed contract.

After the expiration of the forty-five (45) calendar day period, the reserve in excess of a sum sufficient to discharge the claims of materialmen and laborers who have filed their claims, together with a sum sufficient to defray the cost of such action and to pay attorneys' fees, shall be paid to the Contractor.

The Contractor shall be responsible for obtaining and furnishing a clear lien and privilege certificate to the Owner at the expiration of the retainage period, and prior to payment of any reserve withheld.

GP-60. PAYMENTS WITHHELD

In addition to the percentage provided for in Section GP-58 of these General Provisions and in accordance with any other provision of this Contract, the Owner may withhold such amounts from any payment as may be necessary to protect himself from loss on account of:

- a) Defective work not remedied;
- b) Claims filed or reasonable evidence indicating probable filing of claims;
- c) Failure of the Contractor to make payments properly to subcontractors or for material or labor;
- d) Reasonable evidence that the Work will not be completed within the Contract time and that the unpaid balance would not be adequate to cover damages for the anticipated delay;
- e) A reasonable doubt that the contract can be completed within the time period remaining under the contract;
- f) Damage to another contractor;
- g) Failure to submit required reports; or
- h) Modifications of the contract which necessitate the execution of change orders prior to payment of funds.

Furthermore, nothing contained in this Section shall be deemed to limit the right of the Owner to withhold liquidated damages, as stated in the Instructions to Bidders and as permitted under Section SP-7 of the Special Provisions, from any amounts which may be due and owing the Contractor for work performed under the contract.

GP-61. LIENS

Neither the final payment nor any part of the retained percentage shall come due until the Contractor shall deliver to the Owner a complete release of all liens arising out of this contract, or receipts in full in lieu thereof, and, if required by the Owner, an affidavit that so far as he has knowledge or information, the releases and receipts include all labor and material for which a lien could be filed; but if any subcontractor refuses to furnish a release or receipt in full, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against any lien, construction cost, or attorney's fees.

GP-62. EQUAL EMPLOYMENT OPPORTUNITY

The State of Louisiana is an equal opportunity employer, and looks to its Contractor, subcontractors, vendors and suppliers to take affirmative action to effect this commitment in its operations.

By submitting the bid proposal and executing the Contract, the Contractor agrees to abide by the requirements of the following as applicable: Title VI and VII of the Civil Rights Act of 1964, as amended by the Equal Opportunity Act of 1972, Federal Executive Order 11246, the Federal Rehabilitation Act of 1973, as amended, the Vietnam Era Veterans Readjustment Assistance Act of 1974, Title IX of the Education Amendments of 1972, and the Age Act of 1975, and the Contractor agrees to abide by the requirements of the Americans with Disabilities Act of 1990.

The Contractor agrees not to discriminate in its employment practices, and will render services the Contract, without regard to their race, age, color, religion, sex, national origin, veteran status, political affiliation or disabilities. Any act of discrimination committed by the Contractor, or failure to comply with these statutory obligations when applicable, shall be grounds for termination of the Contract.

GP-63. ANTI-KICKBACK CLAUSE

The Contractor agrees to adhere to the mandate dictated by the Copeland "Anti-Kickback" Act which provides that each contractor or subcontractor shall be prohibited from inducing, by any means, any person employed in the completion of the work, to give up any part of the compensation to which he is otherwise entitled.

GP-64. SUSPENSION/DEBARMENT

Contractor certifies, by signing and submitting any bid, that their company, any subcontractors, or principals are not suspended or debarred by the General Services Administration (GSA) in accordance with the requirements in OMB Circular A-133. A list of parties who have been suspended or debarred can be viewed via the internet at www.epls.gov.

Contractor agrees to secure from any contractor(s) and subcontractor(s) for the captioned project, certification that such contractor(s) and subcontractor(s) are not suspended, debarred or declared ineligible from entering into contracts with any department or agency of the Federal Government or of the State of Louisiana, or in receipt of a notice of proposed debarment or suspension.

Contractor shall provide immediate notice to Owner in the event of it or its contractor(s) or any subcontractor(s) being suspended, debarred or declared ineligible by any department or agency of the Federal Government or of the State of Louisiana, or upon receipt of a notice of a proposed debarment or suspension, either prior to or after execution of this Contract.

Upon receipt of notice of suspension, debarment, or declaration that Contractor or its contractor(s) or any subcontractor(s) is/are ineligible to enter into contracts with any department or agency of the Federal Government or of the State of Louisiana, either prior to or after execution of this Contract, Owner reserves the right to review cause for said debarment, suspension, or declaration of ineligibility, and to terminate this Contract pursuant to the terms of GP-45 OWNER'S RIGHT TO TERMINATE CONTRACT FOR CAUSE OR CONVENIENCE, or take such other action it deems appropriate under this Contract.

GP-65. LOUISIANA FIRST HIRING ACT

Contractor shall comply with the Louisiana First Hiring Act (La. R.S. 39:2201-2204), which requires that within ten (10) days of executing the Contract, Contractor shall submit the following information to the Louisiana Workforce Commission:

1. The number and types of jobs anticipated for the Work.
2. The skill level of the jobs anticipated for the Work.
3. The wage or salary range for each job anticipated for the Work.
4. Methods, if any, that the Contractor will use to recruit unemployed persons or person employed in low wage jobs to fill job openings for the Work.

END OF PART I – GENERAL PROVISIONS

PART II SPECIAL PROVISIONS

SP-1. LOCATION OF WORK

The Project site is located on the north shore of Lake Pontchartrain near Slidell, Louisiana. The marsh creation areas and lake borrow area are located near the mouth of Bayou Bonfouca. Approximate coordinates for the center of the project are 30°14'44.78" N and 89°51'25.42" W (NAD 83).

The Project Site is accessible only by boat. A public launch is located on Bayou Liberty Road approximately 2 miles from the project site. Directions to this boat launch are shown in Appendix F.

SP-2. WORK TO BE DONE

The Contractor shall provide all labor, materials, and equipment necessary to perform the Work. The Work shall include, but not be limited to, mobilization and demobilization to the Project Site, surveying, hydraulic dredging and placement of dredged material, construction of earthen containment dikes and a temporary earthen plug, and installation of settlement plates. The Work shall be performed in accordance with these Specifications and in conformity to lines, grades, and elevations shown on the Plans or as directed by Engineer. Quantity calculations, layouts, shop drawings, and construction sequencing of these items shall be provided in the Work Plan. The major tasks associated with the Work are described as follows:

- 2.1. Site Examination: The Contractor shall examine the Project Site and make determinations of the character of the material to be dredged and the condition of the marsh creation areas. Material such as logs, stumps, snags, tires, scrap, debris and other obstructions may be encountered within the Project Site. No separate payment for removal and disposal of these obstructions shall be made. No consideration shall be given to any claims for additional payments based on the failure of the Contractor to inspect the Project Site.
- 2.2. Surveying: Prior to construction, a Pre-Construction Survey shall be performed on the marsh creation areas, borrow areas, earthen containment dikes, dike borrow areas, temporary earthen plug, dredge pipeline alignments, grade stakes and settlement plates. During construction, process surveys shall be performed for partial payment. After construction is complete, the Contractor shall develop an As-Built Survey for Acceptance of the Work.
- 2.3. Settlement Plates: Settlement plates shall be installed in the marsh creation areas as shown on the Plans.
- 2.4. Grade Stakes: Grade stakes shall be installed in the marsh creation areas as shown on the Plans.

- 2.5. Earthen Containment Dikes: Earthen Containment dikes shall be constructed from in-situ soils in order to create full perimeter containment around Marsh Creation Areas 1, 2, 3 and 4, and Ponds A, B, C and D as shown on the Plans.
- 2.6. Temporary Earthen Plug: A temporary earthen plug shall be constructed from in-situ soils in the existing water body that connects Marsh Creation Area 2 to the Bonfouca Marina in order to prevent the discharge of decanted water from the marsh creation area into the marina.
- 2.7. Earthen Containment Dike 7 Degradation: Earthen containment dike 7 shall be degraded to the surrounding marsh elevation after Marsh Creation Area 2 has been accepted by the Engineer.
- 2.8. Dredge Pipeline Alignment: A hydraulic dredge pipe, which facilitates the transfer of dredge material from the lake borrow area to the marsh creation areas, shall be installed along the proposed alignments shown on the Plans. The dredge pipeline shall be buried in a trench when crossing Bayou Bonfouca to Marsh Creation Area 2. The Contractor shall provide any proposed modifications to the alignment in the Work Plan.
- 2.9. Pipeline and Equipment Corridors: The dredge pipeline and equipment shall access the marsh creation areas through the corridors shown on the Plans.
- 2.10. Marsh Creation Areas: Spoil material shall be dredged from the borrow area in Lake Pontchartrain and placed in Marsh Creation Areas 1, 2, 3 and 4.
- 2.11. Ponds A and B: Spoil material shall be dredged from the borrow area in Lake Pontchartrain and placed in Ponds A and B within Marsh Creation Area 1.
- 2.12. Ponds C and D: Spoil material shall be dredged from the borrow area in Lake Pontchartrain and placed in Ponds C and D within Marsh Creation Area 2.
- 2.13. Use of Equipment: The equipment used for the Work shall be operated within the boundaries of the Project Site and away from existing vegetated wetlands or any other sensitive areas. The Contractor shall be responsible for repairing or mitigating all disturbed wetlands outside of the Project Site to pre-existing conditions at no expense to the Owner.
- 2.14. Existing Infrastructure: The Contractor shall be responsible for investigating, locating and protecting all existing facilities, structures, services, and pipelines on, above, or under the surface of the Project Site. The Owner will not be held responsible for damage to the Contractor's equipment, employees, subcontractors, adjacent property owners, or anyone else connected with this project due to encountering objects above and below the water line.

Existing infrastructure, where indicated on the Plans, is shown only to the extent such information was made available to or discovered by the Engineer during preparation of the Plans. There is no guarantee as to the accuracy or completeness of such information, and all responsibility for the accuracy and completeness is expressly disclaimed. If the Contractor fails to discover an underground installation and damages the same, the Contractor shall be responsible for the cost of the repair.

SP-3. CONTRACT MILESTONES

Milestone	Location or Recipient	Due Date
Bid Advertisement	Publications	As advertised
Mandatory Pre-Bid Conference and Non-Mandatory Site Visit (GP-5)	Location provided in Advertisement for Bids	Provided in Advertisement for Bids
Questions on Bid Documents (GP5 and SP-5)	Submit to CPRA	Provided in Instructions to Bidders
Effective Date of Contract	Contractor and Owner	Stated in Contract
Start of Contract Time	Contractor and Owner	Stated in Notice to Proceed
List of all Subcontractors (GP-19)	Submit to Engineer	Prior to awarding any subcontracts
Work Plan (GP-8 and SP-7)	Submit to Engineer	14 days prior to Pre-Construction Conference
Progress Schedule (GP-9)	Submit to Engineer	14 days prior to starting construction, monthly thereafter
Daily Progress Report (GP-10)	Submit to Resident Project Representative	12:00 pm each day from mobilization to demobilization
USCG Notice to Mariners (SP-16)	Submit to Engineer	Prior to mobilization of the dredge and dredge pipeline
Pre-Construction Conference (GP-14)	Contractor, Engineer and Resident Project Representative	Scheduled by the Engineer after the Notice to Proceed is issued
Progress Meetings and Reports (GP-13, GP-39)	Engineer and Resident Project Representative	Bi-weekly
Special Use Permit from the Big Branch National Wildlife Refuge (SP-19)	Engineer	Prior to Mobilization and performing the Pre-Construction Survey
Pre-Construction Survey (TS-210)	Submit to Engineer	14 working days prior to anticipated start of Construction
Process Surveys (TS-210)	Submit to Engineer	5 working days after notification that field data collection for each process survey is complete
As-Built Survey (TS-210)	Submit to Engineer	Draft due five (5) working days prior to Final Inspection. Final due fourteen (14) working days after Final Inspection.
As-built Drawings	Submit to Engineer	Five (5) working days prior to Final Inspection

Milestone	Location or Recipient	Due Date
Written Notice of Completion of Work (GP-53)	Submit to Engineer	Upon substantial completion of the Work
End of Contract Time	Contractor and Owner	Provided in Instructions to Bidders

SP-4. DELIVERABLES

- 4.1. Prior to Construction: The Contractor shall provide the following information to the Engineer at the Pre-Construction Conference:
 - 4.1.1 Updates to the Work Plan and Progress Schedule based on comments from the Engineer;
 - 4.1.2 Updates to the dredge or equipment data sheets
 - 4.1.3 Proposed changes to the layout of the Work;
 - 4.1.4 Records of communication between the Contractor and private property owners, pipeline operators, government agencies, etc.

- 4.2. During Construction: The Contractor shall provide the following information to the Engineer during construction:
 - 4.2.1 The results of all surveys and calculations as specified in TS-210;
 - 4.2.2 Progress Schedule as specified in GP-9;
 - 4.2.3 Daily Progress Reports as specified in GP-10;
 - 4.2.4 Copies of all inspection and monitoring reports;
 - 4.2.5 All Change Orders, Field Orders, Claims, Clarifications, and Amendments;
 - 4.2.6 Results of any materials testing;
 - 4.2.7 Copies of all delivery slips, which shall include the source of construction materials, date of delivery, exact quantity, and size of materials delivered with each shipment to the Project Site;
 - 4.2.8 The Contractor shall contact the Engineer a minimum of five (5) working days prior to the anticipated completion of the Work in order to schedule the final inspection.

- 4.3. Post Construction: The following documents shall also be submitted to the Engineer after completion of the Work:

4.3.1 As-Built Drawings shall show revisions such as field or change orders shall be noted, shown in red and be easily distinguishable from the original design.

SP-5. CONTACT INFORMATION

Prior to the Bid opening date, the Contractor shall submit all questions and requests for clarification on the Bid Documents in writing to the following address:

Coastal Protection and Restoration Authority (CPRA)
450 Laurel Street, Suite 1501
Baton Rouge, LA 70801
Attn : Renee McKee
Phone: 225-342-0811
Fax: 225-342-4674
Email : cpra.bidding@la.gov

After execution of the Contract between the Owner and Contractor, the successful Contractor shall contact and submit all correspondence to the following Engineer:

Luke Prendergast, P.E.
2045 Lakeshore Drive
New Orleans, LA 70122
Phone: 504-280-1005
Fax: 504-280-4066
E-mail: Luke.Prendergast@la.gov

The Owner and Engineer shall submit all written Claims, Field Orders, Change Orders and all other documentation to the Contractor at the address indicated on the Bid.

SP-6. INSURANCE AND BONDS

The Contractor shall purchase and maintain without interruption for the duration of the contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the Work hereunder by the Contractor, its agents, representatives, employees or subcontractors. The duration of the contract shall be from the inception of the contract until the date of final payment.

6.1. Minimum Scope and Limits of Insurance

6.1.1 Worker's Compensation

Worker's Compensation insurance shall be in compliance with the Worker's Compensation law of the State of Louisiana. Employers Liability is included with a minimum limit of \$500,000 per accident/per disease/per employee. If Work is to be performed over water and involves maritime exposure, applicable LHWCA, Jones Act or other maritime law coverage shall be included and the Employers Liability limit increased to a minimum of \$1,000,000. A.M. Best's insurance company rating requirement may be waived for Worker's compensation coverage only.

6.1.2 Commercial General Liability

Commercial General Liability insurance, including Personal and Advertising Injury Liability and Products and Completed Operations Liability, shall have a minimum limit per occurrence based on the project value. The Insurance Services Office (ISO) Commercial General Liability occurrence coverage form CG 00 01 (current form approved for use in Louisiana), or equivalent, is to be used in the policy. Claims-made form is unacceptable.

The aggregate loss limit must apply to each project. ISO form CG 25 03 (current form approved for use in Louisiana), or equivalent, shall also be submitted. The State project number, including part number, and project name shall be included on this endorsement.

COMBINED SINGLE LIMIT (CSL) PER OCCURRENCE

The required minimum combined single limit amount of insurance shall be as provided below:

<u>Initial Contract Amount</u>	<u>Minimum Insurance</u>
Up to \$1,000,000	\$1,000,000
From \$1,000,001 to \$2,000,000	\$2,000,000
Over \$2,000,000	\$5,000,000

6.1.3 Automobile Liability

Automobile Liability Insurance shall have a minimum combined single limit per occurrence of \$1,000,000. ISO form number CA 00 01 (current form approved for use in Louisiana), or equivalent, is to be used in the policy. This insurance shall include third-party bodily injury and property damage liability for owned, hired and non-owned automobiles. If any non-licensed motor vehicles are engaged in operations within the terms of the contract on the site of the work to be performed thereunder, such insurance shall cover the use of any such vehicles.

NOTE: If the Contractor does not own an automobile and an automobile is utilized in the execution of the contract, then hired and non-owned coverage is acceptable. If an automobile is not utilized in the execution of the contract, then automobile coverage is not required.

6.1.4 Excess Umbrella

Excess Umbrella Insurance may be used to meet the minimum requirements for General Liability and Automobile Liability only.

6.1.5 Pollution Liability (required when asbestos or other hazardous material abatement is included in the contract)

Pollution Liability insurance, including gradual release as well as sudden and accidental, shall have a minimum limit of not less than \$1,000,000 per claim. A claims-made form will be acceptable. A policy period inception date of no later than the first day of anticipated Work under this contract and an expiration date of no earlier than 30 days after anticipated completion of all Work under the contract shall be provided. There shall be an extended reporting period of at least 24 months, with full reinstatement of limits, from the expiration date of the policy. The policy shall not be cancelled for any reason, except non-payment of premium.

6.1.6 Deductibles and Self-Insured Retentions

Any deductibles or self-insured retentions must be declared to and accepted by the Owner. The Contractor shall be responsible for all deductibles and self-insured retentions.

6.2. Other Insurance Provisions

The policies are to contain, or be endorsed to contain, the following provisions:

6.2.1 Worker's Compensation and Employers Liability Coverage

The insurer shall agree to waive all rights of subrogation against the Owner, its officers, agents, employees and volunteers for losses arising from Work performed by the Contractor for the Owner.

6.2.2 General Liability Coverage

The Owner, its officers, agents, employees and volunteers are to be added as additional insureds as respects liability arising out of activities performed by or on behalf of the Contractor; products and completed operations of the Contractor, premises owned, occupied or used by the Contractor. ISO Form CG 20 10 (current form approved for use in Louisiana), or equivalent, is to be used.

The Contractor's insurance shall be primary as respects the Owner, its officers, agents, employees and volunteers. The coverage shall contain no special limitations on the scope of protection afforded to the Owner, its officers, officials, employees or volunteers. Any insurance or self-insurance maintained by the Owner shall be excess and non-contributory of the Contractor's insurance

The Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the policy limits.

6.2.3 All Coverages

Coverage shall not be canceled, suspended, or voided by either party (the Contractor or the insurer) or reduced in coverage or in limits except after 30 days written notice has been given to the Owner. Ten-day written notice of cancellation is acceptable for non-payment of premium. Notifications shall comply with the standard cancellation provisions in the Contractor's policy.

Neither the Acceptance of the completed Work nor the payment thereof shall release the Contractor from the obligations of the insurance requirements or indemnification agreement.

The insurance companies issuing the policies shall have no recourse against the Owner for payment of premiums or for assessments under any form of the policies.

Any failure of the Contractor to comply with reporting provisions of the policy shall not affect coverage provided to the Owner, its officers, agents, employees and volunteers.

6.2.4 Acceptability of Insurers

All required insurance shall be provided by a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located. Insurance shall be placed with insurers with an A.M. Best's rating of **A-:VI or higher**. This rating requirement may be waived for Worker's compensation coverage only.

If at any time an insurer issuing any such policy does not meet the minimum A.M. Best rating, the Contractor shall obtain a policy with an insurer that meets the A.M. Best rating and shall submit another certificate of insurance as required in the contract.

6.2.5 Verification of Coverage

Contractor shall furnish the Owner with Certificates of Insurance reflecting proof of required coverage. The Certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. The Certificates are to be received and approved by the Owner before Work commences and upon any contract renewal thereafter. The Certificate Holder must be listed as follows:

State of Louisiana
Coastal Protection and Restoration Authority
450 Laurel Street
Baton Rouge, LA, 70801
Attn: Project # PO-104 (Bonfouca Marsh Creation Project)

In addition to the Certificates, Contractor shall submit the declarations page and the cancellation provision endorsement for each insurance policy. The Owner reserves the right to request complete certified copies of all required insurance policies at any time.

Upon failure of the Contractor to furnish, deliver and maintain such insurance as above provided, this contract, at the election of the Owner, may be suspended, discontinued or terminated. Failure of the Contractor to purchase and/or maintain any required insurance shall not relieve the Contractor from any liability or indemnification under the contract.

If the Contractor does not meet the insurance requirements at policy renewal, at the option of the Owner, payment to the Contractor may be withheld until the requirements have been met, OR the Owner may pay the renewal premium and withhold such payment from any monies due the Contractor, OR the contract may be suspended or terminated for cause.

6.2.6 Subcontractors

Contractor shall include all subcontractors as insureds under its policies OR shall be responsible for verifying and maintaining the certificates provided by each subcontractor. Subcontractors shall be subject to all of the requirements stated herein. The Owner reserves the right to request copies of subcontractor's certificates at any time.

If Contractor does not verify subcontractors' insurance as described above, Owner has the right to withhold payments to the Contractor until the requirements have been met.

6.2.7 Worker's Compensation Indemnity

In the event Contractor is not required to provide or elects not to provide Worker's compensation coverage, the parties hereby agree the Contractor, its Owners, agents and employees will have no cause of action against, and will not assert a claim against, the State of Louisiana, its departments, agencies, agents and employees as an employer, whether pursuant to the Louisiana Worker's Compensation Act or otherwise, under any circumstance. The parties also hereby agree that the State of Louisiana, its departments, agencies, agents and employees shall in no circumstance be, or considered as, the employer or statutory employer of Contractor, its Owners, agents and employees. The parties further agree that Contractor is a wholly independent Contractor and is exclusively responsible for its employees, Owners, and agents. Contractor hereby agrees to protect, defend, indemnify and hold the State of Louisiana, its departments, agencies, agents and employees harmless from any such assertion or claim that may arise from the performance of this contract.

6.2.8 Indemnification/Hold Harmless Agreement

Contractor agrees to protect, defend, indemnify, save, and hold harmless, the State of Louisiana, all State Departments, Agencies, Boards and Commissions, its officers, agents, servants, employees and volunteers, from and against any and all claims, damages, expenses and liability arising out of injury or death to any person or the damage, loss or destruction of any property which may occur, or in any way grow out of, any act or omission of Contractor, its agents, servants and employees, or any and all costs, expenses and/or attorney fees incurred by Contractor as a result of any claims, demands, suits or causes of action, except those claims, demands, suits or causes of action arising out of the negligence of the State of Louisiana, all State Departments, Agencies, Boards, Commissions, its officers, agents, servants, employees and volunteers.

Contractor agrees to investigate, handle, respond to, provide defense for and defend any such claims, demands, suits or causes of action at its sole expense and agrees to bear all other costs and expenses related thereto, even if the claims, demands, suits, or causes of action are groundless, false or fraudulent.

6.3. Performance and Payment Bond

Recordation of Contract and Bond [38:2241A(2)]

The Contractor shall record within thirty (30) days the Contract Between Owner and Contractor, and Performance and Payment Bond with the Clerk of Court in the Parish in which the Work is to be performed. The Contractor shall obtain a Certificate of Recordation from the Clerk of Court and forward this Certificate immediately to the Coastal Protection and Restoration Authority contact person listed in the Advertisement for Bids. No requests for payment will be processed until receipt of the Certificate of Recordation.

SP-7. WORK PLAN SUPPLEMENTAL

The following items shall be included in the Work Plan in addition to those required by those required by GP-8;

- 7.1. The field equipment, methodology and software to be used for survey data collection, post-processing, and calculations of quantities;
- 7.2. Hydraulic Dredge Data Sheet in Appendix J;
- 7.3. Equipment Data Sheet in Appendix K;
- 7.4. Layout of equipment staging areas;
- 7.5. Layout for all equipment access routes;
- 7.6. Layout and schedule for construction of the earthen containment dikes;
- 7.7. Layout and schedule for degrading Earthen Containment Dike 7 in Marsh Creation Area 2;
- 7.8. Layout and schedule for gapping all earthen containment dikes.
- 7.9. Layout and schedule for construction of the internal training dikes if proposed to be constructed by the Contractor;
- 7.10. Dike breach repair procedures and communications protocol;
- 7.11. Layout and schedule for construction of the temporary earthen plug;
- 7.12. Layout and schedule for dredging the lake borrow area;
- 7.13. Layout and schedule for installing and removing all portions (Trunk and laterals) of the dredge pipeline. This information shall include the type, diameter and length of the dredge pipeline;
- 7.14. Layout and schedule for fill placement into the marsh creation areas;

7.15. Layout and schedule for dewatering the marsh creation areas;

SP-8. FAILURE TO COMPLETE ON TIME

For each day the Work remains incomplete beyond the Contract Time, as specified in SP-3, or Extension of Contract Time, as specified in GP-44, the sum of three-thousand one-hundred-thirty dollars (\$3,130) per calendar day will be deducted from any money due to the Contractor as liquidated damages. The Contractor and Surety shall be liable for any liquidated damages that are in excess of the amount due the Contractor.

SP-9. TRANSPORTATION

The Contractor shall provide a safe and reasonable means of transportation to and from the marina, staging area and Project Site for the Engineer and the federal sponsor throughout the Work. The schedule and pickup location shall be arranged by the Engineer and the Contractor prior to mobilization. Upon request, overnight room and board shall be provided to these personnel by the Contractor if adequate facilities are available. The Contractor shall provide the Engineer, Inspector, Federal Sponsor, and other representatives from the State daily access to an air boat (4 passenger capacity), as necessary, to properly inspect the various project features during the duration of construction activities. The Contractor shall supply the fuel and maintain the air boat. All mechanical malfunctions of the air boat shall be repaired within twelve (12) hours.

In the event that the Contractor refuses, neglects, or delays compliance with the requirements of this provision, the Owner may obtain and use other necessary boats at the expense of the Contractor. The costs associated with providing the boats shall be included in the lump sum price for Bid Item No. 3, "General Mobilization and Demobilization".

SP-10. OFFICE FOR OWNER

The Contractor shall provide an office for the Engineer and Resident Project Representative at the Project Site. This office shall be for the sole use of the Engineer or Resident Project Representative, suitably sized, and provided with lighting, heat, air conditioning, sufficient electrical outlets for a computer workstation, and a high-speed internet connection. The office furnishings shall include a work table and two chairs.

In the event that the Contractor refuses, neglects, or delays compliance with the requirements of this provision, the Owner may obtain and use another necessary office at the expense of the Contractor. The cost for providing and furnishing this office shall be included in the contract lump sum price for Bid Item No. 3, "General Mobilization and Demobilization."

SP-11. LANDOWNER AND PIPELINE REQUIREMENTS

The Owner has executed temporary easement, servitude, or right-of-way agreements required to perform the Work at the Project Site from the landowners, utilities and pipeline operators (Grantors) listed below. Copies of the executed agreements with the grantors are included in the land rights memorandum in Appendix D. The Contractor shall abide by the stipulations set forth by the executed agreements. The Contractor shall notify all grantors at least five (5) days prior to performing the Work or as otherwise stipulated in the executed agreements.

The Contractor shall add all grantors as additional insured. It is also agreed and understood that the Contractor will at all times indemnify and hold harmless all landowners from and against any and all claims, demands, causes of action, judgments, liabilities, and expense of every nature, including attorney's fees, by reason of personal injury, death (including but not limited to injuries to and death of employees of the landowners and the Contractor's employees) or damage to property, (including environmental) which arises out of, results from, or is in any manner related to, directly or indirectly, any operations or acts hereunder, or to the exercise of your rights hereunder, or to your presence upon or use of the landowners' premises above referred to, or to the use or existence of your facilities on such premises. The indemnity provisions of this paragraph shall not apply if any such injury, death, damage, liability claim, or cause of action is caused by the negligence of the landowners, their employees, agents, or representatives.

No access, excavation, anchors or spuds shall be permitted within fifty (50) feet of the right-of-way of any pipeline or utility unless specified otherwise in the Contract Documents. No dredging shall be permitted within five hundred (500) feet of any existing pipeline or utility in the borrow areas unless specified otherwise in the Contract Documents.

SP-12. OYSTER LEASE RESTRICTIONS

There are no known existing oyster leases near or within the boundaries of the Project Site.

SP-13. PROTECTED SPECIES

The United States Fish and Wildlife Service and National Marine Fisheries Service consulted with the United States Army Corps of Engineers on the permit for this project regarding the Marine Mammal Protection Act and Threatened and Endangered Species Act. The documentation from both consultations is provided in Appendix E. The Contractor shall comply with the conditions listed therein regarding the protected species throughout the performance of the Work. The conditions include instruction of construction personnel, signage, work stoppage, reporting, etc. The following protected species listed below have the potential to exist within the boundaries of the Project Site.

- 13.1. Green Sea Turtle;
- 13.2. Kemps Ridley Sea Turtle;
- 13.3. Loggerhead Sea Turtle;
- 13.4. Gulf Sturgeon;
- 13.5. West Indian Manatee.

SP-14. NOTIFICATION OF DISCOVERY OF HISTORICAL OR CULTURAL SITES

A cultural resource survey was performed on this project for the Owner and is available upon request. Four areas of cultural and historical significance were identified near the Project Site by the survey and are shown as “Archeological Sites” on the Plans. One of these areas is located in Lake Pontchartrain near Marsh Creation Area 3. The other three areas are located near Marsh Creation Area 4 along the shoreline of Lake Pontchartrain. The contractor shall not traverse across nor impact these areas during construction. The coordinates of these areas shall be furnished to the Contractor prior to construction.

If during construction activities the Contractor observes items that may have prehistoric, historical, archeological, or cultural value, the Contractor shall immediately cease all activities that may result in the destruction of these resources and shall prevent his employees from trespassing on, removing, or otherwise damaging such resources. Such observations shall be reported immediately to the Owner and Engineer so that the appropriate authorities may be notified and a determination made as to their significance and what, if any, special dispositions of the finds should be made. The Contractor shall report any observed unauthorized removal or destruction of such resources by any person to the Owner and Engineer so the appropriate State of Louisiana authorities can be notified. The Contractor shall not resume work at the site in question until State authorities have rendered judgment concerning the artifacts of interest.

SP-15. NAVIGATION

Navigable waterways shall not be impaired except as allowed by applicable laws or regulations. Dredging of flotation channels shall not be permitted for this project. It is the responsibility of the Contractor to select equipment that can navigate from a maintained navigation channel to the Project Site without deepening or widening existing water bottoms. All equipment shall remain floating at all times during transit to the Project Site. The Contractor shall obtain NOAA Nautical Charts and/or other charts to become familiar with the water bottom depths in the vicinity of the Project Site.

SP-16. NOTICE TO MARINERS

The Contractor shall contact the Eighth United States Coast Guard District at least 30 days prior to dredging, excavating or installing the dredge pipeline and provide all necessary information regarding the layout and schedule for the Work. The United States Coast Guard shall publish this information in the local notice to mariners. A copy of the original notice and all updates shall be provided to the Engineer as per SP-3.

SP-17. AIDS TO NAVIGATION

The Contractor shall contact the Eighth United States Coast Guard District and determine the type and location of aids to navigation that are required to be installed or removed in order to safely perform the Work. The types of aids to navigation may include warning signs, buoys, beacons or lights. The Contractor shall also submit a permit application and obtain a permit from the Eighth United States Coast Guard District prior to installation or removal of any aids to navigation. The permit application shall include the type, position, color, and dates for installation or removal of all aids to navigation. New aids to navigation shall not be installed in a manner which conflicts with existing aids to navigation. The Contractor shall not otherwise remove, modify, obstruct, willfully damage, make fast to or interfere with any existing aids to navigation. The Contractor shall provide a copy of the permit and permit application at least seven (7) days prior to mobilization of the hydraulic dredge and installation of the dredge pipeline.

SP-18. SCENIC RIVER PROTECTION

RS 56:1856 of the Louisiana Administrative Code designates Bayou Liberty as a natural and scenic river which shall be administered by the Louisiana Department of Wildlife and Fisheries (LDWF). The LDWF requires that a Scenic Rivers Permit be obtained for any work performed within a one-hundred (100) foot protection zone beyond the banks of Bayou Liberty. All boundaries of the Project Site are located beyond this protection zone, therefore, the Owner is not required to obtain a Scenic Rivers Permit. The Contractor shall not perform any of the Work beyond the Project Site and shall be liable for any impacts to Bayou Liberty and associated protection zone. The Contractor shall notify the following LWDF representative at least five (5) working days prior to the placement of fill material into Marsh Creation Area 2.

Kyle Balkum, Scenic Rivers Coordinator
P.O. Box 98000
Baton Rouge, LA 70898-9000
Phone: 225-765-2819
Email: kbalkum@wlf.la.gov

SP-19. SPECIAL USE PERMIT

The Contractor shall obtain a Special Use Permit from the Big Branch National Wildlife Refuge prior to Mobilization and performing the Pre-Construction Survey by contacting the following United States Fish and Wildlife Service representative:

Daniel Breaux, Refuge Manager
61389 Highway 434
Lacombe LA 70445
Phone: 985-882-2000
Email: southeastlouisianarefuges@fws.gov

The Contractor shall comply with all of the conditions of this permit during the performance of the Work and provide a copy of the executed permit to the Engineer.

SP-20. EMPLOYEE WHISTLEBLOWER PROTECTION

This Contract and employees working on this Contract will be subject to the whistleblower rights and remedies in the pilot program on Contractor employee whistleblower protections established at 41 U.S.C. 4712 by Section 828 of the National Defense Authorization Act for Fiscal Year 2013 (Pub. L. 112-239) and Federal Acquisition Regulation (F.A.R.) 3.908.

The Contractor shall inform its employees in writing, in the predominant language of the workforce, of employee whistleblower rights and protections under 41 U.S.C. 4712, as described in section 3.908 of the F.A.R.

The Contractor shall insert the substance of this clause, including this paragraph, in all subcontracts over the simplified acquisition threshold.

END OF PART II – SPECIAL PROVISIONS

PART III TECHNICAL SPECIFICATIONS

TS-100 HYDRAULIC DREDGE MOBILIZATION AND DEMOBILIZATION

- 100.1 Scope: The Contractor shall furnish all of the labor and equipment necessary to mobilize a hydraulic dredge and any necessary booster pumps to the borrow area in order to perform the Work. The Contractor shall demobilize this equipment from the Project Site upon Acceptance of the marsh creation areas. This section shall exclude the Work and cost of operating and maintaining the hydraulic dredge and booster pumps, and all items specified in TS-101, TS-102 and TS-400.
- 100.2 Arbitrary Mobilization by Contractor: The Owner shall pay for only one mobilization and demobilization of the hydraulic dredge. Should the Contractor demobilize the hydraulic dredge from either borrow area prior to completing the Work, subsequent remobilization of the dredge shall be performed at no cost to the Owner.
- 100.3 Equipment Access: All proposed routes for equipment access shall be provided in the Work Plan. Equipment access shall be limited to open water to the greatest extent possible. Any impacts to wetlands or water bottoms located external to the Project Site shall be repaired prior to demobilization at no direct pay. Channel dredging is prohibited. The Contractor shall not traverse across any pipeline with equipment which could damage the pipeline.
- 100.4 Hydraulic Dredge: The Contractor shall utilize a hydraulic cutter head dredge in the borrow area. No other type of dredge will be allowed. The dredge shall be in satisfactory operating condition and subject to inspection by the Engineer or Resident Project Representative at all times.
- 100.4.1 Selection: The Contractor shall select the most appropriate size of hydraulic dredge and booster pump (s) which will efficiently perform the Work within the Contract Time, maintain the integrity of the earthen containment dikes and achieve the construction fill elevations of the marsh creation areas within the specified tolerances.
- 100.4.2 Draft: The Contractor shall select a hydraulic dredge that can access the borrow areas without conflicting with existing infrastructure or dredging access channels. The maximum attainable draft for the hydraulic dredge(s) to access the borrow area shall be confirmed by the Contractor but is estimated to be ten (10) feet. The hydraulic dredge(s) shall remain floating at all times during the Work.

- 100.4.3 Hydraulic Dredge Data Sheet: The Hydraulic Dredge Data Sheet in Appendix J shall be included in the Work Plan for each hydraulic dredge that is proposed to perform the Work. Submittal of a Hydraulic Dredge Data Sheet shall constitute a certification that the described equipment is available to, and under control of, the Contractor. The data is pertinent to the evaluation of the proposed dredges and their capability to perform the Work. The Contractor may omit data or information that is considered to be proprietary.
- 100.4.4 Booster Pump: The Equipment Data Sheet in Appendix K shall be submitted in the Work Plan for each booster pump that is proposed to perform the Work. The Contractor may omit data or information that is considered to be proprietary.
- 100.5 Ratio of Effort: Sixty (60) percent of the Contract cost for this bid item will be paid to the Contractor after mobilization of the hydraulic dredge and a minimum of five-hundred (500) cubic yards of material has been dredged from the borrow area as measured by in-line density meter or process survey. Forty (40) percent of the Contract cost for this bid item will be paid to the Contractor after the hydraulic dredge is removed from the borrow area and after Acceptance of all the marsh creation areas.
- 100.6 Justification of Costs: If the Engineer determines that the unit price for this Bid Item does not bear a reasonable relation to the amount of Work, the Contractor shall be required to justify the unit price in the Application for Payment using cost data. Failure to justify the unit cost may result in payment of the estimated cost through commensurate additions or deductions to Bid Item Nos. 2 and 3 as determined by the Engineer. This determination by the Engineer is not subject to appeal.
- 100.7 Measurement and Payment: Payment shall be made at the Contract lump sum price for Bid Item No. 1, "Hydraulic Dredge Mobilization and Demobilization (TS-100)". Payment shall constitute full compensation for furnishing the labor, equipment and other incidentals related to this item of the Work. The Engineer may require remobilization of the hydraulic dredge at no cost to the Owner if additional fill material is required to attain the specified tolerances for the construction marsh fill elevations in the marsh creation areas.

TS-101 DREDGE PIPELINE MOBILIZATION, INSTALLATION AND DEMOBILIZATION

- 101.1 Scope: The Contractor shall furnish all of the labor, equipment and materials necessary to mobilize, install, remove and demobilize the dredge pipeline and associated appurtenances which will be utilized to perform the Work. This section shall exclude the Work and cost associated with all items specified in TS-100, TS-102 and TS-400.

- 101.2 Equipment Access: All proposed routes for equipment access shall be provided in the Work Plan. Equipment access shall be limited to open water to the greatest extent possible. Any impacts to wetlands or water bottoms located external to the Project Site shall be repaired prior to demobilization at no direct pay. Channel dredging is strictly prohibited. The Contractor shall not traverse across any pipeline with equipment which could damage the pipeline.
- 101.2.1 Pipeline and Equipment Corridors: Equipment shall access the marsh creation areas through the corridors shown on the Plans. Board mats or other approved protective measures shall be utilized to minimize impacts to the existing marsh.
- 101.2.2 Collins Pipeline Crossing: No equipment shall be allowed to cross the Collins Pipeline over land. Floating equipment may cross the Collins Pipeline in Lake Pontchartrain where sufficient draft is available.
- 101.2.3 Archeological Sites: No equipment shall be allowed to cross the archeological sites shown on the Plans.
- 101.3 Dredge Pipeline: The Contractor shall utilize a pipeline to transfer dredge slurry material from the borrow area to the fill areas. The dredge pipeline shall be subject to inspection by the Engineer or Resident Project Representative at all times.
- 101.3.1 Selection: The Contractor shall select the most appropriate type, diameter and length of dredge pipeline which will efficiently perform the Work.
- 101.3.2 Installation: The dredge pipeline shall be installed from the borrow area to the marsh creation areas along the alignment shown on the Plans. Proposed modifications to the alignment shall be submitted in the Work Plan and approved by the Engineer.
- 101.3.2.1 Outfalls: Each outfall location of the dredge pipeline shall be placed a sufficient distance away from all earthen containment dikes such that the integrity of the dikes is maintained during fill placement. Impacts to settlement plates and grade stakes shall also be minimized.
- 101.3.2.2 Floating or Trestle-Supported Pipelines: Dredge pipelines that are floating or supported on trestles shall display appropriate lights at night and in periods of restricted visibility in accordance with Title 33 CFR 88.15 regulations.

- 101.3.2.3 Submerged Pipelines: Submerged dredge pipelines shall be secured with anchors that are sufficient to maintain the pipeline on the water bottom at all times. These pipelines shall be marked with fluorescent orange buoys with signs stating “DANGER SUBMERGED PIPELINE” in accordance with local USCG requirements at both ends, changes in the alignment, all pipeline crossings and at one-hundred fifty (150) foot intervals along the alignment of the dredge pipeline. Signs shall also be installed anywhere the charted depth is reduced by more than ten (10) percent. The depth to the top of pipe of any submerged pipeline which crosses a navigation channel shall be submitted to the USCG for publication in the Notice to Mariners as specified in SP-16.
- 101.3.2.4 Collins Pipeline Crossing: The proposed alignment for the dredge pipeline crossing over the Collins Pipeline is shown on the Plans. The dredge pipeline shall remain floating above the Collins Pipeline at all times.
- 101.3.2.5 Pipeline and Equipment Corridors: The dredge pipeline shall access the marsh creation areas through the corridors shown on the Plans. Board mats or other approved protective measures shall be utilized to minimize impacts to the existing marsh.
- 101.3.2.6 Bayou Bonfouca Crossing: The dredge pipeline shall be installed into a trench where the alignment crosses the confluence of Bayous Bonfouca and Liberty to Marsh Creation Area 2 as shown on the Plans. The trench shall be constructed by mechanically excavating a minimum of three (3) feet below existing grade. Trench excavation shall begin at the confluence of Bayous Liberty and Bonfouca and end at the bank of Bayou Bonfouca. The excavated material shall be placed within temporary disposal areas on either side of the trench and immediately backfilled into the trench after installation of the dredge pipeline. This process shall be repeated during removal of the dredge pipeline. Those portions of the disposal areas that have been disturbed in excess of +/- 1.0 feet from pre-construction grade shall be re-graded. Temporary pipeline markers shall be installed on both sides of the bayou in accordance with Section 729 of the LA DOTD 2006 Standard Specifications for Roads and Bridges for Roads and Bridges. These markers shall remain in place until the dredge pipeline is removed and the trench is backfilled.
- 101.3.2.7 Archeological Sites: No dredge pipeline shall be allowed to cross the archeological sites shown on the Plans.

- 101.3.3 Maintenance: The Contractor shall maintain a stable and non-leaking dredge pipeline at all times during dredging and placement of fill. If a leak does occur, dredging shall cease, the Engineer shall be notified, and the leak shall be repaired. If requested by the Engineer, the Contractor will transport the Engineer or Resident Project Representative to the leak for visual inspection. The Engineer may require the Contractor to remove all material deposited as a result of a pipeline leak at no cost to the Owner.
- 101.3.4 Removal: The Contractor shall re-grade those portions of the water bottom along dredge pipeline alignment and marsh along the pipeline and equipment corridors that have been disturbed in excess of +/-1.0 feet from pre-construction grade after removal of the dredge pipeline.
- 101.4 Ratio of Effort: Forty-five (45) percent of the Contract cost for this bid item will be paid to the Contractor after mobilization of all dredge pipeline to the Project Site. Forty-five (45) percent of the Contract cost for this bid item will be paid to the Contractor after installation of the dredge pipeline to Marsh Creation Area 2. The remaining ten (10) percent of the Contract cost for this bid item will be paid to the Contractor after removal of the dredge pipeline and Acceptance of the marsh creation areas and As-Built Survey.
- 101.5 Justification of Costs: If the Engineer determines that the unit price for this Bid Item does not bear a reasonable relation to the amount of Work, the Contractor shall be required to justify the unit price in the Application for Payment using cost data. Failure to justify the unit price may result in payment of the estimated cost through commensurate additions or deductions to Bid Item Nos. 1 and 3 as determined by the Engineer. This determination by the Engineer is not subject to appeal.
- 101.6 Measurement and Payment: Payment shall be made at the Contract lump sum price for Bid Item No. 2, "Dredge Pipeline Mobilization, Installation and Demobilization (TS-101)". Payment shall constitute full compensation for furnishing the labor, equipment, materials and other incidentals related to this item of the Work.

TS-102 GENERAL MOBILIZATION AND DEMOBILIZATION

- 102.1 Scope: The Contractor shall furnish all of the material, labor and equipment necessary to mobilize and demobilize personnel, equipment, supplies, incidentals, offices, buildings and other facilities necessary for the Work at the Project Site, obtain bonds, required insurance and any other pre-construction expenses necessary to perform the Work. This section shall exclude the Work and cost associated with all items specified in TS-100, TS-101 and TS-400.

- 102.2 Arbitrary Mobilization by Contractor: The Owner shall pay for only one mobilization and demobilization effort. Should the Contractor demobilize prior to completing the Work, subsequent remobilization shall be performed at no cost to the Owner.
- 102.3 Equipment Access: All proposed routes for equipment access shall be provided in the Work Plan. Equipment access shall be limited to open water to the greatest extent possible. Any impacts to wetlands or water bottoms located external to the Project Site shall be repaired prior to demobilization at no direct pay. Channel dredging is prohibited. The Contractor shall not traverse across any pipeline with equipment which could damage the pipeline.
- 102.3.1 Collins Pipeline Crossing: No equipment shall be allowed to cross the Collins Pipeline over land. Floating equipment may cross the Collins Pipeline in Lake Pontchartrain where sufficient draft is available.
- 102.4 Ratio of Effort: Sixty (60) percent of the Contract cost for this bid item will be paid to the Contractor after mobilization of all equipment and materials other than those specified in TS-100 and TS-101 to the Project Site. Forty (40) percent of the Contract cost for this bid item will be paid to the Contractor upon Acceptance of the marsh fill areas, and after all equipment and unused materials have been removed from the Project Site.
- 102.5 Justification of Costs: If the Engineer determines that the unit price for this Bid Item does not bear a reasonable relation to the amount of Work, the Contractor shall be required to justify the unit price in the Application for Payment using cost data. Failure to justify the unit price may result in payment of the estimated cost through commensurate additions or deductions to Bid Item Nos. 1 and 2 as determined by the Engineer. This determination by the Engineer is not subject to appeal.
- 102.6 Measurement and Payment: Payment shall be made at the Contract lump sum price for Bid Item No. 3, "General Mobilization and Demobilization (TS-102)". Payment shall constitute full compensation for furnishing the labor, equipment, materials and other incidentals related to this item of the Work.

TS-210 SURVEYS

- 210.1 Scope: The Contractor shall furnish all of the material, labor and equipment necessary to perform the Pre-Construction, Process, and As-Built Surveys of the Work in compliance with the Plans and these Specifications. Surveys shall be performed by personnel who are approved by the Engineer and under the direct supervision of a professional engineer or surveyor licensed in the state of Louisiana. The Contractor shall provide schedules for the survey field work and deliverables in the Work Plan.

- 210.2 Notifications to the Engineer: The Contractor shall notify the Engineer a minimum of two (2) working days prior to performing the Pre-construction, Process and As-built Surveys. The Contractor shall also notify the Engineer immediately after field data collection for each survey is complete. The Owner may stop the associated portions of the Work if the notifications are not made. The Contractor shall not submit a Claim for this type of Work stoppage.
- 210.3 Reference and Control: Survey data shall reference the North American Datum of 1983 (NAD 83), Louisiana South Zone, U. S. Survey Feet, and the North American Vertical Datum of 1988 (NAVD 88), U. S. Survey Feet. Horizontal and vertical control shall be established by using the CPRA secondary monument provided in Appendix G. Temporary Bench Marks (TBMs) shall be installed as deemed necessary by the Contractor to perform all surveys.
- 210.4 Method: Surveys shall utilize conventional RTK surveying methods or an appropriate GNSS or GPS Real Time Network such as the Gulfnet Virtual Real-time Network (VRS).
- 210.5 Survey Equipment: The Contractor shall utilize appropriate equipment to survey the Work as follows:
- 210.5.1 Topographic Surveys: Topographic survey equipment shall have a minimum vertical and positional accuracy of one-tenth (0.1) of a foot. A six (6) inch diameter metal plate shall be attached to the bottom of the survey rod to prevent the rod from sinking below ground level. Bathymetric and topographic surveys shall overlap by 25 feet at all interfaces between land and water.
 - 210.5.2 Bathymetric Surveys: Bathymetric survey equipment shall have a minimum vertical accuracy of one-tenth (0.1) of a foot +/-0.1% of depth. Bathymetric surveys collected on board vessels must be differentially corrected to the referenced datum for tidal fluctuations and vessel pitch, roll and heave. Bathymetric and topographic surveys shall overlap by 25 feet at all interfaces between land and water.
 - 210.5.3 Magnetometer Surveys: Magnetometer survey equipment shall have a minimum accuracy of 3 gammas throughout its operational range.
 - 210.5.4 Survey Stakes: Survey stakes utilized for topographic survey stakeout shall consist of forty-eight (48) inch long survey laths and be composed of #1 grade pine wood or approved equal. Survey stakes utilized for bathymetric survey stakeout shall consist of bamboo cane of sufficient length to remain a minimum of two (2) feet above mean water level.
 - 210.5.5 Grade Stakes: Refer to TS-220.
- 210.6 Design Survey: The design survey report is provided in Appendix I. The layout of the design survey shown on the Plans is for informational purposes only.

- 210.7 Pre-Construction Survey: The Pre-Construction Survey shall be used to verify the existing conditions at the Project Site, adjust quantities of the Bid items and modify the layout of the Work as deemed necessary by the Engineer, and lay out and stake out the Work. The Pre-Construction Survey shall show the existing bathymetry, topography, existing infrastructure and magnetic detections in plan and profile using markers, spot elevations, coordinates, contours, lines and grades. The Pre-Construction Survey shall be consistent with the Construction Survey Layout shown on the Plans and shall include the following items:
- 210.7.1 Quantities: The Pre-Construction Survey shall provide the projected quantities of all the bid items. The methodology or software that is proposed to be used to calculate quantities shall be provided in the Work Plan.
- 210.7.2 Temporary Bench Marks: The Contractor may install temporary bench marks at any location within the Project Site as necessary to perform the Work. All temporary bench marks shall be repaired and resurveyed if disturbed or damaged during construction.
- 210.7.3 Temporary Aids to Navigation: All temporary aids to navigation shall be surveyed after installation.
- 210.7.4 Existing Infrastructure: All infrastructure (pipelines, power lines, etc.) that is located within one-hundred-fifty (150) feet of the borrow areas, earthen containment dikes, earthen containment dike borrow areas, marsh creation areas and dredge pipeline alignments shall be surveyed and marked at a minimum of fifty (50) foot intervals. The proposed methods for marking the infrastructure shall be included in the Work Plan. Pipelines shall also be probed for depth of cover (Top of pipe to existing ground) at fifty (50) foot intervals.
- 210.7.5 Significant Magnetic Detections: For anomalies that exhibit amplitudes greater than 50 gammas, the depth and source of the anomalies shall be determined by running a 30 foot closed loop path and by probing. The Contractor shall determine if the sources of all anomalies will interfere with the performance of the Work and provide proposed corrective measures in the Progress Schedule. Failure by the Contractor to identify the sources of anomalies and provide corrective measures shall not provide grounds for any Claims against the Owner.

210.7.6 Dredge Pipeline Alignment: A topographic/bathymetric and magnetometer survey shall be performed along the entire alignment of the dredge pipeline prior to installation. This survey shall extend along the alignment from the borrow area to the marsh creation areas. Bottom elevations and coordinates shall be recorded along the alignment at one-hundred (100) foot intervals and at all points of inflection. The Contractor shall establish stationing along the entire alignment of the trunk and lateral pipelines. Stationing for the trunk pipeline alignment shall begin at the borrow area. Stationing for the lateral pipeline alignment shall begin at the intersection with the trunk pipeline alignment.

210.7.6.1 Bayou Bonfouca Crossing: The temporary disposal areas on either side of the dredge pipeline trench at the bayou crossing shall be surveyed before excavation using centerline transects that are parallel with the trench. Bottom elevations and coordinates shall be recorded at ten (10) foot intervals.

210.7.7 Pipeline and Equipment Corridors: A topographic/bathymetric and magnetometer survey shall be performed on the pipeline and equipment corridors. This survey shall include three (3) transects spaced evenly across the width of the crossing and extend from the shoreline to the outside toe of the earthen containment dike. Bottom elevations and coordinates shall be recorded along the transects at ten (10) foot intervals.

210.7.8 Borrow Area: A bathymetric and magnetometer survey shall be performed on the borrow area. Ground elevations and coordinates shall be recorded at fifty (50) foot intervals along the transects and extend fifty (50) feet beyond the boundaries of the borrow area. The projected quantity available for excavation from the borrow area shall be calculated based on this survey and the design dimensions shown on the Plans.

The permitted and design dredging depth of minus-ten (-10) feet and over dredge depth of minus-two (-2) is relative to the existing grade of the borrow area. The Contractor shall translate these depths from relative to absolute elevations in NAVD88 at each corner of the borrow areas based on the Pre-construction Survey. The Contractor shall also determine the slope(s) and grade line(s) necessary to ensure compliance with the design and permitted dredging depth of the borrow area.

210.7.9 Marsh Creation Areas: A bathymetric and topographic survey shall be performed within the marsh creation areas. Ground elevations and coordinates shall be recorded at twenty-five (25) foot intervals along the transects and extend fifty (50) feet beyond the boundaries of the marsh creation areas. The Contractor shall calculate the projected fill quantities for the marsh creation areas based on this survey and the construction marsh fill elevations.

210.7.10 Grade Stakes: All grade stakes shall be surveyed after installation. The identification number, existing ground elevation, coordinates and elevation of top of gauge sign shall be recorded.

210.7.11 Earthen Containment Dikes: A magnetometer survey shall be performed along the centerline alignment of the borrow areas for the dikes. A topographic/bathymetric survey shall be performed along the centerline alignment of both the dikes and associated borrow areas. Ground elevations and coordinates shall be recorded at one-hundred (100) foot intervals along the alignment and at all points of inflection. The projected fill quantities for the dikes shall be calculated based on this survey and the design dimensions shown in the Plans. Stationing shall be established along the centerline alignment of each dike within each marsh creation area.

Survey stakes shall be placed at one-hundred (100) foot intervals and at all points of inflection along the centerline alignment of the dike and the toe of the associated borrow area which is adjacent to the dike. Survey stakes shall also be placed at one-hundred (100) foot intervals and at all points of inflection along the outer toe (bayou side) of Earthen Containment Dike 7 in Marsh Creation Area 2 which is adjacent to Bayou Liberty.

210.7.12 Temporary Earthen Plug: A topographic/bathymetric survey shall be performed on the channel that connects Marsh Creation Area 2 to the Bonfouca Marina at the location of the temporary earthen plug and associated borrow area. Ground elevations and coordinates shall be recorded along the transects at ten (10) foot intervals.

210.7.13 Settlement Plates: All settlement plates shall be surveyed immediately after installation in the marsh creation areas. The identification number, existing ground elevation, coordinates and elevation of the top of pipe shall be recorded.

