

**BID DOCUMENTS
FOR THE**

**LOST LAKE MARSH CREATION AND
HYDROLOGIC RESTORATION PROJECT (TE-72)**

TERREBONNE PARISH, LOUISIANA



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

AUGUST, 2016



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LIST OF DRAWING SHEETS

<u>SHEET NO.</u>	<u>DESCRIPTION</u>
1.	TITLE SHEET
2.	GENERAL NOTES
3.	PROJECT PLAN
4.	BORROW AREA 1 PLAN
5.	MARSH CREATION AREA 1 PLAN
6.	MARSH CREATION AREAS 2A, 2B, 2C & 2D PLAN
7.	MARSH CREATION AREA 3/BORROW AREA 2 PLAN
8.	EARTHEN TERRACE PLAN
9.	TYPICAL BORROW AREA SECTION & BORROW AREA 1 ACCESS CHANNEL PROFILE & SECTION
10.	TYPICAL DREDGE PIPELINE ALIGNMENT SECTIONS
11.	TYPICAL EARTHEN CONTAINMENT DIKE AND FILL SECTIONS
12.	TYPICAL EARTHEN TERRACE SECTION
13-24.	WATER CONTROL STRUCTURES
25.	SETTLEMENT PLATE DETAILS
26.	PIPELINE MARKER, GRADE STAKE AND WARNING SIGN DETAILS
27.	DESIGN SURVEY AND SOIL BORING LAYOUT
28-31.	CONSTRUCTION SURVEY LAYOUT
32-61.	CROSS SECTIONS

ADVERTISEMENT FOR BIDS

Sealed bids will be received for the State of Louisiana by the Coastal Protection and Restoration Authority, 150 Terrace Avenue, Conference Room 1-152, Baton Rouge, Louisiana 70802 **until 2:00 P.M. Thursday, October 6, 2016.**

ANY PERSON REQUIRING SPECIAL ACCOMMODATIONS SHALL NOTIFY THE COASTAL PROTECTION AND RESTORATION AUTHORITY OF THE TYPE(S) OF ACCOMMODATION REQUIRED NOT LESS THAN SEVEN (7) DAYS BEFORE THE BID OPENING.

FOR: **LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT**

PROJECT NUMBER: **TE-72**

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/rfps-rsiqs-contracts/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 9:00 am on Friday, September 23, 2016 at 1440 Tiger Drive, Suite B, Thibodaux, LA 70301.

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 11:00 AM on Friday, September 23, 2016 at the Falgout Canal Marina, 1868 Doctor Beatrous Road, Theriot, LA 70397.

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 private property. Outside of the recommended site visit, the Contractor may not have access to the features located on private property. Contractors shall be responsible for providing their own boat and any rental and boat launching fees.

Contact Garvin Pittman at (225) 987-4744 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, and/or Specialty Classification Dredging. 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
COASTAL PROTECTION AND RESTORATION AUTHORITY
MICHAEL ELLIS, EXECUTIVE DIRECTOR

INSTRUCTIONS TO BIDDERS

COMPLETION TIME:

The Bidder shall agree to fully complete the contract within **Four Hundred-Eighty-Seven (487)** consecutive calendar days for the Base Bid, and **Twenty-Two (22)** consecutive calendar days for Bid Alternate 1. Extensions 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"

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 the Coastal Protection and Restoration Authority 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:

Coastal Protection and Restoration Authority
P. O. Box 44027
Baton Rouge, Louisiana, 70804-4027.

Bids sent by express delivery shall be delivered to:
Coastal Protection and Restoration Authority
P. O. Box 44027
Suite 100

150 Terrace Avenue
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: Coastal Protection and Restoration Authority
150 Terrace Avenue
Suite 100
Baton Rouge, LA 70802
(Owner to provide name and address of owner)

BID FOR: Lost Lake Marsh
Creation and Hydrologic
Restoration Project
(TE-72)
(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: August, 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 *(Marsh Creation Area 2D)* for the lump sum of:

_____ Dollars (\$ _____)

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: Coastal Protection and Restoration Authority
150 Terrace Avenue
Suite 100
Baton Rouge, LA 70802
(Owner to provide name and address of owner)

BID FOR: Lost Lake Marsh
Creation and Hydrologic
Restoration Project
(TE-72)
(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	121	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	7	Each		

DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ Instrumented Settlement Plates (TS-251)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
7	1	Lump Sum		

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>)
8	56,087	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: Coastal Protection and Restoration Authority
150 Terrace Avenue
Suite 100
Baton Rouge, LA 70802
(Owner to provide name and address of owner)

BID FOR: Lost Lake Marsh
Creation and Hydrologic
Restoration Project
(TE-72)
(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.# ___ Bank Stabilization Dike (TS-301)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
9	4,509	Linear Foot		

DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ Earthen Terraces (TS-310)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
10	30,000	Linear Foot		

DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ Channels (TS-330)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
11	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>)
12	3,115,621	Cubic Yard		

DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ 55lb Class Rock (TS-720)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
13	1,390	Cubic Yard		

DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ Permanent Warning Signs (TS-800)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
14	10	Each		

DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ Aluminum Panels (TS-910)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
15	698	Square Foot		

DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ Treated Timber Piles (TS-950)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
16	9,060	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: Coastal Protection and Restoration Authority
150 Terrace Avenue
Suite 100
Baton Rouge, LA 70802
(Owner to provide name and address of owner)

BID FOR: Lost Lake Marsh
Creation and Hydrologic
Restoration Project
(TE-72)
(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.# ___ Treated Timber (TS-955)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
17	3.1	MFBM		
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ Structural Demolition (TS-960)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
18	4	Each		
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ Structural Modification (TS-961)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
19	1	Lump Sum		
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ Steel Sheet Pile Wall (TS-970)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
20	16,740	Square Foot		
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ Structural Steel (Gr. 36) (TS-971)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
21	20.6	Tons		
DESCRIPTION: <input type="checkbox"/> Base Bid or <input checked="" type="checkbox"/> Alt.# <u>1</u> Dredge Pipeline Mobilization, Installation and Demobilization - Addition for Marsh Creation Area 2D (TS-101)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
22	1	Lump Sum		
DESCRIPTION: <input type="checkbox"/> Base Bid or <input checked="" type="checkbox"/> Alt.# <u>1</u> Surveys – Addition for Marsh Creation Area 2D (TS-210)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
23	1	Lump Sum		
DESCRIPTION: <input type="checkbox"/> Base Bid or <input checked="" type="checkbox"/> Alt.# <u>1</u> Earthen Containment Dikes – Deduction for Marsh Creation Area 2A (TS-300)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
24	2,122	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: Coastal Protection and Restoration Authority
150 Terrace Avenue
Suite 100
Baton Rouge, LA 70802
(Owner to provide name and address of owner)

BID FOR: Lost Lake Marsh
Creation and Hydrologic
Restoration Project
(TE-72)
(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 type="checkbox"/> Base Bid or <input checked="" type="checkbox"/> Alt.# <u>1</u> Earthen Containment Dikes – Addition for Marsh Creation Area 2D (TS-300)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
25	3,955	Linear Foot		

DESCRIPTION: <input type="checkbox"/> Base Bid or <input checked="" type="checkbox"/> Alt.# <u>1</u> Hydraulic Dredging and Marsh Creation – Deduction for Marsh Creation Area 2A (TS-400)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
26	19,231	Cubic Yard		

DESCRIPTION: <input type="checkbox"/> Base Bid or <input checked="" type="checkbox"/> Alt.# <u>1</u> Hydraulic Dredging and Marsh Creation – Addition for Marsh Creation Area 2D (TS-400)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
27	344,243	Cubic Yard		

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)

**LOST LAKE MARSH CREATION AND
HYDROLOGIC RESTORATION PROJECT**

Name of Project

TE-72

Project No.

STATE OF LOUISIANA

PARISH OF TERREBONNE

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 employees 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.

**LOST LAKE MARSH CREATION AND
HYDROLOGIC RESTORATION PROJECT**

Name of Project

TE-72

Project No.

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 TERREBONNE

PROJECT NO.: TE-72

NAME: LOST LAKE MARSH CREATION AND
HYDROLOGIC RESTORATION PROJECT

LOCATION: DULAC, LA

A F F I D A V I T

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 are determined by the United States Department of Labor. 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 aids (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 B. 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, LDWF Fill Material License, and LADOTD highway crossing permit 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 re-submission 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 in southern Terrebonne Parish in the vicinity of Lost Lake, Bayou Decade and Carencro Bayou. Approximate coordinates for the center of the project are 29°20'20.91" N and 91°03'36.89" W (NAD 83).

The Project Site is only accessible by boat. A boat launch is available in Falgout, LA and directions are provided 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, demolition and construction of water control structures, earthen terraces, earthen containment and bank stabilization dikes, and installation of settlement plates and instrumented settlement plates. The Work shall be performed in accordance with these Specifications and in conformity to the 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 proposed terrace field and 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 and bank stabilization dikes, dike borrow areas, earthen terraces, water control structures, channels, dredge pipeline alignments, pipeline and embankment crossings, grade stakes and settlement plates. During construction, process surveys shall be performed for partial Acceptance and payment. After construction is complete, the Contractor shall develop an As-Built Survey for final Acceptance of the Work.
- 2.3 Settlement Plates: Settlement plates shall be fabricated and installed in the marsh creation areas as shown on the Plans.
- 2.4 Instrumented Settlement Plates: Instrumented settlement plates shall be fabricated and installed in the marsh creation areas as shown on the Plans.

- 2.5 Grade Stakes: Grade stakes shall be installed in the marsh creation areas as shown on the Plans.
- 2.6 Channels: If the Contractor proposes to mobilize the hydraulic dredge to Borrow Area 1 in Lost Lake via Bayou Decade, a temporary access channel may be excavated as shown on the Plans. The existing channels at the water control structures shall also be excavated as shown on the Plans.
- 2.7 Earthen Containment Dikes: Earthen containment dikes shall be constructed from in-situ soils in order to create full perimeter containment for Marsh Creation Areas 1, 2A, 2B, 2C, 2D (Bid Alternate 1), and 3 as shown on the Plans.
- 2.8 Bank Stabilization Dike: An earthen dike shall be constructed from in-situ soils along the shoreline of Lost Lake and Marsh Creation Area 3 as shown on the Plans in order to stabilize the shoreline and create full perimeter containment for the marsh creation area.
- 2.9 Dredge Pipeline Alignment: A hydraulic dredge pipeline, which facilitates the transfer of dredge material from the borrow areas 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 Decade to Marsh Creation Area 1. The Contractor shall provide any proposed modifications to the alignment in the Work Plan.
- 2.10 Marsh Creation Areas: Fill material shall be dredged from the borrow areas in Lost Lake and placed into Marsh Creation Areas 1, 2A, 2B, 2C, 2D (Bid Alternate 1), and 3 as shown on the Plans.
- 2.11 Marsh Nourishment Areas: The uncontained marsh nourishment areas shown on the Plans shall be utilized to receive decanted water from the adjacent marsh creation areas. No Work shall be performed within these areas under the Contract.
- 2.12 Earthen Terraces: Earthen terraces shall be constructed from in-situ soils as shown on the Plans.
- 2.13 Water Control Structures: Work shall be performed on the following Water Control Structures shown on the Plans:
- 2.13.1 Site 1: New construction;
 - 2.13.2 WC-1, WC-5 and WC-6: Demolition and reconstruction;
 - 2.13.3 WC-4: Partial demolition and new construction.

- 2.14 Revetted Embankment Crossings: The proposed locations for equipment and dredge pipeline crossings on the existing earthen embankment and rock revetment along the north bank of Bayou Decade are provided on the Plans. The Contractor shall provide any proposed modifications to the crossing locations in the Work Plan.
- 2.15 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 returning all disturbed wetlands to pre-existing conditions at no expense to the Owner.
- 2.16 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

Milestone	Location or Recipient	Due Date
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
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
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)
150 Terrace Avenue, Suite 100
Baton Rouge, LA 70802
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 CPRA Engineer:

Brian Babin, P.E.
1440 Tiger Drive, Suite B
Thibodaux, LA 70301
Phone: 985-447-0956
Fax: 985-447-0997
E-mail: Brian.Babin@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 and Watercraft Liability

Automobile Liability Insurance and Watercraft 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 and/or watercraft. If any non-licensed motor vehicles and/or watercraft 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/or watercraft and such vehicles are utilized in the execution of the contract, then hired and non-owned coverage is acceptable. If an automobile and/or watercraft is not utilized in the execution of the contract, then automobile and/or watercraft coverage is not required.

6.1.4 Excess Umbrella

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

Name of Owner

Owner Address

City, State, Zip

Attn: Project # TE-72 (Lost Lake Marsh Creation and Hydrologic Restoration 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(s) 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 and bank stabilization dikes;
- 7.7 Layout and schedule for gapping all earthen containment dikes.
- 7.8 Layout and schedule for construction of the internal training dikes if proposed to be constructed by the Contractor;
- 7.9 Dike breach repair procedures and communications protocol;
- 7.10 Layout and schedule for dredging the borrow areas and channels;
- 7.11 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;
- 7.12 Layout for the installation of protection measures at all equipment and pipeline crossings on the revetted embankment along Bayou Decade;
- 7.13 Layout and schedule for fill placement into the marsh creation areas;
- 7.14 Layout and schedule for dewatering the marsh creation areas;
- 7.15 Layout and schedule for construction of the earthen terraces;
- 7.16 Layout and schedule for construction of the water control structures.

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 THREATENED AND ENDANGERED SPECIES

An environmental assessment was performed by the United States Fish and Wildlife Service for this project and is provided in Appendix E. The assessment determined that the West Indian Manatee has the potential to exist within the boundaries of the Project Site. The Contractor shall comply with the following precautions to avoid and minimize impacts to the West Indian Manatee during construction:

- 13.1 West Indian Manatees have the greatest potential for entering the Project Site from May to October.
- 13.2 All personnel associated with the project shall be instructed about the potential presence of manatees and take actions to induce them to leave the immediate work area prior to dredging regardless of water depth or time of year.
- 13.3 The hydraulic dredge shall remain completely buried in the bottom material during dredging operations.
- 13.4 If pumping water through the hydraulic dredge is necessary to dislodge material or to clean the pumps or cutter head, etc., the pumping rate shall be reduced to the lowest rate possible until the cutter head is at mid-depth, where the pumping rate can then be increased.

- 13.5 During dredging, the pumping rates shall be reduced to the slowest speed feasible while the cutter head is descending to the channel bottom.
- 13.6 All personnel associated with the project shall be responsible for observing water-related activities for the presence of manatees.
- 13.7 Any sighting of, collision with, or injury to a manatee shall be immediately reported to the United States Fish and Wildlife Service and Louisiana Department of Wildlife and Fisheries.
- 13.8 Signs shall be posted throughout the course of the Work to remind personnel to be observant for manatees.
- 13.9 If utilized, siltation barriers shall be constructed of materials which will not entangle manatees. If a manatee is spotted, the siltation barriers shall be monitored and re-secured.
- 13.10 No operation of moving equipment within fifty (50) feet of a manatee;
- 13.11 All vessels shall operate at no wake/idle speeds within one hundred (100) yards of a manatee.

SP-14 NOTIFICATION OF DISCOVERY OF HISTORICAL OR CULTURAL SITES

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 access channels shall not be permitted unless otherwise specified in the Contract Documents. 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 unless otherwise specified in the Contract Documents. 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 Coastal Region District of the United States Coast Guard (USCG) 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 USCG typically requires that aids to navigation be installed along dredge pipelines, temporary spoil banks and access channels. The Contractor shall also submit a permit application and obtain a permit from the USCG 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 to the Engineer at least seven (7) days prior to performing any excavation or hydraulic dredging.

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(s) and any necessary booster pumps to Borrow Areas 1 and 2 in order to perform the Work. The Contractor shall demobilize this equipment from the Project Site upon Acceptance of the marsh creation areas. Different hydraulic dredges may be utilized at Borrow Areas 1 and 2. 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(s). 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 shall only be allowed as specified on the Plans and these Specifications. 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 Borrow Areas 1 and 2. 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(s) 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 additional access channels other than shown on the Plans. The maximum attainable draft for the hydraulic dredge(s) to access Borrow Areas 1 and 2 shall be confirmed by the Contractor but is estimated to be ten (10) feet and four (4) feet, respectively. 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 Bid 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 Equipment Data Sheet: The Equipment Data Sheet in Appendix K shall be included in the Bid 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(s) and a minimum of five-hundred (500) cubic yards of material has been dredged from either 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(s) is removed from the borrow area(s) 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 price 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 shall only be allowed as specified on the Plans and these Specifications. The Contractor shall not traverse across any pipeline with equipment which could damage the pipeline.
- 101.2.1 Revetted Embankment Crossing: The existing revetted embankment along the northern bank of Bayou Decade shall be protected from damage at all equipment crossing locations using four (4) inch thick articulated concrete mats, or approved equal. The mats shall have sufficient dimensions to span the revetted embankment as shown on the Plans. The mats shall remain in place after construction. Any damages to the revetted embankment beyond the equipment crossings shall be repaired by the Contractor at no expense to the Owner.
- 101.3 Dredge Pipeline: The Contractor shall utilize a pipeline to transfer dredge slurry material from the borrow areas to the marsh creation 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 Equipment Data Sheet: The Equipment Data Sheet in Appendix K shall be included in the Bid for all of the different types of dredge pipeline that are proposed to perform the Work.
- 101.3.3 Installation: The dredge pipeline shall be installed from the borrow areas 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.
- 101.3.3.1 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.
- 101.3.3.2 Floating or Trestle-Supported Pipelines: Dredge pipelines that are floating or supported on trestles shall display appropriate navigation lights at night and in periods of restricted visibility in accordance with Title 33 CFR 88.15 regulations.

- 101.3.3.3 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.
- 101.3.3.4 Shell Pipeline Crossing: Two (2) Shell Pipelines cross Bayou Decade in the vicinity of Marsh Creation Area 2A. The approximate alignment for these pipelines is shown on the Plans. The dredge pipeline shall remain floating at all times across these pipelines. The Contractor may submit an alternative option for crossing these pipelines in the Work Plan. However, the Contractor shall obtain written approval from the pipeline owner for any option that could cause impacts (Weight, vibrations, etc.) to the pipelines.
- 101.3.3.5 Revetted Embankment Crossing: The existing earthen embankment and rock revetment along the northern bank of Bayou Decade shall be protected from damage at all dredge pipeline crossings. Temporary protective measures (Pontoons, etc.) shall be installed such that the dredge pipeline remains elevated above the earthen embankment and rock revetment at all dredge pipeline crossings.
- 101.3.3.6 Bayou Decade Crossing: The dredge pipeline shall be installed into a trench where the alignment crosses Bayou Decade by mechanically excavating a minimum of three (3) feet below existing grade. The trench shall not be excavated within fifty (50) feet of the existing revetted embankment on the northern bank of Bayou Decade nor beyond the southern bank of Bayou Decade. 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. Temporary pipeline markers shall be installed on both sides of Bayou Decade 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.

- 101.3.4 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.
- 101.3.5 Removal: The Contractor shall re-grade those portions of the water bottom along dredge pipeline alignment and at all crossings that have been disturbed in excess of +/-1.0 feet from original 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 from Borrow Area 1 to Marsh Creation Area 2A. 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:
- 101.6.1 Marsh Creation Area 2D: The mobilization, installation and demobilization of all dredge pipelines within Marsh Creation Area 2D shall be included in Bid Alternate #1. If awarded Bid Alternate #1, payment shall be made at the Contract lump sum price for Bid Item No. 22, “Dredge Pipeline Mobilization, Installation and Demobilization – Addition for Marsh Creation Area 2D (TS-101)”.
- 101.6.2 Remaining Work: All remaining mobilization, installation and demobilization of dredge pipeline shall be included in the Base Bid. 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 shall only be allowed as specified on the Plans and these Specifications. The Contractor shall not traverse across any pipeline with equipment which could damage the pipeline.
- 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 final 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: The Contractor shall submit Applications for Payment after gaining initial and final Acceptance. 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 the 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 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: A minimum of one (1) temporary benchmark shall be installed and surveyed at each of the water control structures. The Contractor may install temporary bench marks at any other 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, terraces, terrace borrow areas, dredge pipeline alignments, and channels 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 Decade Crossing: The temporary disposal areas on either side of the dredge pipeline trench 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.
- 210.7.6.2 Revetted Embankment Crossings: All of the equipment and pipeline crossings that the Contractor proposes to utilize to cross the revetted embankment along the northern shoreline of Bayou Decade shall be surveyed. This survey shall include one (1) transect along the centerline of the crest of the revetted embankment and three (3) perpendicular transects spaced evenly across the width of the crossing. Bottom elevations and coordinates shall be recorded along the transects at ten (10) foot intervals.
- 210.7.7 Borrow Areas: A bathymetric and magnetometer survey shall be performed on the borrow areas. Ground elevations and coordinates shall be recorded at fifty (50) foot intervals along the transects shown on the Plans and extend fifty (50) feet beyond the boundaries of the borrow areas. The projected quantities available for excavation from the borrow areas shall be calculated based on this survey and the design dimensions shown on the Plans.

210.7.8 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 shown on the Plans 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 for each lift.

210.7.9 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.

210.7.10 Earthen Containment and Bank Stabilization 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.

210.7.11 Settlement Plates: All settlement plates and instrumented 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.

210.7.12 Earthen Terraces: A magnetometer survey shall be performed along the centerline alignment of the borrow areas for the earthen terraces. A topographic survey shall be performed along the centerline alignment of both the terraces 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 quantities for the terraces 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 terrace.

Survey stakes shall be placed at one-hundred (100) foot intervals and at all points of inflection along the centerline alignment of the terrace and the toe of the associated borrow area which is adjacent to the terrace.

210.7.13 Channels: A magnetometer survey shall be performed along the centerline alignment of the access channel to Borrow Area 1 in Lost Lake. A bathymetric survey shall also be performed on the access channel and temporary spoil placement areas. Perpendicular transects shall be surveyed at five-hundred (500) foot intervals along the centerline alignment as shown on the construction survey layout in the Plans. Ground elevations and coordinates shall be recorded at twenty-five (25) foot intervals along the transects. Transects shall extend fifty (50) feet beyond the boundaries of the temporary spoil placement areas and access channel. The outside toes of the access channels shall be staked at one-hundred (100) foot intervals and at all points of inflection along the alignment.

A bathymetric and topographic survey shall be performed on the channels at Water Control Structures Site-1, WC-1, WC-4, WC-5 and WC-6. Four (4) evenly spaced transects shall be oriented perpendicular to the structures and extend fifty (50) feet beyond the limits of channel dredging. Ground elevations and coordinates shall be recorded every twenty-five (25) feet and at major changes in topography along the transects. The projected quantities for the channels shall be calculated based on this survey.

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 Areas: 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 each lift of fill is placed. The final in-place fill quantity and cut-to-fill ratio shall also be calculated for each lift. 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 and Bank Stabilization Dikes: The topography of each dike and associated borrow area shall be surveyed after being fully constructed and prior to placement of the first lift 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 the first lift 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 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, daily in between lifts for fill placement, and daily for four (4) weeks after the final lift of fill is placed.

210.8.6 Earthen Terraces: The topography of each terrace and associated borrow area shall be surveyed after being fully constructed. Ground elevations and coordinates shall be recorded for the inside and outside crests and toes of the terraces, 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 terrace and at all points of inflection. The total in-place fill quantities for each terrace shall also be calculated in cubic yards. Those portions of the terraces which are reworked due to exceedance of the specified tolerances shall be resurveyed for Acceptance.

210.8.7 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 the final lift of fill is placed.

210.8.8 Channels: A bathymetric and topographic survey shall be performed on the Borrow Area 1 access channel and temporary spoil placement areas after excavation and placement. Ground elevations and coordinates shall be recorded for the inside and outside trough and toes of the access channel, and inside crest and toes of the temporary spoil placement areas. These measurements shall be repeated at five-hundred (500) foot intervals along the centerline of the channel.

The bathymetry and topography of the channels and placement areas at Water Control Structures Site-1, WC-1, WC-4, WC-5 and WC-6 shall be surveyed after being excavated. Those portions of the channels and placement areas which are reworked due to exceedance of the specified tolerances shall be resurveyed for Acceptance.

- 210.8.9 Water Control Structures: The top elevation of each sheet pile shall be surveyed after all sheet piles have been driven and installed.
- 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 and crossings shall be surveyed after removal of the dredge pipeline. Those portions of the alignment which have been reworked due to exceedance of the specified tolerance shall be resurveyed for Acceptance.
- 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 Tidal Creeks: 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.
- 210.9.5 Grade Stakes: All grade stakes shall be removed after Acceptance of the marsh creation areas.
- 210.9.6 Channels: The bathymetry of the Borrow Area 1 access channel and spoil placement areas shall be surveyed after the spoil placement areas are back-filled into the access channel. Those portions of the channels which have been reworked due to exceedance of the specified tolerances shall be resurveyed in order to gain Acceptance.
- 210.9.7 Water Control Structures: Those portions of the sheet pile which have been re-driven due to exceedance of the specified tolerances shall be surveyed for Acceptance.

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, spot elevations and +/-1.0 foot contours shall be shown in plan view. Transects shall also be shown in profile and include mean high and mean low water levels;

- 210.10.2.4 Magnetic anomalies and infrastructure (Pipelines, 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;
- 210.10.2.6 Revisions such as field or change orders shall be noted, shown in red and be easily distinguishable from the original design.
- 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 constitute full compensation for furnishing the material, labor, equipment and other incidentals related to this item of the Work.
- 210.13.1 Marsh Creation Area 2D: All surveys performed on Marsh Creation Area 2D and associated containment dikes shall be included in Bid Alternate #1. If awarded Bid Alternate #1, payment shall be made at the Contract lump sum price for Bid Item No. 23, "Surveys – Addition for Marsh Creation Area 2D (TS-210)".

- 210.13.2 Remaining Work: All other surveys shall be included in the Base Bid. Payment shall be made at the Contract lump sum price for Bid Item No. 4, "Surveys (TS-210)".

TS-220 GRADE STAKES

- 220.1 Scope: 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 48" 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 after Acceptance of the marsh creation areas, and after removal and the As-built Survey of the grade stakes.
- 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 earthen containment dikes in accordance with the Plans and these Specifications.
- 250.2 Materials: The base plate shall be fabricated from a four-foot by four-foot by one-fourth-inch-thick (4'x4'x1/4") Grade A36 steel plate. A four-inch-square (4"x4") hole shall be cut from the center of the plate to accommodate passage of the riser. Two (2) six-inch by three-and-a-half-inch by five-sixteenth-inch Grade A36 steel angles (L6"x3-1/2"x5/16") shall be welded to the plate, one on either side of the riser hole, long leg vertical, as shown on the Plans. Welds shall be three-sixteenth (3/16)-inch continuous fillet welds performed with a 70 ksi electrode. Each angle shall be provided with two (2) nine-sixteenth-inch (9/16") diameter bolt holes in the vertical leg as shown on the Plans. Steel plates and angles shall not be galvanized.

The riser shall be fabricated from a nominal four-inch by four-inch (4"x4") piece of #2 grade Southern Yellow Pine (SYP) lumber, eight (8) feet in length. The riser shall be attached to the baseplate by two (2) one-half-inch diameter by six-inch-long (1/2"x6") bolts through the riser and both vertical angles as shown on the Plans. Nuts and cut washers shall be provided at all bolted connections. All fastening hardware shall be hot-dip galvanized.

- 250.3 Pressure Treatment: All wood members described in this specification shall have received a pressure-preservative treatment of Alkaline Copper Quaternary (ACQ) applied at a rate of .25 pounds per cubic foot. Use of an alternate preservative treatment formulation shall be conditioned upon the prior written approval of the Engineer.
- 250.4 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.
- 250.5 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.
- 250.6 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.
- 250.7 Removal of Riser: The Contractor shall cut off the riser from each settlement plate to surrounding grade after Acceptance of the marsh creation areas.
- 250.8 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.
- 250.9 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-251 INSTRUMENTED SETTLEMENT PLATES

- 251.1 Scope: The Contractor shall furnish all of the materials, labor and equipment necessary to construct, install, survey and maintain three (3) instrumented settlement plates in accordance with the Plans and these Specifications.
- 251.2 Materials: The base plate for each settlement plate shall be fabricated with a six (6) foot by six (6) 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 pipe and stand pipe. The heads of four (4) one-eighth (1/8) inch diameter by one (1) inch long stainless steel bolts shall be tack-welded onto the top of the base plate for installation of the pressure cell as shown on the Plans.

The riser pipe for each settlement plate shall be two and one-half (2.5) inch nominal diameter Schedule 40 steel pipe that is ten (10.0) feet long. The riser shall be inserted two (2) feet through the hole in the center of the base plate and welded on both sides of the plate using a 3/16" continuous fillet. The stand pipe shall be one and one-half (1.5) inch nominal diameter Schedule 40 steel pipe that is twelve (12) feet long.

The housing for the multiplexer/node on each settlement plate shall be fabricated from a twelve (12) inch long section of twelve (12) inch diameter Schedule 40 steel pipe. The top of the housing shall be fitted with a non-threaded PVC cap. The bottom of the housing shall be fabricated from twelve (12) inch diameter by three-sixteenths (3/16) inch thick steel plate. The bottom of the housing plate shall be welded to the top of the riser pipe and housing pipe using a three-sixteenths (3/16) inch continuous fillet. Four (4) pad eyes fabricated from three-sixteenths (3/16) inch thick steel plate shall be welded onto the housing as shown on the Plans.

A three (3) inch diameter perforated PVC Schedule 40 pipe that is eight (8.0) feet long shall be fastened to the riser pipe using plastic wire straps. PVC threaded caps and fittings shall be attached to either end of the pipe. Twenty (20) Mesh T-304 sixteen-thousandths (0.016) inch stainless steel wire cloth shall be wrapped around the outside of the pipe and fastened with plastic wire straps. The pipe shall be filled with sand having a gradation equal to 100% retained by the No. 18 sieve (1 mm).

The Engineer shall be allowed to inspect the instrumented settlement plates and verify that the instrumentation can be properly installed a minimum of one (1) month prior to installation.

- 251.3 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.
- 251.4 Instrumentation: The instrumentation shall be delivered to the Engineer a minimum of one (1) month prior to installation of the instrumented settlement plates and shall become the property of the Owner upon delivery. The Engineer shall install the instrumentation concurrent with the installation of the settlement plates in the field by the Contractor. The instrumentation shall include the following:
- 251.4.1 Three (3) vibrating wire earth pressure cells/transducers with fourteen (14) foot cables (Geokon Model 4810-170KPA, or approved equal);
 - 251.4.2 Three (3) vibrating wire piezometers with eleven (11) foot cables (Geokon Model 4500AL-70KPA, or approved equal);
 - 251.4.3 Three (3) vibrating wire drive point piezometers with thirty (30) foot long cables (Geokon Model 4500DP-1-170KPA, or approved equal);
 - 251.4.4 Three (3) vibrating wire drive point piezometers with thirty-five (35) foot cables (Geokon Model 4500DP-1-170KPA, or approved equal);
 - 251.4.5 Twenty-one (21), five (5) foot long drive point rods with fifteen (15) male-to-male connectors (Geokon Model 4500DP-2, or approved equal);
 - 251.4.6 One (1) wireless data acquisition network supervisor with antenna extender (Geokon Model 8800-2-2A, or approved equal);
 - 251.4.7 Three (3) wireless data acquisition sensor nodes with antenna extenders (Geokon Model 8800-1-2A, or approved equal);
 - 251.4.8 Three (3) eight (8) channel multiplexers (Geokon Model 8800-8-1, or approved equal);
 - 251.4.9 Three (3) two (2) foot multiplexer cables (Geokon Model 8032-5v & 05-37512-E, or approved equal);
 - 251.4.10 Fourteen (14) D-size 3.6 volt, 17Ah lithium batteries;

- 251.5 Installation: The instrumented settlement plates shall be installed at locations approved by the CPRA Engineer a minimum of two (2) weeks prior to fill placement in order for the CPRA Engineer to install the instrumentation. The stand pipe shall be driven to a depth determined by the Engineer in the field. Leveling of the base plate shall be accomplished by removing the minimum amount of earth necessary to produce a level foundation. Leveling of the base plate by the addition of any material will not be permitted.
- 251.6 Monitoring: The Engineer shall be responsible for programming the data logger to obtain measurements from the pressure cell throughout placement of fill until one (1) month after fill placement is complete. The Contractor shall provide boat transportation to the Engineer in order to access the data logger at any time during this monitoring period.
- 251.7 Maintenance: The Contractor shall maintain all settlement plates until Acceptance of the marsh creation areas. Damages to settlement plates and associated instrumentation shall be immediately repaired or replaced and resurveyed by the Contractor at no expense to the Owner.
- 251.8 Ratio of Effort: Ninety (90) percent of the Contract cost for this bid item will be paid to the Contractor after installation of the instrumented settlement plates. The remaining ten (10) percent will be paid to the Contractor upon Acceptance of the marsh creation areas.
- 251.9 Measurement of Payment: Payment shall be made for the Contract lump sum price for "Instrumented Settlement Plates (TS-251)". 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 instrumented 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 excavation equipment. The Equipment Data Sheet in Appendix K shall be included in the Work Plan for all mechanical excavation equipment proposed to perform the Work. The mechanical excavation 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. Channel excavation shall only be allowed as specified on the Plans and these Specifications. The Contractor shall not traverse across any pipeline with equipment which could damage the pipeline.
- 300.3.1 Revetted Embankment Crossing: Equipment shall cross the existing revetted embankment along the northern bank of Bayou Decade as specified in TS-101.2.1.
- 300.4 Construction: The dikes shall be constructed around the full perimeter of Marsh Creation Areas 1, 2A, 2B, 2C, 2D (Bid Alternate 1) and 3 using in-situ borrow material that is excavated adjacent to the dikes inside of the marsh creation areas. 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 Tolerance: The vertical elevation tolerance for the crest height of the dikes shall be minus six (-6.0) inches from maximum.
- 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 containment 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 Pagie, Bayou Decade or Crochet Canal. 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: 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:
- 300.11.1 Marsh Creation Area 2A: Bid Alternate #1 will deduct 2,122 linear feet of containment dike between Marsh Creation Areas 2A and 2D from the Work as shown on the Plans. If awarded Bid Alternate #2, a deduction in payment shall be made at the Contract unit price per linear foot for Bid Item No. 24, "Earthen Containment Dikes – Deduction for Marsh Creation Area 2A (TS-300)".
- 300.11.2 Marsh Creation Area 2D: Bid Alternate #1 will add 3,955 linear feet of containment dike around Marsh Creation Area 2D to the Work as shown on the Plans. If awarded Bid Alternate #1, payment shall be made at the Contract unit price per linear foot for Bid Item No. 25, "Earthen Containment Dikes – Addition for Marsh Creation Area 2D (TS-300)".
- 300.11.3 Remaining Containment Dikes: All other containment dikes shall be included in the Base Bid. Payment for these dikes shall be made at the Contract unit price per linear foot for Bid Item No. 8, "Earthen Containment Dikes (TS-300)".

Payment shall constitute full compensation for furnishing the labor, equipment and other incidentals related to these items of the Work. The Contractor may request partial payment on a monthly basis based on the linear feet of dike constructed.

TS-301 BANK STABILIZATION DIKE

- 301.1 Scope: The Contractor shall furnish all of the material, labor and equipment necessary to construct and maintain the bank stabilization dike (dike) in Marsh Creation Area 3 in accordance with these Specifications and in conformity to the lines, grades, elevations and tolerances shown on the Plans.
- 301.2 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 excavation shall only be allowed as specified on the Plans and these Specifications. The Contractor shall not traverse across any pipeline with equipment which could damage the pipeline.
- 301.3 Equipment: The dike shall be constructed and maintained using mechanical excavation equipment. The Equipment Data Sheet in Appendix K shall be included in the Work Plan for all mechanical excavation equipment proposed to perform the Work. The mechanical excavation 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.
- 301.4 Construction: The dike shall be constructed along the shoreline of Lost Lake and the southern boundary of Marsh Creation Area 3 using in-situ borrow material that is excavated adjacent to the dikes outside of Marsh Creation Area 3 in Lost Lake. The borrow material shall not be excavated within the minimum offset distance from the toe of the dike 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 the marsh creation area after Acceptance of the dike.
- 301.4.1 Tolerance: The vertical elevation tolerance for the crest height of the dikes shall be minus-six (-6.0) inches from maximum.
- 301.5 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.

- 301.6 Maintenance: The dike shall be maintained by the Contractor until Acceptance of Marsh Creation Area 3. Should a breach or failure of the dike occur before Marsh Creation Area 3 gains Acceptance by the Engineer, the Contractor shall immediately notify the Engineer, cease filling of the marsh creation area and initiate repairs to the containment 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.
- 301.7 Acceptance: The Contractor shall submit a request for Acceptance after construction and a process survey of the dike, and prior to placing fill material into Marsh Creation Area 3. 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.
- 301.8 Ratio of Effort: Ninety (90) percent of the Contract cost for this bid item will be paid to the Contractor after Acceptance of the dike. The remaining ten (10) percent will be paid to the Contractor after Acceptance of Marsh Creation Area 3.
- 301.9 Measurement and Payment: Payment shall be made at the Contract unit price per linear foot for Bid Item No. 9, "Bank Stabilization Dike (TS-301)". 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-310 EARTHEN TERRACES

- 310.1 Scope: The Contractor shall furnish all of the materials, labor and equipment necessary to construct and maintain the earthen terraces (Terraces) in accordance with the Specifications and in conformity to the lines, grades, elevations and tolerances shown on the Plans.
- 310.2 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 excavation shall only be allowed as specified on the Plans and these Specifications. The Contractor shall not traverse across any pipeline with equipment which could damage the pipeline.
- 310.2.1 Revetted Embankment Crossing: Equipment shall cross the existing revetted embankment along the northern bank of Bayou Decade as specified in TS-101.2.1.

- 310.3 Equipment: All terraces shall be constructed and maintained using mechanical excavation equipment. The Equipment Data Sheet in Appendix K shall be included in the Work Plan for all mechanical excavation equipment proposed to perform the Work. The mechanical excavation 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.
- 310.4 Construction: The terraces shall be constructed from in-situ borrow material that is excavated adjacent to the terraces. The borrow material shall not be excavated within the minimum offset distance from the toe of the terraces as shown on the Plans. Material shall not be excavated from the borrow areas below the maximum depth shown on the Plans.
- 310.4.1 Tolerance: The vertical elevation tolerance for the crest height of the terraces shall be minus-six (-6.0) inches from maximum.
- 310.5 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 terrace borrow area shall remain and not be utilized to construct the terrace. All unsuitable inorganic debris (Tires, scrap, etc.) greater than five (5) pounds that is encountered in the terrace borrow area shall be disposed off-site in an approved waste disposal facility.
- 310.6 Maintenance: The terraces shall be maintained by the Contractor until Acceptance. Any material beyond the lines, grades, elevations, and tolerances shown on the Plans shall be immediately returned to the terrace or associated borrow area at no pay.
- 310.7 Acceptance: The Contractor shall submit a request for Acceptance after construction and process surveys of the terraces. The terraces shall gain Acceptance if the process surveys show 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.
- 310.8 Measurement and Payment: Payment shall be made at the Contract unit price per linear foot for Bid Item No. 10, "Earthen Terraces (TS-310)". 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 terrace constructed.

TS-330 CHANNELS

- 330.1 Scope: The Contractor shall furnish all of the material, labor and equipment necessary to excavate, maintain and backfill material from the access channel to Borrow Area 1 in Lost Lake, and to excavate material from the existing channels at Water Control Structures Site-1, WC-1, WC-4, WC-5 and WC-6 in accordance with these Specifications and in conformity to the lines, grades, elevations and tolerances shown on the Plans.
- 330.2 Aids to Navigation: The Contractor shall install and maintain aids to navigation along the channels according to SP-17 of these Specifications until the channels are backfilled and accepted.
- 330.3 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 excavation shall only be allowed as specified on the Plans and these Specifications. The Contractor shall not traverse across any pipeline with equipment which could damage the pipeline.
- 330.4 Equipment: All channels shall be excavated using mechanical excavation equipment. The Equipment Data Sheet in Appendix K shall be included in the Work Plan for all mechanical excavation equipment proposed to perform the Work. The mechanical excavation 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.
- 330.5 Channel Excavation: The channels shall be excavated to the dimensions shown on the Plans. The Contractor is not required to excavate the channel to Borrow Area 1 to the maximum depth shown on the Plans. The Contractor shall pay for all damages and repairs associated with excavating beyond the dimensions shown on the Plans. All inorganic debris greater than five (5) pounds that is encountered during excavating shall be disposed off-site in an approved waste disposal facility.
- 330.6 Material Placement: Material excavated from the channels at Water Control Structures Site-1, WC-1, WC-4, WC-5 and WC-6 shall be placed within the permanent placement areas designated on the Plans. The excavated material shall be placed to a maximum elevation of +2.0 feet NAVD88.

Material excavated from the Borrow Area 1 access channel shall be temporarily deposited in the stockpile areas shown on the Plans. The temporary stockpile areas shall be backfilled into the access channel to original grade after Acceptance of all the marsh creation areas. All material that is misplaced during excavation, stockpiling or backfilling shall be immediately corrected at no pay.

- 330.6.1 Tolerance: After being backfilled, the vertical elevation tolerance for the finished grade of the Borrow Area 1 access channel and disposal areas shall be six (± 6.0) inches from the pre-construction grade. The vertical elevation tolerance for the finished grade of the channels and placement areas at Water Control Structures Site-1, WC-1, WC-4, WC-5 and WC-6 shall be three (± 3.0) inches.
- 330.7 Maintenance: The Borrow Area 1 access channel shall be maintained according to the dimensions shown on the Plans in order for the hydraulic dredge to mobilize to the borrow area and demobilize to Bayou Decade. Maintenance excavation shall be performed at no pay.
- 330.8 Acceptance: The Contractor shall submit a request Acceptance after excavating and process surveys of the Borrow Area 1 access channel and channels at the water control structures. Acceptance shall be determined from the process surveys 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.
- 330.9 Ratio of Effort: Ninety (90) percent of the Contract cost for this bid item will be paid to the Contractor after Acceptance of the channels. The remaining ten (10) percent will be paid to the Contractor after backfilling and the As-Built Survey of the Borrow Area 1 access channel.
- 330.10 Measurement and Payment: Payment shall be made at the Contract lump sum price for Bid Item No. 11, "Channels (TS-330)". Payment shall constitute full compensation for furnishing the labor, equipment and other incidentals related to this item of the Work.

TS-400 HYDRAULIC DREDGING AND MARSH CREATION

- 400.1 Scope: The Contractor shall furnish all of the materials, labor and equipment necessary to hydraulically dredge the borrow areas 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. Channel excavation shall only be allowed as specified on the Plans and these Specifications. The Contractor shall not traverse across any pipeline with equipment which could damage the pipeline.

- 400.2.1 Revetted Embankment Crossing: Equipment shall cross the existing revetted embankment along the northern bank of Bayou Decade as specified in TS-101.2.1.
- 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 Borrow Areas 1 and 2 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 areas as shown on the Plans. 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 areas. 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 Borrow Areas 1 and 2 into Marsh Creation Areas 1, 2A, 2B, 2C, 2D (Bid Alternate 1) and 3.
- 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)
	Lift 1	Lift 2	
1A	+1.5 (Maximum)	+3.5 (Maximum)	-6.0 from maximum
2A	+1.5 (Maximum)	+3.5 (Maximum)	-6.0 from maximum
2B	+1.5 (Maximum)	+3.5 (Maximum)	-6.0 from maximum
2C	+1.5 (Maximum)	+3.5 (Maximum)	-6.0 from maximum
2D (Bid Alt. 1)	+1.5 (Maximum)	+3.5 (Maximum)	-6.0 from maximum
3	+2.5 (Maximum)	N/A	-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. Each Marsh Creation Area shall be allowed to dewater for a minimum of thirty (30) days after each lift of fill material is placed.

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 Decade, Lost Lake, Lake Pagie, Voss Canal, 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 within the marsh creation areas after Acceptance of the marsh creation areas and prior to demobilization. The alignment of the tidal creeks shall be determined by the Engineer after Acceptance of the marsh creation areas. 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 five (5) days of equipment usage to construct the tidal creeks in the Bid.

- 400.7 Acceptance: The Contractor shall submit a request for Acceptance from the Engineer after construction (including dewatering) and process surveys of the second lift for Marsh Creation Areas 1, 2A, 2B-East, 2B-West, 2C and 2D and the single lift for Marsh Creation Area 3. 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: For Marsh Creation Areas 1, 2A, 2B-East, 2B-West, 2C and 2D, forty-five (45) percent of the Contract cost for this bid item will be paid to the Contractor after construction and process surveys of first lift, and forty-five (45) percent of the Contract cost for this bid item will be paid to the Contractor after Acceptance of these Marsh Creation Areas. For Marsh Creation Area 3, ninety (90) percent of the Contract cost for this bid item will be paid to the Contractor after Acceptance of the marsh creation area. 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:
- 400.9.1 Marsh Creation Area 2A: Bid Alternate #1 will deduct 19,231 cubic yards of hydraulic dredging and marsh creation from Marsh Creation Area 2A. If awarded Bid Alternate #1, a deduction in 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. 26, “Hydraulic Dredging and Marsh Creation – Deduction for Marsh Creation Area 2A (TS-400)”.
- 400.9.2 Marsh Creation Area 2D: Bid Alternate #1 will add 344,243 cubic yards of hydraulic dredging and marsh creation to Marsh Creation Area 2D. If awarded Bid Alternate #1, 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. 27, “Hydraulic Dredging and Marsh Creation – Addition for Marsh Creation Area 2D (TS-400)”.
- 400.9.3 Remaining Work: All other marsh creation areas shall be included in the Base Bid. 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. 12, “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-720 55 LB CLASS ROCK

- 720.1 Scope: The Contractor shall furnish all of the materials, labor and equipment necessary to construct the rock riprap layer in conformity to the lines, grades and thicknesses as shown on the Plans and in accordance with the Specifications, or as directed by the Engineer.
- 720.2 Materials: Riprap shall be from a source approved by the Engineer. The rock shall not disintegrate upon exposure to the elements or be easily broken from handling, and shall be reasonably free from earth and other foreign materials. When tested in accordance with AASHTO Designation: T 85, the solid weight of rock shall be at least one hundred and fifty-five (155) pounds per cubic foot (based on bulk specific gravity). The least dimension of an individual rock shall be at least one third (1/3) its maximum dimension.
- 720.3 Gradation: All rock shall be 55 Lb. Class graded riprap meeting the following gradation:

Stone Size (lbs.)	Spherical Diameter	% of Stone Smaller
275	1.50	100
110	1.11	42-100
55	0.88	15-50
20	0.63	0-15

Control of gradation will be by visual inspection either at the source, or Project Site or both. The Engineer reserves the right to verify the gradation of any shipment by testing two uniform size random samples. The equipment, labor and cost for testing the samples shall be provided by the Contractor.

- 720.4 Losses: The Contractor is responsible to reclaim and utilize all rock that is lost during shipment or construction.
- 720.5 Placement: The rock riprap shall be placed on areas graded to the required section. Riprap shall be placed on the prepared slope or area along the outside perimeter of the sheet pile structure according to the lines, grades, and dimensions shown on the Plans and in a manner which will produce a reasonably well-graded mass of stone with a minimum practicable percentage of voids. The entire mass of stone will be placed to be in conformance with the lines, grades, and thickness at one operation and to avoid displacing underlying material. Placing of riprap in layers, or dumping into chutes, or by similar methods likely to cause segregation, will not be permitted. When placement in water currents is required, the Contractor shall make drift checks and place riprap in such manner as to compensate for drift. The Contractor shall furnish necessary facilities and personnel for checking riprap depth and distribution.

- 720.6 Equipment: The Contractor shall provide a proposed list of equipment in the Work Plan which will be used to construct the riprap. This list shall include the type (Drag Bucket, etc.), number of each type, and capacity (Cubic Yards, etc.) of the equipment.
- 720.7 Staging Area: The Contractor is responsible for locating a staging area with adequate depth to light load the rock barges. The Contractor shall include the proposed location of the staging area in the Work Plan. If the Staging area is within 150 feet of a well head or pipeline, they shall be probed and appropriately marked by the Contractor. The Contractor shall also submit any letters of no objection or agreements for temporary easements from the landowner, well owner, or pipeline owner to the Engineer.
- 720.8 Tolerances: The riprap layer shall be placed according to the cross sections (Elevations, slopes, dimensions, etc.) shown on the Plans with a maximum tolerance of plus or minus half a foot ($\pm 0.5'$). The maximum tolerance shall not be continuous along the alignment over a distance greater than 15 feet. The average tolerance measured for at each structure across the entire alignment shall be within 50 percent of the specified tolerance. Any stone placed outside of the specified tolerances will not be paid for by the Owner and must be added or removed by the Contractor.
- 720.9 Acceptance: The riprap layer shall gain Acceptance if it achieves compliance with the lines, grades, elevations, and tolerances on the Plans and these Specifications. Compliance shall be based upon an as-built survey of the riprap layer as per TS-210. The Engineer may require the Contractor to remove rock or place additional rock as necessary in order to achieve compliance.
- 720.10 Measurement and Payment: Payment for this item shall be made at the Contract unit price per cubic yard of rock riprap shown on the Plans for Bid Item No. 13, "55 lb Class Rock (TS-720)". The unit of measurement for rock rip rap shall be the cubic yard. Measurements will be made in barges at the point of delivery. Barges may be of any acceptable size or type such that the volume can be readily and accurately determined. Barges shall be loaded to at least a predetermined permanently fixed mark, which defines a known volume, upon arrival at the point of delivery. Barges will be measured in increments of 0.5 cubic yards.

TS-800 PERMANENT WARNING SIGNS

- 800.1 Scope: The Contractor shall furnish all of the materials, labor and equipment necessary to construct and install the permanent warning signs in accordance with the Plans and these Specifications. The signs shall also conform to the regulations in the United States Coast Guard (USCG) Commandant Directives Manuals No. 16500.3 (Series), "Aids to Navigation Manual – Technical" and No. 10360-3 (Series), "Coatings and Color Manual."

- 800.2 Materials: The warning sign shall be fabricated from 36 inch by 36 inch 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 aluminum plate shall be overlaid with white vinyl film. The border shall be overlaid with two (2) inch wide orange vinyl film. All letters and borders shall be retroreflective and match the locations, dimensions, colors and sizes shown on the Plans. The film, letters and borders shall be obtained from a USCG qualified supplier.
- 800.3 Installation: One warning sign shall be installed on each side of the water control structures as directed by the Engineer. The warning signs shall be fastened to the structures with stainless steel fittings in accordance with Section 1015.02 of the LA DOTD 2006 Standard Specifications for Roads and Bridges. The face of the sign shall be mounted parallel to the sheet pile wall and leaning down at five (5) degrees from vertical.
- 800.4 Measurement and Payment: Payment shall be made at the Contract unit price per each for Bid Item No. 14, "Permanent Warning Signs (TS-800)". Payment shall constitute full compensation for furnishing the labor, equipment and other incidentals related to this item of the Work. No payment shall be made if the sign is rejected or damaged due to fault or negligence by the Contractor.

TS-910 ALUMINUM PANELS

- 910.1 Scope: This work consists of the fabricating and installing Type 1 and Type II aluminum panels in the steel bay frames.
- 910.2 Products: Each panel shall be 62" long (including end caps) and fabricated from either Aluminum alloy 6061-T6 or 6063-T6, marine grade, with a minimum wall thickness nominally .078" for impact and deformation resistance. All panels should be designed for a uniform live load of 150 psf.
- 910.3 Warranty: The anodized finish of panels shall be covered by a 5 year warranty against loss of structural strength or finish deterioration due to exposure to weather conditions of UV rays. Discoloration of mill finish aluminum due to galvanic reaction not covered.
- 910.4 Measurement and Payment: Payment for this item shall be made at the Contract unit price per square foot for Bid Item No. 15, "Aluminum Panels (TS-910)". Price and payment shall constitute full compensation for furnishing all labor, materials, and equipment for fabrication and installation of all panels and performing all work specified herein. No payment shall be made for panels that are rejected or damaged due to fault or negligence by the Contractor.

TS-950 TREATED TIMBER PILES

- 950.1 Scope: The work consists of furnishing and driving all new treated timber piles to the lines and depths as shown on the drawings.

950.2 Material: The piles shall be round Southern Yellow Pine or Douglas Fir. The butts shall have a minimum 41 inch circumference and 13 inch diameter. The tips shall have a minimum 22 inch circumference and 7 inch diameter. The piles shall also have a maximum diameter of 20 inches measured three feet from the butt as specified in Table 1 of ASTM D 25.

All piles shall be pressure treated to a minimum of 20 pounds per cubic foot net retention with a creosote-coal tar solution conforming AWWA P2. Wood treatment and quality assurance shall comply with Section 1014 of the Louisiana Standard Specifications for Roads and Bridges, as published by the Louisiana Department of Transportation and Development (2006 Edition), or approved equivalent.

950.3 Pile Lengths: The lengths given in the order list will be based on the lengths that are assumed after cutoff to remain in the completed structure. The determination of pile order length increased to provide for fresh heading and for such additional length as may be necessary to suit the Contractor's method of installation shall be the Contractor's responsibility unless otherwise specified.

950.4 Site Preparation: All excavation in the area where piles are to be installed shall be completed before the piles are driven.

950.5 Protection of Pile Heads: The heads of all piles shall be protected during driving by suitable caps, rings, heads, blocks, mandrels, and other devices which shall be provided by the Contractor as needed for the type of pile and shall conform to the recommendations of the pile manufacturer. Collars, bands, or other approved devices to protect timber piles against splitting or brooming shall be provided when necessary, or as required by the Engineer.

950.6 Installation: A description of the proposed pile driving system, which includes the pile driving equipment and method of installation, shall be submitted as part of the Work Plan for approval by the Engineer. The Contractor shall notify the Engineer before pile driving operation commences. Such notice shall be far enough in advance, a minimum of 24 hours, to provide the Engineer adequate time to be present for the driving operations. Piles shall be driven only in the presence of the Engineer or authorized representative. Piles shall be furnished and driven full length.

950.6.1 Unless otherwise approved, piles shall be driven with steam, air, diesel powered hammers or a combination of hammers.

950.6.2 If drop hammers are used, the height of drop shall not be more than 10 feet for timber piles, unless otherwise specified.

950.6.3 The driving of piles with followers shall be allowed only when expressly approved by the Engineer.

- 950.6.4 The piles shall be driven in a manner not to exceed the maximum allowable compressive driving stress of 3600 psi.
- 950.6.5 Piles shall be driven to the position, line, and batter specified on the Plans. Each pile shall be driven continuously and without interruption to the specified depth. Deviation from this procedure is permitted only when interruption of driving is caused by conditions that could not reasonably be anticipated.
- 950.7 Location and Alignment Tolerance: Piles shall be driven at locations shown on the Plans or as ordered in writing. The centroid of a pile at cut-off elevation shall not vary from plan location by more than 3 inches. The final pile head at cut-off elevation shall be plus or minus 2 inches of the final grade shown in the plans. Piles shall be installed so that the axial alignment is within 2 percent of the specified alignment shown in the Plans.
- If refusal, as indicated by excessive bouncing of the hammer or kicking of the pile is encountered above the required plan tip elevation, the Contractor may be required to obtain a larger hammer capable of achieving the required penetration, or to use other installation techniques to facilitate pile driving. If achieving the required plan tip elevation is unobtainable, the Contractor shall notify the Engineer immediately.
- 950.8 Cutting Off Piles: Timber piles that are to be capped shall be accurately cut off so that true bearing is obtained on every pile without the use of shims. Piles shall be driven and the damaged end cut off to the lines and grades as shown on Plans. Maximum cutoff is 2 feet. Cut-off ends shall be disposed of at an acceptable off-site facility.
- 950.9 Galvanized Metal Coverings: The sawed surface shall be thoroughly brush coated with two applications of creosote oil, after which there shall be placed two layers of heavy canvas size 20 by 20 inches saturated with hot roofing pitch, followed by a 24 by 24 inches, 28 gage galvanized metal cover. The cover shall be bent down over the pile approximately 45 degrees. Pile caps should be attached using aluminum or stainless steel nails. Roofing pitch shall comply with ASTM D4586.
- 950.10 Defective Piles: Any pile damaged in driving, driven out of proper location, driven below the specified cutoff elevation, or inaccurately cut off shall be corrected by one of the following methods, as approved by the Engineer:
- 950.10.1 The defective pile shall be pulled and replaced or re-driven.
- 950.10.2 A second pile shall be driven adjacent to the defective pile.
- All piles pushed up by the driving of adjacent piles or by any other cause shall be re-driven to final grade.

950.11 Correcting Surface Heave: Any excess material resulting from displacement of earth by pile driving shall be removed. Materials disturbed by pile driving shall be conditioned and compacted to a minimum density equal to adjacent undisturbed material.

950.12 Measurement and Payment: Payment shall be made at the Contract unit price per linear foot of pile for Bid Item No. 16, "Treated Timber Piles (TS-950)". Quantity shall be measured by the linear foot of pile below pile cut-off elevation. Piles furnished and driven at the option of the Contractor are not included. No payment is made for furnishing or driving piles to replace piles lost or damaged before the completion of the Contract while in stockpile or during handling and driving.

TS-955 TREATED TIMBER

955.1 Scope: This work consists of furnishing lumber of the sizes and grade specified and of furnishing timber of the stress-grade, sizes and dimensions for the different uses specified, treated, and of preparing, framing, assembling and erecting the same, including painting where specified, and all hardware. Unless otherwise specified, all timber shall be treated.

955.2 Materials: Species and grade of structural timber and lumber shall comply with AASHTO M 168 and the following requirements.

Timber shall be Southern Yellow Pine of Grade No. 1 Dense SR Timbers referring to the latest Standard Grading Rules for Southern Pine Lumber, as published by the Southern Pine Inspection Bureau (SPIB) or Douglas Fir of the equivalent grade, provided the same species is used throughout each structure.

All timber shall be of the dimensions shown on the Plans and shall be pressure treated to a minimum of 20 pounds per cubic foot net retention with a creosote-coal tar solution conforming AWWA P2. Wood treatment and quality assurance shall comply with Section 1014 of the Louisiana Standard Specifications for Roads and Bridges, as published by the Louisiana Department of Transportation and Development (2006 Edition).

955.3 Storage of Material: Lumber and timber stored on the site shall be kept in orderly stacks. Material shall be open stacked on supports above ground, and shall be so stacked and stripped as to permit free circulation of air between tiers and courses. When directed, protection from the weather by suitable covering will be required.

955.4 Timber:

955.4.1 Workmanship: Nails and spikes shall be driven with just sufficient force to set the heads flush with the surface of the wood. Deep hammer marks in wood surfaces shall be considered evidence of poor workmanship and sufficient cause for removal of the workman causing them.

- 955.4.2 Surfacing: Lumber and timber, except bulkhead planks and sway bracing, shall be S4S.
- 955.4.3 Handling: Treated timber shall be handled with rope slings, without dropping or breaking of outer fibers, bruising, or penetrating the surface with tools.
- 955.4.4 Framing and Boring: Cutting, framing and boring of treated timber shall be done before treatment insofar as practical. When treated timber is to be placed in water infested by marine borers, untreated cuts, borings or other joint framings below high-water elevation shall be avoided.
- 955.4.5 Cuts and Abrasions: Cuts and abrasions in creosoted timbers, after having been carefully trimmed, shall be covered with two applications of creosote complying with AWWA M4 and covered with hot roofing pitch. Roofing pitch shall comply with ASTM D4586.
- 955.4.6 Bolt Holes: Holes bored in pressure-treated material shall be filled with preservative. Unused bore holes and spike holes shall be poured full of preservatives and plugged with tight-fitting treated plugs.
- 955.4.7 Temporary Attachment: When, with the approval of the Engineer, forms or temporary braces are attached to treated timber with nails or spikes, holes shall be filled by driving galvanized nails or spikes flush with the surface or plugged as required for bolt holes.
- 955.5 Holes for Bolts, Dowels, Rods, and Lag Screws: Holes for bolts and dowels shall be bored perpendicular to the face of the timber and shall be 1/16 inch less in diameter than bolt or dowel. For square bolts or dowels, the diameter of the bored hole shall be equal to the least dimension of the bolt or dowel. Holes for machine bolts shall be bored the same diameter as the bolt. Holes for rods shall be bored 1/16 inch greater in diameter than the rod. Holes for lag screws shall be bored not larger than the body of the screw at the base of the thread.
- 955.6 Bolts and Washers: A washer of the size and type specified shall be used under bolt heads and nuts which would otherwise come in contact with wood. Stacked washers will not be permitted. Bolts shall not project more than 1 inch beyond the nut on work securely tightened. Nuts of bolts shall be locked after they have been tightened.
- 955.7 Framing: Lumber and timber shall be accurately cut and framed to a close fit in such manner that joints will have even bearing over the contact surfaces. No shimming will be permitted in making joints nor will open joints be accepted. Mating pieces shall be tightly bound or clamped in position prior to drilling bolt holes.

- 955.8 Bracing: Ends of bracing shall be bolted through pile, post or cap with a bolt of at least 5/8 inch diameter. Intermediate intersections shall be bolted or spiked with wire or boat spikes. Spikes shall be used in addition to bolts.
- 955.9 Measurement and Payment: Payment shall be made at the contract unit price per thousand board-feet (MFBM) of timber shown on the Plans for Bid Item No. 17, "Treated Timber (TS-955)". Quantities of timber for payment shall be the design quantities and adjustments thereto. The design quantities are based on the number of thousand board feet of timber in the completed work. Design quantities shall be adjusted if the engineer makes changes to adjust to field conditions, if plan errors are proven, or if design changes are necessary. Hardware shall not be measured for payment.

TS-960 STRUCTURAL DEMOLITION

- 960.1 Scope: The Contractor shall fully demolish and remove Water Control Structures WC1, WC-5, and WC-6, and partially demolish and remove Water Control Structure WC-4. The demolition of a structure includes the razing, demolishing, and disposal of the structure. For the purposes of this section, structures may include piling, timber and/or steel walls, earthen embankments, and other similar facilities or obstructions not designated or permitted to remain within the Project Site. Photographs of the existing water control structures are provided in Appendix M.
- 960.2 General Construction Requirements: The Contractor shall remove and dispose of all portions of structures or obstructions on the project site, except utilities and those items for which other provisions have been made for removal or relocation. Materials not specified to be salvaged shall be disposed of in an appropriate land-fill. Certificates of Disposal or other applicable documents will be required before final Acceptance.
- 960.3 Removing Structures: All materials in a structure designed for removal shall become the property of the Contractor and shall be removed and disposed of by the Contractor. Appurtenances forming a part of a structure to be demolished, whether integral or not integral to the structure, shall be demolished and removed by the Contractor.

Unless otherwise directed or shown on the plans, existing pilings and timber/sheet walls shall be removed to one (1) foot below the proposed channel bottom per the plans. Existing structures within the limits of a new structure shall be removed as necessary to accommodate construction of the new structure.

- 960.4 Certificate of Release: If a structure is to removed or relocated as a unit under pay items and the Contractor enters into an agreement with a property owner for disposition of the structure other than as shown on the plans; or if it is subsequently determined that said structure can remain in place, in whole or in part, with or without minor adjustments, and the Contractor enters into an agreement with the property owner incorporating such revised determination and any accompanying

adjustments regarding said structure, including any damages for leaving the structure in place; the Contractor shall furnish such agreements to the engineer for approval. If approval is given by the engineer, the Contractor shall furnish the Owner (CPRA) with a Certificate of Release from the property owner for the unit to remain. In case of separate ownership of structure and property, a Certificate of Release from each property owner shall be furnished. This certificate shall state that said property owner waives all claims for damages to the property and structure to be removed, relocated, left in place or otherwise handled to the property owner's satisfaction. If a determination to allow the structure to remain in place involves a decrease in cost to the Contractor, including any allowance for damages to the property owner and other adjustment of the Contract amount for removal, relocation or other handling of said unit under Pay Items, an allowance will be made in such amount as the engineer deems equitable.

- 960.5 Measurement and Payment: Payment for removal of structures or specific obstruction items stipulated for removal and disposal shall be made at the Contract unit price per each for Bid Item No. 18, "Structural Demolition (TS-960)". This will include demolishing, removing and disposing of such items. Demolishing existing structures and obstruction shall be measured per each and shall include appurtenances, foundations, etc. and include removal and disposal of all portions of structure or obstructions from the Project Site.

TS-961 STRUCTURAL MODIFICATION

- 961.1 Scope: This work consists of the reconstruction of Water Control Structure WC-4 as depicted in the Plans.
- 961.2 General Construction Requirements: The Contractor shall reconstruct portions of the existing pier structure that were removed in their original locations using similar types of material to the original structure.
- 961.3 Relocating Structures: The structure to be replaced shall be reconstructed in its original location as directed, and be restored to its original condition. The structure to be reconstructed shall be placed on a foundation of the same type and character as the original foundation.

Appurtenances forming a part of the structure to be reconstructed, whether integral or not integral to the structure, shall be constructed in the same manner as the original structure. Appurtenances associated with the structure shall be replaced as directed with appurtenances of the same size, type, and character as existed before the structure was reconstructed.

New material required in performing any of these operations shall be furnished by the Contractor at no direct pay. Materials in structures suitable for reuse may be utilized in their reconstruction upon approval from Engineer. New material required shall be similar in kind to that in place and shall be furnished by the Contractor at no direct pay, including foundations.

- 961.4 Measurement and Payment: Modifications to the existing structure shall include all appurtenances, foundations, etc. Payment for the reconstruction of the structure shall be made at the Contract lump sum price for Bid Item No. 19, “Structural Modification (TS-961)”.

TS-970 STEEL SHEET PILE WALL

- 970.1 Scope: The Contractor shall furnish all of the materials, labor and equipment necessary to install the steel sheet pile wall structure as shown in the Plans. The length of individual sheet piles is shown in the Plans. Sheet piles shall be braced with treated timber walers, and high strength bolt assemblies. Shop drawings and construction sequencing of this item in reference to the steel sheet pile wall structure shall be provided in the Work Plan.
- 970.2 Materials: Steel sheet piles shall be of a size as specified in the Plans and shall comply with ASTM A328. Sheet piling shall be fabricated in accordance with Section 807 of the Louisiana Standard Specifications for Roads and Bridges, as published by the Louisiana Department of Transportation and Development (2006 Edition), or approved equivalent.
- 970.3 Protective Coating: The surface of each steel sheet pile shall be cleaned, primed, and coated from the top of the sheet pile to a point 10 feet below the mud line. The surfaces to be primed and coated shall be dry grit-blasted to a near white blast finish. All work blasted in one day must be primed on that day and before the dew point has been reached. Any blasted area, not primed, which is exposed overnight, shall be at least whip-blasted again before primer application. All areas of the surface to be blasted which show any trace of oil or grease shall be degreased using V.M. and P. Naptha, or Xylol, prior to grit blasting. All surfaces to be primed shall be completely dry, free of soil, dust, oil, paint, scale, and grit at the time of application of the primer. Dry film thickness of the primer shall be 3 mils minimum. The primer shall be allowed to cure a minimum of 24 hours before application of the coal tar-epoxy. Coating shall be applied using 2 coats of coal tar epoxy-polyamide applied in accordance with the manufacturer’s recommendations. Each coat must have a minimum dry film thickness of 8 mils. Areas damaged during installation, such as connections, shall be cleaned and touched up with 2 coats of coal tar epoxy-polyamide. The Contractor shall submit certification that the minimum film thickness requirements have been met.
- 970.4 Installation: The sheet piles shall be driven in a manner that ensures perfect interlocking throughout the entire length of each pile in satisfactory condition to the depths and along the alignment shown in the Plans. Pile hammers shall be of approved sizes and types and maintained in proper alignment during driving operations by attachment to suitable leads or guides. A protective pile cap of approved design shall be employed during driving operations in order to prevent damage to the tops of the piles. A satisfactory alignment of the sheet piles shall be maintained by driving in increments of penetration necessary to prevent distortion, twisting or pulling of the interlocks. Piles driven out of interlock with adjacent

piles or otherwise injured shall be removed and replaced by new piles at the expense of the Contractor. Use of vibratory hammers or jets is prohibited.

Holes, other than for permanent fittings, shall not be drilled into the sheet pile without approval from the Engineer.

- 970.5 Cutoffs: The tops of the steel sheet piles shall be cut off or driven to a straight line at the elevation indicated and capped as shown on the Plans. If the sheet piles become appreciably distorted or otherwise damaged below the cut-off level during driving, the damaged portions shall be removed and replaced at the expense of the Contractor.
- 970.6 Holes for Bolts and Lag Screws: Holes for machine bolts shall be bored the same diameter as the bolt. Holes for rods shall be bored 1/16 inch greater in diameter than the rod. Holes for lag screws shall be bored not larger than the body of the screw at the base of the thread.
- 970.7 Hardware: A 1- 1/16" diameter hole shall be drilled through the centerline of each sheet pile in conjunction with each bolt assembly and treated timber waler and/or pile connection at the elevation shown in the Plans. The tie bolts shall be aligned perpendicular (90 degree angle) to the centerline of the alignment. The sheet pile shall be secured to the waler and timber pile using the tie bolt assembly of the dimensions shown on the Plans. The tie bolts shall be threaded rods conform to ASTM A36 and have a diameter equal to 1" inch and length as shown on Plans. Tie bolts shall be fabricated, trimmed and galvanized by the manufacturer. Galvanized steel 3 inch x 3 inch square washers shall conform to ASTM F436. Galvanized steel hex nuts shall conform to ASTM A 536 Grade DH. The nuts on either end of each tie rod assembly shall be tightened to a minimum of 51,500 lbs.
- 970.8 Shipment and Storage and Handling: The steel sheet pile shall be adequately protected from damage during shipment, storage and handling. The sheet pile shall be sorted and stacked at the Project Site to prevent distortion and to facilitate proper sequence of setting and driving. During shipment and storage, the sheet pile shall be supported by wood blocks which are spaced not more than 10 feet apart or more than 2 feet from the ends of the piles. During handling, the sheet pile shall be supported by slings, strong backs, or other methods. Each pile shall be labeled or tagged with the manufacturer's name, product identification, shipping lot, dimensions, weight, and date of manufacture.

970.9 Measurement and Payment: Quantities of permanent sheet pile wall for payment shall be the design wall area as shown on the plans. Permanent sheet pile design quantities shall be measured in square feet and be adjusted if changes are made by the engineer to adjust to field conditions, for proven plan errors, or for necessary design changes. Hardware shall not be measured for payment. No payment shall be made for steel sheet pile that are rejected or damaged due to fault or negligence by the Contractor. Payment for this item shall be at the Contract unit price per square foot of sheet pile wall shown on the Plans for Bid Item No. 20, “Steel Sheet Pile Wall (TS-970)”.

TS-971 STRUCTURAL STEEL (GR. 36)

971.1 Scope: The work consists of furnishing, fabricating, erecting metalwork and installing the Steel Bay Frames at the locations shown on plans.

971.2 Material: Steel shall be structural carbon steel conforming to ASTM A36, Grade 36, unless otherwise specified. Finished surfaces shall be smooth and true to assure proper fit.

971.3 Fabrication: Steel shall be fabricated in accordance with Section 807 of the Louisiana Standard Specifications for Roads and Bridges, as published by the Louisiana Department of Transportation and Development (2006 Edition), or approved equivalent. Shop drawings shall be submitted to the Engineer for approval prior to fabrication.

971.4 Protective Coatings: Items specified to be galvanized shall conform to ASTM A123 and be completely fabricated for field assembly before the application of the zinc coatings. Galvanized items shall not be cut, welded, or drilled after the zinc coating is applied, unless otherwise specified.

971.5 Erection: The frame of metal structures shall be installed true and plumb. Temporary bracing shall be placed wherever necessary to resist all loads to which the structure may be subjected, including those applied by the installation and operation of equipment. Such bracing shall be left in place as long as may be necessary for safety.

971.6 Measurement and payment: Structural steel shall be measured by the weight of metal remaining in the completed and accepted structures. The weight shall be computed on the basis of the theoretical net weight from the approved shop drawings. No allowance shall be made for bolts, nuts, washers or welds and no deductions will be made for bolt holes or edge preparation for welding.

Payment includes furnishing, fabricating, and installing structural metalwork, and all other items necessary and incidental to the completion of the work. Payment for this item shall be at the Contract unit price per ton of structural steel shown on the Plans for Bid Item No. 21, “Structural Steel (Gr. 36) (TS-971)”.

END OF PART III – TECHNICAL SPECIFICATIONS

APPENDIX A: REQUEST FOR INFORMATION FORM

Lost Lake Marsh Creation and Hydrologic Restoration Project (TE-72)

Request for Information (RFI) No. _____

Summary of RFI by Contractor	
Signature:	Date:

Response to RFI by Engineer	
Signature:	Date:

APPENDIX B: CHANGE ORDER FORM

Lost Lake Marsh Creation and Hydrologic Restoration Project (TE-72)

CHANGE ORDER NO.: _____

OWNER: State of Louisiana, Coastal Protection & Restoration Authority (CPRA)

CONTRACTOR: _____

Change in Contract Price		Change in Contract Time	
Original Contract Price	\$	Original Contract Time	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	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	Days

BID ITEM NO.	DESCRIPTION	UNIT OF MEASURE	UNIT PRICE	BID QUANTITY	ADJUSTED QUANTITY	AMOUNT OVERRUN	AMOUNT UNDERRUN
Net Difference of this Change Order							

RECOMMENDED:

RECOMMENDED:

ACCEPTED:

CPRA Project Manager

CPRA Engineer

Contractor

Date

Date

Date

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

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

May 18, 2015

Memorandum

(Revised Contact Information from Memorandum dated April 28, 2015)

To: Garvin Pittman, CPRA Contract Project Manager

From: V. J. Marretta, Landrights Division

RE: Completion of Landrights on Lost Lake Marsh Creation and Hydrologic Restoration Project TE-72

The CPRA Real Estate and Landrights Division has completed all landrights necessary to proceed to construction contracting on the above referenced project. The following information is being transmitted via this memorandum, or has already been forwarded to you under separate memorandum:

<input checked="" type="checkbox"/> <i>Servitude Agreements (LL&E, TP Lands LLC et al)</i>	<input type="checkbox"/> <i>State Land Office Letter of No Objection</i>
<input checked="" type="checkbox"/> <i>Pipelines/Notices of Construction (Shell and Whitson)</i>	<input checked="" type="checkbox"/> <i>CWPPRA Section 303(e) approval</i>
<input type="checkbox"/> <i>Mineral Operations Agreement(s)</i>	<input type="checkbox"/> <i>Assignment of Rights to Federal Sponsor</i>
<input checked="" type="checkbox"/> <i>Grant of Particular Use (State Lands)</i>	<input type="checkbox"/> <i>Memorandum(s) of Agreement</i>
<input type="checkbox"/> <i>Right(s) of Entry for Construction</i>	<input checked="" type="checkbox"/> <i>Landrights Certification Letter</i>
	<input type="checkbox"/> <i>Oil/Gas Operator Agreement(s)</i>
	<input type="checkbox"/> <i>Other</i>

Please note the following information that will need to be included in the contract specifications and/or for future monitoring, operations and maintenance site visits:

I. Landowner notification requirements

- A. The following notice language is in Article II. of The Louisiana Land and Exploration Company (LL&E) servitude agreement: "STATE agrees to give reasonable notice to GRANTOR prior to initiation of access to the said Lands for the purpose of implementing, constructing, operating, modifying, monitoring and maintaining the Project."
- B. The above language is also in Article II. of the TP Lands, L.L.C. servitude agreement.
- C. It is recommended that the same notice for A. and B. (above) be provided to the State Land Office.

II. LL&E Special Conditions

- A. Article III. of the Agreement includes: "To the extent permitted by Louisiana law, STATE shall indemnify, and hold harmless GRANTOR against and from all costs, expenses, claims, demands, penalties, suits, fines, and actions of any kind and nature arising from the Project and caused by the actions and fault of STATE or its agents, employees, contractors, successors, assigns and transferees,

including any court costs and reasonable and actual litigation expenses and attorneys' fees. However, nothing herein shall be construed as indemnifying or holding GRANTOR or any third person not a party hereto harmless against its own fault or negligence or that of its agents, employees, contractors, successors, assigns, and transferees. Should work on said Lands be performed via contract, STATE shall ensure that the contractor lists GRANTOR as additional insured on any policies carried by the contractor, including completed operations coverage. The STATE acknowledges, declares, and stipulates that GRANTOR has provided this Agreement at no cost to the STATE under the provisions of La. R.S. 49:214.6.10 C, as amended by 2010 Acts No. 734. This clause shall survive the term of this agreement.”

Article IV. of the Agreement includes: “STATE shall be responsible for repair or replacement in like manner of any fences, bridges, roads, and other similar facilities and appurtenances located on said Lands which may be damaged or destroyed by STATE, or its designees while on said Lands, but such repair shall be to that condition which existed immediately prior to STATE’s activities. STATE shall remove or dispose of all debris associated with construction, operation, and maintenance of the Project.”

Article I. of Exhibit C (Additional Terms and Conditions) includes: “Should work on said Lands be performed via a STATE contract or a Federal contract, STATE shall file a request with the Clerk of Court in the Parish where work is to be performed to be notified of any suit and/or lien placed or filed against GRANTOR’S Lands involved in this Project; STATE shall notify GRANTOR of any such suit and/or lien within 5 days of being notified by the Clerk of Court; and STATE shall cause any such lien filed against GRANTOR’S Lands to be bonded out and the inscription of such lien against GRANTOR’S Lands noted as cancelled on the records of the office of such Clerk of Court within thirty (30) days of the STATE being notified that such lien has been filed against GRANTOR’S Lands.

Article II. of Exhibit C (Additional Terms and Conditions) includes: “STATE shall verify that every contractor working on LL&E property shall maintain in full force, during the entire existence of this Agreement, Workman’s Compensation Insurance in an amount necessary to satisfy the minimum requirements of the laws of the State of Louisiana.

Please note the conditions regarding the right of GRANTOR to alter the Project features found in Article III.

Article IV. of Exhibit C (Additional Terms and Conditions) includes: “This Agreement is subject to and subordinate to all existing contracts of record affecting said lands.”

Article V. of Exhibit C (Additional Terms and Conditions) includes: “State agrees to maintain all features and/or appurtenances placed on said Lands in good order and repair during the term of this Agreement. STATE may terminate this Agreement, due to lack of funding or otherwise, and thereby terminate maintenance of said features and/or approved appurtenances, provided, however, that maintenance of other Project features, which are located on lands other than said Lands, is terminated concurrently. Upon termination of this Agreement, all features and/or approved appurtenances placed on said Lands shall, at GRANTOR’s option either become property of the GRANTOR without compensation to STATE or shall be promptly removed by STATE at STATE expense. Upon termination of this Agreement, STATE shall furnish to GRANTOR within sixty (60) days a recorded release of this Agreement.”

III. TP Lands LLC et al Special Conditions

A. Article III. of the Agreement includes: “To the extent permitted by Louisiana law, STATE shall indemnify, and hold harmless GRANTOR against and from all costs, expenses, claims, demands, penalties, suits, fines, and actions of any kind and nature arising from the Project and caused by the actions and fault of STATE or its agents, employees, contractors, successors, assigns and transferees,

including any court costs and reasonable and actual litigation expenses and attorneys' fees. However, nothing herein shall be construed as indemnifying or holding GRANTOR or any third person not a party hereto harmless against its own fault or negligence or that of its agents, employees, contractors, successors, assigns, and transferees. Should work on said Lands be performed via contract, STATE shall ensure that the contractor lists GRANTOR as additional insured on any policies carried by the contractor, including completed operations coverage. The STATE acknowledges, declares, and stipulates that GRANTOR has provided this Agreement at no cost to the STATE under the provisions of La. R.S. 49:214.6.10 C, as amended by 2010 Acts No. 734. This clause shall survive the term of this agreement.”

Article IV. of the Agreement includes: “STATE shall be responsible for repair in like manner of any fences, bridges, roads, and other similar facilities and appurtenances located on said Lands which may be damaged or destroyed by STATE, or its designees while on said Lands, but such repair shall be to that condition which existed immediately prior to STATE’s activities. STATE shall remove or dispose of all debris associated with construction, operation, and maintenance of the Project.”

NOTE: Please read all of the conditions in the agreements and include all pertinent information from same in the scope of services and plans and specs for construction, operations, maintenance and monitoring of the project.

IV. Pipelines

NOTE: Special care and close coordination by the construction contractor with the pipeline companies will be crucial in order to avoid impacting the pipelines within or near the project area. It is recommended that confirmation in the field, including, but not limited to, use of a magnetometer survey be a requirement of the contractor to ensure that any lines in the area are identified and will not be impacted. Verification of pipelines, their depths and draft of the equipment to be used will be essential. The assumption resulting from current investigations does not include oil and gas operations that might commence in the future.

- A. Shell Pipeline Company, LP (refer to Notice of Construction)
- B. James A. Whitson, Jr. Pipeline (refer to Notice of Construction)

Advance Notification of Construction (for the above pipeline companies):

“In addition to this advance notification of construction, the CPRA, its contractor(s) and/or assigns will provide further notification a minimum of 24 hours before construction work begins within Shell’s immediate pipeline area(s).

V. Landowner, Pipeline and Utility Contact Information

Phillip Precht- 985-853-3010
Director, Coastal Wetlands
Phil.R.Precht@conocophillips.com
Louisiana Land and Exploration Company
P. O. Box 7097
Houma, LA 70361
and,
Betsy Brien- 985-853-3021
Land Communications Specialist
Betsy.A.Brien@conocophillips.com

John Rouchel (Registered Agent for Deifenthals') – (504) 569-2900
TP Lands, L.L.C. et al.
1100 Poydras Street, Suite 3600
New Orleans, LA 70163-3600
And,
Jon Steinberg (undivided owner) – (985) 626-9292
P. O. Box 8873
Mandeville, LA 70470

Kevin Arceneaux, Maintenance Supervisor
Shell Pipeline Company, LP
1617 Coteau Road
Houma, LA 70369
Phone: (985) 873-3429

James A. Whitson, Jr.
7660 Woodway, Suite 312
Houston, TX 77063
Phone: (713) 975-8963

Rod Wimberly
Texas Gas Transmission
1819 West Pinhook Road, Suite 200
Lafayette, LA 70508
(337) 856-2211, Ext. 311

NOTE: Per discussions with Shannon Haynes, Texas Gas will not be impacted, but will need to be contacted (coordinated with) due to proximity of access route.

Rickie Pitre, Director, Commercial & Industrial Development/Steve Giroir/Travis Breaux
South La Electric Co-op Association (SLECA), 2028 Coteau Rd, Houma, LA 70364
Phone: (985) 688-6996; (985) 876-6880

Also, NOTE: Per discussions with Shannon Haynes, SLECA's utility lines will not be impacted due to revisions to project design to work outside of its right-of-way.

I WILL CONTACT YOU, THE PROJECT ENGINEER, THE MAINTENANCE MANAGER, THE CONSTRUCTION MANAGER, AND THE MONITORING MANAGER TO SCHEDULE A WRAP-UP MEETING TO DISCUSS THE REQUIREMENTS IN THE DOCUMENT WHICH MAY HAVE AN IMPACT ON CONTRACTING SPECIFICATIONS. Thank you for your attention to this matter.

VJM

c(via email): Shannon Haynes, CPRA Project Engineer
Travis Byland, CPRA Project Construction and O & M Manager
Todd, Hubbell, Project Biological Monitoring Manager

Terrebonne Parish Recording Page

Theresa A. Robichaux
Clerk Of Court
P.O. Box 1569
Houma, La 70361-1569
(985) 868-5660

Received From :

INDEPENDENT LAND SERVICES LLC
P.O. BOX 53642
LAFAYETTE, LA 70505

First MORTGAGOR

COASTAL PROTECTION & RESTORATION AUTHORITY

First MORTGAGEE

LOUISIANA LAND & EXPLORATION CO L L C

Index Type : Mortgages

File # : 1476918

Type of Document : Request For Notice

Book : 2728

Page : 399

Recording Pages : 2

Recorded Information

I hereby certify that the attached document was filed for registry and recorded in the Clerk of Court's office for Terrebonne Parish, Louisiana

Theresa A. Robichaux

Clerk of Court

On (Recorded Date) : 03/27/2015

At (Recorded Time) : 2:00:46PM



Doc ID - 013121350002

CLERK OF COURT
THERESA A. ROBICHAUX
Parish of Terrebonne

I certify that this is a true copy of the attached document that was filed for registry and

Recorded 03/27/2015 at 2:00:46
Recorded in Book 2728 Page 399
File Number 1476918

Monica LaBruyere
Deputy Clerk



Return To :

INDEPENDENT LAND SERVICES LLC
P.O. BOX 53642
LAFAYETTE, LA 70505

REQUEST FOR NOTICE OF SEIZURE

STATE OF LOUISIANA

PARISH OF TERREBONNE

According to Louisiana Revised Statute 13:3886, Appearer herein respectfully requests that the Sheriff for the aforesaid Parish accept this notice of seizure on behalf of Appearer upon filing and payment of appropriate fee. Appearer further requests that this notice shall apply to all seizures whether express via writ or constructive via recordation of a lien or other encumbrance according to Louisiana Revised Statutes 38:2211 *et seq* and/or 9:4801 *et seq*.

Appearer herein has obtained a servitude covering the property described herein, which servitude is between The Louisiana Land and Exploration Company LLC and the State of Louisiana and is recorded in the Conveyance Records of the aforesaid Parish at COB 2417, Page 231, File Number 1476693.

The immovable property burdened by this servitude is described more fully in the herein described act of servitude, and also described, to wit:

Lands located in Sections 21, 26, 35 and 36, T19S-R14E, including access through Voss Canal located in Sections 26 and 35; and, in Sections 1, 2, 3, 14 and 23, T20S-R13E; and, in Sections 1, 2, 3, 4, 6, 9 and 10, T20S-R14E, Terrebonne Parish, Louisiana, all further described and shown as LL&E Lands (Project Area) on hereto attached Exhibit A-1 and made apart hereof.

Executed this 27 day of March, 2015, acting on behalf of the Coastal Protection and Restoration Authority.

Signed: Brian J Kenney
By: Contractor recording documents

Notice should be mailed to:

Mr. James Altman
Coastal Protection and Restoration Authority
Land Division
P.O. Box 44027
Baton Rouge, LA 70804-4027

Dy Buffy Knobloch

RECEIVED
SHERIFF'S OFFICE
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Terrebonne Parish Recording Page

Theresa A. Robichaux
Clerk Of Court
P.O. Box 1569
Houma, La 70361-1569
(985) 868-5660

Received From :
INDEPENDENT LAND SERVICES LLC
P.O. BOX 53642
LAFAYETTE, LA 70505

First VENDOR

LOUISIANA LAND & EXPLORATION CO L L C

First VENDEE

LOUISIANA STATE COASTAL PROTECTION & RESTORATION AUTHORITY

Index Type : Conveyances

File # : 1476693

Type of Document : Row - Servitude - Easement

Book : 2417

Page : 231

Recording Pages : 14

Recorded Information

I hereby certify that the attached document was filed for registry and recorded in the Clerk of Court's office for Terrebonne Parish, Louisiana


Clerk of Court

On (Recorded Date) : 03/24/2015

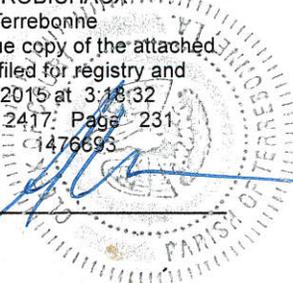
At (Recorded Time) : 3:18:32PM



Doc ID - 013111950014

CLERK OF COURT
THERESA A. ROBICHAUX
Parish of Terrebonne
I certify that this is a true copy of the attached
document that was filed for registry and
Recorded 03/24/2015 at 3:18:32
Recorded in Book 2417: Page 231
File Number 1476693


Deputy Clerk



Return To :
INDEPENDENT LAND SERVICES LLC
P.O. BOX 53642
LAFAYETTE, LA 70505

TEMPORARY EASEMENT, SERVITUDE AND RIGHT-OF-WAY AGREEMENT

**LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT
TE-72**

TERREBONNE PARISH, LOUISIANA

STATE OF LOUISIANA

PARISH OF TERREBONNE

THIS AGREEMENT, made and entered into this 13TH day of FEBRUARY, 2015, by and between: **THE LOUISIANA LAND AND EXPLORATION COMPANY LLC**, a Maryland limited liability company, authorized to and doing business in the State of Louisiana, with the business address of P. O. Box 7097, Houma, Louisiana 70361, herein represented by Phillip R. Precht, its Attorney-in-Fact, hereinafter called the "**GRANTOR**", as owner of the below described property; and

The STATE OF LOUISIANA herein represented by and appearing as follows through:

The **COASTAL PROTECTION AND RESTORATION AUTHORITY** ("**CPRA**"), as authorized and directed by the policy of the Coastal Protection and Restoration Authority Board, herein represented by and appearing through the Executive Director of CPRA, Kyle Graham, domiciled in East Baton Rouge Parish, Louisiana, with offices located at 450 Laurel Street, Suite 1200, Baton Rouge, Louisiana, 70801, and whose mailing address is P.O. Box 44027, Baton Rouge, Louisiana, 70804-4027, appearing pursuant to the provisions of La. R.S. 49:214.1, *et seq.*, as amended by Act 523 of the 2009 Regular Session and as amended by Act 604 of the 2012 Regular Session of the Louisiana Legislature;

The above mentioned hereinafter collectively referred to as "**STATE**".

WITNESSETH: For and in consideration of the promises and undertakings by STATE to GRANTOR herein, and further for other good and valuable consideration, including the potential benefits to GRANTOR'S property interests resulting from the hereinafter described project, the receipt and adequacy of which are hereby acknowledged, but without any cost to STATE, GRANTOR hereby grants unto STATE, its successors, assigns or transferees, the temporary rights-of-way, servitudes and easements (hereinafter called "the Agreement"), together with the right to enter in, on, and over, GRANTOR'S property interests, for integrated coastal protection purposes as defined in La. R.S. 49.214.2(11) as part of the **Lost Lake Marsh Creation and Hydrologic Restoration Project (TE-72)** (hereinafter called "the Project") as shown on Exhibits A and A-1, attached to and made a part hereof, located in, on, or over GRANTOR'S property interests. The Project will be publicly funded and shall be located on the following described property interest, including expressly, but not limited to, any interest in lands or water-covered lands which might be owned by GRANTOR (hereinafter called "said Lands"), to-wit:

Lands located in Sections 21, 26, 35 and 36, T19S-R14E, including access through Voss Canal located in Sections 26 and 35; and, in Sections 1, 2, 3, 14 and 23, T20S-R13E; and, in Sections 1, 2, 3, 4, 6, 9 and 10, T20S-R14E, Terrebonne Parish, Louisiana, all further described and shown as LL&E Lands (Project Area) on hereto attached Exhibit A-1 and made a part hereof. The herein described sections are limited to the locations of the activities and work to be performed within the Project. All other ownership by GRANTOR shown on Exhibit A-1 is for reference purposes only.

GRANTOR hereby warrants that GRANTOR understands the Project and accepts any and all impacts to said Lands resulting from construction and implementation of the Project.

I. This Agreement grants the rights to enter said Lands, (further identified on Exhibit A-1, attached hereto), to perform construction, operation, modification, monitoring, and maintenance and such other activities described on Exhibits B and C, (attached hereto), necessary to complete the Project.

II. STATE agrees to give reasonable notice to GRANTOR prior to initiation of access to the said Lands for the purpose of implementing, constructing, operating, modifying, monitoring and maintaining the Project.

III. To the extent permitted by Louisiana law, STATE shall indemnify, and hold harmless GRANTOR against and from all costs, expenses, claims, demands, penalties, suits, fines, and actions of any kind and nature arising from the Project and caused by the actions and fault of STATE or its agents, employees, contractors, successors, assigns and transferees, including any court costs and reasonable and actual litigation expenses and attorneys' fees. However, nothing herein shall be construed as indemnifying or holding GRANTOR or any third person not a party hereto harmless against its own fault or negligence or that of its agents, employees, contractors, successors, assigns, and transferees. Should work on said Lands be performed via contract, STATE shall ensure that the contractor lists GRANTOR as additional insured on any policies carried by the contractor, including completed operations coverage. The STATE acknowledges, declares, and stipulates that GRANTOR has provided this Agreement at no cost to the STATE under the provisions of La. R.S. 49:214.6.10 C, as amended by 2010 Acts No. 734. This clause shall survive the term of this agreement.

IV. STATE shall be responsible for repair or replacement in like manner of any fences, bridges, roads, and other similar facilities and appurtenances located on said Lands which may be damaged or destroyed by STATE, or its designees while on said Lands, but such repair shall be to that condition which existed immediately prior to STATE's activities. STATE shall remove or dispose of all debris associated with construction, operation, and maintenance of the Project.

V. STATE acknowledges that La. R.S. 49:214.5.5 provides that no rights whatsoever shall be created in the public, whether such rights be in the nature of ownership, servitude or use, with respect to any private lands or waters utilized, enhanced, created, or otherwise affected by activities of any governmental agency, local, state, or federal, or any person contracting with same for the performance of any activities, funded in whole or in part, by expenditures through the Coastal Protection and Restoration Fund or other sources of funding in accordance with the provision of La. R.S. 49:214.6.2. The STATE further agrees that in the event legal proceedings are instituted by any person seeking recognition of a right of ownership, servitude, or use in or over private property solely on the basis of the expenditure of funds through the Coastal Protection and Restoration Fund or other sources of funding in accordance with the provision of La. R.S. 49:214.6.2, that the State shall indemnify and hold harmless the owner of such property for any costs, expense, or loss related to such proceeding, including court costs and attorney fees. To the extent permitted by La. R.S. 49:214.5.5, the servitude and right-of-way rights granted herein shall be considered real rights and covenants running with the land.

VI. It is understood GRANTOR shall retain the limits of its title and all property rights (subject to the rights of STATE herein) in and to said Lands, and all minerals in, on and under said Lands are not affected in any way hereby. Subject to the provisions of Exhibit "C" attached hereto, no structures and/or appurtenances constructed hereunder pursuant to the Project on said Lands shall be adjusted, removed, and/or interfered with by GRANTOR, or anyone holding rights by, through, or under GRANTOR.

VII. Subject to the above, in its exercise of the rights herein granted, STATE agrees not to unreasonably interfere with (a) oil and gas operations, (b) agricultural operations, and (c) hunting, trapping and alligator egg operations, (d) fishing, crabbing, or shrimping, now occurring, or authorized to occur, on said Lands. STATE specifically acknowledges the continuing right of GRANTOR, its heirs, successors, assigns, transferees or lessees, to use, occupy and enjoy all of said Lands, for all purposes, in such manner at such times as they, or any of them, shall desire to use same, including, but without limitation, for the purpose of conducting oil, gas or other mineral operations on any of said Lands, for the exploration, discovery, production, storage, transportation and disposition of oil, gas, sulphur or other minerals, under oil, gas and mineral leases or otherwise, and for the purpose of farming, grazing, hunting and trapping fur-bearing animals, alligator egg operations, fishing, crabbing, or shrimping thereon, provided, however, that such use, occupation, and enjoyment shall not unreasonably interfere with the lawful activities of STATE pursuant to this Agreement.

VIII. GRANTOR does not warrant title. GRANTOR specifically does not warrant or represent the correctness of any survey, or any of the plats attached hereto which purport to show the location of said Lands. If at any time any questions or litigation should arise as to the ownership of any part of the property covered hereby, or as to any boundary or limit of any part of the separate and various Lands covered by this Agreement, this Agreement shall not be construed to be, or permitted to serve as, evidence or as a basis of waiver of any legal rights against any party hereto, or prevent any party hereto from establishing its ownership, or having the boundaries or limits of its property determined, in any lawful manner, anything herein contained to the contrary notwithstanding.

IX. STATE may assign or transfer, in whole or in part, any or all of its rights hereunder, but only to the extent necessary to implement the purposes of the Project on the said Lands.

X. This Agreement shall become effective upon the date of the signature of STATE, and shall remain in effect for a term of twenty five (25) years, unless sooner released by STATE.

XI. This Agreement shall be binding upon, and inure to the benefit of, the parties hereto, their heirs, successors in interest, transferees and assigns.

XII. This Agreement may be executed in any number of counterparts, each of which shall constitute an original document which shall be binding upon any of the parties executing same. To facilitate recordation of this agreement, the parties hereto agree that individual signature and acknowledgment pages from the various counterparts may be merged and combined with signature and acknowledgment pages from other counterparts.

XIII. This Agreement does not confer or waive any rights except as provided herein.

(The remainder of this page intentionally left blank)

IN WITNESS WHEREOF, GRANTOR has executed this Agreement in the presence of the undersigned witnesses on the date below:

WITNESSES:

THE LOUISIANA LAND AND
EXPLORATION COMPANY LLC

Jett DeBlieux

Print: Jett DeBlieux

Ordis T. Smith III

Print: Ordis T. Smith III

By: Phillip R. Precht

Phillip R. Precht
Attorney-in-Fact *JDD, ODS*

Date: 2/25/2015

ACKNOWLEDGMENT

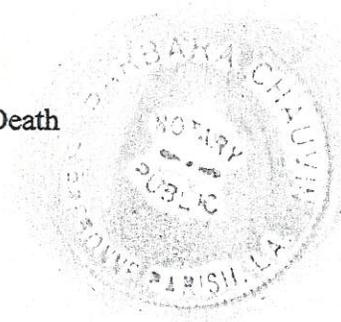
STATE OF LOUISIANA

PARISH OF TERREBONNE

BEFORE ME, the undersigned authority, duly commissioned and qualified in and for said Parish and State aforesaid, on this 25 day of February, 2015, personally came and appeared Phillip R. Precht, to me known, who, being by me duly sworn, declared and acknowledged to me, Notary, that he is Attorney-in-Fact of THE LOUISIANA LAND AND EXPLORATION COMPANY LLC, a Maryland Limited Liability Company, that said instrument was signed on behalf of said Limited Liability Company with due and proper authorization and said appearer acknowledged said instrument to be the free act and deed of said Limited Liability Company.

Barbara Chauvin

NOTARY PUBLIC
Barbara Chauvin
Notary ID No. 9139
My Commission Expires Upon Death



IN WITNESS WHEREOF, STATE has executed this Agreement in the presence of the undersigned witnesses on the date below:

COASTAL PROTECTION AND RESTORATION
AUTHORITY

WITNESSES: Joann D. Hicks

Print: Joann D. Hicks

Shirley T. Long

Print: Shirley T. Long

By: [Signature]
Kyle Graham

Title: Executive Director

Date: 2/13/15

ACKNOWLEDGMENT

STATE OF LOUISIANA

PARISH OF EAST BATON ROUGE

BEFORE ME, the undersigned authority, duly commissioned and qualified in and for said Parish and State aforesaid, on this 13th day of February, 2015, personally came and appeared Kyle Graham, to me known, who declared that he is the Executive Director of the **Coastal Protection and Restoration Authority, State of Louisiana**, that he executed the foregoing instrument on behalf of said State Agency and that the instrument was signed pursuant to the authority granted to him by said State Agency and that he acknowledged the instrument to be the free act and deed of said State Agency.

[Signature]

Print: David A. Peterson
NOTARY PUBLIC

Notary or Bar # 22591
My commission expires: with life
(SEAL)

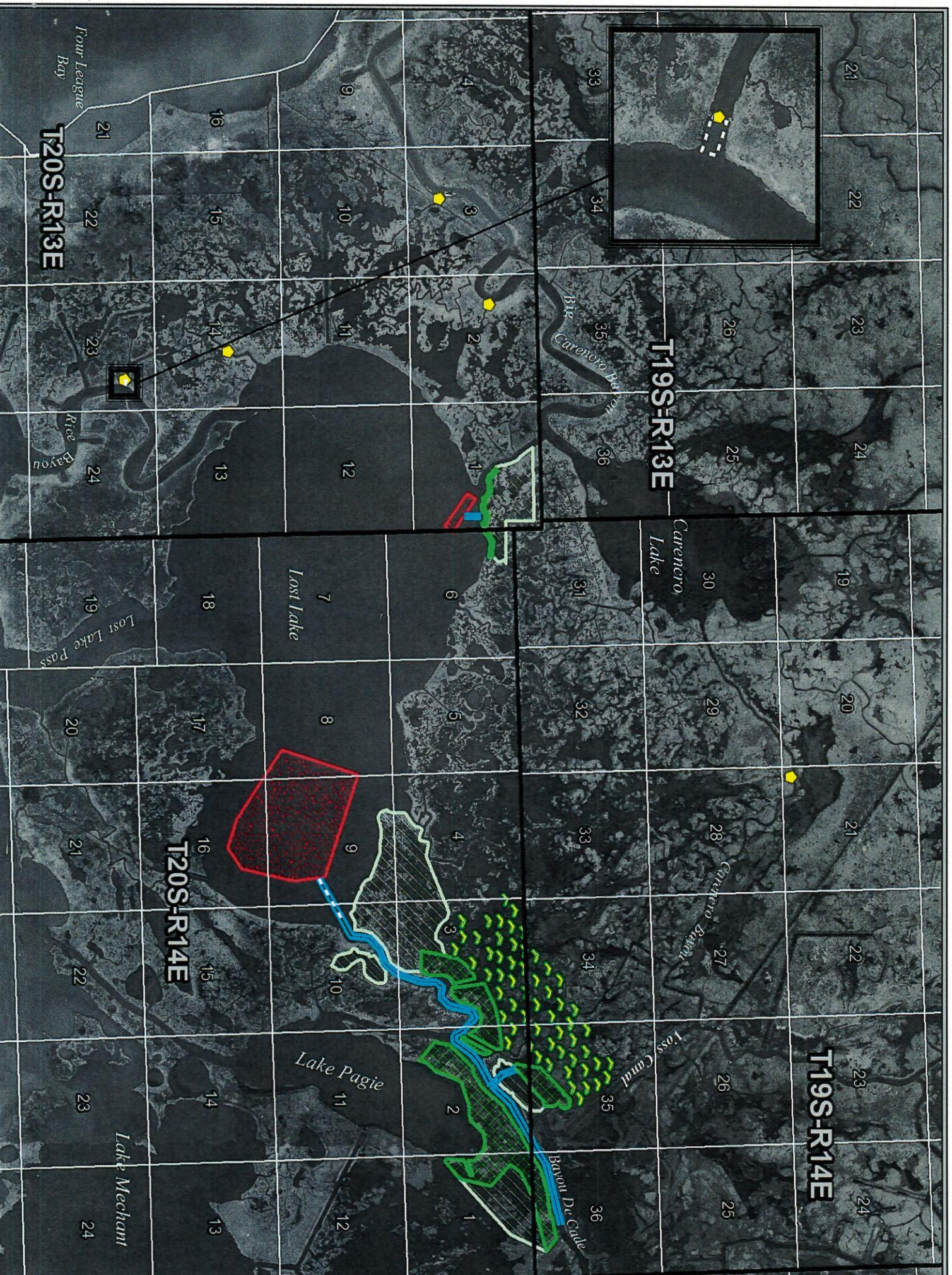


OFFICIAL SEAL
David A. Peterson
BAR ROLL #22591
STATE OF LOUISIANA
My Commission is for Life

Exhibit A

Lost Lake Marsh Restoration and Hydrologic Restoration (TE-72)

Terrebonne Parish, Louisiana



Proposed Project Features

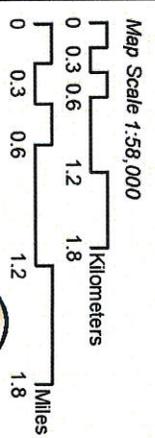
- Marsh Nourishment
- Potential Marsh Nourishment
- Marsh Creation (With Earthen Containment)
- Borrow Site
- Water Control Structure (Replacement)
- Access Channel Dredging
- Pipeline Access Corridor
- Sediment Delivery Pipeline
- Vegetated Earthen Terraces

Reference Data

- Township/Range
- Sections

All features are graphical representations only, are subject to change, and may not reflect true location or dimension

Attached to and made a part of that certain Temporary Easement, Servitude and Right-of-Way Agreement by and between The Louisiana Land and Exploration Company LLC and the Coastal Protection and Restoration Authority, dated February 13, 2015.



Source: Coastal Protection and Restoration Authority of Louisiana
Imagery: 2013 DOQQ
Map Date: March 12, 2015
2015040014

Exhibit A-1

Lost Lake Marsh Creation and Hydrologic Restoration (TE-72)

Terrebonne Parish, Louisiana



Owner

- LL&E Lands (Project Area)
- LL&E Claimed Lands

Proposed Project Features

- Marsh Nourishment
- Potential Marsh Nourishment
- Marsh Creation (With Earthen Containment)
- Borrow Site
- Water Control Structure (Replacement)
- Access Channel Dredging
- Pipeline Access Corridor
- Sediment Delivery Pipeline
- Vegetated Earthen Terraces

Reference Data

- Township/Range
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All features are graphical representations only, are subject to change, and may not reflect true location or dimension

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0 0.3 0.6 1.2 1.8 Miles

Map Scale 1:58,000

Coastal Protection and Restoration Authority of Louisiana
 Imagery: 2013 DOQQ
 Map Date: March 12, 2015
 2015040014

EXHIBIT B

Attached to and made a part of that certain Temporary Easement, Servitude, and Right-of-Way Agreement by and between The Louisiana Land and Exploration Company LLC and the Coastal Protection and Restoration Authority dated FEBRUARY 13, 2015.

The Agreement includes the right for the STATE to enter said Lands to perform the following activities for the purposes authorized by Federal (16 U.S.C. 3951, et seq.) and State (R.S. 49:214.1 – 214.6.10) law at the sites or locations identified and shown on the attached Exhibit A-1 and are part of the Lost Lake Marsh Creation and Hydrologic Restoration Project TE-72:

Project Features and Activities

- a. The right to install a temporary sediment delivery pipeline to convey and deposit dredged sediment and/or other fill material on, over and across said Lands by either natural or mechanical means, including the right to alter land and/or water contours and undertake management practices to enhance or extend the beneficial use of dredged or sediment deposition for marsh creation and/or nourishment, as shown on Exhibit A-1;
- b. The right to plant or cause the growth of vegetation in, on, over and across said Lands, including the right to nourish, replenish and maintain said vegetation;
- c. The right to replace (including the necessary excavation and/or filling), operate, maintain and monitor existing water control structures including all appurtenances thereto, in, over and across the said Lands as shown on Exhibit A-1;
- d. The right to construct (including the necessary excavation and/or filling) and vegetate earthen terraces as shown on Exhibit A-1;
- e. The right to dredge sediment to construct a containment dike(s) within portions of the project area to retain deposited sediment.
- f. The right to relocate, alter, replace or remove appropriate pipelines, utility lines, facilities or other structures in, on, under, and across said Lands, as may be deemed necessary by STATE and approved by GRANTOR;
- g. The right to construct, locate, maintain and service required monitoring devices and equipment on said Lands;
- h. The right to post warning signs or notices on or near appropriate Project features on said Lands, as may be deemed necessary by STATE;
- i. The right to alter or remove structures and/or appurtenances constructed on said Lands by STATE pursuant to the Project;
- j. The right to enter said Lands for the purpose(s) of conducting surveys, inspections and investigations required by STATE to evaluate the effectiveness of the Project and Project features, including maintaining/improving wetland and/or restored land quantity and quality;
- k. The right to enter and traverse said Lands to access Project features located on adjacent Lands; and
- l. The right to make modifications to the Project, but only insofar as changes pertain to materials for Project features and minor changes to project feature locations, as may be deemed necessary by STATE to fully and properly implement and maintain the Project;

EXHIBIT C

Additional Terms and Conditions

Attached to and made a part of that certain Temporary Easement, Servitude, and Right-of-Way Agreement by and between The Louisiana Land and Exploration Company LLC and the Coastal Protection and Restoration Authority dated FEBRUARY 13, 2015.

This Agreement is made and accepted upon and subject to all terms, conditions, limitations, reservations, exceptions and undertakings of the parties as set forth in this Exhibit C:

I. Should work on said Lands be performed via a STATE contract or a Federal contract, STATE shall file a request with the Clerk of Court in the Parish where work is to be performed to be notified of any suit and/or lien placed or filed against GRANTOR'S Lands involved in this Project; STATE shall notify GRANTOR of any such suit and/or lien within 5 days of being notified by the Clerk of Court; and STATE shall cause any such lien filed against GRANTOR'S Lands to be bonded out and the inscription of such lien against GRANTOR'S Lands noted as cancelled on the records of the office of such Clerk of Court within thirty (30) days of the STATE being notified that such lien has been filed against GRANTOR'S Lands.

II. STATE shall verify that every contractor working on LL&E property shall maintain in full force, during the entire existence of this Agreement, Workman's Compensation Insurance in an amount necessary to satisfy the minimum requirements of the laws of the State of Louisiana.

III. GRANTOR shall further have and expressly reserves unto itself, its heirs, successors, assigns, transferees or lessees (collectively, "Grantor"), the right to alter any Project features and/or levees, bulkheads, dams or other similar features that may be placed across any canal or other waterway on the Lands (collectively, "features"), subject to the following conditions:

- a. The only allowable purpose of such alteration is for necessary access for the exploration and production of oil and/or gas which is not otherwise available;
- b. GRANTOR where practicable, shall provide STATE with sixty (60) days advance written notice of its intent to alter said features, except where emergency conditions require a rapid response, in which event GRANTOR shall provide written notice to STATE within forty-eight (48) hours after a decision is made to take emergency action. For non-emergency activities, GRANTOR agrees to consider and use alternate locations, if technically and economically feasible, to avoid alteration of said features;
- c. For said features, the alteration shall consist of the removal of said features to establish a canal not to exceed eighty (80) feet wide. Dredged earthen material and/or sediment is to be used so as to establish and maintain a continuous spoil bank around the canal, as shown on Exhibit D;
- d. Within three (3) months after production has ceased, or within three (3) months after a well is determined to be a dry hole, GRANTOR shall:
 - i. establish an earthen, rock plug or other suitable canal closure approved by the STATE across the canal as shown on Exhibit E, in accordance with specifications (including gradation of rock, foundation support, e.g. geotextile, and dimensions) to be provided by the STATE; or
 - ii. establish a concrete sheet pile wall or other suitable closure approved by the STATE across the canal in accordance with specifications to be provided by the STATE; and
 - iii. if necessary to establish sufficient water circulation as jointly determined and defined by GRANTOR, STATE and the U.S. Fish and Wildlife Service, gaps will be constructed in the canal spoil bank(s).
- e. Any such alteration, including subsequent restorations, or rebuilding of features, shall be implemented at no cost to STATE.

IV. This Agreement is subject to and subordinate to all existing contracts of record affecting said Lands.

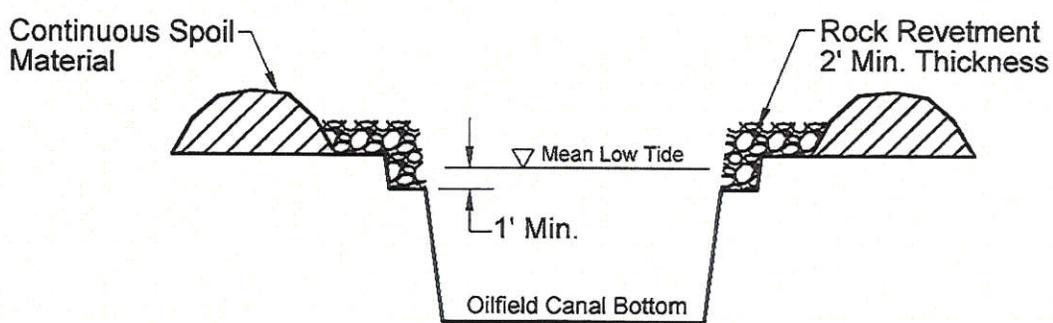
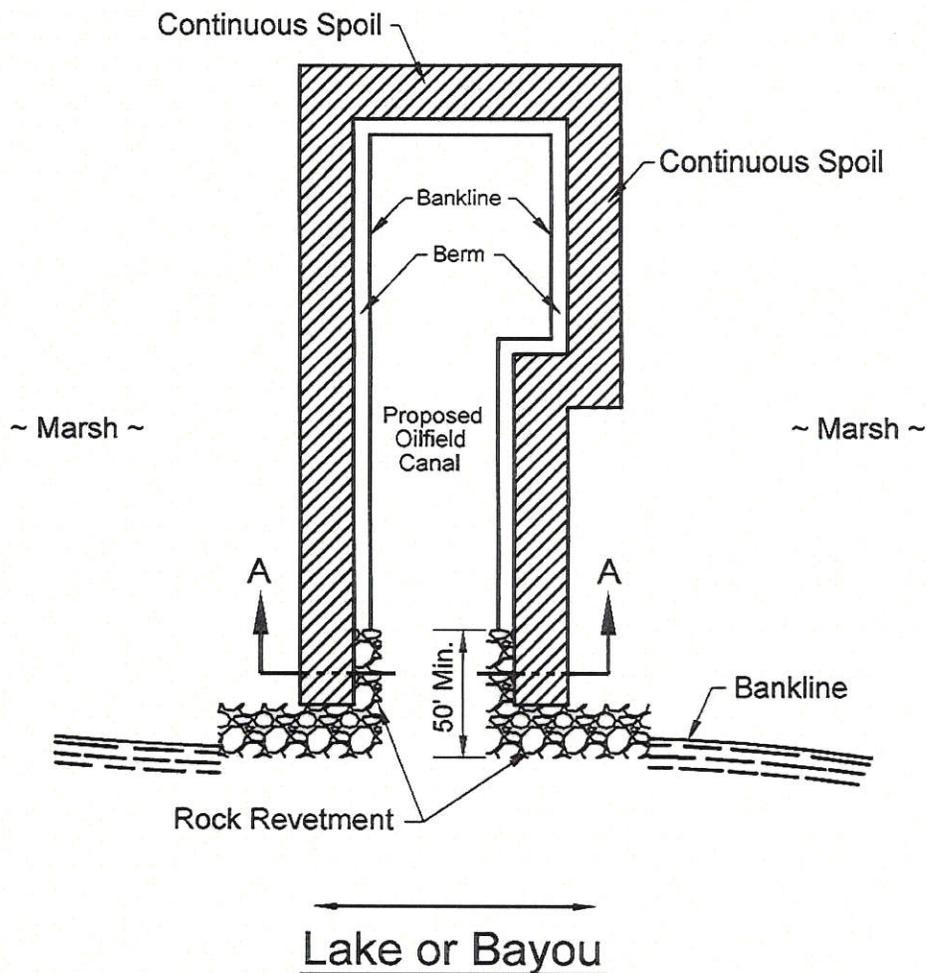
V. State agrees to maintain all features and/or appurtenances placed on said Lands in good order and repair during the term of this Agreement. STATE may terminate this Agreement, due to lack of funding or otherwise, and thereby terminate maintenance of said features and/or approved appurtenances, provided, however, that maintenance of other Project features, which are located on lands other than said Lands, is terminated concurrently. Upon termination of this Agreement, all features and/or approved appurtenances placed on said Lands shall, at GRANTOR's option either become property of the GRANTOR without compensation to STATE or shall be promptly removed by STATE at STATE expense. Upon termination of this Agreement, STATE shall furnish to GRANTOR within sixty (60) days a recorded release of this Agreement.

VI. GRANTOR makes no representation as to the condition of the Lands or their suitability for purposes of the Project: GRANTOR further makes no representation as to the condition of any canal or waterway open to navigation on Grantor's adjacent property or the suitability of any of the same for use as ingress or egress to and from the Lands. STATE hereby acknowledges that it has had the opportunity to inspect the Lands and any canal or waterway open to navigation on GRANTOR's adjacent property and that it accepts the condition of the same for all such purposes.

VII. STATE shall be responsible for repair or replacement in like manner of any survey monuments, property line markers, located on said Lands which may be damaged or destroyed by STATE, or its designees while on said Lands.

VIII. STATE hereby acknowledges that this Agreement is made and accepted, and the Lands are being voluntarily provided by Grantor for the purposes of this Agreement, without any "cost" to the State within the meaning and intent of La. R.S. 49:214.6.10(C), the Hold Harmless and Cooperative Landowner Immunity statute, for purposes of the application of that statute in respect to the Project.

IX. GRANTOR and STATE acknowledge that two of the goals of the coastal restoration project ("Project") contemplated by this Servitude are climate mitigation and the enhancement of ecosystem services. STATE shall be entitled to all greenhouse gas and carbon offset/credits (and any monetary compensation or other benefit derived therefrom) related to the sequestration, uptake, or prevention of emission of greenhouse gases to the extent that such credits arise from and are directly related to the Project ("Carbon Credits"); provided however, the Carbon Credits may be shared by STATE and GRANTOR pursuant to a mutually agreed upon cooperative endeavor agreement ("CEA") executed by the parties hereunder as contemplated by La. Const. Art. VII Sec. 14(C) and La. R.S. 9:1103. Furthermore, if STATE intends to sell, assign, exchange or otherwise transfer the Carbon Credits in whole or in part in lieu of jointly developing them with Grantor under a CEA or otherwise, STATE agrees that Grantor shall have the preferential right and option to purchase those Carbon Credits from STATE at their then fair market value, subject to any applicable laws, rules, or regulations, including but not limited to any provisions thereof relating to public bids and competitive bids. All water, nutrient, endangered species, or other ecological or environmental banking or other credits (and any monetary compensation or other benefit derived therefrom) that arise from and are directly related to the Project excluding Carbon Credits (collectively "Other Eco Credits"), are not allocated to either party hereunder, except as may be provided by a mutually agreed upon CEA between STATE and GRANTOR. Neither STATE nor GRANTOR shall derive any monetary compensation or other benefit from the development of the Other Eco Credits to which they both may be entitled, except through their execution of one or more CEA's on mutually agreeable terms. Nothing herein is intended, however, nor should it be construed, to attribute Carbon Credits or Other Eco Credits to the STATE that relate to projects other than the Project that may affect GRANTOR's property, including said Lands.