210.8 Process Surveys: The Process Surveys shall be used to verify partial payments and Acceptance for completed portions of the Work, and to adjust quantities of the Bid items as deemed necessary by the Engineer. The Process Surveys shall show the constructed bid items in plan and profile using elevations, coordinates, lines and grades. The Process Surveys shall be consistent with the Pre-Construction Survey and shall include the following items:

210.8.1 Quantities: Constructed quantities for each bid item shall be calculated.

210.8.2 Borrow Area: The bathymetry of those portions of the borrow area which have been dredged shall be surveyed to calculate quantities for payment. If the Contractor remobilizes to any portion of the borrow area which has been previously dredged, that portion of the borrow area shall be resurveyed before and after it is re-dredged. The surveys shall account for the location and quantity of material dredged from the borrow area for each marsh creation area.

210.8.3 Marsh Creation Areas: The topography of each marsh creation area shall be surveyed 30 days after fill placement. The final in-place fill quantity and cut-to-fill ratio shall also be calculated for each marsh creation area. Those portions of the marsh creation areas which are reworked due to exceedance of the specified fill elevation tolerances shall be resurveyed for Acceptance.

210.8.4 Earthen Containment Dikes: The topography of each dike and associated borrow area shall be surveyed after being fully constructed and prior to placement of fill material into each marsh creation area. Ground elevations and coordinates shall be recorded for the inside and outside crests and toes of the dikes, and inside and outside troughs and toes of the associated borrow areas. These measurements shall be repeated at one-hundred (100) foot intervals along the centerline of the dike and at all points of inflection. The total in-place fill quantity for the dikes around each marsh creation area shall also be calculated in cubic yards. Those portions of the dikes which are reworked due to exceedance of the specified tolerances shall be resurveyed for Acceptance.

The dikes associated with each marsh creation area shall be surveyed every two weeks beginning with placement of fill material into the marsh creation area, and ending with Acceptance of the marsh creation area. Ground elevations and coordinates shall be recorded for the inside crest, outside crest, and outside (opposite marsh creation) toe of the dikes. These measurements shall be repeated at one-hundred (100) foot intervals along the centerline of the dike and at all points of inflection.

210.8.5 Earthen Containment Dike 7 Degradation: After being fully degraded, the centerline and outside toes of Dike 7 within Marsh Creation Area 2 shall be surveyed at one-hundred (100) foot intervals along the centerline and at all points of inflection.

210.8.6 Temporary Earthen Plug: The temporary earthen plug and associated borrow area shall be surveyed after construction. Those portions of the temporary earthen plug and associated borrow area which have been reworked due to exceedance of the specified tolerance shall be resurveyed for Acceptance.

- 210.8.7 Settlement Plates: The elevations of the marsh fill or containment dike and top of riser pipe at all settlement plates shall be surveyed daily during fill placement and continue for four (4) weeks after fill placement is complete.
- 210.8.8 Grade Stakes: The elevations of the top of the gauge sign and marsh fill shall be surveyed at each grade stake on a daily basis during fill placement until four (4) weeks after fill placement is complete.
- 210.9 As-Built Survey: The As-Built Survey shall be used to verify final payments and Acceptance for all Work. Accepted process surveys may be included as part of the As-Built Survey. The As-Built Survey shall show all constructed bid items in plan and profile using elevations, coordinates, lines and grades consistent with the Process Surveys. The As-Built Survey shall be consistent with the Pre-Construction Survey and shall include the following items:
- 210.9.1 Quantities: The total constructed quantities for each bid item shall be calculated.
- 210.9.2 Dredge Pipeline Alignment: The bathymetry of the dredge pipeline alignment shall be surveyed after the dredge pipeline has been removed. Those portions of the alignment which have been reworked due to exceedance of the specified tolerance shall be resurveyed for Acceptance.
- 210.9.2.1 Corridors: The pipeline and equipment corridors to the marsh creation areas shall be surveyed after removal of the dredge pipeline. Those portions of the corridors which have been reworked due to exceedance of the specified tolerance shall be resurveyed for Acceptance.
- 210.9.2.2 Bayou Bonfouca Crossing: The temporary disposal areas on either side of the dredge pipeline trench shall be surveyed after removal of the dredge pipeline and being backfilled using centerline transects that are parallel with the trench. Bottom elevations and coordinates shall be recorded at ten (10) foot intervals. Those portions of the temporary disposal areas which have been reworked due to exceedance of the specified elevation tolerance shall be resurveyed.
- 210.9.3 Earthen Containment Dikes: Those portions of the dikes that have been gapped shall be surveyed for Acceptance. Ground elevations and coordinates shall be recorded for the inside and outside crests of the dikes. These measurements shall be repeated at one-hundred (100) foot intervals along the centerline of the dike and at all points of inflection.
- 210.9.4 Temporary Earthen Plug: The temporary earthen plug and associated borrow area shall be surveyed after degradation. Those portions of the degraded earthen plug and associated borrow area which have been reworked due to exceedance of the specified tolerance shall be resurveyed for Acceptance.

- 210.9.5 Tidal Creek/Pond Access: The centerline alignment of all tidal creeks shall be surveyed after being constructed for Acceptance. Ground elevations and coordinates shall be recorded at fifty (50) foot intervals along the alignment and at all points of inflection.
- 210.9.6 Grade Stakes: All grade stakes shall be removed after Acceptance of the marsh creation areas.
- 210.10 Deliverables: The Contractor shall submit three (3) digital and hard copies of the survey data and drawings to the Engineer for review and Acceptance by the dates specified in SP-3. The Owner may stop the associated portions of the Work if the surveys are not submitted by the specified date. The Contractor shall not submit a Claim for an adjustment to either the Contract Time or Price on any bid item for failure to submit the surveys by the specified date.
- 210.10.1 Survey Data: Digital copies of the survey data shall be provided on compact disk in Microsoft Excel and Adobe Acrobat, or approved equal. Digital and hard copies shall utilize 8.5" x 11" borders. Survey data shall be presented as follows:
- 210.10.1.1 Bathymetric and topographic survey data shall be provided in tables and include separate columns for the transect/alignment number, point number, point description, northing coordinate, easting coordinate and elevation. Bathymetric survey data shall include bar check results, survey scroll or BIN file, and corrections for tidal fluctuations and vessel pitch, roll and heave.
 - 210.10.1.2 Magnetometer detections shall be provided in tables and include the transect/alignment number, shot point number, northing coordinate, easting coordinate, sensor height, signature type, amplitude and duration. Elevations and depth of cover shall be provided for all pipelines and magnetic detections higher than 50 gammas. Descriptions shall also be provided for the probable causes of all magnetic detections higher than 50 gammas.
 - 210.10.1.3 The elevation data for the settlement plates shall be provided in tables and line graphs which show marsh fill, containment dike and top of riser pipe elevations verses time.
- 210.10.2 Survey Drawings: Digital copies of the surveys shall be provided in the latest edition of AutoCAD and Adobe Acrobat, or approved equal. Digital and hard copies shall utilize 11" x 17" borders. All survey drawings shall conform to CPRA drafting standards and be presented as follows:
- 210.10.2.1 All sheets shall include the project name, number and seal of a professional engineer or surveyor licensed in the State of Louisiana.

- 210.10.2.2 The location of all secondary survey monuments and temporary benchmarks shall appear in plan view;
- 210.10.2.3 Survey transects/alignments, spot elevations and +/-1.0 foot contours shall be shown in plan view. Transects/alignments shall also be shown in profile and include mean high and mean low water levels;
- 210.10.2.4 Magnetic anomalies and infrastructure (Pipelines, debris, power lines, etc.) shall be shown in plan view. Infrastructure and magnetic anomalies higher than 50 gammas shall also be shown in profile;
- 210.10.2.5 All plan views shall be overlaid onto the most recent geo-rectified Digital Orthophoto Quarter Quadrangle aerial color photographs;
- 210.11 Acceptance: The Contractor shall submit a request for Acceptance after completion of the Pre-Construction, Process and As-built Surveys. The Engineer shall determine Acceptance of the Work based on these surveys and conformance to the Plans and Specifications. The Engineer shall be afforded fourteen (14) working days from the date of receipt to review and determine Acceptance of each survey.
- 210.11.1 Pre-Construction Survey: The Contractor may mobilize equipment but shall not start construction until Acceptance of the Pre-Construction Survey.
- 210.11.2 Process Surveys: Payment for bid items shall not be made until Acceptance of the associated Process Surveys. Those portions of the Work which are required to be re-worked, repaired or replaced due to non-compliance with the Plans and these Specifications shall be resurveyed for Acceptance.
- 210.11.3 As-built Survey: A draft of the As-built Survey shall be submitted to the Engineer for review prior to the Final Inspection as per SP-3. A final version of the As-built Survey shall be submitted to the Engineer for Acceptance after the Final Inspection as per SP-3. Final payment for bid items shall not be made until Acceptance of the As-Built Survey.
- 210.12 Ratio of Effort: Forty (40) percent of the Contract cost for this bid item will be paid to the Contractor upon Acceptance of the Pre-Construction Survey. Forty (40) percent will be paid to the Contractor upon Acceptance of all Process Surveys. The remaining twenty (20) percent will be paid to the Contractor upon Acceptance of the As-built Survey.
- 210.13 Measurement and Payment: The Contractor shall submit Applications for Payment after gaining Acceptance. Payment shall be made at the Contract lump sum price for Bid Item No. 4, "Surveys (TS-210)". Payment shall constitute full compensation for furnishing the material, labor, equipment and other incidentals related to this item of the Work.

TS-220 GRADE STAKES

- 220.1 Scope: Grade stakes shall be installed within the marsh creation areas in order to monitor the elevation of fill during placement. The Contractor shall furnish all of the materials, labor and equipment necessary to construct, install, maintain and inspect the grade stakes in accordance with the Plans and these Specifications.
- 220.2 Materials: Each gauge sign shall be supported by one (1) 2" x 4" untreated pine stake of sufficient length to be embedded a minimum of six (6) feet below existing grade. The top of the gauge sign shall be fastened flush with the top of the lumber using three (3) #8 galvanized or zinc-coated wood screws and washers. Holes shall be drilled through the lumber and gauge sign before the fasteners are installed.
- The gauge sign shall be composed of sheeting applied to a rigid substrate of 4" 0.120"x 24" fiberglass reinforced thermoset polyester laminate using a pressure sensitive urethane adhesive. The sheeting shall be reflective, white in color and made from Avery Dennison T1500, or approved equal. The substrate shall be gray in color, dielectric, non-conductive, acrylic, UV stabilized and possess a tensile strength which exceeds 0.005" aluminum.
- The tolerance range for each target fill elevation shall be represented on the gauge sign using green transparent ink. The background color for the remaining portions of the gauge sign shall be red transparent ink. Border lines shall be applied at each target lift and tolerance elevation using 1/8" thick black ink. Ink shall be Avery 7TS, or approved equal.
- 220.3 Installation: Grade stakes shall be installed in a vertical position along the transects within the marsh creation areas at five hundred (500) foot intervals or a minimum of one (1) per transect as shown on the Plans.
- 220.4 Maintenance: The grade stakes shall be maintained by the Contractor until Acceptance of the marsh creation areas. Grade stakes shall be repaired or replaced if badly damaged or their plum angle varies by more than 15 degrees from vertical.
- 220.5 Inspections: An initial inspection of the grade stakes shall be performed no more than 30 days prior to placing dredge material into each marsh creation area. Inspections of the grade stakes shall also be performed concurrently with the process surveys of the marsh creation areas. These inspections shall record the top elevation, distance from the top of the stake to the existing ground (tape down distance), the stake identification number, Northing coordinate and Easting coordinate for each grade stake. A final inspection shall be performed to verify that all stakes have been properly removed. The results of all inspections shall be included in the Daily Progress Reports. The inspections may be witnessed by the Engineer or Resident Project Representative.

- 220.6 Removal: The grade stakes shall be removed after Acceptance of the marsh creation areas. The grade stakes shall either be removed in their entirety or cut off at marsh grade. Impacts to the marsh creation areas shall be minimized during removal of the grade stakes.
- 220.7 Ratio of Effort: Ninety (90) percent of the Contract cost for this bid item will be paid to the Contractor after installation and initial inspection of the grade stakes. The remaining ten (10) percent will be paid to the Contractor upon Acceptance of the marsh creation areas.
- 220.8 Measurement and Payment: Payment shall be made for the Contract unit price per each for Bid Item No. 5, "Grade Stakes (TS-220)". Payment shall constitute full compensation for furnishing the material, labor, equipment and other incidentals related to this item of the Work. No payment shall be made for grade stakes that are rejected or damaged due to fault or negligence by the Contractor.

TS-250 SETTLEMENT PLATES

- 250.1 Scope: The Contractor shall furnish all of the materials, labor and equipment necessary to construct, install, survey and maintain the settlement plates within the marsh creation areas and on the earthen containment dikes in accordance with the Plans and these Specifications.
- 250.2 Materials: The base plate shall be fabricated from a four (4) foot by four (4) foot by one-fourth (1/4) inch thick steel plate. A two-and-seven-eighths (2-7/8) inch diameter hole shall be drilled or cut through the center of the base plate for installation of the riser.

The riser shall be fabricated from a two-and-one-half (2.5) inch nominal diameter Schedule 40 steel pipe. The riser shall be eight (8) feet long for installation in the marsh creation areas and nine (9) feet long for installation on the earthen containment dikes. The riser shall be inserted one (1) foot through the center of the base plate and welded using a three-sixteenths (3/16) inch continuous fillet. The top of the housing shall be fitted with a threaded or welded steel cap. Threaded caps shall each be tack-welded to the attached riser in at least two (2) locations equally spaced around the pipe perimeter.

- 250.3 Zinc Coating: A zinc coating shall be applied in a manner and thickness quality conforming to ASTM A 123. In any case where the zinc coating becomes damaged, the damaged area shall be re-galvanized with a suitable low-melting zinc base alloy as recommended by the American Hot-Dip Galvanizers Association. One coat of a vinyl wash primer followed by a red top coat shall be applied over the zinc coat. All painting shall conform to the latest edition of the LA DOTD Standard Specification Section 811 and 1008, or approved equivalent.

- 250.4 Installation: Settlement plates shall be installed inside the marsh creation areas and on the earthen containment dikes as shown on the Plans prior to placing fill into the marsh creation areas. Leveling of the plate bed shall be accomplished by removing the minimum amount of earth necessary to produce a level foundation. Leveling of the plate bed by the addition of any material will not be permitted.
- 250.5 Maintenance: The Contractor shall maintain all settlement plates until Acceptance of the marsh creation areas. Damaged settlement plates shall be immediately repaired or replaced and resurveyed by the Contractor at no expense to the Owner.
- 250.6 Ratio of Effort: Ninety (90) percent of the Contract cost for this bid item will be paid to the Contractor after installation of the settlement plates. The remaining ten (10) percent will be paid to the Contractor upon Acceptance of the marsh creation areas.
- 250.7 Measurement and Payment: Payment shall be made for the Contract unit price per each for Bid Item No. 6, "Settlement Plates (TS-250)". Payment shall constitute full compensation for furnishing the material, labor, equipment and other incidentals related to this item of the Work. No payment shall be made for settlement plates that are rejected or damaged due to fault or negligence by the Contractor.

TS-300 EARTHEN CONTAINMENT DIKES

- 300.1 Scope: The Contractor shall furnish all of the material, labor and equipment necessary to construct, maintain and gap the earthen containment dikes (dikes) in accordance with these Specifications and in conformity to the lines, grades, elevations and tolerances shown on the Plans.
- 300.2 Equipment: All dikes shall be constructed and maintained using mechanical dredging equipment. The Equipment Data Sheet in Appendix K shall be included in the Work Plan for all mechanical dredging equipment proposed to perform the Work. The mechanical dredge equipment shall be in satisfactory operating condition, capable of efficiently performing the Work, and shall be subject to inspection by the Owner or Engineer throughout the performance of the Work.
- 300.3 Equipment Access: All proposed routes for equipment access shall be provided in the Work Plan. Equipment access shall be limited to open water to the greatest extent possible. Any impacts to wetlands or water bottoms located external to the Project Site shall be repaired prior to demobilization at no direct pay. The Contractor shall not traverse across any pipeline with equipment which could damage the pipeline.
- 300.3.1 Collins Pipeline Crossing: No equipment shall be allowed to cross the Collins Pipeline over land. Floating equipment may cross the Collins Pipeline in Lake Pontchartrain where sufficient draft is available.

300.3.2 Archeological Sites: No equipment shall be allowed to cross the archeological sites shown on the Plans.

300.4 Construction: The dikes shall be constructed around the full perimeter of Marsh Creation Areas 1, 2, 3 and 4 and Ponds A, B, C and D using in-situ borrow material that is excavated adjacent to the dikes. The borrow material shall not be excavated within the minimum offset distance from the toe of the dikes as shown on the Plans. Material shall not be excavated from the borrow areas below the maximum depth shown on the Plans. Fill material shall be placed into the marsh creation areas after Acceptance of the dikes.

300.4.1 Geometries: The geometry of the dikes vary throughout the marsh creation areas as shown on the Plans. The dikes shall be constructed along the perimeters of the marsh creation areas and ponds as follows:

300.4.1.1 Dikes 1, 2 and 3 along the perimeter of Marsh Creation Area 1;

300.4.1.2 Dike 4 along the entire perimeters of Ponds A and B within Marsh Creation Area 1;

300.4.1.3 Dike 4 along the entire perimeters of Ponds C and D within Marsh Creation Area 2;

300.4.1.4 Dike 5 along the perimeter of Marsh Creation Area 2 and entire perimeter of Marsh Creation Area 4;

300.4.1.5 Dike 6 along the entire perimeter of Marsh Creation Area 3;

300.4.1.6 And Dike 7 along the perimeter of Marsh Creation Area 2.

300.4.2 Tolerance: The vertical elevation tolerance for the crest height of the dikes shall be minus-six (-6.0) inches from maximum.

300.4.3 Transitions: Transitions between different dike geometries within the same marsh creation area shall be tapered linearly within a fifty (50) foot span along the dike alignment.

300.4.4 Pond Dike Gapping: During construction of Dike 4 around the perimeter of Ponds A, B, C and D within Marsh Creation Areas 1 and 2, two (2) forty (40) foot gaps shall be left along the dike spaced 180 degrees apart. These gaps will allow the dredge slurry to fill the ponds during fill placement into the marsh creation areas. The Contractor shall close the gaps after the construction fill elevation for the ponds have been reached. Placement of fill into Marsh Creation Areas 1 and 2 shall stop if the construction fill elevation for the ponds is reached and the gaps in the dikes have not been closed.

300.4.5 Dike 7 Documentation: Due to the close proximity of Dike 7 around the western perimeter of Marsh Creation Area 2 to the Bayou Liberty protection zone specified in SP-18, the Contractor shall photograph the entire protection zone along Dike 7 from the vantage point of Bayou Liberty immediately after each of the following milestones or potential events occur:

300.4.5.1 Pre-Construction Survey stakeout;

300.4.5.2 A breach, failure or repairs to Dike 7;

300.4.5.3 Dike 7 is accepted by the Engineer.

The coordinates for each photograph shall be recorded. The photographs and coordinates shall be provided in the Daily Progress Report in 8.5" x 11" digital and hard copies within three (3) days after each milestone or event occurs.

300.4.6 Dike 7 Monitoring and Reporting: Due to the close proximity of Dike 7 around the western perimeter of Marsh Creation Area 2 to the Bayou Liberty protection zone specified in SP-18, the Contractor shall monitor the condition of Dike 7 on a continuous basis during fill placement into Marsh Creation Area 2. If any portion of Dike 7 breaches and spills dredged material into the Bayou Liberty protection zone, the Contractor shall immediately perform the following procedures in the order listed:

300.4.6.1 Halt fill placement into Marsh Creation Area 2;

300.4.6.2 Contact the Engineer;

300.4.6.3 Photograph the dike breach;

300.4.6.4 Repair the dike breach;

300.4.6.5 Photograph the repair of the dike breach and any impacts to the protection zone.

The Contractor shall allow the Engineer up to seventy-two (72) hours, not including weekends or holidays, to inspect the impacts and repairs prior to the recommencement of fill placement into Marsh Creation Area 2. After the inspection by the Engineer is complete, the Contractor shall remove all material within the Bayou Liberty protection zone and place it back into Marsh Creation Area 2 at no pay. Hourly monitoring and breach repair activities of dike 7 shall be recorded on the Daily Progress Report.

- 300.5 Borrow Material: The soil properties of the borrow material may vary across the Project Site. The geotechnical investigation report is provided in Appendix H. All unsuitable organic debris (Logs, stumps, snags, etc.) greater than two (2) inches in diameter or two (2) feet in length that is encountered in the dike borrow area shall remain and not be utilized to construct the dike. All unsuitable inorganic debris (Tires, scrap, etc.) greater than five (5) pounds that is encountered in the dike borrow areas shall be disposed off-site in an approved waste disposal facility.
- 300.6 Internal Training Dikes: The Contractor has the discretion to construct internal training dikes as necessary to aid in containment of dredged material within the marsh creation areas. The dimensions of the internal training dikes may vary; however, the crown height shall not exceed the containment dikes within the marsh creation areas. All costs associated with constructing and maintaining the internal training dikes shall be at no pay.
- 300.7 Maintenance: All dikes shall be maintained by the Contractor until Acceptance of each marsh creation area. Should a breach or failure of any of the dikes occur before a marsh creation area gains Acceptance, the Contractor shall immediately notify the Engineer, cease filling of the marsh creation area and initiate repairs to the dike. All external spills of fill or dike material from the marsh creation area shall be immediately returned to the marsh creation area by the Contractor at no pay. The Contractor shall include a detailed procedure and communication protocol for the repair and reporting of dike breaches in the Work Plan.
- 300.8 Gapping: Portions of the dikes shall be gapped after Acceptance of the marsh creation areas and prior to demobilization. The dikes to be gapped include those portions of the marsh creation areas which are not adjacent to Lake Pontchartrain, Bayou Bonfouca and Bayou Liberty. The gaps shall be twenty-five (25) feet long and spaced at five-hundred (500) foot intervals along the alignment, or as directed by the Engineer. Gaps shall be constructed by degrading the crown elevation of the dikes to the construction marsh creation elevation for the associated marsh creation area. Spoil shall be spread evenly on top of the adjacent dike borrow area.
- 300.9 Acceptance: The Contractor shall submit a request for Acceptance after construction and process surveys of the dikes, and prior to placement of fill material into the associated marsh creation areas. Acceptance shall be determined from the process surveys and compliance with the lines, grades, elevations, and tolerances shown on the Plans. The Engineer may require the addition or removal of material that is excavated or placed beyond the specified tolerances at no direct pay.
- 300.10 Ratio of Effort: Ninety (90) percent of the Contract cost for this bid item will be paid to the Contractor after Acceptance of the dikes. The remaining ten (10) percent will be paid to the Contractor after Acceptance of the associated marsh creation areas, and after gapping and the As-Built Survey of the dikes.

300.11 Measurement and Payment: Payment will be made at the Contract unit price per linear foot for Bid Item No. 7, “Earthen Containment Dikes (TS-300)”. Payment shall constitute full compensation for furnishing the labor, equipment and other incidentals related to this item of the Work. The Contractor may request partial payment on a monthly basis based on the linear feet of dike constructed.

TS-350 EARTHEN CONTAINMENT DIKE 7 DEGRADATION

- 350.1 Scope: The Contractor shall furnish all of the material, labor and equipment necessary to degrade earthen containment dike (Dike) 7 within Marsh Creation Area 2 in accordance with these Specifications and in conformity to the lines, grades, elevations, and tolerances shown on the Plans. The dike shall be degraded after Acceptance of Marsh Creation Area 2.
- 350.2 Equipment Access: Access shall be limited to open water, the access corridor for Marsh Creation Area 2 and the dike as shown on the Plans. The Contractor shall not impact wetlands external to the Project Site. The access corridor shall be returned to pre-construction grade prior to demobilization.
- 350.3 Equipment: Dike 7 shall be degraded using a back hoe-mounted marsh buggy or approved equal. The Equipment Data Sheet in Appendix K shall be included in the Work Plan for all pieces of heavy equipment proposed to perform the Work.
- 350.4 Construction: Dike 7 shall be degraded from the construction marsh fill elevation for Marsh Creation Area 2 down to existing grade as shown on the Plans. The excavated material shall be spread evenly within the footprint of the associated borrow area.
- 350.5 Tolerance: The tolerance for the degraded dike shall be minus-six (- 6.0) inches along the finished grade.
- 350.6 Acceptance: The Contractor shall submit a request for Acceptance after degradation and a process survey of Dike 7, and Acceptance of Marsh Creation Area 2. Acceptance shall be determined from the process survey and compliance with the lines, grades, elevations, and tolerances shown on the Plans. The Engineer may require the addition or removal of material that is excavated or placed beyond the specified tolerances at no direct pay.
- 350.7 Measurement and Payment: Upon Acceptance by the Engineer, an invoice shall be paid at the Contract unit price per linear foot for Bid Item No. 8, “Earthen Containment Dike 7 Degradation (TS-350)”. Payment shall constitute full compensation for furnishing the material, labor, equipment and other incidentals related to this item of the Work.

TS-390 TEMPORARY EARTHEN PLUG

- 390.1 Scope: The Contractor shall furnish all of the material, labor and equipment necessary to construct, maintain and degrade the temporary earthen plug near Marsh Creation Area 2 in accordance with these Specifications and in conformity to the lines, grades, elevations and tolerances as shown on the Plans.
- 390.2 Equipment: The temporary earthen plug shall be constructed, maintained and degraded using mechanical dredging equipment. The Equipment Data Sheet in Appendix K shall be included in the Work Plan for all mechanical dredging equipment proposed to perform the Work. The mechanical dredge equipment shall be in satisfactory operating condition, capable of efficiently performing the Work, and shall be subject to inspection by the Owner or Engineer throughout the performance of the Work.
- 390.3 Equipment Access: The proposed route for equipment access shall be provided in the Work Plan. Equipment access shall be limited to open water to the greatest extent possible. Any impacts to wetlands or water bottoms located external to the Project Site shall be repaired prior to demobilization at no direct pay. The Contractor shall not traverse across any pipeline with land-based equipment during construction of the temporary earthen plug.
- 390.4 Construction: The temporary earthen plug shall be constructed at the location shown on the Plans using in-situ borrow material that is excavated adjacent to the temporary earthen plug. The borrow material shall not be excavated within the minimum offset distance from the toe of the temporary earthen plug as shown on the Plans. Material shall not be excavated from the borrow area below the maximum depth shown on the Plans. Fill material shall be placed into Marsh Creation Area 2 after Acceptance of the temporary earthen plug.
- 390.4.1 Construction Tolerance: The vertical elevation tolerance for the crest of the temporary earthen plug shall be six (+/- 6.0) inches from design grade.
- 390.5 Borrow Material: All unsuitable organic debris (Logs, stumps, snags, etc.) greater than two (2) inches in diameter or two (2) feet in length that is encountered in the borrow area shall remain and not be utilized to construct the temporary earthen plug. All unsuitable inorganic debris (Tires, scrap, etc.) greater than five (5) pounds that is encountered in the borrow area shall be disposed off-site in an approved waste disposal facility.
- 390.6 Maintenance: The temporary earthen plug shall be maintained by the Contractor until Acceptance of Marsh Creation Area 2.
- 390.7 Degradation: The temporary earthen plug shall be degraded to existing grade after Acceptance of Marsh Creation Area 2. The material used to construct the earthen plug shall be placed back into the borrow area to existing grade.

- 390.7.1 Degradation Tolerance: The vertical elevation tolerance for the degraded earthen plug and associated borrow area shall be six (+/- 6.0) inches from pre-construction grade.
- 390.8 Acceptance: The Contractor shall submit a request for Acceptance after construction and a process survey of the earthen plug, and prior to placement of fill material into Marsh Creation Area 2. Acceptance shall be determined from the process survey and compliance with the lines, grades, elevations, and tolerances shown on the Plans. Engineer may require the addition or removal of material that is excavated or placed beyond the specified tolerances at no direct pay.
- 390.9 Ratio of Effort: Ninety (90) percent of the Contract cost for this bid item will be paid to the Contractor after construction of the earthen plug. The remaining ten (10) percent will be paid to the Contractor after Acceptance of Marsh Creation Area 2, and after degradation and the As-Built Survey of the earthen plug.
- 390.10 Measurement and Payment: Payment shall be made for the Contract lump sum price for Bid Item No. 9, "Temporary Earthen Plug (TS-390)". Payment shall constitute full compensation for furnishing the material, labor, equipment and other incidentals related to this item of the Work.

TS-400 HYDRAULIC DREDGING AND MARSH FILL

- 400.1 Scope: The Contractor shall furnish all of the materials, labor and equipment necessary to dredge the borrow area and place the material into the marsh creation areas in accordance with these specifications and in conformity to the lines, grades, elevations and tolerances shown on the Plans. The borrow material must be dredged, pumped and placed in such a manner to ensure that negative impacts caused by the project are minimized. This section shall include the operation and maintenance of the hydraulic dredge and booster pump.
- 400.2 Equipment Access: All proposed routes for equipment access shall be provided in the Work Plan. Equipment access shall be limited to open water to the greatest extent possible. Any impacts to wetlands or water bottoms located external to the Project Site shall be repaired prior to demobilization at no direct pay. The Contractor shall not traverse across any pipeline with land-based equipment during construction of the marsh creation areas.
- 400.2.1 Collins Pipeline Crossing: No equipment shall be allowed to cross the Collins Pipeline over land. Floating equipment may cross the Collins Pipeline in Lake Pontchartrain where sufficient draft is available.
- 400.2.2 Archeological Sites: No equipment shall be allowed to cross the archeological sites shown on the Plans.

- 400.2.3 Equipment Access to Ponds: After fill placement into Marsh Creation Areas 1 and 2 is complete, access to Ponds A, B, C and D shall only be allowed through the tidal creeks shown on the Plans.
- 400.3 Equipment: All equipment shall be in satisfactory operating condition, capable of efficiently performing the Work and shall be subject to inspection by the Engineer or Resident Project Representative at all times.
- 400.3.1 Equipment Data Sheet: The Equipment Data Sheet in Appendix K shall be submitted in the Work Plan for all heavy equipment proposed to perform the Work other than the hydraulic dredge (I.E., marsh buggies, tenders, etc.).
- 400.4 Hydraulic Dredging: The Contractor shall dredge the borrow area using the hydraulic dredge specified in TS-100 and transfer the dredged material to the marsh creation areas using the dredge pipe specified in TS-101.
- 400.4.1 Borrow Material: The material to be dredged from the borrow areas may consist of gravel, sand, silt, clay, muck or shell. Soil boring logs for the borrow areas are provided in Appendix H. Additional materials such as logs, stumps, snags, tires, scrap and other debris which are encountered shall be removed and properly disposed of by the Contractor.
- 400.4.2 Dredging Limits: Dredging shall occur within the limits of the borrow area as shown on the Plans. An over dredge tolerance of two (2) feet is allowed. The Contractor shall immediately notify the Engineer if an infraction of borrow area limits does occur. The Contractor shall also pay all permit fines and other expenses related to dredging beyond the limits of the borrow areas.
- 400.4.3 Dredge Location Control: The Contractor is required to utilize a differential global positioning system (DGPS) to accurately and continuously track and record the position and depth of the dredge and cutter head while dredging the borrow area. The position of the dredge and cutter head shall be recorded in Louisiana South State Plane Coordinate System, NAD 1983 with an accuracy of fifteen (15) feet. The Engineer or Resident Project Representative shall be allowed to board the dredge and observe dredging operations from the bridge. The Contractor is required to calibrate the DGPS equipment as per manufacturer's specifications. The position data and calibration records shall be included in the Daily Progress Reports. The proposed type of positioning equipment shall be included in the Work Plan.
- 400.5 Marsh Creation: The Contractor shall place the material dredged from the borrow area into Marsh Creation Areas 1, 2, 3 and 4.
- 400.5.1 Placement of Dredged Material: Dredged material shall be placed into the marsh creation areas at the following construction marsh fill elevations and vertical tolerances:

Marsh Creation Area	Construction Marsh Fill Elevation (Feet. NAVD 88)	Vertical Tolerance (Inches)
1	+2.7 (maximum)	-6.0 from maximum
2	+2.7 (maximum)	-6.0 from maximum
3	+2.5 (maximum)	-6.0 from maximum
4	+2.7 (maximum)	-6.0 from maximum
Ponds A, B, C & D	+1.7 (maximum)	-6.0 from maximum

The dredge flow rate and slurry density shall be regulated to insure that the construction marsh creation elevations comply with the specified tolerances, the integrity of the earthen containment dikes is maintained and no fill material is discharged from the marsh creation areas. The Contractor shall be responsible for the restoration of any damages to adjacent wetlands or water bodies.

- 400.5.2 Dewatering: The Contractor shall dewater the marsh creation areas in order to achieve the construction marsh fill elevations within the specified tolerances. Dewatering structures such as weirs or spill boxes shall be utilized to discharge the decanted water into the adjacent marshes or nourishment areas shown on the Plans. Decanted water shall not be discharged directly into adjacent water bodies (Bayou Liberty, Bayou Bonfouca, Lake Pontchartrain, etc.). The hydraulic grade and loss of fine dredged material may be further reduced by installing internal training dikes, weirs, hay bales or silt fences. The proposed locations and shop drawings of the dewatering structures shall be provided in the Work Plan.
- 400.6 Tidal Creeks: The Contractor shall construct tidal creeks to Ponds A, B, C and D along the alignments shown on the Plans after Acceptance of Marsh Creation Areas 1 and 2. The tidal creeks shall be constructed by traversing the alignment a minimum of two (2) times using a track mounted marsh hoe or approved equal. Excavation along the alignments is prohibited. The Contractor shall account for a period of four (4) days of equipment usage to construct the tidal creeks in the Bid.
- 400.7 Acceptance: The Contractor shall submit a request for Acceptance after construction and process surveys of the marsh creation areas. Acceptance shall be determined from the process surveys and compliance with the lines, grades, elevations, and tolerances shown on the Plans. The Engineer may require the addition or removal of material dredged or placed beyond the specified tolerances.
- 400.8 Ratio of Effort: Ninety (90) percent of the Contract cost for this bid item will be paid to the Contractor after Acceptance of the marsh creation areas. The remaining ten (10) percent will be paid to the Contractor after construction and the As-Built Survey of the tidal creeks.

400.9 Measurement and Payment: Payment shall be made at the Contract unit price per cubic yard (dredged from the borrow area / payment on the Cut) for Bid Item No. 10, “Hydraulic Dredging and Marsh Creation (TS-400)”. Payment shall constitute full compensation for furnishing the labor, equipment and other incidentals related to these items of the Work. There will be no payment for dredge material quantities which exceed the specified tolerances for the construction marsh creation elevations. The quantity of material that is dredged beyond the specified limits of the borrow area shall be deducted from payment per cubic yard at the Contract unit price. The Contractor may request partial payment monthly based on the cubic yards dredged from the borrow area.

TS-850 CIAP FUNDING SIGN

850.1 Scope: The Contractor shall furnish all of the materials, labor, and equipment necessary to construct and install the CIAP funding sign (Sign) in accordance with the Plans and these Specifications.

850.2 Materials: The sign panel shall be fabricated from (5) feet high, by seven (7) feet wide, by 0.080 inch thick aluminum alloy 6061-T6 sheet in accordance with Section 1015.04 of the LA DOTD 2006 Standard Specifications for Roads and Bridges for Roads and Bridges. The sign panel shall have a blue background with white lettering and display the layout shown in the Plans. The Owner shall provide the Contractor with a digital graphic file of the sign panel layout.

The sign posts and connections shall be fabricated and installed as shown on the Plans and in accordance with Section 1015.02 of the LA DOTD 2006 Standard Specifications for Roads and Bridges. All connections shall be hot-dip galvanized.

850.3 Installation: The sign shall be installed at the location provided by the Engineer prior to construction.

850.4 Removal: The sign shall be removed after acceptance of the marsh creation areas and prior to demobilization of all equipment.

850.5 Maintenance: The Contractor shall maintain the sign in good condition until Acceptance of the Work. The Contractor shall repair or replace the sign at no pay if it becomes damaged, stolen or removed.

850.6 Measurement and Payment: Payment shall be made at the Contract lump sum price for Bid Item No. 11, “CIAP Funding Sign (TS-850)”. Payment shall constitute full compensation for furnishing the labor, equipment and other incidentals related to this item of the Work.

END OF PART III – TECHNICAL SPECIFICATIONS

APPENDIX A: REQUEST FOR INFORMATION FORM

Bonfouca Marsh Creation Project PO-104
Request for Information (RFI)

DATE:

RFI Number:

Summary of RFI by Contractor

Signature:

Response to RFI by Engineer

Signature:

APPENDIX B: CHANGE ORDER FORM

CHANGE ORDER NO. __

OWNER: State of Louisiana, Coastal Protection & Restoration Authority
CONTRACTOR _____
PROJECT: Bonfouca Marsh Creation Project (PO-104)
FILE NO: _____
SOLICITATION NO: _____
ENGINEER: Luke Prendergast, P.E.

The following changes are hereby proposed to be made to the Contract Documents:

-

Description: See attached summary.

Attachments (list documents supporting change):

-

Change in Contract Price		Change in Contract Time	
Original Contract Price		Original Contract Time (calendar days)	
Net Increase /(Decrease) from previous Change Orders		Net Increase /Decrease from previous Change Orders (days)	
Contract Price prior to this Change Order		Contract Time prior to this Change Order (calendar days)	
Net Increase/(Decrease) of this Change Order		Net Increase (Decrease) of this Change Order (days)	
Contract Price with this Change Order		Contract Time with this Change Order (calendar days)	

RECOMMENDED:

By: _____
 Engineer
 Date: _____

RECOMMENDED:

By: _____
 CPRA Construction Manager
 Date: _____

ACCEPTED:

By: _____
 Contractor
 Date: _____

BONFOUCA MARSH CREATION PROJECT (PO-104)

SUMMARY OF CHANGE ORDER NO: _____

ITEM NO.	DESCRIPTION	UNIT	ORIGINAL QUANTITY	ADJUSTED QUANTITY	UNIT PRICE	AMOUNT OVERRUN	AMOUNT UNDERRUN
Net Increase of this Change Order							

Justification:

-

No additional contract time is requested to accomplish the work for the change order.

APPENDIX C: RECOMMENDATION OF ACCEPTANCE FORM

❖ NOT FOR RECORDATION PURPOSES ❖

RECOMMENDATION OF ACCEPTANCE

TO: Coastal Protection and Restoration Authority
450 Laurel Street, Suite 1501
Baton Rouge, LA 70801

FROM: _____

Design Firm Name and Address

DATE: _____

PROJECT NAME & NUMBER: _____

SITE CODE: _____ STATE ID: _____ CFMS: _____

CONTRACTOR: _____

ORIGINAL CONTRACT AMOUNT: \$ _____

FINAL CONTRACT AMOUNT: \$ _____

DATE OF ACCEPTANCE: _____

CONTRACT DATE OF COMPLETION: _____

NUMBER OF DAYS (OVERRUN) (UNDERRUN) (As of Acceptance Date) _____

LIQUIDATED DAMAGES PER DAY STIPULATED IN CONTRACT \$ _____

VALUE OF PUNCH LIST \$ _____ (*Attach*

punch list)

Signed: _____
DESIGNER

FOR USE OF PROJECT MANAGER:

Signed: _____
PROJECT MANAGER

❖ NOT FOR RECORDATION PURPOSES ❖

APPENDIX D: LANDRIGHTS MEMORANDUM



State of Louisiana

JOHN BEL EDWARDS
GOVERNOR

MEMORANDUM

February 3, 2016

To: Executive Director / or Designee *MM 2/11/16*

Through: Clifton O. Bingham, Jr. *COB 2 Feb 2016*
General Counsel

Susan Dunham *SD 2/3/2016*
CPRA Attorney

From: Jim Altman *JA 2-3-16*
CPRA Land Manager

RE: Landrights Status & Request for Approval to Proceed with less than 100%
Heirs of Adele Cornay – Tract 8
Bayou Bonfouca Marsh Creation Project PO-0104
St. Tammany Parish, Louisiana

The purpose of this memo is to provide you with the status of acquisitions of CPRA’s Temporary Easement, Servitude and Right-of-Way Agreements for the Bayou Bonfouca Marsh Creation Project PO-0104. I have provided a table below displaying the percentage of ownership interest acquired by servitude agreements by tract, and also have attached a map that displays each corresponding tract number along with the overlaid PO-0104 project limits

Tract No.	Land Owner	Acquired Interest
8	Heirs of Adele Cornay	79.63%
9	Cecil H. McCrea, Jr.	100.00%
10	Edward Jewell & Associates	100.00%
11	Gustave Baldwin Heirs	100.00%

Tract 8 is the sole tract with less than one-hundred percent ownership interest acquired. From a practical approach, it is not probable that any additional ownership interest will be acquired due to numerous owners being out of state and just not responsive, however no one has objected to the project. Twenty-one of the 48 owners of Tract 8 have agreed to enter into a landrights agreement with CPRA. These 21 co-owners represent 79.63% ownership of Tract 8. See attached spread sheet.

All owners have been contacted and re-contacted but our contractor has not been able to get any further responses or secure any additional interest from the outstanding 27 owners. See attached email from GCR, Inc. Additionally, none of the co-owners have indicated any objection to the project.

CPRA is undertaking this Project as part of its construction and maintenance of integrated coastal protection purposes. As such, we believe that the purpose of this project is to preserve the property by creating marsh that ultimately benefits the State. Because the intent of the Project is for preservation, we do not believe that the concurrence of all co-owners is necessary to proceed. Louisiana Civil Code article 800 provides "A co-owner may without the concurrence of any other co-owner take necessary steps for the preservation of the thing that is held in indivision." A majority interest of co-owners have enter into land rights agreements with CPRA.

Note, however, that in the event this Project were to be deemed a management project, then all of the co-owners must be in agreement. See: La.C.C. art. 801. The question of whether the Project is an act of preservation or an act of management is a one of fact, and would be determined among the co-owners.

The enclosed ownership map depicts the location of Tract 8, Heirs of Adele Cornay, as well as other owners and a spread sheet showing the other tracts and interest acquired. USF&WS is the Federal Sponsor for this project and has approved moving toward construction with less than 100% ownership interest being secured in Tract 8. (See attached Concurrence Letter from USF&WS).

Recommendation:

Provided with the information contained in this memorandum and attachments pertaining to the status of landrights on PO-0104, and since this is a marsh creation project and there will not be any hard structures built on the property, we are requesting your concurrence with proceeding to construction with less than 100% ownership interest from the owners of Tract 8 pursuant to Article 800 of the Civil Code (Copy attached).

JLA

Enclosures

cc: Susan Louise Dunham, CPRA Attorney
Garvin Pittman, CPRA PO-0104 Project Manager

F:\users\LAND\Projects\PO\PO-104 Bayou Bonfouca\Agreements\Heirs of Adele Cornay\PO-0104 Exec Memo Recommendation.docx

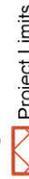
Bayou Bonfouca Marsh Creation Project (PO-104) Tax Assessor Ownership Map

GCR & Associates, Inc.
2027 Lakeshore Drive, Suite 500
New Orleans, LA 70122
UNO Research & Technology Park
Advanced Technology Center
TEL 504 304 2500
FAX 5043042525



www.gcrconsulting.com

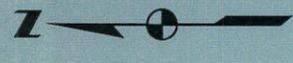
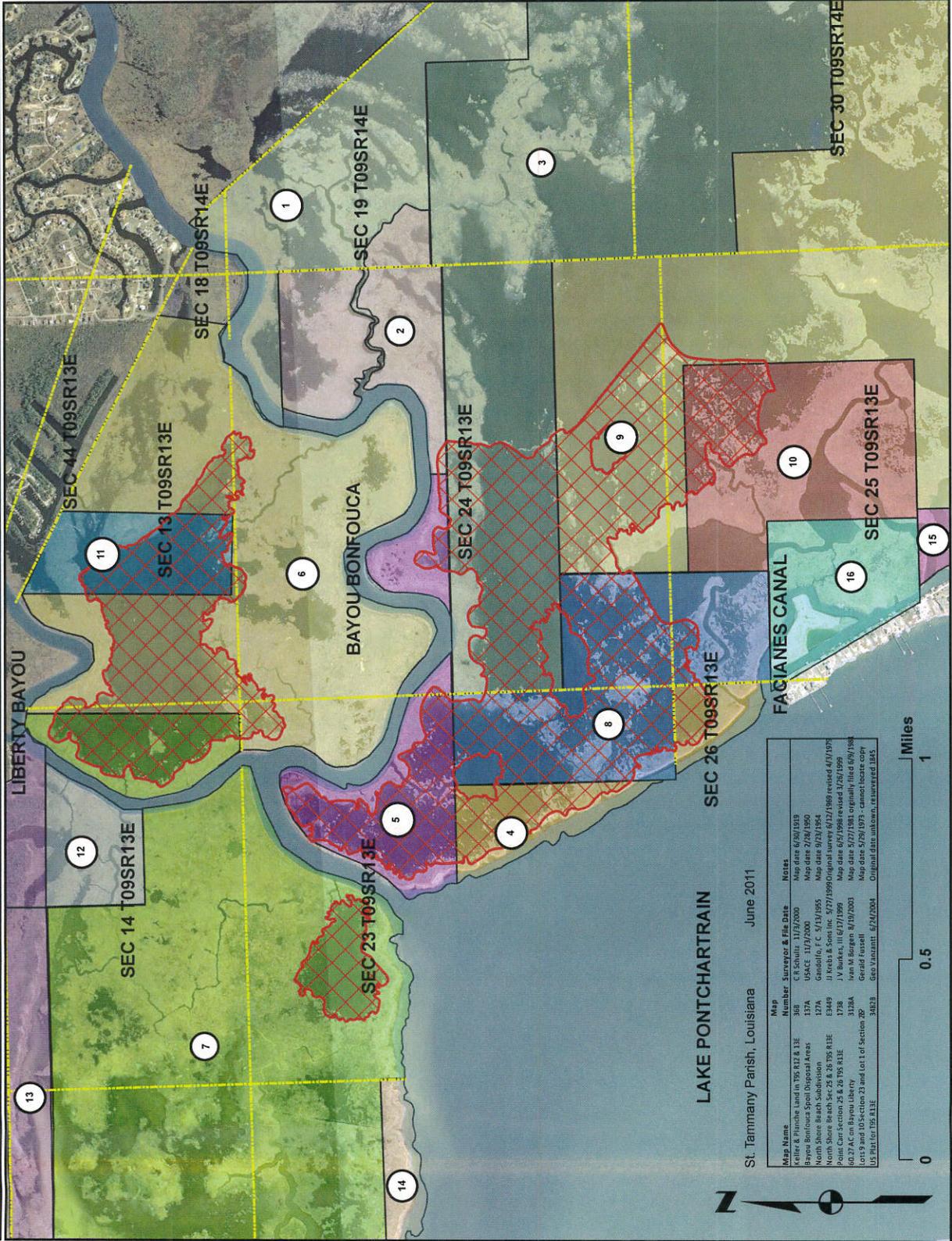
Legend



State Water Bottoms

- 1) United States of America
- 2) United States of America
- 3) United States of America
- 4) United States of America
- 5) United States of America
- 6) United States of America
- 7) United States of America
- 8) Heirs of Adele Cornay
- 9) Cecil McCrea, Jr. & Jacqueline Carr
- 10) Edward Jewell, et al
- 11) Gustave Baldwin, et al
- 12) Marguerite B. Levy
- 13) Douglas Casey, et al
- & Rowland B. Stalter Interests, Inc.
- 14) Santo Siragusa
- 15) Jason Edward Carr
- 16) Waterfront Development LLC

Disclaimer: The information depicted has been carefully prepared from the best available sources of data and is believed to be accurate. The depicted information is not a survey, it is intended for general informational purposes only. GCR & Associates, Inc. does not warrant or guarantee its accuracy, nor does GCR & Associates, Inc. assume any responsibility or liability for any reliance thereon.



St. Tammany Parish, Louisiana June 2011

James Altman

From: Katherine Caballero <kcaballero@gcrincorporated.com>
Sent: Monday, December 28, 2015 9:59 AM
To: James Altman
Cc: AJ Domangue
Subject: Bayou Bonfouca Marsh Creation Project (PO-104)

Good Morning Mr. Altman,

I apologize in the delay in your receipt to this information. Please see below:

GCR mailed out Agreements and the Affidavits of Death, Domicile and Heirship with a return requests to the heirs of Adele Cornay in May 2015. Follow-up phone calls were completed to the landowners from May to December of 2015, with additional letters mailed in June, August and October 2015 to those owners whom did not respond to calls or return the documentation. Of the 48 owners identified, 15 owners (representing a little over 9% of the ownership) told GCR that they were not going to sign or return the documentation. None of those 15 openly told GCR that they were against the project, but were uninterested in completing and returning the documentation. GCR did not receive documentation from 11 heirs, which represents a little over 11% ownership interest in the tract. The returned Agreements from the 21 owners representing over 79% were mailed to CPRA in November/December of 2015.

Please let me know if additional information is needed. I hope you had a nice holiday.

Thanks,

Katie Caballero

Katherine Caballero | Real Estate Specialist
GCR Inc. | GCRincorporated.com
2021 Lakeshore Dr., Ste. 500 | New Orleans, LA 70122
P. 504.304.0719 | P. 800.259.6192 | F. 504.304.2525

Bayou Bonfouca Marsh Creation Project (PO-104)
Project Ownership Listing

Tract/Ownership	Owner Info	Address	City/State/Zip	Section/Township/Range	Ownership in Tract	Recorded Agreement
Cecil H. McCrea, Jr.	Cecil H. McCrea, Jr.	59563 Thompson Road, Hwy 433	Slidell, LA 70460	S24 & 25, T9S, R13E & S30, T9S, R14E	100%	Yes
Edward Jewell & Associates	William Jewell, President	101 Royal Drive	Slidell, LA 70460	S25, T9S, R13E	100%	Yes
Gustave B. Baldwin III, et al	Arthemise Bouligny Baldwin	14399 Belmont Trace	Wellington, FL 33414	S13, T9S, R13E	16.60%	Yes
Gustave B. Baldwin III, et al	Fred Brencley Baldwin	1321 State Street	New Orleans, LA 70118	S13, T9S, R13E	0.40%	Yes
Gustave B. Baldwin III, et al	Garic K. Barranger	200 N. Columbia St.	Covington, LA 70433	S13, T9S, R13E	16.60%	Yes
Gustave B. Baldwin III, et al	Gustave Bouligny Baldwin, III	630 Atalin Street	Mandeville, LA 70448	S13, T9S, R13E	16.60%	Yes
Gustave B. Baldwin III, et al	Marie Baldwin Penick	P.O. Box 834	Slidell, LA 70458	S13, T9S, R13E	16.60%	Yes
Gustave B. Baldwin III, et al	Peggy Brencley Baldwin	P.O. Box 735	Mandeville, LA 70448	S13, T9S, R13E	16.60%	Yes
Gustave B. Baldwin III, et al	Robert Wheeler Penick	210 Nicklaus Drive	Slidell, LA 70458	S13, T9S, R13E	8.30%	Yes
Gustave B. Baldwin III, et al	William C. Penick, IV	707 Arlington Court	Madison, MS 39110	S13, T9S, R13E	8.30%	Yes
					100.00%	
Heirs of Adele Cornay	Alfred Earl D'Aquin	5033 Randolph Street	Marrero, LA 70072	S 23, 24 & 25, T9S, R13E	0.4700%	No
Heirs of Adele Cornay	Ann Exline Barrow	7301 RR 620 N, Suite 155-338	Austin, TX 78726	S 23, 24 & 25, T9S, R13E	6.2500%	No
Heirs of Adele Cornay	Bonnie L. Henderson	28403 Pea Gravel Road	Franklinton, LA 70438	S 23, 24 & 25, T9S, R13E	0.3500%	No
Heirs of Adele Cornay	Clifton Dennis D'Aquin	527 Farrington Drive	Marrero, LA 70072	S 23, 24 & 25, T9S, R13E	0.4700%	No
Heirs of Adele Cornay	Colleen Church	11508 Woodland Hills Trail	Austin, TX 78732	S 23, 24 & 25, T9S, R13E	6.2500%	No
Heirs of Adele Cornay	Cynthia C. Allen	122 Courtenay Ave	Pass Christian, MS 39571	S 23, 24 & 25, T9S, R13E	12.5000%	No
Heirs of Adele Cornay	Elizabeth L. Gardebled	4600 Transcontinental Dr.	Metairie, LA 70006	S 23, 24 & 25, T9S, R13E	12.5000%	No
Heirs of Adele Cornay	Gerald Joseph D'Aquin	1433 Orchid Drive	Harvey, LA 70058	S 23, 24 & 25, T9S, R13E	0.3500%	No
Heirs of Adele Cornay	Jo Hall Church	1716 N Saint Charles Ave	Pilot Point, TX 76258	S 23, 24 & 25, T9S, R13E	0.4700%	No
Heirs of Adele Cornay	Jules "Sonny" E. LeBon, III	658 Homestead Ave.	Metairie, LA 70005	S 23, 24 & 25, T9S, R13E	0.3500%	No
Heirs of Adele Cornay	Kathleen E. Church	756 Augusta Drive	Houston, Texas 77057	S 23, 24 & 25, T9S, R13E	6.2500%	No
Heirs of Adele Cornay	Leon Andrew D'Aquin	717 Chipley Street	Westwego, LA 70094	S 23, 24 & 25, T9S, R13E	0.4700%	No
Heirs of Adele Cornay	Lindy Rogers	939 Owl Drive	Lebanon, TN 37087	S 23, 24 & 25, T9S, R13E	0.2100%	No
Heirs of Adele Cornay	Margaret Exline Brown	11532 Medallion Ln.	Austin, TX 78750	S 23, 24 & 25, T9S, R13E	6.2500%	No
Heirs of Adele Cornay	Mary L. Classen	5113 Tartan Drive	Metairie, LA 70003	S 23, 24 & 25, T9S, R13E	0.3500%	No
Heirs of Adele Cornay	Melissa Jean Cornay Bickham	9262 4th Street	River Ridge, LA 70123	S 23, 24 & 25, T9S, R13E	8.5200%	No
Heirs of Adele Cornay	Robert Paul D'Aquin	40135 Silverado Lane	Franklinton, LA 70438	S 23, 24 & 25, T9S, R13E	0.4700%	No
Heirs of Adele Cornay	Stephanie Bersuder Hall	11315 Scottsdale Dr.	Meadows Place, TX 77477	S 23, 24 & 25, T9S, R13E	15.9300%	No
Heirs of Adele Cornay	Therese L. Pallaro	6604 Merle St.	Metairie, LA 70003	S 23, 24 & 25, T9S, R13E	0.3500%	No
Heirs of Adele Cornay	Thomas G. LeBon	64 Monterrey Drive	Kenner, LA 70065	S 23, 24 & 25, T9S, R13E	0.3500%	No
Heirs of Adele Cornay	Thomas Leon D'Aquin, Jr.	769 Lydia Court	Marrero, LA 70072	S 23, 24 & 25, T9S, R13E	0.4700%	No
					79.6300%	



State of Louisiana

BOBBY JINDAL
GOVERNOR

January 7, 2016

Jeffery D. Weller
U.S. Department of the Interior
Fish and Wildlife Service
646 Cajundome Blvd., Suite 400
Lafayette, LA 70506

**RE: Landrights
Letter of Concurrence
Bayou Bonfouca Marsh Creation Project PO-0104
St. Tammany Parish, Louisiana**

Dear Mr. Weller:

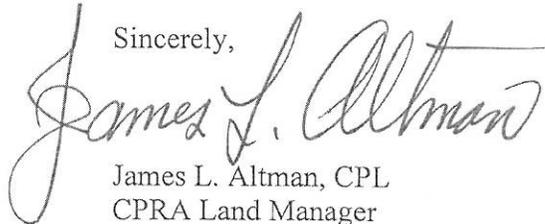
Reference is made to that certain Cost Share Agreement (the Agreement), dated March 14, 2011, by and between the U.S. Department of Interior-Fish and Wildlife Service (USF&WS) and the State of Louisiana, Coastal Protection and Restoration Authority (CPRA) for the implementation and construction of the Bayou Bonfouca Marsh Creation Project PO-0104 (the Project). Pursuant to Article II, b. 5. of the Agreement, CPRA shall acquire all land rights, servitudes, rights-of-way, easements, and material borrow and dredged material disposal areas associated with the Project. Pursuant to Article III, a. CPRA shall, prior to the advertisement of any construction contract, provide certification to USF&WS that all land rights, easements, servitudes, rights-of-way and material borrow and disposal areas required, have been acquired as part of this Agreement and shall furnish to FWS evidence supporting actual rights-of-way acquired by CPRA for Project construction, operation, and maintenance. One of the tracts in the Project area has 48 undivided owners. Twenty-one of the 48 owners of Tract 8 (Heirs of Adele Cornay) have agreed to enter into landrights agreements with CPRA. These 21 co-owners represent 79.63% ownership of Tract 8. Although all of the owners have been contacted and re-contacted CPRA's contractor has not been able to get any further responses or secure any additional interest from the outstanding 27 owners. Numerous owners live out of State and are just not responsive; however none of the owners have expressed an objection to the project. From a practical approach it will be futile to spend any more time in attempting to acquire additional agreements from these owners.