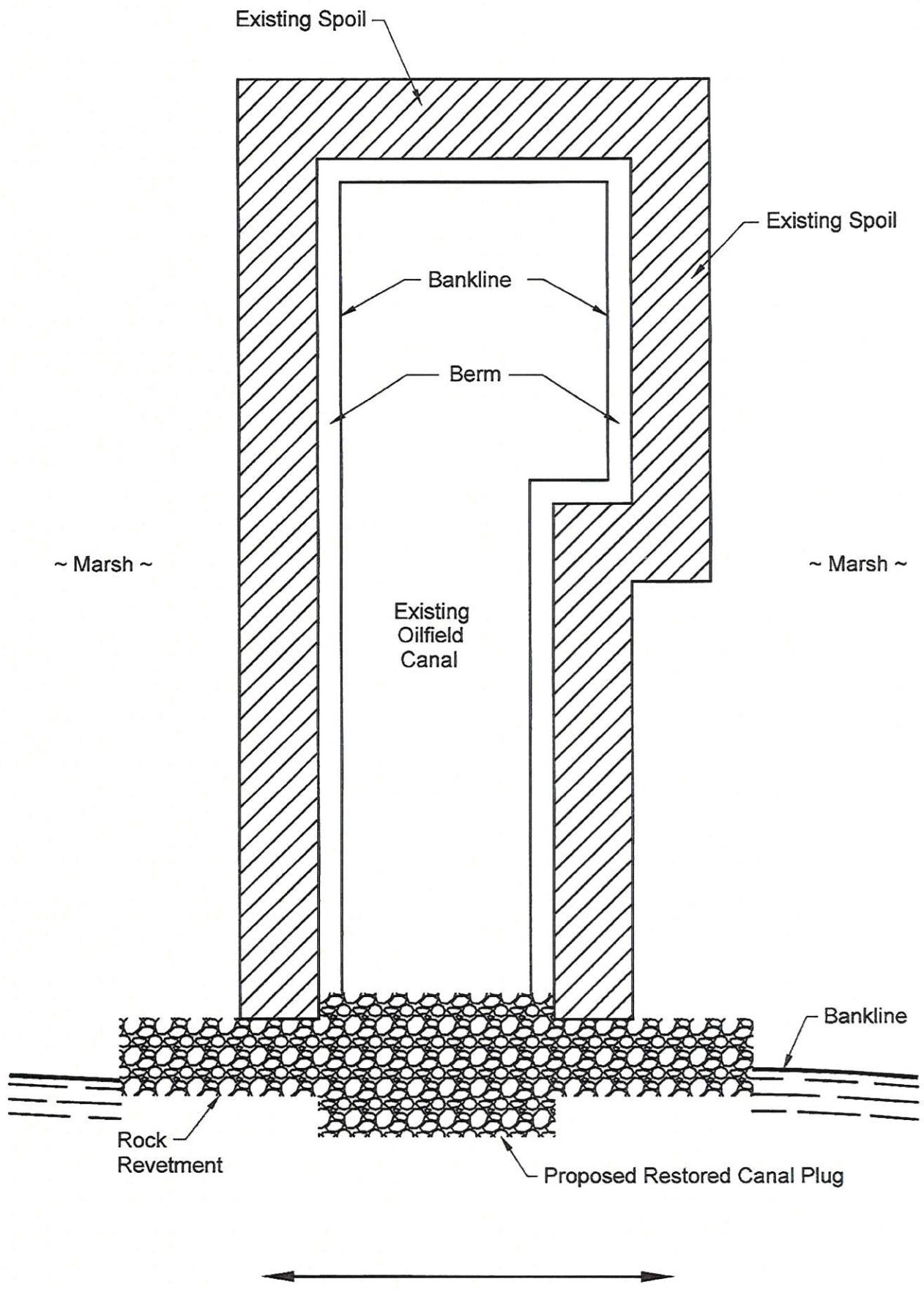


Cross-Section "A-A"

Attached to and made a part of that certain Temporary Easement, Servitude, and Right-of-Way Agreement by and between The Louisiana Land and Exploration Company LLC and the Coastal Protection and Restoration Authority, dated FEBRUARY 13, 2015.

Not to Scale

EXHIBIT D
PROPOSED OILFIELD CANAL
Shoreline Protection and Marsh Creation Projects



Lake or Bayou

Attached to and made a part of that certain Temporary Easement, Servitude, and Right-of-Way Agreement by and between The Louisiana Land and Exploration Company LLC and the Coastal Protection and Restoration Authority, dated FEBRUARY 13, 2015.

Not to Scale

EXHIBIT E
PROPOSED RESTORED CANAL PLUG
Shoreline Protection and Marsh Creation Projects



State of Louisiana

BOBBY JINDAL
GOVERNOR

April 2, 2015

Mr. Jeffrey D. Weller, Supervisor
Louisiana Field Office
U.S. Fish and Wildlife Service
646 Cajundome Blvd., Suite 400
Lafayette, LA 70506

Re: Temporary Easement, Servitude and Right-of-Way Agreement
Request for Notice of Seizure
Louisiana Land and Exploration Company LLC
Lost Lake Marsh Creation and Hydrologic Restoration Project TE-72
Terrebonne Parish, Louisiana

Dear Mr. Weller:

Enclosed for your records is a copy of a certified original of the above referenced agreement between the Louisiana Land and Exploration Company and the State of Louisiana. A fully executed original has also been recorded by the Clerk of Court of Terrebonne Parish, Louisiana. An original of the Request for Notice of Seizure has been recorded by same, and placed on file with the Sheriff's Office.

If I can be of any further assistance, please do not hesitate to contact me in the CPRA Land Rights Division at (225) 342-5260. Thank you for your continued cooperation in our coastal protection and restoration efforts.

Sincerely,

V. J. Marretta
CPRA Land Rights Division

VJM

Attachments

c(with attachments): Kevin Roy, USFWS Project Manager (sent via email)
Garvin Pittman, CPRA Contract Project Manager (sent via email)
James Altman, Land Manager (sent via email)

TE-72\LL&E servitude USFWS-LO-CPRA final transmittal dtd 4-02-15



State of Louisiana

BOBBY JINDAL
GOVERNOR

April 2, 2015

Mr. Jeff DeBlieux
Louisiana Land and Exploration Company
P. O. Box 7097
Houma, LA 70361

Re: Temporary Easement, Servitude and Right-of-Way Agreement
Request for Notice of Seizure
Louisiana Land and Exploration Company LLC
Lost Lake Marsh Creation and Hydrologic Restoration Project TE-72
Terrebonne Parish, Louisiana

Dear Mr. ^{JEFF}DeBlieux:

Enclosed for your records is a copy of a certified original of the captioned documents between the Louisiana Land and Exploration Company and the State of Louisiana for the above referenced project. A fully executed original of the document has been recorded by the Clerk of Court of Terrebonne Parish, Louisiana. An original of the Request for Notice of Seizure has been recorded by same, and placed on file with the Sheriff's Office.

If I can be of further assistance, or if you have any questions, please do not hesitate to contact me at (225) 342-5260. Thank you for your continued cooperation in our coastal protection and restoration efforts.

Sincerely,

V. J. Marretta
CPRA Land Rights Division

VJM

Attachments

c(with attachments): Kevin Roy, USFWS Project Manager (sent via email)
Garvin Pittman, CPRA Contract Project Manager (sent via email)
James Altman, Land Manager (sent via email)

TE-72\LL&E servitude USFWS-LO-CPRA final transmittal dtd 4-02-15

Terrebonne Parish Recording Page

Theresa A. Robichaux
Clerk Of Court
P.O. Box 1569
Houma, La 70361-1569
(985) 868-5660

Received From :
INDEPENDENT LAND SERVICES LLC
P.O. BOX 53642
LAFAYETTE, LA 70505

First VENDOR

TP LANDS L L C

First VENDEE

COASTAL PROTECTION & RESTORATION AUTHORITY

Index Type : Conveyances

File # : 1475109

Type of Document : Row - Servitude - Easement

Book : 2414 **Page :** 865

Recording Pages : 11

Recorded Information

I hereby certify that the attached document was filed for registry and recorded in the Clerk of Court's office for Terrebonne Parish, Louisiana

Theresa A. Robichaux

Clerk of Court

On (Recorded Date) : 03/02/2015

At (Recorded Time) : 2:49:55PM

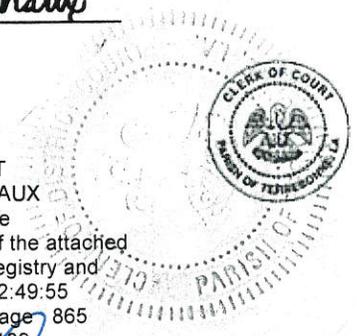


Doc ID - 013074600011

CLERK OF COURT
THERESA A. ROBICHAUX
Parish of Terrebonne

I certify that this is a true copy of the attached document that was filed for registry and Recorded 03/02/2015 at 2:49:55
Recorded in Book 2414 Page 865
File Number 1475109

Lisa B. Loupe
Deputy Clerk



Return To :
INDEPENDENT LAND SERVICES LLC
P.O. BOX 53642
LAFAYETTE, LA 70505

TEMPORARY EASEMENT, SERVITUDE AND RIGHT-OF-WAY AGREEMENT

**LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT
TE-72**

TERREBONNE PARISH, LOUISIANA

STATE OF LOUISIANA

PARISH OF TERREBONNE

THIS AGREEMENT, made and entered into this 19TH day of MARCH, 2013, by and between: TP LANDS, L.L.C., a Louisiana limited liability company, herein represented by John Rouchell, its Registered Agent, whose mailing address is 1100 Poydras Street, Suite 3600, New Orleans, Louisiana 70163-2200; JON L. STEINBERG, whose address is P. O. Box 8873, Mandeville, Louisiana 70470; LAURA STEINBERG THAMES, whose mailing address is 1422 Animas View Drive, Unit 32, Durango, Colorado 81301; hereinafter called the "GRANTOR" (whether one or more), as owner(s) of the below described property; and

The STATE OF LOUISIANA herein represented by and appearing as follows through:

The **COASTAL PROTECTION AND RESTORATION AUTHORITY ("CPRA")**, as authorized and directed by the policy of the Coastal Protection and Restoration Authority Board, herein represented by and appearing through the Executive Director of CPRA, Jerome Zeringue, domiciled in East Baton Rouge Parish, Louisiana, with offices located at 450 Laurel Street, Suite 1200, Baton Rouge, Louisiana, 70801, and whose mailing address is P.O. Box 44027, Baton Rouge, Louisiana, 70804-4027, appearing pursuant to the provisions of La. R.S. 49:214.1, et seq., as amended by Act 523 of the 2009 Regular Session and as amended by Act 604 of the 2012 Regular Session of the Louisiana Legislature;

The above mentioned hereinafter collectively referred to as "**STATE**".

WITNESSETH: For and in consideration of the promises and undertakings by STATE to GRANTOR herein, and further for other good and valuable consideration, including the potential benefits to GRANTOR'S property interests resulting from the hereinafter described project, the receipt and adequacy of which are hereby acknowledged, GRANTOR hereby grants unto STATE, its successors, assigns or transferees, the temporary rights-of-way, servitudes and easements (hereinafter called "the Agreement"), together with the right to enter in, on, and over, GRANTOR'S property interests, for integrated coastal protection purposes as defined in La. R.S. 49.214.2(10) as part of the **Lost Lake Marsh Creation and Hydrologic Restoration Project TE-72** (hereinafter called the "Project") as shown on Exhibit A, attached to and made a part hereof, located in, on, or over GRANTOR'S property interests. The Project will be publicly funded and shall be located on the following described property interest, including expressly, but not limited to, any interest in lands or water-covered lands which might be owned by GRANTOR (hereinafter called "said Lands"), to-wit:

Lands located in Section 34, T19S-R14E, Terrebonne Parish, Louisiana, further described and shown as Tract 3 – TP Lands, L.L.C. et al. on Exhibit A-1, attached hereto and made a part hereof.

GRANTOR hereby warrants that GRANTOR understands the Project and accepts any and all impacts to said Lands resulting from construction and implementation of the Project.

I. This Agreement grants the rights to enter said Lands, (further identified on Exhibit A-1, attached hereto), to perform construction, operation, modification, monitoring, and maintenance and such other activities described on Exhibit B (attached hereto), necessary to complete the Project.

II. STATE agrees to give reasonable notice to GRANTOR prior to initiation of access to the said Lands for the purpose of implementing, constructing, operating, modifying, monitoring and maintaining the Project.

III. To the extent permitted by Louisiana law, STATE shall, indemnify, and hold harmless GRANTOR against and from all costs, expenses, claims, demands, penalties, suits, fines, and actions of any kind and nature arising from the Project and caused by the actions and fault of STATE or its agents, employees, contractors, successors, assigns and transferees, including any court costs and reasonable and actual litigation expenses and attorneys' fees. However, nothing herein shall be construed as indemnifying or holding GRANTOR or any third person not a party hereto harmless against its own fault or negligence or that of its agents, employees, contractors, successors, assigns and transferees. Should work on said Lands be performed via contract, STATE shall ensure that the contractor lists GRANTOR as additional insured on any policies carried by the contractor, including completed operations coverage. The STATE acknowledges, declares and stipulates that GRANTOR has provided this Agreement at no cost to the STATE under the provisions of La. R.S. 49:214.6.10 C, as amended by 2010 Acts No. 734. This clause shall survive the term of this agreement.

IV. STATE shall be responsible for repair in like manner of any fences, bridges, roads, and other similar facilities and appurtenances located on said Lands which may be damaged or destroyed by STATE, or its designees while on said Lands, but such repair shall be to that condition which existed immediately prior to STATE's activities. STATE shall remove or dispose of all debris associated with construction, operation and maintenance of the Project.

V. STATE acknowledges that La. R.S. 49:214.5.5 provides that no rights whatsoever shall be created in the public, whether such rights be in the nature of ownership, servitude or use, with respect to any private lands or waters utilized, enhanced, created, or otherwise affected by activities of any governmental agency, local, state, or federal, or any person contracting with same for the performance of any activities, funded in whole or in part, by expenditures through the Coastal Protection and Restoration Fund or other sources of funding in accordance with the provision of La. R.S. 49:214.6.2. The STATE further agrees that in the event legal proceedings are instituted by any person seeking recognition of a right of ownership, servitude, or use in or over private property solely on the basis of the expenditure of funds through the Coastal Protection and Restoration Fund or other sources of funding in accordance with the provision of La. R.S. 49:214.6.2, that the State shall indemnify and hold harmless the owner of such property for any costs, expense, or loss related to such proceeding, including court costs and attorney fees. To the extent permitted by La. R.S. 49:214.5.5, the servitude and right-of-way rights granted herein shall be considered real rights and covenants running with the land.

VI. It is understood GRANTOR shall retain the limits of its title and all property rights (subject to the rights of STATE herein) in and to said Lands, and all minerals in, on and under said Lands are not affected in any way hereby. However, no structures and/or appurtenances constructed hereunder pursuant to the Project on said Lands shall be adjusted, removed and/or interfered with by GRANTOR, or anyone holding rights by, through or under GRANTOR.

VII. Subject to the above, in its exercise of the rights herein granted, STATE agrees not to unreasonably interfere with (a) oil and gas operations, (b) agricultural operations, and (c) hunting, trapping and alligator egg operations, (d) fishing, crabbing, or shrimping, now occurring, or authorized to occur, on said Lands. STATE specifically acknowledges the continuing right of GRANTOR, its heirs, successors, assigns, transferees or lessees, to use, occupy and enjoy all of said Lands, for all purposes, in such manner at such times as they, or any of them, shall desire to use same, including, but without limitation, for the purpose of conducting oil, gas or other mineral operations on any of said Lands, for the exploration, discovery, production, storage, transportation and disposition of oil, gas, sulphur or other minerals, under oil, gas and mineral leases or otherwise, and for the purpose of farming, grazing, hunting and trapping fur-bearing animals, alligator egg operations, fishing, crabbing, or shrimping thereon, provided, however, that such use, occupation, and enjoyment shall not unreasonably interfere with the lawful activities of STATE pursuant to this Agreement.

VIII. GRANTOR does not warrant title. GRANTOR specifically does not warrant or represent the correctness of any survey, or any of the plats attached hereto which purport to show the location of said Lands. If at any time any questions or litigation should arise as to the ownership of any part of the property covered hereby, or as to any boundary or limit of any part of the separate and various Lands covered by this Agreement, this Agreement shall not be construed to be, or permitted to serve as, evidence or as a basis of waiver of any legal rights against any party hereto, or prevent any party hereto from establishing its ownership, or having the boundaries or limits of its property determined, in any lawful manner, anything herein contained to the contrary notwithstanding.

IX. STATE may assign or transfer, in whole or in part, any or all of its rights hereunder, but only to the extent necessary to implement the purposes of the Project on the said Lands.

X. This Agreement shall become effective upon the date of the signature of STATE, and shall remain in effect for a term of twenty-five (25) years, unless sooner released by STATE.

XI. This Agreement shall be binding upon, and inure to the benefit of, the parties hereto, their heirs, successors in interest, transferees and assigns.

XII. This Agreement may be executed in any number of counterparts, each of which shall constitute an original document which shall be binding upon any of the parties executing same. To facilitate recordation of this agreement, the parties hereto agree that individual signature and acknowledgment pages from the various counterparts may be merged and combined with signature and acknowledgment pages from other counterparts.

XIII. This Agreement does not confer or waive any rights except as provided herein.

(The remainder of this page intentionally left blank)

IN WITNESS WHEREOF, GRANTOR has executed this Agreement in the presence of the undersigned witnesses on the date below:

WITNESSES:

GRANTOR:

Desiree St Paul

Print: Desiree St Paul

Rosalind B. Kinaird

Print: Rosalind B. Kinaird

TP LANDS, L.L.C.

By: [Signature]

Print: John Rouchell

Title: Registered Agent

Date: March 19, 2013

CORPORATE ACKNOWLEDGMENT

STATE OF LOUISIANA

PARISH/COUNTY OF ORLEANS

BEFORE ME, the undersigned authority, duly commissioned and qualified in and for said Parish/County and State aforesaid, on this 19th day of March, 2013, personally came and appeared **John Rouchell**, to me known, who, being by me duly sworn, declared and acknowledged to me, Notary, that he is the Registered Agent of **TP LANDS, L.L.C.**, that as such duly authorized officer, by and with authority of the Board of Directors of said corporation, he signed, and executed the foregoing instrument, as the free and voluntary act and deed of said corporation, for and on behalf of said corporation, and for the object and purposes therein set forth.

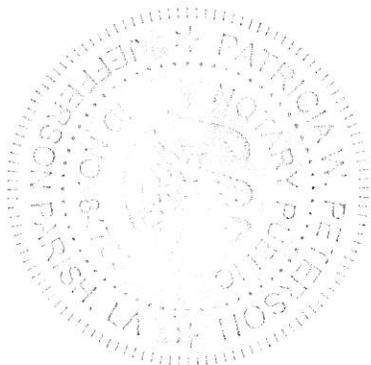
Patricia W. Peterson

Print: Patricia W. Peterson
Notary Public I.D. #94789
NOTARY PUBLIC
My Commission is for life,

Notary or Bar # _____

My commission expires: _____

(SEAL)



WITNESSES:

Jon Steinberg
Print: Jon Steinberg
Dawn Batiquin
Print: Dawn Batiquin

GRANTOR:

By: Jon L. Steinberg
JON L. STEINBERG
Date: March 22, 2013

INDIVIDUAL ACKNOWLEDGMENT

STATE OF LOUISIANA

PARISH OF St. Tammany

BEFORE ME, the undersigned authority, duly commissioned and qualified in and for said Parish and State aforesaid, on this 22nd day of March, 2013, before me personally appeared **Jon L. Steinberg**, to me known to be the person described in and who executed the foregoing instrument, and acknowledged that he executed it as his free act and deed.

Bonny Cadore
Print: Bonny Cadore
NOTARY PUBLIC
My Commission Expires with life

Bar/Notary # 050197
My commission expires: with life
(SEAL)

WITNESSES:

AF

Print: Andrea Frazee

Michael W. Barry

Print: Michael W. Barry

GRANTOR:

By: Laura Steinberg Thames
LAURA STEINBERG THAMES

Date: 3/26/13

INDIVIDUAL ACKNOWLEDGMENT

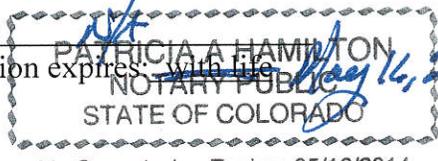
STATE OF COLORADO

COUNTY OF LAPLATA

BEFORE ME, the undersigned authority, duly commissioned and qualified in and for said County and State aforesaid, on this 26th day of MARCH, 2013, before me personally appeared **Laura Steinberg Thames**, to me known to be the person described in and who executed the foregoing instrument, and acknowledged that she executed it as her free act and deed.

Patricia A. Hamilton

Print: PATRICIA A. HAMILTON
NOTARY PUBLIC

Bar/Notary # 147
My commission expires with the May 16, 2014
(SEAL) 
My Commission Expires 05/16/2014

IN WITNESS WHEREOF, STATE has executed this Agreement in the presence of the undersigned witnesses on the date below:

WITNESSES:

L. Brummon
Print: *Lauren Paurian*
Joann D. Nichols
Print: *Joann D. Hicks*

COASTAL PROTECTION AND RESTORATION AUTHORITY

By: *[Signature]*
JEROME ZERINGUE
Title: Executive Director
Date: 8 April 2013

ACKNOWLEDGMENT

STATE OF LOUISIANA

PARISH OF EAST BATON ROUGE

BEFORE ME, the undersigned authority, duly commissioned and qualified in and for said Parish and State aforesaid, on this 8th day of April, 2013, personally came and appeared **Jerome Zeringue**, to me known, who declared that he is the **Executive Director**, of the **Coastal Protection and Restoration Authority, State of Louisiana**, that he executed the foregoing instrument on behalf of said State Agency and that the instrument was signed pursuant to the authority granted to him by said State Agency and that he acknowledged the instrument to be the free act and deed of said State Agency.



Clifton O. Bingham, Jr.
Print Name: Clifton O. Bingham, Jr.
NOTARY PUBLIC

Notary or Bar # _____
My commission expires: with life
(SEAL)

Exhibit A-1

Lost Lake Marsh Creation and Hydrologic Restoration (TE-72)

Terrebonne Parish, Louisiana

OWNER

TP LANDS, LLC, ET AL

Proposed Project Features

Marsh Creation

Pipeline Access Corridor

Sediment Delivery Pipeline

Vegetated Earthen Terraces

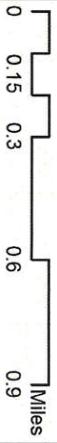
Earthen Plug (Replacement)

Reference Data

Township/Range

Sections

All features are graphical representations only, are subject to change, and may not reflect true location or dimension



Map Scale 1:28,000



Source: Coastal Protection and Restoration Authority of Louisiana Imagery: 2008 DOQQ Map Date: February 26, 2013

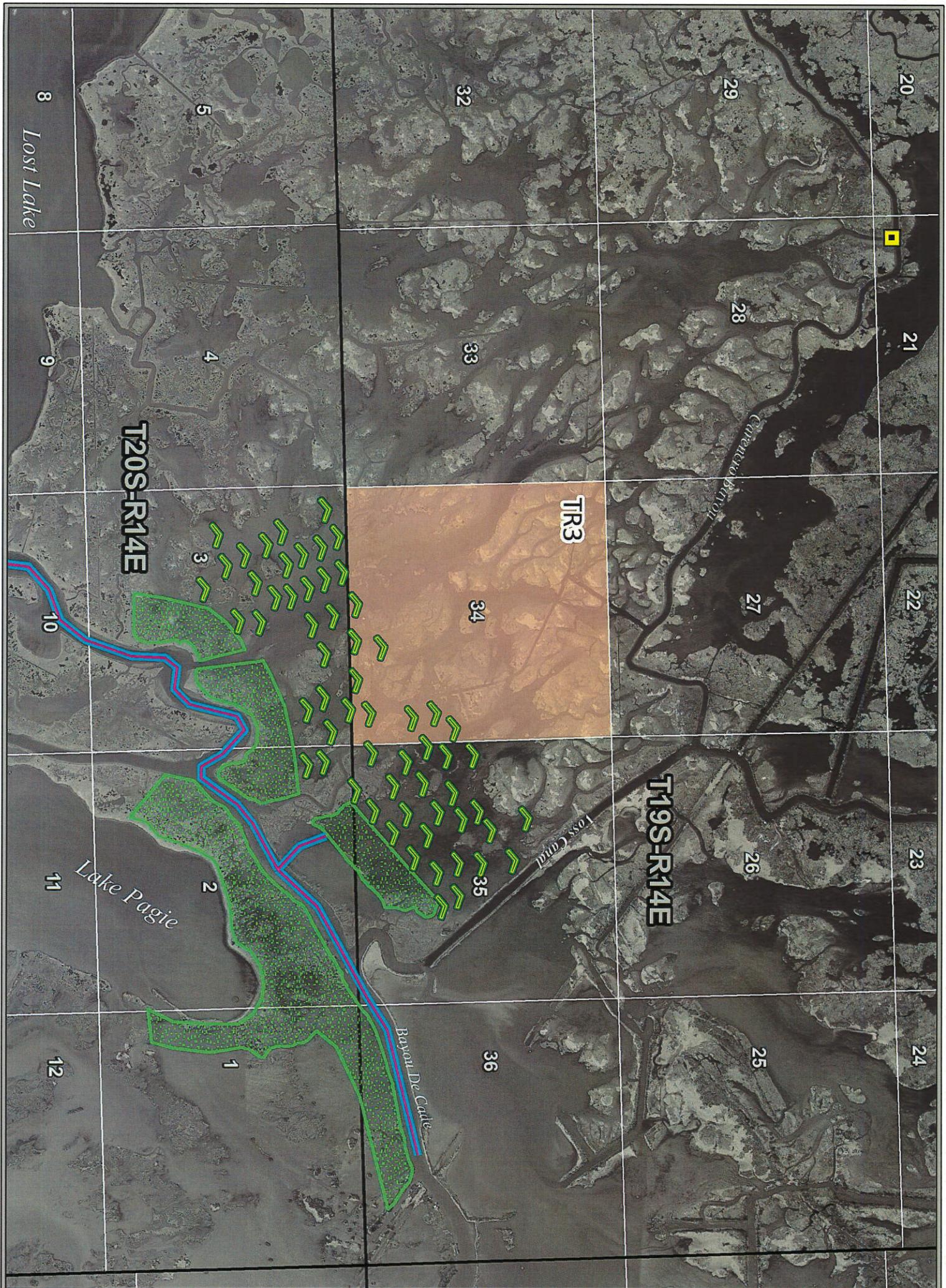


Exhibit B

Attached to and made a part of that certain Temporary Easement, Servitude, and Right-of-Way Agreement by and between The TP Lands, L.L.C. et al. and the Coastal Protection and Restoration Authority dated MARCH 19, 20 13.

The Agreement includes the right for the STATE to enter said Lands to perform the following activities for the purposes authorized by Federal (16 U.S.C. 3951, et seq.) and State (R.S. 49:214.1 – 214.6.10) law at the sites or locations identified and shown on the attached Exhibits A and A-1 and are part of the Lost Lake Marsh Creation and Hydrologic Restoration Project TE-72.

Project Features and Activities

- a. The right to construct (including the necessary excavation and/or filling) and vegetate earthen terraces as shown on Exhibit A-1;
- b. The right to plant or cause the growth of vegetation in, on, over and across said Lands, including the right to nourish, replenish and maintain said vegetation;
- c. The right to construct, locate, maintain and service required monitoring devices and equipment on said Lands and on other lands as may be owned by GRANTOR;
- d. The right to post warning signs or notices on or near appropriate Project features on said Lands, as may be deemed necessary by STATE;
- e. The right to alter or remove structures and/or appurtenances constructed on said Lands by STATE pursuant to the Project;
- f. The right to enter said Lands for the purpose(s) of conducting surveys, inspections and investigations required by STATE to evaluate the effectiveness of the Project and Project features, including maintaining/improving wetland and/or restored land quantity and quality;
- g. The right to enter and traverse said Lands to access Project features located on adjacent Lands;
- h. The right to make modifications to the above, but only insofar as changes pertain to materials for Project features and minor changes to project feature locations, as may be deemed necessary by STATE to fully and properly implement and maintain the Project;



State of Louisiana

BOBBY JINDAL
GOVERNOR

April 2, 2015

Mr. John Rouchell
TP Lands, LLC
1100 Poydras Street, Suite 3600
New Orleans, LA 70163-2200

Re: Temporary Easement, Servitude and Right-of-Way Agreement
TP Lands, LLC et al
Lost Lake Marsh Creation and Hydrologic Restoration Project TE-72
Terrebonne Parish, Louisiana

Dear Mr. Rouchell:

Enclosed for your records is a copy of a certified original of the captioned documents between TP Lands, LLC et al and the State of Louisiana for the above referenced project. A fully executed original of the document has been recorded by the Clerk of Court of Terrebonne Parish, Louisiana.

If I can be of further assistance, or if you have any questions, please do not hesitate to contact me at (225) 342-5260. Thank you for your continued cooperation in our coastal protection and restoration efforts.

Sincerely,

V. J. Marretta
CPRA Land Rights Division

VJM

Attachments

c(with attachments): Kevin Roy, USFWS Project Manager (sent via email)
Garvin Pittman, CPRA Contract Project Manager (sent via email)
James Altman, Land Manager (sent via email)

TE-72\TP Lands LLC et al servitude USFWS-LO-CPRA final transmittal dtd 4-02-15



State of Louisiana

BOBBY JINDAL
GOVERNOR

April 2, 2015

Mr. Jeffrey D. Weller, Supervisor
Louisiana Field Office
U.S. Fish and Wildlife Service
646 Cajundome Blvd., Suite 400
Lafayette, LA 70506

Re: Temporary Easement, Servitude and Right-of-Way Agreement
TP Lands, LLC et al
Lost Lake Marsh Creation and Hydrologic Restoration Project TE-72
Terrebonne Parish, Louisiana

Dear Mr. Weller:

Enclosed for your records is a copy of a certified original of the above referenced agreement between TP Lands, LLC et al and the State of Louisiana. A fully executed original has also been recorded by the Clerk of Court of Terrebonne Parish, Louisiana.

If I can be of any further assistance, please do not hesitate to contact me in the CPRA Land Rights Division at (225) 342-5260. Thank you for your continued cooperation in our coastal protection and restoration efforts.

Sincerely,

V. J. Marretta
CPRA Land Rights Division

VJM

Attachments

c(with attachments): Kevin Roy, USFWS Project Manager (sent via email)
Garvin Pittman, CPRA Contract Project Manager (sent via email)
James Altman, Land Manager (sent via email)

TE-72\TP Lands LLC et al servitude USFWS-LO-CPRA final transmittal dtd 4-02-15



State of Louisiana

BOBBY JINDAL
GOVERNOR

April 2, 2015

Mr. Jon L. Steinberg
P. O. Box 8873
Mandeville, LA 70470

Re: Temporary Easement, Servitude and Right-of-Way Agreement
TP Lands, LLC et al
Lost Lake Marsh Creation and Hydrologic Restoration Project TE-72
Terrebonne Parish, Louisiana

Dear Mr. Steinberg:

Enclosed for your records is a copy of a certified original of the captioned documents between TP Lands, LLC et al and the State of Louisiana for the above referenced project. A fully executed original of the document has been recorded by the Clerk of Court of Terrebonne Parish, Louisiana.

If I can be of further assistance, or if you have any questions, please do not hesitate to contact me at (225) 342-5260. Thank you for your continued cooperation in our coastal protection and restoration efforts.

Sincerely,

V. J. Marretta
CPRA Land Rights Division

VJM

Attachments

c(with attachments): Kevin Roy, USFWS Project Manager (sent via email)
Garvin Pittman, CPRA Contract Project Manager (sent via email)
James Altman, Land Manager (sent via email)

TE-72\TP Lands LLC et al servitude USFWS-LO-CPRA final transmittal dtd 4-02-15

Terrebonne Parish Recording Page

Theresa A. Robichaux
Clerk Of Court
P.O. Box 1569
Houma, La 70361-1569
(985) 868-5660

Received From :

INDEPENDENT LAND SERVICES LLC
P.O. BOX 53642
LAFAYETTE, LA 70505

First VENDOR

LOUISIANA STATE LAND OFFICE

First VENDEE

COASTAL PROTECTION & RESTORATION AUTHORITY

Index Type : Conveyances

File # : 1475110

Type of Document : Row - Servitude - Easement

Book : 2415 **Page :** 1

Recording Pages : 6

Recorded Information

I hereby certify that the attached document was filed for registry and recorded in the Clerk of Court's office for Terrebonne Parish, Louisiana


Clerk of Court

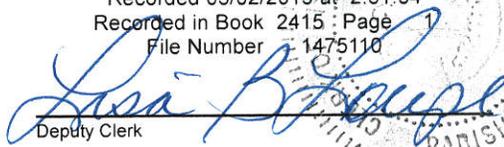
On (Recorded Date) : 03/02/2015

At (Recorded Time) : 2:51:34PM



Doc ID - 013074610006

CLERK OF COURT
THERESA A. ROBICHAUX
Parish of Terrebonne
I certify that this is a true copy of the attached
document that was filed for registry and
Recorded 03/02/2015 at 2:51:34
Recorded in Book 2415 : Page 1
File Number : 1475110


Deputy Clerk



Return To :

INDEPENDENT LAND SERVICES LLC
P.O. BOX 53642
LAFAYETTE, LA 70505

STATE OF LOUISIANA
DIVISION OF ADMINISTRATION
STATE LAND OFFICE

**GRANT OF PARTICULAR USE and RIGHT OF ENTRY
FOR CONSTRUCTION OF THE LOST LAKE MARSH CREATION AND
HYDROLOGIC RESTORATION PROJECT TE-72
TERREBONNE PARISH, LOUISIANA**

STATE OF LOUISIANA §

PARISH OF TERREBONNE §

THE STATE OF LOUISIANA, acting through the State Land Office, Division of Administration (the "Owner"), hereby grants to The COASTAL PROTECTION AND RESTORATION AUTHORITY ("CPRA"), as authorized and directed by the policy of the Coastal Protection and Restoration Authority Board, herein represented by and appearing through the Executive Director of CPRA, Jerome Zeringue, for the construction of the **Lost Lake Marsh Creation and Hydrologic Restoration Project TE-72** (The "Project"); (the "Grantee") a Grant of Particular Use/Right and Authorization for Entry of the below-described State-owned seashore, State lands and State water bottoms, to the extent of any interest therein owned, claimed, or subject to claim by the State of Louisiana, upon the following terms and conditions:

1. The Owner hereby grants to Grantee an irrevocable right to enter and use the State-owned seashore, State lands and State water bottoms whether owned or claimed, within the described areas on the attached Exhibit A, for the purpose of marsh creation and hydrologic restoration.
2. This Grant of Particular Use is solely for the purposes of entry, construction (including, but not limited to, mining, conveyance and containment of dredge material), access, and survey work for the "Project", and more particularly described in Exhibit A, attached hereto, including all appurtenances thereto and the underground appurtenances; reserving, however, to the Owner, its successors, and assigns all such rights and privileges as may be used without interfering with or abridging the rights herein granted; subject, however, to existing easements for public utilities, and pipelines.
3. This Grant of Particular Use includes the right of ingress and egress on other State-owned seashore, State lands and State water bottoms not described herein, provided such ingress and egress is necessary and not otherwise conveniently available to the Grantee, and provided that the Grantee give sufficient notice to the Owner of the need for such ingress and egress.
4. All tools, equipment, and other property (excluding project features) taken upon or placed upon the State-owned seashore, State lands and State water bottoms by the Grantee or its contractor(s) shall remain the property of the Grantee or its contractor(s). All such tools, equipment, and other property shall be removed by the Grantee or its contractor(s) within sixty days of completion of the work.
5. The Grantee agrees to act in a reasonable manner in conducting its activities on the property covered by this Grant of Particular Use.
6. This Grant of Particular Use applies to officers and employees of the Grantee, and to its agents, representatives, and private contractors. This Grant of Particular Use obviates the necessity for the Grantee and/or its contractors, employees and assigns to acquire any other permits from the State Land Office in order to proceed with the work described herein. The Grantee agrees to include the following paragraph to alert contractors that they must contact the State Land Office:

**Grant of Particular Use and Right of Entry for Construction
Lost Lake Marsh Creation and Hydrologic Restoration Project (TE-72)**

Pursuant to the Permits and Responsibilities clause, you are required to contact the Administrator of the State Land Office or his representative at (225) 342-4575, to notify the Office when construction will commence on the State-owned seashore, State lands and/or State water bottoms.

7. The State of Louisiana may own or claim and specifically reserves the right to claim any of the seashore, land and water bottoms shown on Exhibit A.

The land and water bottoms affected by this grant of particular use are further shown on Exhibit A.

8. The State-owned seashore, State land and State water bottom usage affected by this Grant of Particular Use is as follows:

- A. The right to access, construct, and survey the Project named in Paragraph One (1) of this Grant of Particular Use.
- B. The right to post signs or notices on or near appropriate project features on the State-owned seashore, State lands and State water bottoms, as may be necessary for reasons of public safety or identification.
- C. The right to alter or remove structures and/or appurtenances constructed on the State-owned seashore, State lands and State water bottoms pursuant to the Project named in Paragraph One (1) of this Grant of Particular Use.
- D. The right to patrol and police the State-owned seashore, State lands and State water bottoms during the period of this Grant of Particular Use.

9. The following restrictions apply:

- A. Grantee agrees to act in a reasonable manner in conducting its activities on the property covered by this Grant of Particular Use.
- B. To the extent required by and pursuant to La. R.S. 49:214.6.10, the State of Louisiana shall be held free and harmless from claims, for loss or damages to rights, arising as a consequence of this authorization from any diversions of freshwater or sediment, depositing of dredged or other materials, integrated coastal protection, or any other actions, taken for the purpose of management, preservation, enhancement, creation, protection, or restoration of coastal wetlands, water bottoms, or related renewable resources. This provision does not impose an indemnification obligation upon Grantee or its contractors.
- C. Grantee shall include the language of the above two paragraphs, which are labeled "A" and "B", in any transfer or assignment of the right to use granted herein, and shall require the transferee or assignee to include and require said language in any subsequent transfer or assignment. Failure to do so shall not negate the protection provided the State of Louisiana and Grantee and all these entities' agents and employees in La. R.S. 49:214.6.10.
- D. The restrictions in paragraphs A, B, and C above are not intended to contravene Louisiana law.

**Grant of Particular Use and Right of Entry for Construction
Lost Lake Marsh Creation and Hydrologic Restoration Project (TE-72)**

10. In the event of non-compliance with any of the above stipulations, the Owner shall notify the Grantee of any such non-compliance by certified mail directed to: Executive Director, Coastal Protection and Restoration Authority, 450 Laurel Street, Suite 1501, Baton Rouge, LA 70801. Thereafter, the Grantee shall have one hundred twenty (120) days from receipt of the certified mailing to achieve compliance. Should the Grantee fail to achieve compliance within those one hundred twenty days, this Grant of Particular Use shall become null and void.
11. This Grant of Particular Use may be transferred or assigned to the agents, employees, and contractors of Grantee for the same purposes and upon the same terms as with respect to the Grantee.
12. Nothing herein shall constitute a waiver of any interests, claims, rights, actions, remedies, or privileges otherwise available to Owner or Grantee.
13. Exercise of the rights of entry conveyed herein in any manner by Grantee and/or its agents, employees, and contractors constitutes acceptance of the rights granted by this Authorization and any and all terms, restrictions, and conditions set forth herein.

IN WITNESS WHEREOF, OWNER has executed this agreement in the presence of the undersigned notary and competent witnesses on this 19th day of April, 2013.

WITNESSES:

STATE OF LOUISIANA

Sina Raiford (sign)
Tina Raiford

_____ (print)

T. Raper (sign)

Tim Raper (print)

By: John Lavin
JOHN LAVIN
Public Lands Administrator
State Land Office
Division of Administration

Susan Louise Dunham
Notary Public

SUSAN LOUISE DUNHAM (print)

Bar Roll/Notary ID No. 20794/33892

Grant of Particular Use and Right of Entry for Construction
Lost Lake Marsh Creation and Hydrologic Restoration Project (TE-72)

THUS DONE, PASSED, AND SIGNED on this 12th day of April, 2013,
before the below-named notary and competent witnesses.

WITNESSES:

L. Pourciau (sign)
Lauren Pourciau (print)

Shirley T. Long (sign)
SHIRLEY T. LONG (print)

COASTAL PROTECTION AND
RESTORATION AUTHORITY

By: *Jerome Zeringue*
Jerome Zeringue
Executive Director

Clifton O. Bingham, Jr.
Notary Public
_____ (print)



OFFICIAL SEAL
Clifton O. Bingham, Jr.
BAR ROLL # 03052
STATE OF LOUISIANA
My Commission is for Life

Bar Roll/Notary ID No. LA 03052

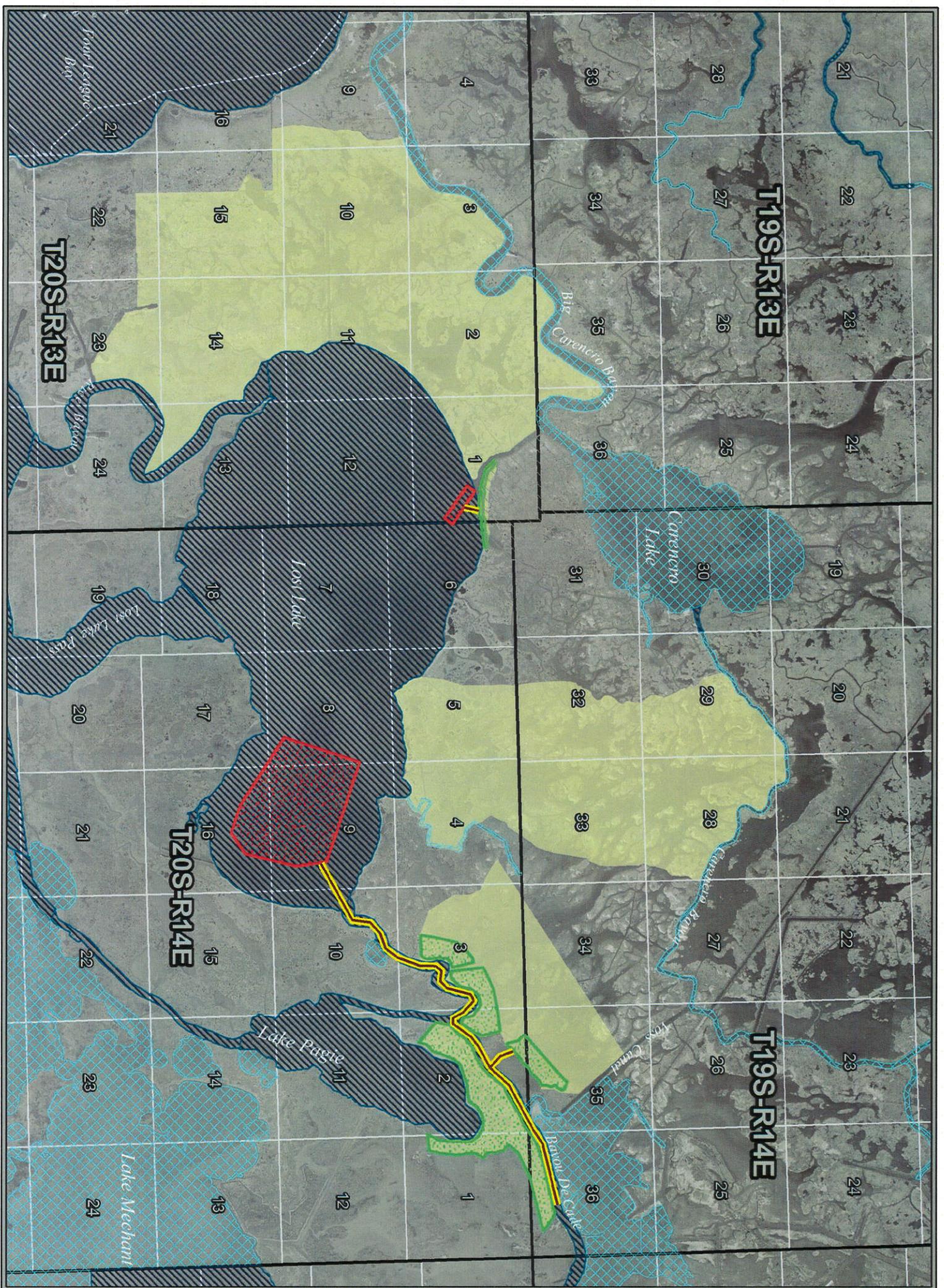
Exhibit A

Lost Lake Marsh Creation and Hydrologic Restoration (TE-72)

Terrebonne Parish, Louisiana

	Owner Dual Claimed Water Bottoms
	State Claimed Water Bottoms
	TE-72 Project TE-72 Benefit Areas
	Proposed Project Features Marsh Creation
	Borrow Site
	Pipeline Access Corridor - Sediment Delivery Pipeline
	Reference Data Township/Range
	Sections

All features are graphical representations only, are subject to change, and may not reflect true location or dimension



Source:
Coastal Protection and Restoration
Authority of Louisiana
Imagery: 2008 DOCC
Map Date: February 26, 2013



State of Louisiana

BOBBY JINDAL
GOVERNOR

April 3, 2013

NOTICE OF CONSTRUCTION

Mr. James A Whitson, Jr.
7660 Woodway, Suite 312
Houston, TX 77063

RE: Crossing and Work over James A. Whitson, Jr. Pipeline
Lost Lake Marsh Creation and Hydrologic Restoration Project (TE-72)
Terrebonne Parish, Louisiana

Dear Mr. Whitson:

The State of Louisiana, through its Coastal Protection and Restoration Authority (CPRA) intends to construct, maintain and monitor the above-referenced TE-72 project (Project). Construction is scheduled for Fall of 2013. A map labeled Exhibit A and a Preliminary Project Description Summary (Exhibit B) are attached hereto, and made a part hereof, for your reference regarding the details of the Project. The Project will include a pipeline which will be used to convey dredged material from Lost Lake through Bayou De Cade into areas designated on Exhibit A. Portions of the dredge pipeline may be buried to allow for navigation. Temporary earthen containment will also be constructed to protect the marsh creation areas. The Project will create approximately 468 acres of marsh and benefit 7,312 acres of marsh and open water habitat. Additionally, earthen terraces will be constructed to reduce fetch in area(s) of deteriorated marsh. Vegetation will be planted on the newly created earthen terraces. The objective of the Project is to reduce erosion rates and improve the overall hydrology of the area.

You are hereby given notice that you have an interest, through a certain State Pipeline Right-of-Way Grant Numbered 4905 (Grant), in a portion the Project area which is subject to the terms and conditions of said Grant, including, but not limited to, the construction of public works projects. A copy of the Grant is attached, for your reference. This may make it necessary for you to alter or relocate your pipeline and/or flowlines (lines) at your own sole cost.

Advance Notification of Construction:

In addition to this advance notification of construction, the CPRA, its contractor(s) and/or assigns will provide further notification a minimum of 24 hours before construction work begins within your immediate pipeline area.

Contact Information:

If you would like more information about this Project, please contact the following CPRA representatives:

Mr. Andrew Beall, CPRA Project Manager at (225) 342-1952, e-mail: Andrew.Beall@LA.GOV or,
Mr. Travis Byland, CPRA Project Engineer at (225) 342-9419, e-mail: Travis.Byland@LA.GOV.

The mailing address for the above CPRA contacts is: P. O. Box 44027, Baton Rouge, Louisiana 70804; The physical address is: 450 Laurel Street, 12th Floor, Baton Rouge, Louisiana 70801.

The CPRA's Contractor will make every effort to conduct the work over your pipeline in such a manner to protect against any impacts to said pipeline to the greatest extent possible. Your cooperation and understanding during the CPRA's construction, maintenance and monitoring operations is greatly appreciated. You may also contact me at (225) 342-1934 or V. J. Marretta at (225) 342-5260 in the CPRA Real Estate / Land Rights Division, if you have any questions regarding this notice. Thank you for your cooperation and support regarding the State's coastal protection and restoration efforts.

Sincerely,



James L. Altman, CPL
CPRA Land Manager

Attachments

c(w/Attachments/sent via email): Andrew Beall, CPRA TE-72 Project Manager
Travis Byland, CPRA TE-72 Project Engineer
V. J. Marretta, CPRA Land Rights Specialist
TE-72 Project File

Exhibit A

James A Whitson, Jr. Pipeline Map

Lost Lake Marsh Creation and Hydrologic Restoration (TE-72)

Terrebonne Parish, Louisiana

Pipelines

- James A Whitson, Jr Pipeline (Abandoned)

TE-72 Project

- TE-72 Benefit Areas

Proposed Project Features

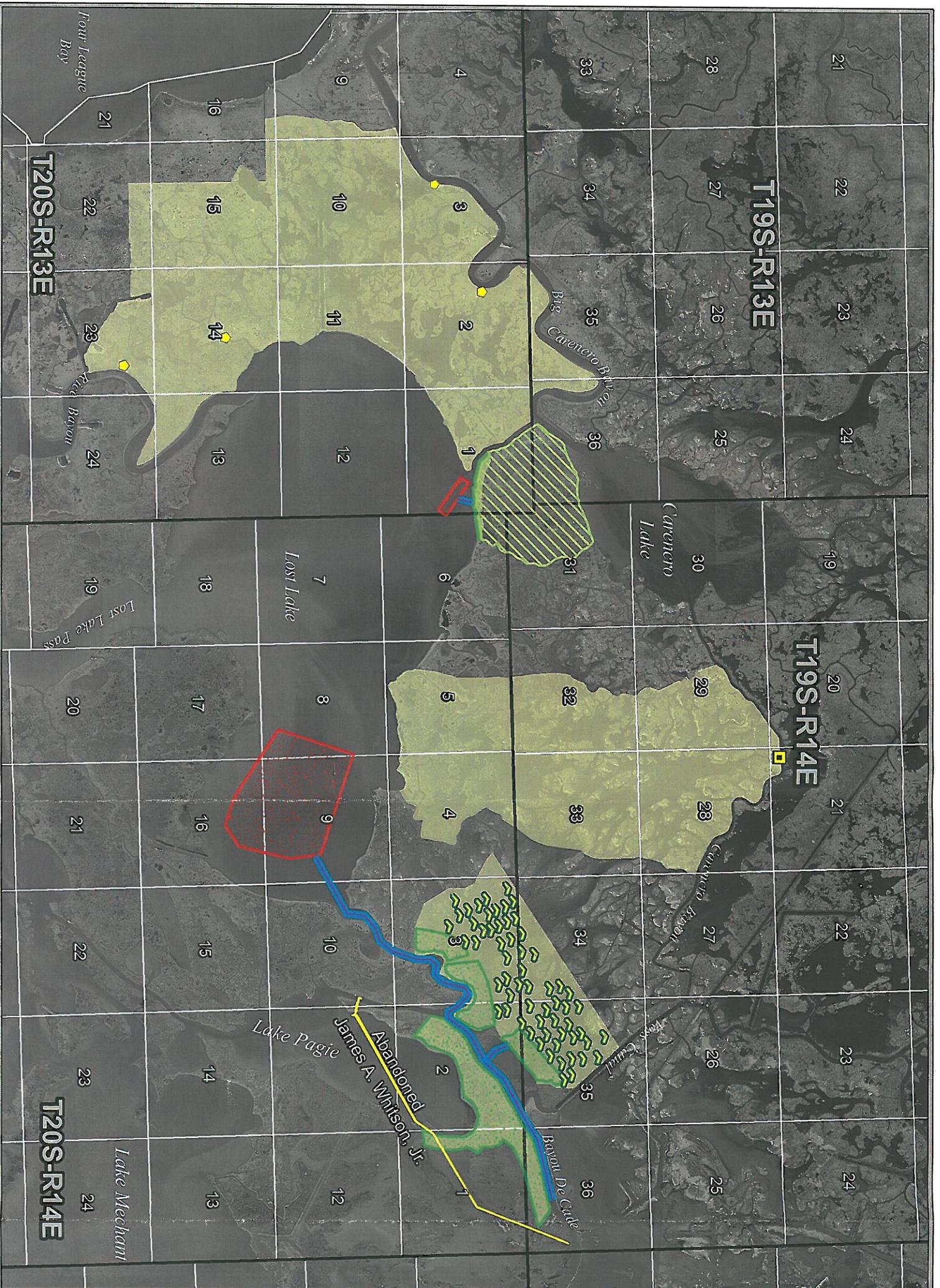
- Marsh Nourishment
- Marsh Creation
- Borrow Site
- Earthen Plug (Replacement)
- Water Control Structure (Replacement)
- Pipeline Access Corridor-Sediment Delivery Pipeline

Vegetated Earthen Terraces

Reference Data

- Township/Range
- Sections

All features are graphical representations only, are subject to change, and may not reflect true location or dimension



Source: Coastal Protection and Restoration Authority of Louisiana
Imagery: 2008 DOQQ
Map Date: April 3, 2013

EXHIBIT B

Lost Lake Marsh Creation and Hydrologic Restoration Project (TE-72)

Preliminary Project Description Summary

Federal Sponsor: U. S. Fish and Wildlife Service (USFWS)

Non-Federal Sponsor: State of Louisiana, Coastal Protection and Restoration Authority

Coast 2050 Strategy: Regional Strategy – Dedicated delivery of sediment for marsh building.
Regional Strategy – Increase transfer of Atchafalaya River water to lower Penchant tidal marshes.

Project Location: Region 3, Terrebonne Basin, Terrebonne Parish, near the vicinity of Lost Lake

Problem: Significant marsh loss has occurred between Lake Pagie and Bayou De Cade to the point that little structural framework remains separating those two waterbodies. Northeast of Lost Lake, interior marsh breakup has resulted in large, interior ponds where wind/wave energy continues to result in marsh loss. West of Lost Lake, interior breakup has occurred as a result of ponding and the periodic entrapment of higher salinity waters during storm events.

Goals: Project goals include 1) restore an important feature of structural framework between Lake Pagie and Bayou De Cade to prevent the coalescence of those two water bodies, 2) increase the delivery of fresh water, sediments, and nutrients into marshes north and west of Lost Lake, 3) reduce fetch in open water areas via construction of a terrace field, and, 4) Improve the overall hydrology of the area. Specific goals include creating approximately 468 acres of marsh, increasing the delivery of fresh water into project area marshes by replacing four (4) fixed-crest weirs and one plug with variable-crest structures, and creating approximately 18 acres of marsh via the construction of 30,000 feet of terraces.

Proposed Solution: Approximately 468 acres of marsh will be created between Lake Pagie and Bayou De Cade, north of Bayou De Cade, and along the northwestern Lost Lake shoreline. In addition, 30,000 linear feet (18 acres) of terraces will be constructed to reduce fetch in an area of deteriorated marsh. Terraces will be planted with two rows along the crown and two rows on each side slope. Four fixed-crest weirs and one plug will be replaced with variable-crest structures to increase freshwater flow into surrounding marshes.

Project Benefits: The project would benefit 7,312 acres of marsh and open water habitats. A total of 452 net acres of marsh would be protected/created over the project's life.

Project Cost: The total fully-funded cost for the project is \$ 34,626,728.

Project Status: Engineering and Design is complete with Phase II (construction) funding authorized January, 2013. Construction advertisement is anticipated for August, 2013.

Terrebonne Parish Recording Page

I. Robert "Bobby" Boudreaux
Clerk Of Court
P.O. Box 1569
Houma, La 70361-1569
(985) 868-5660

Received From :
JAMES A WHITSON JR
7660 WOODWAY, STE 312
HOUSTON, TX 77063

First VENDOR
LOUISIANA STATE LAND OFFICE

First VENDEE
WHITSON, JAMES A JR

Index Type : Conveyances

File # : 1281994

Type of Document : Row - Servitude - Easement

Book : 2064 Page : 404

Recording Pages : 6

Recorded Information

I hereby certify that the attached document was filed for registry and recorded in the Clerk of Court's office for Terrebonne Parish, Louisiana

I. Robert Boudreaux
Clerk of Court

On (Recorded Date) : 11/14/2007

At (Recorded Time) : 11:34:56:000 AM



Doc ID - 010183730006

Return To :
JAMES A WHITSON JR
7660 WOODWAY, STE 312
HOUSTON, TX 77063

7, 404

Do not Detach this Recording Page from Original Document

STATE OF LOUISIANA

PIPELINE RIGHT-OF-WAY GRANT

STATE OF LOUISIANA

STATE ROW NO. 4905

KNOW ALL MEN BY THESE PRESENTS: That pursuant to R.S. 41:1173, 36:1, 36:4, 39:8, 39:11(c) and 41:1 the State of Louisiana, appearing herein by and through the Administrator of the State Land Office (hereinafter called Grantor), for and in consideration of the sum of nine thousand one hundred seventy five & no/100s (\$9,175.00) DOLLARS and other valuable considerations as may be provided elsewhere herein or in exhibit attached and made part hereof does grant unto James A. Whitson, Jr. (hereinafter called Grantee), the right, privilege and authority to lay, construct, maintain, operate, alter, repair, replace and remove a pipeline (with underground fittings, tie-overs and appliances, including Catholic Protection Equipment) for the transportation of gas (product) in intrastate interstate commerce under, upon, over and through the following described land, situated in the Parish of Terrebonne, State of Louisiana,

- to wit: 1. Starting coordinates x=2,103,918 and y=246,278 (NAD 27) and ending coordinates x=2,104,068 and y=246,139 on SL 17991. 2. Starting coordinates x=2,104,485 and y=246,035 and ending coordinates x=2,104,610 and y=245,924 on SL 17991. 3. Starting coordinates x=2,104,610 and y=245,924 and ending coordinates x=2,109,275 and y=248,774 on SL 17991. The total ROW on SL 17991 is 367.00 rods.

The rights and privileges herein granted shall include the right to replace the said pipeline by one of a similar or smaller class as set forth in current Rules and Regulations of the Division of Administration and shall be exercised over a course up to but not in excess of 50 feet in width during construction to revert to 25 feet after construction. The route of the proposed pipeline is shown on plat identified as James A. Whitson, Jr. Proposed PL ROW across the property of SL 17991 which is attached hereto and made a part hereof.

In the exercise of its rights under this grant, Grantee shall have the right, in the construction, operation and maintenance of the pipeline to dig underwater trenches in or on said premises as Grantee may deem necessary or convenient, and to lay its line in the beds of such trenches. TO HAVE AND TO HOLD the said right, privileges and authority, unto said Grantee, are granted without warranty and without recourse even for the return of the aforementioned consideration for this grant, until such pipeline is constructed and so long thereafter as a pipeline is maintained thereon.