CPRA's staff is making a recommendation to the Executive Director of CPRA to proceed with the Project having agreements from less than hundred (100%) percent of the owners of Tract 8 pursuant to Article 800 of the Louisiana Civil Code as this property will preserve the property. This recommendation will be presented to the Executive Director in the next few days (see attached copy of proposed letter).

CPRA is requesting USF&WS's concurrence in proceeding with the Project with less than 100% of the owners in Tract 8. Please acknowledge your concurrence by signing both originals of this letter, returning one to the undersigned.

If you need further assistance or have any questions regarding this matter, please contact Mr. Jim Altman of the CPRA Land Section toll free at 225-342-1934. CPRA looks forward to completing the landrights process and proceeding with Project construction.

Sincerely,



James L. Altman, CPL
CPRA Land Manager

CONCUR



Jeffery D. Weller
Program Supervisor
U. S. Fish and Wildlife Service

Date: 1/12/16

JLA

Enclosure

c: (no enclosure): Robert Dubois – USF&WS Project Manager
James Wray - CRD Land Section

CC 800

Art. 800. Preservation of the thing

A co-owner may without the concurrence of any other co-owner take necessary steps for the preservation of the thing that is held in indivision.

Acts 1990, No. 990, §1, eff. Jan. 1, 1991.

Rosalee, Inc. v. All Safe Alarms, LLC

Court of Appeal of Louisiana, First Circuit

February 10, 2012, Judgment rendered

2011 CA 1069

Reporter

2012 La. App. Unpub. LEXIS 246; 2011 1069 (La.App. 1 Cir. 02/10/12);; 90 So. 3d 553

ROSALEE, INC. VERSUS ALL SAFE ALARMS, LLC

Opinion

Notice: NOT DESIGNATED FOR PUBLICATION.

PLEASE CONSULT THE LOUISIANA RULES OF APPELLATE PROCEDURE FOR CITATION OF UNPUBLISHED OPINIONS.

Prior History: [*1] On Appeal from the 23rd Judicial District Court, Parish of Ascension, Louisiana. Docket No. 98,231, Division "D". Honorable Jane Triche-Milazzo, Judge Presiding.

Disposition: REVERSED AND REMANDED.

Core Terms

alarm, no cause of action, trial court, installation, co-owner, cause of action, alarm system, preservation, peremptory exception, trespass

Counsel: Arthur A. Lemann, III, Arthur Lemann III & Assoc., Inc., New Orleans, LA, and Jonathan P. Lemann, Couhig Partners, New Orleans, LA, Attorneys for Plaintiff-Appellant, Rosalee, Inc.

Gregory S. Webb, Prairieville, LA, Attorney for Defendant-Appellee, All Safe Alarms, L.L.C.

Judges: BEFORE: CARTER, C.J., PARRO, AND HIGGINBOTHAM, JJ. Carter C.J. Concur in the results.

Opinion by: PARRO

[Pg 2] **PARRO, J.**

Plaintiff, Rosalee, Inc. (Rosalee), appeals the judgment of the trial court, which sustained the peremptory exception pleading the objection of no cause of action filed by defendant, All Safe Alarms, L.L.C. (All Safe), and dismissed Rosalee's petition, with prejudice. For the reasons that follow, we reverse the judgment of the trial court and remand the matter to the trial court for further proceedings.

FACTUAL AND PROCEDURAL BACKGROUND

Rosalee owns a fifty-percent undivided interest in a house in Donaldsonville, Louisiana. The other co-owner of the house is Peter T. Lemann.¹ In January 2010, Mr. Lemann and All Safe entered into a contract [*2] for the installation and activation of an alarm system at the house, apparently without Rosalee's knowledge or consent. In October 2010, Rosalee notified All Safe that it was a co-owner of the property and that it had not consented to the installation of the alarm. Rosalee further advised All Safe that Mr. Lemann had not shared the password or access code with Rosalee. Rosalee stated that it would hold All Safe legally responsible if it was denied access to its property as a result of the allegedly unauthorized alarm system. Despite this notice, All Safe continued to maintain the alarm on the house, allegedly preventing Rosalee from accessing its property.

Rosalee subsequently filed suit against All Safe, contending that All Safe had willfully and intentionally

¹ According to Rosalee's brief to this court, Rosalee's shareholders are the four children of Arthur Lemann, III, the brother of Peter Lemann.

maintained the alarm system on the house, thus preventing Rosalee from using its property. All Safe responded by filing a peremptory exception pleading the objection of no cause of action, along with an answer and a third party demand naming Mr. Lemann as a third party defendant. After a [*3] hearing, the trial court sustained All Safe's exception, dismissing Rosalee's suit. In sustaining the exception, the trial court specifically found that Rosalee's cause of action was against the other coowner, Mr. Lemann. The trial court did not grant Rosalee an opportunity to amend its petition. This appeal by Rosalee followed.

[Pg 3] **NO CAUSE OF ACTION**

The purpose of the peremptory exception raising the objection of no cause of action is to determine the sufficiency in law of the petition. The exception is triable on the face of the petition. For the purpose of determining the issues raised by the exception, the well-pleaded facts in the petition must be accepted as true. [Adams v. Owens-Corning Fiberglas Corp., 04-1296 \(La. App. 1st Cir. 9/23/05\), 921 So. 2d 972, 975, writ denied, 05-2501 \(La. 4/17/06\), 926 So. 2d 514;](#) see [LSA-C.C.P. arts. 927](#) and [931](#). Furthermore, the facts shown in any documents attached to the petition as an exhibit must also be accepted as true. See [LSA-C.C.P. art. 853](#); [Cardinale v. Stanga, 01-1443 \(La. App. 1st Cir. 9/27/02\), 835 So. 2d 576, 578](#). The burden of demonstrating that no cause of action has been stated is on the party filing the exception. [Home Distribution, Inc. v. Dollar Amusement, Inc., 98-1692 \(La. App. 1st Cir. 9/24/99\), 754 So. 2d 1057, 1060](#).

In [*4] ruling on an exception of no cause of action, the court must determine whether the law affords any relief to the claimant if it proves the factual allegations in the petition and attached documents at trial. [Home Distribution, 754 So.2d at 1060](#). No evidence may be introduced to support or controvert the objection that the petition fails to state a cause of action. [LSA-C.C.P. art. 931](#). When a petition is read to determine whether a cause of action has been stated, it must be interpreted, if possible, to maintain the cause of action instead of dismissing the petition. [Brister v. GEICO Ins., 01-0179 \(La. App. 1st Cir. 3/28/02\), 813 So. 2d 614, 617](#).

Any reasonable doubt concerning the sufficiency of the petition must be resolved in favor of finding that a cause of action has been stated. *Id.* When the grounds of the objection pleaded by the peremptory exception may be removed by amendment of the petition, the judgment sustaining the exception shall order such amendment within the delay allowed by the court. If the grounds of the objection raised though the exception cannot be so removed, or if the plaintiff fails to comply with the order to amend, the action, claim, demand, issue, or theory [*5] shall be dismissed. [LSA-C.C.P. art. 934](#).

[Pg 4] **DISCUSSION**

According to Rosalee's petition and the documents attached to it,² All Safe entered into a contract with Mr. Lemann for the installation of an alarm system at the house co-owned by Rosalee and Mr. Lemann, without Rosalee's knowledge or consent. The petition further alleges that, when Rosalee notified All Safe several months later that Mr. Lemann had entered into the contract without its consent and had refused to share the password and access code with Rosalee, All Safe failed and refused to remove the alarm. According to the petition, All Safe has willfully and intentionally maintained the alarm since that time, thus preventing Rosalee from accessing its property.

In its exception of no cause of action, All Safe contended that Rosalee had no cause of action against it because, pursuant to [LSA-C.C. art. 800](#), Mr. Lemann as a coowner may unilaterally and "without the concurrence of any other co-owner take necessary steps for the preservation [*6] of the thing that is held in indivision." This is in contrast to an act of management, which, pursuant to [LSA-C.C. art. 801](#), requires the agreement of all the co-owners. According to All Safe, the installation of an alarm in the house is an activity that typifies preservation, as it is a security measure designed to prevent theft and/or unlawful intrusion. However, All Safe has cited no authority for the proposition that the installation of an alarm system is an act of preservation as a matter of law. Moreover, the question of whether the installation of the alarm system in the house is an act of preservation or an act

² Attached to the petition was the letter Rosalee had sent to All Safe, notifying it that Mr. Lemann had not been authorized by its co-owner to enter into the contract for the installation of the alarm.

of management is one of fact. See *Allain v. Shell Western E & P. Inc.*, 99-0403 (La. App. 1st Cir. 5/12/00), 762 So.2d 709, 717. In addition, as no evidence can be introduced to support or controvert the exception of no cause of action, that issue is not properly before the court on the trial of the exception. See *LSA-C.C.P. art. 931*.

In sustaining the exception, the trial court did not address the issue of whether the act of installing the alarm was one of preservation or management. Instead, the [Pg 5] trial court simply determined that Rosalee's sole cause of action [*7] was against Mr. Lemann, the other co-owner. The trial court suggested that third parties that do business with one co-owner should not be subject to a suit during a dispute between the co-owners. However, neither the trial court nor All Safe cited any authority for the proposition that a cause of action against the other co-owner should be the sole cause of action, or that the existence of a cause of action against a co-owner should preclude a cause of action against a third party.

In its arguments at the hearing and in its brief to this court, Rosalee suggests that All Safe may initially have been justified in installing the alarm based on Mr. Lemann's assertions of ownership;³ however, Rosalee contends that, once All Safe was notified of its claim to the property and the fact that Mr. Lemann was using the alarm to deny it access, All Safe should have removed the alarm. According to Rosalee's brief to this court, All Safe's failure to do so made it liable for Rosalee's inability to access its property under theories of trespass and conspiracy.

The tort of trespass is defined as the unlawful physical invasion of the property or possession of another. *Britt Builders, Inc. v. Brister*, 618 So.2d 899, 903 (La. App. 1st Cir. 1993). A trespasser is one who goes upon the property of another without the other's consent. *Id.* Damages are recoverable even though the tortfeasor acts in good faith. *Id.* Rosalee alleges that All Safe went on its property to install an alarm without its permission and that the use of this alarm system has caused it to lose the use of its property. If the installation of the alarm system is found to be an act of management, then these allegations appear to satisfy the elements of a cause of action in trespass.

Since the question of whether the installation of an alarm system in the house is an act of preservation or an act of management is one of fact, that issue is not properly before the court on the trial of the objection of no cause of action. Under these circumstances, as we read the petition and the letter attached, Rosalee has stated a [Pg 6] cause of action [*9] for trespass. Therefore, we believe the trial court erred in sustaining the exception of no cause of action.

DECREE

For the foregoing reasons, we reverse the judgment of the trial court, which sustained the defendant's peremptory exception pleading the objection of no cause of action. The matter is remanded to the trial court for further proceedings. All costs of this appeal are assessed to All Safe Alarms, L.L.C.

REVERSED AND REMANDED.

³ All Safe contends that it cannot remove the alarm because it would be in breach of its contract with Mr. Lemann if it did so; however, this [*8] claim appears to be in the nature of an affirmative defense and is not appropriately considered in a hearing on an exception of no cause of action.

Document: **Allain v. Shell Western E & P, Inc., 762 So. 2d 709****A Allain v. Shell Western E & P, Inc., 762 So. 2d 709****Copy Citation**

Court of Appeal of Louisiana, First Circuit

May 12, 2000, Judgment rendered

No. 99 CA 0403

Reporter**762 So. 2d 709** | 2000 La. App. LEXIS 2002 | 146 Oil & Gas Rep. 114 | 99 0403 (La.App. 1 Cir. 05/12/00);

DORIS ALLAIN, ET AL VERSUS SHELL WESTERN E & P, INC., ET AL

Prior History: Appealed from the 18th Judicial District Court in and for the Parish of Iberville, Louisiana Trial Court No. 42,197. Honorable James J. Best ▼, Judge.**Disposition:** REVERSED AND REMANDED FOR FURTHER PROCEEDINGS.**Core Terms**

lease, pipelines, burial, co-owners, summary judgment, parties, oil, depth, bury, plow, lessor, partial summary judgment, plaintiffs', joined, indispensable party, indivision, operations, provisions, trial court, Memorandum, undivided, pipe, issue of material fact, government regulation, lease provision, preservation, genuine, lessee

Case Summary

Procedural Posture

Defendant lessee appealed the judgment of the 18th Judicial District Court in and for the Parish of Iberville, Louisiana, granting plaintiffs owners' motion for partial summary judgment in plaintiffs' action seeking enforcement of a provision set forth in their ancestor's lease contract with defendant.

Overview

Defendant entered into an oil, gas, and mineral lease with plaintiffs' ancestor. The lease contained a provision that when requested, defendant would bury its pipelines. When defendant refused to do so, plaintiffs sued. The trial court granted plaintiffs' motion for summary judgment enforcing the lease provision. On appeal, the court reversed. The primary issue presented was whether plaintiffs could unilaterally enforce a provision contained in the lease affecting indivisible property plaintiffs owned with defendants. Plaintiffs could only enforce the lease provision without defendant's consent if the pipeline burial would preserve the property rather than change the use of the property, i.e., an act of management. Because the record contained no evidence detailing the nature and extent of work necessary to bury the pipelines and the effect it would have on the use of the property, material issues of fact in dispute remained regarding whether burial would constitute an act of preservation or an act of management.

Outcome

Judgment reversed because material issues of fact in dispute remained regarding whether the pipeline burial would constitute an of preservation or an act of management, and therefore summary judgment on the issue of whether plaintiffs could enforce the lease provision was improper.

▼ LexisNexis® Headnotes

Civil Procedure > Parties ▼ > Joinder of Parties ▼ > General Overview ▼

Civil Procedure > ... > Joinder of Parties ▼ > Compulsory Joinder ▼

> Necessary Parties ▼

HN1 See La. Code Civ. Proc. Ann. art. 641. *Shepardize* - Narrow by this Headnote

Civil Procedure > ... > Joinder of Parties ▼ > Compulsory Joinder ▼

> Necessary Parties ▼

Contracts Law > Types of Contracts ▼ > Lease Agreements ▼ > General Overview ▼
 Real Property Law > Landlord & Tenant ▼ > Lease Agreements ▼ > 📄 Subleases ▼
 Real Property Law > Landlord & Tenant ▼ > Tenant's Remedies & Rights ▼
 > General Overview ▼

HN2 📌 Without privity of contract, a sub-lessee is not an indispensable party to an eviction proceeding. All persons are presumed to know the law. Whether they do in reality know it or not is immaterial as its effects are visited upon all alike. One who subleases property is held to know what the penalty will be if the lessee breaches his contract of lease by not paying his rent. The foundation giving way carries with it the superstructure. This being true, a sub-tenant is without just grounds of complaint when he is forced to give up property, the subject of his lease, through the failure of the lessee to discharge his obligations to the lessor. The sub-tenant's recourse, if aggrieved, is against his own lessor. *Shepardize* - Narrow by this Headnote

Civil Procedure > Parties ▼ > Joinder of Parties ▼ > General Overview ▼
 Civil Procedure > ... > Joinder of Parties ▼ > Compulsory Joinder ▼
 > Indispensable Parties ▼
 Civil Procedure > ... > Joinder of Parties ▼ > Compulsory Joinder ▼
 > Necessary Parties ▼
 Real Property Law > Landlord & Tenant ▼ > Lease Agreements ▼ > 📄 Subleases ▼

HN3 📌 There is no requirement for a lessor to join a sub-lessee in an eviction proceeding against the lessee where there is no privity between the lessor and sub-lessee. *Shepardize* - Narrow by this Headnote

Contracts Law > Contract Interpretation ▼ > General Overview ▼
 Contracts Law > Contract Interpretation ▼ > Intent ▼
 Contracts Law > Defenses ▼ > Ambiguities & Mistakes ▼ > General Overview ▼
 Evidence > Types of Evidence ▼ > Documentary Evidence ▼ > Parol Evidence ▼

HN4 📌 It is clear that a contract between the parties is the law between them, and the courts are obligated to give legal effect to such contracts according to the true intent of the parties. La. Civ. Code Ann. art. 2045. When the words of a contract are clear and explicit and lead to no absurd consequences, no further interpretation may be made in search of the parties' intent. La. Civ. Code Ann. art. 2046. In such cases, the meaning and intent of the parties to the written contract must be sought within the four corners of the instrument and cannot be explained or contradicted by parol evidence. La. Civ. Code Ann. art. 1848. Contracts, subject to interpretation from the instrument's four corners without the necessity of extrinsic evidence, are to be interpreted as a matter of law. The use of extrinsic evidence is proper only where a contract is ambiguous after an

examination of the four corners of the agreement. *Shepardize* - Narrow by this Headnote

Civil Procedure > ... > Discovery ▼ > Methods of Discovery ▼ > General Overview ▼

Civil Procedure > Judgments ▼ > Summary Judgment ▼ > General Overview ▼

Civil Procedure > ... > Summary Judgment ▼ > Motions for Summary Judgment ▼
> General Overview ▼

Civil Procedure > ... > Summary Judgment ▼ > Opposing Materials ▼
> General Overview ▼

Civil Procedure > ... > Summary Judgment ▼ > Entitlement as Matter of Law ▼
> General Overview ▼

Civil Procedure > ... > Summary Judgment ▼ > Entitlement as Matter of Law ▼
> Genuine Disputes ▼

Civil Procedure > ... > Summary Judgment ▼ > Entitlement as Matter of Law ▼
> Materiality of Facts ▼

Civil Procedure > ... > Summary Judgment ▼ > Supporting Materials ▼
> General Overview ▼

Civil Procedure > ... > Summary Judgment ▼ > Supporting Materials ▼
> Discovery Materials ▼

HN5 📌 A motion for summary judgment is a procedural device used to avoid a full-scale trial when there is no genuine factual dispute. Summary judgment is properly granted if the pleadings, depositions, answers to interrogatories, and admissions on file, together with affidavits, if any, show that there is no genuine issue as to material fact, and that mover is entitled to judgment as a matter of law. La. Code Civ. Proc. Ann. art. 966 B. This article was amended in 1996 to provide that summary judgment is favored and is designed to secure the just, speedy, and inexpensive determination of every action. La. Code Civ. Proc. Ann. art. 966 A(2). *Shepardize* - Narrow by this Headnote

Civil Procedure > ... > Summary Judgment ▼ > Burdens of Proof ▼
> General Overview ▼

HN6 📌 See La. Code Civ. Proc. Ann. art. 966 C(2). *Shepardize* - Narrow by this Headnote

Civil Procedure > ... > Summary Judgment ▼ > Burdens of Proof ▼
> General Overview ▼

Civil Procedure > ... > Summary Judgment ▼ > Burdens of Proof ▼
> Movant Persuasion & Proof ▼

Civil Procedure > ... > Summary Judgment ▼ > Burdens of Proof ▼

- > Nonmovant Persuasion & Proof ▼
- Civil Procedure > ... > Summary Judgment ▼ > Motions for Summary Judgment ▼
 - > General Overview ▼
- Civil Procedure > ... > Summary Judgment ▼ > Entitlement as Matter of Law ▼
 - > General Overview ▼
- Civil Procedure > ... > Summary Judgment ▼ > Entitlement as Matter of Law ▼
 - > Appropriateness ▼
- Civil Procedure > ... > Summary Judgment ▼ > Entitlement as Matter of Law ▼
 - > Genuine Disputes ▼
- Evidence > Burdens of Proof ▼ > General Overview ▼

HN7 📌 The initial burden of proof on a motion for summary judgment remains with the mover and is not shifted to the non-moving party until the mover has properly supported the motion and carried the initial burden of proof. Only then must the non-moving party submit evidence showing the existence of specific facts establishing a genuine issue of material fact. If the non-moving party fails to do so, there is no genuine issue of material fact, and summary judgment should be granted. La. Code Civ. Proc. Ann arts. 966 and 967. *Shepardize* - Narrow by this Headnote

- Civil Procedure > Appeals ▼ > Summary Judgment Review ▼ > General Overview ▼
- Civil Procedure > Appeals ▼ > Summary Judgment Review ▼ > Standards of Review ▼
- Civil Procedure > ... > Summary Judgment ▼ > Entitlement as Matter of Law ▼
 - > General Overview ▼
- Civil Procedure > Appeals ▼ > Standards of Review ▼
- Civil Procedure > Appeals ▼ > Standards of Review ▼ > De Novo Review ▼

HN8 📌 In determining whether summary judgment is appropriate, appellate courts review evidence de novo under the same criteria that govern the trial court's determination of whether summary judgment is appropriate. Because it is the applicable substantive law that determines materiality, whether a particular fact in dispute is material can be seen only in light of the substantive law applicable to the case. *Shepardize* - Narrow by this Headnote

- Contracts Law > Types of Contracts ▼ > Lease Agreements ▼ > General Overview ▼
- Real Property Law > Estates ▼ > General Overview ▼
- Real Property Law > ... > Lease Agreements ▼ > 📁 Commercial Leases ▼
 - > General Overview ▼
- Real Property Law > Encumbrances ▼ > Restrictive Covenants ▼
 - > Creation of Restrictive Covenants ▼

HN9 📌 Ownership of the same thing by two or more persons is ownership in indivision. La. Civ. Code Ann. art. 797. Two or more persons may own the same thing in indivision,

each having an undivided share. La. Civ. Code Ann. art. 480. Accordingly, the consent of all the co-owners is required for the lease, alienation, or encumbrance of the entire thing held in indivision, or the establishment of a predial servitude thereon. La. Civ. Code Ann. arts. 714 and 805. *Shepardize* - Narrow by this Headnote

Contracts Law > Types of Contracts ▼ > Lease Agreements ▼ > General Overview ▼
 Energy & Utilities Law > Mining Industry ▼ > Mineral Leases ▼ > General Overview ▼
 Energy & Utilities Law > Oil, Gas & Mineral Interests ▼ > General Overview ▼
 Real Property Law > Estates ▼ > General Overview ▼
 Real Property Law > Estates ▼ > Concurrent Ownership ▼ > General Overview ▼

HN10 While a co-owner may, without the concurrence of any other co-owner, take necessary steps for the preservation of the thing held in indivision, the use and management of the thing is determined by agreement of all the co-owners. La. Civ. Code Ann. arts. 800 and 801. Except as otherwise provided in Article 801, a co-owner is entitled to use the undivided thing according to its destination, but he cannot prevent another co-owner from making such use of it. As against third persons however, a co-owner has the right to use and enjoy the thing as if he were the sole owner. La. Civ. Code Ann. art. 802. *Shepardize* - Narrow by this Headnote

Counsel: WILLIAM C. DUPONT ▼, JOSEPH B. DUPONT, JR. ▼, PLAQUEMINE, LA, ATTORNEYS FOR PLAINTIFFS-APPELLEES DORIS ALLAIN ET AL.

JOHN M. WILSON ▼, CHERYL M. KORNICK ▼, JANA L. GRAUBERGER ▼, and MARK B. MEYERS, NEW ORLEANS, LA, ATTORNEYS FOR DEFENDANT-APPELLANT SHELL WESTERN E & P, INC.

Judges: BEFORE: CARTER ▼ and PETTIGREW ▼, JJ., and CLAIBORNE, [1](#)

Opinion by: PETTIGREW ▼

Opinion

[710] [Pg 2] PETTIGREW ▼, J.

The primary issue presented by this appeal is whether the plaintiff-owners of a minority interest in undivided leased property have standing to enforce a provision set forth in their ancestor's lease contract with defendant-lessee. Following the trial court's grant of plaintiffs' motion for partial summary judgment, defendant-lessee now appeals.

FACTS

Prior to 1970, Baist Cooperage & Lumber Company, Inc. ("Baist") owned certain undeveloped property in Iberville Parish, Louisiana. On or about September 5, 1950, Baist entered into an oil, gas and mineral lease ("the Baist lease") with Shell Oil Company ("Shell"), predecessor-in-interest to defendant, Shell Western E & P, Inc. ("Shell Western"), covering property owned by Baist, and described therein as "all of Sections Nine (9), Ten (10), Twelve (12) and Thirteen (13) in Township Ten (10) South, Range Eleven (11) East, Southwestern Land District." Said property ("the Baist property") comprised a portion of the Bayou Sorrel Field, Iberville Parish, Louisiana.

Following execution of the Baist lease, Shell, during the 1950s, commenced oil and gas operations in the Bayou Sorrel Field. Said operations included the use of surface structures, pipe and pipelines across the Baist property. The aforementioned lease between Baist and Shell contained a provision in paragraph 10 that "when requested by Lessor, Lessee shall bury its pipe lines below plow depth."

In 1970, Baist was dissolved; and its assets, including the land covered by the Baist lease, were distributed among Baist's shareholders who now own the Baist property in indivision. The Baist property has been continuously leased by Shell or its successors-in-interest since execution of the lease.

On or about March 29, 1983, Joseph B. Dupont, Sr., one of the owners of the undivided Baist property, sent correspondence to Shell's office in Houston, Texas, complaining of the condition of the property and invoking the lease provision mandating that Shell bury its pipelines below plow depth. Joseph Dupont further stated that he expected burial operations to commence within sixty (60) days. Evidently, receiving no reply, Joseph Dupont sent a follow-up letter, via certified mail, to Shell's office in New [Pg 3] Orleans, Louisiana, again complaining of the condition of the Baist property and asserting that Shell's actions had violated the provisions of its [711] lease. Joseph Dupont wrote to Shell's New Orleans' office again on April 7, 1986, and enclosed copies of his two previous letters. On June 30, 1986, Joseph Dupont wrote a similar letter to Shell Western (at the same address in New Orleans) [2] stating that "if this mess is not cleaned up immediately with no pipe visible," he would be compelled to file suit against Shell.

The instant suit was ultimately filed in Iberville parish by William C. Dupont ▼ on behalf of Doris Allain and several other similarly situated owners of the Baist property (collectively, "plaintiffs") against Shell Western and several individuals (collectively, "defendants") on October 6, 1992.

ACTION OF THE TRIAL COURT

On November 30, 1995, during the pendency of this litigation, Shell Western purportedly sold its interest in the Baist property to Panaco, Inc ("Panaco"). Shell Western further assigned to Panaco its interest in the Bayou Sorrel Field.

On August 4, 1998, plaintiffs filed a motion seeking a partial summary judgment on their first cause of action, i.e., to have defendants either bury or remove its pipes from plaintiffs' property. Defendants responded by filing an opposition memorandum and later, a

supplemental opposition memorandum, arguing that summary judgment was inappropriate. Defendants further filed peremptory exceptions raising objections of no right of action and failure to join an indispensable party. According to defendants, any acts of management affecting co-owned property must be made pursuant to the unanimous consent of all co-owners. Defendants further allege that Panaco, Inc. (believed to be the present owner of Shell Western's lease interest in the Baist property [3](#)) is an indispensable party that must be brought into this litigation.

[Pg 4] Following oral arguments by the parties, the trial court took the matter under advisement. Upon review of the parties' memoranda, exhibits submitted and applicable law, the trial court, on October 7, 1998, granted plaintiffs' motion for partial summary judgment "to enforce the provision of the lease that mandates burial of the pipes and pipelines subject to the 'Baist Lease'" between Baist and Shell. The trial court further stated that it adopted "as its own Reasons For Judgment the findings of fact and law contained in the Plaintiffs' Memorandum In Support Of Motion For Partial Summary Judgment and Plaintiffs' Supplemental Memorandum In Support Of Partial Summary." [4](#)

From this judgment, defendants now appeal.

ISSUES PRESENTED FOR REVIEW

In connection with their appeal, defendants set forth the following issues for review by this court.

1. Whether the [trial] court may grant summary judgment ordering the defendants to bury pipelines no longer owned by the defendants, without joining the present owner of the pipelines as an indispensable party to the litigation?
2. Whether a small minority of co-owners of the lessor's interest in and [sic] oil and gas lease may unilaterally make management decisions which affect the entirety of the property owned in indivision, in violation of La. Civ. Code art. 801?

[712]

3. Whether a court may grant summary judgment based on a clause in a 50-year old lease when that clause has no meaning as applied to the leased property, and when applying that clause as written would lead to absurd consequences?
4. Whether intervening governmental regulations which may make performance impossible can excuse performance of part of a contract?
5. Whether the record on appeal is adequate to support the [trial] court's judgment?

[Pg 5] DISCUSSION

Joinder of indispensable Party

In their brief to this court, defendants assert that the present owner of the lease (which Shell believes to be Panaco, Inc.) is an indispensable party to this action and should have been joined as a defendant prior to consideration of plaintiffs' motion for partial summary judgment. Defendants correctly note that La. Code Civ. P. art. 641 sets forth the standard for determining when a party must be joined for the just adjudication of an action:

HNL Art. 641. Joinder of parties needed for just adjudication

A person shall be joined as a party in the action when either:

- (1) In his absence complete relief cannot be accorded among those already parties.
- (2) He claims an interest relating to the subject matter of the action and is so situated that the adjudication of the matter in his absence may either:
 - (a) As a practical matter, impair or impede his ability to protect that interest.
 - (b) Leave any of the persons already parties subject to a substantial risk of incurring multiple or inconsistent obligations.

Defendants argue that because the trial court's judgment directly affects the pipelines now believed to be owned by Panaco, Panaco, or its successor should also be joined as an indispensable party to this litigation due to the effect a judgment will have on its pipeline and the present operations under the lease.

Plaintiffs respond by arguing that they "have never consented to any assignment or transfer of obligations of the original [lease] contract and have no contractual relations with any other . . . party regarding the property in question." In their brief to this court, plaintiffs quote at length from the contract and agreement between Shell Western and Panaco and allege that said contract "is more than a mere indemnity" agreement.

Plaintiffs point out that the agreement specifically provides that should Panaco be joined as a party to this litigation, Shell Western's attorney would continue to represent all defendants. Additionally, Shell Western would make all decisions regarding the litigated [Pg 6] claims and Shell Western, in addition to indemnifying Panaco, Inc., would have the option to conduct pipeline burial operations itself and remove unused or abandoned pipelines.

In resolving this issue, this court agrees with the reasoning utilized by the fourth circuit in its decision in *Pendleton v. Shell Oil Company*, 399 So. 2d 1276 (La. App. 4 Cir. 1981), reversed on other grounds, 408 So. 2d 1341 (La. 1982). While mindful that the instant matter is not an eviction proceeding, this court nevertheless finds the fourth circuit's analysis in *Pendleton* dispositive of the issues presented in this case. In *Pendleton*, the court noted:

Shell had the unrestricted right to sub-lease without first obtaining permission from the lessors, and alleges that it did execute a sub-lease, but the lease is not part of the record. Plaintiffs were not aware Shell had subleased the property, and **HN2** without privity of contract, a sub-lessee is not an indispensable party to an eviction proceeding. See *Miles v. [713] Kilgore*, 191 So. 556 (La.App. 2nd Cir. 1939) at pp. 559:

"All persons are presumed to know the law. Whether they do in reality know it or not is immaterial as its effects are visited upon all alike. One who subleases property is held to know what the penalty will be if the lessee breaches his contract of lease by not paying his rent. The foundation giving way carries with it the superstructure. This being true, a sub-tenant is without just grounds of complaint when he is forced to give up property, the subject of his lease, through the failure of the lessee to discharge his obligations to the lessor. The sub-tenant's recourse, if aggrieved, is against his own lessor. *Audubon Hotel Co. v. Braunnig*, 120 La. 1089, 46 So. 33, 124 Am. St. Rep. 456.

Strange as it may seem, there appears to be no precedent for our holding herein. We have searched diligently for one without success. The absence of a precedent construing laws so well known and so often resorted to, in the light of facts like or similar to those in this case, should argue forcefully in favor of the thought that there is near unanimity of opinion as regards the meaning and intendment of such laws.

We are clear in the opinion that the law governing ejectment proceedings by landlords does not contemplate nor require that sub-tenants shall be made parties thereto as a condition precedent to the right to eject them as a means of restoring full possession of the leased premises to the lessor. If this were not true, it is easy to conceive of a case, involving a large hotel or apartment house, wherein the lessor would be subjected to interminable delays and a multitude of law-suits before he could regain possession of his own property."

We hold **HN3** there is no requirement for a lessor to join a sub-lessee in an eviction proceeding against the lessee where there is no privity between the [Pg 7] lessor and sub-lessee. The trial court's dismissal of Shell's exception of non-joinder of an indispensable party was appropriate.

Pendleton, 399 So. 2d at 1280.

It is the opinion of this court that the non-privity rule in eviction proceedings can be similarly applied to the facts of the instant case. Here, Panaco acquired its rights to the Baist property during the pendency, and with full knowledge, of the instant litigation. Additionally, Panaco

specifically acknowledged through its purchase and sale agreement that said litigation "may affect operations on the property depending upon the outcome thereof, including operations pertaining to the burial of existing and future flowlines, release of non-producing acreage, pre-depletion abandonment of non-producing facilities, site restoration, environment remediation, and salt water injection."

To require plaintiffs to join all of defendants' successors-in-interest despite a lack of privity would be an onerous and potentially ceaseless burden, and one that would operate to deprive plaintiffs of a speedy resolution of the issues affecting their property. Accordingly, we find this issue to be without merit. Applicability of "plow depth" provision to lease of Baist property

A second issue raised by defendants is whether it was proper for the trial court to grant summary judgment based on a clause in a 50-year old lease that has no meaning as applied to the leased property, and when applying that clause as written would lead to absurd consequences.

Defendants assert in brief that "it is undisputed that the [Baist] property . . . is in a swamp environment subject to annual flooding." Relying upon the affidavit of Dr. Ronald H. Kilgen, a wetlands ecologist, defendants further assert that it would be **[714]** impossible to "plow" in this environment using conventional agricultural methods. Therefore, defendants claim that the lease reference to "plow depth" has no meaning in such an environment.

Defendants also rely on the affidavit of Professor Thomas A. Harrell, an expert in mineral law, to establish that

Over the course of years . . . the oil and gas industry developed standard forms of clauses . . . [and that] for the sake of consistency and ease of [Pg 8] preparation, many times standard clauses are included in a form lease, even though [said] clauses can have no application in a particular terrain or under particular geographic conditions.

Professor Harrell further declares that based upon his experience and understanding, "the provision requiring the burial of pipelines below plow depth . . . has no application in an area where agricultural use is impossible."

Plaintiffs respond with the observation that the language of the lease provision is clear and unambiguous, and further point out that the lease reference to "plow depth" is a recognized unit of measurement in the oil and gas industry. In support of this position, plaintiffs offer the affidavit of John E. Caldwell, Jr., District Manager of the Louisiana Department of Natural Resources, Office of Conservation, whose authority extends over the Baist property. Mr. Caldwell declared that the term "plow depth" is a commonly known unit of measurement equivalent to one foot below ground level.

This court agrees with Professor Harrell to the extent that lease provisions regarding crop damage have no application where the land leased is not under cultivation. However, this court also notes that the pipeline burial provision at issue in the instant lease is apparently unrestricted in its application.

HN4 It is clear that a contract between the parties is the law between them, and the courts are obligated to give legal effect to such contracts according to the true intent of the parties. La. Civ. Code art. 2045; Hampton v. Hampton, Inc., 97-1179, p. 5 (La. App. 1 Cir. 6/29/98), 713 So. 2d 1185, 1189. When the words of a contract are clear and explicit and lead to no absurd consequences, no further interpretation may be made in search of the parties' intent. La. Civ. Code art. 2046.

In such cases, the meaning and intent of the parties to the written contract must be sought within the four corners of the instrument and cannot be explained or contradicted by parol evidence. La. Civ. Code art. 1848; Hampton, 97-1779 at 6, 713 So. 2d at 1189. Contracts, subject to interpretation from the instrument's four corners without the necessity of extrinsic evidence, are to be interpreted as a matter of law. The use of extrinsic evidence is proper only where a contract is ambiguous after an examination of the four corners of the agreement. *Id.*

[Pg 9] Considering the foregoing, we cannot say that the reference in the lease to "plow depth" has no meaning as applied to the leased property. It is clear that "plow depth" as used in the contract is a unit of measurement. Additionally, we cannot say that application of said term as written would lead to absurd consequences barring evidence as to the impossibility of burying the pipelines on the Baist property at a depth greater than one foot below the surface. Furthermore, the financial costs associated with said burial is immaterial to a discussion of whether it is feasible to bury the pipelines. The parties are legally bound by the terms of their contract.

Intervening government regulations

Another issue raised by defendants is whether intervening governmental regulations which may make performance impossible can excuse performance of part of a contract.

Defendants assert that subsequent government wetlands regulations enacted after **[715]** the execution of the lease are fortuitous events that render performance under the lease impossible. Relying again on the affidavit of their expert, Dr. Kilgen, defendants claim that due to stringent regulation of wetland environments by the federal government, regulatory approval from the United States Army Corps of Engineers and other agencies would be required for burial of the pipelines in the Bayou Sorrel Field. Defendants further claim a question of fact exists as to whether defendants would be permitted to excavate the field and bury the pipelines, and that for this reason, the district court erred in granting plaintiffs' partial motion for summary judgment.

Plaintiffs respond by pointing out that defendants have failed to establish that a request has been made to a regulatory agency, or that any such request has previously been denied. Plaintiffs further point out that defendants have failed to cite any government regulation that would prohibit defendants from complying with the burial provisions contained in the lease contract.

Defendants appear to imply that burial of the pipelines will be automatically precluded merely because the federal government now regulates wetland environments. Although defendants' expert, Dr. Kilgen, has stated in his affidavit that regulatory [Pg 10] approval for burial of the pipelines would be required, and further expresses doubt as to whether such approvals could be obtained, there is no evidence in the record to show that defendants will be prohibited from complying with the burial provisions contained in the lease contract due to government regulations. This assignment of error is also without merit.

Enforcement of lease provision by co-owner / Adequacy of appellate record

This matter comes to us by means of summary judgment. We are mindful that **HN5** a motion for summary judgment is a procedural device used to avoid a full-scale trial when there is no genuine factual dispute. *Sanders v. Ashland Oil, Inc.*, 96-1751, p. 5 (La. App. 1 Cir. 6/20/97), 696 So. 2d 1031, 1034, writ denied, 97-1911 (La. 10/31/97), 703 So. 2d 29. Summary judgment is properly granted "if the pleadings, depositions, answers to interrogatories, and admissions on file, together with affidavits, if any, show that there is no genuine issue as to material fact, and that mover is entitled to judgment as a matter of law." La. Code Civ. P. art. 966 B. This article was amended in 1996 to provide that summary judgment is favored and "is designed to secure the just, speedy, and inexpensive determination of every action." **5** La. Code Civ. P. art. 966 A(2).

HN6

The burden of proof on a motion for summary judgment is set forth in La. Code Civ. P. art. 966 C(2):

The burden of proof remains with the movant. However, if the movant will not bear the burden of proof at trial on the matter that is before the court on the motion for summary judgment, the movant's burden on the motion does not require him to negate all essential elements of the adverse party's claim, action, or defense, but rather to point out to the court that there is an absence of factual support for one or more elements essential to the adverse party's claim, action, or defense. Thereafter, if the adverse party fails to produce factual support sufficient to establish that he will be able to satisfy his evidentiary burden of proof at trial, there is no genuine issue of material fact.

[Pg 11] **HN7** The initial burden of proof remains with the mover and is not shifted to the **[716]** non-moving party until the mover has properly supported the motion and carried the initial burden of proof. Only then must the non-moving party "submit evidence showing the existence of specific facts establishing a genuine issue of material fact." See *Scott v. McDaniel*, 96-1509, p. 5 (La. App. 1 Cir. 5/9/97), 694 So. 2d 1189, 1191-1192, writ denied, 97-1551 (La. 9/26/97), 701 So. 2d 991. If the non-moving party fails to do so, there is no genuine issue of material fact, and summary judgment should be granted. La. Code Civ. P. arts. 966 and 967.

HN8 In determining whether summary judgment is appropriate, appellate courts review evidence *de novo* under the same criteria that govern the trial court's determination of

whether summary judgment is appropriate. *Sanders*, 96-1751 at 7, 696 So. 2d at 1035. Because it is the applicable substantive law that determines materiality, whether a particular fact in dispute is material can be seen only in light of the substantive law applicable to this case. *Walker v. Phi Beta Sigma Fraternity (RHO Chapter)*, 96-2345, p.6 (La. App. 1 Cir. 12/29/97), 706 So. 2d 525, 528.

After a thorough review of the record and the evidence before us, it is the opinion of this court that the primary issue presented by the instant case is whether a small minority of landowners may unilaterally enforce a provision contained in an oil and gas lease affecting property owned in indivision with others. This appears to be a matter of first impression.

In their briefs to this court, both defendants and plaintiffs cite codal provisions relating to co-ownership. Defendants claim that enforcement of this provision would affect the use and management of the property held in indivision, and would require the agreement of all the co-owners pursuant to La. Civ. Code art. 801. Conversely, plaintiffs assert that they are attempting to enforce the provisions of a contract already in existence for the purpose of cleaning up their property. Plaintiffs claim that since they are attempting to preserve the integrity of their property, the concurrence of other co-owners is not required under La. **Civ. Code art. 800.**

[Pg 12] **HN9** Ownership of the same thing by two or more persons is ownership in indivision. La. Civ. Code art. 797. Two or more persons may own the same thing in indivision, each having an undivided share. La. Civ. Code art. 480. Accordingly, the consent of all the co-owners is required for the lease, alienation, or encumbrance of the entire thing held in indivision, or the establishment of a predial servitude thereon. La. Civ. Code arts. 714 and 805.

HN10 While a co-owner may, without the concurrence of any other co-owner, take necessary steps for the preservation of the thing held in indivision, the use and management of the thing is determined by agreement of all the co-owners. La. Civ. Code arts. 800 and 801. Except as otherwise provided in Article 801, a co-owner is entitled to use the undivided thing according to its destination, but he cannot prevent another co-owner from making such use of it. As against third persons however, a co-owner has the right to use and enjoy the thing as if he were the sole owner. La. Civ. Code art. 802.

It is clear that when it entered into a mineral lease with Shell in 1950, Baist, in its capacity as the exclusive owner of the property, consented to a change in the destination of the property. The standard form oil, gas and mineral lease at issue herein specifically provides that "when requested by Lessor, Lessee shall bury its pipe lines below plow depth." Clearly plaintiffs, in their capacity as successors-in-interest of Baist, have authority to enforce this provision as to their respective undivided interests. Further, based upon the above-cited codal provisions, the concurrence of co-owners is not required where the enforcement of the lease provision does not change the use for which the undivided property has been designated, but merely preserves the property. Thus, the question becomes whether the burial of [717] the pipelines constitutes an act of preservation or an act of management.

After conducting a *de novo* review of the evidence before us, we note that there is no evidence in the record detailing the nature and extent of the work necessary to bury the pipelines at issue, or the impact such work would have on the Baist property. If, for example, burial of the pipelines could be accomplished without permanent, irreparable damage to the property, the use of the property could potentially be opened up for more [Pg 13] diverse and coextensive use; i.e., leases for hunting, trapping or agriculture. Under this scenario, it could be said that burial of the pipelines would be akin to an act of preservation that could be authorized by a single co-owner pursuant to the provisions of the Civil Code. If, on the other hand, it could be shown that burial of the pipelines would result in permanent damage to, or destruction of the land, then said action, if still desired, would constitute a substantial alteration of the property and require the consent of all of the co-owners.

Because the record is devoid of evidence detailing the nature and extent of the work necessary to bury the pipelines, and the effects such an operation would have on the use of the property, we are precluded from determining whether a minority of co-owners may enforce said provision without the consent of their co-owners. We therefore find that there are still material issues of fact in dispute as to the nature and extent of the work required to bury the pipelines, whether this burial of the pipeline would open the property up for more diverse and coextensive use, or whether said burial would destroy the usefulness of the property. In other words, there are still material issues of fact in dispute as to whether burial of the pipelines can be considered an act of preservation or an act of management. Accordingly, we reverse the trial court's granting of partial summary judgment in favor of plaintiffs, and remand this matter to the trial court for a determination as to whether burial of the pipelines constitutes an act of preservation or an act of management.

CONCLUSION

For the reasons set forth above, we reverse the trial court's granting of partial summary judgment in favor of plaintiffs, and remand this matter to the trial court for a determination as to whether burial of the pipelines constitutes an act of preservation or an act of management. All costs of this appeal shall be assessed equally against plaintiffs and defendants.

REVERSED AND REMANDED FOR FURTHER PROCEEDINGS.

Footnotes

1 ¶

Judge Ian W. Clainborne, retired, is serving as judge pro tempore by special appointment of the Louisiana Supreme Court.

2 ¶

Plaintiffs allege in paragraph 5 of their petition, "That on or about January 1, 1984, all interest in said lease was transferred from Shell Oil Company to defendant Shell western E & P Inc., a wholly owned Shell Oil Company subsidiary."

3 ¶

Defendants assert in their brief to this court that, "Shell has no firsthand knowledge of whether Panaco has retained its ownership or has re-conveyed its interest to another entity."

4 ¶

Plaintiffs' Memorandum In Support Of Motion For Partial Summary Judgment and Plaintiffs' Supplemental Memorandum In Support Of Partial Summary Judgment are not found within the record on appeal.

5 ¶

Prior to the 1996 amendments of Article 966, the jurisprudence held that summary procedure should be used cautiously and sparingly, and that any reasonable doubt should be resolved against mover and in favor of a trial on the merits. See *Autin v. United Diesel, Inc.*, 95-1886, pp. 3-4 (La. App. 1 Cir. 4/30/96), 673 So. 2d 316, 318. In *Pitre v. GAF Corporation*, 97-1024, pp. 7-8 (La. App. 1 Cir. 12/29/97), 705 So. 2d 1149, 1152-1153, writ denied, 98-723 (La. 11/19/99), 749 So. 2d 666, this court noted that these statutory amendments were procedural in nature and should be applied retroactively.

Content Type: Cases

Terms: "civ. code art. 800"

Narrow By: Court: Louisiana

Date and Time: Jan 15, 2016 12:10:27 p.m. EST

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2012 La. AG LEXIS 69

Office of the Attorney General of the State of Louisiana

Reporter

2012 La. AG LEXIS 69

Opinion 12-0017

March 30, 2012

Core Terms

co-owner, isle, indivision, install, repair

Syllabus

[*1]

167-B UTILITIES- PUBLIC

La.C.C. Art. 469, 797; 800, 801, 802, 804; La. R.S. 33:1236; 33:1236(36)(c)
Atty. Gen. Op. 00-427; 01-57

Town of Grand Isle is authorized to issue utilities permits requested by a less than all of the property owners of a property owned in indivision; however, the Applicant needs to demonstrate compliance with all parish regulations.

Request By: Hon. Mayor David Camardelle

Town of Grand Isle
Post Office Box 200
Ludwig lane
Grand Isle, LA 70358

Opinion By: JAMES D. "BUDDY" CALDWELL, ATTORNEY GENERAL; Ethel Solache Graham, Assistant Attorney General

Opinion

You have requested the Attorney General's opinion regarding whether there are any legal prohibitions that would preclude the Town of Grand Isle from granting permits for the purpose of placing utilities on a property owned in indivision, without the consent of all the co-owners.

Specifically, your request states that the property is located in Grand Isle, Louisiana, and it is owned by several individuals. A couple (hereafter "Applicant"), who owns 75% of the lot, has the intention to return to the property and obtain the [*2] necessary permits to put utilities on the property and place thereon a recreational vehicle.

For reasons stated in more detail below, this office is of the opinion that the Town of Grand Isle is authorized to issue utilities permits requested by a less than all of the property owners; however, the Applicant needs to demonstrate compliance with all parish regulations.

Susan Dunham

Louisiana R.S. 33:1236 authorizes the parish governing authority to regulate a wide range of enumerated powers to provide for the health, safety, and welfare of its residents. Specifically, *La. R.S. 33:1236(36)(c)* includes the regulation and permitting requirements for the construction, alteration and repair of buildings, structures, equipment, and appurtenances. In its pertinent part, this statute reads as follows:

Permits shall be granted according to uniform rules and shall never be refused when the application setting forth the character of the building to be constructed or the nature of the repairs conforms to the requirements of the ordinances passed in pursuance of building regulations and building, electrical and other [*3] codes legally adopted under *R.S. 33:1236(36)*. (Emphasis added)

Chapter 8, Article II of the Building and Related Construction Codes of Jefferson Parish¹ regulates the issuance of building permits and new service utilities permits. Pertinent to your request is Section 8-2-101.2.1, which specifically states:

These requirements are applicable to all buildings and structures including additions, alterations, repairs, removal, demolition, use and occupancy of buildings, structures, or premises in unincorporated Jefferson Parish.

These requirements shall also regulate the installation and maintenance of all electrical, gas, mechanical and plumbing systems, which may hereinafter be referred to as "service systems".

A permit is required before any public company connects utilities in Jefferson parish. Here, Applicant intends to install [*4] new service systems on a property that is co-owned with other individuals with the purpose of providing water, electricity, and/or other basic services to a travel trailer. It does not appear that the Applicant is attempting to change the current use of the land, which may implicate zoning issues, or that such installation would not comply with the requirements of the building codes. Therefore, it is the opinion of this office that if the Town determines that the permit application meets the requirements established by the applicable building regulations, then the issuance of the utilities permit should not be refused. *See Louisiana Attorney General Opinion No. 00-427.*

Turning our attention to the co-ownership issues in this matter, *Louisiana Civil Code Article 797* provides, with respect to co-ownership, that:

Ownership of the same thing by two or more persons is ownership in indivision. In the absence of other provisions of law or juridical act, the shares of all co-owners are presumed to be equal.

Article 800 of Louisiana the Civil Code continues:

A co-owner may, without the concurrence of [*5] any other co-owner take necessary steps for the preservation of the thing that is held in indivision.

The use and management of the thing held in indivision is determined by agreement of all the co-owners. *La. C.C. Art. 801.*

Most importantly, *Louisiana Civil Code article 802* states:

Except as otherwise provided in Article 801, a co-owner is entitled to use the undivided thing according to its destination, but he cannot prevent another co-owner from making such use of it. As against third persons however, a co-owner has the right to use and enjoy the thing as if he were the sole owner.

¹ These provisions replace Ordinance No. 20434, known as "The Building Code of Jefferson Parish, Louisiana", adopted on August 19, 1998.

This provision has been interpreted, for example, as the right of a co-owner to take the necessary steps for the preservation of the property, including the institution of suits against trespassers or usurpers.²

[*6]

Further, a single co-owner may, under *La. C.C. Art. 800*, perform the necessary acts to maintain the property, as long as they encompass only the preservation of the thing. Acting beyond its preservation would be considered a substantial alteration or improvement, triggering the required consent from all the co-owners, as it is stipulated in *Article 804 of Louisiana the Civil Code*.

Substantial alterations or substantial improvements to the thing held in indivision may be undertaken only with the consent of all the co-owners.

Alterations or improvements apply to buildings, other constructions, permanently attached to the ground, standing timber, unharvested crops or ungathered fruits or trees, and things that become component parts of an immovable under Articles 465 and 466.³ Whether the proposed service systems for the travel trailer constitute an improvement subject to *La. C.C. Art. 800* is beyond the scope of this opinion.

[*7]

Here, the Applicant applied to the Town for a permit to provide the immovable with basic utilities in order to place a recreational vehicle on the property. A proper determination regarding the classification of the work to be performed under the permit as preservation, use, management or substantial alteration or improvement is a factual matter upon which this office is not authorized to opine. See Attorney General Opinion No. 01-57. Notwithstanding such classification, it is the opinion of this office that *La. R.S. 33:1236(36)(c)* requires the parish governing authority to issue any permit meeting the requirements set forth in the ordinances and building regulations.

Furthermore, the Building and Related Construction Codes of Jefferson Parish, Section 8-2-103.1.1, reads as follows:

Any owner, authorized agent, or contractor who desires to construct, enlarge, alter, repair, move, demolish, or change the occupancy (of) a building or structure, shall first make application for a building permit to the Code Official. All required permit(s) shall be obtained before the commencement of such work. Any owner, authorized agent, or contractor [*8] who wishes to erect, install, enlarge, alter, repair, remove, convert or replace any electrical, gas, mechanical or plumbing system, the installation of which is regulated by the technical codes, shall be properly licensed and first make the necessary application for inspection (filing) with the appropriate section of the Department before commencement of any work. Any party who shall perform such work, or who causes any such work to be done prior to obtaining the required permit or prior to making the necessary filing shall be held in violation of this Chapter and subject to the penalties stated herein.

This Section does not specifically call for the concurrence of all the co-owners in the application for a building permit. Therefore, it is this office's opinion that if the Applicant can demonstrate that he complied with the parish regulations and that the new installation of service systems would not constitute a substantial alteration or improvement on the property, the Town is not prohibited from issuing the requested permits.

We trust this answers your inquiry. Please advise if we may be of further assistance to you in this matter.

² See *Allain v. Shell Western E & P, Inc.*, 762 So.2d 709 (La. App., 1 Cir. 5/12/00); *LeBlanc v. Scurto*, 173 So. 2d 322 (La. Ct. App. 1965) writ refused 175 So. 2d 302 (1965). Also see Attorney General Opinion No. 01-57.

³ See *La. Civ. Code Art. 496* (2012).

Attachment

SYLLABUS

OPINION 12-0017

167-B [*9] UTILITIES- PUBLIC

La.C.C. Art. 469, 797; 800, 801, 802, 804; La. R.S. 33:1236; 33:1236(36)(c)

Atty. Gen. Op. 00-427; 01-57

Town of Grand Isle is authorized to issue utilities permits requested by a less than all of the property owners of a property owned in indivision; however, the Applicant needs to demonstrate compliance with all parish regulations.