It is understood and agreed that this right-of-way is for a term of twenty (20) years from 1-28-26 to 1-28-46 with the option to renew for additional twenty (20) year term. The option to renew shall be on the same terms and conditions as the original agreement except that the consideration shall be adjusted to reflect the percentage of increase or decrease in the cost of living index as established by the Consumer Price Index for Urban Wage Earners and Clerical Workers published by the Bureau of Labor Statistics of the United States Department of Labor or any revision or equivalent of any such index published by the United States Government, which has occurred from date of this instrument to the date of renewal provided however that in no event shall consideration of such renewal be less than the consideration paid herein for the original term, and it is further understood and agreed that non-use thereof for a continuous period of two (2) years shall operate as a forfeiture by the Grantee of this grant and consideration and that all rights hereunder shall be thereupon terminated except when existing causes of force majeure actually prevent the use of the right-of-way and satisfactory evidence thereof is submitted to the Grantor. In the event of such forfeiture, the Grantee shall have the right to remove the pipeline, together with fittings, tie-overs, appliances and equipment from the right-of-way within a period of one (1) year from the date of forfeiture, provided that Grantee restores such area of the grant disturbed by the removal as near as practical to its natural state. There shall be no above-ground facilities except those designated and set out on the attached plat(s).

The Grantor reserves the right to fully use and enjoy the said premises subject to the rights herein granted. If operations for construction are not commenced within two (2) years of the date of the execution of this agreement by the Grantor, then, all rights of the Grantee thereunder shall terminate and the consideration shall be forfeited to Grantor.

All terms and expressed or implied covenants of this grant shall be subject to all Federal and State Laws. Grantee agrees that due care shall be exercised in the construction operation and removal of the pipeline and its appurtenances and that Grantee shall be fully and solely responsible for and shall defend, protect, indemnify and hold the State of Louisiana and its agencies, boards and commissions free and harmless from and against any and all claims for damages and all costs and expenses arising out of or incidental to Grantee's exercise of the rights herein granted.

The granting of this right-of-way shall not be a bar or defense to the right of the State of Louisiana and its agencies, boards and commissions to take any and all action necessary to seek abatement of construction or operations that unreasonably or unlawfully interfere with or disturb the existing ecological regimen, including but not limited to the fishing, hunting, trapping and oyster industries, and to take action for any and all damage to the existing ecological regimen which does not result from a reasonable exercise of the rights herein granted.

Nothing herein contained shall be construed as to prohibit or preclude the Grantor herein from granting to other persons, associations or corporations the right to cross over or under the right-of-way herein granted, provided that if such crossing should necessitate, the alteration or relocation of the pipeline of the Grantee herein, all cost thereof shall be at the expense of such subsequent Grantee, subject to the following:

The parties hereto recognize that it might hereafter become necessary or desirable to widen, deepen or make some other work of public improvement on land or on the streams or water bottoms within the right-of-way herein granted, and this grant is accepted under the express condition and with the distinct understanding that, if any such work by the United States, the State of Louisiana, or any agency, board, commission, department or political subdivision of either, makes it necessary to alter or relocate said pipeline, the entire cost of such alteration or relocation shall be borne by the Grantee, this responsibility on the part of the Grantee being part of the consideration for which this grant is made. This provision, however, shall not prejudice the Grantee's right to receive indemnification and/or relocation costs, from the United States, the State of Louisiana or any agency, board, commission, department or political subdivision of either when there is an appropriation for payment of such costs.

It is agreed that Grantee shall not assign the rights granted hereunder without the written consent of Grantor and due payment of assignment fees, but this prohibition shall not be applicable to any mortgage, deed of trust, pledge or other security contract which may be executed by Grantee, and the consent of the Grantor to the execution of such agreements shall not be required.

Grantee agrees to construct and maintain said pipeline and its appurtenances in accordance with Parts 191, 192 and/or 195 of Title 49 of the Code of Federal Regulations, as amended, which sets forth minimum design, construction and maintenance standards for safety of pipelines. Grantee further agrees to comply with all other Federal and State Laws not in conflict which apply to pipeline design, construction, maintenance and operation.

It is further agreed that after the completion of the construction of the pipeline, Grantee shall file in the office of the Grantor a plat showing the actual location of the pipeline on the above described lands. The provisions of this agreement shall extend to and be binding upon the successors and assigns of Grantee, regardless of the appointment of a receiver, adjudication in bankruptcy, reorganization, voluntary or otherwise, or the suspension, failure or insolvency of Grantee, or any successor or assignee thereof.

Failure of Grantor to strictly or promptly enforce the rights and obligations herein shall not operate as a waiver thereof.

0 405

IN WITNESS WHEREOF, the STATE OF LOUISIANA has executed this right-of-way grant on this 23rd day of Aug 2007.

WITNESSES to the signature of the Administrator of the State Land Office:

Sonya Boudreaux
Printed Name: Sonya Boudreaux

Charles R. St. Romain
ADMINISTRATOR, STATE LAND OFFICE
Printed Name: Charles R. St. Romain

Synthia Marcelin
Printed Name: SYNTHIA MARCELIN

ACKNOWLEDGMENT FOR THE ADMINISTRATOR OF THE STATE LAND OFFICE

STATE OF LOUISIANA
PARISH OF EAST BATON ROUGE

BEFORE ME, the undersigned authority, personally came and appeared Sonya Boudreaux, who by me being first duly sworn, deposed and said:

That she is one of the witnesses to the execution of the foregoing instrument and that she saw Charles R. St. Romain sign said instrument as Administrator of the State Land Office for the State of Louisiana, in the presence of appearer and the other subscribing witness.

Sworn to and subscribed before me on this the

27th day of August 2007.

HILARY TAYLOR LeBLANC
Notary No.: 26612
Parish of East Baton Rouge, State of LA
My Commission Is Issued For Life

Sonya Boudreaux
Signature of Witness
Printed Name: Sonya Boudreaux

A. LeBlanc
Notary Public

IN WITNESS WHEREOF, GRANTEE has executed this right-of-way on this, the 16th day of August, 2007

WITNESSES:

Anna Jauregui
Printed Name: Anna Jauregui

James A. Whitson Jr.
TITLE: OWNER
Printed Name: James A. Whitson Jr.

Martin D. Belasco
Printed Name: MARTIN D. BELASCO

ACKNOWLEDGMENT FOR CORPORATE GRANTEE

STATE OF Texas
County OF Harris

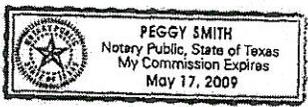
BEFORE ME, the undersigned authority, personally came and appeared Anna Jauregui, who by me being first duly sworn, deposed and said:

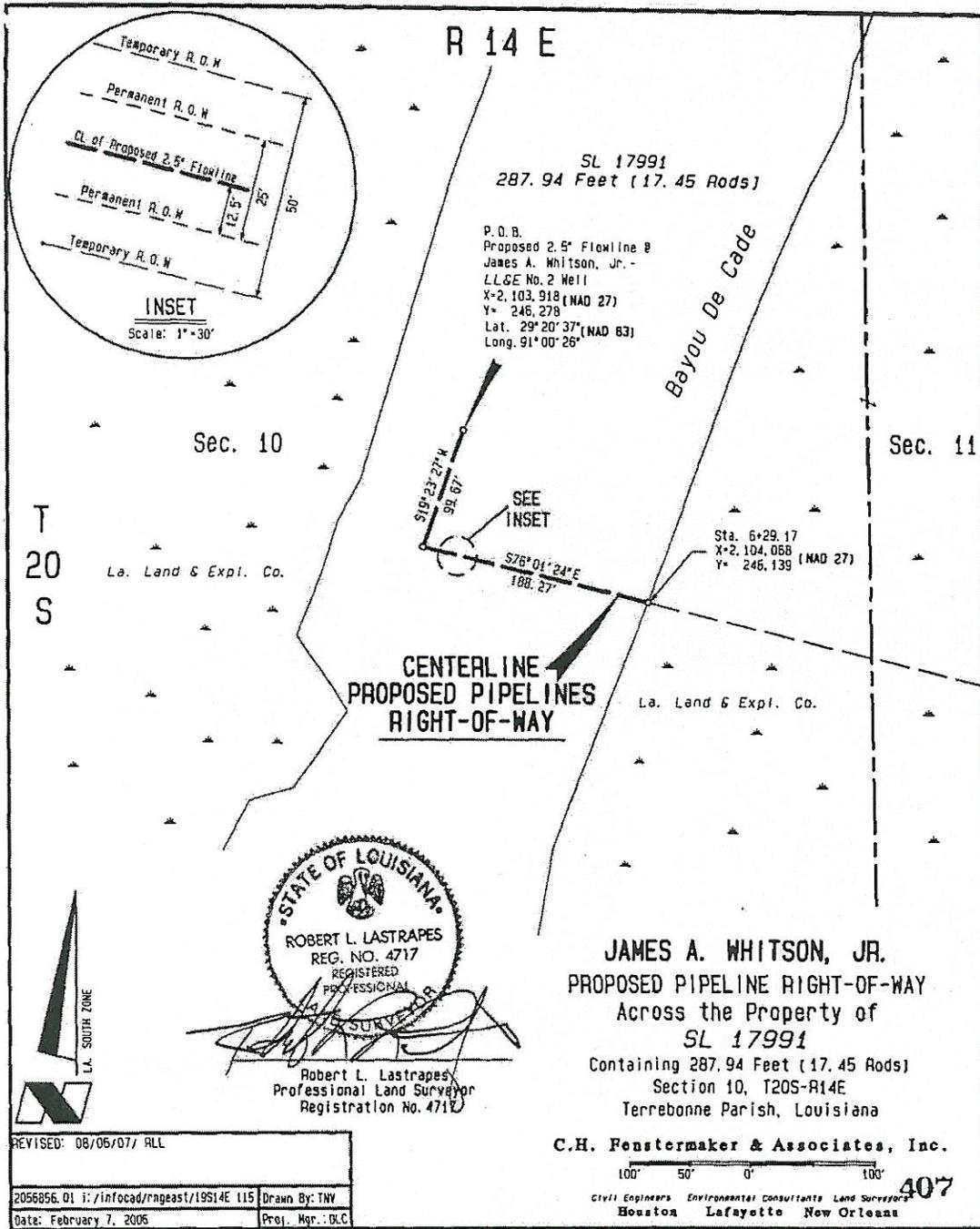
That ~~he~~she is one of the witnesses to the execution of the foregoing instrument and that ~~he~~she saw James A. Whitson Jr. execute said instrument as Principal of James A. Whitson Jr. as the free act and deed of said corporation in the presence of appearer and the other subscribing witness.

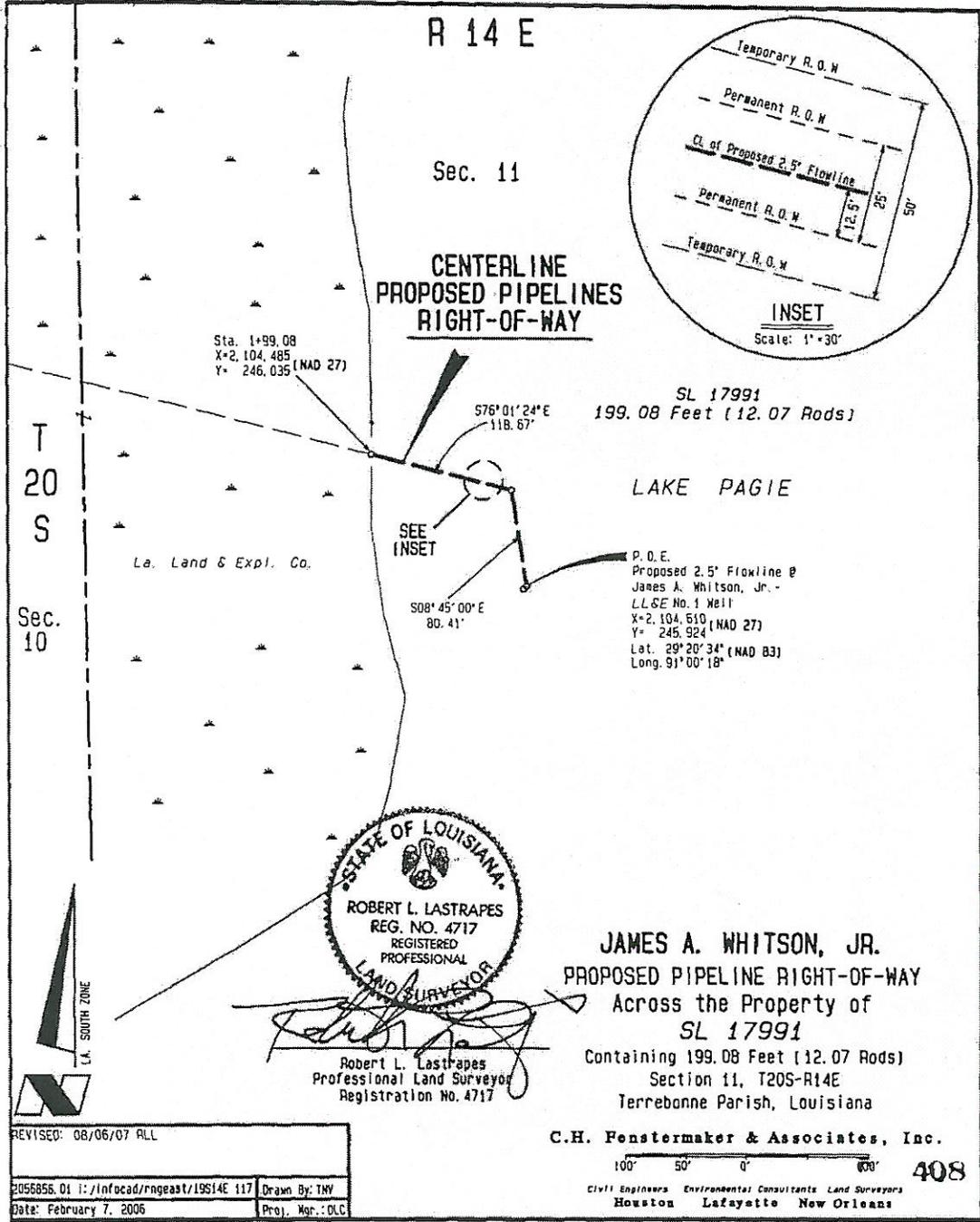
Sworn to and subscribed before me on this the 16th day of August 2007.

Anna Jauregui
Signature of Witness
Printed Name: Anna Jauregui

Peggy Smith
Notary Public









State of Louisiana

BOBBY JINDAL
GOVERNOR

April 15, 2013

NOTICE OF CONSTRUCTION

Mr. Kevin Arceneaux, Maintenance Supervisor
Shell Pipeline Company, LP
1617 Coteau Road
Houma, LA 70369

RE: Crossing and Work over Shell Pipeline Company Pipelines
Lost Lake Marsh Creation and Hydrologic Restoration Project (TE-72)
Terrebonne Parish, Louisiana

Dear Mr. Arceneaux:

The State of Louisiana, through its Coastal Protection and Restoration Authority (CPRA) intends to construct, maintain and monitor the above-referenced TE-72 project (Project). Construction is scheduled for Fall of 2013. A map labeled Exhibit A and a Preliminary Project Description Summary (Exhibit B) are attached hereto, and made a part hereof, for your reference regarding the details of the Project. The Project will include a pipeline which will be used to convey dredged material from Lost Lake through Bayou De Cade into areas designated on Exhibit A. Portions of the dredge pipeline may be buried to allow for navigation. Temporary earthen containment will also be constructed to protect the marsh creation areas. The Project will create approximately 468 acres of marsh and benefit 7,312 acres of marsh and open water habitat. Additionally, earthen terraces will be constructed to reduce fetch in area(s) of deteriorated marsh. Vegetation will be planted on the newly created earthen terraces. The objective of the Project is to reduce erosion rates and improve the overall hydrology of the area.

Shell Pipeline Company, LP (Shell) is hereby given notice that it has interests in certain State Pipeline Right(s)-of-Way Grants (Grants) in the Project area which are subject to the terms and conditions of said Grants, including, but not limited to the construction of public works projects. This may make it necessary for Shell to alter or relocate pipelines and/or flowlines (lines) at the sole cost of Shell.

Advance Notification of Construction:

In addition to this advance notification of construction, the CPRA, its contractor(s) and/or assigns will provide further notification a minimum of 24 hours before construction work begins within Shell's immediate pipeline area(s).

Contact Information:

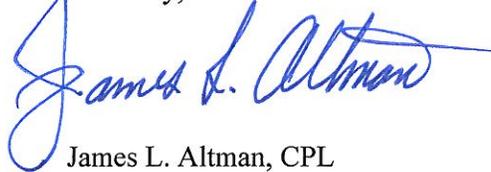
If you would like more information about this Project, please contact the following CPRA representatives:

**Mr. Andrew Beall, CPRA Project Manager at (225) 342-1952, e-mail: Andrew.Beall@LA.GOV or,
Mr. Travis Byland, CPRA Project Engineer at (225) 342-9419, e-mail: Travis.Byland@LA.GOV.**

The mailing address for the above CPRA contacts is: P. O. Box 44027, Baton Rouge, Louisiana 70804; The physical address is: 450 Laurel Street, 12th Floor, Baton Rouge, Louisiana 70801.

The CPRA's Contractor will make every effort to conduct the work over Shell's pipelines in such a manner to protect against any impacts to said pipelines to the greatest extent possible. Your cooperation and understanding during the CPRA's construction, maintenance and monitoring operations is greatly appreciated. You may also contact me at (225) 342-1934 or V. J. Marretta at (225) 342-5260 in the CPRA Real Estate / Land Rights Division, if you have any questions regarding this notice. Thank you for your cooperation and support regarding the State's coastal protection and restoration efforts.

Sincerely,



James L. Altman, CPL
CPRA Land Manager

Attachments

c(w/Attachments/sent via email): Jamie Honses, Land Agent, Shell Pipeline Company, LP (New Orleans Office)
Andrew Beall, CPRA TE-72 Project Manager
Travis Byland, CPRA TE-72 Project Engineer
V. J. Marretta, CPRA Land Rights Specialist
TE-72 Project File

EXHIBIT B

Lost Lake Marsh Creation and Hydrologic Restoration Project (TE-72)

Preliminary Project Description Summary

Federal Sponsor: U. S. Fish and Wildlife Service (USFWS)

Non-Federal Sponsor: State of Louisiana, Coastal Protection and Restoration Authority

Coast 2050 Strategy: Regional Strategy – Dedicated delivery of sediment for marsh building.
Regional Strategy – Increase transfer of Atchafalaya River water to lower Penchant tidal marshes.

Project Location: Region 3, Terrebonne Basin, Terrebonne Parish, near the vicinity of Lost Lake

Problem: Significant marsh loss has occurred between Lake Pagie and Bayou De Cade to the point that little structural framework remains separating those two waterbodies. Northeast of Lost Lake, interior marsh breakup has resulted in large, interior ponds where wind/wave energy continues to result in marsh loss. West of Lost Lake, interior breakup has occurred as a result of ponding and the periodic entrapment of higher salinity waters during storm events.

Goals: Project goals include 1) restore an important feature of structural framework between Lake Pagie and Bayou De Cade to prevent the coalescence of those two water bodies, 2) increase the delivery of fresh water, sediments, and nutrients into marshes north and west of Lost Lake, 3) reduce fetch in open water areas via construction of a terrace field, and, 4) Improve the overall hydrology of the area. Specific goals include creating approximately 468 acres of marsh, increasing the delivery of fresh water into project area marshes by replacing four (4) fixed-crest weirs and one plug with variable-crest structures, and creating approximately 18 acres of marsh via the construction of 30,000 feet of terraces.

Proposed Solution: Approximately 468 acres of marsh will be created between Lake Pagie and Bayou De Cade, north of Bayou De Cade, and along the northwestern Lost Lake shoreline. In addition, 30,000 linear feet (18 acres) of terraces will be constructed to reduce fetch in an area of deteriorated marsh. Terraces will be planted with two rows along the crown and two rows on each side slope. Four fixed-crest weirs and one plug will be replaced with variable-crest structures to increase freshwater flow into surrounding marshes.

Project Benefits: The project would benefit 7,312 acres of marsh and open water habitats. A total of 452 net acres of marsh would be protected/created over the project's life.

Project Cost: The total fully-funded cost for the project is \$ 34,626,728.

Project Status: Engineering and Design is complete with Phase II (construction) funding authorized January, 2013. Construction advertisement is anticipated for August, 2013.

STATE OF LOUISIANA
RIGHT OF WAY GRANT

390409

STATE OF LOUISIANA
PARISH OF

STATE R/W NO. 1233

KNOW ALL MEN BY THESE PRESENTS: That pursuant to R.S. 41:1173, the STATE OF LOUISIANA, appearing herein by and through HONORABLE JOHN J. McKEITHEN, Governor, and ELLEN BRYAN MOORE, Register of the State Land Office, hereinafter called GRANTOR), for and in consideration of the sum of Seven Hundred Fifty Three and 90/100 (\$753.90) DOLLARS, in hand paid, receipt of which is hereby acknowledged, does hereby grant unto Shell Pipe Line Corporation A Maryland Corporation, authorized to do business in Louisiana (hereinafter called GRANTEE), the right, privilege, and authority to lay, construct, maintain, operate, alter, repair and remove a pipeline (with fittings, tie-overs, and appliances, including Cathodic Protection Equipment) for the transportation of oil, gas, petroleum products or any other liquids, gases or substances which can be transported through pipelines, under, upon, over and through the following described land, situated in the Parish of Terrebonne, in the State of Louisiana, to wit:

- 90 feet across Bayou Coreau in Section 26, T-21-S, R-13-E,
- 119 feet across Little Carencro Bayou in Section 23, T-19-S, R-14-E,
- 372 feet across Blue Hammock in Section 29, T-20-S, R-14-E,
- 260 feet across Bayou Penchant in Section 25, T-18-S, R-14-E,
- 309 feet across Bayou Decade in Section 2, T-20-S, R-14-E,
- 438 feet across Intracoastal Waterway in Section 44, T-17-S, R-15-E, and
- 189 feet across Hell Hole Bayou in Section 24, T-21-S, R-13-E.

May 15, 1969

The rights and privileges herein granted shall include the right to replace the said pipeline by one of similar class as set forth in Paragraph No. 11 of Rules and Regulations adopted by the State Land Office on ~~5/21/69~~ and shall be exercised over a course 50 feet after construction.

up to but not in excess of 100 feet in width. The route of the proposed pipeline is shown on plat identified as Shell Pipe Line Corporation Plats Numbered SA-1886 through SA-1898 which is attached hereto and made a part hereof.

In the exercise of its rights under this grant, Grantee shall have the right, in the construction, operating, maintenance of the pipeline to dig underwater trenches in or on said premises as Grantee may deem necessary or convenient, and to lay its line in the beds of such trenches.

TO HAVE AND TO HOLD the said rights, privileges, and authority, unto said Grantee, without warranty and without recourse even for the return of the aforementioned consideration for this grant, until such pipeline be constructed or so long thereafter as a pipeline is maintained thereon.

It is understood and agreed that this right of way grant is not one in perpetuity, and it is further understood and agreed that nonuse thereof for a continuous period of five (5) years shall operate as a forfeiture by the Grantee of this grant and that all rights hereunder shall be thereupon terminated. In the event of such forfeiture, the Grantee shall have the right to remove the pipeline, together with fittings, tie-overs, appliances and equipment from the right of way within a period of one (1) year from and after the date of forfeiture.

The grantor reserves the right to fully use and enjoy the said premises subject to the rights herein granted.

If operations for construction are not commenced within two (2) years of the execution of this agreement, then, all rights of the Grantee hereunder shall terminate and the consideration shall be forfeited to Grantor.

All terms and expressed or implied covenants of this grant shall be subject to all federal and state laws. The pipeline and its appurtenances must be constructed and operated in such a manner as would not interfere unreasonably with the fishing, hunting, trapping or oyster industries and Grantee further agrees that in constructing said pipeline due care will be exercised to minimize damage to oyster beds and Grantee shall be fully and solely responsible for any and all damage caused by Grantee's operations to which the holders of oyster leases may be legally entitled and Grantee agrees to hold the Louisiana Wild Life and Fisheries Commission harmless therefor.

Nothing herein contained shall be construed as to prohibit or preclude the Grantor herein from granting to other persons, associations or corporations the right to cross over or under the right of way herein granted, provided that if such crossing should necessitate the alteration or relocation of the pipeline of the Grantee herein, all cost thereof shall be at the expense of such subsequent Grantee, subject to the following:

The parties hereto recognize that it might hereafter become necessary or desirable to widen, deepen or make some other work of public improvement on the streams or water bottoms within the right of way herein granted, and this grant is accepted under the express condition and with the distinct understanding that, if any such work by the United States, the State of Louisiana, or any department or political subdivision of either, makes it necessary to alter or relocate said pipeline, the entire cost of such alteration or relocation shall be borne by the Grantee, this responsibility on the part of the Grantee being part of the consideration for which this grant is made.

It is agreed that Grantee shall not assign the rights granted hereunder without the written consent of Grantor, but this prohibition shall not be applicable to any mortgage, deed of trust, pledge, or other security contract which may be executed by Grantee, and the consent of Grantor to the execution of such agreements shall not be required.

Grantee agrees to maintain said pipeline in good condition at all times and that the maintenance thereof shall conform to all federal and state laws.

It is further agreed that after the completion of the construction of the pipeline, Grantee shall file in the office of the Register of the State Land Office a plat showing the actual location of the pipeline over and across the aforesaid area.

IN WITNESS WHEREOF, the STATE OF LOUISIANA has executed this right of way grant on this, the 2nd day of October, 1969

WITNESSES:

Doris C. Andrus

STATE OF LOUISIANA

John J. McKeithen
Governor State of Louisiana

Matalie F. Walters
APPROVED AS TO FORM AND LEGALITY:

Ellen Bryan Moore
Register of the State Land Office

Jack P. Shemillion
Attorney General State of Louisiana

IN WITNESS WHEREOF, GRANTEE has executed this right of way grant on this, the 18th day of September, 1970

WITNESSES:

SHELL PIPE LINE CORPORATION

R. D. Ryman
J. A. Davis

BY W. J. Williamson
W. J. Williamson, Attorney in Fact

STATE OF LOUISIANA
PARISH OF EAST BATON ROUGE

BEFORE ME, the undersigned authority, personally came and appeared Matalie F. Walters who, being first duly sworn, did depose and say that she signed the within foregoing instrument as a witness, in the presence of Honorable John J. McKeithen, Governor of the State of Louisiana, and Ellen Bryan Moore, Register of the State Land Office, representing the State of Louisiana, and another subscribing witness, all of whom signed in her presence, each signing in the presence of all the others, and that all of said signatures thereto are genuine and correct.

Matalie F. Walters

SWORN TO AND SUBSCRIBED before me this 2nd day of October, 1970

Robert Kelley
NOTARY PUBLIC in and for East Baton Rouge Parish, Louisiana

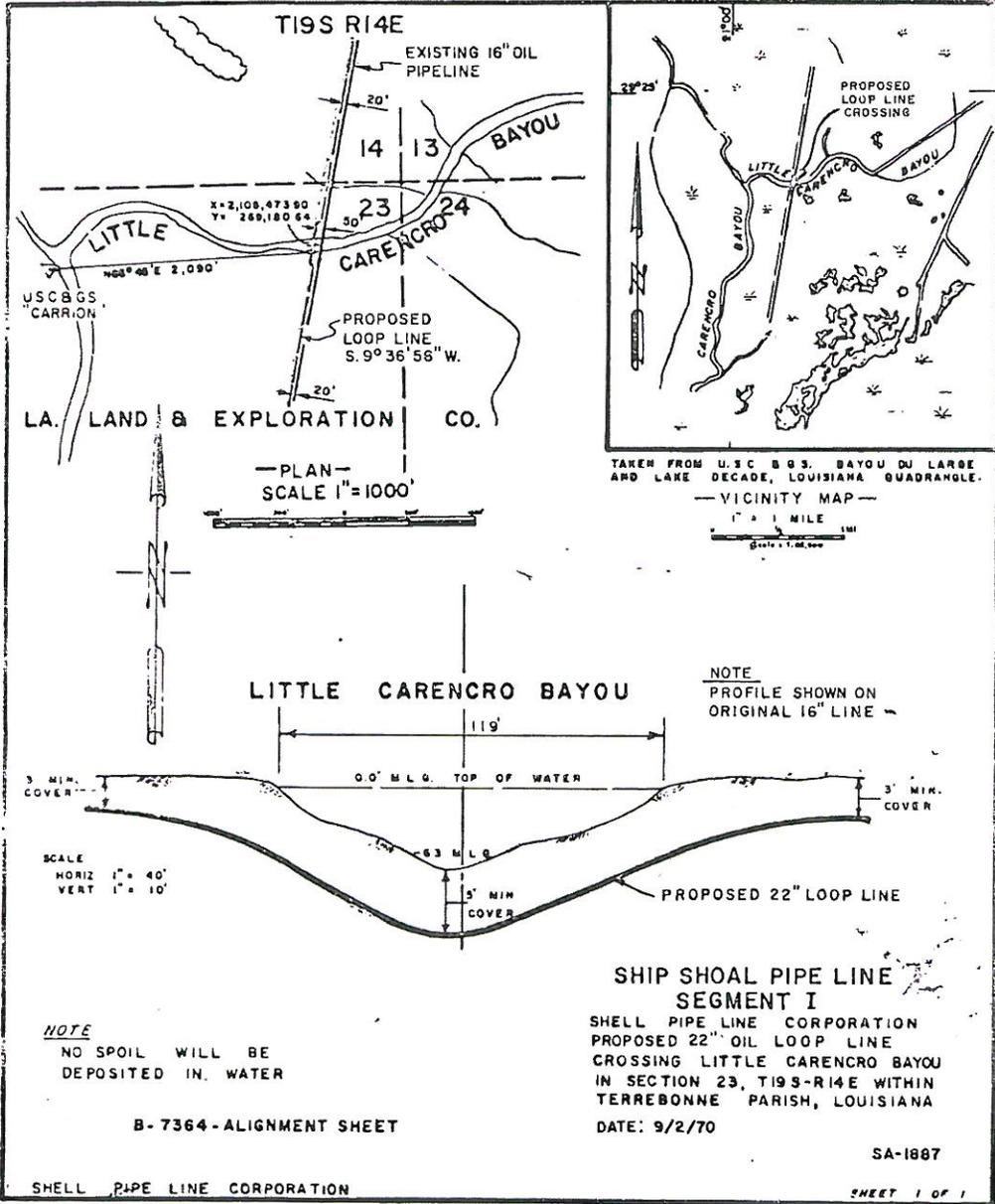
STATE OF TEXAS
COUNTY OF HARRIS

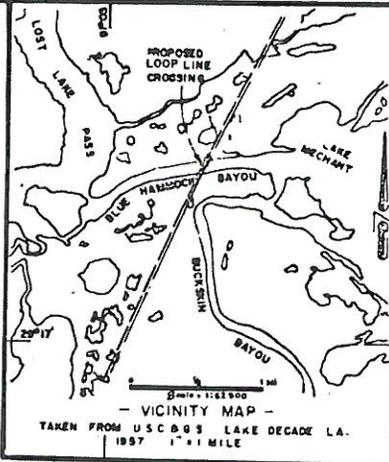
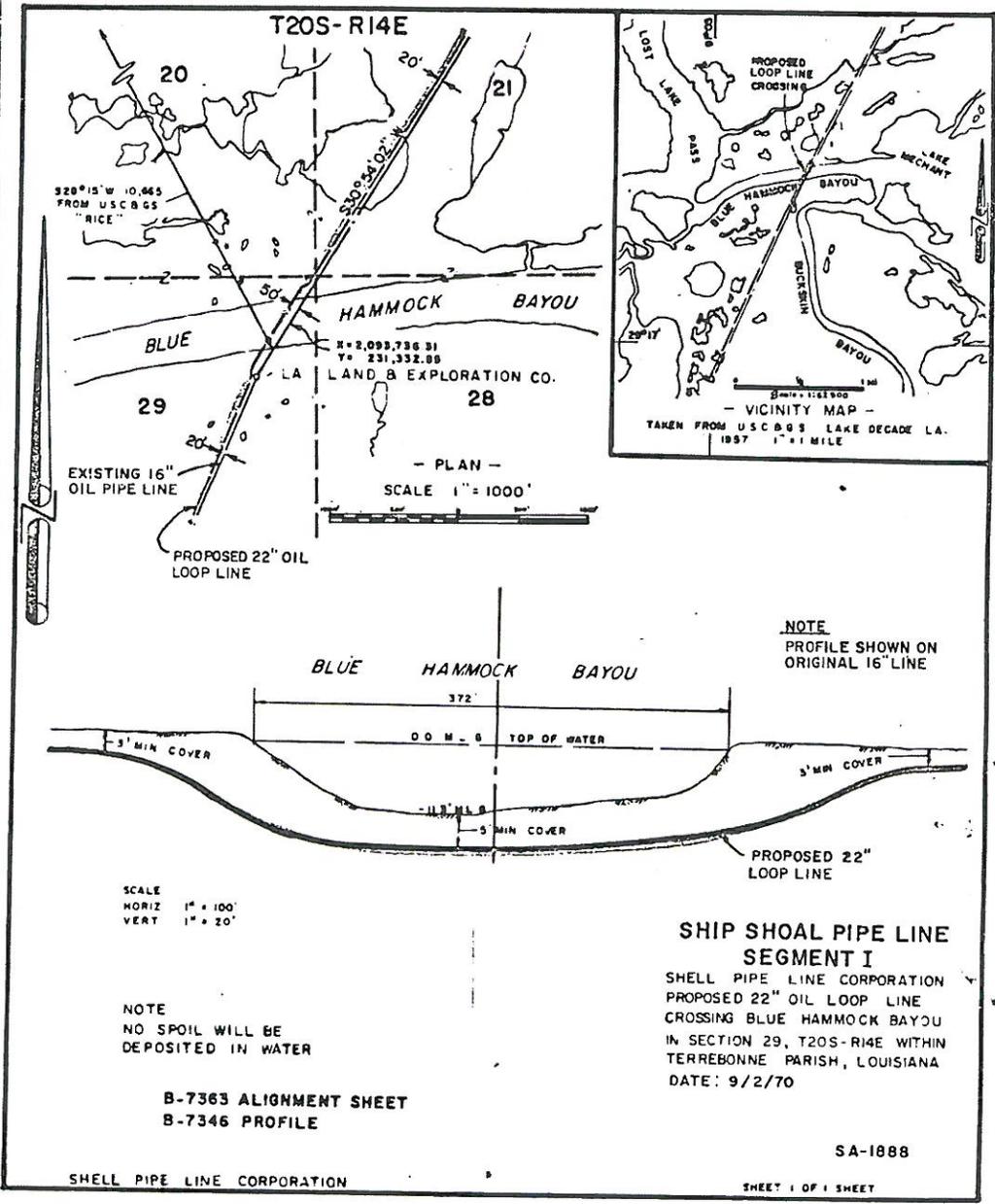
BEFORE ME, the undersigned authority, this day personally appeared R. G. Ryman to me personally known to be the identical person whose name is subscribed to the foregoing instrument as an attesting witness, who, first being duly sworn, on his oath, says: That he subscribed his name to the foregoing instrument as a witness, and that he knows W. J. Williamson, Attorney in Fact of Shell Pipe Line Corporation who signed for the company named in said instrument, to be the identical person described therein, and who executed the same, and saw him sign the same as the voluntary act and deed of the Grantee, and that he, the said R. G. Ryman subscribed his name to the same at the same time as an attesting witness.

R. G. Ryman
R. G. Ryman

SWORN TO AND SUBSCRIBED before me this 18th day of September, 1970

Bruce D. Brewer
NOTARY PUBLIC





NOTE
PROFILE SHOWN ON
ORIGINAL 16" LINE

SCALE
HORIZ 1" = 100'
VERT 1" = 20'

NOTE
NO SPOIL WILL BE
DEPOSITED IN WATER

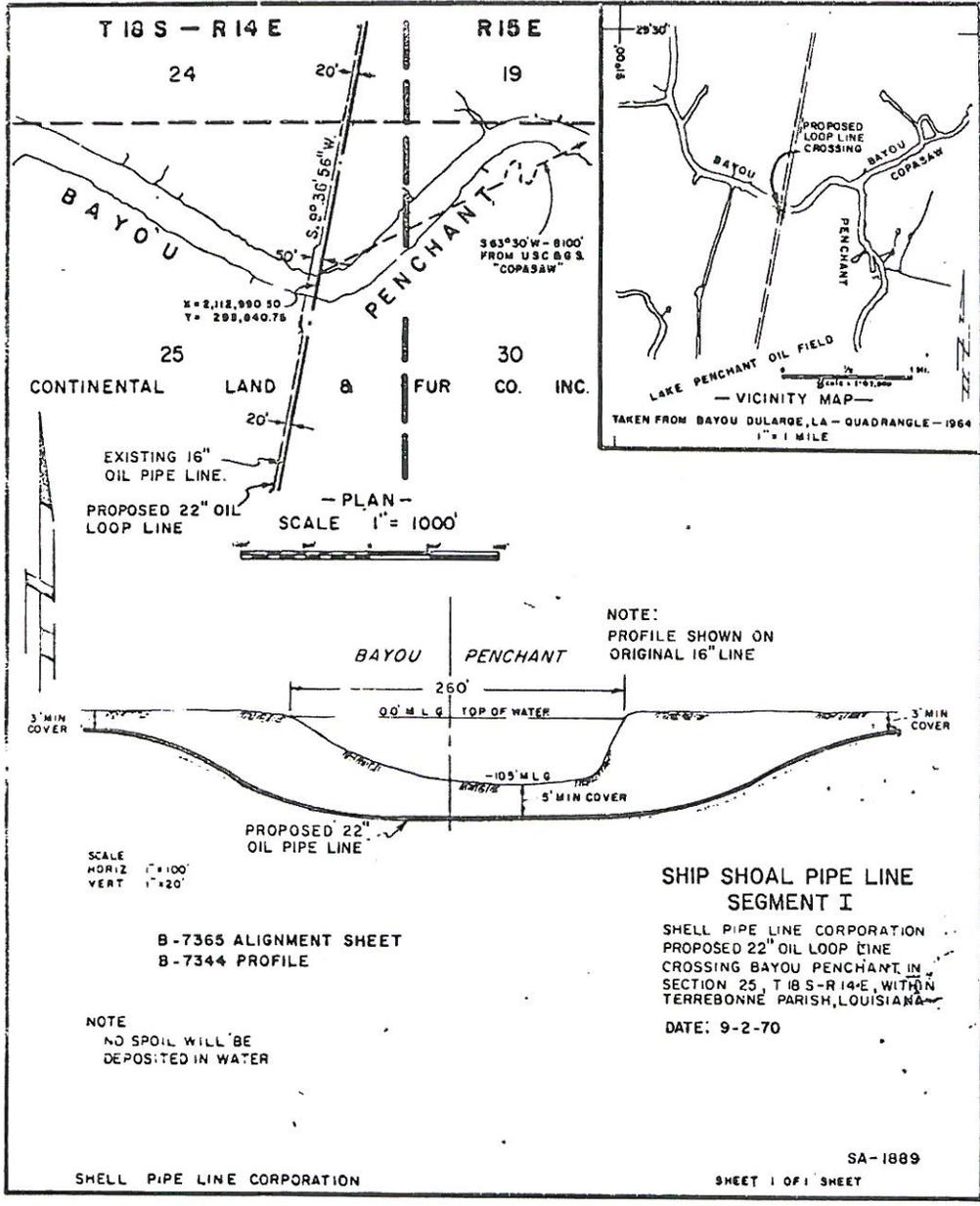
**SHIP SHOAL PIPE LINE
SEGMENT I**
SHELL PIPE LINE CORPORATION
PROPOSED 22" OIL LOOP LINE
CROSSING BLUE HAMMOCK BAYOU
IN SECTION 29, T20S-R14E WITHIN
TERREBONNE PARISH, LOUISIANA
DATE: 9/2/70

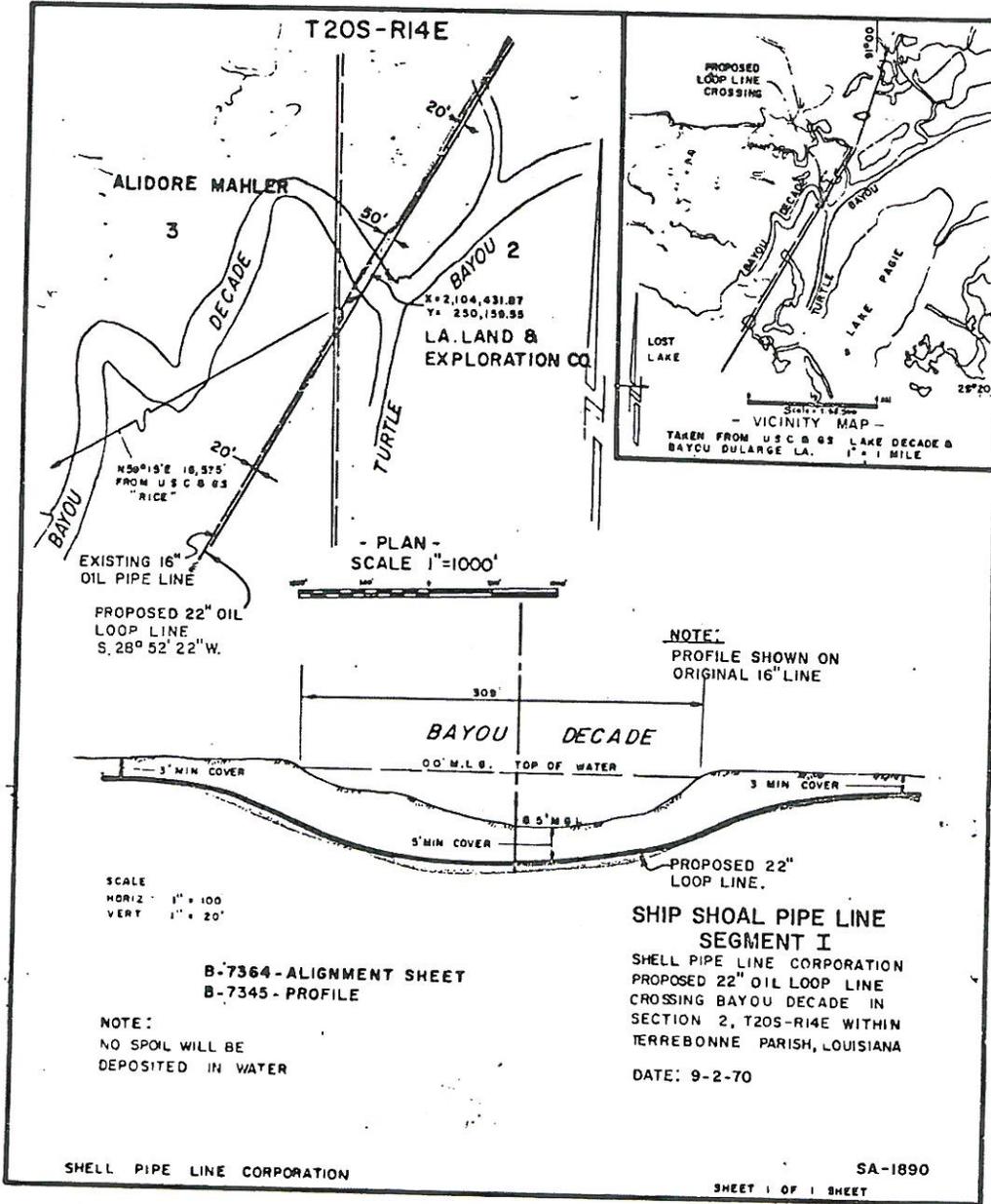
B-7363 ALIGNMENT SHEET
B-7346 PROFILE

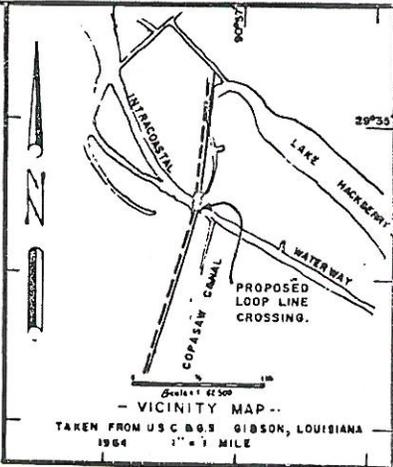
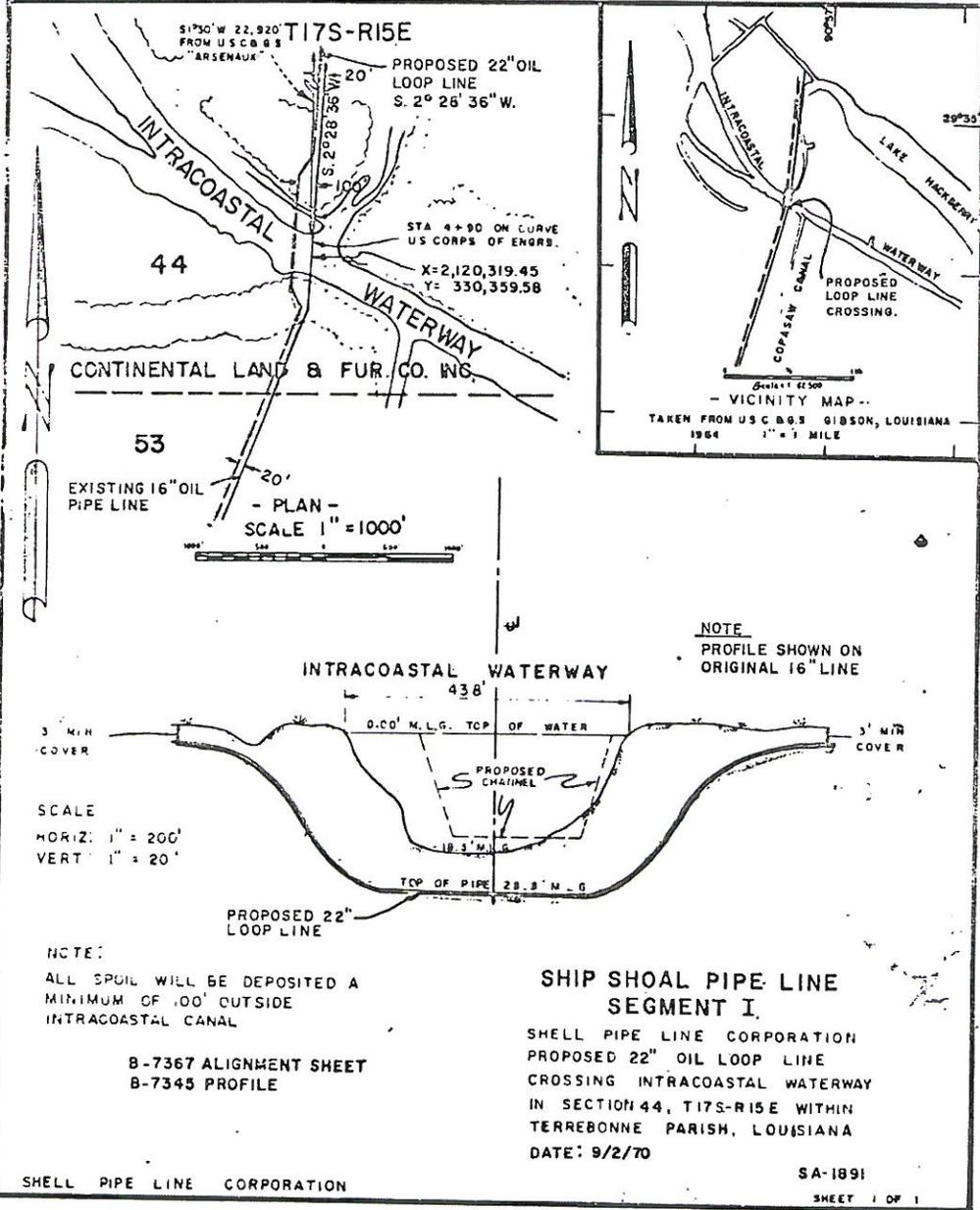
SA-1888

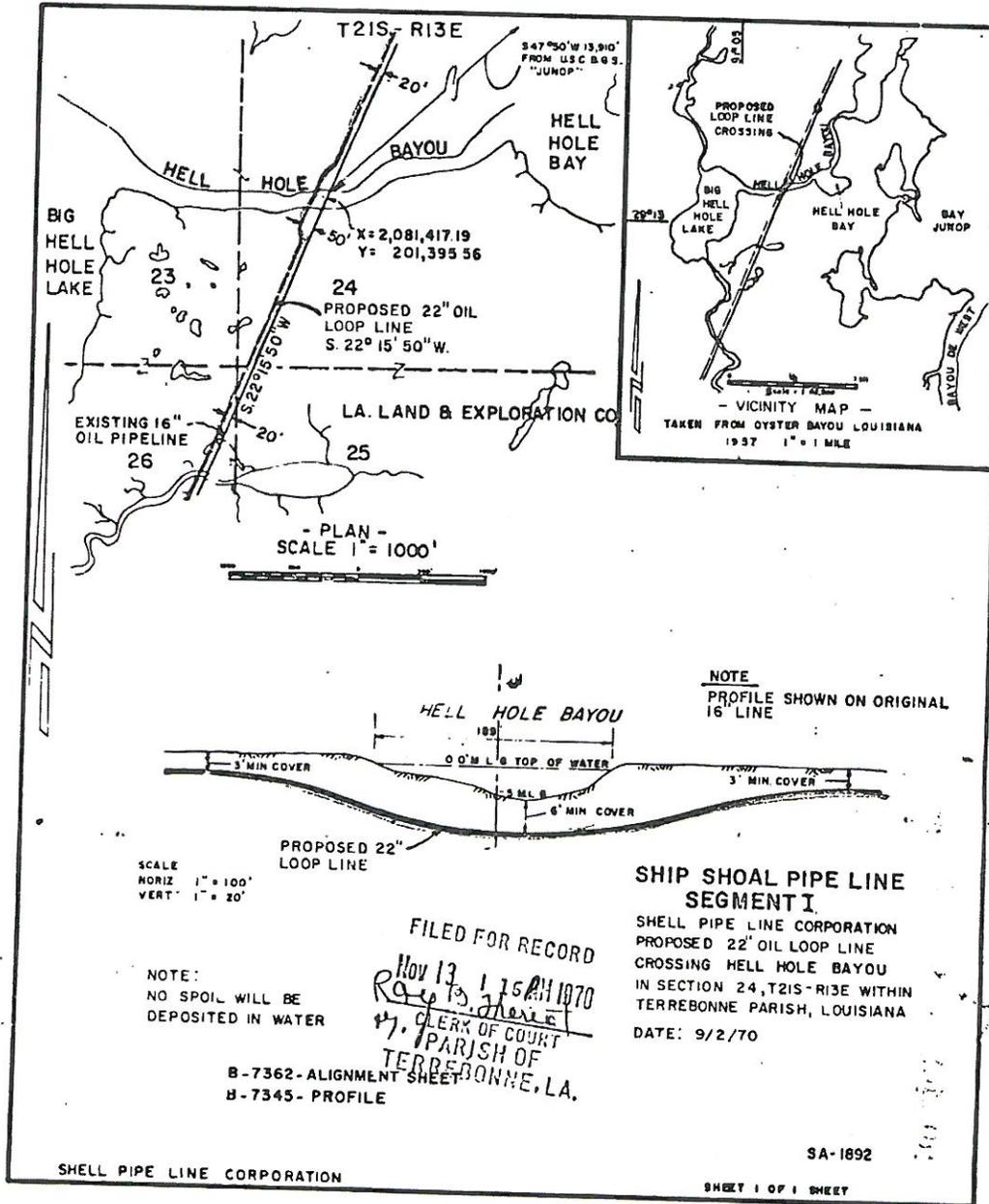
SHELL PIPE LINE CORPORATION

SHEET 1 OF 1 SHEET









Recorded NOV 13 1970
R. J. Clerk
 Clerk

Gibson School Site - 10.02 acres, more or less, located on the left descending bank of Bayou Black in Section 58 and/or 57, Township 16 South, Range 14 East, Terrebonne Parish, La.; and Former Gibson Negro School Site - 0.50 acres, more or less, located on the left descending bank of Bayou Black in Section 59 and/or 60, Township 16 South, Range 14 East, Terrebonne Parish, Louisiana.

TO HAVE AND TO HOLD the above described lease unto the said MEJ-LAENDER & PRIOR, INC., its legal representatives, successors and assigns forever.

This assignment is executed without warranty and without recourse, except that Assignor does warrant that he has not alienated, hypothecated or encumbered said lease to the prejudice of the assignment herein made.

IN TESTIMONY WHEREOF, this instrument of assignment has been executed on this 7th day of March, 1967.

WITNESSES:

John H. Kelly

Charles L. Beck
Charles L. Beck

STATE OF LOUISIANA
PARISH OF LAFAYETTE:

On this 7th day of March, 1967, before me personally appeared CHARLES L. BECK, to me known to be the person described in and who executed the foregoing instrument and acknowledged that he executed the same as his free act and deed.

Witness my hand and seal of office on this the date in this certificate above written.

James S. ...
Notary Public in and for
Lafayette Parish, Louisiana



STATE OF LOUISIANA
RIGHT OF WAY GRANT

315476

STATE OF LOUISIANA
PARISH OF TERREBONNE

STATE R/W NO. 733

KNOW ALL MEN BY THESE PRESENTS: That pursuant to R.S. 41:1173, the STATE OF LOUISIANA, appearing herein by and through HONORABLE JOHN J. McKEITHEN, Governor, and ELLEN BRYAN MOORE, Register of the State Land Office, (hereinafter called GRANTOR), for and in consideration of the sum of Four Hundred Thirty and 80/100----- (\$430.80) DOLLARS, in hand paid, receipt of which is hereby acknowledged, does hereby grant unto Shell Pipe Line Corporation a Maryland Corporation, authorized to do business in Louisiana (hereinafter called GRANTEE), the right, privilege, and authority to lay, construct, maintain, operate, alter, repair and remove a pipeline (with fittings, tie-overs, and appliances, including Cathodic Protection Equipment) for the transportation of oil, gas, petroleum products or any other liquids, gases or substances which can be transported through pipelines, under, upon, over and through the following described land, situated in the Parish of Terrebonne, in the State of Louisiana, to wit:

- 90 feet across Bayou Coreau in Section 26, T-21-S, R-13-E,
- 119 feet across Little Carencro Bayou in Section 23, T-19-S, R-14-E
- 372 feet across Blue Hammock in Section 29, T-20-S, R-14-E,
- 260 feet across Bayou Penchant in Section 25, T-18-S, R-14-E,
- 309 feet across Bayou Decade in Section 2, T-20-S, R-14-E,
- 438 feet across Intracoastal Waterway in Section 41, T-17-S, R-15-E, and
- 189 feet across Hell Hole Bayou in Section 24, T-21-S, R-13-E.

The rights and privileges herein granted shall include the right to replicate the said pipeline by one of similar class as set forth in Paragraph No. 11 of Rules and Regulation, adopted by the State Land Office on Sept. 1, 1962, and shall be exercised over a course

upto but not in excess of 200 feet in width. The route of the proposed pipeline is shown on plat identified as Shell Pipe Line Corporation Plats Numbered E-6695 through E-6701 which is attached hereto and made a part hereof.

In the exercise of its rights under this grant, GRANTEE shall have the right, in the construction, operating, maintenance of the pipeline to dig underwater trenches in or on said premises as GRANTEE may deem necessary or convenient, and to lay its line in the beds of such trenches.

TO HAVE AND TO HOLD the said rights, privileges, and authority, unto said GRANTEE, without warranty and without recourse even for the return of the aforementioned consideration for this grant, until such pipeline be constructed or so long thereafter as a pipeline is maintained thereon.

It is understood and agreed that this right of way grant is not one in perpetuity, and it is further understood and agreed that should hereafter for a continuous period of five (5) years shall operate as a forfeiture by the GRANTEE of this grant and that all rights hereunder shall be thereupon terminated. In the event of such forfeiture, the GRANTEE shall have the right to remove the pipeline, together with fittings, tie-overs, appliances and equipment from the right of way within a period of one (1) year from and after the date of forfeiture.

The grantor reserves the right to fully use and enjoy the said premises subject to the rights herein granted. If operations for construction are not commenced within two (2) years of the execution of this agreement, then, all rights of the GRANTEE thereunder shall terminate and the consideration shall be forfeited to Grantor.

All terms and expressed or implied covenants of this grant shall be subject to all federal and state laws. The pipeline and its appurtenances must be constructed and operated in such a manner as would not interfere unreasonably with the fishing, hunting, trapping or oyster industries and GRANTEE further agrees that in constructing said pipeline due care will be exercised to minimize damage to oyster beds and GRANTEE shall be fully and totally responsible for any and all damage caused by GRANTEE's operations to which the holders of oyster leases may be legally entitled and GRANTEE agrees to hold the Louisiana Wild Life and Fisheries Commission harmless therefor.

Nothing herein contained shall be construed as to prohibit or preclude the Grantor herein from granting to other persons, associations or corporations the right to cross over or under the right of way herein granted, provided that if such crossing should necessitate the alteration or relocation of the pipeline of the GRANTEE herein, all cost thereof shall be at the expense of such subsequent GRANTEE, subject to the following:

Grantee, subject to the following conditions: The parties hereto recognize that it might hereafter become necessary or desirable to widen, deepen or make some other work of public improvement on the stream or water bottoms within the right of way herein granted, and the grant herein is made under the express condition and with the distinct understanding that if any such work by the United States, the State of Louisiana, or any department or political subdivision of either, makes it necessary to alter or close said pipeline, the entire cost of such alteration or relocation shall be borne by the Grantee, this responsibility on the part of the Grantee being part of the consideration for which this grant is made.

It is agreed that Grantee shall not assign the rights granted hereunder without the written consent of Grantor, but this prohibition shall not be applicable to any mortgage, deed of trust, pledge, or other security contract which may be executed by Grantee and the consent of Grantor to the execution of such agreements shall not be required.

Grantee agrees to maintain said pipeline in good condition at all times and that the maintenance thereof shall conform to all federal and state laws.

It is further agreed that after the completion of the construction of the pipeline, Grantee shall file in the office of the Register of the State Land Office a plat showing the actual location of the pipeline over and across the aforesaid area.

IN WITNESS WHEREOF, the STATE OF LOUISIANA has executed this right of way grant on this the 3th day of March, 1967.

WITNESSES: STATE OF LOUISIANA

Myrtle D. Swindell BY John J. McKeithen
 Myrtle D. Swindell, Register of the State Land Office

Ellen Bryan Moore BY John J. McKeithen
 Ellen Bryan Moore, Register of the State Land Office

APPROVED AS TO FORM AND LEGALITY: [Signature]
 Attorney General State of Louisiana

REGISTRY OF THE STATE LAND OFFICE

IN WITNESS WHEREOF, GRANTEE has executed this right of way grant on this, the 3rd day of March, 1967.