DATE REQUESTED: 01/23/11

DATE RELEASED: March 30, 2012

REQUESTED BY: Hon. Mayor David Camardelle

Town of Grand Isle

Post Office Box 200

Ludwig lane

Grand Isle, LA 70358

AUTHOR: Ethel Solache Graham

Assistant Attorney General

Load Date: 2014-07-04

Document: Whitlock v. Fifth La. Dist. Levee Bd., 164 So. 3d 310

Whitlock v. Fifth La. Dist. Levee Bd., 164 So. 3d 310**Copy Citation**

Court of Appeal of Louisiana, Second Circuit

April 15, 2015, Judgment rendered

No. 49,667-CA

Reporter**164 So. 3d 310** | 2015 La. App. LEXIS 748 | 49,667 (La.App. 2 Cir. 04/15/15);

DON E. WHITLOCK, Plaintiff-Appellant Versus FIFTH LOUISIANA DISTRICT LEVEE BOARD & JAMIE ISAAC, Defendants-Appellees

Prior History: Appealed from the Sixth Judicial District Court for the Parish of East Carroll, Louisiana. Trial Court No. 21,782. Honorable Michael E. Lancaster, Judge.**Disposition:** REVERSED AND REMANDED. PRELIMINARY INJUNCTION GRANTED.**Core Terms**

trespass, right-of-way, trial court, co-owners, no cause of action, preliminary injunction, servitude, parties, lessees, sustaining, nonjoinder, damages, indivision, injunction, landowner, argues, cause of action, join, irreparable injury, heir, request for a preliminary injunction, peremptory exception, asserts, issues, merits, permanent injunction, right of passage, permission, enjoined, lease

Counsel: LOUIS G. SCOTT ▼, Counsel for Appellant.

JAMES E. PAXTON, APLC ▼, John D. Crigler, Jr., Counsel for Appellee, Fifth LA Dist. Levee Bd.

JAMIE ISAAC, Pro se.

Judges: Before STEWART, CARAWAY ▼ & PITMAN ▼, JJ.

Opinion by: PITMAN ▼

Opinion

[313] [Pg 1] PITMAN, J.

Plaintiff Don E. Whitlock filed a petition seeking a preliminary and permanent injunction and damages against Defendant, Fifth Louisiana District Levee Board ("Levee Board"), and its lessee, Jamie Isaac, to prevent the lessee from traveling across Plaintiff's property to reach a hunting lease owned by the Levee Board and located west of Plaintiff's property. The Levee Board filed exceptions of no cause of action, nonjoinder of parties and lack of procedural capacity to sue. The trial court denied the request for a preliminary injunction and then sustained the exception of no cause of action and other exceptions and dismissed the suit. For the following reasons, we reverse the judgment of the trial court and remand for further proceedings.

FACTS

Plaintiff is the owner of certain property in East Carroll Parish, some of which he owns individually (Lot 3 of the subject property and an additional large tract of adjacent property), and some of which he owns in indivision (Lots 1 and 2 of the subject property, referred to as the "heir property"). Plaintiff's ancestor, L. Whitlock, purchased Lots 1, 2 and 3 by deed in 1937, which contains the following language making the lots subject to the following:

A right-of-way twenty feet wide over and across the lands hereinabove described and hereby conveyed for the right of passage and of way across said lands to serve as a road for the use of the public and which right-of-way shall hereafter be located by said vendee.

Thereafter, a public right-of-way was provided, which eventually became known as Parish Gravel Road No. 1205 or 1285, and later known as Whitlock Road. This gravel road runs along the eastern side of the property [Pg 2] and is located entirely within Lot 1, running from north to south. The road does not enter Lots 2 or 3, which are located west of Lot 1. To do so, the road would have to run east to west. Plaintiff is now the sole owner of Lot 3, and is an owner in indivision of Lots 1 and 2.

The Levee Board owns property (known as Swan Lake) to the west of Plaintiff's property and it is burdened by the hunting lease to Mr. Isaac. Swan Lake is located directly behind Lot 3 and other adjacent land owned by Plaintiff. Mr. Isaac began crossing Plaintiff's property, both the heir property and that owned solely by him, to reach the Levee Board's property. Mr. Isaac's traversal of the property allegedly resulted in ruts being gouged in the soil, damaged

crop land and a change in the natural flow of water across the property. Plaintiff attempted to address these issues with the Levee Board to no avail.

On January 3, 2012, Plaintiff filed a suit for an injunction and for damages against the Levee Board and its lessee, Mr. Isaac, alleging that he was the landowner and that the Levee Board owned the adjacent property. He alleged that Mr. Isaac, and others with Mr. Isaac's permission, began trespassing on his property by driving vehicles across his land without his permission and against his express instructions not to do so. Plaintiff complained that the route taken by Mr. Isaac was not the shortest route to the leased property, nor was it a route that would cause the least disruption to his property. Plaintiff's petition alleged that, "If a right of passage or [314] servitude is due it should be due across the land of an adjoining landowner since such a route would be much shorter and less costly." Plaintiff alleged that, as a [Pg 3] result of this trespass, he was losing approximately 2.2 acres of land use and that Mr. Isaac's trespass was causing damage to the natural flow of water. He also alleged that, although the Levee Board had been leasing out the Swan Lake property for ten years, other lessees had not asked for or claimed a right-of-way. Further, he alleged that no person during his lifetime had used a right-of-way in the location where Mr. Isaac now trespasses. He claimed he was being caused economic injury and damage and asked that the Levee Board and its lessees be enjoined from coming upon, traveling across, using or damaging his property. A hearing on the request for a preliminary injunction was set for February 2, 2012.

On February 1, 2012, the Levee Board filed an answer to Plaintiff's petition, raising exceptions of no cause of action, nonjoinder of a party and lack of procedural capacity. As an affirmative defense, it asserted that Plaintiff was only a minimal owner of the heir property, to which he succeeded while it was already burdened with the servitude or public right-of-way. The Levee Board claimed that Plaintiff is thereby estopped from asserting that no such right-of-way exists. It also asserted that any ingress and egress upon the right-of-way was not a trespass since it is a public servitude, the location of which was agreed upon by the parties.

The Levee Board claimed that Plaintiff's petition failed to state a cause of action because the right-of-way, originally established in 1937, is a public servitude for right of passage which is still in effect and that Plaintiff cannot state a cause of action to prohibit the use by the Levee Board or its lessees. It further claimed that Plaintiff failed to join his co-owners in the suit; therefore, [Pg 4] the petition is subject to the exception of nonjoinder of parties. It also claimed that Plaintiff lacked procedural capacity to sue in a representative capacity for the other landowners because he was not authorized by them to do so and because his authority to seek a remedy that would affect all of the other co-owners of the property had not been established.

At the February 2, 2012 hearing on the preliminary injunction, in a strange turn of events, the trial court admitted both oral and documentary evidence and considered the merits of the request for preliminary injunction prior to ruling on the exceptions filed by the Levee Board.¹ After the evidence was presented, including documents conveying land to Plaintiff's ancestors in title and a map of the subject property, the trial court rendered judgment in open court finding that Plaintiff had not met the required burden of proof of irreparable injury and, therefore, denied the request for preliminary injunction.

[315] Despite having addressed the merits of the request for preliminary injunction, the trial court then considered the peremptory exception of no cause of action. In deciding to sustain the exception, the trial court considered the language of the ancestor's deed that attempted to establish the right-of-way and then stated:

[Pg 5] It appears to me that there was an intent to establish a twenty foot right-of-way across Lots one, two and three in favor of the public. Where that is, I don't know. So, going to the Exception of No Cause of action. . . there has to be a showing that there was in fact a trespass, and to me, that has not been shown today because there's a possibility that there is in fact a public servitude across the property in question. Which servitude, I believe is imprescriptible.

The trial court also sustained the exceptions of nonjoinder of parties and lack of procedural capacity. It indicated that the parties would be back in court for a hearing on the request for a permanent injunction and suggested that they work toward an amicable resolution. Counsel for the Levee Board expressed confusion as to the trial court's ruling and asked, "If you granted all of those exceptions, wouldn't his suit be dismissed?" The trial judge answered:

You're probably right, Ms. Killen. At least on the Exception of No Cause of action it would be. If the Non Joinder under 641 and 642 is in fact a peremptory, then that would mean a dismissal also. So, I guess what you can say is that my reasoning on the Preliminary Injunction was dicta.

Plaintiff's attorney requested that the trial court declare its ruling on the preliminary injunction as final and appealable so that he could "seek whatever other remedy that may be available."**2** The trial court clarified that it was sustaining the exception of no cause of action and the others, noting that the suit would be dismissed. A written judgment was signed on March 5, 2012, denying the preliminary injunction for failure to meet the necessary standard of proof and sustaining the exceptions of no cause of action, nonjoinder of [Pg 6] parties and lack of procedural capacity.**3**

Plaintiff appeals the ruling of the trial court.**4**

DISCUSSION

Exception of No Cause of Action

Plaintiff argues that the trial court erred in sustaining the peremptory exception of no cause of action, contending that, as the sole landowner of most of the property at issue in this lawsuit and as an owner in indivision of the 82-acre portion of Lots 1 and 2, he has stated a cause of action to prevent the trespass over his **[316]** property. His petition states that he farms all of the property at issue and sets forth the damage done to him as a result of this trespass. He argues that, clearly, as the landowner who contends that people are trespassing on his property, he has stated a cause of action to prevent them from continuing their actions which harm him.

The Levee Board argues that the trial court did not err in sustaining the exception of no cause of action because it "proved" that it possessed a servitude granting it a right of ingress and egress and Plaintiff offered no evidence at the hearing to the contrary. It claims that, even if the well-pleaded facts of the petition are taken as true, on the face of the petition, [Pg 7] Plaintiff is still not entitled to the relief sought.

La. C.C.P. art. 931 concerns evidence on the trial of a peremptory exception and states that no evidence may be introduced at any time to support or controvert the objection that the petition fails to state a cause of action. The function of the peremptory exception of no cause of action is to question whether the law extends a remedy against the defendant to anyone under the factual allegations of the petition. *Cleco Corp. v. Johnson*, 01-0175 (La. 9/18/01), 795 So. 2d 302.

The peremptory exception of no cause of action is designed to test the legal sufficiency of the petition by determining whether the particular plaintiff is afforded a remedy in law based on the facts alleged in the pleading. *Fink v. Bryant*, 01-0987 (La. 11/29/01), 801 So. 2d 346. The exception is triable on the face of the petition; and, for the purpose of determining the issues raised by the exception, the well-pleaded facts in the petition must be accepted as true. *Cleco Corp., supra*; *Fink, supra*. In reviewing a trial court's ruling sustaining an exception of no cause of action, the appellate court should conduct a *de novo* review because the exception raises a question of law and the trial court's decision is based only on the sufficiency of the petition. *Id.* Simply stated, a petition should not be dismissed for failure to state a cause of action unless it appears beyond doubt that the plaintiff can prove no set of facts in support of any claim which would entitle him to relief. *Id.* Every reasonable interpretation must be accorded the language of the petition in favor of maintaining its sufficiency and affording the plaintiff the opportunity of presenting evidence at trial. *Indus. Cos., Inc. v. Durbin*, 02-0665 (La. 1/28/03), 837 So. 2d 1207 [Pg 8].

Trespass is defined as an unlawful physical invasion of the property or possession of another person. *Davis v. Culpepper*, 34,736 (La. App. 2d Cir. 7/11/01), 794 So. 2d 68, *writ denied*, 01-2573 (La. 12/14/01), 804 So. 2d 646. A trespasser is one who goes upon another's property without his consent. *Id.* A person damaged by trespass is entitled to full indemnification. *Id.*; *Powell v. Dorris*, 35,510 (La. App. 2d Cir. 4/5/02), 814 So. 2d 763.

In the case at bar, Plaintiff is the owner of certain property. The Levee Board owns the property located west of his property and leases it to Mr. Isaac. Mr. Isaac and others under his direction or with his permission drove vehicles across Plaintiff's land without his permission and against his express instructions not to do so. Plaintiff does not "admit" that any servitude exists in favor of the Levee Board. Instead, he states that, "If a right of passage. . . is due" it should be across the land of an adjoining landowner. **5** He **[317]** does not request that the servitude be located or designated at any point on his property. He states that the continued trespass has caused him damage and economic harm; and, for those reasons, he sought an injunction prohibiting the trespass.

The *de novo* review of the allegations of Plaintiff's petition shows that Plaintiff has stated a cause of action upon which some relief may be granted in that he has requested that the

Levee Board and its lessees be enjoined from trespassing on his property and for damages caused to his crops and land as a [Pg 9] result of the trespass. The trial court erred in sustaining the exception of no cause of action when it considered the Levee Board's affirmative defense that Plaintiff's ancestors in title had agreed to a 20-foot right-of-way somewhere across the property. Only the well-pleaded facts of the petition were at issue on the exception of no cause of action.

For these reasons, we find that Plaintiff's assignment of error with regard to the exception of no cause of action has merit.

Nonjoinder of Parties

Plaintiff argues that the sustaining of the exception of nonjoinder of parties was an error because he is an owner of 365 acres at issue in this case and an owner of a portion of Lots 1 and 2, through which the Levee Board and its lessees are trespassing. He asserts that it was not necessary to join all the heirs in this claim to prevent trespassing, even on the co-owned property, because he has his own right to prevent the damage being done to his land and crops, although he owns some of the property in indivision with others.

The Levee Board argues that the trial court correctly sustained its peremptory exception of nonjoinder of a party because Plaintiff failed to join other co-owners who have an interest in the issue of this litigation. In support of this argument, it cites La. C.C.P. art. 641 and claims other co-owners of Lots 1 and 2 are indispensable parties without whom complete relief cannot be accorded and that the presence of these other landowners in the suit is absolutely necessary to protect substantial rights.

The Levee Board claims that none of Plaintiff's co-owners have joined in the filing even though Plaintiff "is attempting to address the location of a [Pg 10] right-of-way servitude and to recover damages without joining the other co-owners in indivision." It argues that an adjudication of this action without all co-owners would impair or impede their ability to protect their interest in their property.

La. C.C.P. art. 641 concerns joinder of parties needed for just adjudication and states that a person shall be joined as a party in an action when, either in his absence complete relief cannot be accorded among those already parties, or when he claims an interest relating to the subject matter of the action and is so situated that the adjudication of the action in his absence will impair or impede his ability to protect that interest or leave persons already parties subject to substantial risk of incurring multiple or inconsistent obligations.

La. **C.C. art. 800** states that a co-owner may, without the concurrence of any other co-owner, take necessary steps for the preservation of the thing that is held in indivision. La. C.C. art. 802 states that, **[318]** except as otherwise provided in Article 801, a co-owner is entitled to use the thing held in indivision according to its destination, but he cannot prevent another co-owner from making such use of it. As against third persons, a co-owner has the

right to use and enjoy the thing as if he were the sole owner. The comment to La. C.C. art. 802 states:

Articles 800, 801, and 802 (supra) work modifications on the terms of Civil Code Article 477 (Rev.1979) in the light of the interests of all the co-owners. Thus a co-owner has neither a right to exclusive use nor a right to dispose of the thing without the consent of his co-owners. However, as against third persons, a co-owner has the right to use and enjoy the thing as if he were [Pg 11] its sole owner. For example, a co-owner may alone take all the necessary steps for the preservation of the property, including the institution of suits against trespassers or usurpers.

(Emphasis added.)

The comment to La. C.C. art. 802 specifically addresses the issue presented in this case regarding whether the trial court erred in sustaining the exception of nonjoinder of parties when Plaintiff failed to have all co-owners of the heir property join him in his suit to prevent the Levee Board and its lessees from trespassing on his property.

It should be noted that Plaintiff has not requested that the alleged servitude or right-of-way be designated or located on his property in this suit. He has prayed only that the Levee Board and its lessees be enjoined from trespassing on his property and that he be recompensed for damages he sustained as a result of the trespass. As a landowner, even as to the land owned in indivision, Plaintiff has the right to protect his property rights, without regard to what the other co-owners want to do with their interests. He need not join other co-owners in his suit to enforce his own rights as landowner.

For these reasons, we find that Plaintiff's assignment of error in regard to the exception of nonjoinder of parties has merit.

Lack of Procedural Capacity

Plaintiff argues that the trial court erred in sustaining the exception of lack of procedural capacity because that exception requires him to only be a competent major in order to file suit. He asserts that he does not profess to represent anyone except himself; therefore, he does not need the permission [Pg 12] or authorization of any other co-owner before he can file suit to prevent the trespass on any of the subject property.

The Levee Board argues that the trial court was correct in sustaining the dilatory exception of lack of procedural capacity because Plaintiff, in a representative capacity, sought remedies for others when he is not authorized to do so. It asserts that, once it challenged Plaintiff's procedural capacity or authority to sue on behalf of others, Plaintiff bears the burden of proof of his authority or qualification. Without such a showing, it claims that any adjudication of the matter would be null and void.

La. C.C.P. art. 926 defines the declinatory exceptions and includes the exception of lack of procedural capacity. La. C.C.P. art. 682 states that a competent major and a competent emancipated minor have the procedural capacity to sue. Lack of procedural capacity is a dilatory exception which tests a party's legal capacity to bring an action or to have one brought against it. *Dejoie v. Medley*, 41,333 (La. App. 2d Cir. 12/20/06), 945 So. 2d 968.

Plaintiff is a competent major, capable of suing on his own behalf to prevent the [319] trespass of property he owns. He does not claim to have brought the suit on behalf of his co-owners and has every right to assert this action alone. We find that the trial court erred in sustaining the dilatory exception of lack of procedural capacity; and, therefore, the assignment of error concerning Plaintiff's procedural capacity has merit.

Denial of the Preliminary Injunction

Despite the trial court's oral opinion at the hearing that, once it sustained the peremptory exceptions of no cause of action and nonjoinder of [Pg 13] parties the ruling denying the preliminary injunction was dictum, the written judgment presented to this court for review specifically states that the preliminary injunction was denied because Plaintiff failed to meet his burden to show irreparable injury and the suit was dismissed. The denial of a preliminary injunction is an appealable judgment. See La. C.C.P. art. 3612. For that reason, it is incumbent upon this court to review all issues presented in the written judgment and from which the appeal has been taken.

Plaintiff raises errors relating to the trial court's judgment on the basis that it grants the Levee Board relief for which it never prayed. Specifically, Plaintiff asserts that the result of the judgment is that the Levee Board has proven a right to cross his property, that he has no remedy to prevent the trespassing and that a right-of-way existed other than the one drawn on the map referred to as Whitlock Road.

In regard to Plaintiff's assertion that the trial court's ruling resulted in certain findings of fact in the denial of the preliminary injunction, the Levee Board argues that Plaintiff's argument is irrelevant "as the District Court never got to the merits of this suit." It claims the exceptions were ruled on and the suit was dismissed before the merits of the suit needed to be addressed. Nevertheless, the Levee Board contends that "the record clearly shows that the public has a right-of-way servitude on and through plaintiff's land and that right-of-way. . . has been evidenced in three separate conveyances, including the conveyance where plaintiff received his interest in the property."

In *Richland Parish Police Jury v. Debnam*, 47,159 (La. App. 2d Cir. [Pg 14] 4/18/12), 92 So. 3d 487, the Richland Parish Police Jury, as owner of a dominant estate, sued the owner of a servient estate who had created a dam on his property and impeded the natural flow of water from the police jury's dominant estate over his servient estate. The police jury sued to enjoin the defendant from impeding the flow of water, to remove the dam and for money damages. The defendant claimed the police jury was not entitled to an injunction because it had prayed for a money judgment and could not show irreparable injury.

This court stated that La. C.C.P. art. 3601, the usual statutory grounds for the issuance of an injunction, provides in pertinent part that an injunction shall issue in cases where irreparable injury, loss or damage may otherwise result to the applicant, or in other cases specifically provided by law. An injunction to protect a servitude, however, is authorized under La. C.C.P. art. 3663. Specifically, section 2 of that article allows a person injunctive relief to protect or restore possession of immovable property or of a real right in immovable property of which he claims ownership, possession or enjoyment. A preliminary injunction brought pursuant to La. C.C.P. art. 3663 does not require a showing of irreparable harm. *Richland Parish Police Jury, supra, citing Monroe Real Estate & Dev. Co. v. Sunshine Equip. Co.*, 35,555 (La. App. 2d Cir. 1/23/02), 805 So. 2d 1200.

[320] In *Willis-Knighton Health Sys. v. Northwest La. Council of Gov'ts*, 48,141 (La. App. 2d Cir. 4/10/13), 116 So. 3d 55, *writ denied*, 13-1325 (La. 11/15/13), 125 So. 3d 1103, this court stated that, when the act sought to be enjoined is unlawful or a deprivation of constitutional rights is [Pg 15] involved, a showing of irreparable injury is not necessary. The trial court has great discretion in granting or denying a preliminary injunction. *Id.*

In *Walker Lands, Inc. v. East Carroll Parish Police Jury*, 38,376 (La. App. 2d Cir. 4/14/04), 871 So. 2d 1258, *writ denied*, 04-1421 (La. 6/3/05), 903 So. 2d 442, this court stated that it is well settled that a court of appeal should not set aside a trial court's finding of fact in the absence of manifest error or unless it is clearly wrong. *Id.*, *citing Stobart v. State*, 617 So. 2d 880 (La. 1993). The reviewing court must do more than just simply review the record for some evidence which supports or controverts the trial court's findings; it must, instead, review the record in its entirety to determine whether the trial court's finding was clearly wrong or manifestly erroneous. *Id.* The issue to be resolved by a reviewing court is not whether the trier of fact was right or wrong, but whether the fact finder's conclusion was a reasonable one. *Id.*, *citing Cosse v. Allen-Bradley Co.*, 601 So. 2d 1349 (La. 1992). If the trial court's findings are reasonable in light of the record reviewed in its entirety, the court of appeal may not reverse, even if convinced that, had it been sitting as the trier of fact, it would have weighed the evidence differently. *Id.*, *citing Housley v. Cerise*, 579 So. 2d 973 (La. 1991).

After a thorough review of the record in this case, we find that the trial court misunderstood the relief Plaintiff was seeking, which was simply a ruling that the Levee Board and its lessees were trespassing on his property, that an injunction issue prohibiting such action and that, if damages were proven, compensation be awarded for those damages. Plaintiff did not admit [Pg 16] that the right-of-way existed. In fact, his entire claim is based on the assertion that the Levee Board and its lessees have no right to traverse his land.

The Levee Board has only asserted an affirmative defense that some type of right-of-way had been acquired by virtue of the 1937 deed. The right-of-way across Lots 1, 2 and 3 was not shown to have been established between 1937 and 1947. Contrary to the Levee Board's assertion that it "proved" the right-of-way existed, we point out that, not only did the Levee Board never prove that, it never prayed for any relief recognizing that the right-of-way has always existed, and is in existence today and is located at a certain spot.  That is a burden

of proof that the Levee Board must meet in defense of its claim that it is not trespassing on Plaintiff's property.

The only finding of fact the trial court made at the hearing on the preliminary injunction was that, from the documents introduced that day, there was a "possibility that there is in fact a public servitude across the property in question" and that it was the trial court's opinion that the servitude was imprescriptible. As the Levee Board pointed out, the trial court did not reach the merits of this suit for trespassing and did not render any judgment [321] addressing the issues raised. We agree that there are many issues left to be resolved, including, among others, the alleged right-of-way, the Levee Board's proof that its entitlement to the right-of-way still exists so that it and its lessees are not trespassing on Plaintiff's land, and why [Pg 17] Whitlock Road is not to be considered the road established pursuant to the 1937 deed. Despite the number of issues left to be resolved, the case was totally dismissed by virtue of the denial of the preliminary injunction and the sustaining of the peremptory exceptions.

The trial court denied Plaintiff's request for a preliminary injunction based on an incorrect standard of proof. Plaintiff did not need to prove irreparable injury under La. C.C.P. art 3663 because this is a suit to protect or restore possession of immovable property or of a real right in immovable property of which he claims ownership, possession or enjoyment.

Therefore, we find that the assignments of error concerning the judgment in the Levee Board's favor and the dismissal of Plaintiff's suit have merit.

Based on the foregoing, we find that the trial court abused its discretion in denying the preliminary injunction and in dismissing Plaintiff's suit, even though the court acknowledged that there should be another hearing on the request for a permanent injunction. Since the suit was dismissed, Plaintiff could not pursue the request for the permanent injunction. Plaintiff provided enough evidence to show he was entitled to a preliminary injunction and was not required to show irreparable injury. Further, Plaintiff has clearly stated a cause of action to prevent the alleged trespass; he has the right as the sole owner of most of the property and as an owner in indivision of the heir property to prevent the trespass, and he has not claimed to be asserting this action on behalf of anyone else.

CONCLUSION

[Pg 18] Based on the foregoing, the judgment of the trial court sustaining the peremptory exceptions of no cause of action and nonjoinder of parties and the dilatory exception of lack of procedural capacity, and the denial of the preliminary injunction in favor of Defendants, Fifth Louisiana District Levee Board and Jamie Isaac, and dismissing the suit against them, is hereby reversed. A preliminary injunction is entered in favor of Plaintiff Don E. Whitlock, and against Defendants Fifth Louisiana Levee District and its lessee, Jamie Isaac, prohibiting them from entering Plaintiff's property until the ruling on the permanent injunction and trespass is rendered. This matter is remanded to the trial court for further proceedings consistent with

this opinion. Costs of this appeal in the amount of \$2,893.92 are assessed to Defendant, Fifth Louisiana District Levee Board.

REVERSED AND REMANDED. PRELIMINARY INJUNCTION GRANTED.

Footnotes

1 ¶

At the hearing, Plaintiff testified that the gravel road was the only public road located through the property in his lifetime, and there was never a public road going down the side of the heir property (which would be from east to west). He stated that he discussed the location of the right-of-way with Levee Board President Minsky and that he had been presented with "a document that shows there was a right-of-way between lots one and two." He later stated that the document actually said there was a 20-foot right-of-way "through lots one, two and three at the time the succession was done." Plaintiff further stated that, when he met with Mr. Minsky to choose the location of the right-of-way, he only agreed to grant temporary access through his property until he had the opportunity to research "what kind of a right-of-way option was in my property." He testified that he absolutely did not intend to grant a permanent right-of-way to Mr. Isaac.

2 ¶

An appeal may be taken as a matter of right from an order or judgment relating to a preliminary or final injunction. La. C.C. P. art. 3612.

3 ¶

Needless to say, this judgment puts this case in a very strange procedural posture.

4 ¶

On April 4, 2012, Plaintiff filed a timely petition for a devolutive appeal from the judgment of the trial court. The trial court granted the order of appeal and stated in the order that it was "returnable in the Court of Appeal, Second Circuit, . . . forty five days after payment of costs." Nothing happened with the appeal until March 22, 2014, when Plaintiff's attorney sent a letter to the Clerk of Court stating, "As you can see from the attached copy of the Judge's order that an appeal is granted forty-five days after cost is paid. Here are the costs." He asked the clerk to prepare the process for appeal. No one formally objected to the lapse of time between the granting of the appeal and the payment of costs by filing a motion to dismiss the appeal, in accordance with La. C.C.P. art. 2126. Because appeals are favored in the law, we choose to address the merits of this appeal.

5 ¶

This appears to be an anticipatory defense referencing the right to a legal servitude in favor of an enclosed estate and is not an admission that such a servitude or right of passage exists.

6 ¶

In fact, there was evidence to the contrary admitted at the hearing, including Plaintiff's testimony that no one else had ever tried to enter Swan Lake through his property and, pursuant to the 1937 deed, there had never been any road on the property established for the public except for the gravel road which became known as Whitlock Road.

Content Type: Cases

Terms: "c. c. art. 800"

Narrow By: Court: Louisiana

Date and Time: Jan 15, 2016 12:20:53 p.m. EST

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APPENDIX E: PERMITS OBTAINED BY OWNER

BOBBY JINDAL
GOVERNOR



PEGGY M. HATCH
SECRETARY

State of Louisiana
DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL SERVICES

FEB 25 2013

Louisiana Coastal Protection & Restoration Authority
P.O. Box 44027
Baton Rouge, LA 70804

Attention: Kenneth Bahlinger, Agent for the U.S. Fish & Wildlife Service

RE: Water Quality Certification (WQC 130124-03/AI 185812/CER 20130001)
Corps of Engineers Permit (MVN-2012-1645-ETT)
St. Tammany Parish

Dear Mr. Bahlinger:

The Louisiana Department of Environmental Quality (the Department) has reviewed your application to dredge waterbottoms and place spoil material for marsh creation, in the vicinity west-southwest of Slidell, Louisiana.

Based on the information provided in the application, the Department made a determination that the requirements for a Water Quality Certification have been met and concludes that the placement of the fill material will not violate water quality standards of Louisiana as provided for in LAC 33:IX.Chapter 11. Therefore, the Department hereby issues a Water Quality Certification to the U.S. Fish & Wildlife Service.

If you have any questions, please call Jamie Phillippe at 225-219-3225.

Sincerely,

A handwritten signature in blue ink, appearing to read "Scott Guilliams".

Scott Guilliams
Administrator
Water Permits Division

SG/jjp

c: Corps of Engineers- New Orleans District



LOUISIANA DEPARTMENT OF WILDLIFE AND FISHERIES

FILL MATERIAL LICENSE

LICENSE NO: WLF201625



In consideration of a royalty paid to the Department by the applicant, this license for the removal of fill material from water bottoms of the State of Louisiana is issued to:

Licensee Name and Address: CPRA/Andrew Beall

P.O. Box 44027

Baton Rouge, LA 70804

License Site Location: Lake Pontchartrain, Lat. 30°14'44.780", Long. 89°51'25.420", St. Tammany Parish

Project Description: Dredge 4.0 million cubic yards of fill material and/or fill sand to create 638 acres of intertidal marsh as a part of the CWPPRA Bayou Bonfouca Marsh Creation (PO-104) Project

The rights and privileges shall begin on the 15th day of February 2016 and expires on the 31st day of December 2016. In the event that licensee reach the amount applied for prior the December 31st, 2016 the license will expire at that time.

The use of the fill material authorized for removal by this license is subject to the following restrictions:

- 1. The Department of Wildlife and Fisheries shall be notified prior to removal of the material and again be notified upon completion of the project.*
- 2. All provisions of the Fill Material License shall be adhered to.*
- 3. This Certificate shall be posted in a conspicuous place at the project site during the activities authorized.*



Jimmy L. Anthony, Assistant Secretary

BOBBY JINDAL
GOVERNOR



STEPHEN CHUSTZ
SECRETARY

State of Louisiana
DEPARTMENT OF NATURAL RESOURCES
OFFICE OF COASTAL MANAGEMENT

September 25, 2015

Sydney Dobson
CPRA
P. O. Box 44027
Baton Rouge, LA 70804

RE: **C20120367 mod 01**, Coastal Zone Consistency modification
U. S. Fish and Wildlife Service
Direct Federal Action
Bayou Bonfouca Marsh Creation CWPPRA Project (PO-104), modifications to borrow sites and containment dike alignments, **St. Tammany Parish, Louisiana**

Dear Mr. Dobson:

The above referenced project has been reviewed for consistency with the approved Louisiana Coastal Resource Program (LCRP) as required by Section 307 of the Coastal Zone Management Act of 1972, as amended. The project, as proposed in the application, is consistent with the LCRP. If you have any questions concerning this information request, please contact Jeff Harris of the Consistency Section at (225) 342-7949.

Sincerely,

/S/ Don Haydel
Acting Administrator
Interagency Affairs/Field Services Division

DH/jdh

cc: Jeffrey Weller, USFWS, Lafayette
Dave Butler, LDWF
Stephanie Castaing, COE-NOD
David Brunet, St. Tammany Parish
Craig Leblanc, OCM

DEC 10 2015

CASTAING/mmsk/1564

Operations Division
Eastern Evaluation Section

SUBJECT: MVN-2012-1645-EPP

United States Fish and Wildlife Service
646 Cajundome Boulevard, Suite 400
Lafayette, Louisiana 70506

Dear Gentlemen:

Enclosed is a permit dated this date, subject as above, authorizing work under the Department of the Army permit program.

You are again reminded that any work not in accordance with the approved plans is subject to removal regardless of the expense and the inconvenience that such removal may involve and regardless of the date when the discrepancy is discovered.

Your attention is directed to all the terms and conditions of the approval. In order to have the work approved in accordance with the issued permit, all terms and conditions of the permit and plans shown on the drawings attached thereto must be rigidly adhered to.

It is necessary that you notify the District Engineer, Attention: Eastern Evaluation Section, in writing, prior to commencement of work and also upon its completion. The notification must include the permittee's name, as shown on the permit, and the permit number. Please note the expiration date on the permit. Should the project not be completed by that date, you may request a permit time extension. Such requests must be received before, but no sooner than six months before, the permit expiration date and must show the work completed and the reason the project was not finished within the time period granted by the permit.

A copy of Page 1 of the permit (ENG Form 1721) must be conspicuously displayed at the project site. Also, you must keep a copy of the signed permit at the project site until the work is completed.

Sincerely,

Michael V. Farabee
Chief, Eastern Evaluation Section

Enclosures


FARABEE
OD-SE


MAYER
OD-S

DEPARTMENT OF THE ARMY PERMIT

Permittee: United States Fish and Wildlife Service

Permit No. MVN-2012-1645-EPP

Issuing Office: New Orleans District

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

PROJECT DESCRIPTION: Dredge, fill, and grade for marsh nourishment and creation project (PO-104), in accordance with the drawings enclosed in 17 sheets, dated July 2015.

PROJECT LOCATION: Along the Lake Pontchartrain shoreline at the confluence of Bayous Bonfouca and Liberty, in St. Tammany Parish, Louisiana.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on **November 30, 2020**. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least 1 month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and State coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.
6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions: Page 4

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:
 - (X) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
 - (X) Section 404 of the Clean Water Act (33 U.S.C. 1344).
 - () Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).
2. Limits of this authorization.
 - a. This permit does not obviate the need to obtain other Federal, State, or local authorizations required by law.
 - b. This permit does not grant any property rights or exclusive privileges.
 - c. This permit does not authorize any injury to the property or rights of others.
 - d. This permit does not authorize interference with any existing or proposed Federal project.
3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:
 - a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
 - b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.
 - c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
 - d. Design or construction deficiencies associated with the permitted work.
 - e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

- a. You fail to comply with the terms and conditions of this permit.
- b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).
- c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

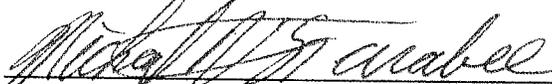
6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

X 
(PERMITEE)

X 11/19/15
(DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.



December 10, 2015
(DATE)

Michael V. Farabee, Chief Eastern Evaluation Section

for Richard L. Hansen, District Commander

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

(TRANSFEREE)

(DATE)

Special Conditions for MVN 2012-1645-EPP:

7. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

8. The use of the permitted activity must not interfere with the public's right to free navigation on all navigable waters of the United States.

9. Permittee must install and maintain, at permittee's expense, any safety lights, signs and signals prescribed by the US Coast Guard, through regulations or otherwise, on the authorized facilities.

10. If the authorized project, or future maintenance work, involves the use of floating construction equipment (barge mounted cranes, barge mounted pile driving equipment, floating dredge equipment, dredge discharge pipelines, etc.,) in the waterway, you are advised to notify the Eighth Coast Guard District, so that a Notice to Mariners, if required, may be prepared. Notification, with a copy of your permit approval and drawings, should be mailed to the Commander (dpw) Eighth Coast Guard District, Hale Boggs Federal Building, 500 Poydras Street, Room 1230, New Orleans, Louisiana 70130, about 1 month before you plan to start work. Telephone inquiries can be directed to the Eighth Coast Guard District, Waterways Management at (504) 671-2107.

11. The permittee shall comply with the enclosed: "STANDARD MANATEE CONDITIONS FOR IN-WATER ACTIVITIES" and "SEA TURTLE AND SMALLTOOTH SAWFISH CONSTRUCTION CONDITIONS".

12. If the authorized project requires any additional work not expressly permitted herein, or impacts wetlands other than the areas indicated on the attached drawings, the permittee must apply for an amendment to this authorization.

STANDARD MANATEE CONDITIONS FOR IN-WATER ACTIVITIES

During in-water work in areas that potentially support manatees, all personnel associated with the project shall be instructed and aware of the potential presence of manatees, manatee speed zones, and the need to avoid collisions with, and injury to, manatee. All personnel shall be advised that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act of 1972 and the Endangered Species Act of 1973. Additionally, personnel shall be instructed not to attempt to feed or otherwise interact with the animal.

All on-site personnel are responsible for observing water-related activities for the presence of manatee(s). To minimize potential impacts to manatees in areas of their potential presence, the permittee shall insure the following are adhered to:

- All work, equipment, and vessel operation shall cease if a manatee is spotted within a 50-foot radius (buffer zone) of the active work area. Once the manatee has left the buffer zone on its own accord (manatees must not be herded or harassed into leaving), or after 30 minutes have passed without additional sightings of manatee(s) in the buffer zone, in-water work can resume under careful observation for manatee(s).
- If a manatee(s) is sighted in or near the project area, all vessels associated with the project shall operate at "no wake/idle" speeds within the construction area and at all times while in waters where the draft of the vessel provides less than a four-foot clearance from the bottom. Vessels shall follow routes of deep water whenever possible.
- If used, siltation or turbidity barriers shall be properly secured, made of material in which manatees cannot become entangled, and be monitored to avoid manatee entrapment or impeding their movement.
- Temporary signs concerning manatees shall be posted prior to and during all in-water project activities and removed upon completion. Each vessel involved in construction activities shall display at the vessel control station or in a prominent location, visible to all employees operating the vessel, a temporary sign at least 8½" X 11" reading language similar to the following: "CAUTION BOATERS: MANATEE AREA/ IDLE SPEED IS REQUIRED IN CONSTRUCTION AREA AND WHERE THERE IS LESS THAN FOUR FOOT BOTTOM CLEARANCE WHEN MANATEE IS PRESENT". A second temporary sign measuring 8½" X 11" shall be posted at a location prominently visible to all personnel engaged in water-related activities and shall read language similar to the following: "CAUTION: MANATEE AREA/ EQUIPMENT MUST BE SHUTDOWN IMMEDIATELY IF A MANATEE COMES WITHIN 50 FEET OF OPERATION".
- Collisions with, injury to, or sightings of manatees shall be immediately reported to the U.S. Fish and Wildlife Service's, Louisiana Ecological Services Office (337/291-3100) and the Louisiana Department of Wildlife and Fisheries, Natural Heritage Program (225/765-2821). Please provide the nature of the call (i.e., report of an incident, manatee sighting, etc.); time of incident/sighting; and the approximate location, including the latitude and longitude coordinates, if possible.

SEA TURTLE AND SMALLTOOTH SAWFISH CONSTRUCTION CONDITIONS

The permittee shall comply with the following protected species construction conditions:

- a. The permittee shall instruct all personnel associated with the project of the potential presence of these species and the need to avoid collisions with sea turtles and smalltooth sawfish. All construction personnel are responsible for observing water-related activities for the presence of these species.
- b. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing sea turtles or smalltooth sawfish, which are protected under the Endangered Species Act of 1973.
- c. Siltation barriers shall be made of material in which a sea turtle or smalltooth sawfish cannot become entangled, be properly secured, and be regularly monitored to avoid protected species entrapment. Barriers may not block sea turtle or smalltooth sawfish entry to or exit from designated critical habitat without prior agreement from the National Marine Fisheries Service's Protected Resources Division, St. Petersburg, Florida.
- d. All vessels associated with the construction project shall operate at "no wake/idle" speeds at all times while in the construction area and while in water depths where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will preferentially follow deep-water routes (e.g., marked channels) whenever possible.
- e. If a sea turtle or smalltooth sawfish is seen within 100 yards of the active daily construction/dredging operation or vessel movement, all appropriate precautions shall be implemented to ensure its protection. These precautions shall include cessation of operation of any moving equipment closer than 50 feet of a sea turtle or smalltooth sawfish. Operation of any mechanical construction equipment shall cease immediately if a sea turtle or smalltooth sawfish is seen within a 50-ft radius of the equipment. Activities may not resume until the protected species has departed the project area of its own volition.
- f. Any collision with and/or injury to a sea turtle or smalltooth sawfish shall be reported immediately to the National Marine Fisheries Service's Protected Resources Division (727-824-5312) and the local authorized sea turtle stranding/rescue organization.
- g. Any special construction conditions, required of your specific project, outside these general conditions, if applicable, will be addressed in the primary consultation.

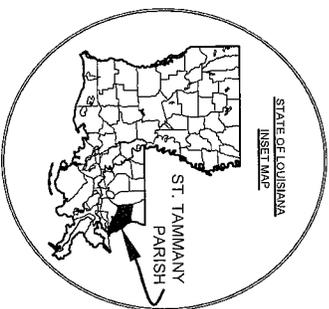
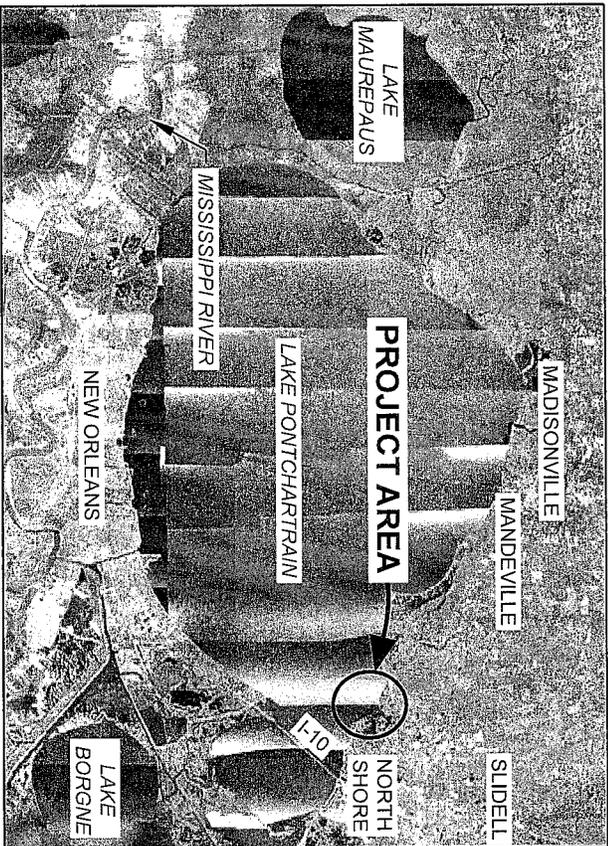
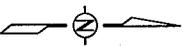
Revised: March 23, 2006

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STATE OF LOUISIANA
COASTAL PROTECTION AND RESTORATION AUTHORITY

BAYOU BONFOUCA
MARSH CREATION PROJECT
P0-104
ST. TAMMANY PARISH



APPLICATION BY:
UNITED STATES FISH AND WILDLIFE SERVICE (USFWS)
61389 HWY 434
LACOMBE, LA, 70445

COASTAL PROTECTION AND
RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

BAYOU BONFOUCA
MARSH CREATION PROJECT

TITLE SHEET

DRAWN BY: K. CANTU

DESIGNED BY: S. HAYNES, P.E.

APPROVED BY: R. JOFFRION, P.E.

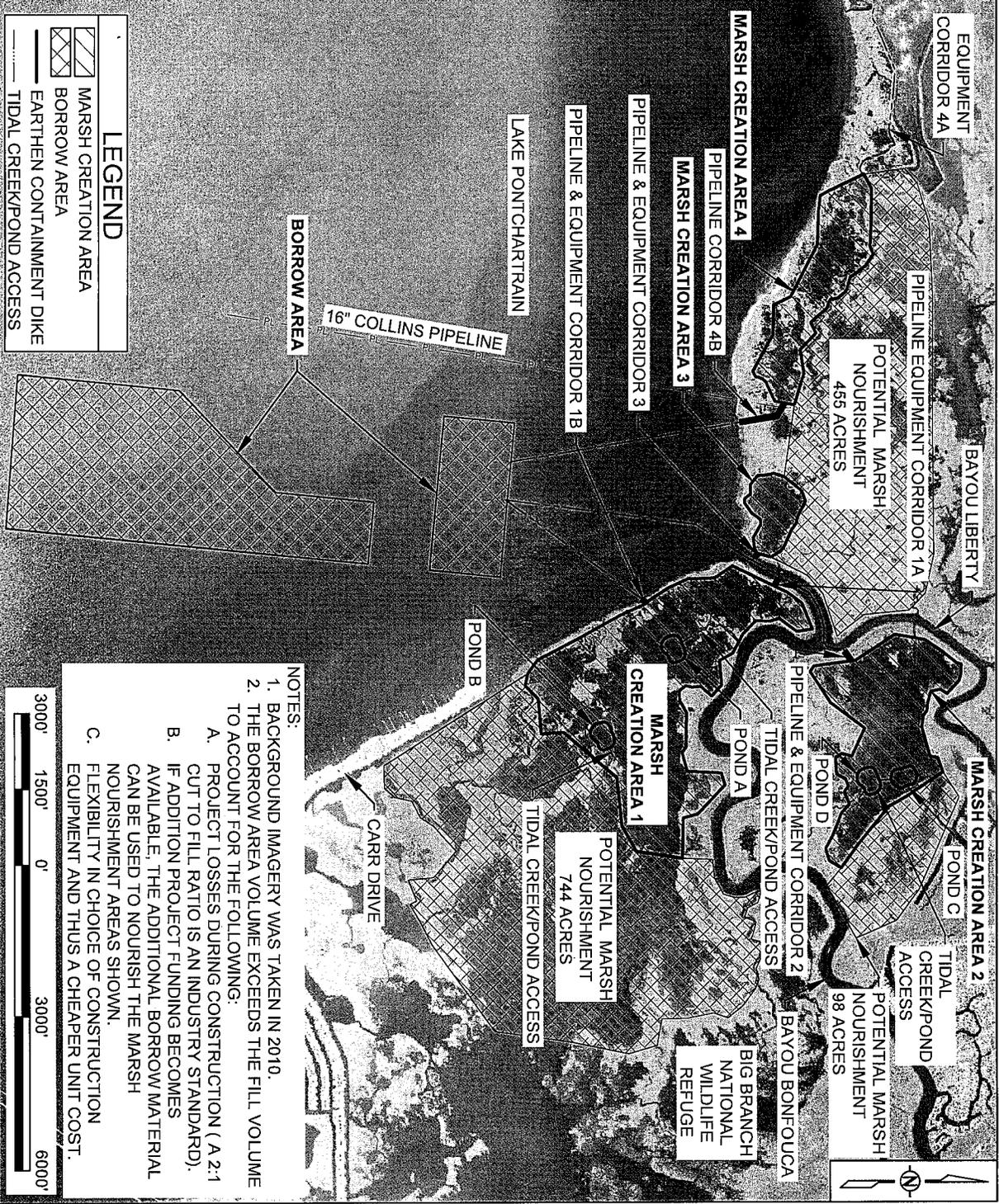
FEDERAL PROJECT NUMBER: PC-104

STATE PROJECT NUMBER: PC-104

DATE: JULY 2015

SHEET 1 OF 17

QUANTITIES		
BORROW AREA		
AREA	VOLUME (CY)	AREA (ACRES)
NORTHERN	1,001,787	65
SOUTHERN	5,341,072	338
TOTALS	6,342,859	403
MARSH CREATION		
AREA	VOLUME (CY)	AREA (ACRES)
1	2,223,322	322
POND A	35,902	4
POND B	23,345	4
2	988,496	155
POND C	27,169	4
POND D	23,864	4
3	220,643	32
4	531,864	94
TOTALS	4,074,605	620
EARTHEN CONTAINMENT DIKE		
MARSH	VOLUME	LENGTH
1	77,048	20,948
POND A	4,524	1,665
POND B	3,206	1,438
2	42,327	14,361
POND C	3,789	1,538
POND D	3,333	1,609
3	16,217	4,720
4	30,917	11,495
TOTALS	181,361	57,774
PIPELINE/EQUIPMENT CORRIDOR		
CORRIDOR	AREA (ACRES)	
1A	0.10	
1B	0.13	
2	0.28	
3	0.06	
4A	5.10	
4B	2.40	
TOTALS	8.07	



APPLICATION BY:
 UNITED STATES FISH AND WILDLIFE SERVICE (USFWS)
 61389 HWY 434
 LACOMBE, LA, 70445

DESIGNED BY: S. HAYNES, P.E.

APPROVED BY: R. JOFFRON, P.E.

STATE PROJECT NUMBER: PO-104

FEDERAL PROJECT NUMBER: PO-104

DATE: JULY 2015

SHEET 2 OF 17

COASTAL PROTECTION AND RESTORATION AUTHORITY
 450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

BAYOU BONFOUCA MARSH CREATION PROJECT

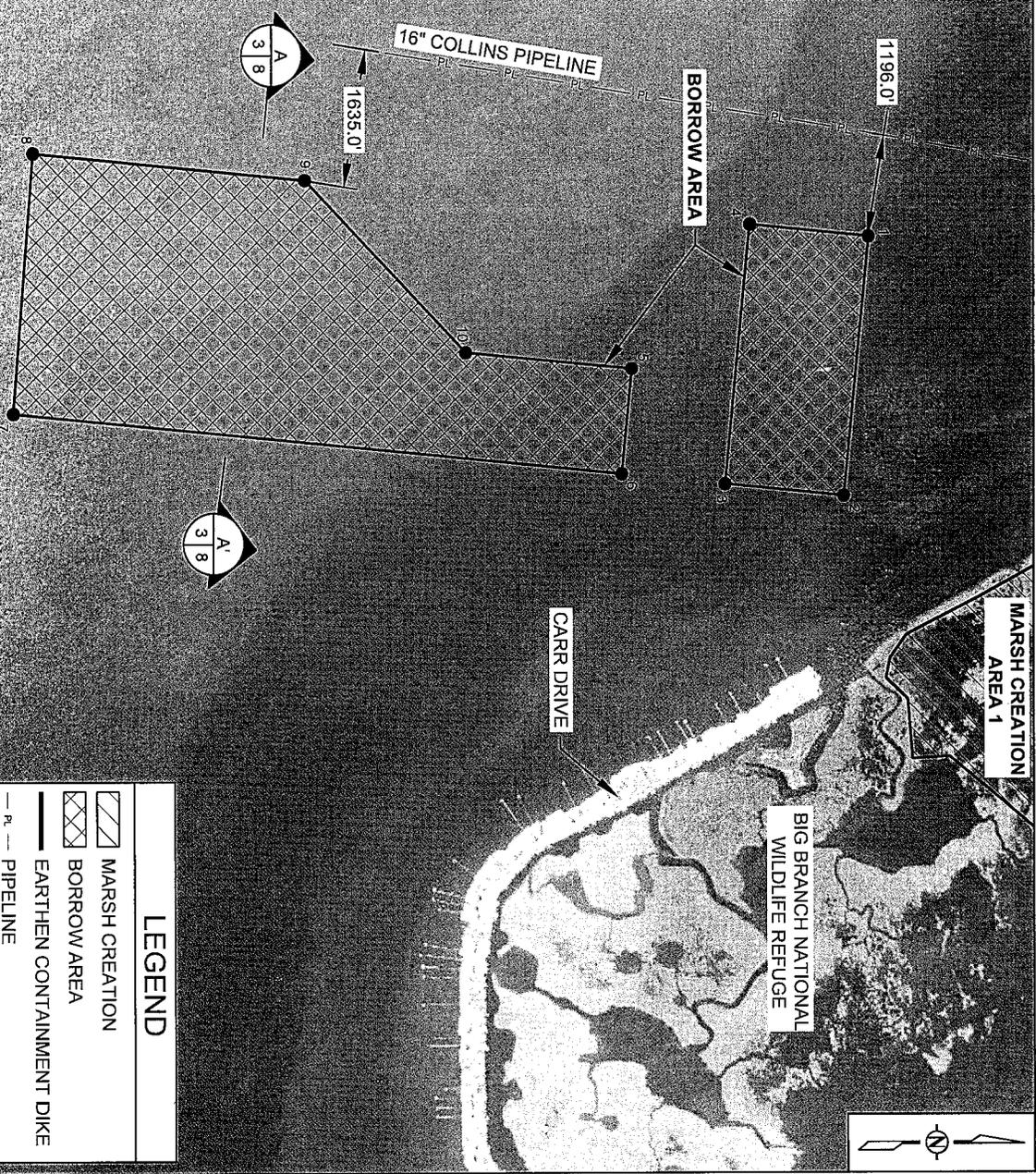
PROJECT LAYOUT

BORROW AREA COORDINATES	
LATITUDE	LONGITUDE
1 30° 14' 16.85"	89° 52' 23.09"
2 30° 14' 13.54"	89° 51' 48.24"
3 30° 13' 59.46"	89° 51' 50.02"
4 30° 14' 02.77"	89° 52' 24.86"
5 30° 13' 48.54"	89° 52' 05.65"
6 30° 13' 47.16"	89° 51' 50.99"
7 30° 12' 34.95"	89° 52' 00.67"
8 30° 12' 37.67"	89° 52' 35.59"
9 30° 13' 09.94"	89° 52' 31.52"
10 30° 13' 28.85"	89° 52' 08.13"

NOTES:
 1. BACKGROUND IMAGERY WAS TAKEN IN 2010.
 2. THE MAXIMUM CUT FOR DREDGING IN THE BORROW AREA IS 12.0' DEEP.

APPLICATION BY:
 UNITED STATES FISH AND WILDLIFE SERVICE (USFWS)
 61389 HWY 434
 LACOMBE, LA, 70445

DRAWN BY: K. CANTU



COASTAL PROTECTION AND RESTORATION AUTHORITY
 450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

DESIGNED BY: S. HAYNES, P.E.

APPROVED BY: R. JOFFRION, P.E.

BAYOU BONFOUCA MARSH CREATION PROJECT

BORROW AREA LAYOUT

STATE PROJECT NUMBER: PO-104
 FEDERAL PROJECT NUMBER: PO-104

DATE: JULY 2015
 SHEET 3 OF 17

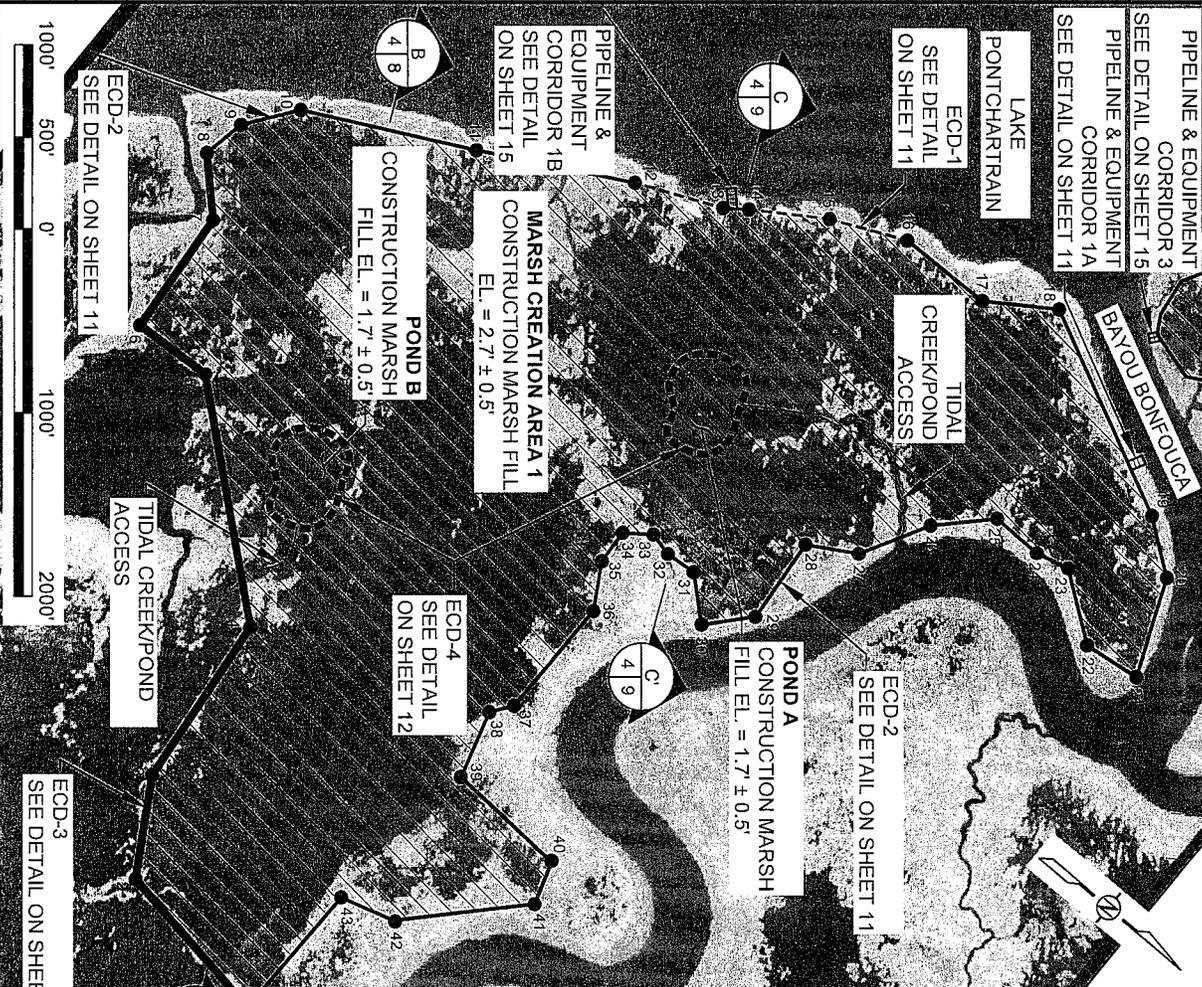
LEGEND

- MARSH CREATION
- BORROW AREA
- EARTHEN CONTAINMENT DIKE
- PIPELINE



EARTHEN CONTAINMENT DIKE CENTERLINE COORDINATES

LATITUDE	LONGITUDE
1	30° 14' 49.15"
2	30° 14' 40.00"
3	30° 14' 37.15"
4	30° 14' 36.31"
5	30° 14' 25.74"
6	30° 14' 21.30"
7	30° 14' 20.82"
8	30° 14' 18.27"
9	30° 14' 18.77"
10	30° 14' 20.81"
11	30° 14' 29.65"
12	30° 14' 37.51"
13	30° 14' 42.12"
14	30° 14' 43.27"
15	30° 14' 47.04"
16	30° 14' 51.09"
17	30° 14' 56.32"
18	30° 14' 59.89"
19	30° 15' 10.89"
20	30° 15' 13.66"
21	30° 15' 15.73"
22	30° 15' 12.56"
23	30° 15' 09.13"
24	30° 15' 07.26"
25	30° 15' 04.39"
26	30° 15' 01.78"
27	30° 14' 59.71"
28	30° 14' 57.13"
29	30° 14' 57.47"
30	30° 14' 55.44"
31	30° 14' 53.32"
32	30° 14' 51.60"
33	30° 14' 50.31"
34	30° 14' 48.92"
35	30° 14' 49.04"
36	30° 14' 50.38"
37	30° 14' 50.20"
38	30° 14' 49.36"
39	30° 14' 50.36"
40	30° 14' 57.14"
41	30° 14' 57.85"
42	30° 14' 52.39"
43	30° 14' 49.38"



- NOTES:**
- BACKGROUND IMAGERY WAS TAKEN IN 2010.
 - INTERNAL TRAINING DIKES MAY BE USED AS NECESSARY AT ANY LOCATION WITHIN THE MARSH CREATION AREA TO PROPERLY CONTAIN AND DEWATER FILL MATERIAL AND ACHIEVE THE TARGET CONSTRUCTION MARSH FILL ELEVATION.
 - DEWATERING OF FILL MATERIAL MUST NOT BE DIRECTLY DISCHARGED INTO BAYOU BONFOUCA AND LAKE PONTCHARTRAIN.
 - THE DEWATERING OUTFALL SHALL BE RESTRICTED TO A LOCATION IN BETWEEN EARTHEN CONTAINMENT DIKE CENTERLINE POINTS 1 THROUGH 5.
 - THE ALIGNMENT OF THE TIDAL CREEKS SHALL BE FIELD-FIT DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER.
 - THE CONTRACTOR SHALL USE THE TIDAL CREEK ALIGNMENTS TO ACCESS THE PONDS.
 - THE PIPELINE AND EQUIPMENT CORRIDOR SHALL BE RE-GRADED TO PRE-CONSTRUCTION CONDITIONS PRIOR TO DEMOBILIZATION, EXCEPT ALONG BAYOU BONFOUCA AND LAKE PONTCHARTRAIN.
 - CONTAINMENT DIKES TO BE GAPPED 25' LONG AT 500' INTERVALS AFTER CONSTRUCTION.

LEGEND

- MARSH CREATION AREA
- EARTHEN CONTAINMENT DIKE (ECD-1)
- EARTHEN CONTAINMENT DIKE (ECD-2)
- EARTHEN CONTAINMENT DIKE (ECD-3)
- EARTHEN CONTAINMENT DIKE (ECD-4)
- TIDAL CREEK/POND ACCESS
- PIPELINE & EQUIPMENT CORRIDOR

APPLICATION BY:
 UNITED STATES FISH AND WILDLIFE SERVICE (USFWS)
 61389 HWY 434
 LACOMBE, LA, 70446

DESIGNED BY: S. HAYNES, P.E.
 APPROVED BY: R. JOFFRION, P.E.

COASTAL PROTECTION AND RESTORATION AUTHORITY
 450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

BAYOU BONFOUCA MARSH CREATION PROJECT
 STATE PROJECT NUMBER: PO-104
 FEDERAL PROJECT NUMBER: PO-104
 DATE: JULY 2015
 SHEET 4 OF 17

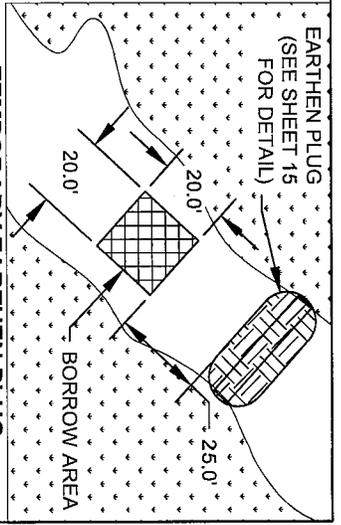
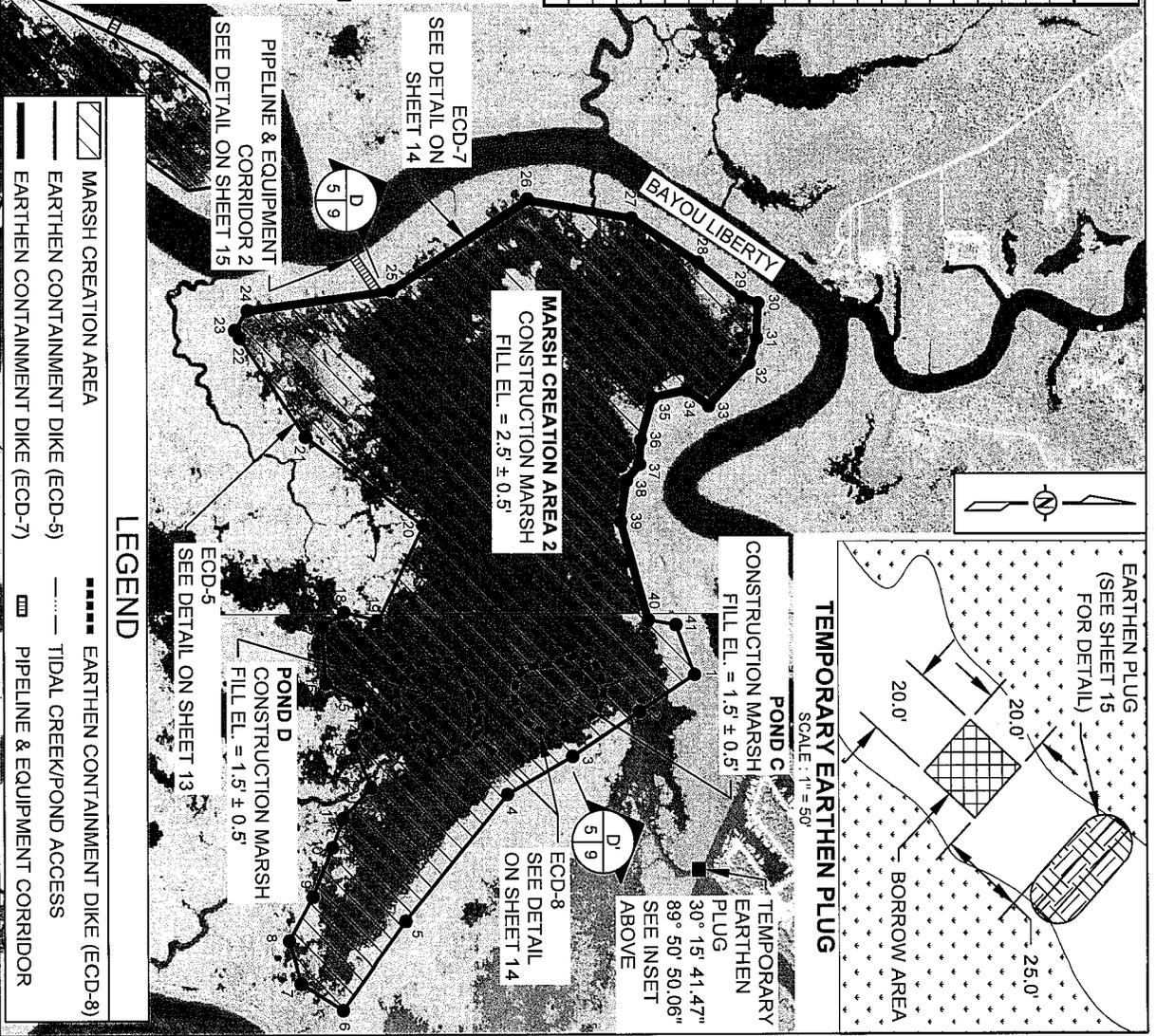
DRAWN BY: K. CANTU

**EARTHEN CONTAINMENT DIKE
CENTERLINE COORDINATES**

1	LATITUDE	LONGITUDE	22	LATITUDE	LONGITUDE
1	30° 15' 41.45"	89° 51' 02.82"	22	30° 15' 15.39"	89° 51' 25.33"
2	30° 15' 38.24"	89° 51' 00.47"	23	30° 15' 15.11"	89° 51' 25.83"
3	30° 15' 34.31"	89° 50' 57.60"	24	30° 15' 15.87"	89° 51' 27.09"
4	30° 15' 30.50"	89° 50' 55.16"	25	30° 15' 24.21"	89° 51' 28.27"
5	30° 15' 24.49"	89° 50' 46.99"	26	30° 15' 32.17"	89° 51' 34.17"
6	30° 15' 20.79"	89° 50' 41.13"	27	30° 15' 38.18"	89° 51' 32.81"
7	30° 15' 18.40"	89° 50' 43.13"	28	30° 15' 42.00"	89° 51' 29.83"
8	30° 15' 17.74"	89° 50' 45.84"	29	30° 15' 44.48"	89° 51' 27.50"
9	30° 15' 19.13"	89° 50' 48.65"	30	30° 15' 45.43"	89° 51' 27.11"
10	30° 15' 20.33"	89° 50' 51.88"	31	30° 15' 45.32"	89° 51' 24.81"
11	30° 15' 20.95"	89° 50' 53.74"	32	30° 15' 44.86"	89° 51' 23.23"
12	30° 15' 22.61"	89° 50' 55.74"	33	30° 15' 42.49"	89° 51' 20.48"
13	30° 15' 21.66"	89° 50' 58.55"	34	30° 15' 41.22"	89° 51' 21.50"
14	30° 15' 22.47"	89° 50' 59.88"	35	30° 15' 38.24"	89° 51' 21.06"
15	30° 15' 21.98"	89° 51' 01.41"	36	30° 15' 38.52"	89° 51' 18.31"
16	30° 15' 20.10"	89° 51' 02.61"	37	30° 15' 38.44"	89° 51' 16.73"
17	30° 15' 19.93"	89° 51' 06.33"	38	30° 15' 37.66"	89° 51' 15.66"
18	30° 15' 21.21"	89° 51' 07.28"	39	30° 15' 37.31"	89° 51' 12.99"
19	30° 15' 23.19"	89° 51' 06.70"	40	30° 15' 38.84"	89° 51' 06.47"
20	30° 15' 25.86"	89° 51' 12.91"	41	30° 15' 40.42"	89° 51' 06.12"
21	30° 15' 19.11"	89° 51' 18.82"			

NOTES:

1. BACKGROUND IMAGERY WAS TAKEN IN 2010.
2. INTERNAL TRAINING DIKES MAY BE USED AS NECESSARY AT ANY LOCATION WITHIN THE MARSH CREATION AREA TO PROPERLY CONTAIN AND DEWATER FILL MATERIAL AND ACHIEVE THE TARGET CONSTRUCTION MARSH FILL ELEVATION.
3. DEWATERING OF FILL MATERIAL MUST NOT BE DIRECTLY DISCHARGED INTO BAYOUS BONFOUCA AND LIBERTY.
4. THE DEWATERING OUTFALL SHALL BE RESTRICTED TO A LOCATION IN BETWEEN EARTHEN CONTAINMENT DIKE CENTERLINE POINTS 1 THROUGH 2 AND 15 THROUGH 18.
5. THE ALIGNMENT OF THE TIDAL CREEKS SHALL BE FIELD-FIT DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER.
6. THE CONTRACTOR SHALL USE THE TIDAL CREEK ALIGNMENTS TO ACCESS THE PONDS.
7. THE PIPELINE AND EQUIPMENT CORRIDOR SHALL BE RE-GRADED TO PRE-CONSTRUCTION CONDITIONS PRIOR TO DEMOBILIZATION.
8. EXCEPT ALONG BAYOU LIBERTY, CONTAINMENT DIKES TO BE GAPPED 25.0' LONG AT 500' INTERVALS AFTER CONSTRUCTION.
9. ECD-7 SHALL BE CONTINUOUSLY MONITORED DURING FILL PLACEMENT INTO MARSH CREATION AREA 2.



APPLICATION BY:
UNITED STATES FISH AND WILDLIFE SERVICE (USFWS)
61389 HWY 434
LACOMBE, LA, 70445

DESIGNED BY: S. HAYNES, P.E.

APPROVED BY: R. JOFFRION, P.E.

DATE: JULY 2015

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

BAYOU BONFOUCA MARSH CREATION PROJECT

FEDERAL PROJECT NUMBER: PO-104

MARSH CREATION AREA 2 LAYOUT

DRAWN BY: K. CANTU

STATE PROJECT NUMBER: PO-104

SHEET 5 OF 17

**EARTHEN CONTAINMENT DIKE
CENTERLINE COORDINATES**

	LATITUDE	LONGITUDE
1	30° 15' 10.45"	89° 52' 10.23"
2	30° 15' 13.88"	89° 52' 07.07"
3	30° 15' 14.65"	89° 52' 04.60"
4	30° 15' 12.99"	89° 52' 00.83"
5	30° 15' 12.84"	89° 51' 59.58"
6	30° 15' 11.79"	89° 51' 58.13"
7	30° 15' 10.07"	89° 51' 53.89"
8	30° 15' 09.45"	89° 51' 53.13"
9	30° 15' 07.58"	89° 51' 51.98"
10	30° 15' 04.89"	89° 51' 52.87"
11	30° 15' 04.37"	89° 51' 53.98"
12	30° 15' 04.14"	89° 51' 56.38"
13	30° 15' 05.63"	89° 51' 59.29"
14	30° 15' 05.68"	89° 52' 00.52"
15	30° 15' 03.98"	89° 52' 01.99"
16	30° 15' 02.48"	89° 52' 04.39"
17	30° 15' 02.59"	89° 52' 06.36"
18	30° 15' 03.74"	89° 52' 08.36"
19	30° 15' 03.70"	89° 52' 08.46"
20	30° 15' 05.19"	89° 52' 10.51"
21	30° 15' 07.12"	89° 52' 10.64"
22	30° 15' 08.37"	89° 52' 11.03"

NOTES:

1. BACKGROUND IMAGERY WAS TAKEN IN 2010.
2. INTERNAL TRAINING DIKES MAY BE USED AS NECESSARY AT ANY LOCATION WITHIN THE MARSH CREATION AREA TO PROPERLY CONTAIN AND DEWATER FILL MATERIAL AND ACHIEVE THE TARGET CONSTRUCTION MARSH FILL ELEVATION.
3. DEWATERING OF FILL MATERIAL MUST NOT BE DIRECTLY DISCHARGED INTO BAYOU BONFOUCA AND LAKE PONTCHARTRAIN.
4. THE DEWATERING OUTFALL SHALL BE RESTRICTED TO A LOCATION ON THE NORTHWEST QUADRANT OF THE MARSH CREATION AREA IN BETWEEN EARTHEN CONTAINMENT DIKE CENTERLINE POINTS 1 THROUGH 5.
5. THE PIPELINE AND EQUIPMENT CORRIDOR SHALL BE RE-GRADED TO PRE-CONSTRUCTION CONDITIONS PRIOR TO DEMOBILIZATION.
6. EXCEPT ALONG BAYOU BONFOUCA AND LAKE PONTCHARTRAIN, CONTAINMENT DIKES TO BE GAPPED 25' LONG AT 500' INTERVALS AFTER CONSTRUCTION.

APPLICATION BY:
UNITED STATES FISH AND WILDLIFE SERVICE (USFWS)
61389 HWY 434
LACOMBE, LA, 70445

COASTAL PROTECTION AND
RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

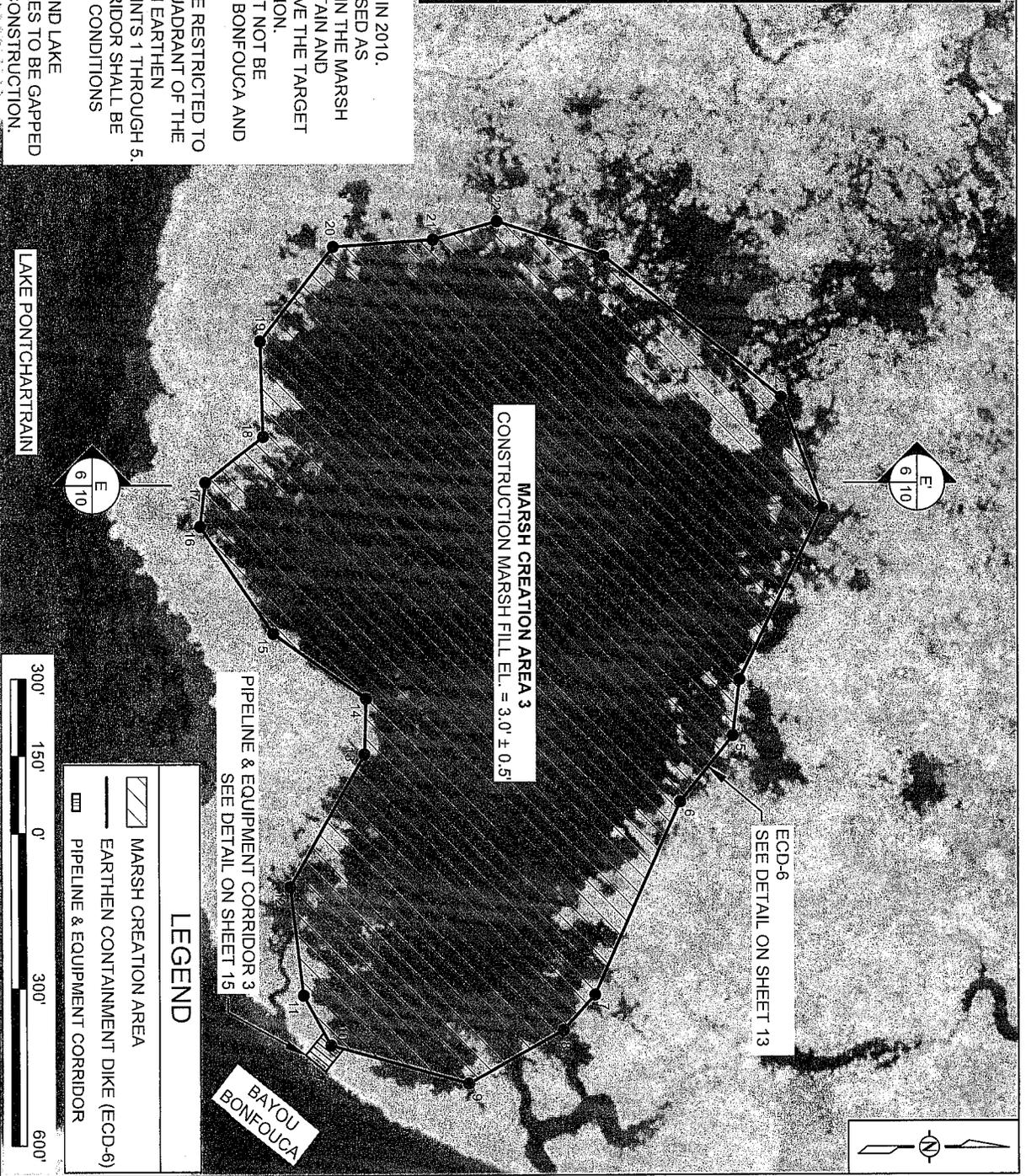
DRAWN BY: K. CANTU

DESIGNED BY: S. HAYNES, P.E.

APPROVED BY: R. JOFFRION, P.E.

STATE PROJECT NUMBER: PO-104
FEDERAL PROJECT NUMBER: PO-104

DATE: JULY 2015
SHEET 6 OF 17



PIPELINE & EQUIPMENT CORRIDOR 3
SEE DETAIL ON SHEET 15

LEGEND

- MARSH CREATION AREA
- EARTHEN CONTAINMENT DIKE (ECD-6)
- PIPELINE & EQUIPMENT CORRIDOR

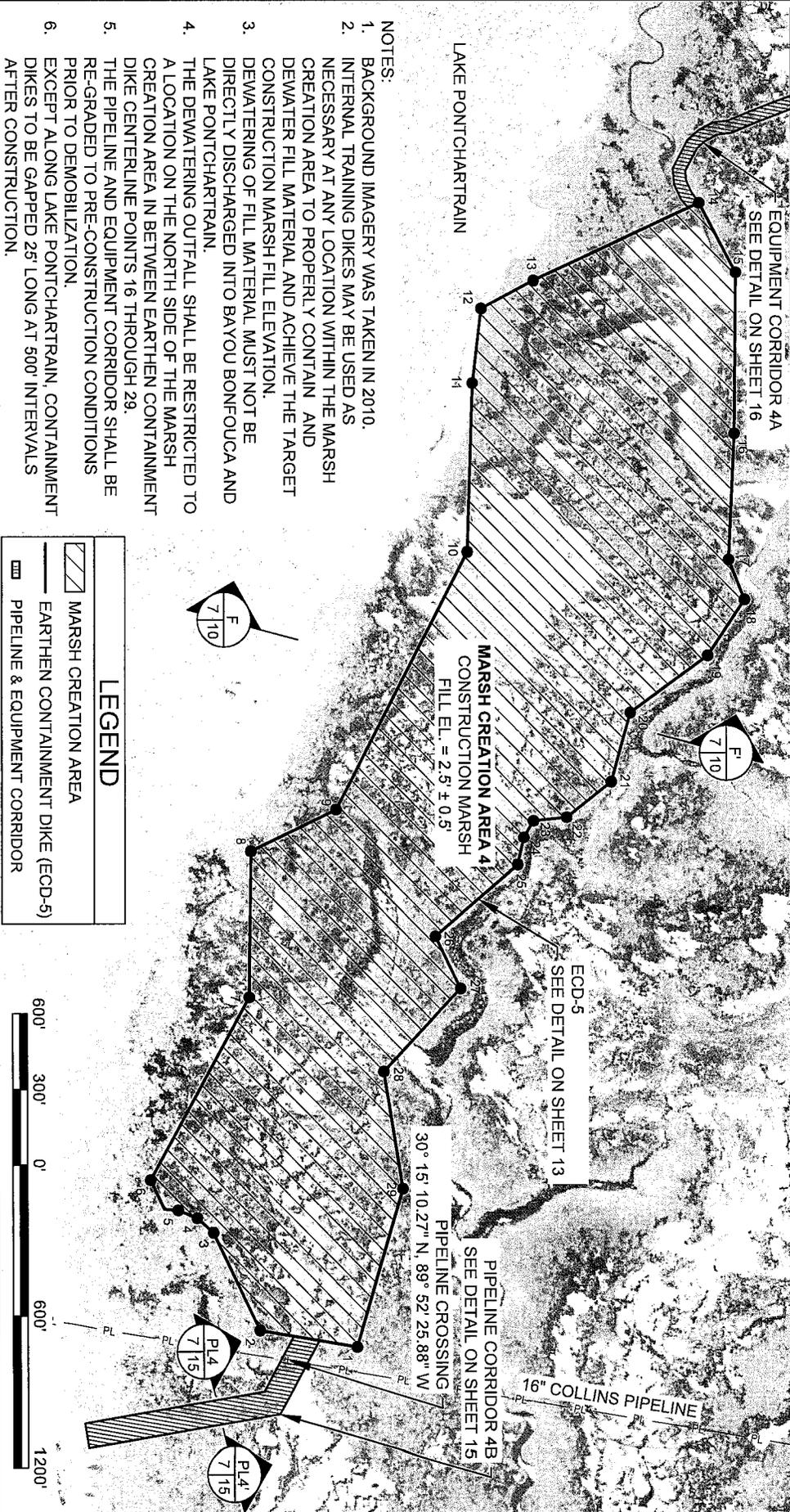


BAYOU BONFOUCA
MARSH CREATION PROJECT

MARSH CREATION
AREA 3 LAYOUT

EARTHEN CONTAINMENT DIKE CENTERLINE COORDINATES

LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE
1 30° 15' 12.74"	89° 52' 26.44"	7 30° 15' 08.61"	89° 52' 42.37"	13 30° 15' 20.45"	89° 53' 14.81"	19 30° 15' 27.27"	89° 52' 57.66"	25 30° 15' 19.51"	89° 52' 48.26"
2 30° 15' 08.83"	89° 52' 27.27"	8 30° 15' 08.75"	89° 52' 49.04"	14 30° 15' 27.17"	89° 53' 18.25"	20 30° 15' 24.13"	89° 52' 55.10"	26 30° 15' 16.15"	89° 52' 45.03"
3 30° 15' 07.02"	89° 52' 31.72"	9 30° 15' 12.21"	89° 52' 50.89"	15 30° 15' 28.61"	89° 53' 15.07"	21 30° 15' 23.32"	89° 52' 51.99"	27 30° 15' 17.13"	89° 52' 42.63"
4 30° 15' 06.37"	89° 52' 32.40"	10 30° 15' 17.63"	89° 53' 02.52"	16 30° 15' 28.46"	89° 53' 07.71"	22 30° 15' 21.50"	89° 52' 50.39"	28 30° 15' 13.98"	89° 52' 38.91"
5 30° 15' 05.60"	89° 52' 32.77"	11 30° 15' 17.94"	89° 53' 10.17"	17 30° 15' 28.16"	89° 53' 02.01"	23 30° 15' 20.17"	89° 52' 50.25"	29 30° 15' 14.68"	89° 52' 33.59"
6 30° 15' 04.51"	89° 52' 34.16"	12 30° 15' 18.33"	89° 53' 13.58"	18 30° 15' 28.78"	89° 53' 00.19"	24 30° 15' 19.77"	89° 52' 49.49"		



- NOTES:
1. BACKGROUND IMAGERY WAS TAKEN IN 2010.
 2. INTERNAL TRAINING DIKES MAY BE USED AS NECESSARY AT ANY LOCATION WITHIN THE MARSH CREATION AREA TO PROPERLY CONTAIN AND DEWATER FILL MATERIAL AND ACHIEVE THE TARGET CONSTRUCTION MARSH FILL ELEVATION.
 3. DEWATERING OF FILL MATERIAL MUST NOT BE DIRECTLY DISCHARGED INTO BAYOU BONFOUCA AND LAKE PONTCHARTRAIN.
 4. THE DEWATERING OUTFALL SHALL BE RESTRICTED TO A LOCATION ON THE NORTH SIDE OF THE MARSH CREATION AREA IN BETWEEN EARTHEN CONTAINMENT DIKE CENTERLINE POINTS 16 THROUGH 29.
 5. THE PIPELINE AND EQUIPMENT CORRIDOR SHALL BE RE-GRADED TO PRE-CONSTRUCTION CONDITIONS PRIOR TO DEMOBILIZATION.
 6. EXCEPT ALONG LAKE PONTCHARTRAIN, CONTAINMENT DIKES TO BE GAPPED 25' LONG AT 500' INTERVALS AFTER CONSTRUCTION.

LEGEND

- MARSH CREATION AREA
- EARTHEN CONTAINMENT DIKE (ECD-5)
- PIPELINE & EQUIPMENT CORRIDOR

600' 300' 0' 600' 1200'

STATE PROJECT NUMBER: PO-104

FEDERAL PROJECT NUMBER: PO-104

APPLICATION BY:
UNITED STATES FISH AND WILDLIFE SERVICE (USFWS)
61389 HWY 434
LACOMBE, LA, 70445

DESIGNED BY: S. HAYNES, P.E.

APPROVED BY: R. JOFFRION, P.E.

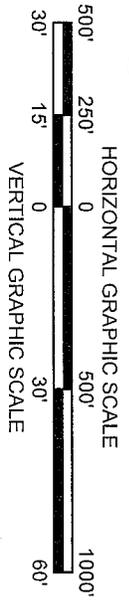
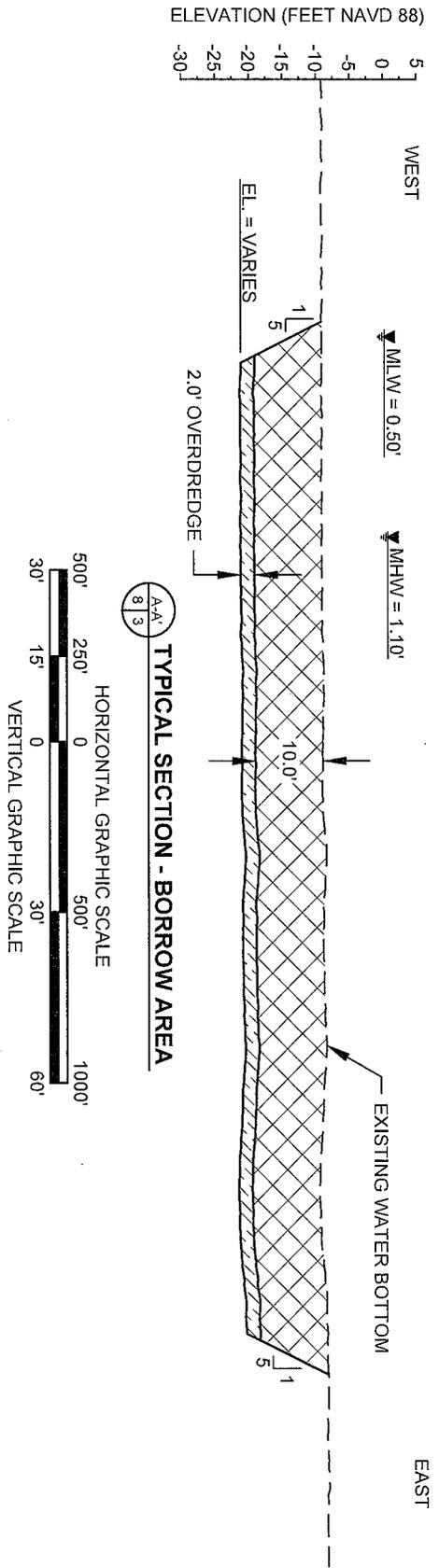
DATE: JULY 2015

SHEET 7 OF 17

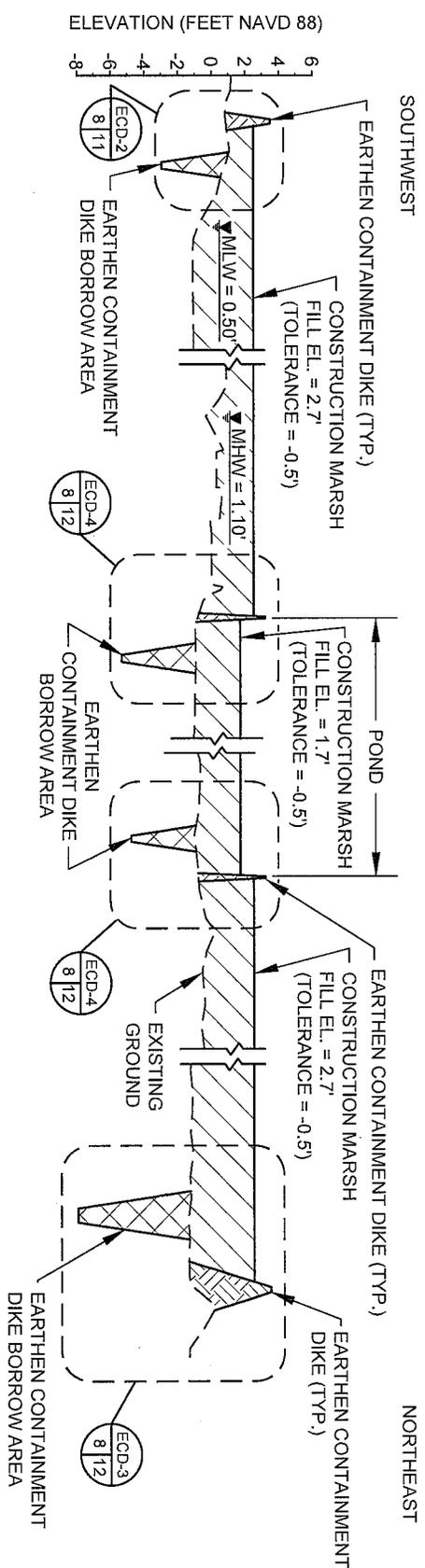
COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

BAYOU BONFOUCA
MARSH CREATION PROJECT

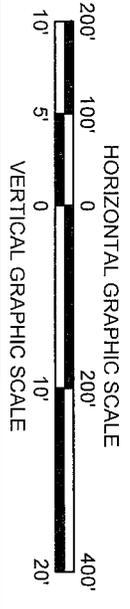
MARSH CREATION
AREA 4 LAYOUT



TYPICAL SECTION - BORROW AREA



TYPICAL SECTION - MARSH CREATION AREA 1



LEGEND	
	EARTHEN CONTAINMENT DIKE
	EARTHEN CONTAINMENT DIKE BORROW AREA
	MARSH CREATION FILL
	EXISTING GROUNDWATER BOTTOM

NOTE:
DISCHARGE SHALL BE DIRECTED TO
RETAIN AS MUCH MATERIAL AS POSSIBLE.

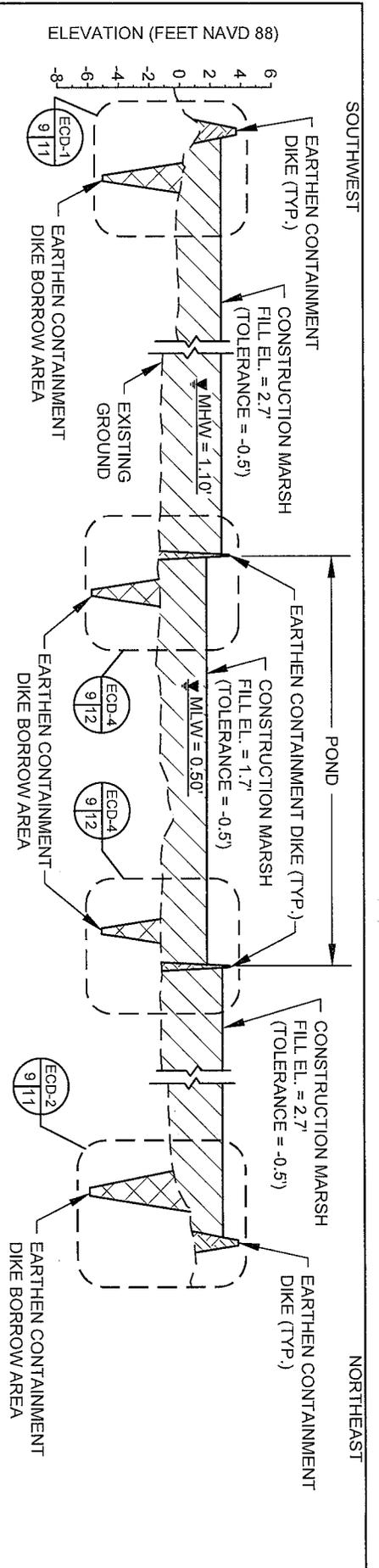
APPLICATION BY:
UNITED STATES FISH AND WILDLIFE SERVICE (USFWS)
61389 HWY 434
LACOMBE, LA, 70445

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

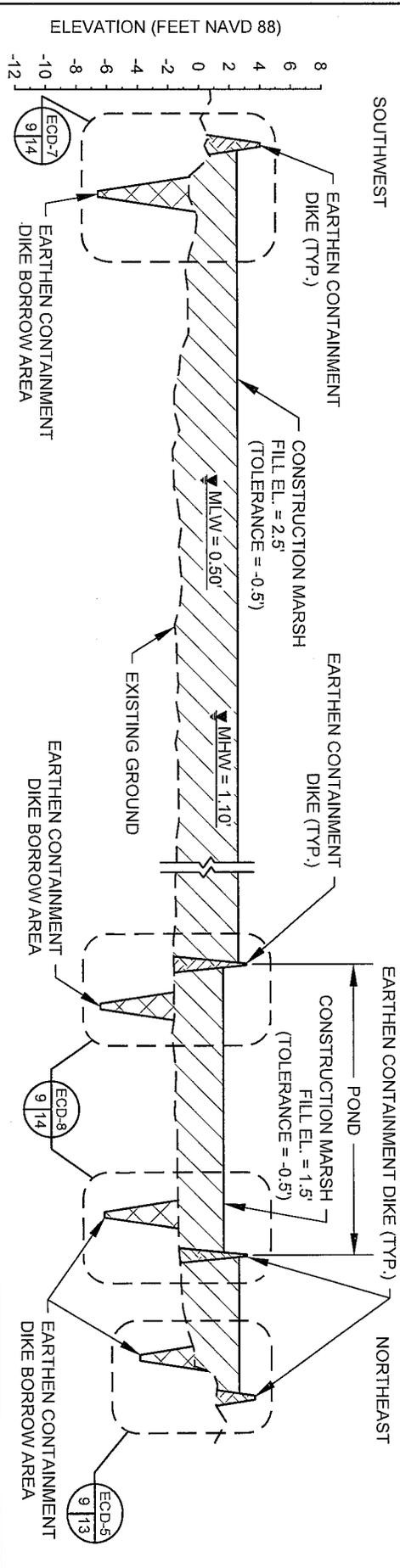
BAYOU BONFOUCA
MARSH CREATION PROJECT

TYPICAL SECTIONS

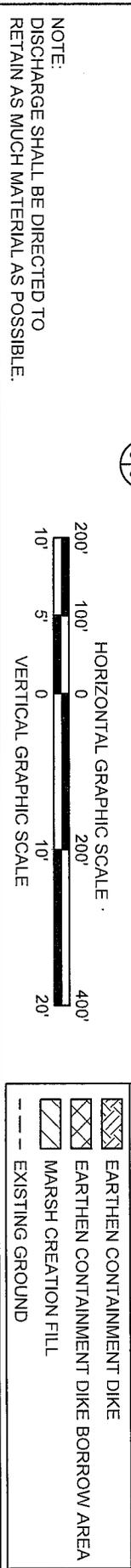
DRAWN BY: K. CANTU DESIGNED BY: S. HAYNES, P.E. APPROVED BY: R. JOFFRION, P.E. STATE PROJECT NUMBER: PO-104 FEDERAL PROJECT NUMBER: PO-104 DATE: JULY 2015 SHEET 8 OF 17



9|4 TYPICAL SECTION - MARSH CREATION AREA 1



9|5 TYPICAL SECTION - MARSH CREATION AREA 2



NOTE:
DISCHARGE SHALL BE DIRECTED TO
RETAIN AS MUCH MATERIAL AS POSSIBLE.

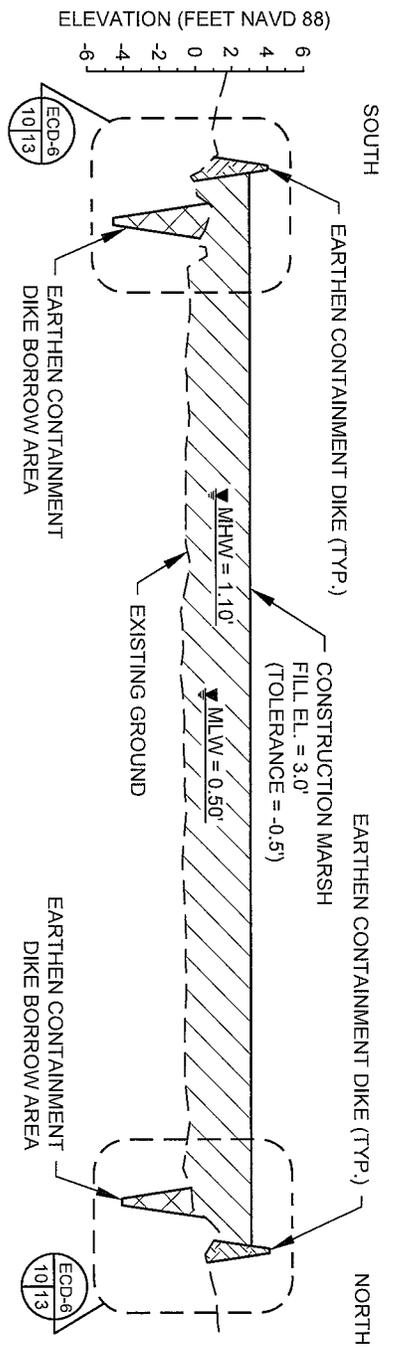
APPLICATION BY:
UNITED STATES FISH AND WILDLIFE SERVICE (USFWS)
61389 HWY 434
LACOMBE, LA, 70445

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

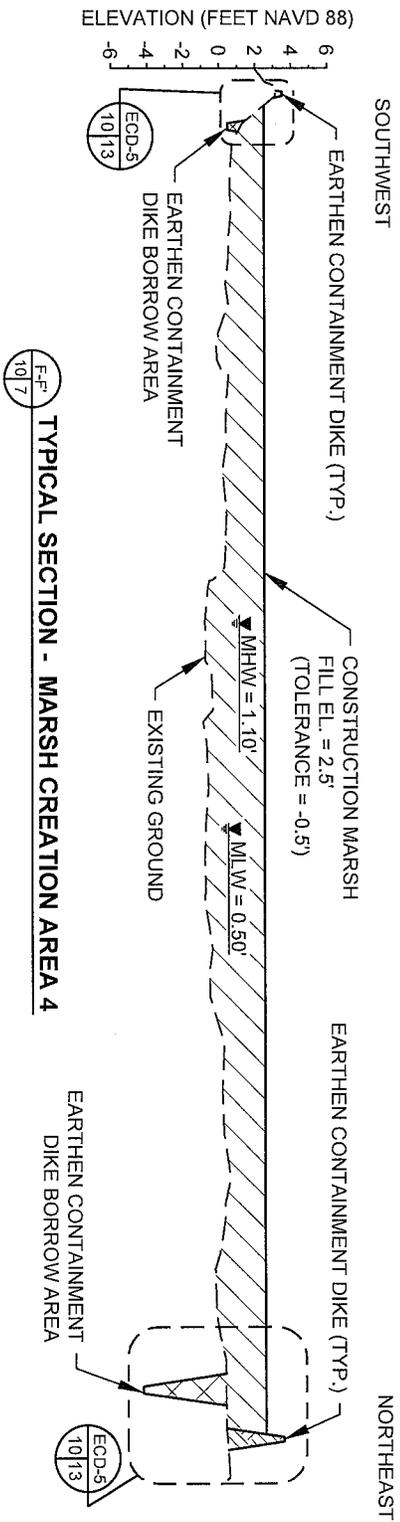
BAYOU BONFOUCA
MARSH CREATION PROJECT

TYPICAL SECTIONS

DRAWN BY: K. CANTU	DESIGNED BY: S. HAYNES, P.E.	APPROVED BY: R. JOFFRION, P.E.	FEDERAL PROJECT NUMBER: PO-104	SHEET 9 OF 17
STATE PROJECT NUMBER: PO-104		DATE: JULY 2015		



10|6
TYPICAL SECTION - MARSH CREATION AREA 3



10|7
TYPICAL SECTION - MARSH CREATION AREA 4

NOTE:
DISCHARGE SHALL BE DIRECTED TO
RETAIN AS MUCH MATERIAL AS POSSIBLE.



LEGEND	
	EARTHEN CONTAINMENT DIKE
	EARTHEN CONTAINMENT DIKE BORROW AREA
	MARSH CREATION FILL
	EXISTING GROUND

APPLICATION BY:
UNITED STATES FISH AND WILDLIFE SERVICE (USFWS)
61389 HWY 434
LACOMBE, LA, 70445

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

BAYOU BONFOUCA
MARSH CREATION PROJECT

TYPICAL SECTIONS

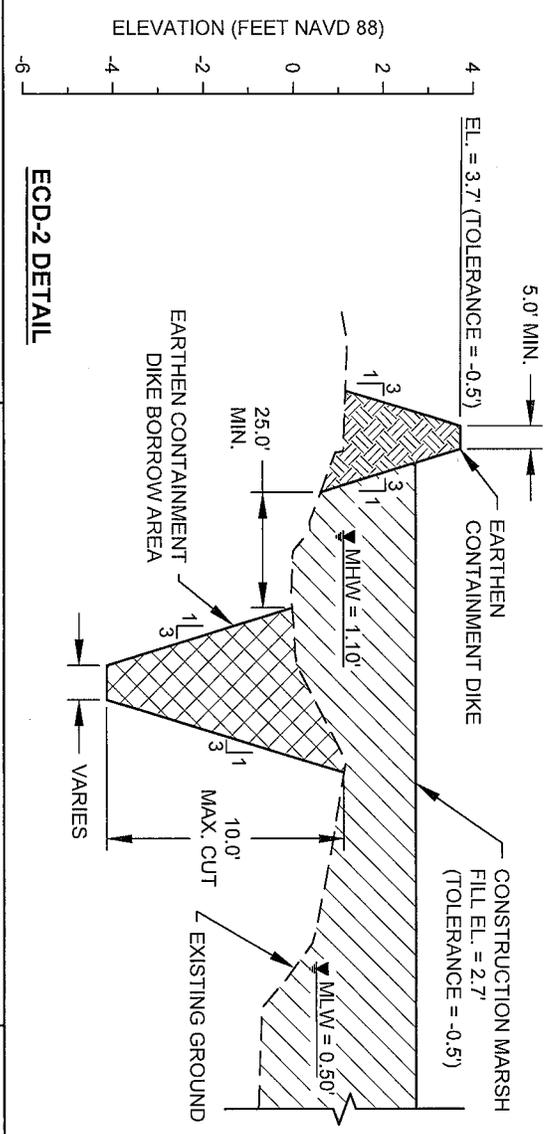
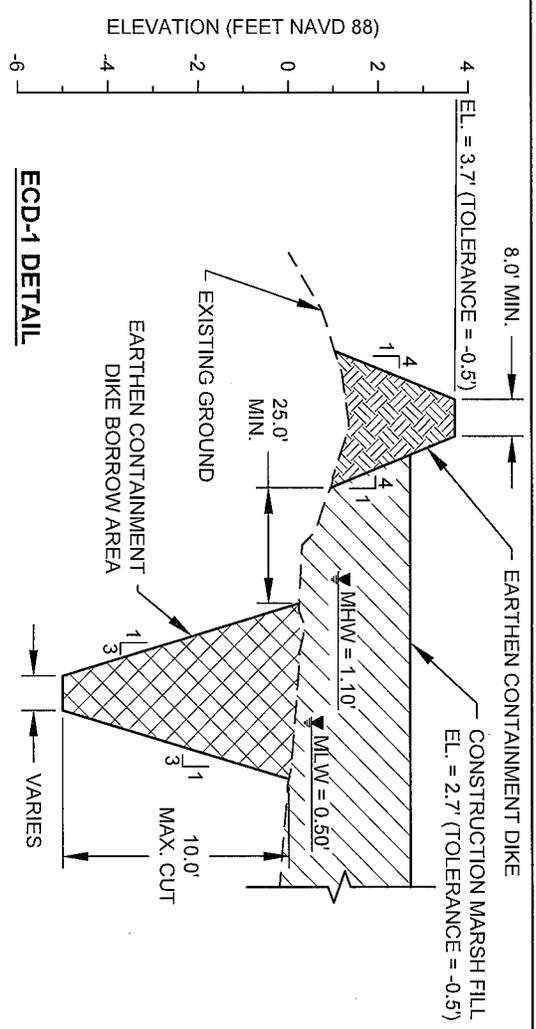
DRAWN BY: K. CANTU

DESIGNED BY: S. HAYNES, P.E.

APPROVED BY: R. JOFFRION, P.E.

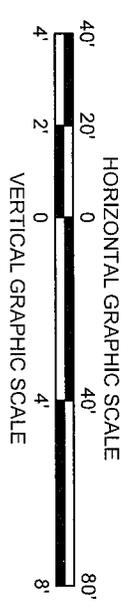
STATE PROJECT NUMBER: PO-104
FEDERAL PROJECT NUMBER: PO-104

DATE: JULY 2015
SHEET 10 OF 17

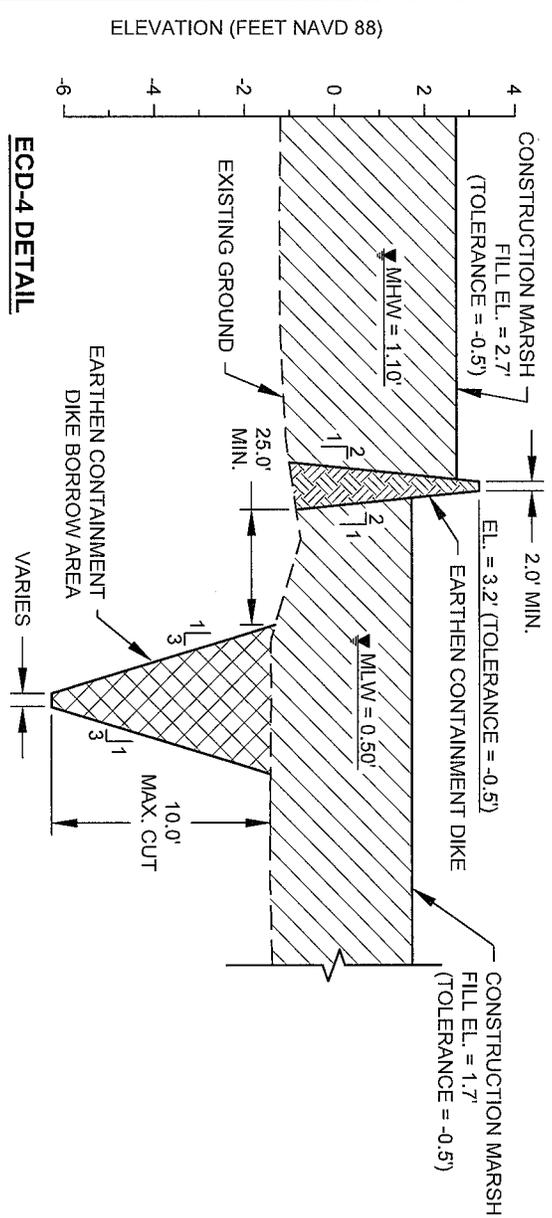
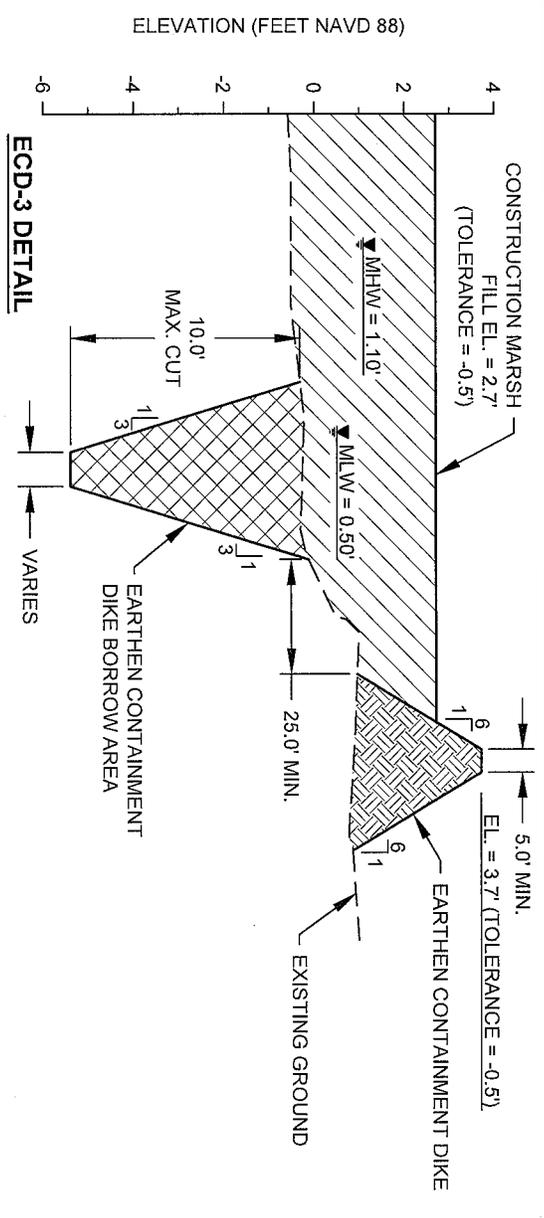


LEGEND	
	EARTHEN CONTAINMENT DIKE
	EARTHEN CONTAINMENT DIKE BORROW AREA
	MARSH CREATION FILL
	EXISTING GROUND

- NOTES:
1. EARTHEN CONTAINMENT DIKES SHALL BE CONSTRUCTED USING IN-SITU MATERIAL. SEE SHEETS 4 - 7 FOR EARTHEN CONTAINMENT DIKE LOCATIONS.
 2. THE EXISTING GROUND WITHIN THE PIPELINE CORRIDOR SHALL BE GRADED TO PRE-CONSTRUCTION CONDITIONS PRIOR TO DEMOBILIZATION.