WITNESSES: SNEEL PIPE LINE CORPORATION

Dorothy D. Waller BY J. H. Pittinger
W. J. Williamson J. H. Pittinger, President

STATE OF LOUISIANA
 PARISH OF EAST BATON ROUGE

BEFORE ME, the undersigned authority, personally came and appeared Myrtle D. Swindell, who, being first duly sworn, did depose and say that she signed the within foregoing instrument as a witness, in the presence of Honorable John J. McKeithen, Governor of the State of Louisiana, and Ellen Bryan Moore, Register of the State Land Office, representing the State of Louisiana, and another subscribing witness, all of whom signed in her presence, each signing in the presence of all the others, and that all of said signatures thereto are genuine and correct.

SWORN TO AND SUBSCRIBED before me this 3th day of March, 1967.

[Signature]
 NOTARY PUBLIC in and for East Baton Rouge Parish, Louisiana

STATE OF TEXAS
 County of Harris

BEFORE ME, the undersigned authority, this day personally appeared W. J. Williamson, to me personally known to be the identical person whose name is subscribed to the foregoing instrument as an attesting witness, who first being duly sworn, on his oath, says: That he subscribed his name to the foregoing instrument as a witness, and that he knows J. H. Pittinger, President of Snell Pipe Line Corporation who signed for the company named in said instrument, to be the identical person described therein, and who executed the same, and saw him sign the same as the voluntary act and deed of the Grantee, and that he, the said W. J. Williamson, subscribed his name to the same at the same time as an attesting witness.

W. J. Williamson
 W. J. Williamson

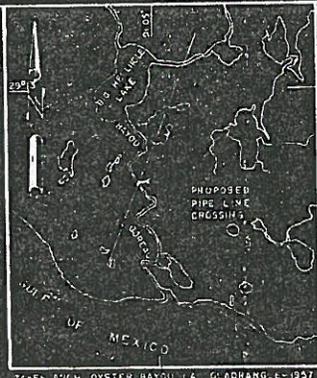
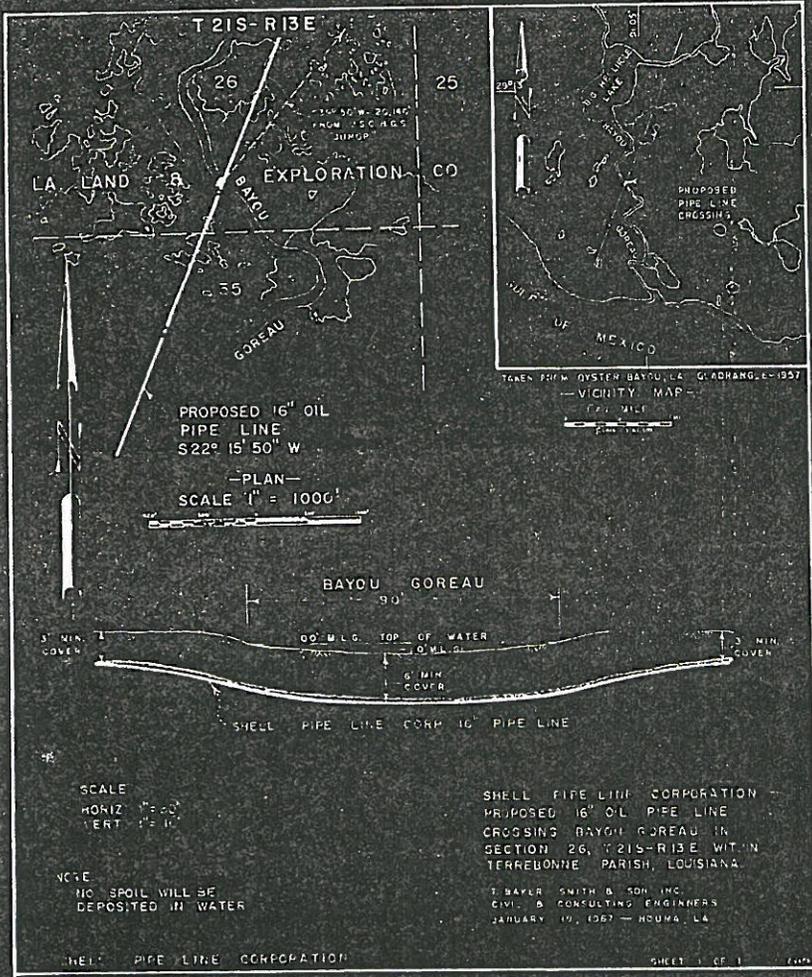
SWORN TO AND SUBSCRIBED before me this 3rd day of March, 1967.

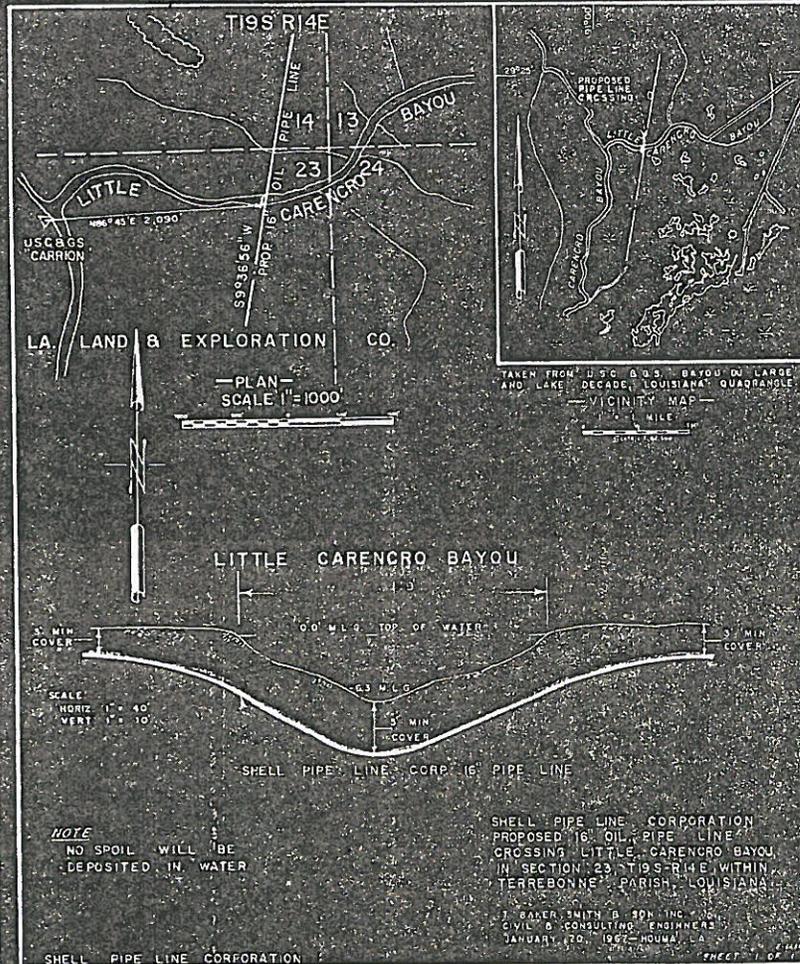
[Signature]
 NOTARY PUBLIC Ann L. Linsemann

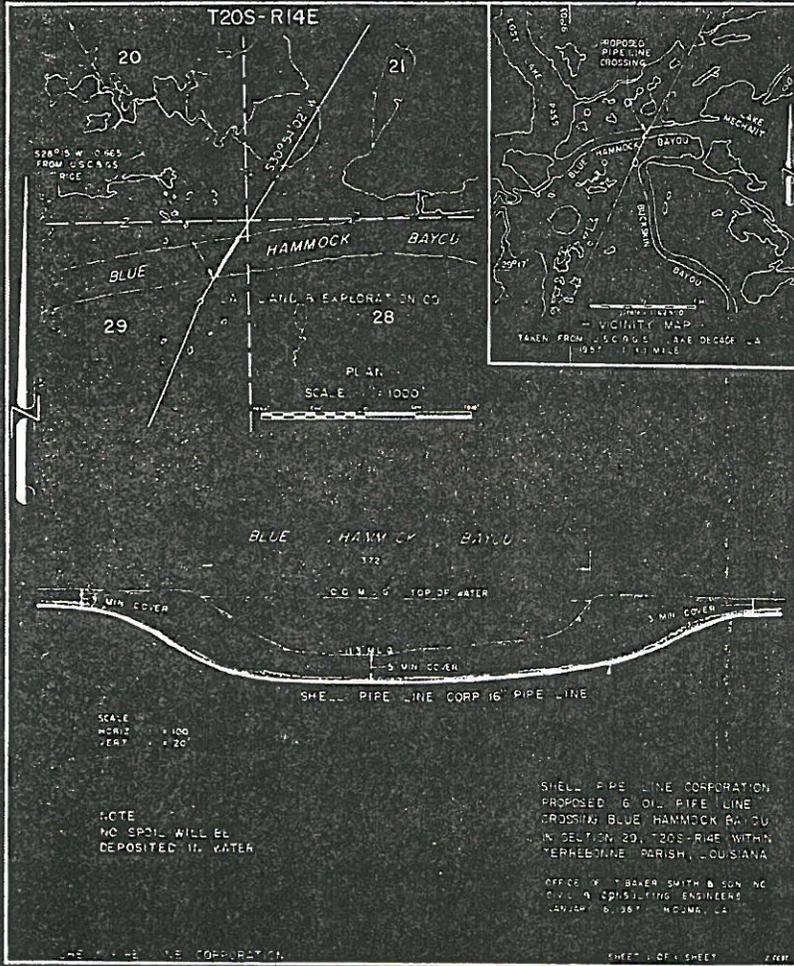
See 12-00
 Copy
 (Should be prepared)

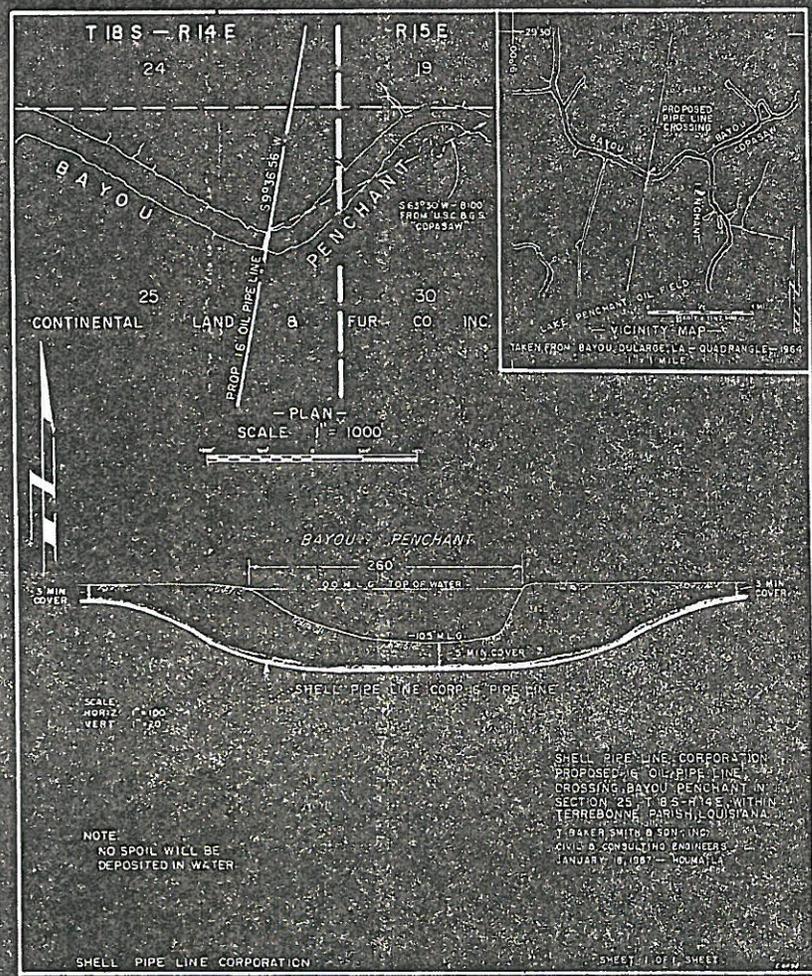
15476

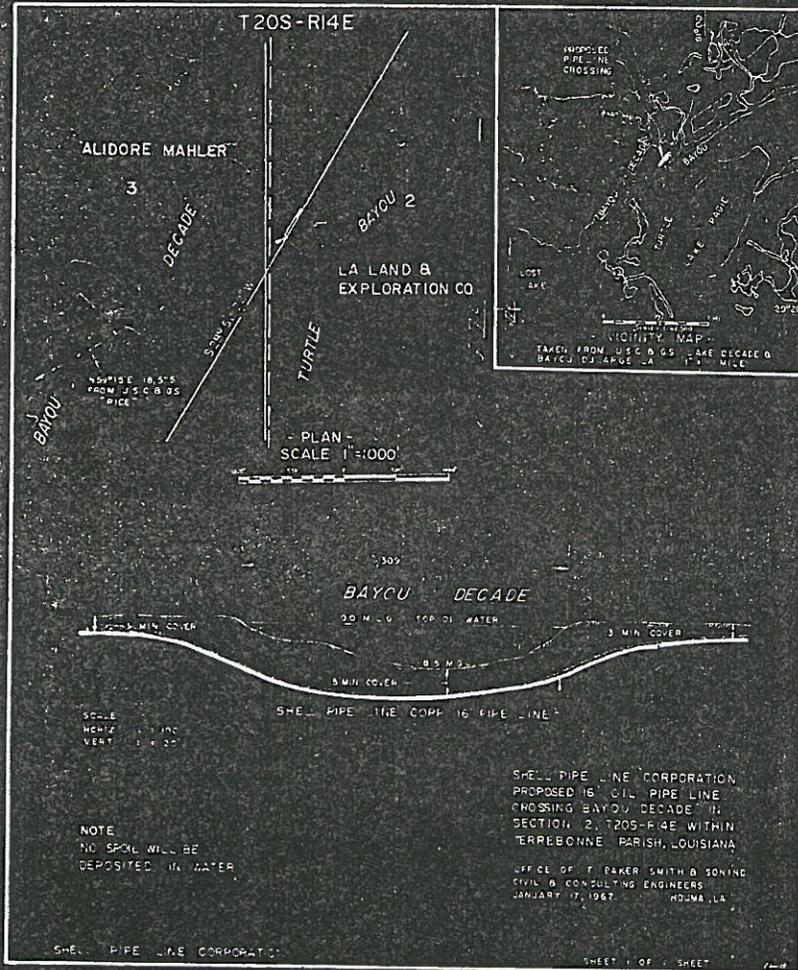
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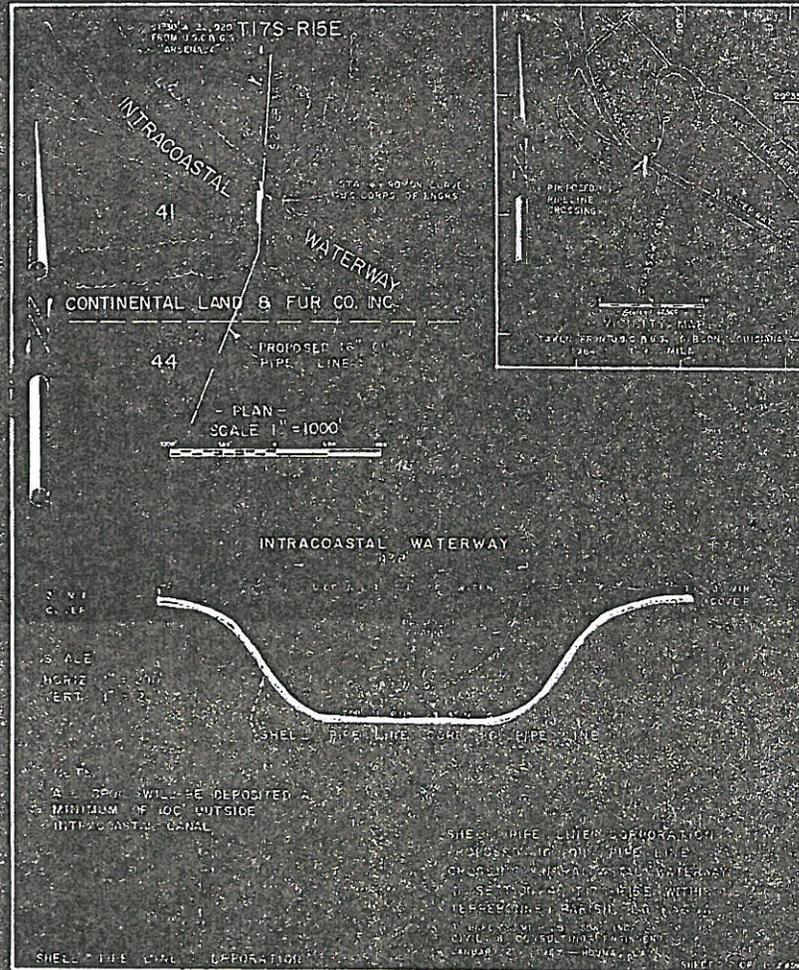


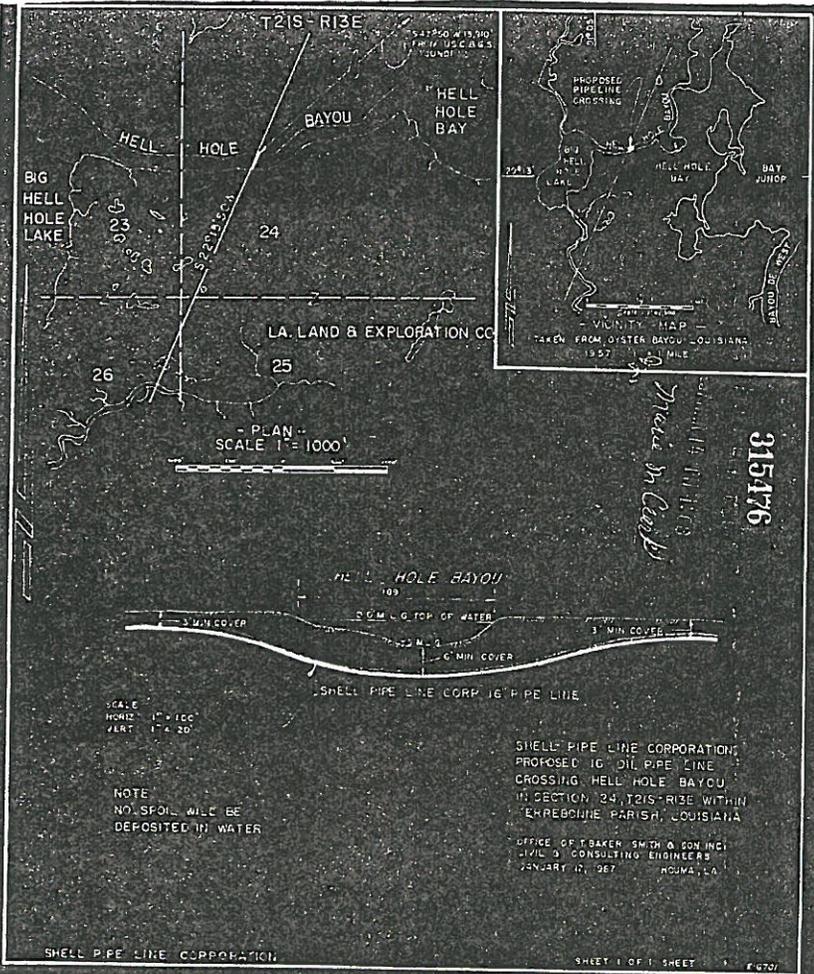












Recorded MAR 14 1967
[Signature]
 Clerk

315494

INTERDICTION OF * 17TH JUDICIAL DISTRICT COURT
 FREDDIE LYONS * STATE OF LOUISIANA
 PROBATE NO. 5026 * PARISH OF TERREBONNE

J U D G M E N T

The court being of the opinion, for the reasons this day orally assigned that FREDDIE LYONS is incapable of taking care of his person and administering his affairs:

IT IS ORDERED, ADJUDGED AND DECREED that there be judgment herein decreeing FREDDIE LYONS to be incapable of taking care of his person and of administering his affairs, pronouncing his interdiction, cost of this proceeding to be paid out of his estat.

IT IS FURTHER ORDERED, ADJUDGED AND DECREED that the fee of Gerald F. Lofaso, attorney ad hoc, be fixed at *Thirty-five* \$200.00 (\$25.00) dollars and taxed as costs.

STATE OF LOUISIANA
RIGHT OF WAY GRANT

STATE R/W NO. 798

STATE OF LOUISIANA
PARISH OF

KNOW ALL MEN BY THESE PRESENTS: That pursuant to R.S. 41:1173, the STATE OF LOUISIANA, appearing herein by and through HONORABLE JOHN J. McKEITHEN, Governor, and ELLEN BRYAN MOORE, Register of the State Land Office, (hereinafter called GRANTOR), for and in consideration of the sum of Four Thousand One Hundred Ninety Four (\$4,194.00) DOLLARS, in hand paid, receipt of which is hereby acknowledged, does hereby grant unto Shell Pipe Line Corporation, a Maryland corporation, authorized to do business in Louisiana, (hereinafter called GRANTEE), the right, privilege, and authority to lay, construct, maintain, operate, alter, repair and remove of pipelines (with fittings, tie-overs, and appliances, including Cathodic Protection Equipment) for the transportation of oil, gas, petroleum products or any other liquids, gases or substances which can be transported through pipelines, under, upon, over and through the following described land, situated in the Parish of Terrebonne in the State of Louisiana, to wit:

Such accretions to Section 35, Township 21 South, Range 13 East, and to Section 2, Township 22 South, Range 13 East, Terrebonne Parish, Louisiana, if any, as belongs to the State of Louisiana, and waters therein; and Blocks 6 and 15 in Zone 1, Offshore Louisiana.

The rights and privileges herein granted shall include the right to replace the said pipeline by one of similar class as set forth in Paragraph No. 11 of Rules and Regulations adopted by the State Land Office on Sept. 1, 1962, and shall be exercised over a course

up to but not in excess of 200 feet in width. The route of the proposed pipeline is shown on a plat identified as Shell Pipe Line Corporation Plat No. S-895-B which is attached hereto and made a part hereof.

In the exercise of its rights under this grant, Grantee shall have the right, in the construction, operation, maintenance of the pipeline to dig underwater trenches in or on said premises as Grantee may deem necessary or convenient, and to lay its line in the beds of such trenches.

TO HAVE AND TO HOLD the said rights, privileges, and authority, unto said Grantee, without warranty and without recourse even for the return of the aforementioned consideration for this grant, until such pipeline be constructed or so long thereafter as a pipeline is maintained thereon.

It is understood and agreed that this right of way grant is not one in perpetuity, and it is further understood and agreed that monies therefor for a continuous period of five (5) years shall operate as a forfeiture by the Grantee of this grant and that all rights hereunder shall be thereupon terminated. In the event of such forfeiture, the Grantee shall have the right to remove the pipeline, together with fittings, tie-overs, appliances and equipment from the right of way within a period of one (1) year from and after the date of forfeiture.

The grantor reserves the right to fully use and enjoy the said premises subject to the rights herein granted. If operations for construction are not commenced within two (2) years of the execution of this agreement, then, all rights of the Grantee thereunder shall terminate and the consideration shall be forfeited to Grantor.

All terms and expressed or implied covenants of this grant shall be subject to all federal and state laws.

The pipeline and its appurtenances must be constructed and operated in such a manner as would not interfere unreasonably with the fishing, hunting, trapping or oyster industries and Grantee further agrees that in constructing said pipeline due care will be exercised to minimize damage to oyster beds and Grantee shall be fully and solely responsible for any and all damage caused by Grantee's operations to which the holders of oyster leases may be legally entitled and Grantee agrees to hold the Louisiana Wild Life and Fisheries Commission harmless therefor.

Nothing herein contained shall be construed as to prohibit or preclude the Grantor herein from granting to other persons, associations or corporations the right to cross over or under the right of way herein granted, provided that if such crossing should necessitate the alteration or relocation of the pipeline of the Grantee herein, all cost thereof shall be at the expense of such subsequent Grantee, subject to the following:

The parties hereto recognize that it might hereafter become necessary or desirable to widen, deepen or make some other work of public improvement on the streams or water bottoms within the right of way herein granted, and this grant is accepted under the express condition and with the distinct understanding that, if any such work by the United States, the State of Louisiana, or any department or political subdivision of either, makes it necessary to alter or relocate said pipeline, the entire cost of such alteration or relocation shall be borne by the Grantee, this responsibility, on the part of the Grantee being part of the consideration for which this grant is made.

It is agreed that Grantee shall not assign the rights granted hereunder without the written consent of Grantor, but this prohibition shall not be applicable to any mortgage, deed of trust, pledge, or other security contract which may be executed by Grantee, and the consent of Grantor to the execution of such agreements shall not be required. Grantee agrees to maintain said pipeline in good condition at all times and that the maintenance thereof shall conform to all federal and state laws.

It is further agreed that after the completion of the construction of the pipeline, Grantee shall file in the office of the Register of the State Land Office a plat showing the actual location of the pipeline over and across the aforesaid area.

IN WITNESS WHEREOF, the STATE OF LOUISIANA has executed this right of way grant on this, the 4th day of May, 1967.

WITNESSES:

Noris Andrews BY John J. McKeithen
Governor State of Louisiana

Matalie F. Walters BY Ellen Bryan Moore
Register of the State Land Office

APPROVED AS TO FORM AND LEGALITY: _____
Attorney General State of Louisiana



IN WITNESS WHEREOF, GRANTEE has executed this right of way grant on this 13th day of April 1967

WITNESSES:
R. Z. Coffey Jr.
R. A. Reynolds BY H. J. Williamson
H. J. Williamson, Attorney in Fact

STATE OF LOUISIANA
PARISH OF EAST BATON ROUGE
BEFORE ME, the undersigned authority, personally came and appeared Matabie F. Walters
who, being first duly sworn, did depose and say that she signed the within foregoing instrument as a witness; in the presence
of honorable John J. McKeithen, Governor of the State of Louisiana, and Ellen Bryan Moore, Register of the State Land Office, repre-
senting the State of Louisiana, and another subscribing witness, all of whom signed in her presence, each signing in the
presence of all the others, and that all of said signatures thereto are genuine and correct.

Matabie F. Walters

SWORN TO AND SUBSCRIBED before me this 4th day of May 1967

Leunth C. Dejeu
NOTARY PUBLIC in and for East Baton Rouge Parish, Louisiana

STATE OF Indiana
County of Warrick

BEFORE ME, the undersigned authority, this day personally appeared H. J. Williamson
to me personally known to be the identical person whose name is subscribed to the foregoing instrument as an attesting witness, who,
first being duly sworn, on his oath, says: That he subscribed his name to the foregoing instrument as a witness, and that he knows
H. J. Williamson, Attorney in Fact, State of Louisiana
who signed for the company named in said instrument, to be the identical person described therein, and who executed the same, and
saw him sign the same as the voluntary act and deed of the Grantee, and that he, the said H. J. Williamson
subscribed his name to the same at the same time as an attesting witness.

H. J. Williamson

SWORN TO AND SUBSCRIBED before me this 13th day of April 1967

Martha P. Johnston Holland
NOTARY PUBLIC

MAY 15 1967
Maurice M. Court
NOTARY PUBLIC

Recorded MAY 15 1967
Robert Condrick, Clerk

819436

RIGHT OF WAY GRANT
Disputed Title

STATE OF LOUISIANA
PARISH OF TERREBONNE STATE R/W NO. 799 E

KNOW ALL MEN BY THESE PRESENTS: That pursuant to R. S. 41:1173-1174, the STATE OF
LOUISIANA, appearing herein by and through the HONORABLES JOHN J. McKEITHEN, Governor, and
ELLEN BRYAN MOORE, Register of the State Land Office, (hereinafter called GRANTOR), for and
in consideration of the sum of Twenty-three thousand four hundred sixteen (\$23,416.00)
(DOLLARS, in hand paid, for deposit in escrow, under the authority aforesaid, receipt of which is hereby ac-

STATE OF LOUISIANA
RIGHT OF WAY GRANT

STATE OF LOUISIANA
PARISH OF

STATE R/W NO. 1330

KNOW ALL MEN BY THESE PRESENTS: That pursuant to R.S. 41:1173, the STATE OF LOUISIANA, appearing herein by and through HONORABLE JOHN J. McKEITHEN, Governor, and ELLEN BRYAN MOORE, Register of the State Land Office, (hereinafter called GRANTOR), for and in consideration of the sum of Seven Thousand Three Hundred Fifty (\$7,350.84) and 847100 DOLLARS, in hand paid, receipt of which is hereby acknowledged, does hereby grant unto Shell Pipe Line Corporation, a Maryland corporation, authorized to do business (hereinafter called GRANTEE), the right, privilege, and authority to lay, construct, maintain, operate, alter, repair and remove a pipeline (with fittings, tie-overs, and appliances, including Cathodic Protection Equipment) for the transportation of oil, gas, petroleum products or any other liquids, gases or substances which can be transported through pipelines, under, upon, over and through the following described land, situated in the Parish of Terrebonne, in the State of Louisiana, to wit:

Such accretions to Section 35, Township 21 South, Range 13 East, and to Section 2, Township 22 South, Range 13 East, Terrebonne Parish, Louisiana, if any, as belongs to the State of Louisiana, and waters therein; and Blocks 6 and 15, in Zone 1, Offshore Louisiana.

The rights and privileges herein granted shall include the right to replace the said pipeline by one of similar class as set forth in Paragraph No. 11 of Rules and Regulations adopted by the State Land Office on Sept. 1, 1962, and shall be exercised over a course to revert to 25 feet after construction

up to but not in excess of 200 feet in width. The route of the proposed pipeline is shown on plat identified as Shell Pipe Line Corporation drawing No. S-1024-A which is attached hereto and made a part hereof.

In the exercise of its rights under this grant, Grantee shall have the right, in the construction, operating, maintenance of the pipeline to dig underwater trenches in or on said premises as Grantee may deem necessary or convenient, and to lay its line in the beds of such trenches.

TO HAVE AND TO HOLD the said rights, privileges, and authority, unto said Grantee, without warranty and without recourse even for the return of the aforementioned consideration for this grant, until such pipeline be constructed or so long thereafter as a pipeline is maintained thereon.

It is understood and agreed that this right of way grant is not one in perpetuity, and it is further understood and agreed that nonuse thereof for a continuous period of five (5) years shall operate as a forfeiture by the Grantee of this grant and that all rights hereunder shall be thereupon terminated. In the event of such forfeiture, the Grantee shall have the right to remove the pipeline, together with fittings, tie-overs, appliances and equipment from the right of way within a period of one (1) year from and after the date of forfeiture.

The grantor reserves the right to fully use and enjoy the said premises subject to the rights herein granted. If operations for construction are not commenced within two (2) years of the execution of this agreement, then, all rights of the Grantee thereunder shall terminate and the consideration shall be forfeited to Grantor.

All terms and expressed or implied covenants of this grant shall be subject to all federal and state laws. The pipeline and its appurtenances must be constructed and operated in such a manner as would not interfere unreasonably with the fishing, hunting, trapping or oyster industries and Grantee further agrees that in constructing said pipeline due care will be exercised to minimize damage to oyster beds and Grantee shall be fully and solely responsible for any and all damage caused by Grantee's operations to which the holders of oyster leases may be legally entitled and Grantee agrees to hold the Louisiana Wild Life and Fisheries Commission harmless therefor.

Nothing herein contained shall be construed as to prohibit or preclude the Grantor herein from granting to other persons, associations or corporations the right to cross over or under the right of way herein granted, provided that if such crossing should necessitate the alteration or relocation of the pipeline of the Grantee herein, all cost thereof shall be at the expense of such subsequent Grantee, subject to the following:

The parties hereto recognize that it might hereafter become necessary or desirable to widen, deepen or make some other work of public improvement on the streams or water bottoms within the right of way herein granted, and this grant is accepted under the express condition and with the distinct understanding that, if any such work by the United States, the State of Louisiana, or any department or political subdivision of either, makes it necessary to alter or relocate said pipeline, the entire cost of such alteration or relocation shall be borne by the Grantee, this responsibility on the part of the Grantee being part of the consideration for which this grant is made.

It is agreed that Grantee shall not assign the rights granted hereunder without the written consent of Grantor, but this prohibition shall not be applicable to any mortgage, deed of trust, pledge, or other security contract which may be executed by Grantee, and the consent of Grantor to the execution of such agreements shall not be required.

Grantee agrees to maintain said pipeline in good condition at all times and that the maintenance thereof shall conform to all federal and state laws.

It is further agreed that after the completion of the construction of the pipeline, Grantee shall file in the office of the Register of the State Land Office a plat showing the actual location of the pipeline over and across the aforesaid area.

IN WITNESS WHEREOF, the STATE OF LOUISIANA has executed this right of way grant on this, the 28th day of

February, 1972

WITNESSES:

STATE OF LOUISIANA

Doris C. Andrus

By John J. McKeithen
Governor State of Louisiana

Elaine J. Johnson

By Ellen Bryan Moore
Register of the State Land Office

APPROVED AS TO FORM AND LEGALITY:

Kenneth C. Dejean

Attorney General State of Louisiana
First Assistant

IN WITNESS WHEREOF, GRANTEE has executed this right of way grant on this, the 18th day of February 19 72.

WITNESSES: SHELL PIPE LINE CORPORATION
J. I. Michael, Jr.
R. G. Ryman BY R. G. Ryman
R. G. Ryman, Attorney in Fact

STATE OF LOUISIANA
PARISH OF EAST BATON ROUGE
BEFORE ME, the undersigned authority, personally came and appeared Elaine J. Johnson who, being first duly sworn, did depose and say that she signed the within foregoing instrument as a witness, in the presence of Honorable John J. McKeithen, Governor of the State of Louisiana, and Eilon Bryan Moore, Register of the State Land Office, representing the State of Louisiana, and another subscribing witness, all of whom signed in her presence, each signing in the presence of all the others, and that all of said signatures thereto are genuine and correct.

Elaine J. Johnson

SWORN TO AND SUBSCRIBED before me this 28th day of February 19 72

J. P. B. Kelley
NOTARY PUBLIC in and for East Baton Rouge Parish, Louisiana

STATE OF TEXAS
COUNTY OF HARRIS

BEFORE ME, the undersigned authority, this day personally appeared J. I. Michael, Jr. to me personally known to be the identical person whose name is subscribed to the foregoing instrument as an attesting witness, who, first being duly sworn, on his oath, says: That he subscribed his name to the foregoing instrument as a witness, and that he knows R. G. Ryman, Attorney in Fact of Shell Pipe Line Corporation who signed for the company named in said instrument, to be the identical person described therein, and who executed the same, and saw him sign the same as the voluntary act and deed of the Grantee, and that he, the said J. I. Michael, Jr. subscribed his name to the same at the same time as an attesting witness.

STATE OF LOUISIANA
PARISH OF TERREBONNE
Recorded MAP - 9 1972
Conveyance Patricia St. Chauvin at seq.
Patricia St. Chauvin
Clerk of Court

J. I. Michael, Jr.
J. I. Michael, Jr.
SWORN TO AND SUBSCRIBED before me this 18th day of February 19 72

Handwritten notes:
B. G. Ryman, Jr.
417312

FILED FOR RECORD
MAR 9 8 51 AM 1972
Patricia St. Chauvin
CLERK OF COURT
PARISH OF
TERREBONNE, LA.

Billie D. Dumas
NOTARY PUBLIC
FINE & POWER
NOTARY PUBLIC in and for Harris County, Texas

ENTRY NO. 417342, BEING A PLAT
HAS BEEN REMOVED FROM THE ORIGINAL
ACTS AND PLACED IN MAP VOL. 27
FOLIO 18-A
MAP NO. None
CONVEYANCE BOOK 532 FOLIO 403

PLAT DESCRIPTION:

Right of Way Grant
State of Louisiana unto
Shell Pipe Line Corporation

Ship Shoal System
Offshore Portion
Block 28 to Shore, 22" Loop Pipeline
Offshore Waters-Terrebonne Parish, La.
Shell Pipe Line Corporation
Houston, Texas

Date of Recordation

March 9, 1972

Recorded MAR 9 1972John H. Rudling
Clerk



State of Louisiana

BOBBY JINDAL
GOVERNOR

April 3, 2013

NOTICE OF CONSTRUCTION

Mr. James A Whitson, Jr.
7660 Woodway, Suite 312
Houston, TX 77063

RE: Crossing and Work over James A. Whitson, Jr. Pipeline
Lost Lake Marsh Creation and Hydrologic Restoration Project (TE-72)
Terrebonne Parish, Louisiana

Dear Mr. Whitson:

The State of Louisiana, through its Coastal Protection and Restoration Authority (CPRA) intends to construct, maintain and monitor the above-referenced TE-72 project (Project). Construction is scheduled for Fall of 2013. A map labeled Exhibit A and a Preliminary Project Description Summary (Exhibit B) are attached hereto, and made a part hereof, for your reference regarding the details of the Project. The Project will include a pipeline which will be used to convey dredged material from Lost Lake through Bayou De Cade into areas designated on Exhibit A. Portions of the dredge pipeline may be buried to allow for navigation. Temporary earthen containment will also be constructed to protect the marsh creation areas. The Project will create approximately 468 acres of marsh and benefit 7,312 acres of marsh and open water habitat. Additionally, earthen terraces will be constructed to reduce fetch in area(s) of deteriorated marsh. Vegetation will be planted on the newly created earthen terraces. The objective of the Project is to reduce erosion rates and improve the overall hydrology of the area.

You are hereby given notice that you have an interest, through a certain State Pipeline Right-of-Way Grant Numbered 4905 (Grant), in a portion the Project area which is subject to the terms and conditions of said Grant, including, but not limited to, the construction of public works projects. A copy of the Grant is attached, for your reference. This may make it necessary for you to alter or relocate your pipeline and/or flowlines (lines) at your own sole cost.

Advance Notification of Construction:

In addition to this advance notification of construction, the CPRA, its contractor(s) and/or assigns will provide further notification a minimum of 24 hours before construction work begins within your immediate pipeline area.

Contact Information:

If you would like more information about this Project, please contact the following CPRA representatives:

Mr. Andrew Beall, CPRA Project Manager at (225) 342-1952, e-mail: Andrew.Beall@LA.GOV or,
Mr. Travis Byland, CPRA Project Engineer at (225) 342-9419, e-mail: Travis.Byland@LA.GOV.

The mailing address for the above CPRA contacts is: P. O. Box 44027, Baton Rouge, Louisiana 70804; The physical address is: 450 Laurel Street, 12th Floor, Baton Rouge, Louisiana 70801.

The CPRA's Contractor will make every effort to conduct the work over your pipeline in such a manner to protect against any impacts to said pipeline to the greatest extent possible. Your cooperation and understanding during the CPRA's construction, maintenance and monitoring operations is greatly appreciated. You may also contact me at (225) 342-1934 or V. J. Marretta at (225) 342-5260 in the CPRA Real Estate / Land Rights Division, if you have any questions regarding this notice. Thank you for your cooperation and support regarding the State's coastal protection and restoration efforts.

Sincerely,



James L. Altman, CPL
CPRA Land Manager

Attachments

c(w/Attachments/sent via email): Andrew Beall, CPRA TE-72 Project Manager
Travis Byland, CPRA TE-72 Project Engineer
V. J. Marretta, CPRA Land Rights Specialist
TE-72 Project File

Exhibit A

James A Whitson, Jr. Pipeline Map

Lost Lake Marsh Creation and Hydrologic Restoration (TE-72)

Terrebonne Parish, Louisiana

Pipelines

- James A Whitson, Jr Pipeline (Abandoned)

TE-72 Project

- TE-72 Benefit Areas

Proposed Project Features

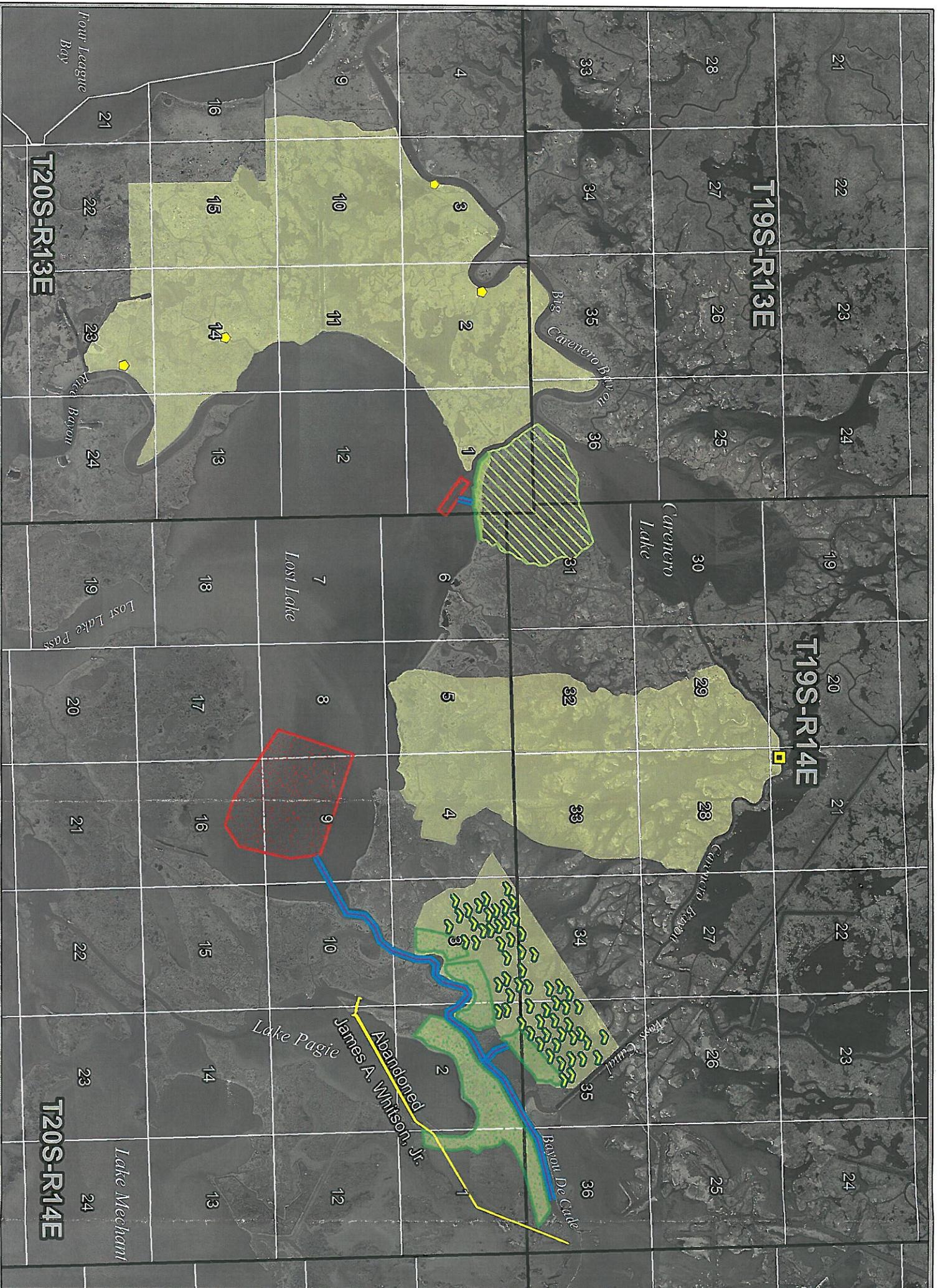
- Marsh Nourishment
- Marsh Creation
- Borrow Site
- Earthen Plug (Replacement)
- Water Control Structure (Replacement)
- Pipeline Access Corridor-Sediment Delivery Pipeline

Vegetated Earthen Terraces

Reference Data

- Township/Range
- Sections

All features are graphical representations only, are subject to change, and may not reflect true location or dimension



Map Scale 1:58,000



Source: Coastal Protection and Restoration Authority of Louisiana
Imagery: 2008 DOQQ
Map Date: April 3, 2013

EXHIBIT B

Lost Lake Marsh Creation and Hydrologic Restoration Project (TE-72)

Preliminary Project Description Summary

Federal Sponsor: U. S. Fish and Wildlife Service (USFWS)

Non-Federal Sponsor: State of Louisiana, Coastal Protection and Restoration Authority

Coast 2050 Strategy: Regional Strategy – Dedicated delivery of sediment for marsh building.
Regional Strategy – Increase transfer of Atchafalaya River water to lower Penchant tidal marshes.

Project Location: Region 3, Terrebonne Basin, Terrebonne Parish, near the vicinity of Lost Lake

Problem: Significant marsh loss has occurred between Lake Pagie and Bayou De Cade to the point that little structural framework remains separating those two waterbodies. Northeast of Lost Lake, interior marsh breakup has resulted in large, interior ponds where wind/wave energy continues to result in marsh loss. West of Lost Lake, interior breakup has occurred as a result of ponding and the periodic entrapment of higher salinity waters during storm events.

Goals: Project goals include 1) restore an important feature of structural framework between Lake Pagie and Bayou De Cade to prevent the coalescence of those two water bodies, 2) increase the delivery of fresh water, sediments, and nutrients into marshes north and west of Lost Lake, 3) reduce fetch in open water areas via construction of a terrace field, and, 4) Improve the overall hydrology of the area. Specific goals include creating approximately 468 acres of marsh, increasing the delivery of fresh water into project area marshes by replacing four (4) fixed-crest weirs and one plug with variable-crest structures, and creating approximately 18 acres of marsh via the construction of 30,000 feet of terraces.

Proposed Solution: Approximately 468 acres of marsh will be created between Lake Pagie and Bayou De Cade, north of Bayou De Cade, and along the northwestern Lost Lake shoreline. In addition, 30,000 linear feet (18 acres) of terraces will be constructed to reduce fetch in an area of deteriorated marsh. Terraces will be planted with two rows along the crown and two rows on each side slope. Four fixed-crest weirs and one plug will be replaced with variable-crest structures to increase freshwater flow into surrounding marshes.

Project Benefits: The project would benefit 7,312 acres of marsh and open water habitats. A total of 452 net acres of marsh would be protected/created over the project's life.

Project Cost: The total fully-funded cost for the project is \$ 34,626,728.

Project Status: Engineering and Design is complete with Phase II (construction) funding authorized January, 2013. Construction advertisement is anticipated for August, 2013.

Terrebonne Parish Recording Page

I. Robert "Bobby" Boudreaux
Clerk Of Court
P.O. Box 1569
Houma, La 70361-1569
(985) 868-5660

Received From :
JAMES A WHITSON JR
7660 WOODWAY, STE 312
HOUSTON, TX 77063

First VENDOR
LOUISIANA STATE LAND OFFICE

First VENDEE
WHITSON, JAMES A JR

Index Type : Conveyances

File # : 1281994

Type of Document : Row - Servitude - Easement

Book : 2064 Page : 404

Recording Pages : 6

Recorded Information

I hereby certify that the attached document was filed for registry and recorded in the Clerk of Court's office for Terrebonne Parish, Louisiana

I. Robert Boudreaux
Clerk of Court

On (Recorded Date) : 11/14/2007

At (Recorded Time) : 11:34:56:000 AM



Doc ID - 010183730006

Return To :
JAMES A WHITSON JR
7660 WOODWAY, STE 312
HOUSTON, TX 77063

7, 404

Do not Detach this Recording Page from Original Document

STATE OF LOUISIANA

PIPELINE RIGHT-OF-WAY GRANT

STATE OF LOUISIANA

STATE ROW NO. 4905

KNOW ALL MEN BY THESE PRESENTS: That pursuant to R.S. 41:1173, 36:1, 36:4, 39:8, 39:11(c) and 41:1 the State of Louisiana, appearing herein by and through the Administrator of the State Land Office (hereinafter called Grantor), for and in consideration of the sum of nine thousand one hundred seventy five & no/100s (\$9,175.00) DOLLARS and other valuable considerations as may be provided elsewhere herein or in exhibit attached and made part hereof does grant unto James A. Whitson, Jr. (hereinafter called Grantee), the right, privilege and authority to lay, construct, maintain, operate, alter, repair, replace and remove a pipeline (with underground fittings, tie-overs and appliances, including Catholic Protection Equipment) for the transportation of gas (product) in intrastate interstate commerce under, upon, over and through the following described land, situated in the Parish of Terrebonne, State of Louisiana,

- to wit: 1. Starting coordinates x=2,103,918 and y=246,278 (NAD 27) and ending coordinates x=2,104,068 and y=246,139 on SL 17991. 2. Starting coordinates x=2,104,485 and y=246,035 and ending coordinates x=2,104,610 and y=245,924 on SL 17991. 3. Starting coordinates x=2,104,610 and y=245,924 and ending coordinates x=2,109,275 and y=248,774 on SL 17991. The total ROW on SL 17991 is 367.00 rods.

The rights and privileges herein granted shall include the right to replace the said pipeline by one of a similar or smaller class as set forth in current Rules and Regulations of the Division of Administration and shall be exercised over a course up to but not in excess of 50 feet in width during construction to revert to 25 feet after construction. The route of the proposed pipeline is shown on plat identified as James A. Whitson, Jr. Proposed PL ROW across the property of SL 17991 which is attached hereto and made a part hereof.

In the exercise of its rights under this grant, Grantee shall have the right, in the construction, operation and maintenance of the pipeline to dig underwater trenches in or on said premises as Grantee may deem necessary or convenient, and to lay its line in the beds of such trenches. TO HAVE AND TO HOLD the said right, privileges and authority, unto said Grantee, are granted without warranty and without recourse even for the return of the aforementioned consideration for this grant, until such pipeline is constructed and so long thereafter as a pipeline is maintained thereon.

It is understood and agreed that this right-of-way is for a term of twenty (20) years from 1-28-26 to 1-28-46 with the option to renew for additional twenty (20) year term. The option to renew shall be on the same terms and conditions as the original agreement except that the consideration shall be adjusted to reflect the percentage of increase or decrease in the cost of living index as established by the Consumer Price Index for Urban Wage Earners and Clerical Workers published by the Bureau of Labor Statistics of the United States Department of Labor or any revision or equivalent of any such index published by the United States Government, which has occurred from date of this instrument to the date of renewal provided however that in no event shall consideration of such renewal be less than the consideration paid herein for the original term, and it is further understood and agreed that non-use thereof for a continuous period of two (2) years shall operate as a forfeiture by the Grantee of this grant and consideration and that all rights hereunder shall be thereupon terminated except when existing causes of force majeure actually prevent the use of the right-of-way and satisfactory evidence thereof is submitted to the Grantor. In the event of such forfeiture, the Grantee shall have the right to remove the pipeline, together with fittings, tie-overs, appliances and equipment from the right-of-way within a period of one (1) year from the date of forfeiture, provided that Grantee restores such area of the grant disturbed by the removal as near as practical to its natural state. There shall be no above-ground facilities except those designated and set out on the attached plat(s).

The Grantor reserves the right to fully use and enjoy the said premises subject to the rights herein granted. If operations for construction are not commenced within two (2) years of the date of the execution of this agreement by the Grantor, then, all rights of the Grantee thereunder shall terminate and the consideration shall be forfeited to Grantor.

All terms and expressed or implied covenants of this grant shall be subject to all Federal and State Laws. Grantee agrees that due care shall be exercised in the construction operation and removal of the pipeline and its appurtenances and that Grantee shall be fully and solely responsible for and shall defend, protect, indemnify and hold the State of Louisiana and its agencies, boards and commissions free and harmless from and against any and all claims for damages and all costs and expenses arising out of or incidental to Grantee's exercise of the rights herein granted.

The granting of this right-of-way shall not be a bar or defense to the right of the State of Louisiana and its agencies, boards and commissions to take any and all action necessary to seek abatement of construction or operations that unreasonably or unlawfully interfere with or disturb the existing ecological regimen, including but not limited to the fishing, hunting, trapping and oyster industries, and to take action for any and all damage to the existing ecological regimen which does not result from a reasonable exercise of the rights herein granted.

Nothing herein contained shall be construed as to prohibit or preclude the Grantor herein from granting to other persons, associations or corporations the right to cross over or under the right-of-way herein granted, provided that if such crossing should necessitate, the alteration or relocation of the pipeline of the Grantee herein, all cost thereof shall be at the expense of such subsequent Grantee, subject to the following:

The parties hereto recognize that it might hereafter become necessary or desirable to widen, deepen or make some other work of public improvement on land or on the streams or water bottoms within the right-of-way herein granted, and this grant is accepted under the express condition and with the distinct understanding that, if any such work by the United States, the State of Louisiana, or any agency, board, commission, department or political subdivision of either, makes it necessary to alter or relocate said pipeline, the entire cost of such alteration or relocation shall be borne by the Grantee, this responsibility on the part of the Grantee being part of the consideration for which this grant is made. This provision, however, shall not prejudice the Grantee's right to receive indemnification and/or relocation costs, from the United States, the State of Louisiana or any agency, board, commission, department or political subdivision of either when there is an appropriation for payment of such costs.

It is agreed that Grantee shall not assign the rights granted hereunder without the written consent of Grantor and due payment of assignment fees, but this prohibition shall not be applicable to any mortgage, deed of trust, pledge or other security contract which may be executed by Grantee, and the consent of the Grantor to the execution of such agreements shall not be required.

Grantee agrees to construct and maintain said pipeline and its appurtenances in accordance with Parts 191, 192 and/or 195 of Title 49 of the Code of Federal Regulations, as amended, which sets forth minimum design, construction and maintenance standards for safety of pipelines. Grantee further agrees to comply with all other Federal and State Laws not in conflict which apply to pipeline design, construction, maintenance and operation.

It is further agreed that after the completion of the construction of the pipeline, Grantee shall file in the office of the Grantor a plat showing the actual location of the pipeline on the above described lands.

The provisions of this agreement shall extend to and be binding upon the successors and assigns of Grantee, regardless of the appointment of a receiver, adjudication in bankruptcy, reorganization, voluntary or otherwise, or the suspension, failure or insolvency of Grantee, or any successor or assignee thereof.

Failure of Grantor to strictly or promptly enforce the rights and obligations herein shall not operate as a waiver thereof.

0 405

IN WITNESS WHEREOF, the STATE OF LOUISIANA has executed this right-of-way grant on this 23rd day of Aug 2007.

WITNESSES to the signature of the Administrator of the State Land Office:

Sonya Boudreaux
Printed Name: Sonya Boudreaux

Synthia Marcelin
Printed Name: SYNTHIA MARCELIN

Charles R. St. Romain
ADMINISTRATOR, STATE LAND OFFICE
Printed Name: Charles R. St. Romain

ACKNOWLEDGMENT FOR THE ADMINISTRATOR OF THE STATE LAND OFFICE

STATE OF LOUISIANA
PARISH OF EAST BATON ROUGE

BEFORE ME, the undersigned authority, personally came and appeared Sonya Boudreaux, who by me being first duly sworn, deposed and said:

That she is one of the witnesses to the execution of the foregoing instrument and that she saw Charles R. St. Romain sign said instrument as Administrator of the State Land Office for the State of Louisiana, in the presence of appearer and the other subscribing witness.

Sworn to and subscribed before me on this the

27th day of August 2007.

HILARY TAYLOR LeBLANC
Notary No.: 26612
Parish of East Baton Rouge, State of LA
My Commission Is Issued For Life

Sonya Boudreaux
Signature of Witness
Printed Name: Sonya Boudreaux

A. LeBlanc
Notary Public

IN WITNESS WHEREOF, GRANTEE has executed this right-of-way on this, the 16th day of August, 2007

WITNESSES:

Anna Jauregui
Printed Name: Anna Jauregui

Martin D. Belasco
Printed Name: MARTIN D. BELASCO

James A. Whitson Jr.
TITLE: OWNER
Printed Name: James A. Whitson Jr.

ACKNOWLEDGMENT FOR CORPORATE GRANTEE

STATE OF Texas
County OF Harris

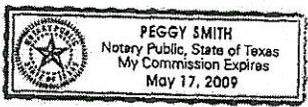
BEFORE ME, the undersigned authority, personally came and appeared Anna Jauregui, who by me being first duly sworn, deposed and said:

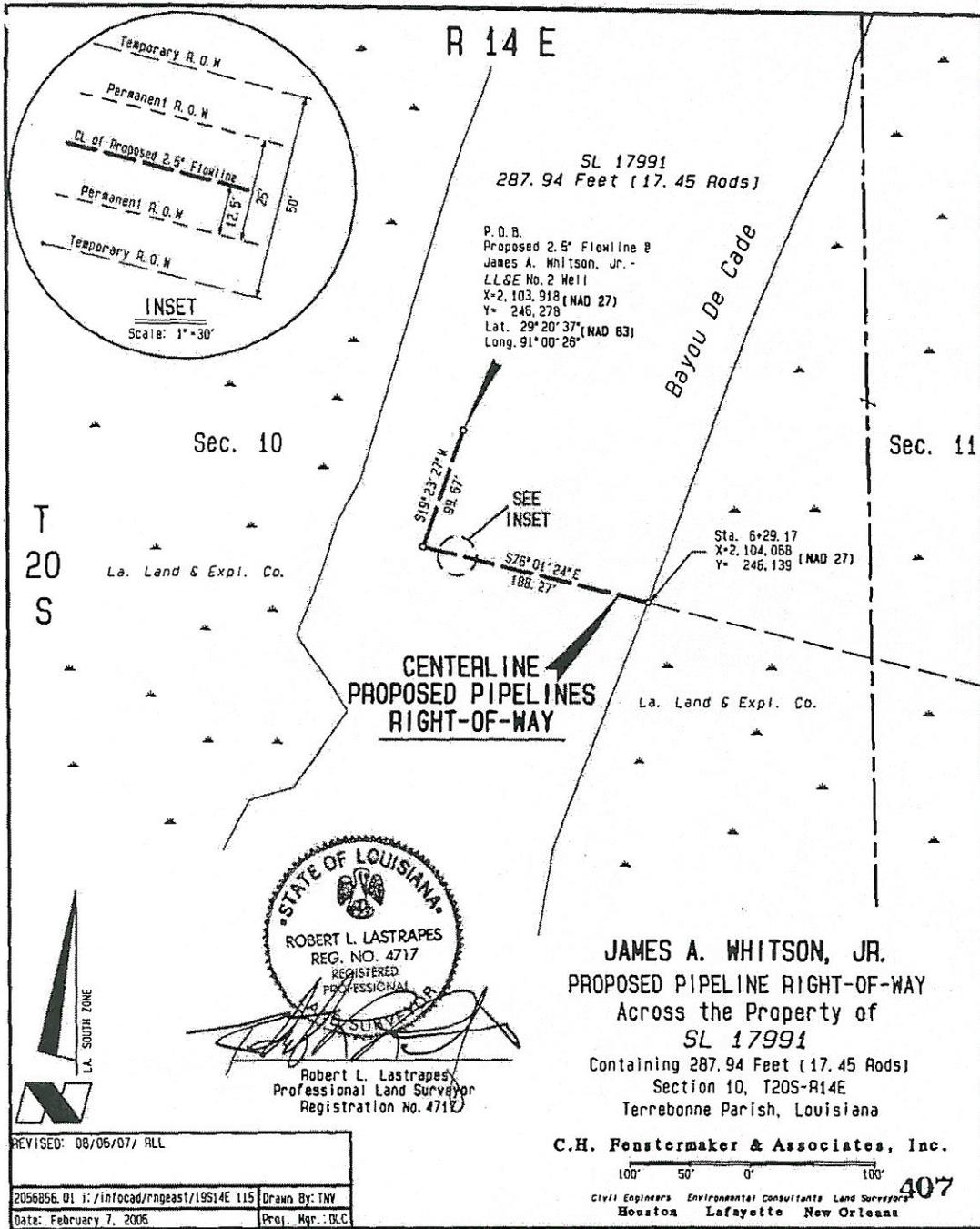
That ~~he~~she is one of the witnesses to the execution of the foregoing instrument and that ~~he~~she saw James A. Whitson Jr. execute said instrument as Principal of James A. Whitson Jr. as the free act and deed of said corporation in the presence of appearer and the other subscribing witness.