APPLICATION BY: UNITED STATES FISH AND WILDLIFE SERVICE (USFWS) 61389 HWY 434 LACOMBE, LA, 70445	COASTAL PROTECTION AND RESTORATION AUTHORITY 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801	STATE PROJECT NUMBER: PO-104	CONTAINMENT DIKE DETAILS
		FEDERAL PROJECT NUMBER: PO-104	
DRAWN BY: K. CANTU	DESIGNED BY: S. HAYNES, P.E.	APPROVED BY: R. JOFFRION, P.E.	SHEET 11 OF 17



LEGEND

	EARTHEN CONTAINMENT DIKE
	EARTHEN CONTAINMENT DIKE BORROW AREA
	MARSH CREATION FILL
	EXISTING GROUND

NOTE:
EARTHEN CONTAINMENT DIKES SHALL BE CONSTRUCTED USING IN-SITU MATERIAL. SEE SHEETS 4-7 FOR EARTHEN CONTAINMENT DIKE LOCATIONS.



APPLICATION BY:
UNITED STATES FISH AND WILDLIFE SERVICE (USFWS)
61389 HWY 434
LACOMBE, LA, 70445

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DESIGNED BY: S. HAYNES, P.E.

APPROVED BY: R. JOFFRION, P.E.

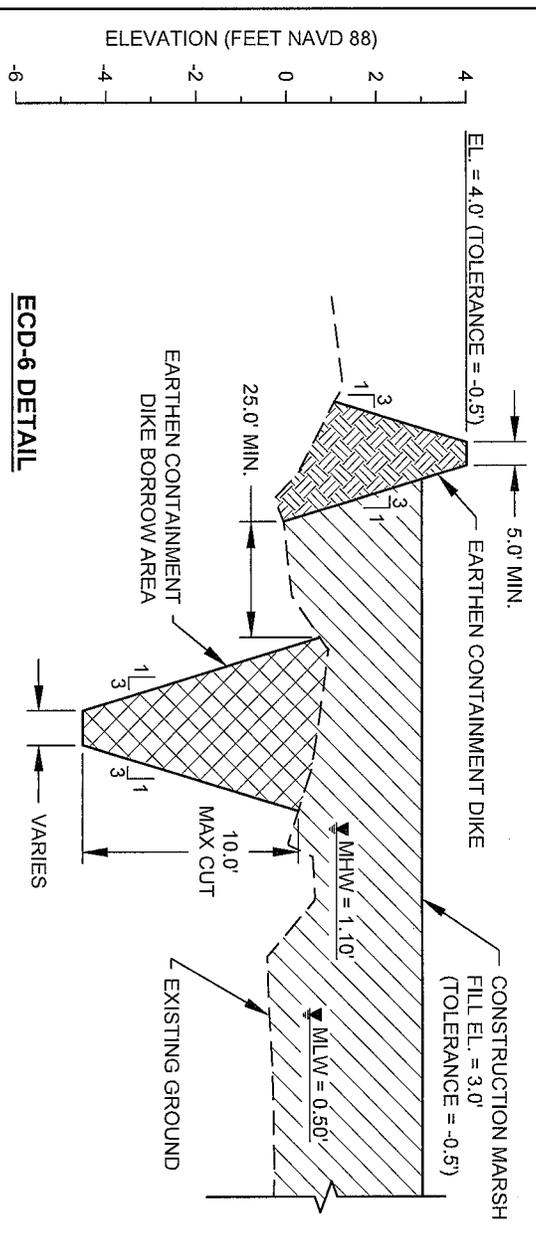
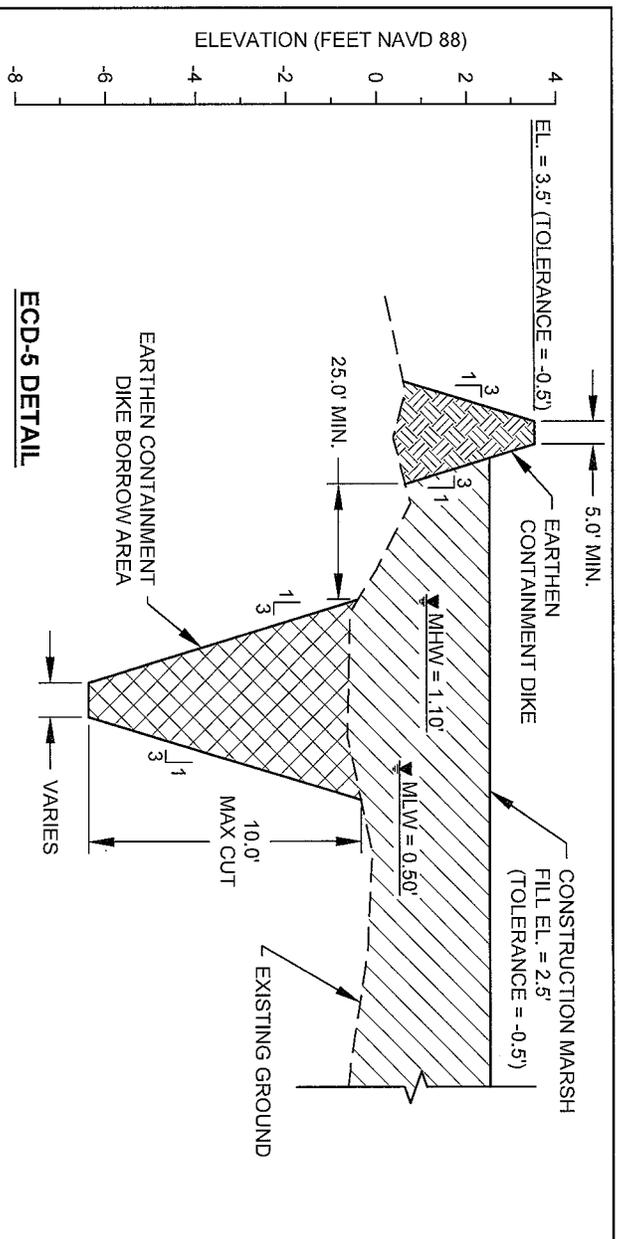
BAYOU BONFOUCA
MARSH CREATION PROJECT

STATE PROJECT NUMBER: PO-104

FEDERAL PROJECT NUMBER: PO-104

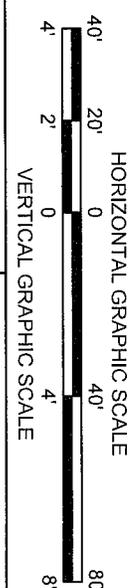
DATE: JULY 2015

SHEET 12 OF 17

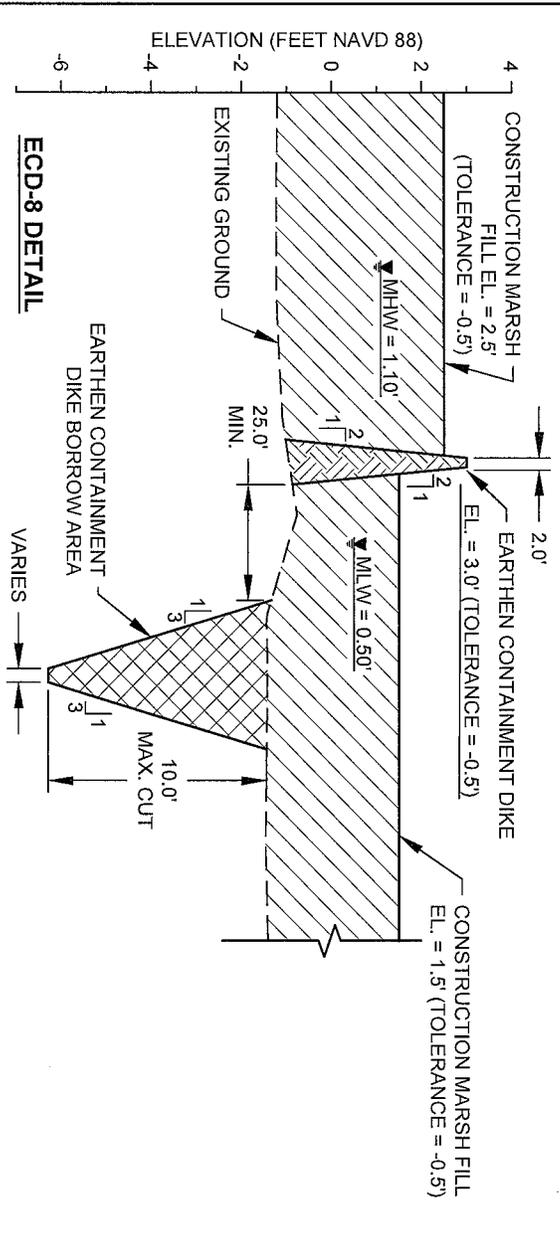
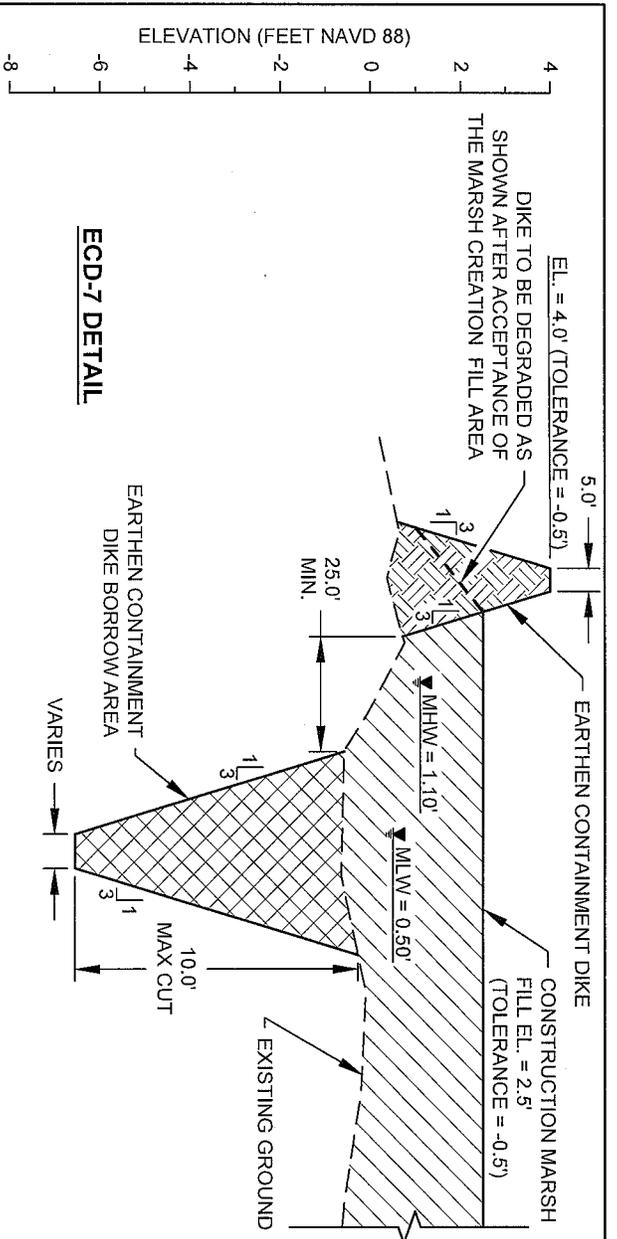


LEGEND	
	EARTHEN CONTAINMENT DIKE
	EARTHEN CONTAINMENT DIKE BORROW AREA
	MARSH CREATION FILL
	EXISTING GROUND

NOTE:
 EARTHEN CONTAINMENT DIKES SHALL BE CONSTRUCTED USING IN-SITU MATERIAL. SEE SHEETS 4 - 7 FOR EARTHEN CONTAINMENT DIKE LOCATIONS.

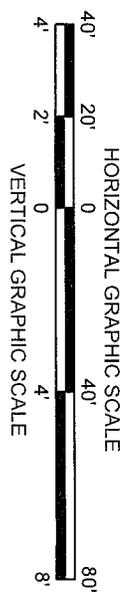


APPLICATION BY: UNITED STATES FISH AND WILDLIFE SERVICE (USFWS) 61389 HWY 434 LACOMBE, LA, 70445	COASTAL PROTECTION AND RESTORATION AUTHORITY 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801	BAYOU BONFOUCA MARSH CREATION PROJECT	CONTAINMENT DIKE DETAILS
DRAWN BY: K. CANTU	DESIGNED BY: S. HAYNES, P.E.	STATE PROJECT NUMBER: PO-104	DATE: JULY 2015
	APPROVED BY: R. JOFFRION, P.E.	FEDERAL PROJECT NUMBER: PO-104	SHEET 13 OF 17

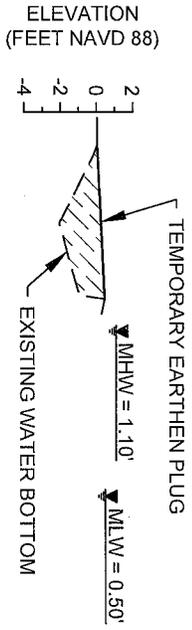


LEGEND	
	EARTHEN CONTAINMENT DIKE
	EARTHEN CONTAINMENT DIKE BORROW AREA
	MARSH CREATION FILL
	EXISTING GROUND
	EARTHEN CONTAINMENT DIKE DEGRADING

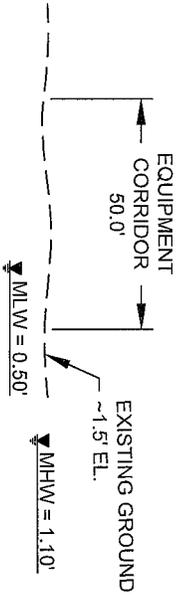
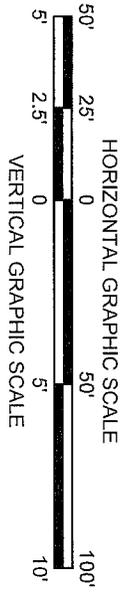
NOTE:
 EARTHEN CONTAINMENT DIKES SHALL BE
 CONSTRUCTED USING IN-SITU MATERIAL. SEE SHEETS
 4-7 FOR EARTHEN CONTAINMENT DIKE LOCATIONS.



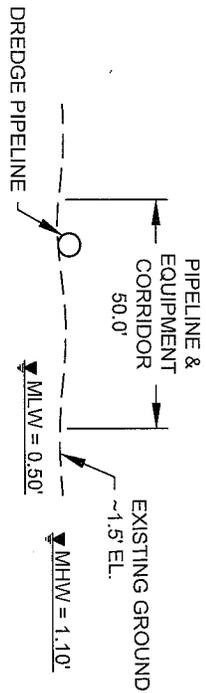
APPLICATION BY: UNITED STATES FISH AND WILDLIFE SERVICE (USFWS) 61389 HWY 434 LACOMBE, LA, 70445	COASTAL PROTECTION AND RESTORATION AUTHORITY 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801	
	DESIGNED BY: S. HAYNES, P.E.	APPROVED BY: R. JOFFRION, P.E.
DRAWN BY: K. CANTU	FEDERAL PROJECT NUMBER: PO-104	SHEET 14 OF 17
BAYOU BONFOUCA MARSH CREATION PROJECT	STATE PROJECT NUMBER: PO-104	CONTAINMENT DIKE DETAILS
DATE: JULY 2015		



TEMPORARY EARTHEN PLUG DETAIL



EQUIPMENT CORRIDOR 4A DETAIL
NOT TO SCALE

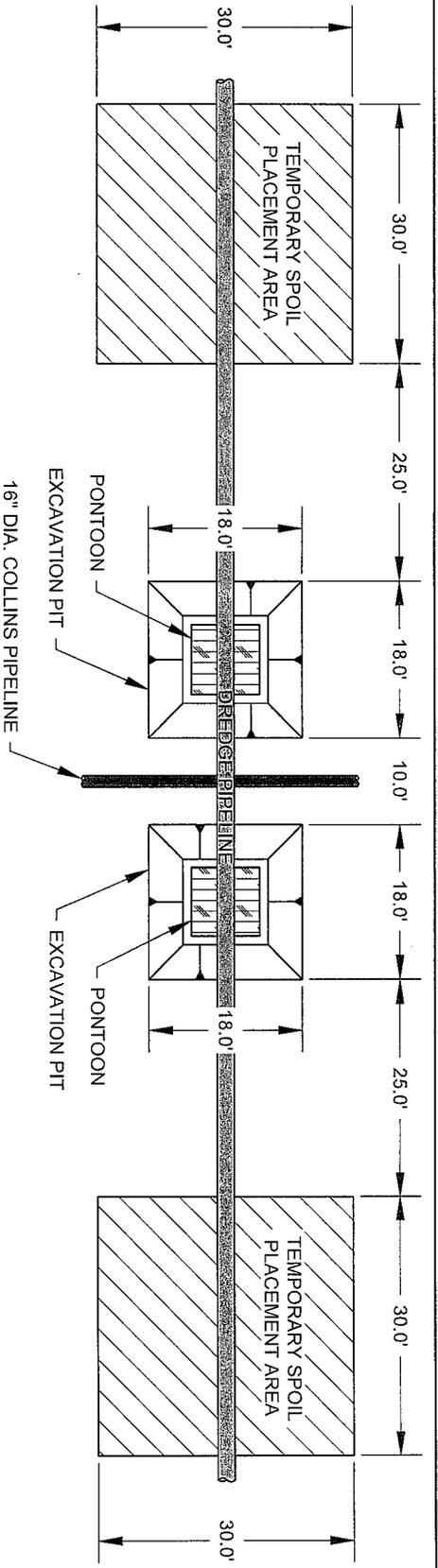


PIPELINE & EQUIPMENT CORRIDOR
1A, 1B, 2, AND 3 DETAIL
NOT TO SCALE

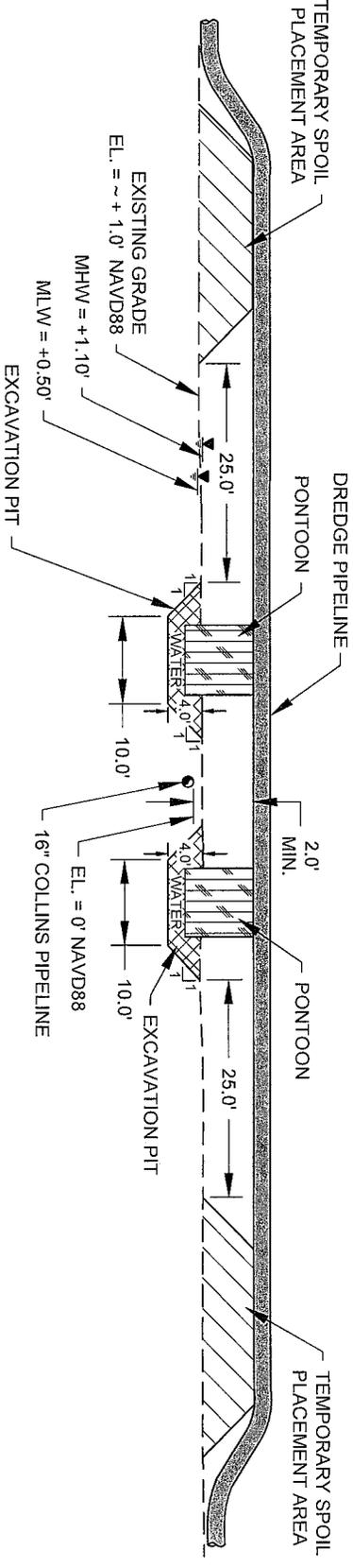
LEGEND	
	EARTHEN CONTAINMENT DIKE
	EARTHEN CONTAINMENT DIKE BORROW AREA
	MARSH CREATION FILL
	TEMPORARY EARTHEN PLUG
	EXISTING GROUND

NOTE:
THE EXISTING GROUND WITHIN THE PIPELINE CORRIDOR SHALL BE GRADED TO PRE-CONSTRUCTION CONDITIONS PRIOR TO DEMOBILIZATION.

APPLICATION BY: UNITED STATES FISH AND WILDLIFE SERVICE (USFWS) 61389 HWY 434 LACOMBE, LA, 70445	DESIGNED BY: S. HAYNES, P.E. APPROVED BY: R. JOFFRION, P.E.	BAYOU BONFOUCA MARSH CREATION PROJECT STATE PROJECT NUMBER: PO-104 FEDERAL PROJECT NUMBER: PO-104	EARTHEN PLUG & PIPELINE & EQUIPMENT CORRIDOR DETAILS DATE: JULY 2015
DRAWN BY: K. CANTU	COASTAL PROTECTION AND RESTORATION AUTHORITY 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801	SHEET 15 OF 17	



PLAN VIEW



SECTION VIEW



PIPELINE CORRIDOR 4B DETAIL
NOT TO SCALE

- NOTES:
1. SPOIL TO BE BACKFILLED.
 2. PONTOONS AND PIPELINE TO BE ANCHORED.

APPLICATION BY:
UNITED STATES FISH AND WILDLIFE SERVICE (USFWS)
61389 HWY 434
LACOMBE, LA, 70445

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

BAYOU BONFOUCA
MARSH CREATION PROJECT

PIPELINE CORRIDOR
DETAIL

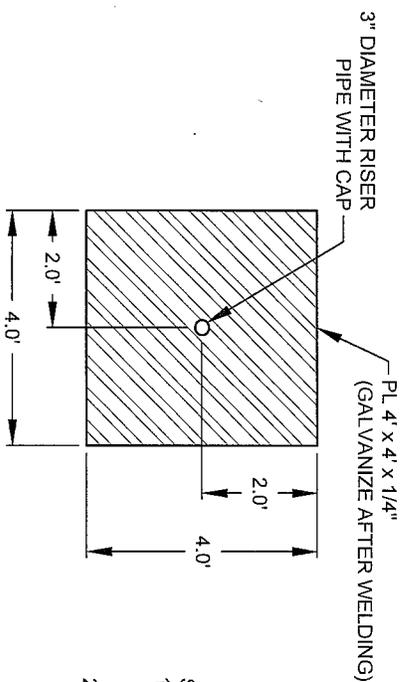
DRAWN BY: K. CANTU

DESIGNED BY: S. HAYNES, P.E.

APPROVED BY: R. JOFFRION, P.E.

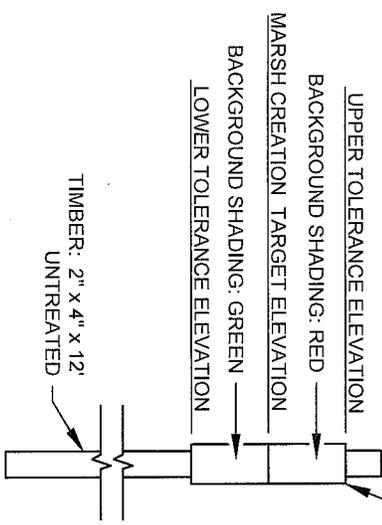
STATE PROJECT NUMBER: PO-104
FEDERAL PROJECT NUMBER: PO-104

DATE: JULY 2015
SHEET 16 OF 17

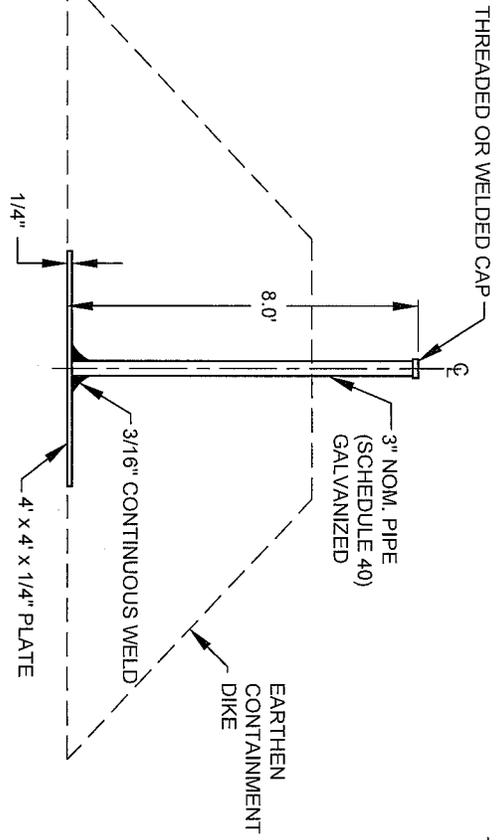


- SETTLEMENT PLATE NOTES:
1. SETTLEMENT PLATES SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.
 2. LOCATION AND ELEVATION WILL BE RECORDED DURING AS-BUILT SURVEY.

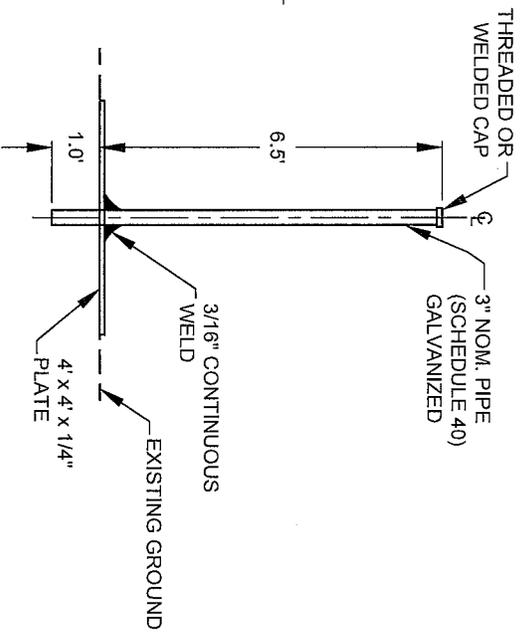
GAUGE SIGN: 4" WIDE x 12" HIGH 0.120" RIGID SUBSTRATE WITH ENGINEER-GRADE REFLECTIVE SHEETING (SEE TS-3 OF THE SPECIFICATIONS FOR ADDITIONAL DETAILS)



GRADE STAKE DETAIL
NOT TO SCALE



EARTHEN CONTAINMENT DIKE SETTLEMENT PLATE
(SEE NOTE 2)
NOT TO SCALE



MARSH CREATION SETTLEMENT PLATE
NOT TO SCALE

APPLICATION BY:
UNITED STATES FISH AND WILDLIFE SERVICE (USFWS)
61389 HWY 434
LACOMBE, LA, 70445

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

BAYOU BONFOUCA
MARSH CREATION PROJECT

SETTLEMENT PLATE AND
GRADE STAKE DETAILS

DRAWN BY: K. CANTU

DESIGNED BY: S. HAYNES, P.E.

APPROVED BY: R. JOFRIGON, P.E.

FEDERAL PROJECT NUMBER: PO-104
STATE PROJECT NUMBER: PO-104

DATE: JULY 2015
SHEET 17 OF 17



UNITED STATES DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

NATIONAL MARINE FISHERIES SERVICE

Southeast Regional Office

263 13th Avenue South

St. Petersburg, Florida 33701-5505

<http://sero.nmfs.noaa.gov>

F/SER31: RGH

Michael V. Farabee
Chief, Eastern Evaluation Section, Regulatory Branch
New Orleans District Corps of Engineers
Department of the Army
P.O. Box 60267
New Orleans, Louisiana 70160-0267

OCT 08 2015

David Walther
U.S. Fish and Wildlife Service
646 Cajundome Boulevard, Suite 400
Lafayette, Louisiana 70506

Ref.: Bayou Bonfouca Marsh Creation Project (PO-104), Saint Tammany Parish, Louisiana

Dear Messer's. Farabee and Walther:

This letter responds to your request for consultation with us, the National Marine Fisheries Service (NMFS), pursuant to Section 7 of the Endangered Species Act (ESA) for the following action.

Permit Number	Applicant(s)	SER Number	Project Type(s)
MVN-2012-01645-ETT	State of Louisiana, Office of Coastal Protection and Restoration on behalf of the U.S. Fish and Wildlife Service	SER-2013-11271	Borrow Site Dredging and Marsh Creation

Consultation History

We received your consultation request on January 30, 2013. Between April 2, 2013, and May 21, 2015, we requested additional information. We received the final response on May 21, 2015, and we initiated consultation that day.

Project Location

Address	Latitude/Longitude (North American Datum 1983)	Water body
Bayou Bonfouca and Bayou Liberty in Saint Tammany Parish, Louisiana – Borrow Area	30.223444 °N, 89.853750 °W	Lake Pontchartrain



Bayou Bonfouca and Bayou Liberty in Saint Tammany Parish, Louisiana – Cell 1	30.244722 °N, 89.856444 °W	Lake Pontchartrain
Bayou Bonfouca and Bayou Liberty in Saint Tammany Parish, Louisiana – Cell 2	30.258417 °N, 89.856444 °W	Lake Pontchartrain
Bayou Bonfouca and Bayou Liberty in Saint Tammany Parish, Louisiana – Cell 3	30.252417 °N, 89.867583 °W	Lake Pontchartrain
Bayou Bonfouca and Bayou Liberty in Saint Tammany Parish, Louisiana – Cell 4	30.255000 °N, 89.881639 °W	Lake Pontchartrain

Existing Site Conditions

The applicant proposes a marsh creation, nourishment, and shoreline restoration project to fill open water and broken marsh areas along the northern shoreline of Lake Pontchartrain (Figures 1 and 2). Water clarity in the Lake is normally low. Lake Pontchartrain has an average salinity of 4 parts per thousand (ppt) and the project area has an average salinity of 3.5 ppt. Salinities in the Lake are affected by the freshwater discharges from the Amite, Tangipahoa, and Pearl Rivers and saltwater inputs primarily through the tidal connection of the Rigolets.¹ Operation of the Bonnet Carré Spillway (a project feature of the Mississippi River and Tributaries Flood Control Project) infrequently (approximately every 10 years) maintains freshwater in the lake for extended periods of time (e.g., January through late June). Dissolved oxygen (DO) levels tend to be higher in northern Lake Pontchartrain than in the southern portions of the Lake.

The borrow areas are approximately one half-mile directly south from the mouth of Bayou Liberty creek. The existing depth in the borrow areas is approximately 10 feet (ft). No submerged aquatic vegetation is reported in the borrow area. Bottom substrate generally consists of sandy silt/clay mixture, with surficial sand content less than 75%.

The marsh restoration area is located on the north shore of Lake Pontchartrain. The marsh creation cells are located north of the existing lake shoreline in low salinity, brackish conditions. The sites are predominantly shallow open water areas that have formed due to the conversion of wetlands to open water interspersed with degraded low salinity marshes.

Project Description

The applicant proposes to use a hydraulic cutterhead dredge to remove material from 2 borrow sites within Lake Pontchartrain. The dredged material will be transported via pipeline into 4 marsh creation cells. The project is expected to create and/or nourish up to 641 acres (ac) of marsh habitat immediately landward of the shoreline and restore portions of the Lake Pontchartrain shoreline.

¹ Sikora, W. and J. Sikora. 1982. Ecological characterization of the benthic community of Lake Pontchartrain, Louisiana. LSU-CEL-82-05. Coastal Ecology Laboratory, Center for Wetland Resources, Louisiana State University, Baton Rouge, Louisiana. 214 pp.



Figure 1. Image showing Bayou Bonfouca Marsh Creation project location and surrounding area (USFWS 2015²³)

² USFWS, 2015, Biological Evaluation for Bayou Bonfouca Marsh Creation (PO-104), Saint Tammany Parish, Louisiana. USFWS Ecological Services, Lafayette, Louisiana. 54p.

³ On July 23, 2014, the USFWS revised the common name for the Gulf sturgeon (*Acipenser oxyrinchus desotoi*) to Atlantic sturgeon, Gulf sub-species. Note that in the legend for Figure 1, Gulf sturgeon critical habitat, as described in 68 FR 13370 (March 19, 2003), is labeled "Atlantic Sturgeon Critical Habitat."



Figure 2. Image showing Bayou Bonfouca Marsh Creation project locations and surrounding area (USFWS 2015⁴)

⁴ USFWS, 2015, Biological Evaluation for Bayou Bonfouca Marsh Creation (PO-104), Saint Tammany Parish, Louisiana. USFWS Ecological Services, Lafayette, Louisiana. 54p.

Marsh Creation and Restoration Sites

Marsh restoration will be conducted in four cells (see Figure 1). Cell 1 consists of 322 ac and will require 20,948 linear feet (lin ft) of earthen retention dike and will contain 2,223,322 cubic yards (yd³) of material. Cell 2 covers 155 ac and will require 14,361 lin ft of earthen retention dike and will contain 988,496 yd³ of material. Cell 3 consists of 32 ac and will require 4,720 lin ft of earthen retention dike and will contain 220,643 yd³ of material. Cell 4 consists of 116 ac and will require 11,495 lin ft of earthen retention dike and will contain 531,864 yd³ of material.

Earthen containment dikes will be constructed around the perimeter of each marsh creation cell. Retention dikes will be constructed using marsh buggies. The dredge discharge will be piped to the marsh creation sites and contained by the surrounding earthen containment dikes. The discharge will be contained so that the sediment can settle, and decanted water can drain through dewatering outfalls. After dewatering and consolidation of the dredged materials, the retention dikes will be degraded or gapped within 3 years of construction. Gapping sections of the dikes will provide hydrologic and tidal connectivity for the marsh creation sites. Native vegetation will be planted on the Lake Pontchartrain shoreline in Cell 1. All marsh creation sites and other containment dikes will be allowed to vegetate naturally or be planted with appropriate species by nonprofit organizations. Other marsh creation sites in this area with similar environmental aspects (mainly salinity) have completely vegetated within 2 or 3 years. Implementation of this restoration project will result in the creation or nourishment of approximately 641 ac of tidal marsh habitat.

Borrow Sites

Earthen materials will be mined from the borrow areas via hydraulic cutterhead dredge. The 403-acre borrow site is located approximately a half-mile south of Bayou Bonfouca as shown in Figures 1 and 2. Using geotechnical information gathered during project design, the borrow area was sited to avoid areas with surficial sand concentrations greater than 75% to avoid impacting areas that are considered preferred Gulf sturgeon feeding habitat. This approach was based upon a report that sturgeon are most often located in areas where sand comprised 80% or more of the substrate,⁵ which contain significant prey resources.

The borrow area will be excavated to a maximum depth of 12 ft (10 ft plus allowable 2 ft overdredge) below existing lake bottom, to a total depth of no more than 23 ft. The proposed borrow plan has been developed with an emphasis of mimicking a natural depression in the lake bottom. Modeling of the borrow areas effect on the movement of water was conducted in an effort to create a borrow pit design that would not create detrimental water quality conditions. As a result, a limited dredging depth (10 ft with 2 ft allowable overdredge) and gradual borrow area side slopes of 1V:3H are designed to facilitate tidal flushing, thus reducing the amount of time water spends within the pit, and reducing the likelihood of low DO conditions. Monitoring of dissolved oxygen levels in a dredged hole along the south shore of Lake Pontchartrain

⁵ Fox, D.A., J.E. Hightower, and F.M. Parauka. 2000. Gulf sturgeon, Spawning Migration and Habitat in the Choctawhatchee River System, Alabama-Florida. Transactions of the American Fisheries Society 129:811-826.

indicated that frequent, low (less than 2 parts per million [ppm]) dissolved oxygen conditions frequently occurred at depths of 40 ft and greater and infrequently occurred at shallower depths.⁶

Designated corridors will be used for vessel traffic and dredge material discharge pipeline placement between the borrow site and marsh creation to limit potential impacts to benthic (bottom-dwelling) resources. The pipeline will be either a submerged line without anchoring or floating pipeline depending on the contractor's preference

Construction Conditions

The applicant will adhere to NMFS's *Sea Turtle and Smalltooth Sawfish Construction Conditions*, dated March 23, 2006 (enclosed). Construction is anticipated to take approximately 6 months to complete.

Effects Determination(s) for Species the Action Agency or NMFS Believes May Be Affected by the Proposed Action

Species	ESA Listing Status	Action Agency Effect Determination	NMFS Effect Determination
Sea Turtles			
Green sea turtle	E/T ⁷	-	NLAA
Kemp's ridley sea turtle	E	-	NLAA
Loggerhead sea turtle (Northwest Atlantic Ocean distinct population segment [DPS])	T	-	NLAA
Fish			
Gulf sturgeon (Atlantic sturgeon, Gulf subspecies)	T	NLAA	NLAA
E = endangered; T = threatened; NLAA = may affect, not likely to adversely affect			

⁶ Flocks, J. and C. Franze. 2002. Environmental Issues - Dredge Pit Characterization, in S. Penland, A. Beall and J. Kindinger (editors), Environmental Atlas of the Lake Pontchartrain Basin: Lake Pontchartrain Basin Foundation, New Orleans, LA U.S. Geological Survey Open File Report 02-xxx. <http://pubs.usgs.gov/of/2002/of02-206/env-issues/pit-characterization.html>

⁷ The green sea turtle was listed as threatened under the ESA on July 28, 1978, except for the Florida and Pacific coast of Mexico breeding populations, which were listed as endangered. On March 23, 2015, NMFS and FWS published a proposed rule (80 FR 15271) to list 11 distinct population segments (DPSs) of green sea turtle. This includes the North Atlantic DPS that could occur within the action area if the DPS boundaries do not change. The North Atlantic DPS is proposed to be listed as threatened. A conference consultation concerning species proposed to be listed is only required when an action is likely to jeopardize the continued existence of a species (or DPS) proposed for listing, which is not anticipated from this proposed action. Reinitiation of this formal consultation may be required if the DPSs are listed as proposed.

Critical Habitat

The project borrow sites are located in Gulf sturgeon critical habitat, Unit 8- Lake Pontchartrain, Mississippi Sound; the marsh cells are not located in critical habitat. The following essential features/primary constituent elements (PCEs) are present in Unit 8:

- 1) abundant prey items within riverine habitats for larval and juvenile life stages, and within estuarine and marine habitats for juvenile, subadult, and adult life stages
- 2) water quality, including temperature, salinity, pH, hardness, turbidity, oxygen content, and other chemical characteristics, necessary for normal behavior, growth, and viability of all life stages
- 3) sediment quality, including texture and other chemical characteristics, necessary for normal behavior, growth, and viability of all life stages
- 4) safe and unobstructed migratory pathways necessary for passage within and between riverine, estuarine, and marine habitats (e.g., a river unobstructed by a permanent structure, or a dammed river that still allows for passage)

However, we do not believe that safe and unobstructed migratory pathways will be affected by the proposed action, because the proposed project will not result in permanent habitat modifications that would block fish movement. We believe only the following PCEs may be affected by the proposed action:

- 1) abundant prey items within riverine habitats for larval and juvenile life stages, and within estuarine and marine habitats for juvenile, subadult, and adult life stages
- 2) water quality, including temperature, salinity, pH, hardness, turbidity, oxygen content, and other chemical characteristics, necessary for normal behavior, growth, and viability of all life stages
- 3) sediment quality, including texture and other chemical characteristics, necessary for normal behavior, growth, and viability of all life stages

Analysis of Potential Routes of Effects to Species

Three species of sea turtles (green, Kemp's ridley, and loggerhead) and Gulf sturgeon can be found in the action areas and may be affected by the project. We do not expect these species to be present in the marsh cells, and we do not anticipate any routes of effects to listed species as a result of the marsh creation/restoration activities. We have identified the following potential effects to green, Kemp's ridley, and loggerhead sea turtles and Gulf sturgeon and concluded the species are not likely to be adversely affected by the proposed action for the reasons described below:

Dredge interactions with sea turtles: Sea turtles can be injured or killed as a result of interactions with dredging equipment; however, NMFS believes the chance of adverse effects from interactions with hydraulic cutterhead dredging equipment is discountable as these species are

highly mobile, able to detect the noisy dredge, and are likely to avoid the areas during dredging. NMFS has previously determined that non-hopper-type dredging activities, including hydraulic cutterhead dredges, are not likely to adversely affect sea turtles, primarily because they are noisy, slow moving, and only affect small areas at a time, enabling sea turtles to detect and avoid them.⁸ Stranding data suggest that cold-stunned turtles may be taken by cutterhead dredges while they are lethargic or dying, although this possibility is rare and discountable. Additionally, the applicant has agreed to implement NMFS's *Sea Turtle and Smalltooth Sawfish Construction Conditions*, which will further reduce the risk of entrainment by requiring all construction personnel to watch for listed species and stop all work if one is seen within 50 ft of operations.

Dredge interactions with Gulf sturgeon: The project may adversely affect sturgeon as a result of interactions with equipment or materials used during dredging; however, NMFS believes the chance of adverse effects from interactions with hydraulic cutterhead dredging equipment is discountable as these species are highly mobile, able to detect the noisy dredge, and are likely to avoid the areas during dredging. Given the unconfined location of the dredging and the fact that there is no history of Gulf sturgeon take by cutterhead dredge in this region, we believe it highly unlikely that an individual sturgeon would be captured or injured by a cutterhead dredge, thus the risk is discountable. Additionally, the applicant has agreed to implement NMFS's *Sea Turtle and Smalltooth Sawfish Construction Conditions*, which will further reduce the risk of entrainment by requiring all construction personnel to watch for listed species and stop all work if one is seen within 50 ft of operations.

Dredging may also result in temporary loss of availability of benthic prey for Gulf sturgeon. This displacement of food items (prey species) from the borrow area will not decrease the prey available to Gulf sturgeon as there are abundant, similar foraging habitats nearby. Additionally, Gulf sturgeon are opportunistic feeders that will be able to forage over large distances and locate prey beyond the immediate area of dredging and return when construction is complete. Accordingly, any impact from the temporary loss of prey will be insignificant.

Effects of turbidity on Gulf sturgeon: The proposed dredging may cause increased turbidity. Turbidity can affect Gulf sturgeon by causing them to avoid the habitat or by mechanically abrading the gills. We believe this effect will be insignificant. Existing site conditions are normally highly turbid. We anticipate that increased turbidity would occur only in the immediate vicinity of dredging and the effects would be localized and temporary. It is also anticipated that Gulf sturgeon would avoid the active work area. We anticipate any effect of increased turbidity on Gulf sturgeon would not be measurable and therefore insignificant.

Effects of low dissolved oxygen on Gulf sturgeon: The dredging of the borrow site in Lake Pontchartrain could lead to hypoxic or anoxic conditions within that borrow site. Low DO levels can kill sturgeon if unable to flee from the affected area. Low DO levels have also been associated with a decrease in benthic organisms (food source). We believe these effects will be

⁸ NMFS. 2007. Revision 2 to the November 19, 2003, Gulf of Mexico Regional Biological Opinion to the U.S. Army Corps of Engineers on Hopper Dredging of Navigation Channels and Borrow Areas in the U.S. Gulf of Mexico. National Marine Fisheries Service, Southeast Regional Office, Protected Resources Division, St. Petersburg, Florida. January 9, 2007. 15 pp.

discountable. Based on the analysis provided by the U.S. Fish and Wildlife Service (USFWS) of retention and flushing times in the proposed borrow areas, it is unlikely that the sites will develop low DO conditions. Currently, the water depths within the proposed borrow site are between 10 and 13 ft. Post construction, maximum water depth would be no greater than -23 ft within the borrow site or -10 ft below the mud line. Monitoring of DO levels in previously dredged areas along the south shore of Lake Pontchartrain indicated that chronic, low DO (less than 2 ppm) conditions frequently occurred at depths of 40 ft and greater and infrequently occurred at shallower depths.⁹ Borrow areas with depths in the 20 ft range rarely dropped below the critical threshold of 2 ppm. The borrow site is located on the northern side of the Lake where low DO conditions are less prevalent than the southern portion of the Lake.

Although the proposed dredging is not anticipated to create conditions leading to DO levels below critical thresholds for Gulf sturgeon or benthic prey, in the event such conditions did develop, large, un-dredged areas with sufficient water quality characteristics are located nearby, making any potential effect to Gulf sturgeon as a result of low DO levels in the project area insignificant.

Analysis of Potential Routes of Effect to Critical Habitat

The abundant prey items essential feature (PCE 1) may be affected by killing and displacing benthic marine organisms as a result of dredging. These impacts are primarily short-term in nature. Observed rates of benthic community recovery, after removal of dredged material, range from 3-24 months.^{10,11,12} The relatively species-poor benthic assemblages associated with low-salinity estuarine sediments can recover in periods of time ranging from a few months to approximately 1 year^{13,14,15,16,17,18}, while the more diverse communities of high-salinity estuarine

⁹ Flocks, J. and C. Franze. 2002. Environmental Issues - Dredge Pit Characterization, in S. Penland, A. Beall and J. Kindinger (editors), Environmental Atlas of the Lake Pontchartrain Basin: Lake Pontchartrain Basin Foundation, New Orleans, LA U.S. Geological Survey Open File Report 02-xxx. <http://pubs.usgs.gov/of/2002/of02-206/env-issues/pit-characterization.html>

¹⁰ Culter, J. K., and S. Mahadevan. 1982. Long-Term Effects of Beach Nourishment on the Benthic Fauna of Panama City Beach, Florida. Miscellaneous Report No. 82-2. Mote Marine Laboratory, Mote Technical Report No. 45, Sarasota, FL.

¹¹ Saloman, C. H., S. P. Naughton, and J. L. Taylor. 1982. Benthic Community Response to Dredging Borrow Pits, Panama City Beach, Florida. Pages 141 in. National Marine Fisheries Service, Panama City Beach, Southeast Fisheries Center.

¹² Wilber, D. H., D. G. Clarke, and S. I. Rees. 2007. Responses of benthic macroinvertebrates to thin-layer disposal of dredged material in Mississippi Sound, USA. *Marine Pollution Bulletin* 54(1):42-52.

¹³ Clarke, D. G., and T. Miller-Way. 1992. An environmental assessment of the effects of open-water disposal of maintenance dredged material on benthic resources in Mobile Bay, Alabama. Miscellaneous Paper No. D-92-1. U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.

¹⁴ Leathem, W., P. Kinner, D. Maurer, R. Biggs, and W. Treasure. 1973. Effect of spoil disposal on benthic invertebrates. *Marine Pollution Bulletin* 4(8):122-125.

¹⁵ McCauley, J. E., D. R. Hancock, and R. A. Parr. 1976. Maintenance dredging and four polychaete worms. Pages Pp. 673-683 in Proceedings of the Specialty Conference on Dredging and Its Environmental Effects, Mobile, AL

¹⁶ McCauley, J. E., R. A. Parr, and D. R. Hancock. 1977. Benthic infauna and maintenance dredging: A case study. *Water Research* 11(2):233-242.

¹⁷ Van Dolah, R. F., D. R. Calder, and D. M. Knott. 1984. Effects of dredging and open water disposal in a South Carolina estuary. *Estuaries* 7(1):28-37.

sediments may require a year or longer.¹⁹ Further, the borrow site was located and configured to avoid areas with sand concentrations greater than 75%; sturgeon often forage in areas where sand comprised 80% or more of the substrate. Therefore, overall effects to the ecological functions and values of the prey abundance feature of critical habitat unit for Gulf sturgeon will be insignificant.

The water quality essential feature (PCE 2) may be affected by turbidity caused by dredging and disposal in the marsh creation areas activities, which is outside of Gulf sturgeon critical habitat. Turbidity impacts are expected to be temporary, localized and minimal, with suspended particles settling out within a short time frame without measurable effects on water quality. Given that the sediment to be removed consists of a sandy silt/clay mixture expected to be of similar consistency to adjacent material, and the applicant is limiting the dredge depth to minimize development of low DO conditions, NMFS does not expect changes in temperature, salinity, pH, hardness, oxygen content, or other chemical characteristics to occur from the dredging disturbance and subsequent settling of agitated loose material not captured in the dredge. Temporary increases in turbidity will be apparent during excavation, but localized impacts will be decreased by wave action. Thus any impacts to water quality are expected to be insignificant.

The sediment quality essential feature (PCE 3) may be affected by the dredging activities. As stated above, the content of the borrow areas is less than 75% sand and sandier substrates will be avoided to minimize impacts to sturgeon foraging habitat. The sediment quality, texture, and composition of the sediment underlying the borrow material are expected to be identical to that of the borrow material. Therefore, effects to the sediment quality essential feature of critical habitat unit for Gulf sturgeon will be insignificant.

Conclusion

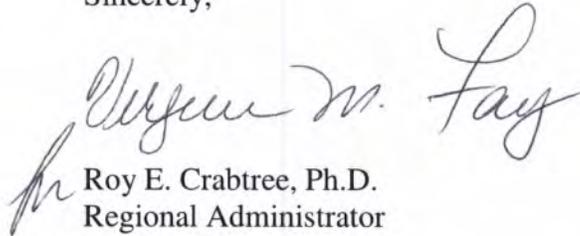
Because all potential project effects to listed species and critical habitat were found to be discountable or insignificant, we conclude that the proposed action is not likely to adversely affect listed species under NMFS's purview. This concludes your consultation responsibilities under the ESA for species under NMFS's purview. Consultation must be reinitiated if a take occurs or new information reveals effects of the action not previously considered, or if the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat in a manner or to an extent not previously considered, or if a new species is listed or critical habitat designated that may be affected by the identified action. NMFS's findings on the project's potential effects are based on the project description in this response. Any changes to the proposed action may negate the findings of this consultation and may require reinitiation of consultation with NMFS.

¹⁸ Van Dolah, R. F., D. R. Calder, D. M. Knott, and M. S. Maclin. 1979. Effects of dredging and unconfined disposal on macrobenthic communities in Sewee Bay, South Carolina. Tech. Rep. 39. South Carolina Marine Resources Center, Charleston, SC.

¹⁹ Jones, A. 1986. The effects of dredging and spoil disposal on macrobenthos, Hawkesbury Estuary, New South Wales. *Marine Pollution Bulletin* 17: 17-20.

We have enclosed additional relevant information for your review. We look forward to further cooperation with you on other projects to ensure the conservation of our threatened and endangered marine species and designated critical habitat. If you have any questions on this consultation, please contact Ryan Hendren, Consultation Biologist, at (727) 551-5610, or by email at ryan.hendren@noaa.gov.

Sincerely,



Roy E. Crabtree, Ph.D.
Regional Administrator

Enc.: 1. *Sea Turtle and Smalltooth Sawfish Construction Conditions* (Revised March 23, 2006)
2. *PCTS Access and Additional Considerations for ESA Section 7 Consultations*
(Revised March 10, 2015)

File: 1514-22.F.7

SEA TURTLE AND SMALLTOOTH SAWFISH CONSTRUCTION CONDITIONS

The permittee shall comply with the following protected species construction conditions:

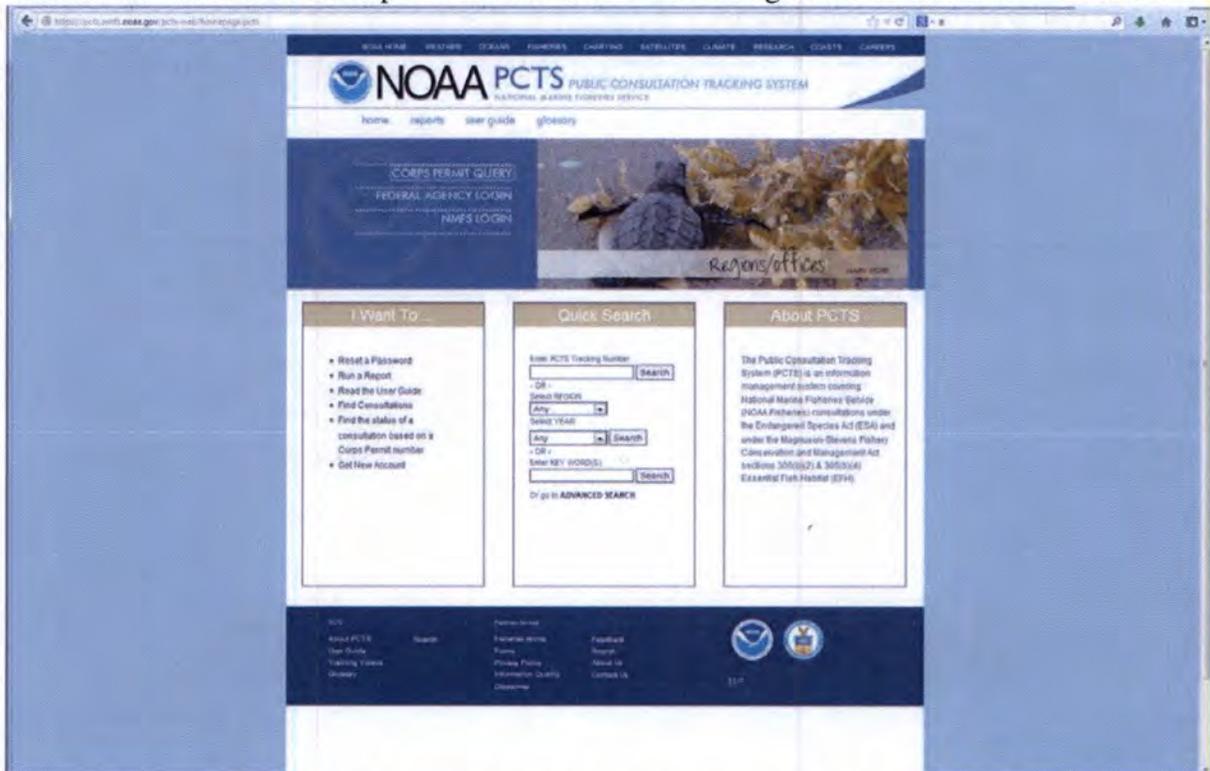
- a. The permittee shall instruct all personnel associated with the project of the potential presence of these species and the need to avoid collisions with sea turtles and smalltooth sawfish. All construction personnel are responsible for observing water-related activities for the presence of these species.
- b. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing sea turtles or smalltooth sawfish, which are protected under the Endangered Species Act of 1973.
- c. Siltation barriers shall be made of material in which a sea turtle or smalltooth sawfish cannot become entangled, be properly secured, and be regularly monitored to avoid protected species entrapment. Barriers may not block sea turtle or smalltooth sawfish entry to or exit from designated critical habitat without prior agreement from the National Marine Fisheries Service's Protected Resources Division, St. Petersburg, Florida.
- d. All vessels associated with the construction project shall operate at "no wake/idle" speeds at all times while in the construction area and while in water depths where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will preferentially follow deep-water routes (e.g., marked channels) whenever possible.
- e. If a sea turtle or smalltooth sawfish is seen within 100 yards of the active daily construction/dredging operation or vessel movement, all appropriate precautions shall be implemented to ensure its protection. These precautions shall include cessation of operation of any moving equipment closer than 50 feet of a sea turtle or smalltooth sawfish. Operation of any mechanical construction equipment shall cease immediately if a sea turtle or smalltooth sawfish is seen within a 50-ft radius of the equipment. Activities may not resume until the protected species has departed the project area of its own volition.
- f. Any collision with and/or injury to a sea turtle or smalltooth sawfish shall be reported immediately to the National Marine Fisheries Service's Protected Resources Division (727-824-5312) and the local authorized sea turtle stranding/rescue organization.
- g. Any special construction conditions, required of your specific project, outside these general conditions, if applicable, will be addressed in the primary consultation.

Revised: March 23, 2006

PCTS Access and Additional Considerations for ESA Section 7 Consultations (Revised 03-10-2015)

Public Consultation Tracking System (PCTS) Guidance: PCTS is a Web-based query system at <https://pcts.nmfs.noaa.gov/> that allows all federal agencies (e.g., U.S. Army Corps of Engineers - USACE), project managers, permit applicants, consultants, and the general public to find the current status of NMFS's Endangered Species Act (ESA) and Essential Fish Habitat (EFH) consultations which are being conducted (or have been completed) pursuant to ESA Section 7 and the Magnuson-Stevens Fishery Conservation and Management Act's (MSA) Sections 305(b)2 and 305(b)(4). Basic information including access to documents is available to all.