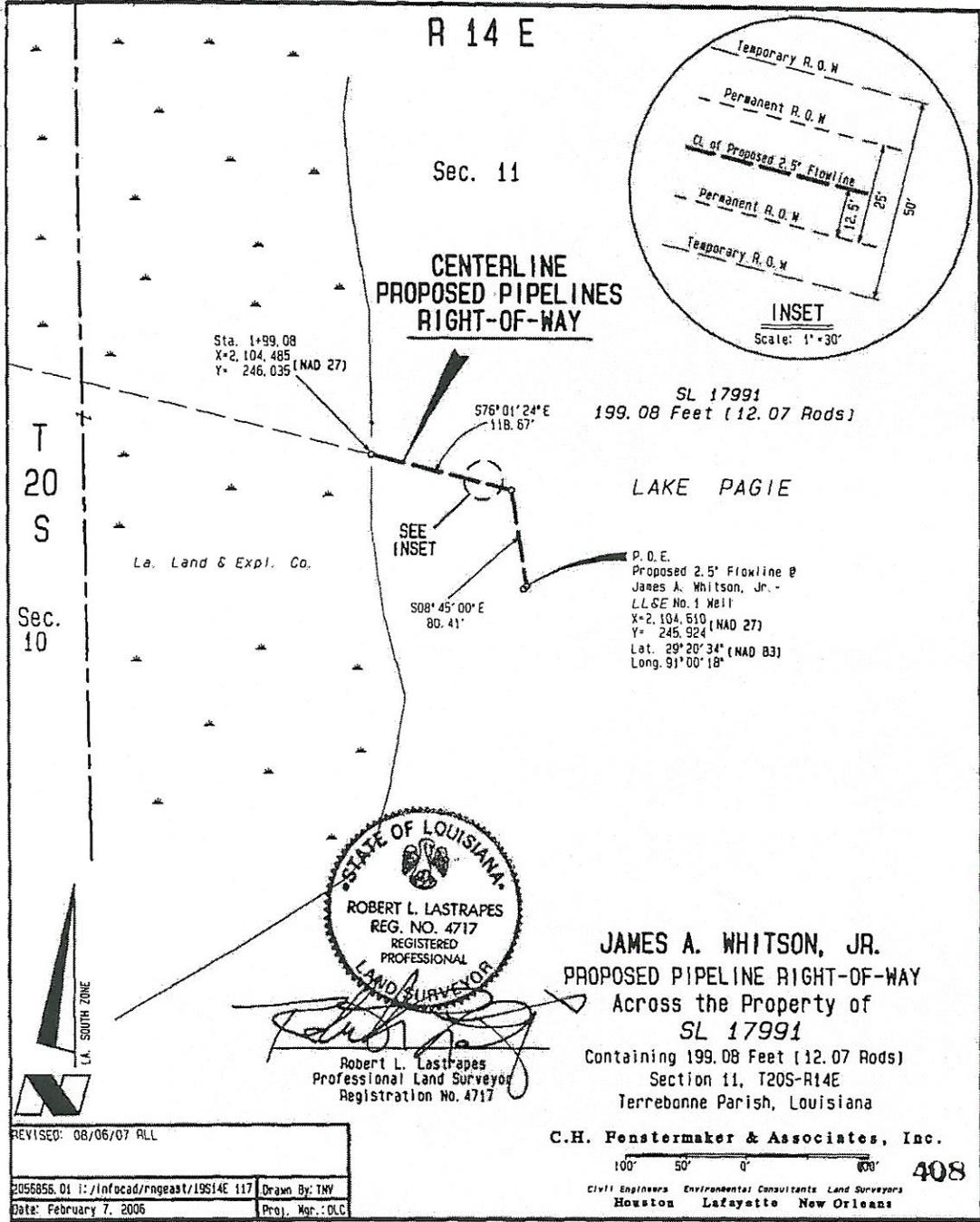
Sworn to and subscribed before me on this the 16th day of August 2007.

Peggy Smith
Notary Public

Anna Jauregui
Signature of Witness
Printed Name: Anna Jauregui







APPENDIX E: PERMITS OBTAINED BY OWNER

BOBBY JINDAL
GOVERNOR



PEGGY M. HATCH
SECRETARY

State of Louisiana
DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL SERVICES

APR 17 2013

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

Attention: Andrew Beall, Agent for the U.S. Fish & Wildlife Service

RE: Water Quality Certification (WQC 130319-01/AI 186530/CER 20130001)
Corps of Engineers Permit (MVN-2011-0954-WPP)
Terrebonne Parish

Dear Mr. Beall:

The Louisiana Department of Environmental Quality (the Department) has reviewed your application to dredge waterbottoms and place spoil and fill material for marsh creation and hydrologic restoration (Lost Lake), approximately 15.4 miles west-southwest of Dularge, 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

2013 APR 25 P 1:58
CFPA
RECEIVED

BOBBY JINDAL
GOVERNOR



STEPHEN CHUSTZ
INTERIM SECRETARY

State of Louisiana
DEPARTMENT OF NATURAL RESOURCES
OFFICE OF COASTAL MANAGEMENT

April 17, 2013

Andrew Beall
CPRA
P. O. Box 44027
Baton Rouge, LA 70804-4027

RE: **C20130034**, Coastal Zone Consistency
USFWS
Direct Federal Action
Construction of the Lost Lake Marsh Creation and Hydrologic Restoration CWPPRA
Project TE-72, Terrebonne Parish, Louisiana

Dear Mr. Beall:

The above referenced project has been reviewed for consistency with the Louisiana Coastal Resources Program (LCRP) in accordance with Section 307 (c) of the Coastal Zone Management Act of 1972, as amended. The project, as proposed in this application, is consistent with the LCRP, provided the applicant abides by the recommendations of the Louisiana Natural Heritage Program in the LDWF comment letter of February 21, 2013, as agreed on by email from the applicant's agent, Andrew Beall, in email of April 11, 2013.

If you have any questions concerning this determination please contact Brian Maarcks of the Consistency Section at (225) 342-9425 or 1-800-267-4019.

Sincerely,

A handwritten signature in black ink, appearing to read "Don Haydel".

Don Haydel
Acting Administrator
Interagency Affairs/Field Services Division

DH/JDH/bgm

cc: Dave Butler, LDWF
Jeffery Weller, USFWS, Lafayette
James Miller, Terrebonne Parish
Rod Pierce, OCM FC

FINDING OF NO SIGNIFICANT IMPACT
LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT
(TE-72)
TERREBONNE PARISH, LOUISIANA

The U.S. Fish and Wildlife Service (Service) is proposing to construct the Lost Lake Marsh Creation and Hydrologic Restoration Project (TE-72), located in Terrebonne Parish, Louisiana. The project is funded through the Coastal Wetlands Planning, Protection and Restoration Act and was authorized for construction on January 24, 2013.

An Environmental Assessment (EA) has been prepared which addresses the Preferred Alternative and a No Action alternative. The purpose of the proposed project is to create 468 acres of emergent marsh by hydraulically dredging bottom sediments and placing that material in shallow open water and fragmented marsh areas. The project will also create approximately 30,000 linear feet of terraces in an area of deteriorated marsh. Also, four fixed-crest weirs and one plug will be replaced with variable-crest structures to allow greater introduction of fresh water, sediments, and nutrients.

Copies of the draft EA were distributed to all pertinent local, state and Federal agencies, and public coastal Louisiana restoration groups in November, 2012. After a 30-day comment period, pertinent comments were incorporated into the final EA.

The Preferred Alternative of creating marsh and terraces in shallow open water areas and installing water control structures was selected because it will restore emergent marsh in the project area and result in a net gain of 452 acres of marsh compared to the No Action Alternative.

Based on my review and evaluation of the enclosed EA, I have determined that the Lost Lake Marsh Creation and Hydrologic Restoration Project is not a major Federal action which would significantly affect the quality of the human environment within the meaning of Section 102(2)(C) of the National Environmental Policy Act of 1969. Accordingly, preparation of an Environmental Impact Statement on the proposed action is not required.



Supervisor
Louisiana Ecological Services Office



Date

Reference:

Final Environmental Assessment, dated May 2014

Enclosure
03129196 FWM 246

ENVIRONMENTAL QUALITY



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

REPLY TO
ATTENTION OF

Operations Division
Western Evaluation Section

SEP 03 2013

SUBJECT: MVN-2011-00954-WPP

United States Fish and Wildlife Service
646 Cajundome Blvd., Suite 400
Lafayette, Louisiana 70506

Dear Gentlemen:

We are forwarding a draft copy of a permit, subject as above, which will authorize work under the Department of the Army permit program, after signed by a responsible official of this office.

The unsigned, undated copy of the permit is enclosed. You must sign and date the permit, signifying acceptance of the terms and conditions therein, and return the signed permit to this office. Upon receipt of the permit, the permit will be signed by the responsible official and will be returned to you.

**RETURN TO: US ARMY CORPS OF ENGINEERS, REGULATORY BRANCH,
WESTERN EVALUATION SECTION, POST OFFICE BOX 60267, NEW ORLEANS,
LOUISIANA 70160-0267.**

**YOU ARE ADVISED THAT YOU HAVE NO VALID PERMIT, AND NO WORK MAY
BE PERFORMED UNTIL YOU RECEIVE THE ORIGINAL OF THE PERMIT SIGNED
BY A RESPONSIBLE OFFICIAL OF THIS OFFICE.**

Before signing and returning the permit to this office, carefully consider the information contained in the permit. **ALSO, CAREFULLY CONSIDER THE INFORMATION CONTAINED IN THE ATTACHED FORM "NOTIFICATION OF APPLICANT OPTION (NAO)" WHICH LISTS THE OPTIONS AVAILABLE TO YOU IN YOUR EVALUATION OF THE ENCLOSED PERMIT.**

RECEIVED
2013 SEP -6 P 12:3
CPPRA

IF YOU CHOOSE TO ACCEPT THE TERMS AND CONDITIONS OF THIS PERMIT, YOU MUST SIGN AND RETURN THIS PERMIT WITH THE DRAWINGS, TOGETHER WITH THE PROCESSING FEE, WITHIN 60 DAYS OF THE DATE OF THIS LETTER. IF YOU FAIL TO DO SO, WE WILL ASSUME YOU NO LONGER PLAN TO DO THE WORK COVERED BY THE DRAFT PERMIT, AND YOUR APPLICATION WILL BE REMOVED FROM OUR FILES.

Sincerely,



Martin S. Mayer
Chief, Regulatory Branch

Enclosure

**NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND
REQUEST FOR APPEAL**

Applicant: USFWS

File No.: MVN-2011-00954-WPP

Date:

Attached is:

See Section below

<input checked="" type="checkbox"/>	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
<input type="checkbox"/>	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
<input type="checkbox"/>	PERMIT DENIAL	C
<input type="checkbox"/>	APPROVED JURISDICTIONAL DETERMINATION	D
<input type="checkbox"/>	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://www.usace.army.mil/cecw/pages/reg_materials.aspx or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:

Darrell S. Barbara (504)862-2261
Chief, Western Evaluation Section
U.S. Army Corps of Engineers
P.O. Box 60627
New Orleans, LA 70160

If you only have questions regarding the appeal process you may also contact the Division Engineer through:

Administrative Appeals Review Officer
Mississippi Valley Division
P.O. Box 80 (1400 Walnut Street)
Vicksburg, MS 39181-0080
601-634-5821 FAX: 601-634-5816

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

Signature of appellant or agent.

Date:

Telephone number:

DEPARTMENT OF THE ARMY PERMIT

Permittee: United States Fish and Wildlife Service

Permit No. MVN-2011-00954-WPP

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: To create emergent marsh in the Terrebonne Basin, in the vicinity of Lost Lake in marsh creation areas 1, 2A, 2B, 2C, and 3, totaling approximately 442 acres, constructed using dredged sediment pumped from borrow areas in Lost Lake to fill open water and broken marsh areas along Bayou Decade and Lake Pagie, in accordance with attached plans: Sheets 1-5 and sheets 7-25 dated November 1, 2012 and sheet 6 dated July 2012.

Project Location: Latitude 29° 20'27.640", Longitude 91° 1'27.290", Section(s) 1,2,3,4,5,6, T20S, R14E, and Section(s) 20,21,28,29,32,33,34, T19S, R14E, in Lost Lake, in Terrebonne Parish, Louisiana.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on **September 30, 2018**. 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: See Attached Pg 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 _____
(PERMITTEE)

X _____
(DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

Darrell S. Barbara, Chief Western Evaluation Section

(DATE)

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)

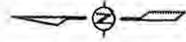
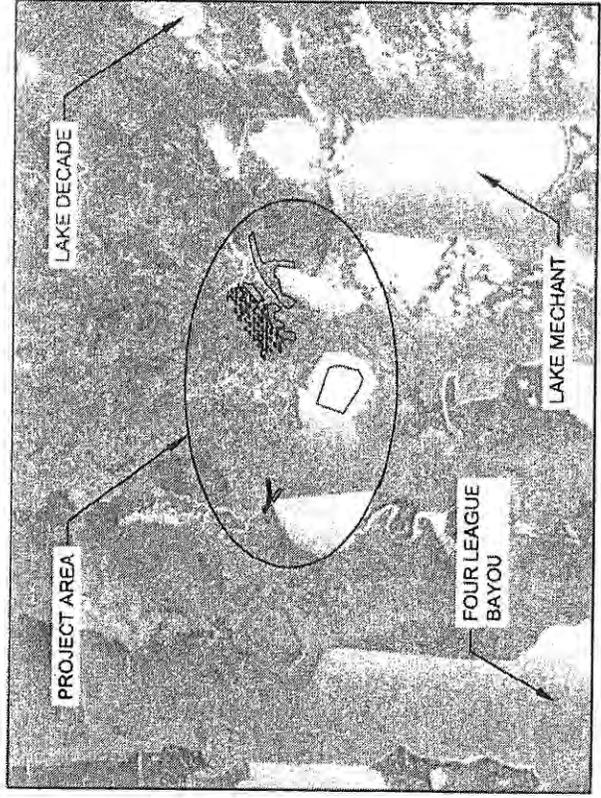
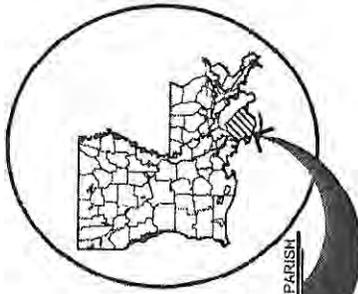
SPECIAL CONDITIONS: MVN-2011-00954-WPP

7. Any alterations or modifications to the permitted plan must be submitted to the Corps for re-evaluation prior to beginning work. If the authorized project requires additional structures or facilities not expressly permitted herein, you must obtain a separate approval for those facilities or structures not shown on the attached drawings.
8. Many local governing bodies have instituted laws and/or ordinances in order to regulate dredge and/or fill activities in floodplains to assure maintenance of floodwater storage capacity and avoid disruption of drainage patterns that may affect surrounding properties. Your project involves dredging and/or placement of fill; therefore, you must contact the local municipal and/or parish governing body regarding potential impacts to floodplains and compliance of your proposed activities with local ordinances, regulations, or permits.
9. Permittee shall install temporary sedimentation and erosion control measures to include sediment filter fence, stabilized construction methods and entrances, hay bales, construction sequencing, etc. Permittee shall insure that the proper installation of all sediment and erosion control measures indicated above are being adequately utilized, including the installation of hay bales adjacent to the silt fence in order to reduce the sedimentation rates into waters of the US.
10. The Chitimacha Tribe of Louisiana has stated that the project area is part of the aboriginal Chitimacha homelands. If during the course of work at the site, prehistoric and/or historic aboriginal cultural materials are discovered, the permittee will contact the Chitimacha Tribe of Louisiana at P.O. Box 661, Charenton, LA 70523, and the Army Corps of Engineers, New Orleans District (CEMVN) Regulatory Branch. CEMVN will initiate the required Federal, State, and Tribal coordination to determine the significance of the cultural materials and the need, if applicable, for additional cultural resource investigations.
11. The containment dikes will be gapped at the completion of construction activities before the contractor demobilizes from the site. Gaps will be excavated down to surrounding marsh elevation (approximately +1.0 feet) and will be 25 feet wide. Gaps will be placed at the best possible locations to promote tidal exchange with the surrounding wetlands and will occur at a minimum spacing of 500 feet. Gaps will not be created along the Lake Pagie shoreline as wave energy which may enter through those gaps might result in excessive removal of the newly-placed dredged material. A gapping or containment dike degradation plan will be coordinated with interested natural resource agencies. The permittee shall be required to inform the CEMVN, and the National Marine Fisheries, attention Lisa Abernathy at 225-389-0508 extension 209, when construction of the gaps has been completed.

STATE OF LOUISIANA
COASTAL PROTECTION AND RESTORATION AUTHORITY

**LOST LAKE MARSH CREATION AND
HYDROLOGIC RESTORATION PROJECT**

TE-72
TERREBONNE PARISH



INDEX TO SHEETS

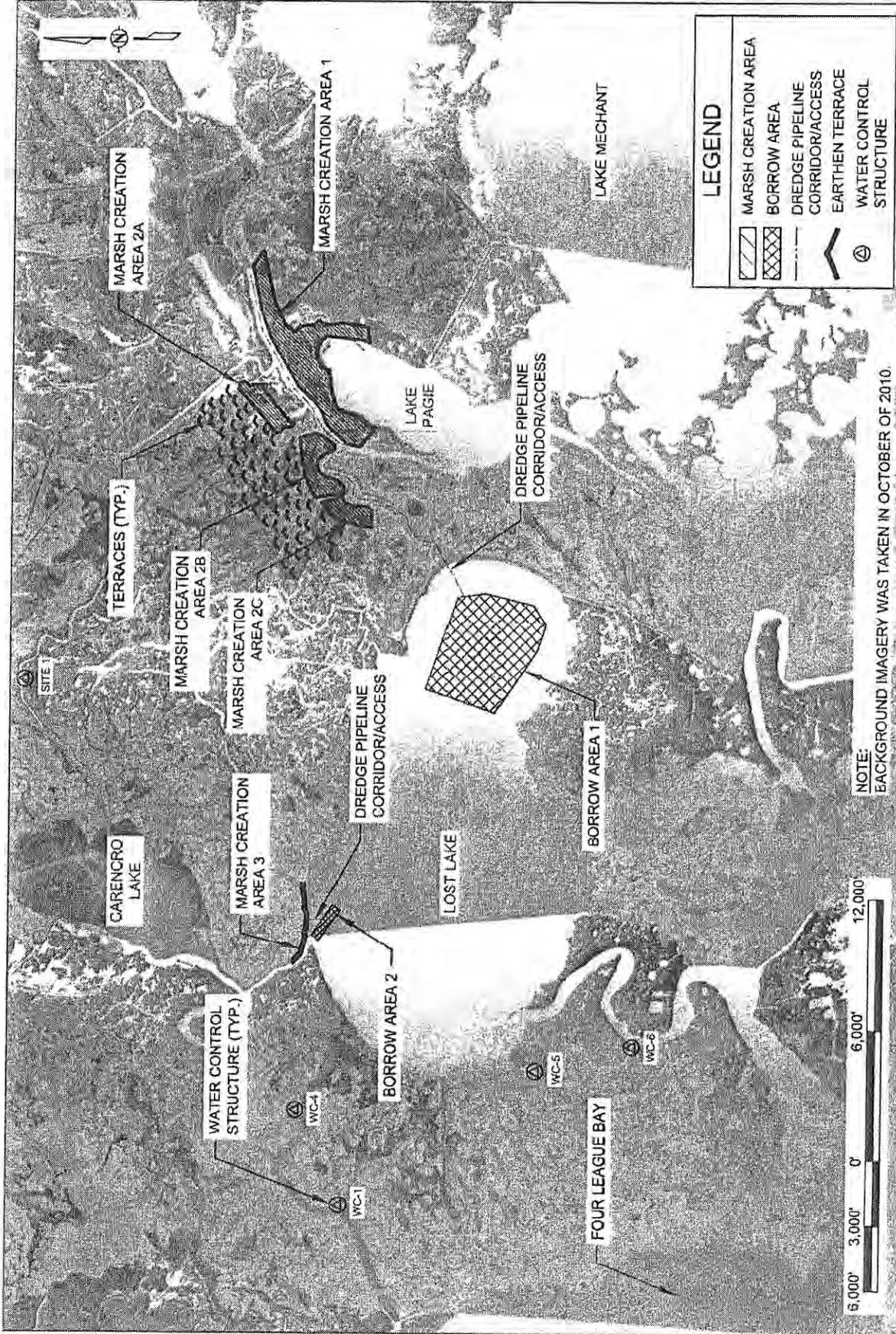
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	PLAN VIEW
3	BORROW AREA LAYOUT
4	MARSH CREATION AREA 1 LAYOUT
5	MARSH CREATION AREA 2A, 2B & 2C LAYOUT
6	MARSH CREATION AREA 3 LAYOUT
7	EARTHEN TERRACE LAYOUT
8	TERRACE COORDINATES
9	TYPICAL BORROW SECTIONS
10-11	TYPICAL FILL SECTIONS
12	TYPICAL PIPELINE CORRIDOR AND FILL SECTION
13	TYPICAL EARTHEN TERRACE SECTION
14	MARSH CREATION DETAIL
15	PLANTING LAYOUT AND DETAIL
16-26	WEIR STRUCTURE

NOT FOR CONSTRUCTION
DOCUMENTS ARE NOT TO BE USED FOR
CONSTRUCTION, BIDDING, RECORDATION,
CONVEYANCE, OR SALES.

PROFESSIONAL ENGINEER
JASON LANCIOS
LICENSE No. 77777

APPLICATION BY: UNITED STATES FISH AND WILDLIFE SERVICE 646 CALJUNDOME BLVD SUITE 400 LAFAYETTE, LA 70506	COASTAL PROTECTION AND RESTORATION AUTHORITY 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801	LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT	TITLE SHEET
		DESIGNED BY: TRAVIS BYLAND E.I. APPROVED BY: JASON LANCIOS, P.E.	STATE PROJECT NUMBER: TE-72 FEDERAL PROJECT NUMBER: TE-72

DRAWN BY: SHANE FAUST



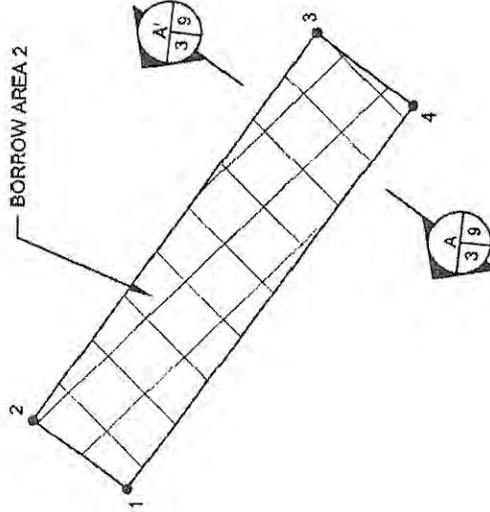
NOTE:
BACKGROUND IMAGERY WAS TAKEN IN OCTOBER OF 2010.

LEGEND	
	MARSH CREATION AREA
	BORROW AREA
	DREDGE PIPELINE CORRIDOR/ACCESS
	EARTHEN TERRACE
	WATER CONTROL STRUCTURE

APPLICATION BY: UNITED STATES FISH AND WILDLIFE SERVICE 645 CALUNDOME BLVD, SUITE 600 LAFAYETTE, LA, 70506	COASTAL PROTECTION AND RESTORATION AUTHORITY 500 LAUREL STREET BATON ROUGE, LOUISIANA 70801	LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT	PLAN VIEW
DRAWN BY: SHANE FAUST	DESIGNED BY: TRAVIS BYLAND, E.I.	STATE PROJECT NUMBER: TE-72 FEDERAL PROJECT NUMBER: TE-72	DATE: NOVEMBER 2012 SHEET 2 OF 28

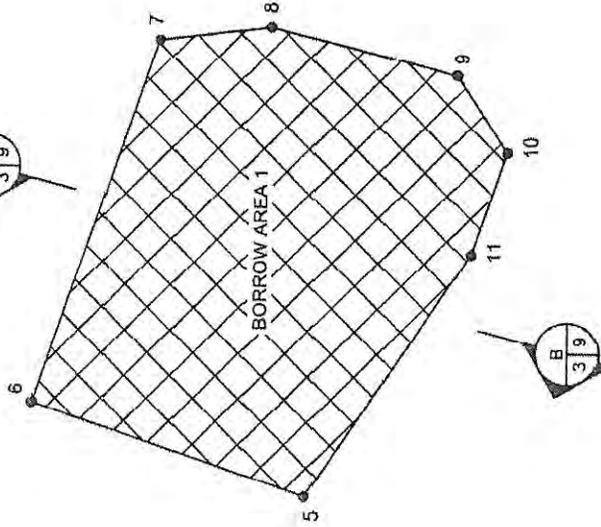
BORROW AREA 2 COORDINATES

POINT	LONGITUDE	LATITUDE
1	91° 04' 32.78"	29° 21' 22.59"
2	91° 04' 30.08"	29° 21' 25.85"
3	91° 04' 14.61"	29° 21' 16.33"
4	91° 04' 17.45"	29° 21' 13.01"



BORROW AREA 1 COORDINATES

POINT	LONGITUDE	LATITUDE
5	91° 02' 34.57"	29° 20' 04.59"
6	91° 02' 22.29"	29° 20' 35.93"
7	91° 01' 34.65"	29° 20' 21.47"
8	91° 01' 32.94"	29° 20' 08.78"
9	91° 01' 39.14"	29° 19' 47.45"
10	91° 01' 49.24"	29° 19' 41.70"
11	91° 02' 02.72"	29° 19' 45.78"



NOTES:

1. BORROW AREA 1 CONTAINS APPROXIMATELY 7,460,572.00 CUBIC YARDS OF MATERIAL.
2. BORROW AREA 2 CONTAINS APPROXIMATELY 259,689.75 CUBIC YARDS OF MATERIAL.

APPLICATION BY:
 UNITED STATES FISH AND WILDLIFE SERVICE
 646 CAJUNOISLE BLVD, SUITE 200
 LAFAYETTE, LA 70506

COASTAL PROTECTION AND RESTORATION AUTHORITY
 450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT

BORROW AREA LAYOUT

DRAWN BY: SHANE FAUST

DESIGNED BY: TRAVIS BYLAND, E.I. APPROVED BY: JASON LANCLOS, P.E.

STATE PROJECT NUMBER: TE-72

DATE: NOVEMBER 2012

FEDERAL PROJECT NUMBER: TE-72

SHEET 3 OF 26

MARSH CREATION AREA 1 COORDINATES

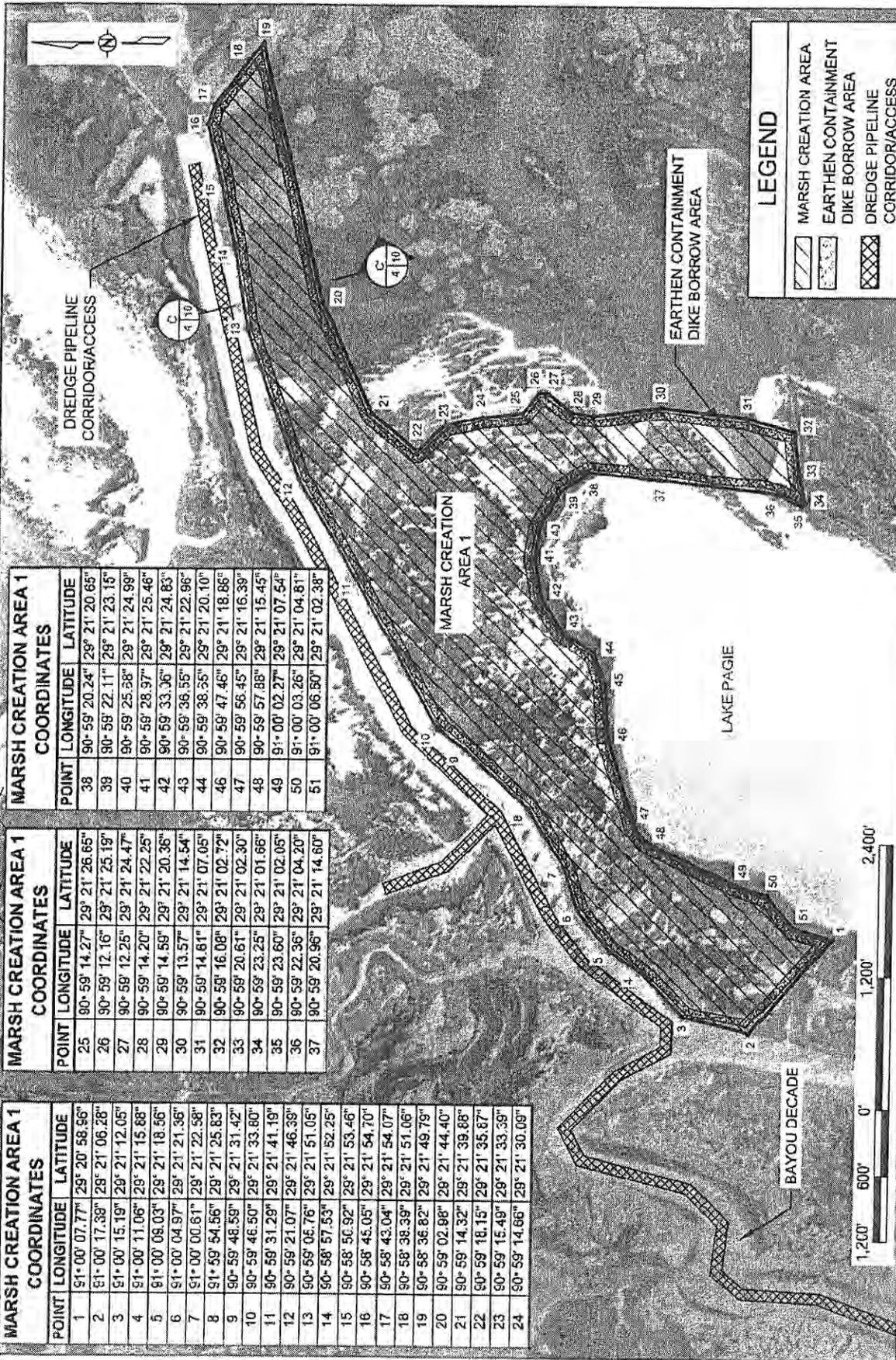
POINT	LONGITUDE	LATITUDE
1	91° 00' 07.77"	29° 20' 58.96"
2	91° 00' 17.39"	29° 21' 06.28"
3	91° 00' 15.19"	29° 21' 12.05"
4	91° 00' 11.06"	29° 21' 15.88"
5	91° 00' 08.03"	29° 21' 18.56"
6	91° 00' 04.97"	29° 21' 21.36"
7	91° 00' 00.61"	29° 21' 22.58"
8	90° 59' 54.56"	29° 21' 25.83"
9	90° 59' 48.59"	29° 21' 31.42"
10	90° 59' 46.50"	29° 21' 33.80"
11	90° 59' 31.29"	29° 21' 41.19"
12	90° 59' 21.07"	29° 21' 46.39"
13	90° 59' 05.76"	29° 21' 51.05"
14	90° 58' 57.53"	29° 21' 52.25"
15	90° 58' 50.92"	29° 21' 53.46"
16	90° 58' 45.05"	29° 21' 54.70"
17	90° 58' 43.04"	29° 21' 54.07"
18	90° 58' 38.39"	29° 21' 51.06"
19	90° 58' 36.82"	29° 21' 49.79"
20	90° 59' 02.98"	29° 21' 44.40"
21	90° 59' 14.32"	29° 21' 39.88"
22	90° 59' 18.15"	29° 21' 35.87"
23	90° 59' 15.48"	29° 21' 33.39"
24	90° 59' 14.66"	29° 21' 30.09"

MARSH CREATION AREA 1 COORDINATES

POINT	LONGITUDE	LATITUDE
25	90° 59' 14.27"	29° 21' 26.65"
26	90° 59' 12.16"	29° 21' 25.19"
27	90° 59' 12.25"	29° 21' 24.47"
28	90° 59' 14.20"	29° 21' 22.25"
29	90° 59' 14.59"	29° 21' 20.36"
30	90° 59' 13.57"	29° 21' 14.54"
31	90° 59' 14.61"	29° 21' 07.05"
32	90° 59' 16.08"	29° 21' 02.72"
33	90° 59' 20.61"	29° 21' 02.30"
34	90° 59' 23.25"	29° 21' 01.66"
35	90° 59' 23.60"	29° 21' 02.05"
36	90° 59' 22.36"	29° 21' 04.20"
37	90° 59' 20.96"	29° 21' 14.60"

MARSH CREATION AREA 1 COORDINATES

POINT	LONGITUDE	LATITUDE
38	90° 59' 20.24"	29° 21' 20.65"
39	90° 58' 22.11"	29° 21' 23.15"
40	90° 59' 25.88"	29° 21' 24.99"
41	90° 59' 28.97"	29° 21' 25.46"
42	90° 59' 33.36"	29° 21' 24.83"
43	90° 59' 36.55"	29° 21' 22.96"
44	90° 59' 38.55"	29° 21' 20.10"
46	90° 59' 47.46"	29° 21' 18.86"
47	90° 59' 56.45"	29° 21' 16.39"
48	90° 59' 57.88"	29° 21' 15.45"
49	91° 00' 02.27"	29° 21' 07.54"
50	91° 00' 03.26"	29° 21' 04.61"
51	91° 00' 06.50"	29° 21' 02.38"

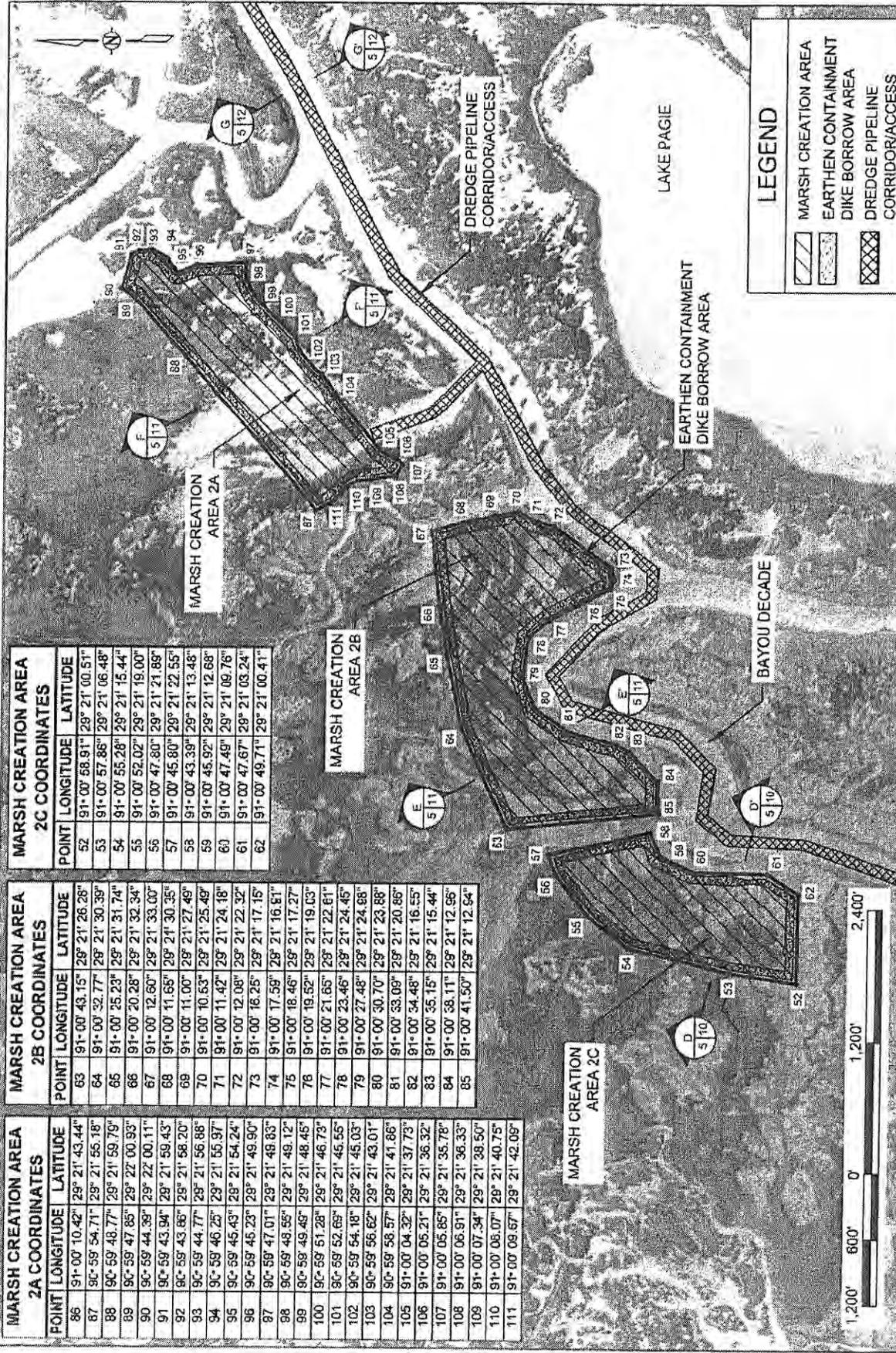


<p>APPLICATION BY: UNITED STATES FISH AND WILDLIFE SERVICE 646 CALJUNDOME BLVD, SUITE 400 LAFAYETTE, LA, 70506</p>	<p>DESIGNED BY: SHANE FAUST</p>	<p>COASTAL PROTECTION AND RESTORATION AUTHORITY 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801</p>	<p>LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT</p>	<p>MARSH CREATION AREA 1 LAYOUT</p>
<p>DATE: NOVEMBER 2012</p>	<p>STATE PROJECT NUMBER: TE-72</p>	<p>FEDERAL PROJECT NUMBER: TE-72</p>	<p>DATE: NOVEMBER 2012</p>	<p>SHEET 4 OF 26</p>

MARSH CREATION AREA 2A COORDINATES		
POINT	LONGITUDE	LATITUDE
86	91° 00' 10.42"	29° 21' 43.44"
87	90° 59' 54.71"	29° 21' 55.18"
88	90° 59' 48.77"	29° 21' 59.79"
89	90° 59' 47.85"	29° 22' 00.33"
90	90° 59' 44.38"	29° 22' 00.11"
91	90° 59' 43.94"	29° 21' 59.43"
92	90° 59' 43.86"	29° 21' 58.20"
93	90° 59' 44.77"	29° 21' 56.96"
94	90° 59' 46.25"	29° 21' 55.97"
95	90° 59' 45.43"	29° 21' 54.24"
96	90° 59' 45.23"	29° 21' 49.90"
97	90° 59' 47.01"	29° 21' 48.83"
98	90° 59' 48.55"	29° 21' 49.12"
99	90° 59' 49.49"	29° 21' 48.45"
100	90° 59' 51.28"	29° 21' 46.73"
101	90° 59' 52.69"	29° 21' 45.55"
102	90° 59' 54.18"	29° 21' 45.03"
103	90° 59' 56.62"	29° 21' 43.01"
104	90° 59' 58.57"	29° 21' 41.86"
105	91° 00' 04.32"	29° 21' 37.73"
106	91° 00' 05.21"	29° 21' 36.32"
107	91° 00' 05.85"	29° 21' 35.78"
108	91° 00' 06.91"	29° 21' 36.33"
109	91° 00' 07.34"	29° 21' 38.50"
110	91° 00' 08.07"	29° 21' 40.75"
111	91° 00' 09.57"	29° 21' 42.09"

MARSH CREATION AREA 2B COORDINATES		
POINT	LONGITUDE	LATITUDE
63	91° 00' 43.15"	29° 21' 26.28"
64	91° 00' 32.77"	29° 21' 30.39"
65	91° 00' 25.23"	29° 21' 31.74"
66	91° 00' 20.28"	29° 21' 32.34"
67	91° 00' 12.60"	29° 21' 33.00"
68	91° 00' 11.65"	29° 21' 30.35"
69	91° 00' 11.00"	29° 21' 27.49"
70	91° 00' 10.63"	29° 21' 25.49"
71	91° 00' 11.42"	29° 21' 24.18"
72	91° 00' 12.08"	29° 21' 22.32"
73	91° 00' 15.25"	29° 21' 17.15"
74	91° 00' 17.59"	29° 21' 16.61"
75	91° 00' 18.46"	29° 21' 17.27"
76	91° 00' 19.52"	29° 21' 19.03"
77	91° 00' 21.65"	29° 21' 22.61"
78	91° 00' 23.46"	29° 21' 24.45"
79	91° 00' 27.48"	29° 21' 24.68"
80	91° 00' 30.70"	29° 21' 23.88"
81	91° 00' 33.09"	29° 21' 20.65"
82	91° 00' 34.48"	29° 21' 16.55"
83	91° 00' 35.15"	29° 21' 15.44"
84	91° 00' 38.11"	29° 21' 12.56"
85	91° 00' 41.50"	29° 21' 12.54"

MARSH CREATION AREA 2C COORDINATES		
POINT	LONGITUDE	LATITUDE
52	91° 00' 58.91"	29° 21' 00.51"
53	91° 00' 57.86"	29° 21' 06.48"
54	91° 00' 55.28"	29° 21' 15.44"
55	91° 00' 52.02"	29° 21' 19.00"
56	91° 00' 47.60"	29° 21' 21.89"
57	91° 00' 45.80"	29° 21' 22.55"
58	91° 00' 43.39"	29° 21' 13.48"
59	91° 00' 45.92"	29° 21' 12.68"
60	91° 00' 47.49"	29° 21' 09.76"
61	91° 00' 47.67"	29° 21' 03.24"
62	91° 00' 49.71"	29° 21' 00.41"



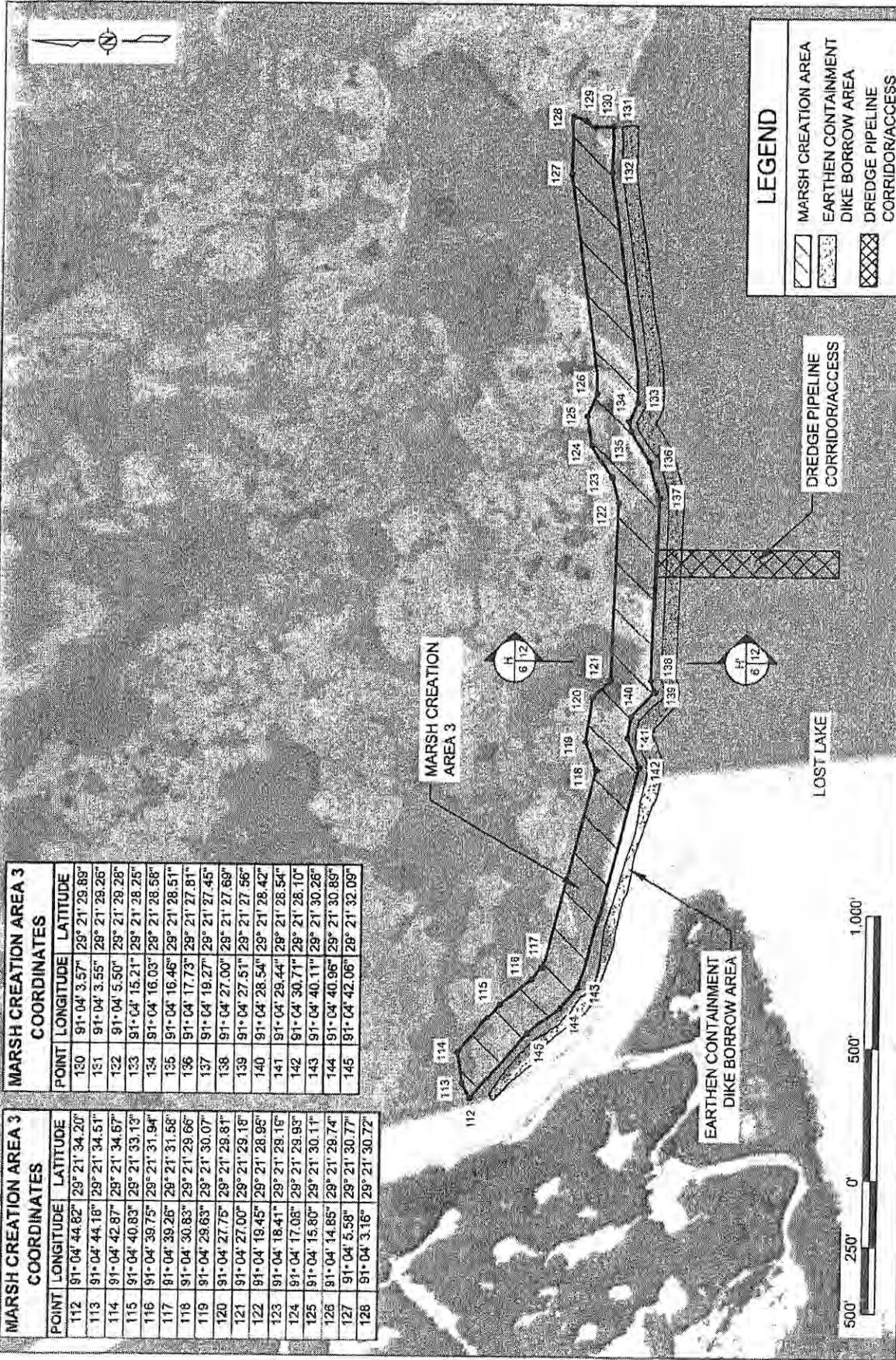
LEGEND

- MARSH CREATION AREA
- EARTHEN CONTAINMENT DIKE BORROW AREA
- DREDGE PIPELINE CORRIDOR/ACCESS

APPLICATION BY: UNITED STATES FISH AND WILDLIFE SERVICE 546 CAJUNDOME BLVD, SUITE 400 LAFAYETTE, LA. 70506	COASTAL PROTECTION AND RESTORATION AUTHORITY 400 LAUREL STREET BATON ROUGE, LOUISIANA 70801	MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT STATE PROJECT NUMBER: TE-72 FEDERAL PROJECT NUMBER: TE-72
DESIGNED BY: TRAVIS BYLAND, E.I. APPROVED BY: JASON LANCIOS, P.E.		MARSH CREATION AREA 2A, 2B & 2C LAYOUT
DRAWN BY: SHANE FAUST		DATE: NOVEMBER 2012 SHEET 5 OF 26

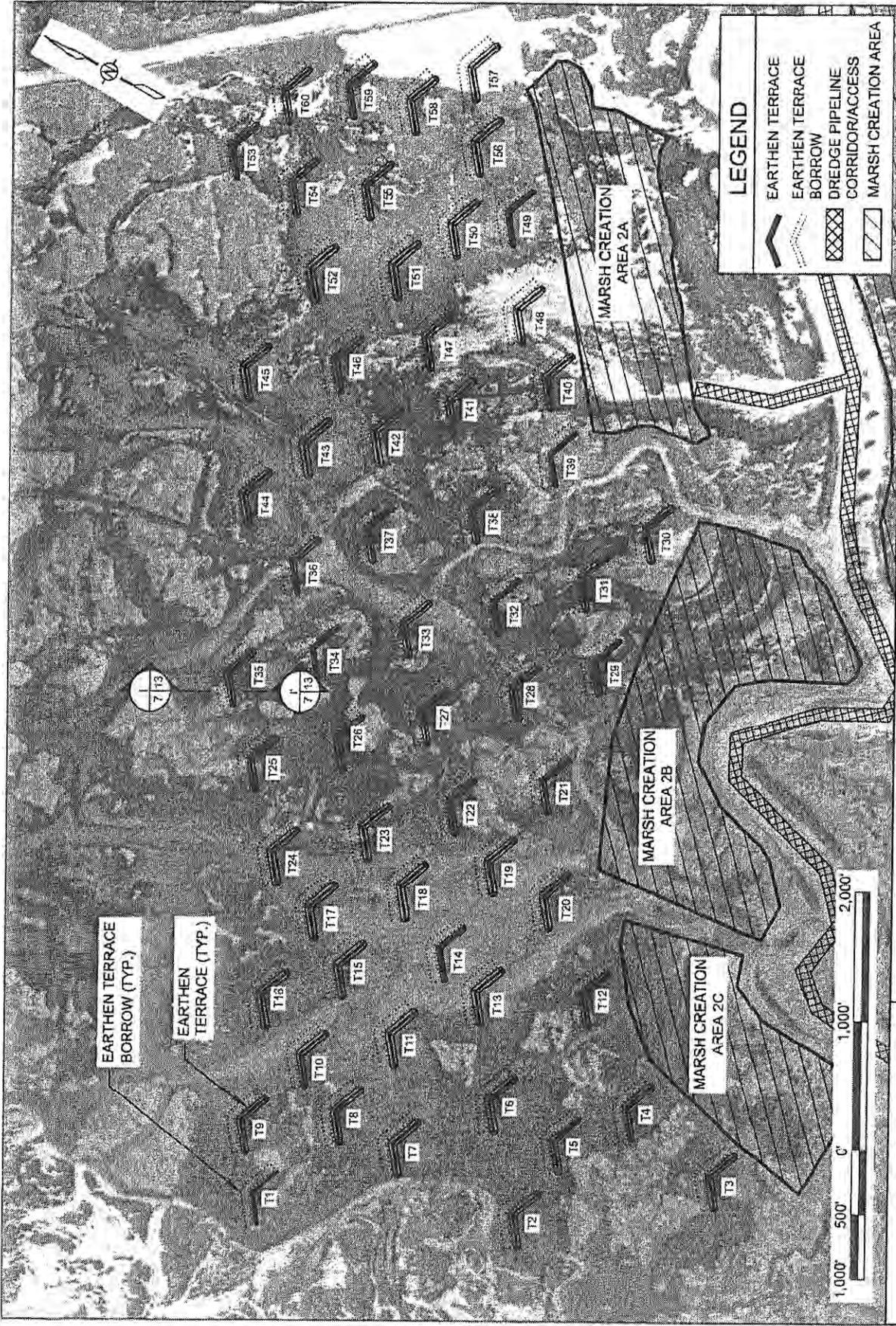
MARSH CREATION AREA 3 COORDINATES		
POINT	LONGITUDE	LATITUDE
112	91° 04' 44.82"	29° 21' 34.20"
113	91° 04' 44.18"	29° 21' 34.51"
114	91° 04' 42.87"	29° 21' 34.87"
115	91° 04' 40.83"	29° 21' 33.13"
116	91° 04' 39.75"	29° 21' 31.94"
117	91° 04' 39.26"	29° 21' 31.58"
118	91° 04' 30.83"	29° 21' 29.66"
119	91° 04' 29.63"	29° 21' 30.07"
120	91° 04' 27.75"	29° 21' 29.18"
121	91° 04' 27.00"	29° 21' 29.18"
122	91° 04' 19.45"	29° 21' 28.95"
123	91° 04' 18.41"	29° 21' 28.16"
124	91° 04' 17.08"	29° 21' 29.93"
125	91° 04' 15.80"	29° 21' 30.11"
126	91° 04' 14.85"	29° 21' 29.74"
127	91° 04' 5.58"	29° 21' 30.77"
128	91° 04' 3.16"	29° 21' 30.72"

MARSH CREATION AREA 3 COORDINATES		
POINT	LONGITUDE	LATITUDE
130	91° 04' 3.57"	29° 21' 29.89"
131	91° 04' 3.55"	29° 21' 29.26"
132	91° 04' 5.50"	29° 21' 29.28"
133	91° 04' 15.21"	29° 21' 28.75"
134	91° 04' 16.03"	29° 21' 28.58"
135	91° 04' 16.46"	29° 21' 28.51"
136	91° 04' 17.73"	29° 21' 27.81"
137	91° 04' 19.27"	29° 21' 27.45"
138	91° 04' 27.00"	29° 21' 27.69"
139	91° 04' 27.51"	29° 21' 27.56"
140	91° 04' 28.54"	29° 21' 28.42"
141	91° 04' 29.44"	29° 21' 28.54"
142	91° 04' 30.71"	29° 21' 28.10"
143	91° 04' 40.11"	29° 21' 30.26"
144	91° 04' 40.96"	29° 21' 30.89"
145	91° 04' 42.06"	29° 21' 32.09"



LEGEND	
	MARSH CREATION AREA
	EARTHEN CONTAINMENT DIKE BORROW AREA
	DREDGE PIPELINE CORRIDOR/ACCESS

APPLICATION BY: UNITED STATES FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD, SUITE 600 LAFAYETTE, LA. 70506	DESIGNED BY: TRAVIS BYLAND, E.I. APPROVED BY: JASON LANGLIOS, P.E. BATON ROUGE, LOUISIANA 70801	STATE PROJECT NUMBER: TE-72 FEDERAL PROJECT NUMBER: TE-72	MARSH CREATION AREA 3 LAYOUT DATE: JULY 20/2 SHEET 8 OF 26
COASTAL PROTECTION AND RESTORATION AUTHORITY 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801		LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT	



<p>APPLICATION BY: UNITED STATES FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD, SUITE 400 LAFAYETTE, LA. 70506</p>	<p>DESIGNED BY: SHAMIE FAUST</p>	<p>COASTAL PROTECTION AND RESTORATION AUTHORITY 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801</p>	<p>LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT</p> <p>STATE PROJECT NUMBER: TE-72 FEDERAL PROJECT NUMBER: TE-72</p>	<p>EARTHEN TERRACE LAYOUT</p>
<p>DRAWN BY: SHAMIE FAUST</p>		<p>DATE: NOVEMBER 2012</p>		<p>SHEET 7 OF 26</p>

TERRACE COORDINATES		
TERRACE	LONGITUDE	LATITUDE
11	91° 01' 24.72"	29° 21' 34.66"
	91° 01' 22.54"	29° 21' 35.24"
	91° 01' 18.98"	29° 21' 35.38"
12	91° 01' 15.09"	29° 21' 16.79"
	91° 01' 12.91"	29° 21' 18.37"
	91° 01' 10.26"	29° 21' 17.50"
13	91° 01' 03.73"	29° 21' 05.51"
	91° 01' 01.55"	29° 21' 07.09"
	91° 00' 59.80"	29° 21' 06.22"
14	91° 01' 02.05"	29° 21' 13.61"
	91° 00' 59.87"	29° 21' 15.19"
	91° 00' 57.22"	29° 21' 14.32"
15	91° 01' 07.69"	29° 21' 17.02"
	91° 01' 05.51"	29° 21' 18.00"
	91° 01' 02.86"	29° 21' 17.73"
16	91° 01' 07.39"	29° 21' 22.86"
	91° 01' 05.21"	29° 21' 24.44"
	91° 01' 02.57"	29° 21' 23.57"
17	91° 01' 14.91"	29° 21' 27.45"
	91° 01' 12.74"	29° 21' 28.08"
	91° 01' 10.09"	29° 21' 28.16"
18	91° 01' 14.95"	29° 21' 32.45"
	91° 01' 12.78"	29° 21' 34.02"
	91° 01' 10.13"	29° 21' 33.18"
19	91° 01' 19.72"	29° 21' 38.28"
	91° 01' 17.54"	29° 21' 39.88"
	91° 01' 14.90"	29° 21' 39.00"
110	101° 28' 40.52"	37° 24' 33.09"
	101° 28' 38.77"	37° 24' 35.10"
	101° 28' 40.09"	37° 24' 37.32"
111	101° 28' 47.17"	37° 24' 37.37"
	101° 28' 45.43"	37° 24' 39.39"
112	101° 28' 46.74"	37° 24' 41.60"
	101° 28' 44.98"	37° 24' 46.26"
	101° 28' 43.23"	37° 24' 48.28"
113	101° 29' 01.55"	37° 24' 50.49"
	101° 28' 59.85"	37° 24' 52.92"
	101° 28' 57.87"	37° 24' 56.49"
114	101° 28' 55.02"	37° 24' 58.63"
	101° 28' 53.18"	37° 25' 01.97"
	101° 28' 51.35"	37° 25' 05.55"
115	101° 01' 03.82"	29° 21' 32.68"
	101° 01' 01.65"	29° 21' 34.50"
	101° 00' 59.00"	29° 21' 38.64"
116	91° 01' 08.34"	29° 21' 41.87"
	91° 01' 07.16"	29° 21' 43.44"
	91° 01' 04.51"	29° 21' 42.58"

TERRACE COORDINATES		
TERRACE	LONGITUDE	LATITUDE
117	91° 01' 00.64"	29° 21' 42.08"
	91° 00' 58.46"	29° 21' 43.66"
	91° 00' 55.81"	29° 21' 42.79"
118	91° 00' 55.18"	29° 21' 36.94"
	91° 00' 53.00"	29° 21' 38.51"
	91° 00' 50.36"	29° 21' 37.65"
119	91° 00' 49.49"	29° 21' 32.13"
	91° 00' 47.31"	29° 21' 33.71"
	91° 00' 44.67"	29° 21' 32.84"
120	91° 00' 44.70"	29° 21' 27.18"
	91° 00' 42.52"	29° 21' 28.75"
	91° 00' 40.34"	29° 21' 27.89"
121	91° 00' 41.12"	29° 21' 31.72"
	91° 00' 38.94"	29° 21' 33.30"
	91° 00' 36.76"	29° 21' 32.43"
122	91° 00' 46.68"	29° 21' 37.00"
	91° 00' 44.50"	29° 21' 38.57"
	91° 00' 42.32"	29° 21' 37.11"
123	91° 00' 52.34"	29° 21' 41.64"
	91° 00' 50.16"	29° 21' 43.22"
	91° 00' 47.98"	29° 21' 42.35"
124	91° 00' 58.12"	29° 21' 46.73"
	91° 00' 55.94"	29° 21' 48.30"
	91° 00' 53.76"	29° 21' 47.44"
125	91° 00' 52.13"	29° 21' 51.64"
	91° 00' 49.95"	29° 21' 53.22"
	91° 00' 47.77"	29° 21' 52.35"
126	91° 00' 46.66"	29° 21' 46.78"
	91° 00' 44.48"	29° 21' 48.36"
	91° 00' 42.30"	29° 21' 47.49"
127	91° 00' 41.13"	29° 21' 42.23"
	91° 00' 38.95"	29° 21' 43.80"
	91° 00' 36.77"	29° 21' 42.94"
128	91° 00' 35.42"	29° 21' 37.33"
	91° 00' 33.24"	29° 21' 38.90"
	91° 00' 31.06"	29° 21' 37.47"
129	91° 00' 30.59"	29° 21' 37.84"
	91° 00' 28.41"	29° 21' 32.96"
	91° 00' 26.23"	29° 21' 34.55"
130	91° 00' 25.06"	29° 21' 33.89"
	91° 00' 22.88"	29° 21' 34.71"
	91° 00' 20.70"	29° 21' 36.29"
131	91° 00' 12.85"	29° 21' 35.42"
	91° 00' 10.67"	29° 21' 37.06"
	91° 00' 08.49"	29° 21' 38.63"
132	91° 00' 19.35"	29° 21' 37.77"
	91° 00' 17.17"	29° 21' 41.86"
	91° 00' 14.99"	29° 21' 43.43"
	91° 00' 12.81"	29° 21' 42.57"