The PCTS Home Page is shown below. For USACE-permitted projects, the easiest and quickest way to look up a project's status, or review completed ESA/EFH consultations, is to click on either the "Corps Permit Query" link (top left); or, below it, click the "Find the status of a consultation based on the Corps Permit number" link in the golden "I Want To..." window.



Then, from the "Corps District Office" list pick the appropriate USACE district. In the "Corps Permit #" box, type in the 9-digit USACE permit number identifier, with no hyphens or letters. Simply enter the year and the permit number, joined together, using preceding zeros if necessary after the year to obtain the necessary 9-digit (no more, no less) number. For example, the USACE Jacksonville District's issued permit number SAJ-2013-0235 (LP-CMW) must be typed in as 201300235 for PCTS to run a proper search and provide complete and accurate results. For querying permit applications submitted for ESA/EFH consultation by other USACE districts, the procedure is the same. For example, an inquiry on Mobile District's permit MVN201301412 is entered as 201301412 after selecting the Mobile District from the "Corps District Office" list. PCTS questions should be directed to Kelly Shotts at Kelly.Shotts@noaa.gov or (727) 551-5603.

EFH Recommendations: In addition to its protected species/critical habitat consultation requirements with NMFS' Protected Resources Division pursuant to Section 7 of the ESA, prior to proceeding with the proposed action the action agency must also consult with NMFS' Habitat Conservation Division (HCD) pursuant to the MSA requirements for EFH consultation (16 U.S.C. 1855 (b)(2) and 50 CFR 600.905-.930, subpart K). The action agency should also ensure that the applicant understands the ESA and EFH processes; that ESA and EFH consultations are separate, distinct, and guided by different statutes, goals, and time lines for responding to the action agency; and that the action agency will (and the applicant may) receive separate consultation correspondence on NMFS letterhead from HCD regarding their concerns and/or finalizing EFH consultation.

Marine Mammal Protection Act (MMPA) Recommendations: The ESA Section 7 process does not authorize incidental takes of listed or non-listed marine mammals. If such takes may occur an incidental take authorization under MMPA Section 101 (a)(5) is necessary. Please contact NMFS' Permits, Conservation, and Education Division at (301) 713-2322 for more information regarding MMPA permitting procedures.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

646 Cajundome Blvd.

Suite 400

Lafayette, Louisiana 70506

May 1, 2015

Colonel Richard L. Hansen
District Commander
U.S. Army Corps of Engineers
Post Office Box 60267
New Orleans, Louisiana 70160-0267

Dear Colonel Hansen:

Please find attached the Fish and Wildlife Service's (Service) Biological Evaluation (BE) for the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) Bayou Bonfouca Marsh Creation Project (PO-104). That BE addresses impacts to threatened and endangered species and their critical habitat that would result from project construction. That project is funded as part of CWPPRA's 20th Priority Project List and its primary purpose is to re-create low salinity brackish marsh in the open water areas immediately behind the northern Lake Pontchartrain shoreline in the vicinity of Bayou Bonfouca and Bayou Liberty. Most of the marsh creation will be on the Service's Big Branch National Wildlife Refuge.

Our BE addresses impacts to the endangered West Indian manatee (*Trichechus manatus*) and the threatened Atlantic sturgeon (*Acipenser oxyrinchus desotoi*) and its critical habitat. Based on incorporation of impact avoidance and minimization measures the Service has determined that the proposed project is not likely to adversely impact neither the manatee nor the Atlantic sturgeon. Based on avoidance of critical habitat constituent elements and minimization of impacts to Atlantic sturgeon habitat we have also determined that the proposed project is not likely to adversely impact designated critical habitat for the Atlantic sturgeon.

Please consider use of our BE for any Endangered Species Act consultations needed with the National Marine Fisheries Service for issuance of federal permits (i.e., Section 10, Section 404) for this project. If your staff has any questions or comments regarding our BE, please have them contact David Walther at (337) 291-3122.

Sincerely,

For

Jeffrey D. Weller
Supervisor
Louisiana Field Office

Attachment

cc: Southeast Louisiana Refuge Complex, Bayou Lacomb, LA
NMFS, St. Petersburg, FL
OCPR, Baton Rouge, LA

**BIOLOGICAL EVALUATION
BAYOU BONFOUCA MARSH CREATION
PO-104**

ST. TAMMANY PARISH, LOUISIANA



FISH AND WILDLIFE SERVICE

ECOLOGICAL SERVICES

LAFAYETTE, LOUISIANA

May 2015

BIOLOGICAL EVALUATION
BAYOU BONFOUCA MARSH CREATION
PO-104

ST. TAMMANY PARISH, LOUISIANA



May 2015

**Preparers:
David Walther
and
Robert Dubois**

**Fish and Wildlife Service
Ecological Services
646 Cajundome Blvd., Suite 400
Lafayette, Louisiana 70506**

**Phone: (337) 291-3100
Fax: (337) 291-3139**

BIOLOGICAL EVALUATION

PURPOSE

The purpose of this Biological Evaluation (BE) is to determine the effects of implementing the Bayou Bonfouca Marsh Creation Project (PO-104) in St. Tammany Parish, Louisiana on Federally listed threatened and endangered species and their critical habitat. Funding is provided through the Coastal Wetlands Planning, Protection and Restoration Act of 1990. The U.S. Fish and Wildlife Service (Service) serves as the Federal sponsor with the State of Louisiana (i.e., Coastal Protection and Restoration Authority) serving as the local sponsor.

The primary goal of the PO-104 project is to create and/or nourish up to 638 acres of marsh habitat in the open water areas immediately behind the Lake Pontchartrain shoreline in the vicinity of Bayou Bonfouca and restore portions of the Lake Pontchartrain shoreline (Figure 1). This will maintain the lake-rim function (i.e., reduced erosion rate) along this section of shoreline, especially east of Bayou Bonfouca where very little land and shoreline remains. Much of the marsh creation portion of this project is located within the Big Branch Marsh National Wildlife Refuge, with the rest being located on private lands.

The major cause of wetland loss in the project area was due to Hurricane Katrina in August of 2005. Although the shoreline erosion rates are relatively low, only a narrow strip of land currently exists between Lake Pontchartrain and interior ponds, with several breaches along the shoreline both east and west of Bayou Bonfouca.

LOCATION OF THE PROPOSED PROJECT

The Bayou Bonfouca Marsh Creation Project is located in the Lake Pontchartrain Basin in southeastern Louisiana along the northeastern shore of Lake Pontchartrain as shown in Figure 1. Lake Pontchartrain is a 621 square mile lake located on the northern edge of the Mississippi River Deltaic Plain and south of the Pleistocene Terraces.

Lake Pontchartrain has an average salinity of 4 parts per thousand and the project area has an average salinity of 3.5 parts per thousand with salinities being affected by the freshwater discharges from the Amite, Tangipahoa and Pearl Rivers and saltwater primarily through the tidal connection of the Rigolets (Sikora and Sikora, 1982). Operation of the Bonnet Carre Spillway (a project feature of the Mississippi River and Tributaries Flood Control Project) infrequently (approximately every 10 years) maintains freshwater in the lake for extended periods of time (e.g., January through late June).

PROJECT DESCRIPTION

Project features include marsh creation and nourishment and shoreline restoration to fill open water and broken marsh areas, respectively, along the northeastern rim of Lake Pontchartrain (Figure 1). The proposed marsh creation/nourishment will be achieved by a one-time mining of sediment from a borrow site located in northeastern Lake Pontchartrain. It is anticipated that the borrow pit would be dredged to an average maximum depth of 10 feet below the lake bottom.

To avoid digging borrow sites too deep, dredging contractors will often attempt to maintain an approximate 1 to 2 feet buffer above of the maximum allowable depth; therefore to achieve a 10-foot depth, the maximum dredging depth will be set at 12 feet. Therefore, this BE will examine the impacts of the proposed borrow sites as if they were dredged to a depth of 10 feet below the lake bottom. Because the elevation of the lake bottom varies the anticipated depth of the northern and southern borrow portions of the borrow pit would be approximately -19 and -21 feet North America Vertical Datum (NAVD) 88. The borrow pit is orientated in a northwest to southeast direction basically parallel to the adjacent shoreline and is rectangular in shape. The borrow pit would cover approximately 648 acres. The peninsula extending into the northwest corner of the borrow pit is designed to avoid sandier substrate. Additional information concerning the design of the borrow pit is presented in the following section.

Dredged material will be pumped into the marsh creation sites to a maximum elevation range of +2.5 - +3.0 feet NAVD 88, with the goal of having the maximum amount of marsh within the intertidal range within the 20 year project life. These sites generally include some broken marsh and are relatively well contained by surrounding marsh. The project has been designed so that the dredged slurry would not flow directly into Lake Pontchartrain or Bayou's Liberty and Bonfouca and effluent from the dredging operation will be contained within the interior marsh. The marsh creation sites are also designed so that they will de-water into the adjacent marsh (i.e., marsh nourishment) and containment dikes are located on each marsh creation cell to prevent the dredged material from flowing into adjacent ponds and other open water areas. Breaches along the Lake Pontchartrain shoreline and the banks of Bayou's Liberty and Bonfouca will be plugged so that the dredged slurry does not flow into the lake or bayous.

BORROW PIT INVESTIGATIONS AND DESIGN CONSIDERATIONS

Geotechnical investigations were conducted on the proposed borrow site and the four (4) marsh creation areas. A total of eleven (11) borings were drilled in the Lake Pontchartrain borrow site (see Figure 2A and B.) to a depth of twenty (20) feet and a total of nine (9) borings were taken within the 4 proposed fill areas. Laboratory analysis performed on the soil samples were soil compressive strength tests, moisture content tests, organic content tests, grain size determinations, specific gravity tests, consolidation tests with rebound, Atterberg's limit determinations, soil classifications, settling column tests and self-weight consolidation tests of which the results are on file with the Louisiana Ecological Services Field Office (LFO). The results of the 11 boring logs taken within the proposed borrow site can be found in Appendix A.

To further investigate sediment composition within the proposed borrow site, 100 grab samples were collected from the top few inches of sediment across the entire proposed borrow area (see Figure 3A and 3B). Figure 4 presents a graphical representation of the distribution of sand content in the borrow area based on the sampling. Sand content shown in the figures refers only to the material passing the U.S. No. 10 sieve and retained on the U.S. No. 200 sieve.

The controlling engineering factors concerning borrow site design include the location and the size of the borrow site (acreage and depth). The initial size of the borrow area was determined by the volume of material necessary to fill the marsh creation cells. The borrow volume is

Figure 1. Project Features



Figure 2. Project area geotechnical soil boring locations; A) original borrow area, B) expanded borrow area.

A.



B.



BY:

COASTAL PROTECTION AND RESTORATION AUTHORITY

BAYOU BONFOUCA MARSH CREATION PROJECT

GEO TECHNICAL BORING LAYOUT

Figure 3. Sediment grab sample locations; A) original borrow area, B) original and expanded borrow area.

A.



B.

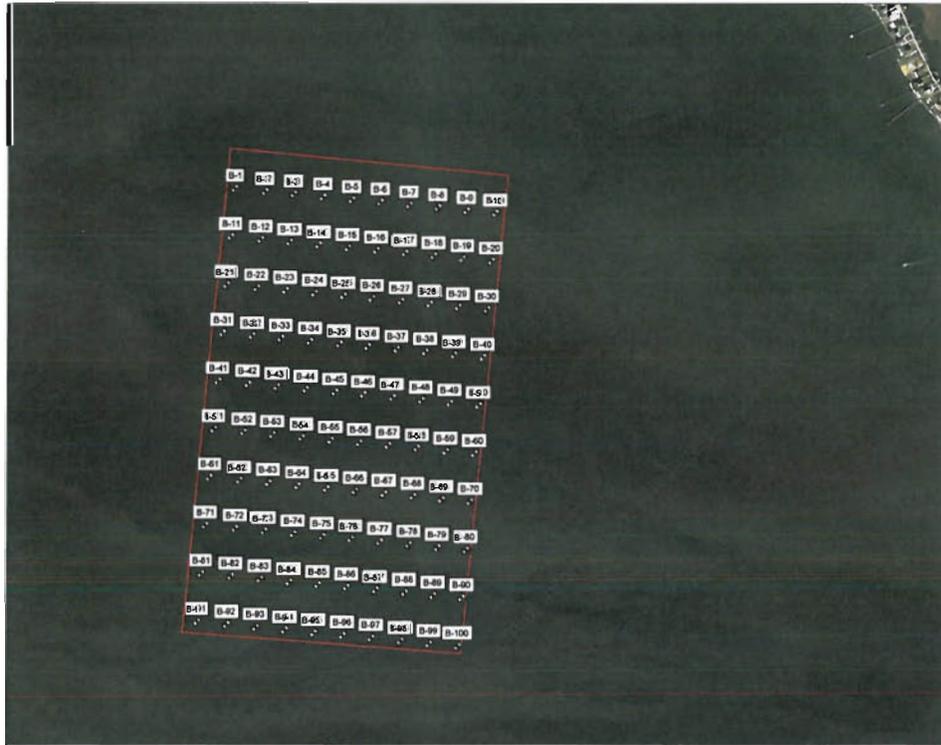


Figure 4. Graphical representation of the distribution of surface sand content within the proposed borrow areas.



computed by multiplying the fill volume by the cut to fill ratio of 1.3 for hydraulically dredged material. The borrow site acreage can be calculated by dividing the borrow volume by the maximum dredge depth. A safety factor of 1.5 was applied to the borrow site to ensure that adequate area and borrow material would be available. Because of the safety factor the proposed acreage (approximately 400 acres) represents a maximum area that would be utilized, however, it is probable that less acreage would be needed. Cross-sections of the borrow site design and typical marsh creation areas are shown in Appendix B.

Another governing factor in the determination of the borrow site location was the presence of submerged aquatic vegetation (SAV) which often occurs in vast beds along the north shore of Lake Pontchartrain. Common species include *Ruppia maritima*, *Vallisneria americana*, and *Myriophyllum spicatum*. SAV beds have been documented in Lake Pontchartrain to extend from the shoreline to a depth of approximately 6.5 feet (Cho and Poirrier 2001). Based on the extent of the SAV beds near Bayou Bonfouca, the project team decided to place the borrow sites in waters equal-to or greater than 10 feet in depth and beyond the zone of SAV growth to avoid any impacts. The Bayou Bonfouca borrow site was placed directly southwest of the marsh creation site and along an oil and gas pipeline, leaving a minimum 500-foot buffer.

The original borrow site was proposed offshore of Bayou Bonfouca. The Service was concerned that sandy bottoms in this area could be an important feeding area for the threatened Atlantic

sturgeon (*Acipenser oxyrhynchus Desotoi*), a bottom-feeding fish that is believed to use sandy substrates as feeding habitat (Fox *et al.* 2002, Harris *et al.* 2005, Parauka *et al.* 2010, Ross *et al.* 2001a). Peterson *et al.*, (2013), however, found that juvenile and sub-adult Atlantic sturgeon in the western portion of their range did not utilize sandy substrate like sturgeon in the eastern portion of their range. Because adult sturgeon may use Lake Pontchartrain and adults in the western portion have been associated with sandy substrate (Ross *et al.*, 2009) avoidance of this sediment type was determined to be prudent. Sediment surveys revealed appreciable amounts of sand in the original borrow site. While sand substrate is found within Lake Pontchartrain it is not the dominant substrate type (Flocks, *et al.*, 2002). Therefore, it decided that the original borrow site needed to be expanded further offshore (i.e., southwesterly direction) to avoid areas with sand concentrations greater than 75 percent. This percentage was based upon a report that sturgeon are often located in areas where sand comprised eighty percent or more of the substrate (Fox *et al.* 2000).

The depth of the borrow site, which is often associated with a decrease in dissolved oxygen (DO) levels, was also a factor considered in designing the borrow site. This is important because a decrease in DO levels has been associated with a decrease in benthic organisms, a food source for Atlantic sturgeon (Flocks and Frazer 2002, Reine *et al.*, 2014). To minimize the creation of hypoxic zones (less than or equal to 2 parts per million of DO) and or anoxic zones (less than or equal to 0 parts per million of DO) the Service examined data from existing borrow sites located on the south shore of Lake Pontchartrain (Flocks and Frazer 2002). Data indicated that at a depth of 50-feet below the lake surface (35 feet below the lake bottom), anoxic conditions could persist for most of a year; while at depth of 30 feet (15 feet below the lake bottom), anoxic conditions occurred 27 percent of the year and at a 20 foot depth (5 feet below the lake bottom), anoxic conditions could occur for approximately 15 percent of the year. The Service also used information taken from a presentation on the Borrow Area Monitoring and Management (BAMM) Program for Coastal Restoration in Louisiana (Khalil, 2014). Data was obtained from the 9-foot deep (below lake bottom) Goose Point and Pointe Platte borrow sites, approximately 4,000 feet northwest of the proposed borrow site from June to October 2013. Data presented indicated that the Goose Point borrow site experienced 3 hypoxic events. The control site located outside but adjacent to the borrow site experienced similar hypoxic conditions (duration and DO levels) during two of those events. During the third hypoxic event the control site did not experience any hypoxia. During one of the hypoxic events, anoxic conditions were also documented in the borrow site. Early during this anoxic event the control site experienced hypoxic conditions but recovered, however, the borrow site remained anoxic and/or hypoxic for an estimated additional 10 days. Poirrier *et al.*, (2009) has documented hypoxic and anoxic conditions in Lake Pontchartrain, especially in the southeastern area where the Inner Harbor Navigational Channel (IHNC) allows high saline waters to flow into the lake. Hypoxic conditions can extend up to 6 miles from the IHNC and encompass up to approximately 100 square miles. Wind driven currents can move this area of poor water quality into adjacent areas (McCorquodale *et al.*, 2002). The proposed borrow area as well as the Goose Point and Pointe Platte are located far enough away from the IHNC as to not be directly influenced by the stratification and resulting hypoxic conditions but are close enough to have that stratified water wind blown into the area. Poirrier (2012) determined that the 2009 closure of a major navigation channel that allowed salt water intrusion through the IHNC has significantly reduced the stratification and hypoxia associated with that channel. However, the hypoxic events

documented by Khalil (2014) indicate that normal stratification or other factors may still result in hypoxia because no known weather events that are typically associated with hypoxic conditions (e.g., large rainfall, tropical storm, etc.) could be identified during those recorded events.

Modeled wind driven water currents within Lake Pontchartrain indicate that the project area would have greater velocities within the project area as compared to the south shore dredge holes or other parts of the lake. However, certain combinations of wind direction and speed occurring with specific tidal events could result in minimal circulation. Modeled tidal currents within the project area could be approximately twice the magnitude of those occurring at the south shore borrow sites (List and Signell 2002). Modeling of the Bayou Bonfouca borrow site (Coast and Harbor Engineering 2014) dredged to -25 feet North American Vertical Datum 1988 (NAVD88)(15 feet below the lake bottom) and having 1 horizontal:5 vertical side slopes indicated that the residence time of water within the pit would increase from approximately 1 day to between approximately 1.5 to 2.1 days based upon conservative tidal and wind estimates (e.g., low tidal amplitudes and low wind velocities) however, the modeling did not account for any type of stratification (e.g., saline, temperature) that could reduce mixing and increase residence time.

To help determine the impact of borrow sites on potential Atlantic sturgeon prey twelve benthic/sediment samples were collected using a three-inch diameter core from different water depths (10 to 19 feet below water surface) within the Point Platte and Goose Point borrow sites (dredged in 2009) and at two adjacent control sites (natural bottom). Analysis of that data indicated that number of organisms were not significantly different between the control site and the borrow site and within the borrow sites regardless of depth (BEM 2014). The Service examined the data to see if any easily discernable relationship existed between the number of species and/or organisms collected and depth, sediment oxygen demand (SOD), or amount of recent deposition (i.e. fluff); no relationship was readily apparent.

Other factors that contribute to the anoxic conditions associated with borrow sites along Lake Pontchartrain's south shore include salt water stratification, urban discharge, and relatively low current velocities; consideration of how those factors may or may not be prevalent in the project area was also considered when the borrow site depth was determined. Lake Pontchartrain's benthic community was found to be highly variable probably due to a combination of those factors affecting water quality (Macauley *et al.*, 2007). Operation of the Bonnet Carre, (typically once every 10 years) and the run-off from tributary rivers may also impact the lake by the formation of freshwater lenses over denser saltwater. Probably one of the most significant natural factors contributing to salt water stratification is associated with hurricanes and/or large tropical storms which not only affect the project area borrow site, but Lake Pontchartrain as a whole (Poirrier *et al.*, 2008, Poirrier *et al.*, 2009). Hurricanes can also cause hypoxic and anoxic conditions usually through the increased biological oxygen demand (BOD) of affected waterways from an increase in the amount of organic material associated with rainfall runoff and storm surge inundation. (Mallin *et al.* 2002, Poirrier *et al.*, 2008). Macauley *et al.*, (2007) reported that following Hurricane Katrina DO levels increased within Lake Pontchartrain; however, their sampling occurred 52 days after landfall. Recovery of DO levels following hurricanes can vary within estuaries and between hurricane events with some recovery times occurring within one month (Mallin *et al.*, 1999, Mallin *et al.*, 2002. Stevens *et al.*, 2006).

Periodic anoxic and/or hypoxic events, regardless of their source can result in benthic communities having a lower abundance and diversity (Reine, *et al.*, 2014).

Rainwater pump stations for the New Orleans metropolitan area discharge low dissolved oxygen waters and other material (e.g., fine organic particulates) along the south shore which can further contribute to poor water quality and can possibly contribute to depressed dissolved oxygen levels in that area and in the borrow pits on the south shore of Lake Pontchartrain. There are no similar pump stations on the eastern shore, however, discharge from Bayou Bonfouca, just north of the borrow during rain events likely contains organic matter and urban runoff similar to the south shore pump stations.

SPECIES DESCRIPTIONS

Although the endangered red-cockaded woodpecker (RCW, *Picoides borealis*), may occur in the vicinity of the proposed project area, the proposed activities would not be located within suitable habitat for those species. Any suitable habitats for that species would be located outside the region of influence for the proposed action. No effects are expected to occur either during project planning or implementation; therefore, the proposed action would not adversely affect the RCW.

FISH

Atlantic sturgeon (*Acipenser oxyrinchus desotoi*)

Status

On September 30, 1991, the Atlantic sturgeon (formerly the Gulf sturgeon or Gulf of Mexico sturgeon) was listed as a threatened species under the ESA, and the Service and National Marine Fisheries Service designated critical habitat for this species in Louisiana, Mississippi, Alabama, and Florida on April 18, 2003. In Louisiana, Atlantic sturgeon critical habitat includes the Pearl River System in Washington and St. Tammany Parishes, the Bogue Chitto River (i.e., identified as Unit 1), as well as Lake Pontchartrain east of the Lake Pontchartrain Causeway, all of Little Lake, The Rigolets, Lake St. Catherine, and Lake Borgne (i.e., identified as Unit 8).

Species and Habitat Description

The Atlantic sturgeon is an anadromous fish (breeds in fresh water after migrating up rivers from marine and estuarine environments). That fish inhabits coastal rivers from Louisiana to Florida during spring and summer, and the estuaries, bays, and marine environments of the Gulf of Mexico during fall and winter. It is a nearly cylindrical, primitive fish embedded with bony plates or scutes. The head ends in a hard, extended snout; the mouth is inferior and protrusible and is preceded by four conspicuous barbels. The tail (caudal fin) is distinctly asymmetrical; the upper lobe is longer than the lower lobe (heterocercal). Adults range from 4 to 8 feet in length with adult females larger than adult males.

Atlantic sturgeon are long-lived, with some individuals reaching at least 42 years of age (Huff 1975). Age at sexual maturity for females ranges from 8 to 17 years, and for males from 7 to 21 years (Huff 1975). In the spring (from late February to mid-April) when the river surface temperatures are 17 to 21°C, sexually mature, ripe males and females migrate into the rivers (Carr, *et al.* 1996) to spawn. It is believed that Atlantic sturgeon in the Gulf of Me exhibit a spawning periodicity similar to those on the Atlantic coast, which have a long inter-spawning period, with females spawning at intervals ranging from every 3 to 5 years, and males every 1 to 5 years (Smith 1985).

Atlantic sturgeon eggs are demersal (they sink to the bottom), adhesive, and vary in color from gray to brown to black (Vladykov and Greeley 1963, Huff 1975, Parauka *et al.* 1991). During their early life history stages, sturgeon require hard substrates for eggs to adhere to, and shelter for developing larvae (Sulak and Clugston 1999). Egg collection sites have consisted of limestone bluffs and outcroppings, cobble, limestone bedrock covered with gravel, and small cobble, gravel, and sand (Sulak and Clugston 1999, Fox *et al.* 2000, Craft *et al.* 2001). Water depths at egg collection sites have ranged from 4.6 to 26 feet, with temperatures ranging from 64.8 to 75.0 degrees Fahrenheit (°F) (Fox *et al.* 2000, Ross *et al.* 2000, Craft *et al.* 2001). Laboratory experiments indicate that optimal water temperature for survival of Atlantic sturgeon larvae is between 59 and 68°F, with low tolerance to temperatures above 77°F (Chapman and Carr 1995). Young-of-the-year Atlantic sturgeon appear to disperse widely, using extensive portions of the river as nursery habitat. They are typically found on sandbars and sand shoals over rippled bottom and in shallow, relatively open, unstructured areas.

Feeding Habits

The Atlantic sturgeon is a benthic (bottom dwelling) suction feeder. Its hydrodynamic body form is adapted for holding position on the bottom where it feeds mostly upon small invertebrates in the substrate using its protrusible tubular mouth. The type of invertebrates ingested vary by habitat, which ranges from riverine, to estuarine, to marine waters of the Gulf, and by the age of the fish, but are mostly soft-bodied animals that occur in sandy substrates.

Atlantic sturgeon feeding habits in fresh water vary depending on the fish's life history stage. Young-of-the-year Atlantic sturgeon remain in fresh water feeding on aquatic invertebrates, mostly insect larvae, and detritus approximately 10 to 12 months after spawning occurs (Mason and Clugston 1993, Sulak and Clugston 1999). Juveniles (less than 5 kg (11 lbs), ages 1 to 6 years) are believed to forage extensively and exploit scarce food resources throughout the river, including aquatic insects (*e.g.*, mayflies and caddisflies), worms (oligochaetes), and bivalve mollusks (Huff 1975; Mason and Clugston 1993). Juvenile sturgeon collected in the Suwannee River are trophically active (foraging) near the river mouth at the estuary, but trophically dormant (not foraging) in summer holding areas upriver; however, a portion of the juvenile population reside and feed year round near the river mouth (K. Sulak, U.S. Geological Survey [USGS], pers. comm. 2002). Brooks (2004) determined the principal, secondary and minor foods of juvenile sturgeon found in the Suwannee River Estuary (Table 1). In the Choctawhatchee River, juvenile Atlantic sturgeon did not remain near the estuary at the river mouth for the entire year; instead, they were located during winter months in Choctawhatchee

Bay and moved to riverine aggregation areas in the spring (F. Parauka, Service, pers. comm. 2002).

Many reports indicate that adult (sexually mature) and subadult (age 6 to sexual maturity) Atlantic sturgeon lose a substantial percentage of their body weight while in freshwater (Wooley and Crateau 1985; Mason and Clugston 1993; Clugston *et al.* 1995) and then compensate the loss during winter feeding in the estuarine and marine environments (Wooley and Crateau 1985; Clugston *et al.* 1995). Gu *et al.* (2001) tested the hypothesis that subadult and adult Atlantic sturgeon do not feed significantly during their annual residence in freshwater by comparing stable carbon isotope ratios of tissue samples from subadult and adult Suwannee River Atlantic sturgeon with their potential freshwater and marine food sources. A large difference in isotope ratios between freshwater food sources and fish muscle tissue suggests that subadult and adult

Table 1. Principal food categories for juvenile Atlantic sturgeon erected from the macrofauna found in the Suwannee River Estuary (Brooks 2004).

Principal Foods	Secondary Foods	Minor Foods
Brachiopods	Anthozoans	Bivalves
Free-living Amphipods	Cumaceans	Decapods
Insect Larvae	Nematodes	Gastropods
Isopods	Nemertean	Ophiuroids
Oligochaetes	Ostracods	
Shrimp	Polychaetes	
	Tube-building Amphipods	
	Hirudinea	

Adult Atlantic sturgeon do not feed significantly in freshwater. The isotope similarity between Atlantic sturgeon and marine food resources strongly indicates that this species relies almost entirely on the marine food web for its growth once they begin to mature and leave their natal river (Gu *et al.* 2001).

Having spent at least 6 months in the river fasting, it is presumed that adult and subadult sturgeon begin feeding immediately upon leaving the river of summer residency. If so, the lakes and bays at the mouths of the river systems where Atlantic sturgeon occur are especially important because they offer the first opportunity for feeding. To regain the weight they lose while in the river system and to maintain positive growth on a yearly basis, adults and subadults need to consume sufficient quantities of prey while in estuarine and marine waters.

Reproductively active Atlantic sturgeon require yet additional food resources (Fox *et al.* 2002; D. Murie and D. Parkyn, University of Florida [UF], pers. comm. 2002).

Adult and subadult Atlantic sturgeon, while in marine and estuarine habitat, are thought to forage opportunistically (Huff 1975), primarily on benthic invertebrates. Gut content analyses have indicated that the Atlantic sturgeon's diet is predominantly amphipods, lancelets, polychaetes, gastropod mollusks, shrimp, isopods, bivalve mollusks, and crustaceans (Huff 1975; Mason and Clugston 1993; Carr *et al.* 1996; Fox *et al.* 2000; Fox *et al.* 2002). Atlantic sturgeon from the Suwannee River subpopulation, are known to forage on brachiopods (D. Murie and D. Parkyn,

UF pers. comm. 2002); however, this is not a documented prey item of other subpopulations. Ghost shrimp (*Lepidophthalmus louisianensis*) and haustoriid amphipods (e.g., *Lepidactylus* spp.) are strongly suspected to be important prey for adult Atlantic sturgeon over 1 m (3.3 feet) (Heard *et al.* 2000; Fox *et al.* 2002). This hypothesis is based on the following evidence:

- Atlantic sturgeon have been consistently located and observed actively feeding in areas where numerous burrows similar to those occupied by ghost shrimp exist (Fox *et al.* 2000) and in areas having a high density of ghost shrimp and haustoriid amphipods (Heard *et al.* 2000);
- the digestive tracts of two adult Atlantic sturgeon that died during netting operations contained numerous ghost shrimp (Fox *et al.* 2000);
- stomach contents of a 30 kg (67 lb) sturgeon taken in the upper portion of Choctawhatchee Bay contained more than 100 individual haustoriid amphipods and 67 ghost shrimp (Heard *et al.* 2000); and
- approximately one-third of 157 sturgeon guts analyzed by Carr *et al.* (1996) contained exclusively brachiopods and ghost shrimp.

When river temperatures drop in the fall to about 17 to 22° C, Atlantic sturgeon return to the coastal shelf areas of the Gulf of Mexico (Carr *et al.* 1996). Most subadult and adult Atlantic sturgeon spend the cooler months (October or November through March or April) in estuarine areas, bays, or the Gulf of Mexico (Odenkirk 1989, Foster 1993, Clugston *et al.* 1995, Fox *et al.* 2002) feeding. Winter habitats used by Atlantic sturgeon coincide with the habitats of their prey. Along the Mississippi Sound barrier islands, Atlantic sturgeon habitat typically consists of sandy substrates with a range in depth between 6.2 to 19.4 feet. Gulf of Mexico near shore (less than 1 mile) where Atlantic sturgeon are found consists of unconsolidated, fine-medium grain sand habitats, near natural inlets and passes between the Gulf and adjacent estuaries that support crustaceans such as mole crabs, sand fleas, various amphipod species, and lancelets (Menzel 1971, Abele and Kim 1986, American Fisheries Society 1989). Estuary and bay unvegetated habitats have a preponderance of sandy substrates that support burrowing crustaceans, such as ghost shrimp, small crabs, various polychaete worms, and small bivalve mollusks (Menzel 1971, Abele and Kim 1986, American Fisheries Society 1989) which are prey for Atlantic sturgeon.

Estuarine and Marine Habitat

Most subadult and adult Atlantic sturgeon spend cool months (October or November through March or April) in estuarine areas, bays, or in the Gulf of Mexico (Odenkirk 1989; Foster 1993; Clugston *et al.* 1995; Fox *et al.* 2002). Studies of subadult Atlantic sturgeon (ages 4 to 7) in Choctawhatchee Bay found that 78 percent of tagged fish remained in the bay the entire winter, while 13 percent ventured into a connecting bay. Possibly the remaining 9 percent overwintered in the Gulf of Mexico (Service 1998). Adult Atlantic sturgeon are more likely to overwinter in the Gulf of Mexico, with 45 percent of the tagged adults presumed to have left Choctawhatchee Bay and spent extended periods of time in the Gulf of Mexico (Fox *et al.* 2002). In contrast, Atlantic sturgeon from the Suwannee River subpopulation are known to migrate into the

nearshore waters, where they remain for up to two months and then depart to unknown feeding locations in the open Gulf of Mexico (Carr *et al.* 1996; Edwards *et al.* 2003).

Research in Choctawhatchee Bay indicates that subadult Atlantic sturgeon show a preference for sandy shoreline habitats with water depths less than 3.5 m (11.5 feet) and salinity less than 6.3 parts per thousand (Parauka *et al.* 2001). Fox and Hightower (1998) found that adult Atlantic sturgeon monitored in Choctawhatchee Bay use some of the same habitats as subadults. The majority of tagged fish have been located in areas lacking seagrass (Fox *et al.* 2002; Parauka *et al.* 2001). Craft *et al.* (2001) found that Atlantic sturgeon in Pensacola Bay appear to prefer shallow shoals 1.5 to 2.1 m (5 to 7 feet) and deep holes near passes. Estuary and bay unvegetated habitats with sandy substrate support a variety of burrowing crustaceans, such as ghost shrimp and small crabs, amphipods, polychaete worms, and small bivalve mollusks (Menzel 1971; Abele and Kim 1986; American Fisheries Society 1989). Atlantic sturgeon are often located in these areas, and because their known prey items are present, it is assumed they are foraging. Telemetered Atlantic sturgeon tracked in Mississippi Sound were frequently located over sandy substrates at the passes between barrier islands (Ross *et al.* 2001a). Bottom samples at these sites all contained lancelets (*Branchiostoma*), a documented prey item of Atlantic sturgeon. Nearshore areas of the Gulf of Mexico (less than 1.6 km [1 mi] from land) with unconsolidated, fine-to-medium-grain sand substrates, typically support crustaceans such as mole crabs, sand fleas, various amphipod species, and lancelets (Menzel 1971; Abele and Kim 1986; American Fisheries Society 1989), all of which are sturgeon prey items.

Range and Population Dynamics

Historically, the Atlantic sturgeon occurred from the Mississippi River east to Tampa Bay. Its present range extends from Lake Pontchartrain and the Pearl River system in Louisiana and Mississippi east to the Suwannee River in Florida, with infrequent sightings occurring west of the Mississippi River. In the late 19th century and early 20th century, the Atlantic sturgeon supported an important commercial fishery, providing eggs for caviar, flesh for smoked fish, and swim bladders for isinglass, a gelatin used in food products and glues (Huff 1975, Carr 1983). Atlantic sturgeon numbers declined due to over fishing throughout most of the 20th century. The decline was exacerbated by habitat loss associated with the construction of water control structures, such as dams and sills (submerged vertical wall of relatively shallow depth separating two bodies of water), mostly after 1950. In several rivers throughout the species' range, dams have severely restricted sturgeon access to historic migration routes and spawning areas (Boschung 1976, Wooley and Crateau 1985, McDowall 1988).

The majority of recent Atlantic sturgeon sightings in the Pearl River drainage have occurred downstream of the Pools Bluff Sill on the Pearl River, near Bogalusa, Louisiana, and downstream of the Bogue Chitto Sill on the Bogue Chitto River in St. Tammany Parish, Louisiana. Between 1992 and 1996, 257 Atlantic sturgeon were captured from the Pearl River system (West Middle River, Bogue Chitto River, East Pearl River, and West Pearl River). The subpopulation in that system was estimated at 292 fish, of which only 2 to 3 percent were adults (Morrow *et al.* 1998b). The annual mortality rate was calculated to be 25 percent.

Preliminary results from captures between 1992 and 2001 suggest a stable subpopulation in the Pearl River of 430 fish, with approximately 300 adults (Rogillio *et al.* 2002). Morrow *et al.* (1998) suggested that the Pearl River Atlantic sturgeon population would be self-sustaining if the number of adults was at least 100, recruitment was satisfactory, and annual mortality was less than about 15 percent (i.e., instantaneous mortality (Z) of 0.16). Based on those criteria and from data gathered during 2000 and 2001, it appeared that the population was at least self-sustaining and may even been recovering and that there may have been as many as 300 adults. Depressed dissolved oxygen levels and other factors associated with the passage of Hurricane Katrina and Rita in 2005 are expected to have caused Atlantic sturgeon mortality in this area; similar mortality resulted in Florida following the passage of Hurricane Ivan. The immediate post-hurricane Katrina and Rita instantaneous mortality (i.e., Z) estimate for the Pearl River population is 0.38, with fewer large adults being captured. The degree of dispersal following a hurricane is not known, therefore, that population estimate should be considered preliminary. An increase in the number of large adults captured was experienced two years following the passage of those hurricanes; however, a population estimate has not been recalculated (James Kirk, Corps of Engineers pers. comm. with David Walther, Service). The extent of impacts to adult wintering habitat (e.g., estuarine and Gulf water) or sturgeon in those habitats following the release of oil from the Deepwater Horizon well is not known at this time. Following an August 2011 chemical spill in the Pearl River 28 dead sturgeon were recovered; the impact of this event to the Pearl River population was not assessed.

Management and Protection

Life history characteristics of Atlantic sturgeon may complicate and protract recovery efforts. Atlantic sturgeon cannot establish a breeding population rapidly because of amount of time it takes them to reach sexual maturity. Further, Atlantic sturgeon appear to be river-specific spawners, although immature Atlantic sturgeon occasionally exhibit plasticity in movement from one river to another. Therefore, natural repopulation by Atlantic sturgeon migrating from other rivers may be very low (Dugo 2004, Paruka *et al.*, 2011).

The take of Atlantic sturgeon is prohibited in the state waters of Louisiana, Mississippi, Alabama, and Florida. Section 6(a) of the ESA provides for extended cooperation with states for the purpose of conserving threatened and endangered species. Federal funding is provided to states under those agreements to implement the approved programs. All four of the above mentioned states have entered into Section 6 agreements with the Service.

On March 19, 2003, the Fish and Wildlife Service and NOAA Fisheries published a final rule in the Federal Register (Volume 68, No. 53) designating critical habitat for the Atlantic sturgeon in Louisiana, Mississippi, Alabama, and Florida. Portions of the Pearl and Bogue Chitto Rivers (i.e., Unit 1) Lake Pontchartrain east of the Lake Pontchartrain Causeway, all of Little Lake, The Rigolets, Lake St. Catherine, and Lake Borgne (Unit 8) within Louisiana were included in that designation (Figure 5). Designation of critical habitat included the identification of constituent elements. The primary constituent elements (PCE) essential for the conservation of Atlantic sturgeon are those habitat components that support feeding, resting, sheltering, reproduction, migration, and physical features necessary for maintaining the natural processes that support

Figure 5. Atlantic sturgeon Critical Habitat and project location.



those habitat components; those elements should be considered when determining potential project impacts. The PCE for Atlantic sturgeon critical habitat include:

- abundant prey items within riverine habitats for larval and juvenile life stages, and within estuarine and marine habitats for juvenile, sub-adult, and adult life stages;
- riverine spawning sites with substrates suitable for egg deposition and development, such as limestone outcrops and cut limestone banks, bedrock, large gravel or cobble beds, marl, soapstone, or hard clay;
- riverine aggregation areas, also referred to as resting, holding and staging areas, used by adult, sub-adult, and/or juveniles, generally, but not always, located in holes below normal riverbend depths, believed necessary for minimizing energy expenditures during freshwater residency and possibly for osmoregulatory functions;
- a flow regime (i.e., the magnitude, frequency, duration, seasonality, and rate-of-change of freshwater discharge over time) necessary for normal behavior, growth, and survival of all life stages in the riverine environment, including migration, breeding site selection, courtship, egg fertilization, resting, and staging; and necessary for maintaining spawning sites in suitable condition for egg attachment, egg sheltering, resting, and larvae staging;
- water quality, including temperature, salinity, pH, hardness, turbidity, oxygen content, and other chemical characteristics, necessary for normal behavior, growth, and viability of all life stages;
- sediment quality, including texture and other chemical characteristics, necessary for normal behavior, growth, and viability of all life stages; and
- safe and unobstructed migratory pathways necessary for passage within and between riverine, estuarine, and marine habitats (e.g., a river unobstructed by a permanent structure, or a dammed river that still allows for passage).

The following types of Federal actions, among others, may destroy or adversely modify critical habitat (Federal Register [Volume 68, No. 53]):

- Actions that would appreciably reduce the abundance of riverine prey for larval and juvenile sturgeon, or of estuarine and marine prey for juvenile and adult Atlantic sturgeon, within a designated critical habitat unit, such as dredging; dredged material disposal; channelization; in-stream mining; and land uses that cause excessive turbidity or sedimentation;
- Actions that would appreciably reduce the suitability of Atlantic sturgeon spawning sites for egg deposition and development within a designated critical habitat unit, such as impoundment; hard-bottom removal for navigation channel deepening; dredged material

disposal; in-stream mining; and land uses that cause excessive sedimentation;

- Actions that would appreciably reduce the suitability of Atlantic sturgeon riverine aggregation areas, (also referred to as resting, holding, and staging areas, used by adult, subadult, and/or juveniles, believed necessary for minimizing energy expenditures and possibly for osmoregulatory functions), such as dredged material disposal upstream or directly within such areas; and other land uses that cause excessive sedimentation;
- Actions that would alter the flow regime (the magnitude, frequency, duration, seasonality, and rate-of -change of fresh water discharge over time) of a riverine critical habitat unit such that it is appreciably impaired for the purposes of Atlantic sturgeon migration, resting, staging, breeding site selection, courtship, egg fertilization, egg deposition, and egg development, such as impoundment; water diversion; and dam operations;
- Actions that would alter water quality within a designated critical habitat unit: including temperature, salinity, pH, hardness, turbidity, oxygen content, and other chemical characteristics, such that it is appreciably impaired for normal Atlantic sturgeon behavior, reproduction, growth, or viability, such as dredging; dredged material disposal; channelization; impoundment; in-stream mining; water diversion; dam operations; land uses that cause excessive turbidity; and release of chemicals, biological pollutants, or heated effluents into surface water or connected groundwater via point sources or dispersed non-point sources;
- Actions that would alter sediment quality within a designated critical habitat unit such that it is appreciably impaired for normal Atlantic sturgeon behavior, reproduction, growth, or viability, such as dredged material disposal; channelization; impoundment; instream mining; land uses that cause excessive sedimentation; and release of chemical or biological pollutants that accumulate in sediments;
- Actions that would obstruct migratory pathways within and between adjacent riverine, estuarine, and marine critical habitat units, such as dams, dredging, point-source-pollutant discharges, and other physical or chemical alterations of channels and passes that restrict Atlantic sturgeon movement.

MAMMALS

West Indian Manatee (*Trichechus manatus*)

Status

The West Indian manatee was listed as endangered throughout its range for both the Florida and Antillean subspecies in 1967, and received Federal protection with the passage of the ESA in 1973. Critical habitat was designated in 1976, 1994, 1998, 2002, and 2003 for the Florida subspecies.

Species and Habitat Description

The West Indian manatee is a large gray or brown aquatic mammal. Adults average approximately 10 feet in length and weigh up to 2,200 pounds. They have no hind limbs, and their forelimbs are modified as flippers. Manatee tails are flattened horizontally and rounded. Their body is covered with sparse hairs and their muzzles with stiff whiskers (Service 2001). The nostrils, located on the upper snout, open and close by means of muscular valves as the animal surfaces and dives (Husar 1977, Hartman 1979). Manatees will consume any aquatic vegetation (i.e., submerged, floating, and emergent) available to them and sometimes even shoreline vegetation. Although primarily herbivorous, they will occasionally feed on fish. Manatees may spend about 5 hours a day feeding, and may consume 4 to 9 percent of their body weight per day.

Observations of mating herds indicate that females mate with a number of males during their 2- to 4-week estrus period, and then they go through a pregnancy estimated to last 12 to 14 months (O'Shea *et al.* 1992). Births occur during all months of the year with a slight drop during winter months. Manatee cows usually bear a single calf, but 1.5 percent of births are twins. Calves reach sexual maturity at 3 to 6 years of age. Mature females may give birth every 2 to 5 years (Service 2001).

Manatees inhabit both salt and freshwater of sufficient depth (5 feet to usually less than 20 feet) throughout their range. Shallow grassbeds with ready access to deep channels are preferred feeding areas in coastal and riverine habitats (Service 2001). They may also be encountered in canals, rivers, estuarine habitats, saltwater bays, and have been observed as much as 3.7 miles off the Florida Gulf Coast. Between October and April, Florida manatees concentrate in areas of warmer water. Severe cold fronts have been known to kill manatees when the animals did not have access to warm water refuges. During warmer months they appear to choose areas based on an adequate food supply, water depth, and proximity to fresh water. Manatees may not need fresh water, but they are frequently observed drinking water from hoses, sewage outfalls, and culverts.

Range and Population Dynamics

During winter months, the United States' manatee population confines itself to the coastal waters of the southern half of peninsular Florida and to springs and warm water outfalls as far north as southeast Georgia. Power plant and paper mill outfalls created most of the artificial warm water refuges utilized by manatees. During summer months, they migrate as far north as coastal Virginia on the east coast and the Louisiana coast in the Gulf of Mexico.

During summer months, manatees disperse from winter aggregation areas, and are commonly found almost anywhere in Florida where water depths and access channels are greater than 3.3 to 6.6 feet (O'Shea 1988). In the warmer months, manatees usually occur alone or in pairs, although interacting groups of 5 to 10 animals are not unusual (Service 2001). A few individuals have been known to stray as far north as the northern Georgia coast and as far west as the coastal waters of Louisiana.

Manatees are known to regularly occur in Lakes Pontchartrain and Maurepas and their associated coastal waters and streams. It also can be found less regularly in other Louisiana coastal areas, most likely while the average water temperature is warm. Based on data maintained by the Louisiana Natural Heritage Program (LNHP), over 80 percent of reported manatee sightings (1999-2011) in Louisiana have occurred from the months of June through December. Manatee occurrences in Louisiana appear to be increasing and they have been regularly reported in the Amite, Blind, Tchefuncte, and Tickfaw Rivers, and in canals within the adjacent coastal marshes of southeastern Louisiana. Manatees may also infrequently be observed in the Mississippi River and coastal areas of southwestern Louisiana.

In the early 1980s, scientists tried to develop procedures for estimating the overall manatee population in the southeastern United States (Service 2001). The best estimate throughout the State of Florida was 1,200 manatees (Reynolds and Wilcox 1987). In the early 1990s, the State of Florida initiated a statewide aerial survey in potential winter habitats during periods of severe cold weather (Ackerman 1995), and the highest count of 3,276 manatees was recorded in January 2001. A more recent population survey was conducted in 2012 as part of the Marine Mammal Protection Act. That Stock Assessment Report (SAR) reported a population of 4,834 individuals within the Florida manatee stock (Federal Register 78 FR 19002). Large numbers of manatees were reported in Lake Pontchartrain prior to the landfall of Hurricane Katrina, however, there were no reports of manatee mortality following the hurricane.

Management and Protection

The most significant problems faced by manatees is death or injury from boat strikes and failure to return to Florida during the winter months. Minimum flows and levels for warm water refuges need to be established to ensure their long-term availability for manatees. Their survival will depend on maintaining the ecosystems and habitat sufficient to support a viable manatee population (Service 2001). The focus of recovery is on implementing, monitoring, and addressing the effectiveness of conservation measures to reduce or remove threats that will lead to a healthy and self-sustaining population (Service 2001).

The West Indian manatee is also protected under the Marine Mammal Protection Act (MMPA) of 1972. The MMPA establishes a national policy for the maintenance of health and stability of marine ecosystems and for obtaining and maintaining optimum sustainable populations of marine mammals. It includes a moratorium on the taking of marine mammals. The recovery planning under the ESA includes conservation planning under the MMPA (Service 2001).

EFFECTS OF PROPOSED ACTION

FISH

Atlantic sturgeon

Previously documented effects of dredging on Atlantic sturgeon, other sturgeon species, or other anadromous species that may be applicable to the proposed action include the following:

- 1) Entrainment in dredging equipment (NMFS 1998; Hastings 1983; Veshchev 1982);
- 2) Burial during disposal (Savoy 1991; NMFS 1992);
- 3) Disruption of migratory movements (Hastings 1983; NMFS 1992);
- 4) Release of contaminated material from sediments (Varanasi 1992);
- 5) Turbidity effects and decreased water quality (Secor and Gunderson 1998; Secor 1995; Jenkins *et al.* 1993);
- 6) Destruction of habitat and food resources (NMFS 1992; Carr 1983; Service 1996); and
- 7) Effects on habitat geomorphology due to channel geometry alterations (Kanehl and Lyons 1993; Hubbard *et al.* 1994).

Of these potential effects, numbers 2, 4, 5, and 7, are discountable for the proposed project. Burial during disposal (Number 2) is unlikely because the proposed disposal sites will be within the enclosed shallow water area (i.e., the wetlands creation area) adjacent to the lake. Examination of sediment samples collected from Lake Pontchartrain revealed that dredging and disposal operations should not pose a contamination problem (Number 4) (Goatcher 2005). In addition, the Service would comply with Louisiana's water quality standards and again, disposal is in an area that is probably not inhabited (due to substrate, water depth, and access routes) and will become closed to sturgeon utilization (Numbers 4 and 5). Turbidity effects on water quality (Number 5) are likely to be minor, localized, and short-term, due to the use of hydraulic pipeline dredging equipment and the selection of disposal sites. Because the borrow site is located within a lake there should be no channel geometry alterations (Number 7) resulting from the proposed dredging (see "Description of the Proposed Action"). Alterations of the lake bottom would involve a maximum depth increase of approximately 10 feet below the lake bottom (i.e., 20 to 25 feet total depth from the water surface), however, the borrow site and the marsh creation areas should not affect the lakes overall geomorphology due to their small size relative to the size of Lake Pontchartrain and the fact that the deeper (deeper than 50 feet below the lake bottom) and older holes (dug as early as 1930's) along the south shore of Lake Pontchartrain do not appear to have significantly altered the surrounding lake bottom (Flocks and Franze, 2002).

The potential direct effects of the project on Atlantic sturgeon survival and essential behavior include potential entrainment in the dredging equipment (Number 1) and disruption of migratory movements (Number 3). Both are probably not likely to occur in the lake, since sturgeon are less likely to encounter the dredge in the broader lake environment and if they do encounter the dredge, they may easily navigate around it. The remaining potential effect (Number 6) is a form of habitat modification and is evaluated in this section through an analysis of the project's effects on the applicable PCEs (see pages 16 and 17) of sturgeon critical habitat. The disruption of migratory movements (Number 3) as a habitat modification relative to the PCE of safe and unobstructed migratory pathways was not undertaken because the proposed project would not result in permanent habitat modifications that would block fish movement. It may instead deter fish from passing the dredge while it operates, and possibly kill or injure fish that are not wary of the dredge, which are both impacts that are more appropriately addressed as direct effects to the species.

Effects to Species

Hydraulic dredges, such as the pipeline dredge proposed for this project, can lethally harm sturgeon by entraining sturgeon (NMFS 1998). NMFS observers documented the take of one Atlantic sturgeon entrained in a hopper dredge operating in King's Bay, Georgia (NMFS 1998). Atlantic sturgeon have been killed in both hydraulic pipeline and bucket-and-barge operations in the Cape Fear River, North Carolina (NMFS 1998). Endangered species observers in South Carolina in 1990 documented the lethal take of two Atlantic sturgeon 27 inches (69 cm) in length from hopper dredging in the Georgetown Entrance Channel (NMFS 1998). Hastings (1983) reported anecdotal accounts of adult sturgeon expelled from dredge spoil pipes in a study on the Atlantic coast. Two shortnose sturgeon (*A. brevirostrum*) carcasses were discovered in a dredge spoil near Tullytown, Pennsylvania, and were apparently killed by a hydraulic pipeline dredge operating in the Delaware River in March 1996 (NMFS, 1998). In 1998, three shortnose sturgeon were killed by a hydraulic pipeline dredge operating in the Florence-to-Trenton section of the upper Delaware River (NMFS 1998). Veshchev (1982) reported that hydraulic dredging operations caused mortality of Russian sturgeon (*A. gueldenstaedti*) and stellate sturgeon (*A. stellatus*) in the Caspian Basin. Two Atlantic sturgeon were killed by hopper dredge operations in December 2004, one near Gulf Port, Mississippi, and the other near Dauphin Island, Alabama (C. Slay, pers. comm. 2004). These were the first reported Atlantic sturgeon mortalities by dredging operations on the Gulf coast. The proposed project is not going to utilize a hopper dredge but a pipeline dredge. As evidenced above, most entrainments by hydraulic pipeline dredges has occurred in riverine areas where there is possibly a greater chance of sturgeon encountering the intake flow fields around the cutterhead.

The potential for migratory movement and entrainment impacts would depend upon the timing and location of the project. Because the borrow site is not located in small water body the potential for dredging to disrupt any migratory movement is highly unlikely. Avoidance of areas having a higher sand content would help reduce the risk of any sturgeon that may utilize that area. If a sturgeon would swim into site the likelihood of entrainment would depend on many factors including the size of the fish, its' swimming ability and the velocity of the dredge's intake.

There are no known studies of Atlantic sturgeon swimming speeds however, lake sturgeon which are morphologically similar (asymmetrically forked caudal fin and a short muscular, naked peduncle) have undergone swimming speed studies. Hoover *et al.* (2005) determined that the risk of entraining juvenile lake sturgeon (size range 5 – 8 inches, 30 – 200 millimeters) was low for intake velocities of 1.6 feet/second (ft/s, 50 centimeters/second [cm/s]) which were reported to extend up to 4.9 feet (1.5 meters [m]) from the cutterhead. Entrainment is also related to a species behavior to increasing velocities and it is not known if Atlantic sturgeon would behave similarly to lake sturgeon. The area to which the dredge would pose an entrainment hazard to sturgeon is a function of the size of the dredge, its pumping velocity, the size of the fish encountering the dredge, and perhaps other variables. Larger dredges have a broader intake flow field and larger fish have a greater ability to overcome the suction velocity of the pipeline and avoid entrainment. A conservative assumption is that a hazard zone 6.6 feet (2 m) wide was applicable to all sturgeon; the actual hazard zone is probably smaller. For dredges up to 36 inches (in, 91 centimeters [cm]) (in diameter with a typical pipe velocity of 15 ft/sec (4.6

meters/second [m/s]), the water velocity towards the cutter head at a distance 6.6 feet (2 m) away from the cutter head is less than 0.8 ft/sec (25 cm/s) (Hoover *et al.* 2004). The burst velocity of all species of sturgeons beyond the fingerling stage of growth probably well exceeds 0.8 ft/sec (25 cm/s) (Hoover *et al.* 2004). Thus at a distance of 3.7 feet (1.12 meters) from the dredge pipeline the entrainment of a juvenile sturgeon is unlikely (Hoover 2011). The likelihood of entraining an adult sturgeon is believed to be even less. The smallest sturgeon in the project area would probably be juveniles and young subadults arriving from north-shore rivers in the late fall/early winter. The size range of sturgeon captured in the project vicinity ranges from approximately 19 inches (48.5 cm) to 39 feet (1.2 m). A review of data from an ongoing telemetry study in Lake Pontchartrain did not indicate that the proposed borrow area is an area where Atlantic sturgeon were not found to remain for extended periods of time or concentrate (Glenn Constant personal communication, 2014); based on the above information no dredging window is proposed for this event.