TERRACE COORDINATES		
TERRACE	LONGITUDE	LATITUDE
133	91° 00' 35.34"	29° 21' 48.87"
	91° 00' 33.16"	29° 21' 48.44"
	91° 00' 30.52"	29° 21' 47.58"
134	91° 00' 41.07"	29° 21' 51.85"
	91° 00' 38.89"	29° 21' 53.43"
	91° 00' 36.24"	29° 21' 52.56"
135	91° 00' 46.65"	29° 21' 58.51"
	91° 00' 44.47"	29° 21' 59.09"
	91° 00' 41.83"	29° 21' 57.27"
136	91° 00' 35.41"	29° 21' 56.56"
	91° 00' 33.23"	29° 21' 58.14"
	91° 00' 30.59"	29° 21' 57.27"
137	91° 00' 29.71"	29° 21' 52.86"
	91° 00' 27.53"	29° 21' 54.44"
	91° 00' 24.89"	29° 21' 53.57"
138	91° 00' 23.77"	29° 21' 48.85"
	91° 00' 21.59"	29° 21' 48.43"
	91° 00' 18.94"	29° 21' 47.56"
139	91° 00' 16.21"	29° 21' 43.84"
	91° 00' 14.03"	29° 21' 45.42"
	91° 00' 11.39"	29° 21' 44.55"
140	91° 00' 08.47"	29° 21' 47.08"
	91° 00' 06.29"	29° 21' 48.66"
	91° 00' 04.11"	29° 21' 50.24"
141	91° 00' 16.71"	29° 21' 52.53"
	91° 00' 14.54"	29° 21' 54.10"
	91° 00' 12.36"	29° 21' 55.24"
142	91° 00' 22.11"	29° 21' 56.20"
	91° 00' 19.93"	29° 21' 57.77"
	91° 00' 17.75"	29° 21' 56.91"
143	91° 00' 26.08"	29° 22' 00.39"
	91° 00' 23.90"	29° 22' 01.97"
	91° 00' 21.72"	29° 22' 02.42"
144	91° 00' 30.32"	29° 22' 03.99"
	91° 00' 28.14"	29° 22' 05.57"
	91° 00' 25.96"	29° 22' 07.15"
145	91° 00' 23.00"	29° 22' 07.29"
	91° 00' 20.82"	29° 22' 08.82"
	91° 00' 18.64"	29° 22' 10.39"
146	91° 00' 18.45"	29° 22' 01.52"
	91° 00' 16.27"	29° 22' 03.10"
	91° 00' 14.09"	29° 22' 04.68"
147	91° 00' 12.79"	29° 21' 56.53"
	91° 00' 10.61"	29° 21' 58.11"
	91° 00' 08.43"	29° 21' 59.69"
148	91° 00' 08.88"	29° 21' 51.58"
	91° 00' 06.70"	29° 21' 53.15"
	91° 00' 04.52"	29° 21' 54.73"

TERRACE COORDINATES		
TERRACE	LONGITUDE	LATITUDE
149	90° 59' 59.98"	29° 21' 55.90"
	90° 59' 57.80"	29° 21' 57.48"
	90° 59' 55.62"	29° 21' 56.61"
150	91° 00' 03.28"	29° 21' 59.16"
	91° 00' 01.10"	29° 22' 00.74"
	90° 59' 58.45"	29° 21' 59.67"
151	91° 00' 08.91"	29° 22' 01.44"
	91° 00' 06.73"	29° 22' 03.01"
	91° 00' 04.55"	29° 22' 04.59"
152	91° 00' 12.71"	29° 22' 06.66"
	91° 00' 10.53"	29° 22' 08.24"
	91° 00' 08.35"	29° 22' 09.82"
153	91° 00' 07.02"	29° 22' 16.59"
	91° 00' 04.84"	29° 22' 18.17"
	91° 00' 02.66"	29° 22' 19.75"
154	91° 00' 07.05"	29° 22' 11.24"
	91° 00' 04.87"	29° 22' 12.82"
	91° 00' 02.69"	29° 22' 14.40"
155	91° 00' 04.14"	29° 22' 08.27"
	91° 00' 01.96"	29° 22' 09.85"
	90° 59' 59.31"	29° 22' 06.98"
156	90° 59' 56.09"	29° 22' 00.80"
	90° 59' 53.91"	29° 22' 02.38"
	90° 59' 51.73"	29° 22' 03.96"
157	90° 59' 48.57"	29° 22' 05.43"
	90° 59' 46.39"	29° 22' 07.01"
	90° 59' 44.21"	29° 22' 08.59"
158	90° 59' 55.80"	29° 22' 06.82"
	90° 59' 53.62"	29° 22' 08.40"
	90° 59' 51.44"	29° 22' 10.00"
159	90° 59' 57.35"	29° 22' 11.18"
	90° 59' 55.17"	29° 22' 12.76"
	90° 59' 52.99"	29° 22' 14.34"
160	91° 00' 06.50"	29° 22' 15.23"
	90° 59' 58.33"	29° 22' 16.80"
	90° 59' 56.15"	29° 22' 18.38"

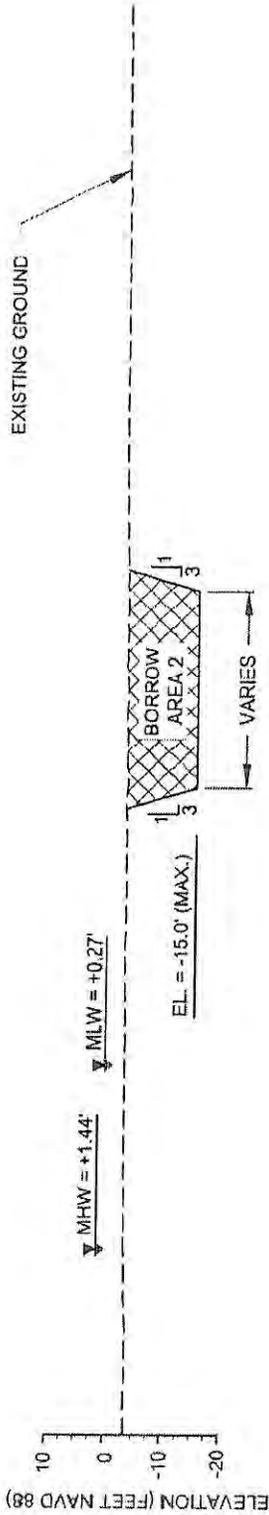
APPLICATION BY:
 UNITED STATES FISH AND WILDLIFE SERVICE
 646 CAJUNDOME BLVD, SUITE 400
 LAFAYETTE, LA 70506

COASTAL PROTECTION AND RESTORATION AUTHORITY
 430 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

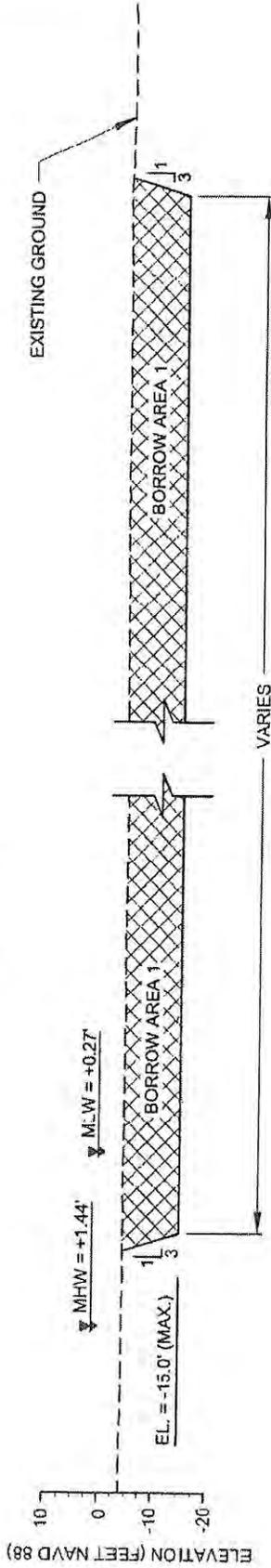
LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT
 STATE PROJECT NUMBER: TE-72
 FEDERAL PROJECT NUMBER: TE-72

TERRACE COORDINATES
 DATE: NOVEMBER 2012
 SHEET 8 OF 26

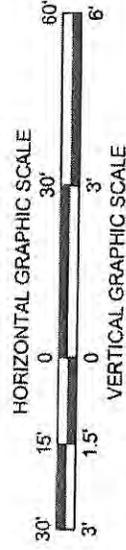
DRAWN BY: SHANE FAUST
 DESIGNED BY: TRAVIS BYLAND, E.I.
 APPROVED BY: JASON LANCIOS, P.E.



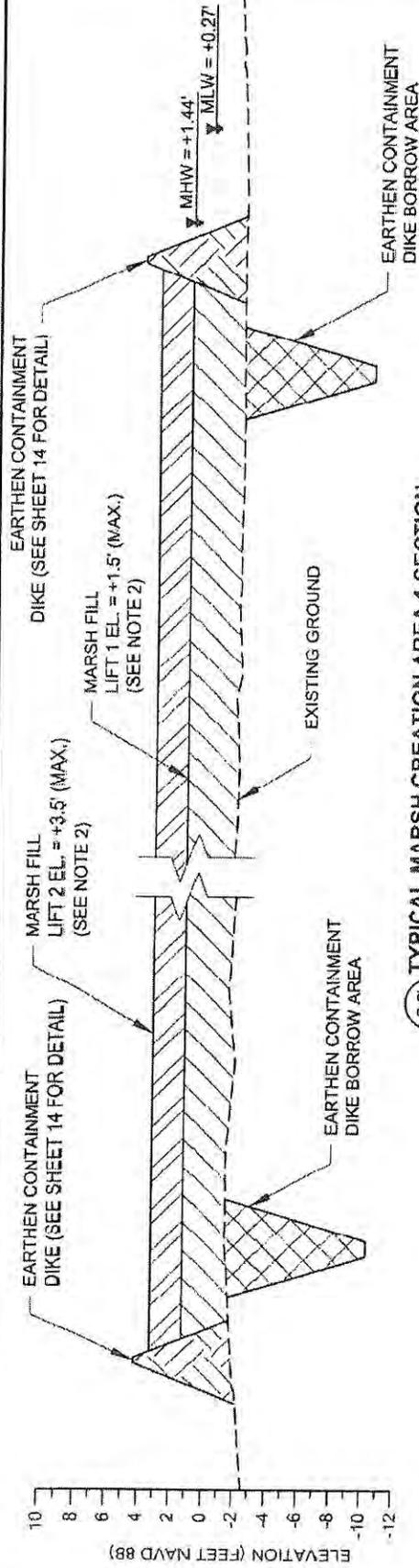
TYPICAL BORROW AREA 2 SECTION



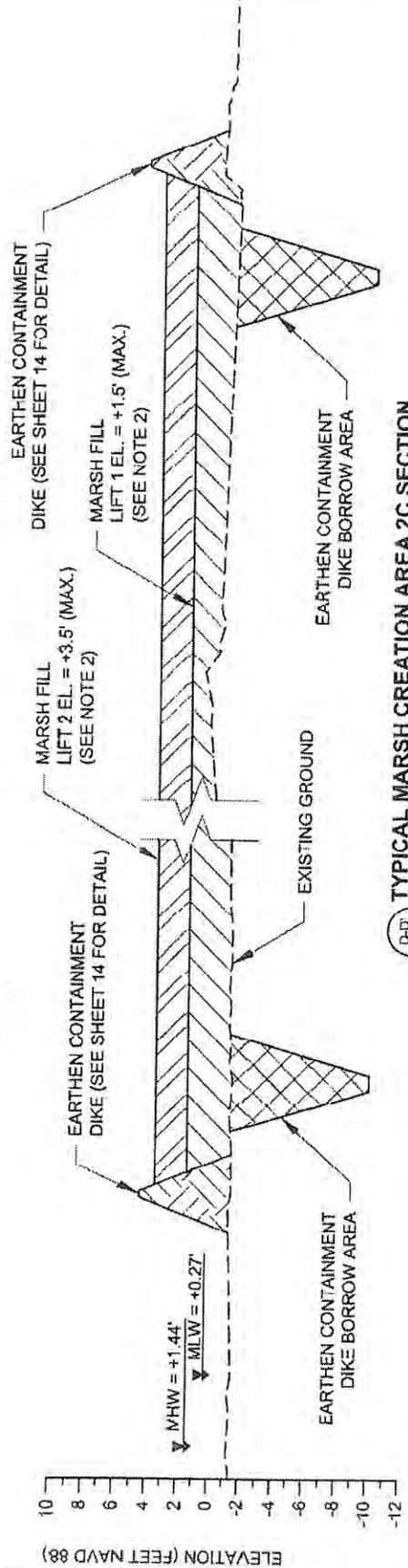
TYPICAL BORROW AREA 1 SECTION



<p>APPLICATION BY: UNITED STATES FISH AND WILDLIFE SERVICE 846 CAJUNDOME BLVD SUITE 400 LAFAYETTE, LA 70506</p>	<p>COASTAL PROTECTION AND RESTORATION AUTHORITY 430 LAUREL STREET BATON ROUGE, LOUISIANA 70801</p>	<p>LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT</p>	<p>TYPICAL BORROW SECTIONS</p>
<p>DRAWN BY: SHANE FAUST</p>	<p>DESIGNED BY: TRAVIS BYLAND, E.I.</p>	<p>STATE PROJECT NUMBER: TE-72 FEDERAL PROJECT NUMBER: TE-72</p>	<p>DATE: NOVEMBER 2012 SHEET 9 OF 26</p>



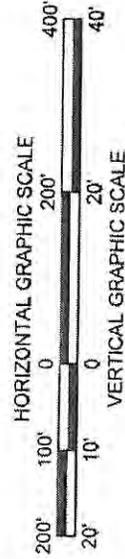
TYPICAL MARSH CREATION AREA 1 SECTION



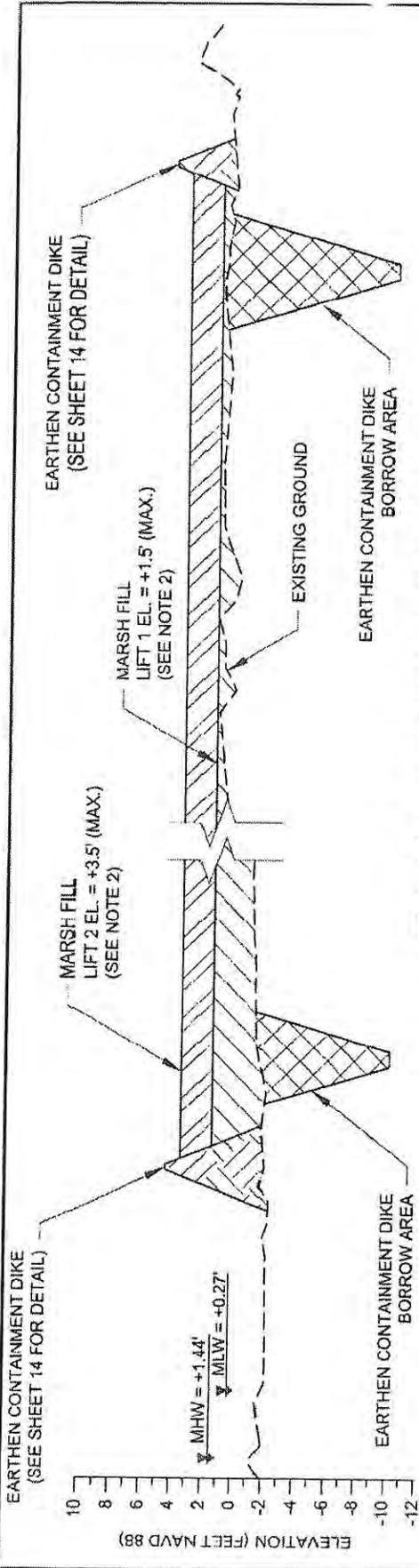
TYPICAL MARSH CREATION AREA 2C SECTION

NOTES:

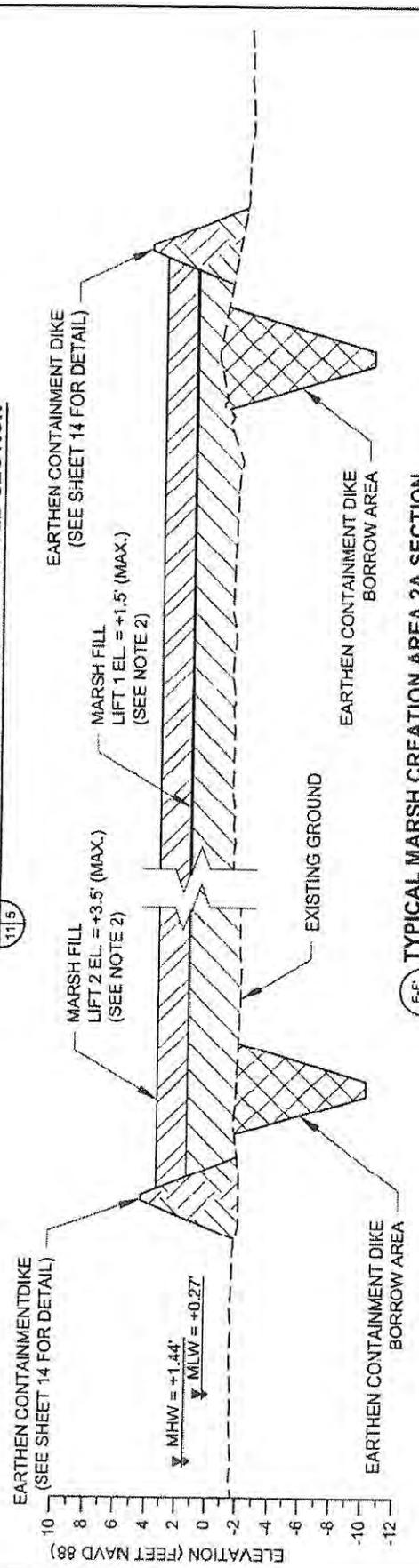
1. A TWO LIFT SYSTEM IS REQUIRED TO MEET THE MARSH FILL DESIGN HEIGHT.
2. A MINIMUM WAITING PERIOD OF THIRTY (30) DAYS FROM THE COMPLETION OF MARSH FILL LIFT 1 SHOULD OCCUR PRIOR TO THE PLACEMENT OF THE MARSH FILL OF LIFT 2.
3. DISCHARGE SHALL BE DIRECTED TO RETAIN AS MUCH MATERIAL AS POSSIBLE.



APPLICATION BY: UNITED STATES FISH AND WILDLIFE SERVICE 646 CAJUNCOMME BLVD. SUITE 400 LAFAYETTE, LA 70508	COASTAL PROTECTION AND RESTORATION AUTHORITY 438 LAUREL STREET BATON ROUGE, LOUISIANA 70801	LOST LAKE MARSH CREATION AND HYDROLOGICAL RESTORATION PROJECT	TYPICAL FILL SECTIONS
DRAWN BY: SHANIE FAUST	DESIGNED BY: TRAVIS BYLAND, E.I. APPROVED BY: JASON LANGLIOS, P.E.	STATE PROJECT NUMBER: TE-72 FEDERAL PROJECT NUMBER: TE-72	DATE: NOVEMBER 2012 SHEET 10 OF 26



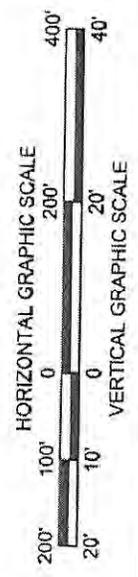
TYPICAL MARSH CREATION AREA 2B SECTION



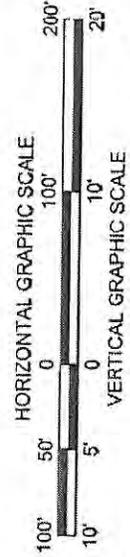
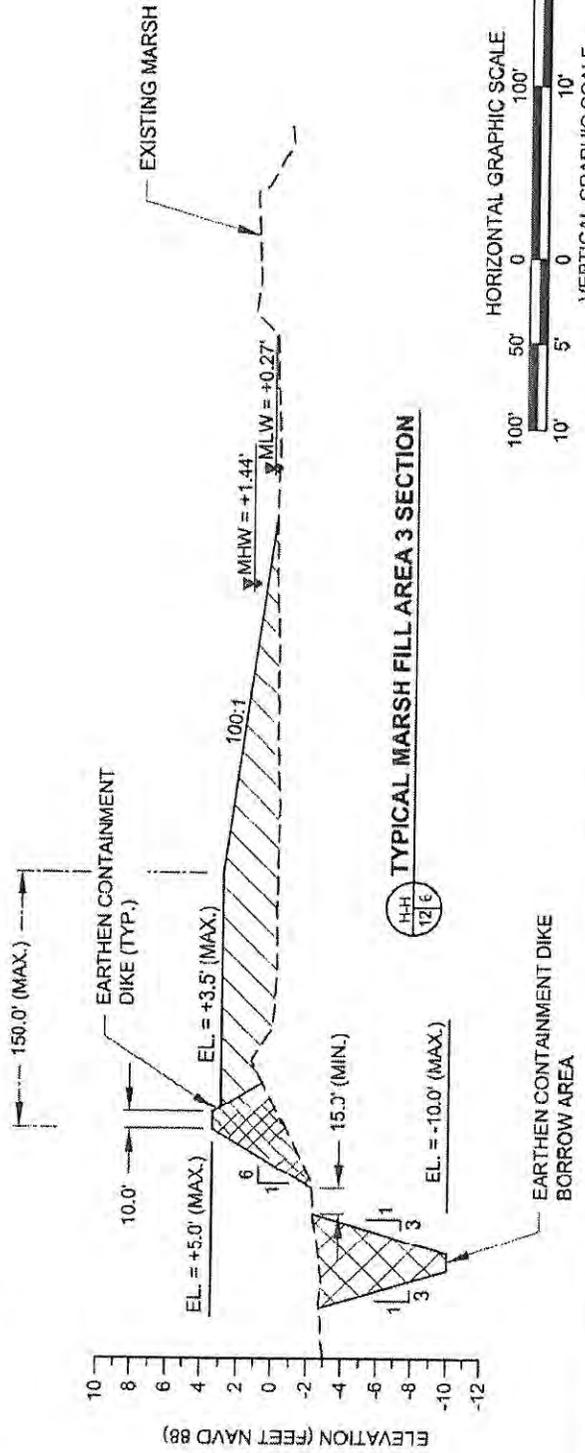
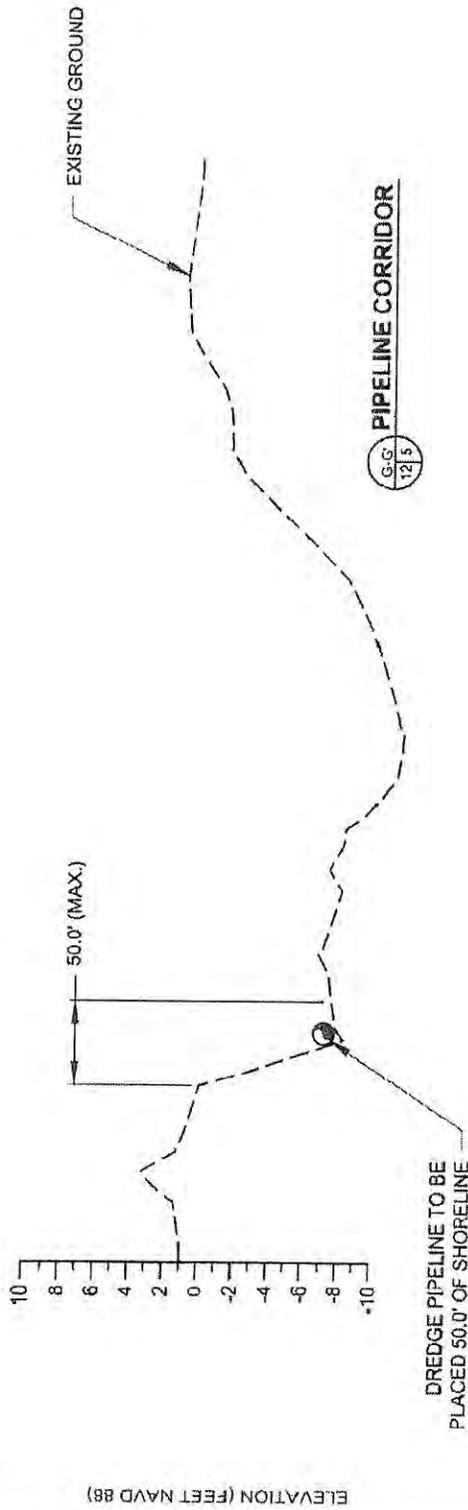
TYPICAL MARSH CREATION AREA 2A SECTION

NOTES:

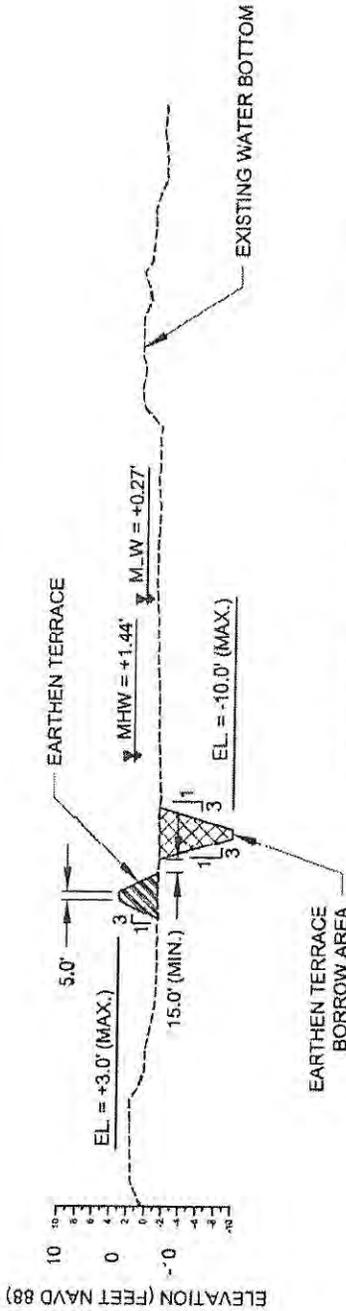
1. A TWO LIFT SYSTEM IS REQUIRED TO MEET THE MARSH FILL DESIGN HEIGHT.
2. A MINIMUM WAITING PERIOD OF THIRTY (30) DAYS FROM THE COMPLETION OF MARSH FILL LIFT 1 SHOULD OCCUR PRIOR TO THE PLACEMENT OF THE MARSH FILL OF LIFT 2.
3. DISCHARGE SHALL BE DIRECTED TO RETAIN AS MUCH MATERIAL AS POSSIBLE.



APPLICATION BY: UNITED STATES FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA. 70508	COASTAL PROTECTION AND RESTORATION AUTHORITY 358 LAUREL STREET BATON ROUGE, LOUISIANA 70801	LOST LAKE MARSH CREATION AND HYDROLOGICAL RESTORATION PROJECT	TYPICAL FILL SECTIONS
DRAWN BY: SHANE FAUST	DESIGNED BY: TRAVIS BYLAND, E.I. APPROVED BY: JASON LANCIOS, P.E.	STATE PROJECT NUMBER: TE-72 FEDERAL PROJECT NUMBER: TE-72	DATE: NOVEMBER 2012 SHEET 11 OF 28

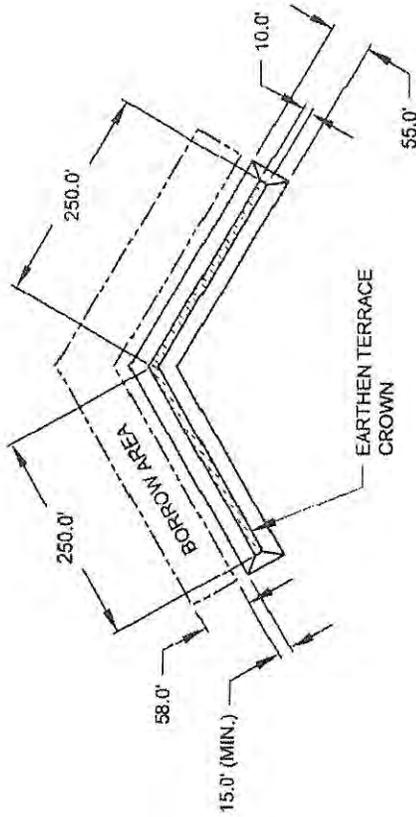


APPLICATION BY: UNITED STATES FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD, SUITE 400 LAFAYETTE, LA. 70508	COASTAL PROTECTION AND RESTORATION AUTHORITY 459 LAUREL STREET BATON ROUGE, LOUISIANA 70801	LCST LAKE MARSH CREATION AND HYDROLOGICAL RESTORATION PROJECT	TYPICAL PIPELINE CORRIDOR AND FILL SECTION
DRAWN BY: SHANIE FAUST	DESIGNED BY: TRAVIS BYLAND, E.I.	APPROVED BY: JASON LANGLIOS, P.E.	FEDERAL PROJECT NUMBER: TE-72 DATE: NOVEMBER 2012 SHEET 12 OF 26

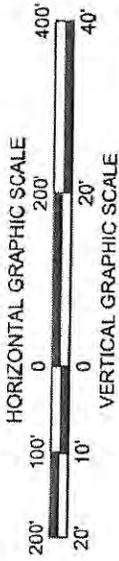


TYPICAL EARTHEN TERRACE SECTION

137

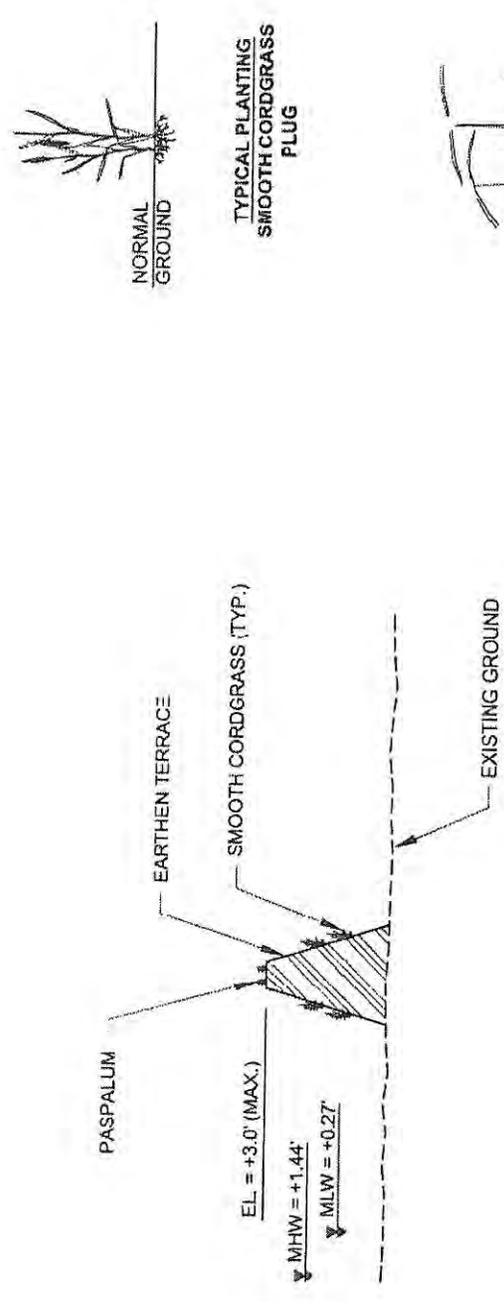


TYPICAL EARTHEN TERRACE
PLAN VIEW



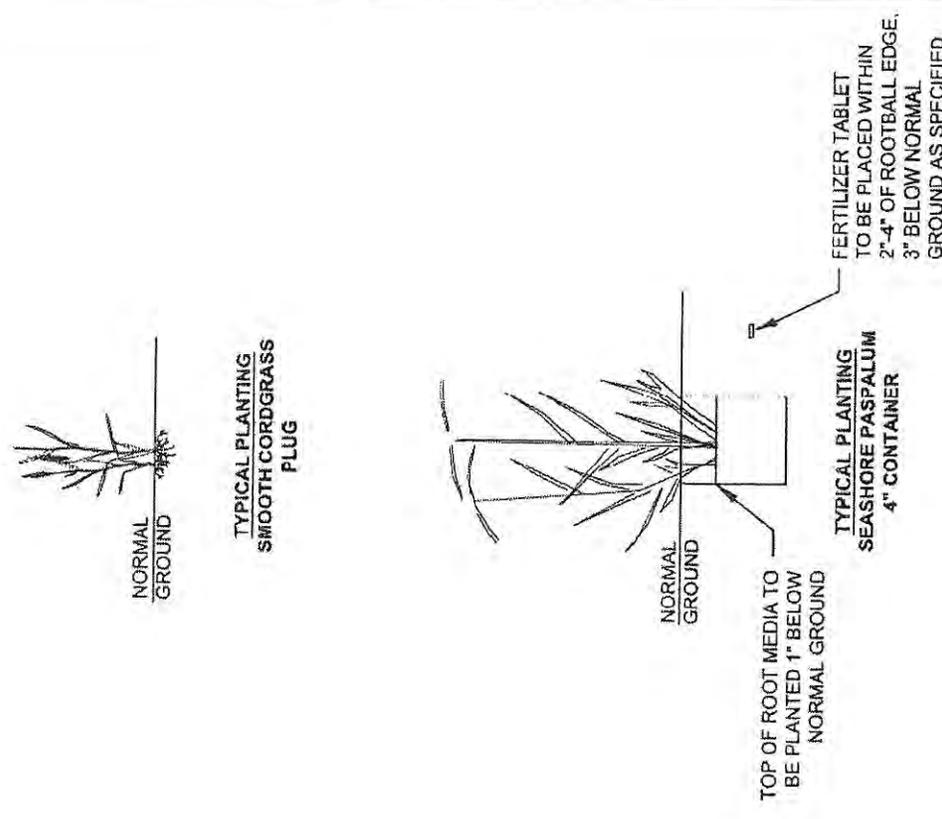
NOTE: EXACT LOCATION OF THE EARTHEN TERRACES SHALL BE DETERMINED ON SITE AND WILL NOT DISTURB ANY EXISTING MARSH.

APPLICATION BY: UNITED STATES FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD, SUITE 400 LAFAYETTE, LA, 70508	COASTAL PROTECTION AND RESTORATION AUTHORITY 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801	LCST LAKE MARSH CREATION AND HYDROLOGICAL RESTORATION PROJECT	TYPICAL EARTHEN TERRACE SECTION
DRAWN BY: SHANE FAUST	DESIGNED BY: TRAVIS BYLAND, E.I., APPROVED BY: JASON LANGLIOS, P.E.	STATE PROJECT NUMBER: TE-72	DATE: NOVEMBER 2012
FEDERAL PROJECT NUMBER: TE-72			SHEET 13 OF 28



TYPICAL TERRACE PLANTING SECTION
(NTS)

- NOTES:
1. EXACT LOCATION OF THE PLANTS SHALL BE DETERMINED ON SITE BY CPRA DURING PRE-CONSTRUCTION LAYOUT.
 2. NO EQUIPMENT MAY ALTER THE EXISTING CONDITIONS OF THE NEWLY CREATED TERRACE OR DISTURB EXISTING VEGETATION.
 3. THE SMOOTH CORDGRASS SHALL BE PLANTED ON THREE FOOT CENTERS IN ROWS AS SHOWN ON THE PLANS.
 4. THE PASPALUM SHALL BE PLANTED ON FIVE FOOT CENTERS IN ROWS AS SHOWN ON THE PLANS.



APPLICATION BY:
UNITED STATES FISH AND WILDLIFE SERVICE
546 CAJUNDOME BLVD SUITE 400
LAFAYETTE, LA 70508

COASTAL PROTECTION AND RESTORATION AUTHORITY
430 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

LOST LAKE MARSH CREATION AND HYDROLOGICAL RESTORATION PROJECT

PLANTING LAYOUT AND DETAIL

DRAWN BY: SHANE FAUST

DESIGNED BY: TRAVIS BYALIND, E.I.

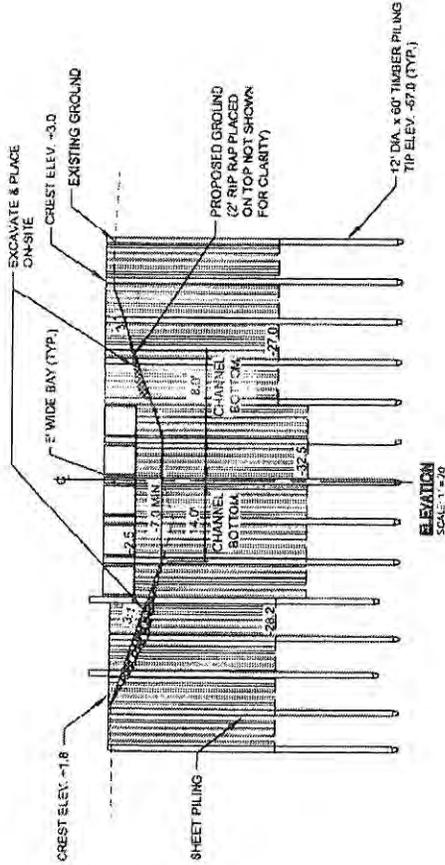
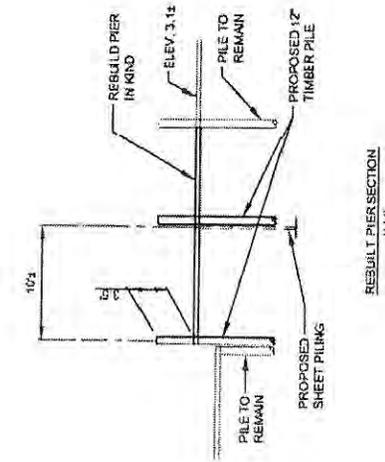
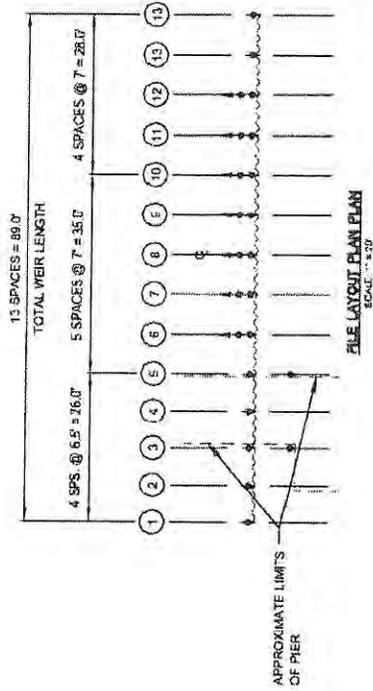
APPROVED BY: JASON LANCIOS, P.E.

STATE PROJECT NUMBER: TE-72
FEDERAL PROJECT NUMBER: TE-72

DATE: NOVEMBER 2012

SHEET 15 OF 28

NOTE: ALL ELEVATIONS ARE NAVD 88 IN US FEET
 MHW = 1.44 FT
 MLLW = 0.27 FT



REBUILD PIER SECTION
 N 1 S

ELEVATION
 SCALE: 1\"/>



THIS DOCUMENT IS NOT TO BE USED FOR CONSTRUCTION, FEDERAL ACQUISITION, OR CONTRACT ADMINISTRATION. IT IS THE PROPERTY OF THE U.S. GOVERNMENT AND IS LOANED TO YOUR AGENCY. IT AND ITS CONTENTS ARE TO BE RETURNED TO THE SOURCE OF ORIGIN.



NO.	DATE	DESCRIPTION	BY

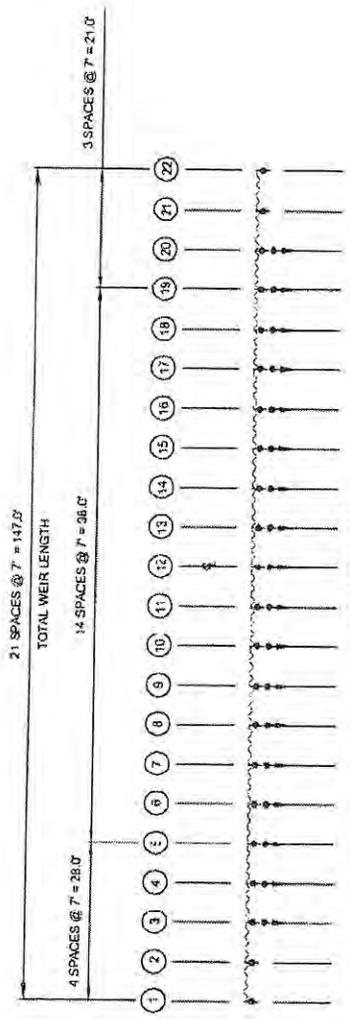


COASTAL PROTECTION AND RESTORATION AUTHORITY
 ANIMAL CELL UNIT
 WATSON RD. HALL COUNTY, MISSISSIPPI
 DRAWN BY: AHS/LLB
 CHECKED BY: IN/LLB

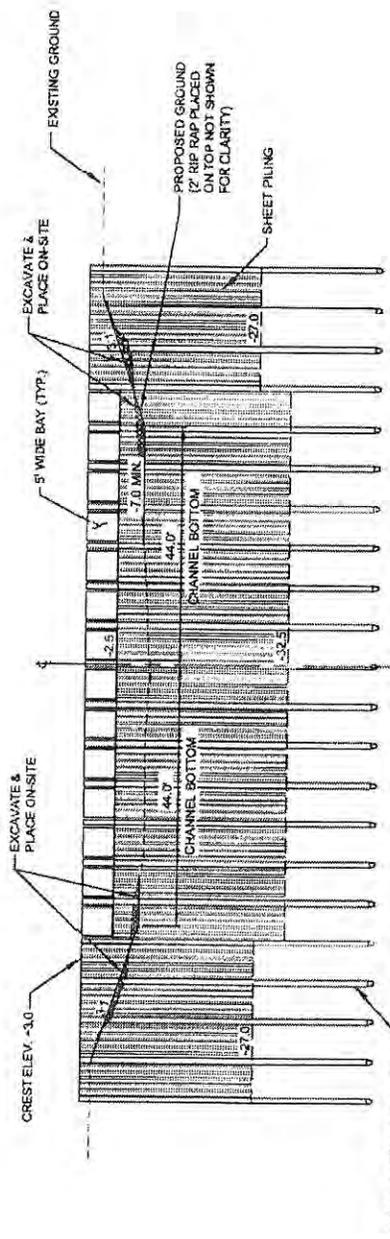
LOST LAKE WASH/GENERATION AND HYDROLOGIC RESTORATION
 PROJECT NUMBER: 1L-2
 FEDERAL PROJECT NUMBER: 41-2
 APPROVED BY:

SITE WC-4
 STRUCTURE DETAIL
 SHEET 1918-29

NOTE: ALL ELEVATIONS ARE NAVD 85 IN US FEET
 MHW = 1.44 FT.
 MSL = 0.27 FT.



FILE LAYOUT PLAN
 SCALE: 1" = 20'



ELEVATION
 SCALE: 1" = 20'

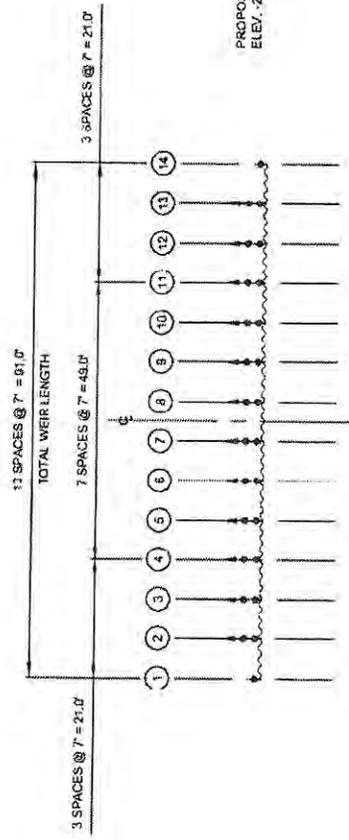


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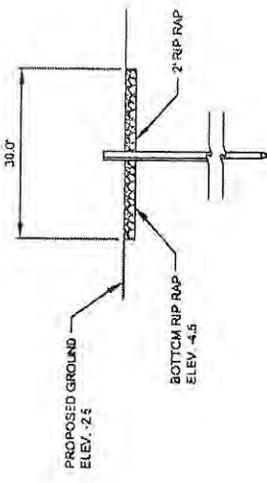
<p>SIGMA CONSULTING GROUP, INC. ENGINEERING CONSULTANTS 10000 Highway 100 Baton Rouge, Louisiana 70816</p>		<p>COASTAL PROTECTION AND RESTORATION AUTHORITY 1504 BIA SHELBY BATON ROUGE, LOUISIANA 70801</p>		<p>DESIGNED BY: AUBREY DRAWN BY: AUBREY CHECKED BY: SHELBY APPROVED BY: SHELBY</p>	
<p>LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION</p>		<p>SITE WC-A STRUCTURAL DETAIL</p>		<p>DATE: 10/15/10 SHEET: 2010-10</p>	
<p>STATE PROJECT NUMBER: 14-2</p>		<p>FEDERAL PROJECT NUMBER: 14-2</p>		<p>APPROVAL BY:</p>	



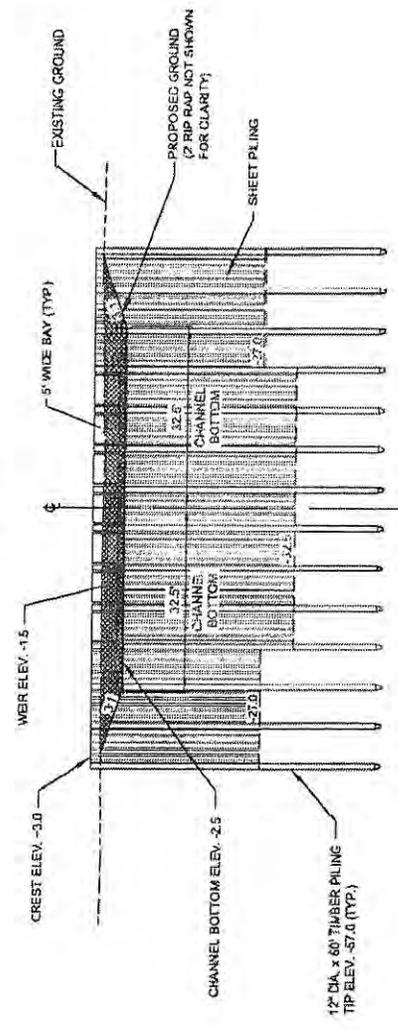
NOTE: ALL ELEVATIONS ARE NAVD 88 IN US FEET
 MHW = 1.44 FT.
 MLW = 0.27 FT.



PILE LAYOUT PLAN
 SCALE: 1" = 20'



SECTION
 SCALE: 1" = 20'



ELEVATION
 SCALE: 1" = 20'



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<p>ENGINEERING CONSULTANTS 1005 LINDSEY BLVD. IRVING, TEXAS 75038-2914</p>		COASTAL PROTECTION AND RESTORATION AUTHORITY 500 ALBERTA BLVD. HOUSTON, TEXAS 77002		LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION STATE PROJECT NUMBER: 14-7 FEDERAL PROJECT NUMBER: 14-20		SITE - J STRUCTURE DETAIL	
		DRAWN BY: [blank]	CHECKED BY: [blank]	DESIGNED BY: [blank]	APPROVAL: [blank]	SHEET: 2 OF 28	TITLE: 2 OF 28



SCALE: 1" = 20'



REPLY TO
ATTENTION OF

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

APR 04 2016

RECEIVED

2016 APR -7 P 2:11

CPRA

Operations Division
Central Evaluation Section

SUBJECT: Permit number MVN 2011-0954 CM

United States Fish and Wildlife Service
646 Cajundome Blvd, Suite 400
Lafayette, Louisiana 70506

Gentlemen:

Revised plans enclosed in twenty-eight (28) sheets, furnished with your application dated October 7, 2015, covering the addition of three new areas of marsh creation, the modification of the location of four terraces, the extension of one control structure, the modification of the existing dykes from semi-contained to full earthen containment, the increase in depth of the access channel, and the installation of the dredge pipeline under Bayou Decade, near Houma, Louisiana, in Terrebonne Parish, are approved and will be included in your plans for the work authorized by the Secretary of the Army in permit dated February 24, 2014, which was modified November 24, 2014, to create about 42 acres of marsh in 5 containment areas and construct 5 water control structures and 60 earthen terraces in Lost Lake and Lake Pagie to restore the eroded marsh structure and hydrology in Terrebonne Parish, near Houma, Louisiana. These drawings supersede all of the drawings of your original permit

The time limit for completion of this work is extended to **April 30, 2021**.

The following special conditions are being made a part of this authorization. All other special conditions to which the work is made subject, remain in full force and effect:

1. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, the permittee will immediately notify CEMVN. CEMVN will initiate the Federal and State coordination required to determine if the discovery warrants a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

If the structure or work authorized is not completed on or before the date herein specified, this authorization, if not previously revoked or specifically further extended, will cease and become null and void.

A copy of the first page of this permit approval letter must be conspicuously displayed at the project site. Also, you must keep a copy of this signed letter, with attached drawings, at the project site until the work is completed.

BY AUTHORITY OF THE SECRETARY OF THE ARMY:

A handwritten signature in black ink that reads "Martin S. Mayer". The signature is written in a cursive style with a long horizontal stroke at the end.

Martin S. Mayer
Chief, Regulatory Branch

for

Richard L. Hansen
Colonel, U.S. Army
District Commander

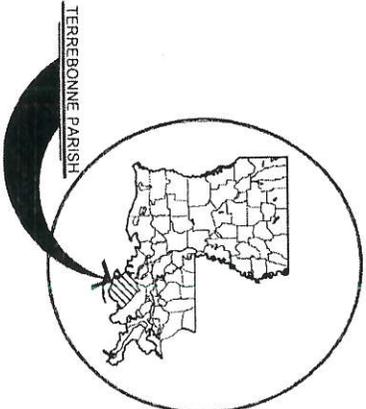
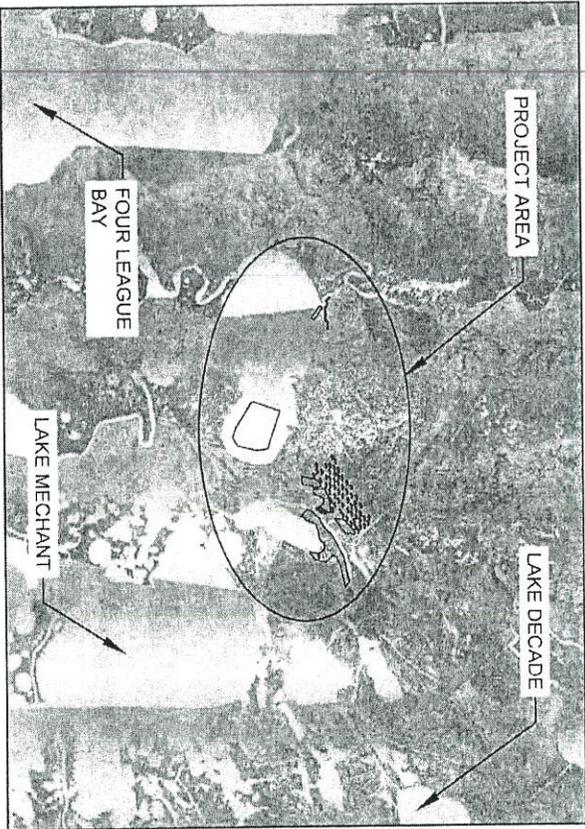
Enclosures

INDEX TO SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	PLAN VIEW
3	BORROW AREA LAYOUT
4	MARSH CREATION AREA 1A & 1B LAYOUT
5	MARSH CREATION AREA 2A, 2B, 2C, & 2D LAYOUT
6	MARSH CREATION AREA 3 LAYOUT
7	EARTHEN TERRACE LAYOUT
8	TERRACE COORDINATES
9	TYPICAL BORROW AND ACCESS CHANNEL SECTIONS
10	TYPICAL CONTAINMENT DIKE AND FILL SECTIONS
11	TYPICAL BANK STABILIZATION & CONTAINMENT DIKES & FILL SECTION
12	BAYOU DECADE DREDGE PIPELINE ALIGNMENT
13	BAYOU DECADE REVETTED EMBANKMENT CROSSING
14	PIPELINE CROSSING DETAIL
15	TYPICAL EARTHEN TERRACE SECTION
16	PLANTING LAYOUT AND DETAIL WEIR STRUCTURES

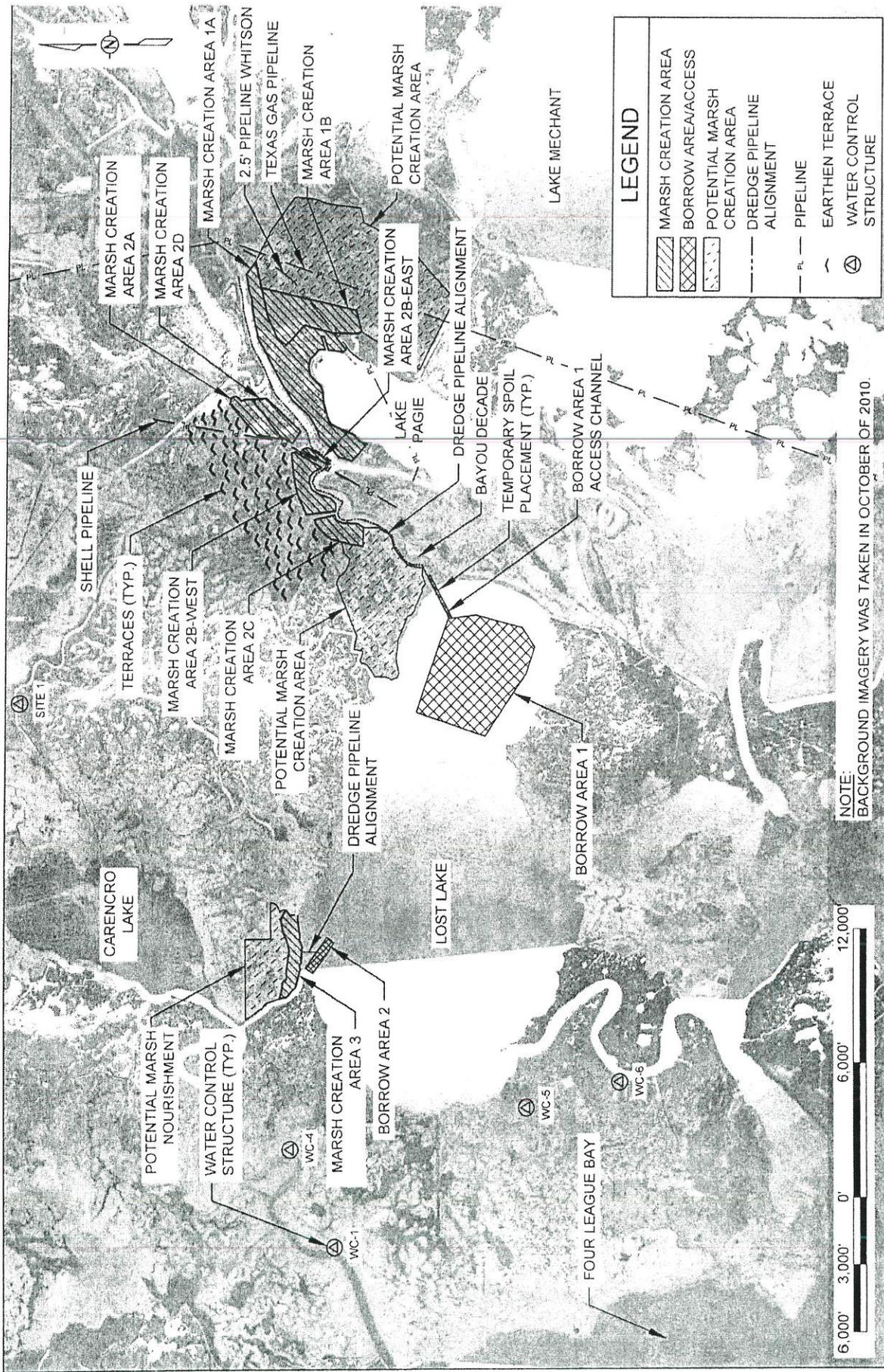
STATE OF LOUISIANA
COASTAL PROTECTION AND RESTORATION AUTHORITY

LOST LAKE MARSH CREATION AND
HYDROLOGIC RESTORATION PROJECT
TE-72
TERREBONNE PARISH



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CONSTRUCTION, BIDDING, RECORDATION,
CONVEYANCE, OR SALES.

APPLICATION BY: UNITED STATES FISH AND WILDLIFE SERVICE 846 CALJINDOME BLVD LAHAYETTE, LA 70508	DESIGNED BY: S. HAYNES, P.E. APPROVED BY: RUSS JOFFRON, P.E.	COASTAL PROTECTION AND RESTORATION AUTHORITY 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801	LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT STATE PROJECT NUMBER: TE-72 FEDERAL PROJECT NUMBER: TE-72	TITLE SHEET DATE: OCTOBER 2015 SHEET 1 OF 28
DRAWN BY: SHANE FAUST				



NOTE:
BACKGROUND IMAGERY WAS TAKEN IN OCTOBER OF 2010.

APPLICATION BY:
UNITED STATES FISH AND WILDLIFE SERVICE
646 CAJUNDOME BLVD SUITE 400
LAFAYETTE, LA 70506

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT

PLAN VIEW

DRAWN BY SHANE FAUST

DESIGNED BY S HAYNES, P.E

APPROVED BY RUSS JOFFRION, P.E

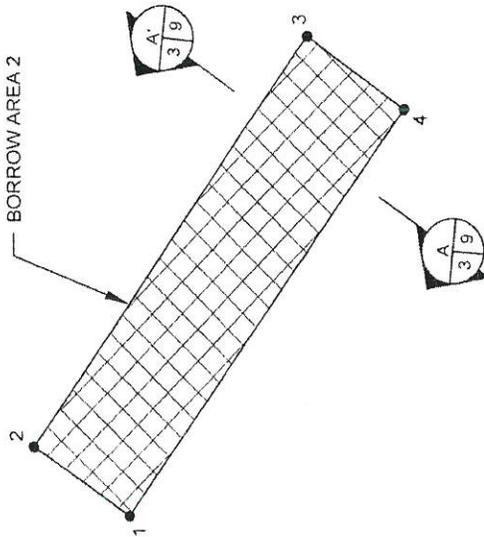
DATE OCTOBER 2015

SHEET 2 OF 28

STATE PROJECT NUMBER TE-72

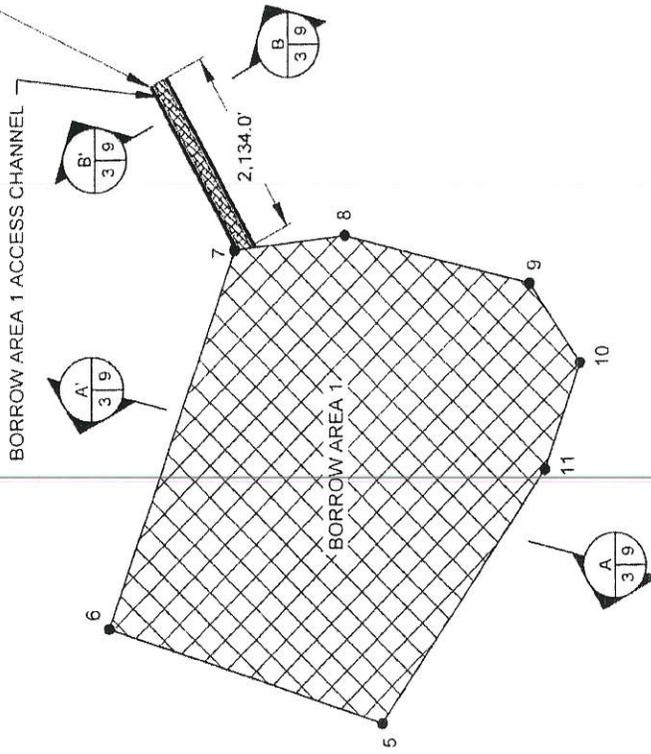
FEDERAL PROJECT NUMBER TE-72

BORROW AREA 2 COORDINATES		
POINT	LONGITUDE	LATITUDE
1	91° 04' 32.78"	29° 21' 22.59"
2	91° 04' 30.08"	29° 21' 25.85"
3	91° 04' 14.61"	29° 21' 16.33"
4	91° 04' 17.45"	29° 21' 13.01"



BORROW AREA 1 COORDINATES		
POINT	LONGITUDE	LATITUDE
5	91° 02' 34.57"	29° 20' 04.59"
6	91° 02' 22.29"	29° 20' 36.93"
7	91° 01' 34.65"	29° 20' 21.47"
8	91° 01' 32.94"	29° 20' 08.78"
9	91° 01' 39.14"	29° 19' 47.45"
10	91° 01' 49.24"	29° 19' 41.70"
11	91° 02' 02.72"	29° 19' 45.78"

TEMPORARY SPOIL PLACEMENT (TYP.)



- NOTES:
- BORROW AREA 1 CONTAINS APPROXIMATELY 7,460,572.00 CUBIC YARDS OF MATERIAL.
 - BORROW AREA 2 CONTAINS APPROXIMATELY 259,689.75 CUBIC YARDS OF MATERIAL.

APPLICATION BY
 UNITED STATES FISH AND WILDLIFE SERVICE
 646 CALINDOUME BLVD SUITE 400
 LAFAYETTE, LA 70506

COASTAL PROTECTION AND
 RESTORATION AUTHORITY
 456 LAUREL STREET
 BATON ROUGE LOUISIANA 70801

LOST LAKE MARSH CREATION AND
 HYDROLOGIC RESTORATION PROJECT

BORROW AREA
 LAYOUT

DRAWN BY SHANE FAUST

DESIGNED BY S. HAYNES, P.E.

APPROVED BY RUSS JOFFRION, P.E.

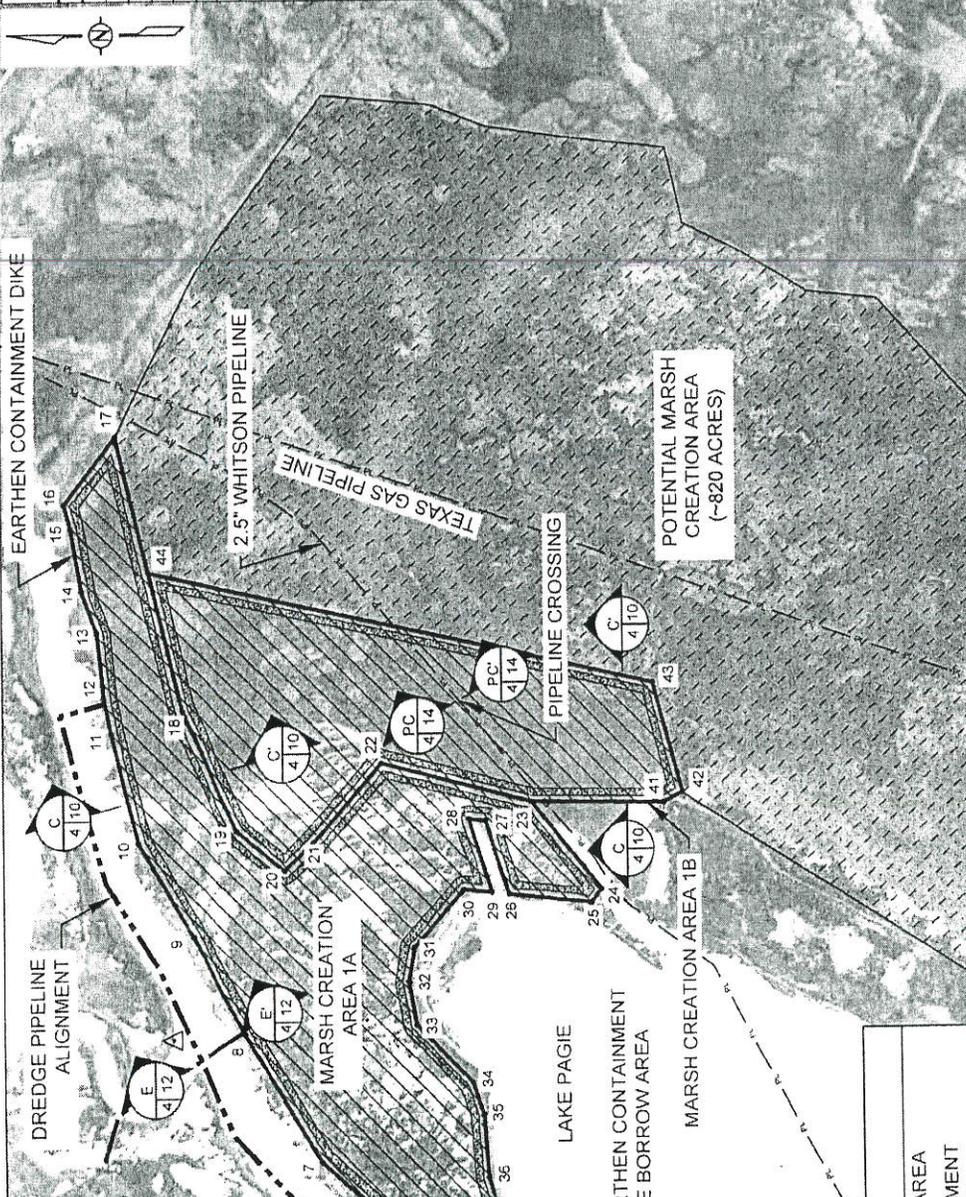
STATE PROJECT NUMBER: TE-72

DATE: OCTOBER 2015

FEDERAL PROJECT NUMBER: TE-72

SHEET 3 OF 28

MARSH CREATION AREA 1A COORDINATES		
POINT	LONGITUDE	LATITUDE
1	91° 00' 07.77"	29° 20' 56.96"
2	91° 00' 16.44"	29° 21' 05.56"
3	91° 00' 14.66"	29° 21' 11.53"
4	91° 00' 04.43"	29° 21' 20.47"
5	91° 00' 00.14"	29° 21' 21.68"
6	90° 59' 53.84"	29° 21' 25.05"
7	90° 59' 45.75"	29° 21' 33.03"
8	90° 59' 33.75"	29° 21' 39.33"
9	90° 59' 24.33"	29° 21' 43.67"
10	90° 59' 15.33"	29° 21' 46.17"
11	90° 59' 05.04"	29° 21' 50.39"
12	90° 59' 01.67"	29° 21' 50.97"
13	90° 58' 55.38"	29° 21' 51.47"
14	90° 58' 51.40"	29° 21' 52.72"
15	90° 58' 45.41"	29° 21' 53.57"
16	90° 58' 43.11"	29° 21' 54.09"
17	90° 58' 36.82"	29° 21' 49.79"
18	90° 59' 02.98"	29° 21' 44.40"
19	90° 59' 14.32"	29° 21' 39.88"
20	90° 59' 16.15"	29° 21' 35.87"
21	90° 59' 15.49"	29° 21' 33.39"
22	90° 59' 08.13"	29° 21' 27.80"
23	90° 59' 11.97"	29° 21' 14.75"
24	90° 59' 20.39"	29° 21' 08.80"
25	90° 59' 21.66"	29° 21' 09.69"
26	90° 59' 20.74"	29° 21' 16.80"
27	90° 59' 13.72"	29° 21' 18.75"
28	90° 59' 13.53"	29° 21' 20.21"
29	90° 59' 20.56"	29° 21' 18.26"
30	90° 59' 20.25"	29° 21' 20.66"
31	90° 59' 25.68"	29° 21' 24.99"
32	90° 59' 28.97"	29° 21' 25.46"
33	90° 59' 33.06"	29° 21' 24.83"
34	90° 59' 38.65"	29° 21' 20.10"
35	90° 59' 41.64"	29° 21' 19.19"
36	90° 59' 47.46"	29° 21' 18.86"
37	90° 59' 56.45"	29° 21' 16.39"
38	90° 59' 57.88"	29° 21' 15.45"
39	91° 00' 03.26"	29° 21' 04.81"
40	91° 00' 06.60"	29° 21' 02.38"



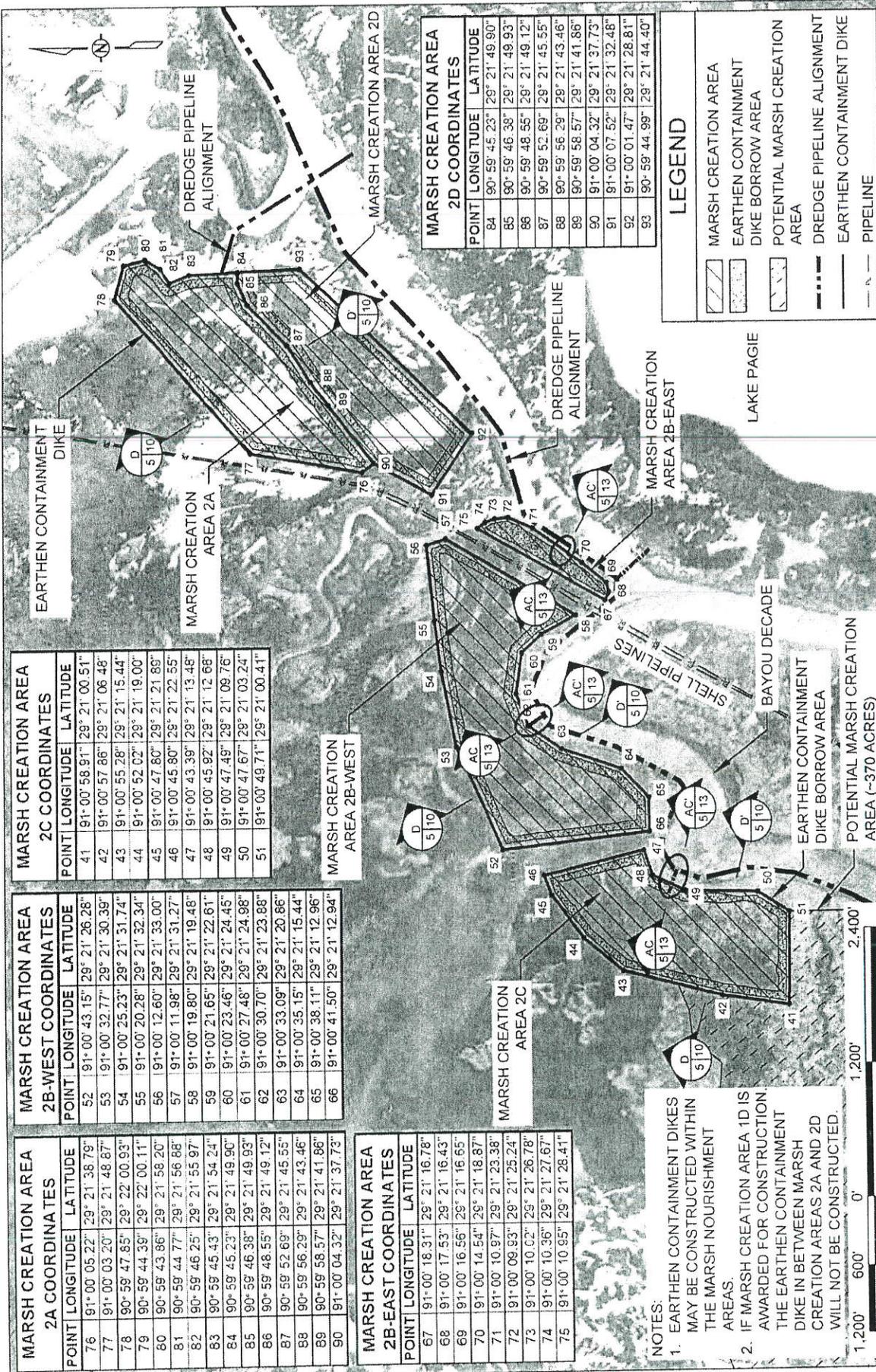
MARSH CREATION AREA 1B COORDINATES		
POINT	LONGITUDE	LATITUDE
18	90° 59' 02.98"	29° 21' 44.40"
19	90° 59' 14.32"	29° 21' 39.56"
20	90° 59' 16.15"	29° 21' 35.87"
21	90° 59' 15.49"	29° 21' 33.39"
22	90° 59' 08.13"	29° 21' 27.80"
23	90° 59' 11.97"	29° 21' 14.75"
41	90° 59' 12.22"	29° 21' 03.32"
42	90° 59' 11.28"	29° 21' 01.71"
43	90° 59' 00.88"	29° 21' 04.16"
44	90° 58' 49.73"	29° 21' 47.13"

LEGEND	
	MARSH CREATION AREA
	EARTHEN CONTAINMENT DIKE BORROW AREA
	POTENTIAL MARSH CREATION AREA
	DREDGE PIPELINE ALIGNMENT
	EARTHEN CONTAINMENT DIKE
	PIPELINE

NOTES:

- EARTHEN CONTAINMENT DIKES MAY BE CONSTRUCTED WITHIN THE MARSH NOURISHMENT AREAS.
- IF MARSH CREATION AREA 1B IS AWARDED FOR CONSTRUCTION, THE EARTHEN CONTAINMENT DIKE IN BETWEEN MARSH CREATION AREAS 1A AND 1B WILL NOT BE CONSTRUCTED.
- LOCATION OF PIPELINE CROSSING TO BE DETERMINED DURING CONSTRUCTION.

APPLICATION BY: UNITED STATES FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD, SUITE 400 LAFAYETTE, LA, 70506	COASTAL PROTECTION AND RESTORATION AUTHORITY 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801		LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT	MARSH CREATION AREA 1A AND 1B LAYOUT
	DESIGNED BY S. HAYNES, P.E.	APPROVED BY RUSS JOFFRION, P.E.	STATE PROJECT NUMBER: TE-72	DATE: OCTOBER 2015
DRAWN BY SHANE FAUST	FEDERAL PROJECT NUMBER: TE-72	SHEET 4 OF 28		



MARSH CREATION AREA 2A COORDINATES		
POINT	LONGITUDE	LATITUDE
76	91°00'05.22"	29°21'38.79"
77	91°00'03.20"	29°21'48.67"
78	90°59'47.85"	29°22'00.93"
79	90°59'44.39"	29°22'00.11"
80	90°59'43.86"	29°21'58.20"
81	90°59'44.77"	29°21'58.88"
82	90°59'46.25"	29°21'55.97"
83	90°59'45.43"	29°21'54.24"
84	90°59'45.23"	29°21'49.90"
85	90°59'46.38"	29°21'49.93"
86	90°59'48.55"	29°21'49.12"
87	90°59'52.69"	29°21'45.55"
88	90°59'56.29"	29°21'43.46"
89	90°59'58.57"	29°21'41.86"
90	91°00'04.32"	29°21'37.73"

MARSH CREATION AREA 2B-WEST COORDINATES		
POINT	LONGITUDE	LATITUDE
52	91°00'43.15"	29°21'26.28"
53	91°00'32.77"	29°21'30.39"
54	91°00'25.23"	29°21'31.74"
55	91°00'20.28"	29°21'32.34"
56	91°00'12.60"	29°21'33.00"
57	91°00'11.98"	29°21'31.27"
58	91°00'19.80"	29°21'19.48"
59	91°00'21.65"	29°21'22.61"
60	91°00'23.46"	29°21'24.45"
61	91°00'27.48"	29°21'24.98"
62	91°00'30.70"	29°21'23.88"
63	91°00'33.09"	29°21'20.86"
64	91°00'35.15"	29°21'15.44"
65	91°00'38.11"	29°21'12.96"
66	91°00'41.50"	29°21'12.94"

MARSH CREATION AREA 2C COORDINATES		
POINT	LONGITUDE	LATITUDE
41	91°00'58.91"	29°21'00.51"
42	91°00'57.86"	29°21'06.48"
43	91°00'55.28"	29°21'15.44"
44	91°00'52.02"	29°21'19.00"
45	91°00'47.80"	29°21'21.89"
46	91°00'45.80"	29°21'22.55"
47	91°00'43.39"	29°21'13.48"
48	91°00'45.92"	29°21'12.68"
49	91°00'47.49"	29°21'09.76"
50	91°00'47.67"	29°21'03.24"
51	91°00'49.71"	29°21'00.41"

MARSH CREATION AREA 2D COORDINATES		
POINT	LONGITUDE	LATITUDE
84	90°59'45.23"	29°21'49.90"
85	90°59'46.38"	29°21'49.93"
86	90°59'48.55"	29°21'49.12"
87	90°59'52.69"	29°21'45.55"
88	90°59'56.29"	29°21'43.46"
89	90°59'58.57"	29°21'41.86"
90	91°00'04.32"	29°21'37.73"
91	91°00'07.52"	29°21'32.48"
92	91°00'01.47"	29°21'28.81"
93	90°59'44.99"	29°21'44.40"

MARSH CREATION AREA 2B-EAST COORDINATES		
POINT	LONGITUDE	LATITUDE
67	91°00'18.31"	29°21'16.78"
68	91°00'17.53"	29°21'16.43"
69	91°00'16.56"	29°21'16.55"
70	91°00'14.54"	29°21'18.87"
71	91°00'10.97"	29°21'23.38"
72	91°00'09.93"	29°21'25.24"
73	91°00'10.02"	29°21'26.78"
74	91°00'10.36"	29°21'27.67"
75	91°00'10.95"	29°21'28.41"

NOTES:
 1. EARTHEN CONTAINMENT DIKES MAY BE CONSTRUCTED WITHIN THE MARSH NOURISHMENT AREAS.
 2. IF MARSH CREATION AREA 1D IS AWARDED FOR CONSTRUCTION THE EARTHEN CONTAINMENT DIKE IN BETWEEN MARSH CREATION AREAS 2A AND 2D WILL NOT BE CONSTRUCTED.

LEGEND	
	MARSH CREATION AREA
	EARTHEN CONTAINMENT DIKE BORROW AREA
	POTENTIAL MARSH CREATION AREA
	DREDGE PIPELINE ALIGNMENT
	EARTHEN CONTAINMENT DIKE PIPELINE

COASTAL PROTECTION AND RESTORATION AUTHORITY
 450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

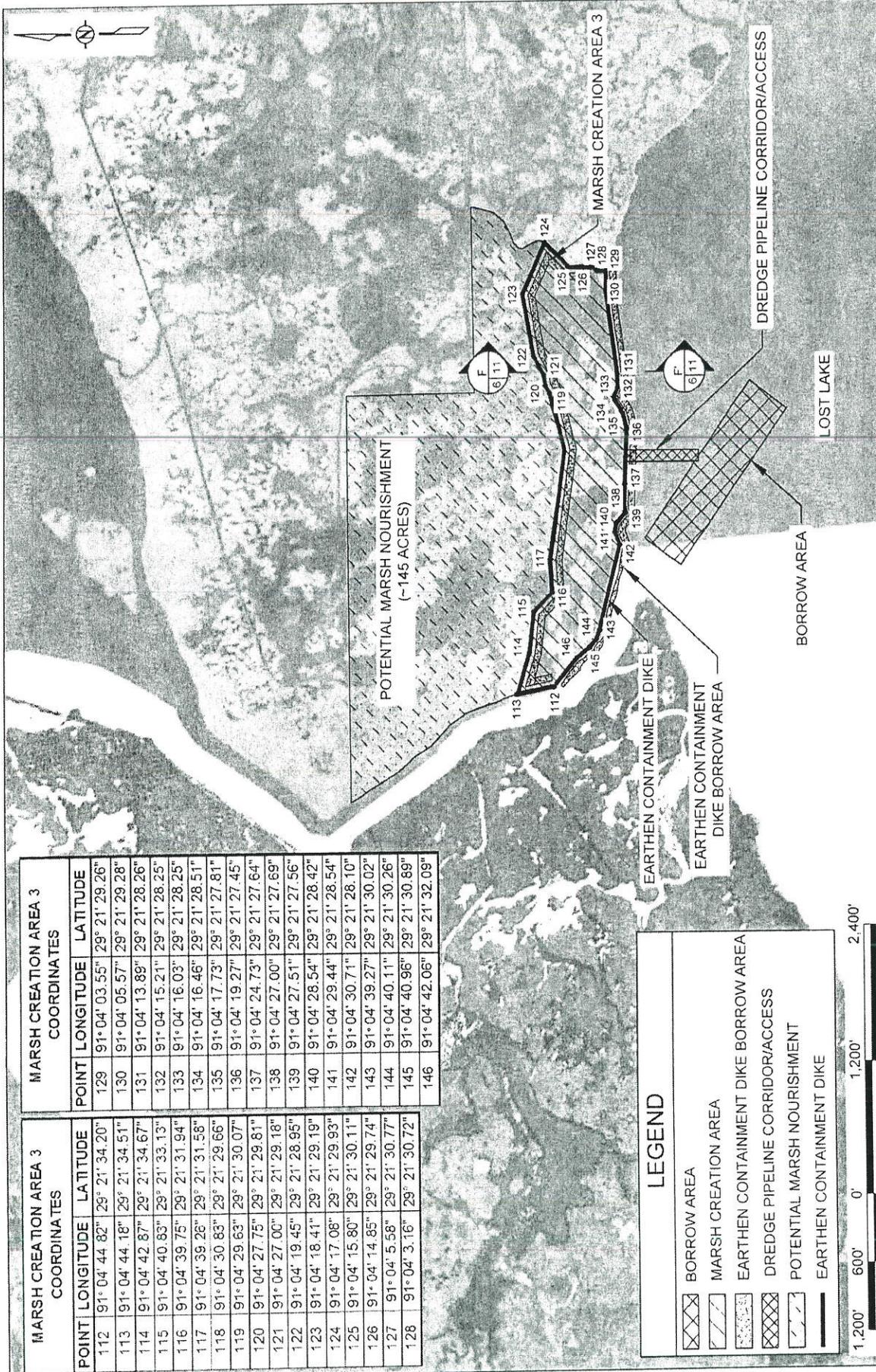
DESIGNED BY: SHANE FAUST
 APPROVED BY: RUSS JOFFRION, P.E.

APPLICATION BY:
 UNITED STATES FISH AND WILDLIFE SERVICE
 546 CAJUNDOME BLVD, SUITE 400
 LAFAYETTE, LA 70506

STATE PROJECT NUMBER: TE-72
 FEDERAL PROJECT NUMBER: TE-72

DATE: OCTOBER 2015
 SHEET 5 OF 28

LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT
 MARSH CREATION AREA 2A, 2B, 2C, & 2D LAYOUT



MARSH CREATION AREA 3 COORDINATES		
POINT	LONGITUDE	LATITUDE
112	91° 04' 44.82"	29° 21' 34.20"
113	91° 04' 44.18"	29° 21' 34.51"
114	91° 04' 42.87"	29° 21' 34.67"
115	91° 04' 40.83"	29° 21' 33.13"
116	91° 04' 39.75"	29° 21' 31.94"
117	91° 04' 39.26"	29° 21' 31.58"
118	91° 04' 30.83"	29° 21' 29.66"
119	91° 04' 29.63"	29° 21' 30.07"
120	91° 04' 27.75"	29° 21' 29.81"
121	91° 04' 27.00"	29° 21' 29.18"
122	91° 04' 19.45"	29° 21' 28.95"
123	91° 04' 18.41"	29° 21' 29.19"
124	91° 04' 17.08"	29° 21' 29.93"
125	91° 04' 15.80"	29° 21' 30.11"
126	91° 04' 14.85"	29° 21' 29.74"
127	91° 04' 5.58"	29° 21' 30.77"
128	91° 04' 3.16"	29° 21' 30.72"
129	91° 04' 03.55"	29° 21' 29.26"
130	91° 04' 05.57"	29° 21' 29.28"
131	91° 04' 13.89"	29° 21' 28.26"
132	91° 04' 15.21"	29° 21' 28.25"
133	91° 04' 16.03"	29° 21' 28.25"
134	91° 04' 16.46"	29° 21' 28.51"
135	91° 04' 17.73"	29° 21' 27.81"
136	91° 04' 19.27"	29° 21' 27.45"
137	91° 04' 24.73"	29° 21' 27.64"
138	91° 04' 27.00"	29° 21' 27.69"
139	91° 04' 27.51"	29° 21' 27.56"
140	91° 04' 28.54"	29° 21' 28.42"
141	91° 04' 29.44"	29° 21' 28.54"
142	91° 04' 30.71"	29° 21' 28.10"
143	91° 04' 39.27"	29° 21' 30.02"
144	91° 04' 40.11"	29° 21' 30.26"
145	91° 04' 40.96"	29° 21' 30.89"
146	91° 04' 42.06"	29° 21' 32.09"

LEGEND	
	BORROW AREA
	MARSH CREATION AREA
	EARTHEN CONTAINMENT DIKE BORROW AREA
	DREDGE PIPELINE CORRIDOR/ACCESS
	POTENTIAL MARSH NOURISHMENT
	EARTHEN CONTAINMENT DIKE



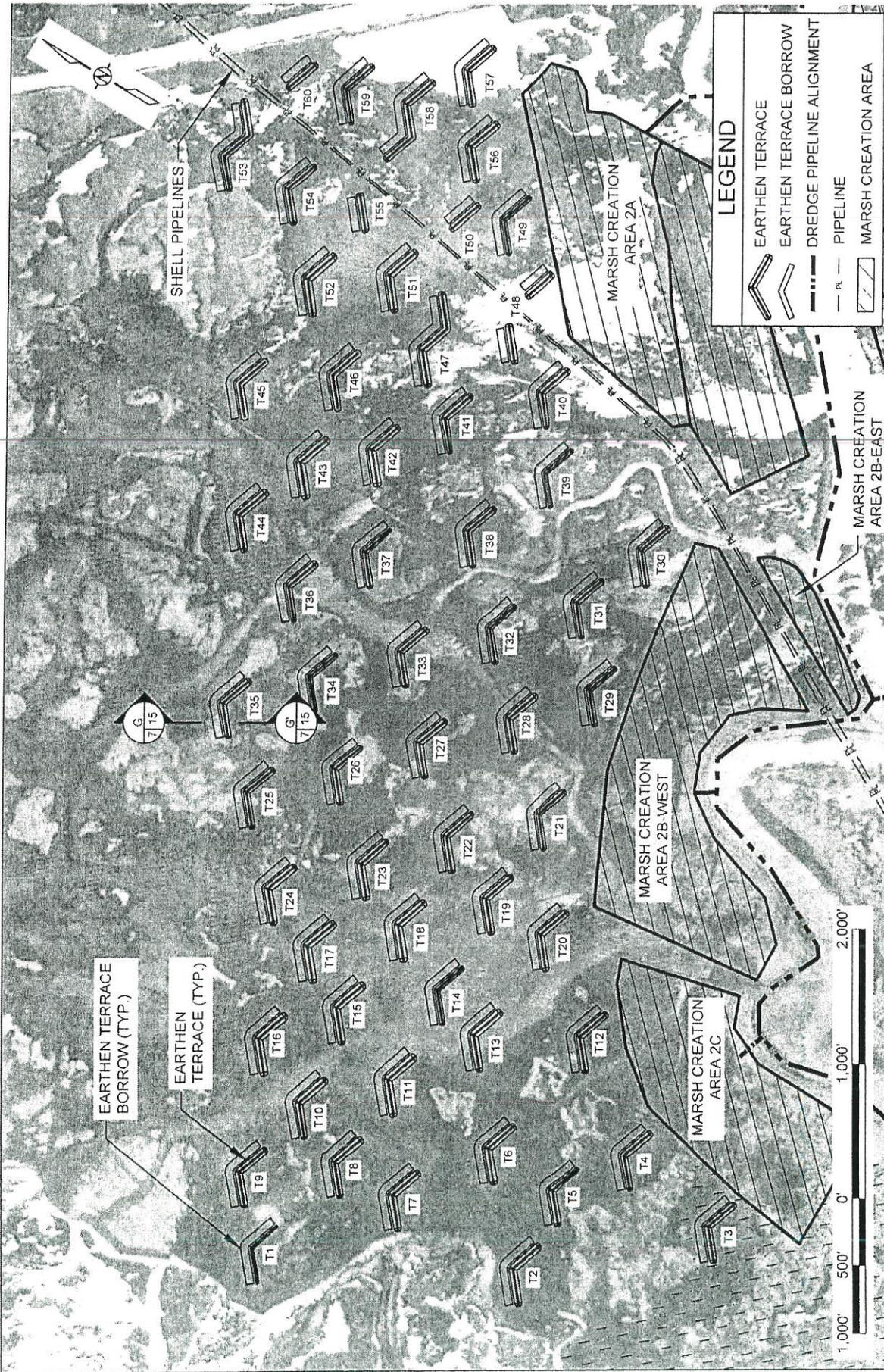
APPLICATION BY:
 UNITED STATES FISH AND WILDLIFE SERVICE
 646 CAJUNDOME BLVD, SUITE 400
 LAFAYETTE, LA 70506

COASTAL PROTECTION AND RESTORATION AUTHORITY
 450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT

MARSH CREATION AREA 3 LAYOUT

DESIGNED BY: SHANE FAUST	APPROVED BY: JASON LANCIOS, P.E.	FEDERAL PROJECT NUMBER: TE-72	DATE: OCTOBER 2015
DRAWN BY: SHANE FAUST		STATE PROJECT NUMBER: TE-72	SHEET 6 OF 28



APPLICATION BY UNITED STATES FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD, SUITE 400 LAFAYETTE LA 70506	COASTAL PROTECTION AND RESTORATION AUTHORITY 4531 LAUREL STREET BATON ROUGE, LOUISIANA 70801	LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT STATE PROJECT NUMBER: TE-72 FEDERAL PROJECT NUMBER: TE-72	EARTHEN TERRACE LAYOUT DATE: OCTOBER 2015 SHEET 7 OF 28
DRAWN BY: SHANE FAUST	DESIGNED BY: S HAYNES, P.E.	APPROVED BY: RUSS JOFFRION, P.E.	

TERRACE COORDINATES		
TERRACE	LONGITUDE	LATITUDE
T1	91° 01' 24.72"	29° 21' 34.66"
	91° 01' 22.54"	29° 21' 35.24"
	91° 01' 19.90"	29° 21' 35.38"
T2	91° 01' 15.09"	29° 21' 16.79"
	91° 01' 12.91"	29° 21' 16.37"
	91° 01' 10.28"	29° 21' 17.50"
T3	91° 01' 03.73"	29° 21' 05.51"
	91° 01' 01.55"	29° 21' 07.09"
	91° 01' 01.55"	29° 21' 06.22"
T4	91° 01' 02.05"	29° 21' 13.61"
	91° 00' 59.87"	29° 21' 15.19"
	91° 00' 57.22"	29° 21' 14.32"
T5	91° 01' 07.69"	29° 21' 17.02"
	91° 01' 05.51"	29° 21' 18.60"
	91° 01' 02.86"	29° 21' 17.75"
T6	91° 01' 07.39"	29° 21' 22.86"
	91° 01' 05.21"	29° 21' 24.44"
	91° 01' 02.57"	29° 21' 23.57"
T7	91° 01' 14.91"	29° 21' 27.45"
	91° 01' 12.74"	29° 21' 26.03"
	91° 01' 10.09"	29° 21' 28.16"
T8	91° 01' 14.95"	29° 21' 32.45"
	91° 01' 12.78"	29° 21' 34.02"
	91° 01' 10.13"	29° 21' 33.16"
T9	91° 01' 19.72"	29° 21' 36.28"
	91° 01' 17.54"	29° 21' 36.86"
	91° 01' 14.90"	29° 21' 39.00"
T10	101° 28' 40.52"	37° 24' 33.09"
	101° 28' 38.77"	37° 24' 35.10"
	101° 28' 40.09"	37° 24' 37.32"
T11	101° 28' 47.17"	37° 24' 37.37"
	101° 28' 45.43"	37° 24' 39.39"
	101° 28' 46.74"	37° 24' 41.60"
T12	101° 29' 01.98"	37° 24' 46.26"
	101° 29' 00.23"	37° 24' 48.28"
	101° 29' 01.55"	37° 24' 50.49"
T13	91° 00' 59.65"	29° 21' 27.92"
	91° 00' 57.67"	29° 21' 28.49"
	91° 00' 55.02"	29° 21' 28.63"
T14	91° 00' 58.18"	29° 21' 31.97"
	91° 00' 56.00"	29° 21' 33.55"
	91° 00' 53.35"	29° 21' 32.68"
T15	91° 01' 03.62"	29° 21' 37.93"
	91° 01' 01.65"	29° 21' 39.50"
	91° 00' 59.00"	29° 21' 38.64"
T16	91° 01' 09.34"	29° 21' 41.87"
	91° 01' 07.16"	29° 21' 43.44"
	91° 01' 04.51"	29° 21' 42.58"

TERRACE COORDINATES		
TERRACE	LONGITUDE	LATITUDE
T17	91° 01' 00.64"	29° 21' 42.08"
	91° 00' 58.46"	29° 21' 43.66"
	91° 00' 55.61"	29° 21' 42.79"
T18	91° 00' 55.16"	29° 21' 36.94"
	91° 00' 53.00"	29° 21' 38.51"
	91° 00' 50.36"	29° 21' 37.65"
T19	91° 00' 49.49"	29° 21' 32.13"
	91° 00' 47.31"	29° 21' 33.71"
	91° 00' 44.67"	29° 21' 32.84"
T20	91° 00' 49.70"	29° 21' 27.18"
	91° 00' 47.52"	29° 21' 28.75"
	91° 00' 44.88"	29° 21' 27.69"
T21	91° 00' 41.12"	29° 21' 31.72"
	91° 00' 38.94"	29° 21' 33.30"
	91° 00' 36.28"	29° 21' 32.43"
T22	91° 00' 46.68"	29° 21' 37.00"
	91° 00' 44.50"	29° 21' 38.57"
	91° 00' 41.86"	29° 21' 37.71"
T23	91° 00' 52.34"	29° 21' 41.64"
	91° 00' 50.16"	29° 21' 43.22"
	91° 00' 47.52"	29° 21' 42.35"
T24	91° 00' 58.12"	29° 21' 46.73"
	91° 00' 55.94"	29° 21' 48.30"
	91° 00' 53.28"	29° 21' 47.44"
T25	91° 00' 52.13"	29° 21' 51.64"
	91° 00' 49.95"	29° 21' 53.22"
	91° 00' 47.30"	29° 21' 52.35"
T26	91° 00' 46.68"	29° 21' 46.78"
	91° 00' 44.50"	29° 21' 48.36"
	91° 00' 41.86"	29° 21' 47.49"
T27	91° 00' 41.13"	29° 21' 42.23"
	91° 00' 38.95"	29° 21' 43.80"
	91° 00' 36.30"	29° 21' 42.94"
T28	91° 00' 35.42"	29° 21' 37.23"
	91° 00' 33.24"	29° 21' 38.80"
	91° 00' 30.59"	29° 21' 37.94"
T29	91° 00' 29.91"	29° 21' 32.98"
	91° 00' 27.73"	29° 21' 34.55"
	91° 00' 25.08"	29° 21' 33.69"
T30	91° 00' 17.65"	29° 21' 34.71"
	91° 00' 15.47"	29° 21' 36.29"
	91° 00' 12.83"	29° 21' 35.42"
T31	91° 00' 24.15"	29° 21' 37.06"
	91° 00' 21.97"	29° 21' 38.63"
	91° 00' 19.33"	29° 21' 37.77"
T32	91° 00' 29.75"	29° 21' 41.86"
	91° 00' 27.57"	29° 21' 43.43"
	91° 00' 24.92"	29° 21' 42.57"

TERRACE COORDINATES		
TERRACE	LONGITUDE	LATITUDE
T33	91° 00' 35.94"	29° 21' 46.87"
	91° 00' 33.18"	29° 21' 48.44"
	91° 00' 30.52"	29° 21' 47.58"
T34	91° 00' 41.07"	29° 21' 51.85"
	91° 00' 38.89"	29° 21' 53.43"
	91° 00' 36.24"	29° 21' 52.56"
T35	91° 00' 46.65"	29° 21' 56.51"
	91° 00' 44.47"	29° 21' 58.09"
	91° 00' 41.83"	29° 21' 57.22"
T36	91° 00' 35.41"	29° 21' 56.56"
	91° 00' 33.23"	29° 21' 58.14"
	91° 00' 30.59"	29° 21' 57.27"
T37	91° 00' 29.71"	29° 21' 52.86"
	91° 00' 27.53"	29° 21' 54.44"
	91° 00' 24.88"	29° 21' 53.57"
T38	91° 00' 23.77"	29° 21' 46.95"
	91° 00' 21.59"	29° 21' 48.53"
	91° 00' 18.94"	29° 21' 47.66"
T39	91° 00' 16.21"	29° 21' 43.84"
	91° 00' 14.03"	29° 21' 45.42"
	91° 00' 11.39"	29° 21' 44.55"
T40	91° 00' 10.65"	29° 21' 47.09"
	91° 00' 08.47"	29° 21' 48.66"
	91° 00' 06.71"	29° 21' 47.80"
T41	91° 00' 16.71"	29° 21' 52.53"
	91° 00' 14.54"	29° 21' 54.10"
	91° 00' 11.89"	29° 21' 53.24"
T42	91° 00' 22.11"	29° 21' 56.20"
	91° 00' 19.93"	29° 21' 57.77"
	91° 00' 17.28"	29° 21' 56.91"
T43	91° 00' 26.09"	29° 22' 00.39"
	91° 00' 23.90"	29° 22' 01.97"
	91° 00' 21.25"	29° 22' 01.10"
T44	91° 00' 30.32"	29° 22' 03.99"
	91° 00' 27.67"	29° 22' 05.13"
	91° 00' 25.02"	29° 22' 06.82"
T45	91° 00' 20.82"	29° 22' 07.25"
	91° 00' 18.18"	29° 22' 07.96"
	91° 00' 15.53"	29° 22' 08.10"
T46	91° 00' 13.63"	29° 22' 05.23"
	91° 00' 11.45"	29° 22' 06.52"
	91° 00' 09.62"	29° 21' 56.53"
T47	91° 00' 10.62"	29° 21' 58.11"
	91° 00' 08.00"	29° 21' 57.26"
	91° 00' 05.62"	29° 21' 58.84"

TERRACE'S COORDINATES		
TERRACE	LONGITUDE	LATITUDE
T48	91° 00' 07.34"	29° 21' 51.64"
	91° 00' 05.14"	29° 21' 53.23"
	91° 00' 02.09"	29° 21' 53.11"
T49	90° 59' 59.88"	29° 21' 52.32"
	90° 59' 59.98"	29° 21' 55.90"
	90° 59' 57.80"	29° 21' 57.48"
T50	90° 59' 55.15"	29° 21' 56.61"
	91° 00' 03.28"	29° 21' 59.16"
	91° 00' 01.10"	29° 22' 00.74"
T51	90° 59' 58.45"	29° 21' 59.87"
	91° 00' 06.91"	29° 22' 01.44"
	91° 00' 06.73"	29° 22' 03.01"
T52	91° 00' 04.08"	29° 22' 02.15"
	91° 00' 12.71"	29° 22' 06.66"
	91° 00' 10.53"	29° 22' 08.24"
	91° 00' 07.86"	29° 22' 07.37"
T53	91° 00' 07.02"	29° 22' 16.59"
	91° 00' 02.30"	29° 22' 17.30"
	91° 00' 07.06"	29° 22' 11.24"
T54	91° 00' 04.87"	29° 22' 12.81"
	91° 00' 02.22"	29° 22' 11.95"
	91° 00' 04.14"	29° 22' 08.27"
T55	91° 00' 01.96"	29° 22' 06.87"
	90° 59' 59.31"	29° 22' 05.98"
	90° 59' 56.09"	29° 22' 00.80"
T56	90° 59' 53.91"	29° 22' 02.38"
	90° 59' 51.26"	29° 22' 01.51"
	90° 59' 50.75"	29° 22' 03.65"
T57	90° 59' 48.57"	29° 22' 06.43"
	90° 59' 45.92"	29° 22' 04.56"
	90° 59' 55.80"	29° 22' 08.19"
T58	90° 59' 53.62"	29° 22' 07.35"
	90° 59' 50.97"	29° 22' 07.35"
	90° 59' 57.35"	29° 22' 11.16"
T59	90° 59' 52.52"	29° 22' 11.89"
	91° 00' 00.50"	29° 22' 15.23"
	90° 59' 58.33"	29° 22' 16.80"
	90° 59' 55.86"	29° 22' 15.94"

APPLICATION BY
 UNITED STATES FISH AND WILDLIFE SERVICE
 646 CAJUNDOME BLVD, SUITE 400
 LAFAYETTE LA 70505

COASTAL PROTECTION AND RESTORATION AUTHORITY
 450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

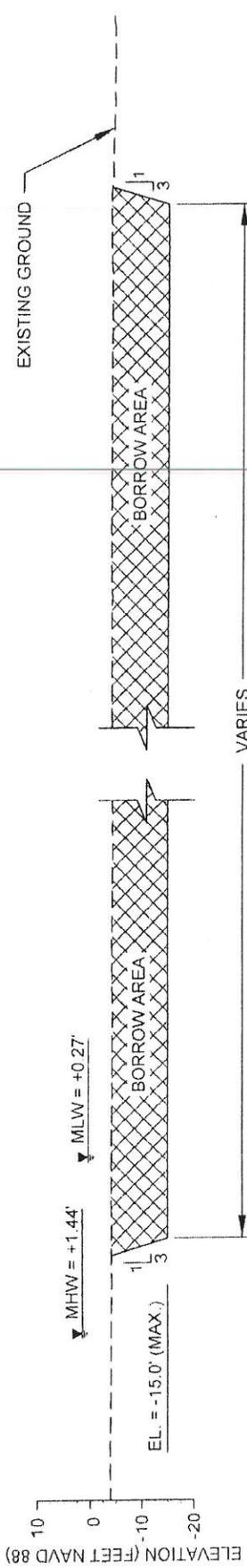
DESIGNED BY S. HAYNES, P.E. APPROVED BY RUSS JOFFRION, P.E.

STATE PROJECT NUMBER TE-72
 FEDERAL PROJECT NUMBER TE-72

LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT

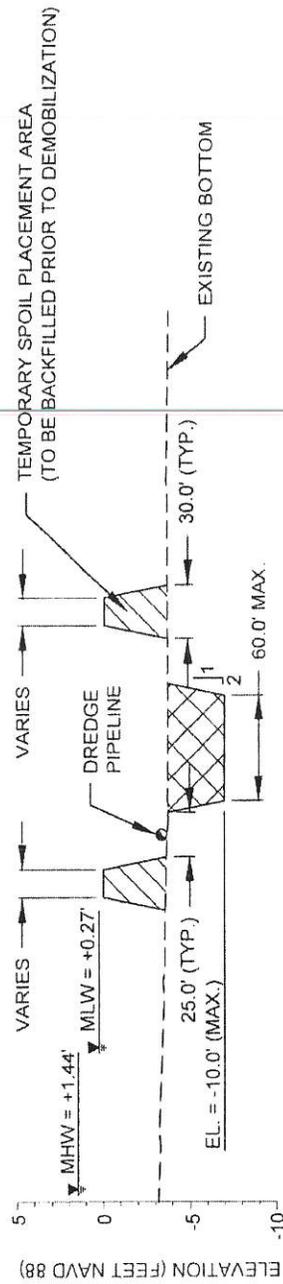
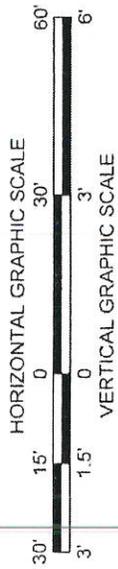
DATE OCTOBER 2015
 SHEET 8 OF 28

TERRACE COORDINATES



TYPICAL BORROW AREA SECTION

AA' 9/3



TYPICAL BORROW AREA 1 ACCESS CHANNEL SECTION

BB' 9/3



APPLICATION BY
UNITED STATES FISH AND WILDLIFE SERVICE
646 CALUMDOME BLVD SUITE 400
LAFAYETTE, LA 70506

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT

TYPICAL BORROW AND ACCESS CHANNEL SECTIONS

STATE PROJECT NUMBER: TE-72

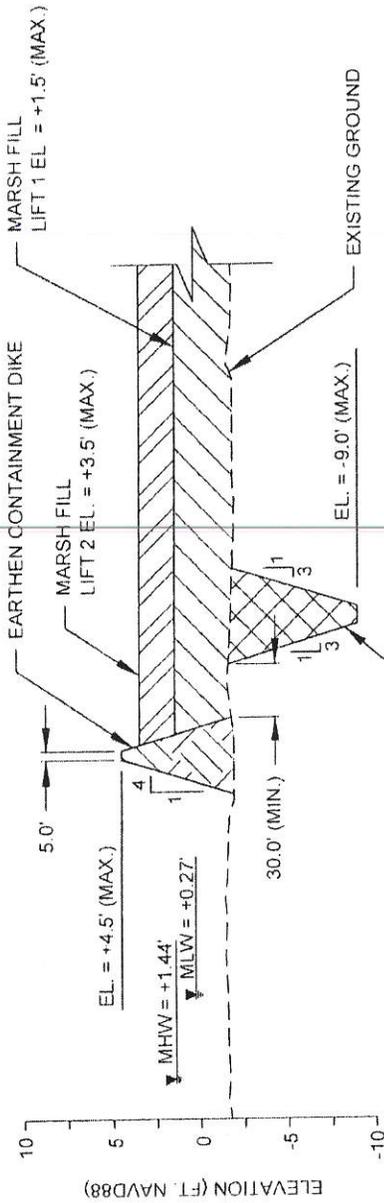
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FEDERAL PROJECT NUMBER: TE-72

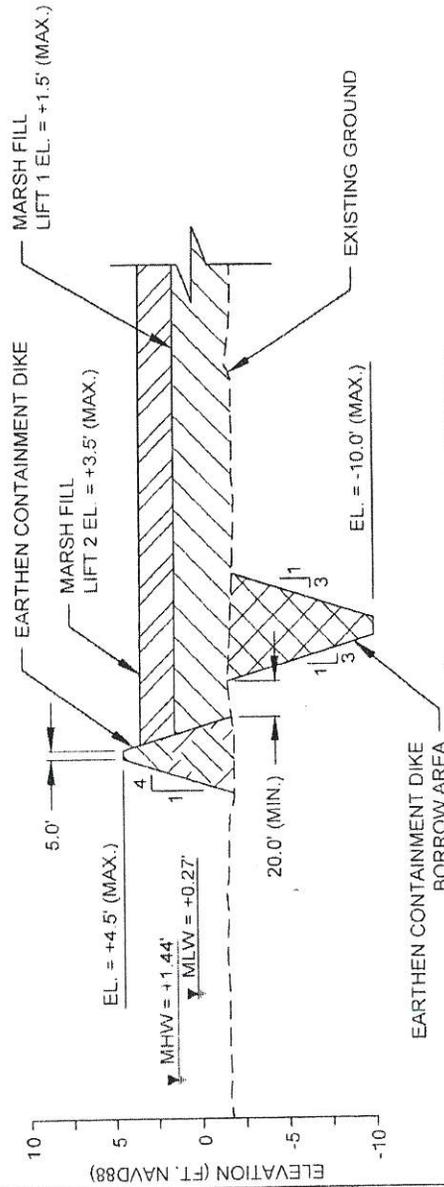
SHEET 9 OF 28

DRAWN BY: SHANE FAUST

DESIGNED BY: S. HAYNES, P.E. APPROVED BY: RUSS JOFFRION, P.E.

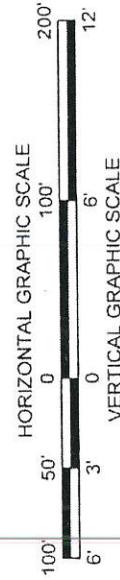


TYPICAL FILL SECTION
 C-C 10/4 MARSH CREATION AREA 1A AND 1B

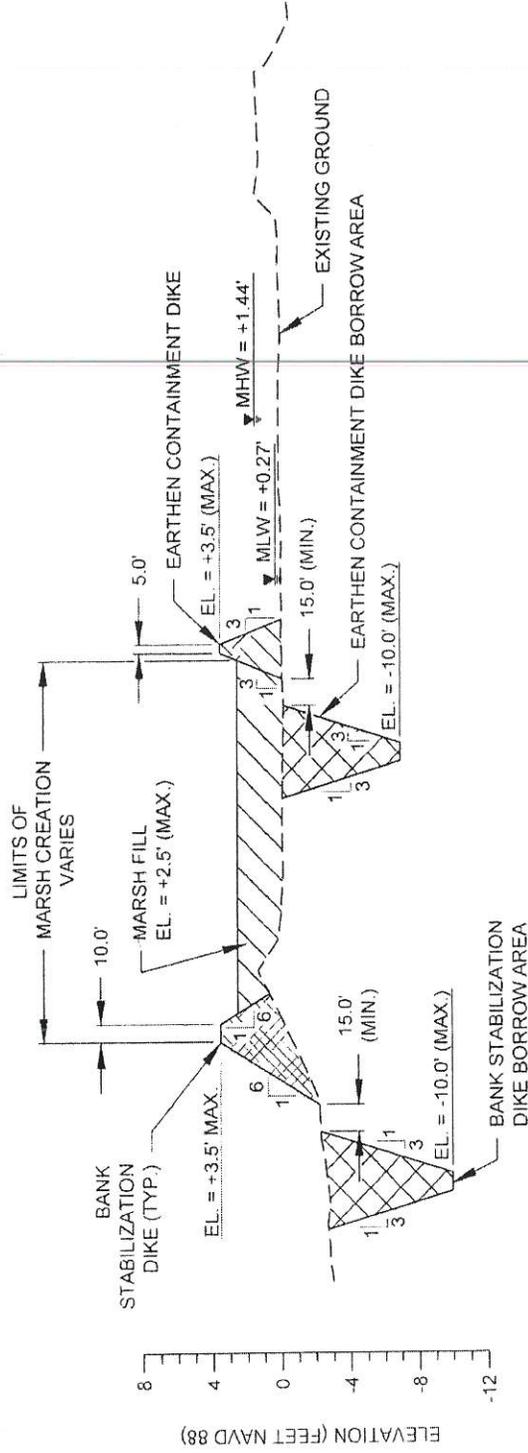


TYPICAL FILL SECTION
 D-D 10/5 MARSH CREATION AREAS 2A, 2B (EAST AND WEST), 2C, AND 2D

NOTES:
 1. CONTAINMENT DIKES SHALL BE CONSTRUCTED USING IN-SITU MATERIAL.
 2. NO DREDGING WILL BE ALLOWED WITHIN 20.0' OR 30.0' OF THE CONTAINMENT DIKE TO EARTHEN CONTAINMENT DIKE BORROW AREAS.



APPLICATION BY: UNITED STATES FISH AND WILDLIFE SERVICE 645 CAJUNDOME BLVD SUITE 400 LAFAYETTE, LA 70506	COASTAL PROTECTION AND RESTORATION AUTHORITY 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801	LOST LAKE MARSH CREATION AND HYDROLOGICAL RESTORATION PROJECT STATE PROJECT NUMBER TE-72 FEDERAL PROJECT NUMBER TE-72	TYPICAL CONTAINMENT DIKE AND FILL SECTIONS DATE OCTOBER 2015 SHEET 10 OF 28
DESIGNED BY: SHANE FAUST	APPROVED BY: RUSS JOFFRION, P.E.		



F-F
11/6
TYPICAL MARSH FILL
AREA 3 SECTION

APPLICATION BY
UNITED STATES FISH AND WILDLIFE SERVICE
646 CAJUNDOME BLVD., SUITE 400
LAFAYETTE, LA 70508

COASTAL PROTECTION AND
RESTORATION AUTHORITY
4501 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

LOST LAKE MARSH CREATION AND
HYDROLOGICAL RESTORATION PROJECT

TYPICAL BANK STABILIZATION
AND CONTAINMENT DIKES
AND FILL SECTION

DRAWN BY SHANE FAUST

DESIGNED BY S HAYNES, P.E.

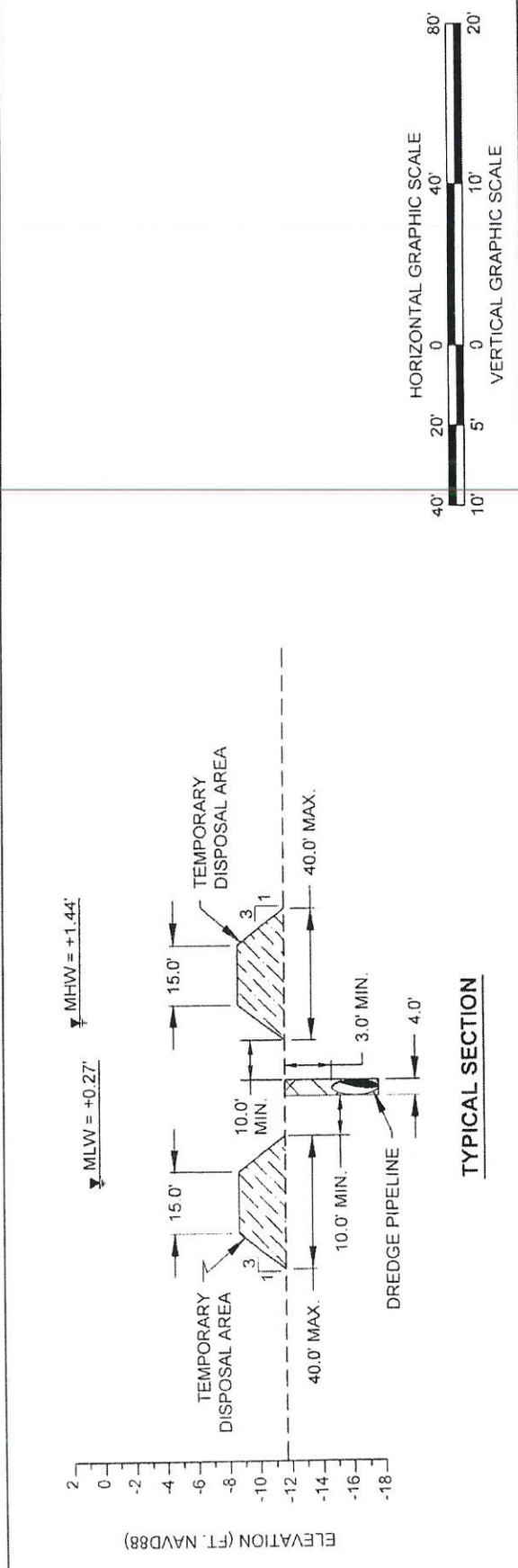
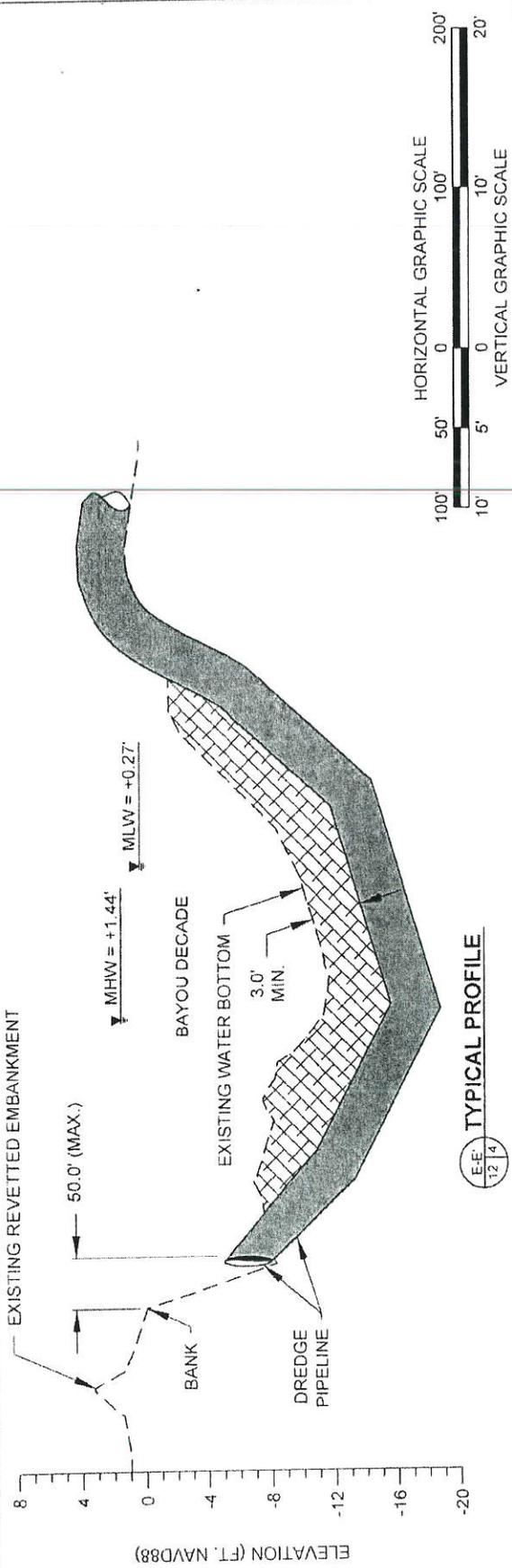
APPROVED BY RUSS JOFFERION, P.E.

STATE PROJECT NUMBER TE-72