Proposed construction should span approximately 148 days including 12 weather days. (Shannon Haynes CPRA, per. comm. with Robert Dubois Service, 2014). To further reduce the risk of entrainment the following protective measures would be incorporated into the proposed project plans:

1. The cutter/suction head shall remain completely buried in the bottom material during dredging operations.
2. If pumping water through the cutter/suction head is necessary to dislodge material, clean pumps or cutter/suction head, etc., the pumping rate shall be slowed to the lowest rate possible until the cutter/suction head is at mid-depth, where the pumping rate can then be increased. Pumping rates shall be reduced to the slowest speed feasible during the cutter/suction head's return to the water bottom.

Considering the large expanse of water surrounding the proposed borrow areas where sturgeon could avoid any dredge, their potential ability to avoid entrainment via burst swimming speeds, and incorporation of the above protective measures the Service has determined that the proposed project is not likely to adversely affect the Atlantic sturgeon or the PCE that addresses disruption of migratory pathways.

Effects to/on Habitat

Four PCEs of critical habitat are present in the project area (see Status of the Critical Habitat in the project area): food items, water quality, sediment quality, and migratory pathways. As discussed above, the nature of the proposed action necessitates the evaluation of effects on migration as a species effect and not as a habitat effect. Water and sediment quality impacts are discountable (see the introduction to Effects of the Action). The project may affect the ability of estuarine critical habitat unit to provide abundant food items by removing substrate from the lake bottom that support those food items.

Because the project area salinities range between freshwater and estuarine, the feeding habitats of both juvenile fish, which feed near river mouths, and of adult/subadult fish, which feed exclusively in saltwater habitats (see Life History – Food Habits) could be affected. However,

the great distance of the project area from the mouth of the Pearl River (the only known spawning river in the watershed) indicates there are probably other important feeding areas closer to the Pearl River for adult/sub-adult fish returning to the relatively prey-rich estuary following months of fasting in riverine summer resting areas. Younger fish have a lower tolerance for salt water and the river/bay interface is where greater benthic prey density (compared to the river) and lower salinity regimes intersect. Tracking studies in Lake Pontchartrain during 2001 failed to locate any sturgeon in the lake (Granger, 2002). The reasons for the apparent decrease in utilization of this area are not known. As previously mentioned a review of data from an ongoing telemetry study in Lake Pontchartrain did not indicate that the proposed borrow area is an area where Atlantic sturgeon were not found to remain for extended periods of time or concentrate (Glenn Constant personal communication, 2014). Effects to the PCE food items, which are dependent on sediment composition and effects to critical habitat area are addressed below.

Effect to food/sediment

Atlantic sturgeon generally feed in sandy substrates (see Species Description – Food Habits). Sediment samples have been taken from Lake Pontchartrain since the early 1970's. However, no previous sediment sampling occurred within the proposed borrow sites. Other samples in the vicinity of the sites were judged to be too far (i.e., greater than 2,000 feet) from the borrow sites to provide data that would reflect site conditions.

For project planning, eleven (11) borings were taken within the proposed borrow site. Borings B10-B14, had very soft dark sandy clay or clayey sand or silt at the lake-bottom surface (10 feet.) The depth of the proposed borrow site (i.e., -23 feet) indicated that the surface sediments following excavation would be composed of medium to stiff green and gray clay or silt with some sand pockets ferrous nodules and lenses. Therefore, utilizing the proposed Bayou Bonfouca borrow area would not result in a significant change in substrate composition.

Because sand could be considered a PCE and some sandy areas were located within the borrow site during preliminary sampling, the planning team employed GeoEngineers, Inc. to collect two hundred (200) evenly spaced surface sediment samples from the proposed borrow site; graphic results can be seen in Figure 4. It was decided that within the proposed borrow area all areas in which the surface sediments were shown to consist of seventy percent (75%) sand or greater would be excluded from dredging (i.e. no dredge zone). This was based on Fox et al., (2002) determination that sturgeon were typically located where sediment consisted of approximately 80 percent or more of sand and other researchers also finding sturgeon associated with sandy substrate (Harris et al., 2005, Ross et al., 2009) .

The filling rate of the IHNC borrow site on the south shore of Lake Pontchartrain was determined to be approximately 0.59 inches (1.5 cm) per year. The filing rate of the Goose Point borrow site was determined to range between 0 and 5.3 feet per year with an average of 0.3 feet per year (Khalil et al., 2014). That filling rate would refill the borrow site in approximately 33 years. However, those filling rates were determined from hydrographic surveys of the borrow site, thus any sloughing of the pits sides may have been included as part of the infilling rate thus potentially skewing the averaged rate towards a much faster rate than is actually occurring.

Coring of sediment accumulations in the IHNC borrow site showed occasional layers of sandy material being deposited (approximately 8 percent of the total accumulation) which could offer periodic and temporary increases in sandy substrate, if such sand lenses would occur. Using the infilling rate of 0.59 inches per year the proposed borrow pit could theoretically refill in approximately 203 years. Currently, the Goose Point and Pointe Platte borrow sites have accumulated an average of about 4.5 inches (11.25 cm) of flocculent at the bottom of the borrow sites since excavation based on 6 sediment cores taken from each of those sites. This accumulation equates to an infilling rate of approximately 0.8 inches per year (1.9 cm) meaning that the borrow pit could refill in approximately 150 years. It is not known if the flocculent will eventually consolidate into a firm substrate. This infilling rate is slightly higher than that determined from the IHNC pit, however since the Goose Point pits construction there have been two opening of the Bonnet Carre Spillway which introduces Mississippi River sediment into the lake and some tropical storm events (e.g., Hurricane Katrina) which can also redistribute sediments; thus the longer term average from the IHNC borrow sites are believed to reflect a more realistic long-term refill rate.

Dredged holes on the south shore of Lake Pontchartrain experience stratification and periods of anoxic conditions (Flocks and Franze, 2002). However, benthic organisms that were present were secondary prey items as defined by Brooks (2004). A literature review on the impacts of dredge holes was undertaken by Pisapia (1974). In that review, several studies documented lower dissolved oxygen levels and decreased abundance of benthic and finfish species within dredge holes. However, some holes appeared to provide good water quality and benthic and finfish species were present but in decreased abundance in comparison to un-dredged areas. Areas that experienced flushing did not exhibit stratification which often leads to lower dissolved oxygen levels and decreased abundance of benthic organisms and finfish. In a study assessing the habitat value of 11 dredge holes in Tampa Bay only 3 were recommend for filling to restore habitat and one was recommended for refilling to reduce shoreline erosion. The remaining dredge holes were recommended to remain unfilled because they provided good water quality and had levels of benthic organisms and finfish equal to or greater than adjacent areas of similar depth (Tampa Bay Estuary Program 2005). An evaluation of dredge holes in Lake Worth Lagoon, Florida, determined that not all dredged holes were candidates for depth modification because some still provided good water quality and good habitat quality for benthic organisms and finfish. The location of a dredged hole to ocean inlets and a canal had a major influence on the benthic fauna within the dredge hole (Vose, *et al.*, 2005). Pits that were believed to experience more current (i.e., flushing) were thought to provide better habitat. Reine *et al.*, (2014) documented improved DO levels and benthic community in partially re-filled dredged holes in Mobile Bay. However, the benthic community still differed from the natural bay bottom community. Decreasing the proposed borrow pits depth from 15 feet to 10 feet below the lake bottom is anticipated to help reduce hypoxic and anoxic events. As previously presented sampling results from the borrow site north of this area indicate colonization by benthic species found outside of the pit (see Borrow Pit Investigation and Design Considerations).

A comparison of the ten most abundant benthic organisms in Lake Pontchartrain as identified by various reports is presented in Table 1 of Appendix C. Two of the studies were done post Hurricane Katrina and indicated that the benthic communities apparently still had not recovered from the effect of that storm (Poirrier et al., 2008, Macaulaey et al., 2007). As previously

mentioned Lake Pontchartrain's benthic community exhibits variations (Tables 3 through 6 of Appendix C) that are probably related to the changes in salinity both across the lake and between years, and reoccurring hypoxic/anoxic conditions (Macaulaey et al., 2007). The nine most common taxa reported from those studies include, *Rangia, cuneata*, Nemertea, *Texadina sphinctostoma*, *Parandalia americana*, *Steblospio benedicti*, *Amphicteis floridus*, *Cerapus benthophilus*, and Chironomids. Comparison of Ray's (2007) benthic samples from Lake Borgne (Table 2 in Appendix C) indicates that over five years the eight most abundant benthic taxa in Lake Borgne include four of the most abundant species found in Lake Pontchartrain. All eight species have also been reported at least once as one of the ten most abundant species in Lake Pontchartrain. Lake Borgne is more directly influenced via saline coastal water, thus some differences in the benthic community should exist, but there is similarity between the two areas benthic communities.

Based upon food habitat studies of the Atlantic sturgeon it does not appear that the proposed borrow site provide a large abundance of primary food items (Table 1), however, many of the reported benthic taxa listed as secondary food items are found in the proposed borrow site. However, these species can also be found throughout most of the lake as well as in adjacent estuarine areas (e.g., Lake Borgne) as previously mentioned. In addition, some recolonization of the borrow pit with prey items will occur even following anoxic events (BEM 2014). Limiting the depth of the proposed borrow pits and locating the proposed borrow pits in areas having higher current velocities reduces the potential for the borrow pits to develop hypoxic and/or anoxic conditions which could limit prey availability. Considering the above factors the Service has determined that the proposed project is not likely to adversely affect the PCE addressing food and sediment.

Effects to Critical Habitat Estuarine Unit 8

The Service anticipates that dredging within the lake will occur from approximately 1,700 to 23,000 feet from the shore. Water depths at the proposed borrow site range from approximately 10 to 14 feet.

Critical habitat within Lake Pontchartrain (188,675 acres) comprises about 47 percent of lake (total area of 403,200 acres) and 21 percent of Unit 8 (i.e., Lake Pontchartrain, Lake, St. Catherine, Lake Borgne, Mississippi Sound); Unit 8 extends over 883,323 acres. The total area of the borrow site (i.e., a maximum of 648 acres) comprises approximately 0.3 percent and 0.07 percent of critical habitat in Lake Pontchartrain and Unit 8, respectively. The borrow site has been configured to avoid areas that are predominated by sand (i.e., 75% or greater sand content) thus avoiding areas that potentially have primary food items (Fox et al., 2002), however, other studies (Brooks 2004) indicate that the proposed borrow site locations may provide prey species for Atlantic sturgeon. Prey associated with the less sandy substrate have been found within the existing borrow site and in most of Lake Pontchartrain and Lake Borgne (BEM 2014, Ray 2009). Recolonization of borrow pits with prey species does occur (BEM 2014) but borrow pits may exacerbate natural hypoxic conditions that re-occur in Lake Pontchartrain thus limiting full recovery of the benthic community (Flocks and Franze, 2002, Khalil, 2014). Only two borrow pits have been dug since the designation of critical habitat; the total area of those borrow sites (i.e., a maximum of 298 acres) comprises approximately 0.2 percent and 0.03 percent of critical

habitat in Lake Pontchartrain and Unit 8, respectively. Combined with the proposed borrow sites the total area impacted by both projects comprises approximately 0.5 percent and 0.1 percent of critical habitat in Lake Pontchartrain and Unit 8, respectively. Since most of the designated critical habitat is composed of similar substrate (Flocks, et al., 2002) or substrate that supports possible non-sandy substrate prey, the Service has determined that the proposed borrow pit is not likely to adversely affect designated Atlantic sturgeon critical habitat.

MAMMALS

West Indian Manatee

Sightings of the West Indian manatee in Louisiana have occurred in Lakes Pontchartrain and Maurepas, and associated coastal waters and streams (i.e., Amite, Blind, Tchefuncte, and Tickfaw Rivers) during the summer months (i.e., June through September); however, there is no known resident population in the State. The borrow sites were located at a distance from the shoreline to prevent impacts to sea grass beds on which manatees feed; in addition, effluent from the marsh creation sites would be filtered across the marsh to further reduce suspended sediments that could also impact sea grass beds.

During in-water work in areas that potentially support manatees all personnel associated with the project should be instructed about the potential presence of manatees, manatee speed zones, and the need to avoid collisions with and injury to manatees. All personnel should be advised that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act of 1972 and the Endangered Species Act of 1973. Additionally, personnel should be instructed not to attempt to feed or otherwise interact with the animal, although passively taking pictures or video would be acceptable. The following standard protective measures should be implemented;

- All on-site personnel are responsible for observing water-related activities for the presence of manatee(s). We recommend the following to minimize potential impacts to manatees in areas of their potential presence:
- All work, equipment, and vessel operation should cease if a manatee is spotted within a 50-foot radius (buffer zone) of the active work area. Once the manatee has left the buffer zone on its own accord (manatees must not be herded or harassed into leaving), or after 30 minutes have passed without additional sightings of manatee(s) in the buffer zone, in-water work can resume under careful observation for manatee(s).
- If a manatee(s) is sighted in or near the project area, all vessels associated with the project should operate at “no wake/idle” speeds within the construction area and at all times while in waters where the draft of the vessel provides less than a four-foot clearance from the bottom. Vessels should follow routes of deep water whenever possible.

- If used, siltation or turbidity barriers should be properly secured, made of material in which manatees cannot become entangled, and be monitored to avoid manatee entrapment or impeding their movement.
- Temporary signs concerning manatees should be posted prior to and during all in-water project activities and removed upon completion. Each vessel involved in construction activities should display at the vessel control station or in a prominent location, visible to all employees operating the vessel, a temporary sign at least 8½ " X 11" reading language similar to the following: "CAUTION BOATERS: MANATEE AREA/ IDLE SPEED IS REQUIRED IN CONSRUCTION AREA AND WHERE THERE IS LESS THAN FOUR FOOT BOTTOM CLEARANCE WHEN MANATEE IS PRESENT". A second temporary sign measuring 8½ " X 11" should be posted at a location prominently visible to all personnel engaged in water-related activities and should read language similar to the following: "CAUTION: MANATEE AREA/ EQUIPMENT MUST BE SHUTDOWN IMMEDIATELY IF A MANATEE COMES WITHIN 50 FEET OF OPERATION".
- Collisions with, injury to, or sightings of manatees should be immediately reported to the Service's Louisiana Ecological Services Office (337/291-3100) and the Louisiana Department of Wildlife and Fisheries, Natural Heritage Program (225/765-2821). Please provide the nature of the call (i.e., report of an incident, manatee sighting, etc.); time of incident/sighting; and the approximate location, including the latitude and longitude coordinates, if possible.

Furthermore, the disturbance to that species would only be temporary during project construction, and would result in temporary displacement. The manatees would likely move to another area for foraging or resting purposes, and there would be other available areas to which the animals may relocate.

SUMMARY OF DETERMINATIONS

The proposed action would not be located within suitable habitat for the RCW nor will it indirectly affect areas inhabited by that species. The proposed action, therefore, would have no effect on that species.

FISH

Effects to three of the four PCEs that are present in the project area would not occur or are discountable. The Service determined that the effects are discountable because effluent from the marsh creation areas would flow through adjacent marsh areas, thus removing their potential to affect water and sediment quality. Turbidity associated with dredging would be temporary in nature and there are no know contaminants in the proposed borrow sites. Effects to the fourth PCE, abundant food items, are small in scale relative to the potential feeding area in Critical Habitat Unit 8 as a whole. Lake Pontchartrain comprises about 21 percent of the designated critical habitat in Unit 8 (i.e., Lake Pontchartrain, Lake, St. Catherine, Lake Borgne, Mississippi Sound). The total area of the borrow site (i.e., a maximum of 648 acres) comprises

approximately 0.3 percent and .07 percent of critical habitat in Lake Pontchartrain and Unit 8, respectively. The above analysis indicates that the proposed project would have a negligible impact on the ability of the estuarine critical habitat unit to function for the conservation of the Atlantic sturgeon especially when avoidance of areas having higher sand concentration thus potentially greater preferred food abundance is considered and when viewed in the more limited context of the estuarine unit, which serves as winter feeding habitat of juvenile and sub-adult fish. Limiting the depth of the proposed borrow pits and locating the proposed borrow pits in areas having higher current velocities substantially reduces the potential for the borrow pits to develop hypoxic and/or anoxic conditions which could limit prey availability.

In summary, the borrow sites are not located within areas that are predominated by sand, therefore, the borrow areas are not believed to be highly utilized by Atlantic sturgeon for feeding nor provide constituent elements of critical habitat, furthermore any areas that contain 75% sand or greater would be avoided. Considering the above factors the Service has determined that the project's effect on food resources in the project area would not significantly impair essential behavioral patterns and result in death or injury of Atlantic sturgeon; therefore, the Service has determined that the proposed project is not likely to adversely affect designated Atlantic sturgeon critical habitat.

Considering the large expanse of water surrounding the proposed borrow areas where sturgeon could avoid any dredge, their potential ability to avoid entrainment via burst swimming speeds, the reduced potential of entrainment by conducting dredging operations only during time periods when there are fewer sturgeon present, avoidance of areas having high sand concentrations, and incorporation of protective measures the Service has determined that the proposed project is not likely to adversely affect the Atlantic sturgeon as a species or the PCE that addresses disruption of migratory pathways.

Post construction surveys of the actual borrow site configuration will be undertaken along with water quality monitoring in the borrow pit. Collection of this information will be coordinated with and made available to interested resource agencies.

MAMMALS

The West Indian manatee is known to occur periodically in the coastal waters of Louisiana. If a manatee were to stray into the project area, it may be attracted to noise from any proposed activities. Consequently, an on-board observer would be present to alert the proper personnel, and harmful activities (e.g., dredging) would be temporarily suspended until the animal can move to safety. Should a manatee be sighted within any work areas, the Service's Louisiana Ecological Services, Field Office (646 Cajundome Blvd. Suite 400, Lafayette, LA, 70506) would be contacted immediately. Therefore, the proposed action is not likely to adversely affect the West Indian manatee.

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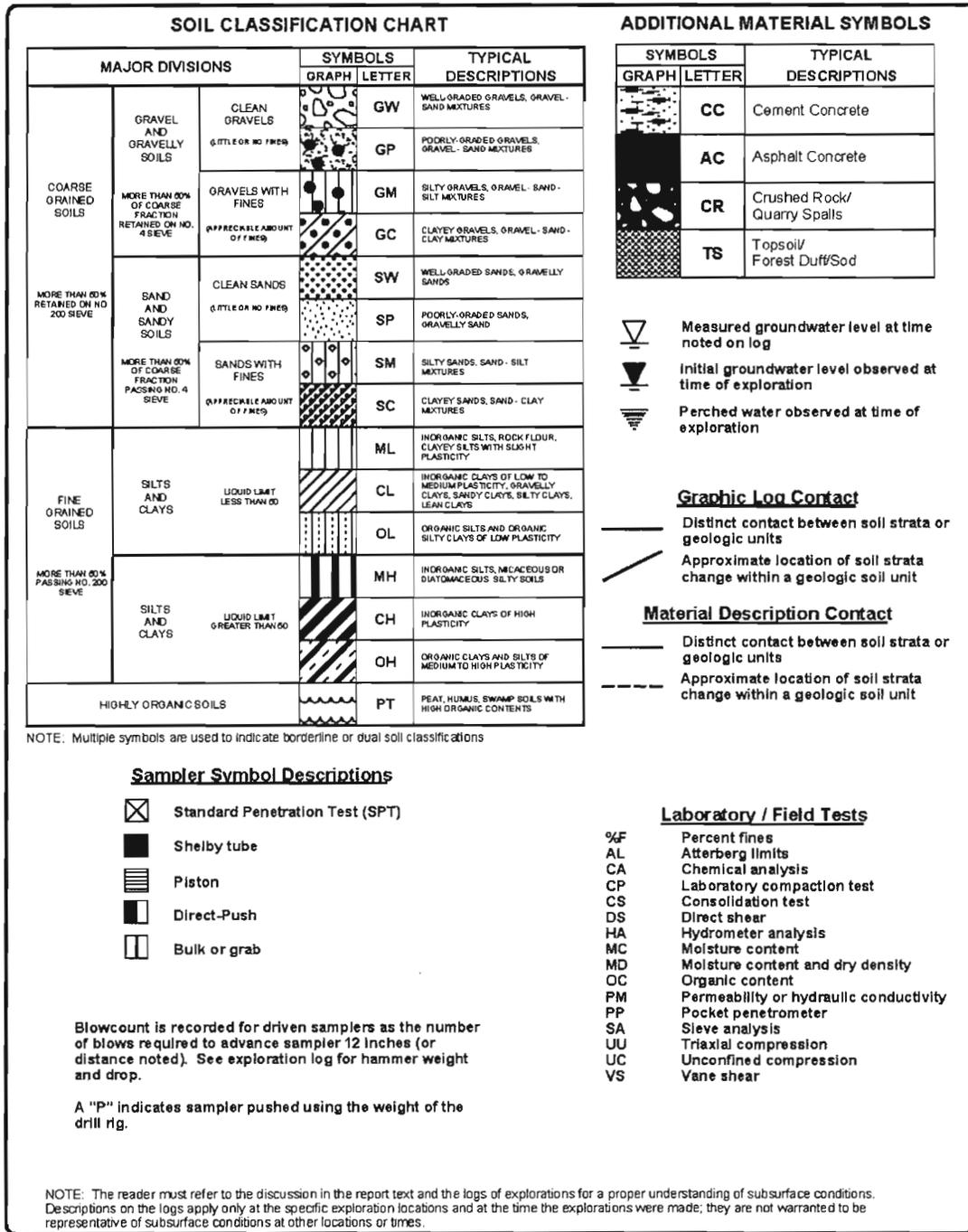
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Appendix A

Results of Proposed Borrow
Site Soil Borings



KEY TO EXPLORATION LOGS

	FIGURE A-1
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Drilled	Start 9/12/2011	End 9/12/2011	Total Depth (ft)	31.5	Logged By Checked By	SM VT	Driller	Specialized Environmental Resources, LLC	Drilling Method	Wet Rotary
Surface Elevation (ft) Vertical Datum	Undetermined			Hammer Data	N/A			Drilling Equipment	Pontoon Barge-Mounted Drill Rig	
Latitude Longitude	N30° 14' 13.0" W89° 52' 20.0"			System Datum	Geographic NAD83 (feet)			Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
Notes: See Figure A-1 for explanation of symbols.								9/12/2011	1.0	

Elevation (feet)	FIELD DATA						MATERIAL DESCRIPTION	LABORATORY DATA									
	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name	Water Level Graphic Log		Group Classification	Water Content, %	Dry Density, (pcf)	Compressive Strength (TSF) ¹	Confining Pressure (ksf)	Strain, %	Liquid Limit (LL), %	Plasticity Index (PI), %	Min/Vane Shear Strength (ksf)	Passing No. 200 Sieve, %
0						▽											
								Zero (0) feet top of deck Water line									
5																	
10								Mudline									
12	3				1		CL	Very soft dark gray clay with silt	30				44	27			
15	12				2			Medium gray silty clay with ferrous nodules								0.284	
13	13				3			Soft gray very silty clay with ferrous nodules	25				26	12			
8	8				4			Stiff gray silty clay with ferrous nodules									
20	11				5			Stiff gray silty clay with ferrous nodules	24				40	22			
13	13				6			Stiff gray silty clay with ferrous nodules									
25	3				7		CH	Medium gray clay with ferrous nodules	38				53	34			
9	9				8		CL	Medium gray silty clay with ferrous nodules									
19	19				9		CH	Medium gray clay with ferrous nodules	34				84	55			
30	13				10		CL	Medium gray silty clay with ferrous nodules									

¹Indicates a remold was used for strength testing.
²FV = Field Vane shear strength corrected for material characteristics.

Log of Boring B-10		
	Project:	Bayou Bonfouca Marsh Creation Project (PO-104)
	Project Location:	St. Tammany Parish, Louisiana
	Project Number:	16715-023-00
		Figure A-11 Sheet 1 of 1

Drilled	Start 9/12/2011	End 9/12/2011	Total Depth (ft)	30	Logged By Checked By	SM VT	Driller	Specialized Environmental Resources, LLC	Drilling Method	Wet Rotary
Surface Elevation (ft) Vertical Datum	Undetermined			Hammer Data	N/A			Drilling Equipment	Pontoon Barge-Mounted Drill Rig	
Latitude Longitude	N30° 14' 10.6" W89° 51' 56.1"			System Datum	Geographic NAD83 (feet)			Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
Notes: See Figure A-1 for explanation of symbols.								9/12/2011	1.0	

Elevation (feet)	FIELD DATA					MATERIAL DESCRIPTION	LABORATORY DATA										
	Depth (feet)	Interval Recovered (in)	Blows/foot	Collected Sample	Sample Name		Water Level	Graphic Log	Group Classification	Water Content, %	Dry Density, (pcf)	Compressive Strength (FSF) ¹	Confining Pressure (KSF)	Strain, %	Liquid Limit (LL), %	Plasticity Index (PI), %	Min/Max Shear Strength (KSF)
0						▽											
10	7			1			CL	Mudline Very soft gray silty clay with ferrous nodules									
9				2				Soft gray very silty clay with ferrous nodules	24					31	17		
15	8.5			3				Medium gray sandy clay with ferrous nodules									
				4				Medium gray very sandy clay with ferrous nodules	24					28	14		
20	9			5			CH	Medium brown and gray clay with ferrous nodules									
				6				Medium green and gray clay with calcareous and ferrous nodules	25					70	49		
	6			7				Stiff green and gray clay with ferrous nodules									
25	12			8				Stiff green and gray clay with ferrous nodules	27					69	49		
	5			9				Stiff green and gray clay with ferrous nodules									
30	6			10			CL	Stiff green and gray clay with silt, sand pockets and ferrous nodules	28					47	33		

¹Indicates a remold was used for strength testing.
¹FV = Field Vane shear strength corrected for material characteristics.

Log of Boring B-11		
	Project:	Bayou Bonfouca Marsh Creation Project (PO-104)
	Project Location:	St. Tammany Parish, Louisiana
	Project Number:	16715-023-00
		Figure A-12 Sheet 1 of 1

Drilled	Start 9/12/2011	End 9/12/2011	Total Depth (ft)	31	Logged By Checked By	SM VT	Driller	Specialized Environmental Resources, LLC	Drilling Method	Wet Rotary
Surface Elevation (ft) Vertical Datum	Undetermined			Hammer Data	N/A			Drilling Equipment	Pontoon Barge-Mounted Drill Rig	
Latitude Longitude	N30° 13' 39.0" W89° 52' 25.0"			System Datum	Geographic NAD83 (feet)			Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
Notes: See Figure A-1 for explanation of symbols.								9/12/2011	1.0	

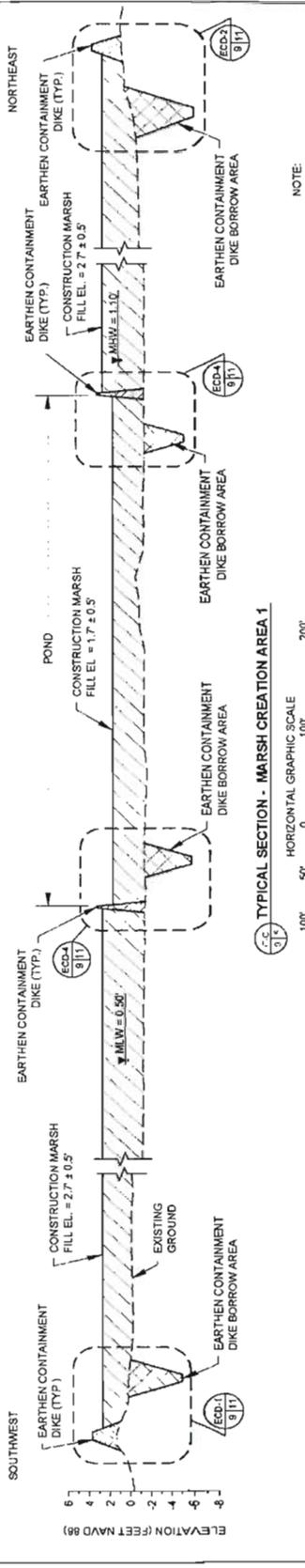
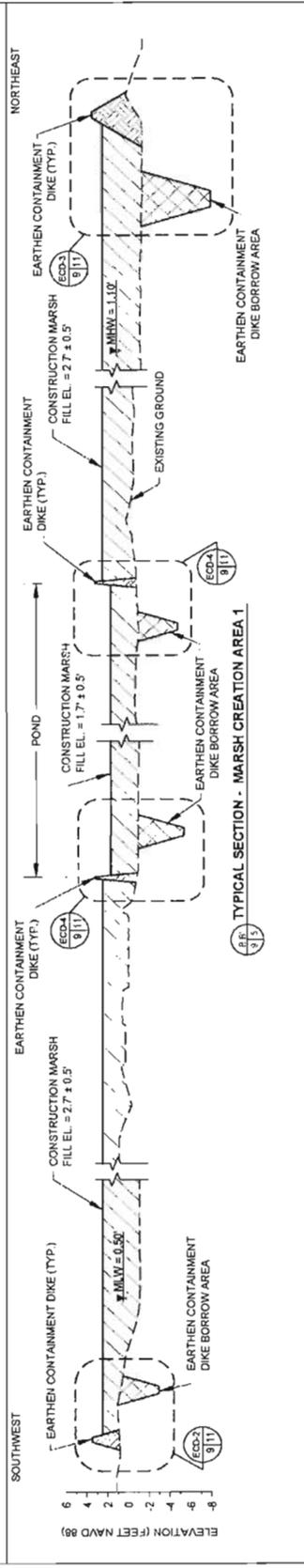
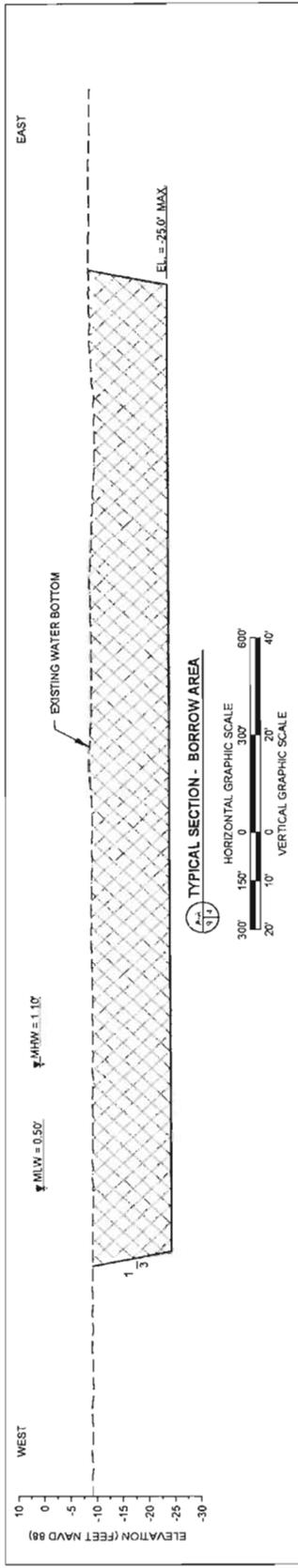
Elevation (feet)	FIELD DATA						MATERIAL DESCRIPTION	LABORATORY DATA									
	Interval Recovered (in)	Blows/foot	Collected Sample	Sample Name	Water Level	Graphic Log		Group Classification	Water Content, %	Dry Density, (pcf)	Compressive Strength (TSF) ¹	Confining Pressure (KSF)	Strain, %	Liquid Limit (LL), %	Plasticity Index (PI), %	Min/Max Shear Strength (KSF)	Pressing No. 200 Sieve, %
0						☒											
								Zero (0) feet top of deck Water line									
5																	
10								Mudline									
9			1				CL	Very soft dark gray very sandy clay with sand pockets	33				31	14			
10			2					Loose dark gray sandy clay with shells									
15			3					Soft gray very sandy clay with ferrous nodules	17				23	11			
4			4					Soft gray very sandy clay with ferrous nodules									
12			5					Medium gray very silty clay with ferrous nodules	18				30	18			
13			6					Medium gray silty clay with ferrous nodules									
13			7				CH	Medium gray clay with ferrous nodules, sand pockets and lenses	35				70	47			
25			8					Medium gray clay with ferrous nodules									
9			9					Medium gray clay with ferrous nodules	31				67	47			
12			10				CL	Medium gray clay with silt pockets, lenses and ferrous nodules	22				42	25			

¹Indicates a remold was used for strength testing.
²FV = Field Vane shear strength corrected for material characteristics.

Log of Boring B-13		
	Project:	Bayou Bonfouca Marsh Creation Project (PO-104)
	Project Location:	St. Tammany Parish, Louisiana
	Project Number:	16715-023-00
		Figure A-14 Sheet 1 of 1

Appendix C

Borrow Pit and Marsh Creation Cross Sections



NOTE: DISCHARGE SHALL BE DIRECTED TO RETAIN AS MUCH MATERIAL AS POSSIBLE.

LEGEND

[Symbol]	EARTHEN CONTAINMENT DIKE
[Symbol]	EARTHEN CONTAINMENT DIKE BORROW AREA
[Symbol]	MARSH CREATION FILL
[Symbol]	EXISTING GROUNDWATER BOTTOM

COASTAL PROTECTION AND RESTORATION AUTHORITY 401 LAUREL STREET BALTIMORE, MD 21201 (TEL: 410.386.7800)		DRAWN BY: KRISTI LANTU DATE: 08.27.09	DESIGNED BY: KAREBE OUELLORE, L.L. DATE: SEPTEMBER 2011 SHEET 9 OF 27
		FEDERAL PROJECT NUMBER: PO-104 APPROVED BY: SEANNOX BANNYS P.E.	TYPICAL SECTIONS BALYOUBONICA MARSH CREATION PROJECT

Appendix X

Information from Benthic Studies done
in Lake Pontchartrain and Lake Borgne

Table 1. Comparison of most abundant benthic species in Lake Pontchartrain

Year	1974 ¹	1978 ²	2002-2004 ³	2004 ⁴	2005 ⁴	2005 ⁵	2006 ⁴	Most common Taxa ⁶
Taxa	Amnicolidae	<i>Probythinella louisianae</i>	<i>Rangia cuneata</i>	<i>Rangia cuneata</i>	Oligochaeta	<i>Steblospio benediciti</i>	Oligochaeta	<i>Rangia Cuneata</i> (6)
	<i>Littoridina texadina</i>	<i>Mulinia pontchartrainensis</i>	<i>Texadina sphinctostoma</i>	Oligochaeta	<i>Steblospio benediciti</i>	Coelotanypus spp.	<i>Cerapus benthophilus</i>	Nemertea (5)
	<i>Mytilus edulis</i>	<i>Rangia cuneata</i>	Mediomastus spp.	<i>Probythinella protera</i>	Nemertea	Mediomastus spp.	<i>Rangia cuneata</i>	<i>Texadina sphinctostoma</i> (4)
	<i>Rangia cuneata</i>	<i>Texadina sphinctostoma</i>	<i>Mulinia lateralis</i>	<i>Texadina sphinctostoma</i>	Chironomids	<i>Parandalia tricuspis</i>	<i>Steblospio benediciti</i>	<i>Parandalia Americana</i> (4)
	<i>Mulinia pontchartrainensis</i>	<i>Amphicteis floridus</i>	<i>Cerapus benthophilus</i>	Chironomids	<i>Parandalia americana</i>	<i>Rangia cuneata</i>	Nemertea	<i>Steblospio benediciti</i> (4)
	Polychaeta	Chironomids	<i>Probythinella louisianae</i>	<i>Cerapus benthophilus</i>	<i>Rangia cuneata</i>	<i>Mediomastus ambiseta</i>	<i>Parandalia americana</i>	<i>Amphicteis floridus</i> (3)
	Diptera	<i>Macoma mitchelli</i>	<i>Ischadium recurvum</i>	<i>Amphicteis floridus</i>	<i>Amphicteis floridus</i>	Mastridae	<i>Texadina sphinctostoma</i>	<i>Cerapus benthophilus</i> (3)
		<i>Congeria leucophaeta</i>	<i>Hobsonia florida</i>	<i>Parandalia americana</i>	<i>Parandalia americana</i>	<i>Americamysis almyra</i>	Chironomids	Chironomids (3)
		<i>Parandalia americana</i>	Mastridae	Nemertea		<i>Ameroculodes miltoni</i>		
		Nemertea	Amphicteis spp.	<i>Steblospio benediciti</i>		Nemertea		

¹ Summary of species collected at Station 20 (southeastern portion of the lake) in 1974 (Price and Kuckyr 1974). Substrate was classified as sandy-clay sediment with approximately 50 percent sand and 20 percent clay. See Table 3.

² Top 10 Macrofaunal (abundance) in Lake Pontchartrain in 1978 (Stone, 1980). See Table 4.

³ Dominant infaunal species (10 most abundant in decreasing order) in Lake Pontchartrain (2000-2004) (Macauley et al., 2007)

⁴ Poirrier 2009 See Table 5

⁵ Dominant infaunal species (10 most abundant in decreasing order) in Lake Pontchartrain (2005) (Macauley et al., 2007) See Table 6.

⁶ Number in parenthesis equals number of occurrences.

Table 2. Comparison of species composition of Lake Borgne samples. Values represent percent of total abundance for selected species (Ray 2007).

Taxa	This Study	EPA 1991	EPA 1992	EPA 1993	EPA 1994
<i>Mediomastus sp.</i>	28.96	6.43	32.98	3.72	42.03
<i>Streblospio benedicti</i>	7.04	40.49	21.38	0.00	3.86
<i>Parandalia sp.</i>	8.50	0.00	4.32	11.74	6.76
<i>Hobsonia florida</i>	0.43	14.67	0.99	0.59	15.46
<i>Mulinia lateralis</i>	3.57	1.36	4.15	1.37	0.00
<i>Mulinia pontchartrainensis</i>	3.79	0.36	1.77	0.59	3.38
Nemertea	2.58	0.09	1.56	0.00	1.93
<i>Rangia cuneata</i>	*	6.43	0.04	3.52	6.28

*Substantial numbers of *Rangia cuneata* shells were present in northern reach of the sampling area but few live specimens were encountered.

Table 3. Summary of species collected at Station 20 (southeastern portion of the lake) in 1974 (Price and Kuckyr 1974). Substrate was classified as sandy-clay sediment with approximately 50 percent sand and 20 percent clay.

Name	Total	
	(N)	N/m ²
Amnicolidae	524	2062
<i>Littoridina texadina</i>	233	917
<i>Mytilus edulis</i>	1	4
<i>Rangia cuneata</i>	29	114
<i>Mulinia pontchartrainensis</i>	22	87
Polychaeta	4	16
Diptera	5	20

Table 4. Top 10 Macrofaunal (abundance) in Lake Pontchartrain in 1978 (Stone, 1980)

Name	Total			Percent of	
	(N)	N/m ² *	SE	Total	Rank
<i>Probythinella louisiana</i>	8422	1079.3	307.9	34.6	1
<i>Mulinia pontchartrainensis</i>	5868	752.0	165.3	24.1	2
<i>Rangia cuneata</i>	3265	418.4	67.6	13.4	3
<i>Texadina sphinctostoma</i>	2007	257.2	62.1	8.3	4
<i>Amphicteis floridus</i>	1649	211.3	49.3	6.8	5
Chironomids	1348	172.7	18.1	5.5	6
<i>Macoma mitchelli</i>	520	66.6	12.0	2.1	7
<i>Congeria leucophaeta</i>	647	82.9	20.4	2.7	8
<i>Parandalia americana</i>	175	22.4	5.2	0.7	9
Nemertean	109	14.0	1.6	0.4	10

*Total number per square meter

Table 5. Comparison of dominant taxa pre- and post-Hurricane Katrina (Poirrier 2009)

Table 1. Rank order comparison of abundance (# ind/m²) and relative abundance (% of total individuals from 3 replicate samples at 34 sites) of dominant taxa in petit Ponar dredge samples taken pre- and post-Hurricane Katrina. Abundance values are mean ± SE, n = 102. Major Groups: A = Amphipoda, B = Bivalvia, G = Gastropod, I = Insecta, P = Polychaeta

Taxa	Abundance	Relative Abundance	
		2004	
<i>Rangia cuneata</i> (B)	254.6 ± 52.6		19.5
Oligochaeta	249.7 ± 43.8		19.0
<i>Probythinella protera</i> (G)	206.2 ± 94.7		15.8
<i>Texadina sphinctostoma</i> (G)	176.3 ± 44.8		13.4
Chironomidae (I)	112.3 ± 17.1		8.6
<i>Cerapus benthophilis</i> (A)	110.3 ± 53.0		8.4
<i>Amphicteis floridus</i> (P)	88.6 ± 15.5		6.7
<i>Parandalia americana</i> (P)	49.2 ± 10.9		3.8
Nemertea	35.7 ± 5.2		2.7
<i>Streblospio benedicti</i> (P)	24.6 ± 4.7		<u>1.8</u>
			99.7
Taxa		2005	
Oligochaeta	362.1 ± 62.6		51.4
<i>Streblospio benedicti</i> (P)	132.1 ± 24.6		18.7
Nemertea	67.1 ± 10.0		9.5
Chironomidae (I)	43.1 ± 5.9		6.1
<i>Parandalia americana</i> (P)	34.2 ± 8.6		4.9
<i>Rangia cuneata</i> (B)	30.8 ± 7.6		4.4
<i>Amphicteis floridus</i> (P)	29.1 ± 13.3		<u>4.1</u>
			99.1
Taxa		2006	
Oligochaeta	2176.9 ± 402.4		49.4
<i>Cerapus benthophilis</i> (A)	1115.0 ± 444.7		25.3
<i>Rangia cuneata</i> (B)	384.1 ± 67.7		8.7
<i>Streblospio benedicti</i> (P)	263.4 ± 30.4		6.0
Nemertea	167.6 ± 15.8		3.8
<i>Parandalia americana</i> (P)	155.3 ± 28.6		3.5
<i>Texadina sphinctostoma</i> (G)	80.6 ± 12.8		1.8
Chironomidae (I)	51.5 ± 11.1		<u>1.1</u>
			99.6

Table 6. Comparison of dominant infaunal species (10 most abundant in decreasing order) in Lake Pontchartrain before (2000-2004) versus after Hurricane Katrina (2005). Also shown in parentheses is the number of samples (n) for each sampling period combination. (Macauley et al., 2007)

Survey Area	Pre-Hurricane (2000-2004)					Post-Hurricane (2005)				
	Taxa	Mean # Ind./m2	% Cum. Density	% Occurrence	Taxa	Mean # Ind./m2	% Cum. Density	% Occurrence		
	(n=46)				(n=29)					
	Rangia cuneata	278	19	59	Streblospio benedict	41	24	48		
	Texadina sphinctostoma	199	33	22	Coelotanypus spp.	37	45	59		
	Mediomastus spp.	111	41	39	Mediomastus spp.	21	57	21		
	Mulinia lateralis	110	49	11	Parandalia tricuspis	19	67	21		
	Cerapus benthophilus	82	55	4	Rangia cuneata	9	73	14		
	Probythinella louisianae	76	60	9	Mediomastus ambiseta	9	78	28		
	Ischadium recurvum	72	65	22	Mactridae	8	82	10		
	Hobsonia florida	60	69	13	Americamysis almyra	3	84	7		
	Mactridae	45	72	22	Ameroculodes miltoni	3	86	7		
	Amphicteis spp.	39	75	2	Nemertea	3	88	10		

APPENDIX F: DIRECTIONS TO BOAT LAUNCH

Directions to Boat Launch: From the intersection of Interstates 10 and 12 in Slidell, LA, travel 4.2 miles south to Highway 433 (Old Spanish Trail becomes Bayou Liberty Road). Travel west 5.7 miles west to the Bayou Liberty Marina which is located on the left before crossing Bayou Liberty. The physical address is 58047 Bayou Liberty Road, Slidell, LA 70460.



APPENDIX G: SURVEY MONUMENT DATA



VICINITY MAP Not to Scale

Reproduced from Louisiana 2005 DOQQ

Station Name: "876 1534 B TIDAL"

Location: Described by National Ocean and Atmospheric Administration 1982, to reach the site proceed west on Carr Drive approximately 2.4 mi (3.9 km) from its intersection with US Highway 11 on the north shore of Lake Ponchartrain to the private residence of Ms. Lucille R. Mocklin, 387 Carr Drive. The station is on the private dock at the rear of the residence. The benchmark is located 261 ft (79.6 m) east-northeast of the north shore of Lake Ponchartrain, 31 ft (9.4 m) north-northwest of the centerline of a boat ramp north of Carr Drive, 19 ft (5.8 m) east-northeast of the centerline of Carr Drive, 15 ft (4.6 m) west-southwest of the high water mark on the southwest shore of Facine Canal.

Monument Description: Tidal Station Disk on top of stainless steel rod driven 65.6 feet to refusal encased in a PVC pipe.

Stamping: 1534 B 1982

Installation Date: 1982 **Date of Survey:** August 2007

Monument Established By: NOAA

For: NOAA

Adjusted NAD83 Geodetic Position (NSRS2007)

Lat. 30°13'44.39891" N
Long. 089°51'05.24823" W

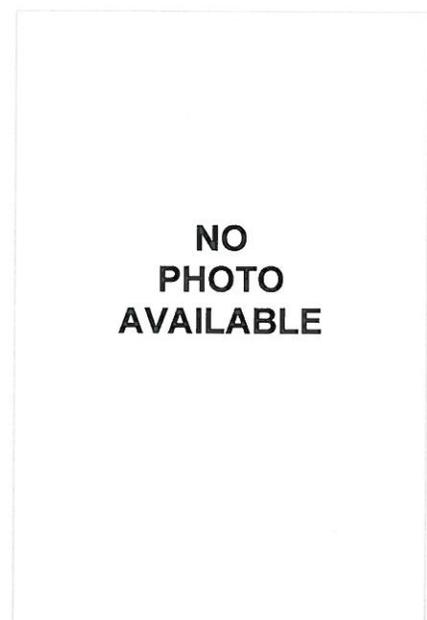
Adjusted NAD83 Datum LSZ (1702) Ft (NSRS2007)

N= 631,798.38
E= 3,748,804.16

Adjusted NAVD88 Height (2006.81)

Elevation = 2.56 feet (0.780 mtrs)

*Ellipsoid Height = -25.879 mtrs.
Geoid03 Height = -26.659 mtrs. (2004.65)*



APPENDIX H: GEOTECHNICAL REPORT

Paste the following link into web browser:

<ftp://ftp.coastal.la.gov/PO-104/Geotechnical%20Report/>

APPENDIX I: DESIGN SURVEY REPORT

Paste the following link into web browser:

<ftp://ftp.coastal.la.gov/PO-104/Survey%20Report/>

APPENDIX J: HYDRAULIC DREDGE DATA SHEET

HYDRAULIC DREDGE DATA SHEET

BONFOUCA MARSH CREATION PROJECT (PO-104)

The Contractor shall submit the following Dredge Data Sheet in the Work Plan for each dredge that is proposed to be utilized to perform the Work. The Dredge Data Sheet shall only be utilized for informational purposes. The submitted information is pertinent to the evaluation of the proposed dredges and their capability to perform the Work. The Contractor shall only omit data or information considered to be proprietary. The Dredge Data Sheet shall constitute a certification that the proposed equipment is available to and under control of the Contractor during the Work.

Name of dredge	
Type	
Manufacturer and manufacture date	
Rebuild date and type	
Current location	

Owner/Lease (specify) name	
Contact person	
Contact address	
Contact phone number	

Maximum draft (ft)	
Minimum operating depth (ft)	
Loaded freeboard (ft)	
Maximum dredge depth (ft)	
Minimum dredge depth (ft)	
Maximum effective dredge swing (Degrees)	
Length of dredge spuds (ft)	
Length of dredge hull (ft)	
Beam of dredge hull (ft)	
Length of dredge ladder (ft)	
Inside diameter of suction inlet (in)	
Inside diameter of pump discharge (in)	
Diameter of pump impeller eye (in)	
Outside diameter of pump impeller (in)	
Suction lift or elevation of main dredge pump relative to the water surface level (ft)	
Brake horsepower and corresponding engine RPMs applied to pump impeller at rated drive of the prime mover during dredging operations	
Brake horsepower applied to cutter head during dredging operations	
Pump engine horsepower and RPMs	
Minimum channel width in which dredge can successfully operate and turn 180 degrees	
Type of production rate monitoring equipment	

Expected production rate for beach and dune fill (CY/Day)	NA
Expected production rate for marsh fill (CY/Day)	

Booster pump name and horsepower	
Booster pump name and horsepower	
Booster pump name and horsepower	

APPENDIX K: EQUIPMENT DATA SHEET

EQUIPMENT DATA SHEET

BONFOUCA MARSH CREATION PROJECT (PO-104)

The Contractor shall submit the following Equipment Data Sheet in the Work Plan for each piece of heavy construction equipment (I.E., barge, track hoe, dozer, pile hammer, etc.) that is proposed to be utilized to perform the Work. The Equipment Data Sheet shall only be utilized for informational purposes. The submitted information is pertinent to the evaluation of the proposed equipment and their capability to perform the Work. The Contractor shall only omit data or information considered to be proprietary. The Equipment Data Sheet shall constitute a certification that the proposed equipment is available to and under control of the Contractor during the Work.

Type of equipment	
Manufacturer and manufacture date	
Condition	
Current location	
Description of use on project	

Owner/Lease (specify) name	
Contact person	
Contact address	
Contact phone number	

Expected production rate (Daily or hourly)	
Weight (tons)	
Dimensions (ft)	
Method of mobilization and demobilization	

APPENDIX L: DAILY PROGRESS REPORT FORM

Report Certification

Contractor Representative: _____ CPRA Project Representative: _____

Weather

Conditions: _____ Cloudy / Clear / Fog / Windy Tide Range (ft NAVD88) Low: _____ High: _____
 Precipitation: _____ in. Seas: _____ Calm / Light Chop / Rough
 Wind Speed / Direction: _____ mph Temperature: _____ °F

Safety

Safety Incidents: _____ Safety Meeting Topic: _____

Active Field Orders / Change Orders / Claims / Requests for Information / Payment Requests / Acceptance Requests

FO / CO / Claim / RFI / PR / AR	No.:	Status:
FO / CO / Claim / RFI / PR / AR	No.:	Status:
FO / CO / Claim / RFI / PR / AR	No.:	Status:

Equipment

Status of Aids to Navigation: _____ Mechanical Dredge(s) Utilized: _____
 Booster Pump Utilized: _____ Hydraulic Dredge(s) Utilized: _____

Notifications to the Engineer

Preconstruction Survey Start - Complete:	-	Process Survey Start - Complete:	-
As-built Survey Start - Complete:	-	Notice to Mariners:	_____
Permit Violation:	_____	Recordable Injury / Spill:	_____
Endangered Species or Cultural Resource:	_____	Dike Failure / Breach:	No / Yes Sta: _____
Louisiana One-Call:	_____	Settlement Plate Damaged/Repaired:	No (s): _____
Landowner/Utility Contacted:	_____		_____

Construction

Marsh Creation Area 1

Dike 1 Constructed Today:	Sta Start - End:	-	Dike 1 Constructed to Date:	Sta Start - End:	-
Dike 2 Constructed Today:	Sta Start - End:	-	Dike 2 Constructed to Date:	Sta Start - End:	-
Dike 3 Constructed Today:	Sta Start - End:	-	Dike 3 Constructed to Date:	Sta Start - End:	-
Dike 4 Constructed Today:	Sta Start - End:	-	Dike 4 Constructed to Date:	Sta Start - End:	-
Marsh Fill Quantity Today:		CY	Marsh Fill Quantity to Date:		CY
Dikes Gapped Today:	Sta Start - End:	-	Dewatering Structure:	Installed (Closed or Open) / Removed	
Pond A / Dike 4:		Gapped / Closed	Pond B / Dike 4:	Gapped / Closed	
Settlement Plates:	No(s) Installed:		Grade Stakes:	No(s) Installed / Removed:	

Marsh Creation Area 2

Dike 4 Constructed Today:	Sta Start - End: -	Dike 4 Constructed to Date:	Sta Start - End: -
Dike 5 Constructed Today:	Sta Start - End: -	Dike 5 Constructed to Date:	Sta Start - End: -
Dike 7 Constructed Today:	Sta Start - End: -	Dike 7 Constructed to Date:	Sta Start - End: -
Marsh Fill Quantity Today:	CY	Marsh Fill Quantity to Date:	CY
Dikes Gapped Today:	Sta Start - End: -	Dewatering Structure:	Installed (Closed or Open) / Removed
Pond C / Dike 4:	Gapped / Closed	Pond D / Dike 4:	Gapped / Closed
Settlement Plates:	No(s) Installed:	Grade Stakes:	No(s) Installed / Removed:

Marsh Creation Area 3

Dike 6 Constructed Today:	Sta Start - End: -	Dike 6 Constructed to Date:	Sta Start - End: -
Marsh Fill Quantity Today:	CY	Marsh Fill Quantity to Date:	CY
Dikes Gapped Today:	Sta Start - End: -	Dewatering Structure:	Installed (Closed or Open) / Removed
Settlement Plates:	No(s) Installed:	Grade Stakes:	No(s) Installed / Removed:

Marsh Creation Area 4

Dike 5 Constructed Today:	Sta Start - End: -	Dike 5 Constructed to Date:	Sta Start - End: -
Marsh Fill Quantity Today:	CY	Marsh Fill Quantity to Date:	CY
Dikes Gapped Today:	Sta Start - End: -	Dewatering Structure:	Installed (Closed or Open) / Removed
Settlement Plates:	No(s) Installed:	Grade Stakes:	No(s) Installed / Removed:

Dredge Pipe

Borrow Area Trunk Installed/Removed	Sta Start - End: - / LF	Fill Area 3 Lateral Installed/Removed	Sta Start - End: - / LF
Fill Area 1 Lateral Installed/Removed	Sta Start - End: - / LF	Fill Area 4 Lateral Installed/Removed	Sta Start - End: - / LF
Fill Area 2 Lateral Installed/Removed	Sta Start - End: - / LF	Collins Pipeline Crossing:	Installed / Removed

Borrow Area (North)

Quantity Dredged Today / To Date:	CY / CY	Dredge Operational Time:	Hrs
Depth Dredged:	ft NAVD88	Dredge Production Rate:	CY/HR
Dredge Advance Schematic Attached:	Yes / No	Estimated Percent Solids:	%

Borrow Area - (South)

Quantity Dredged Today / To Date:	CY / CY	Dredge Operational Time:	Hrs
Depth Dredged:	ft NAVD88	Dredge Production Rate:	CY/HR
Dredge Advance Schematic Attached:	Yes / No	Estimated Percent Solids:	%

Notes: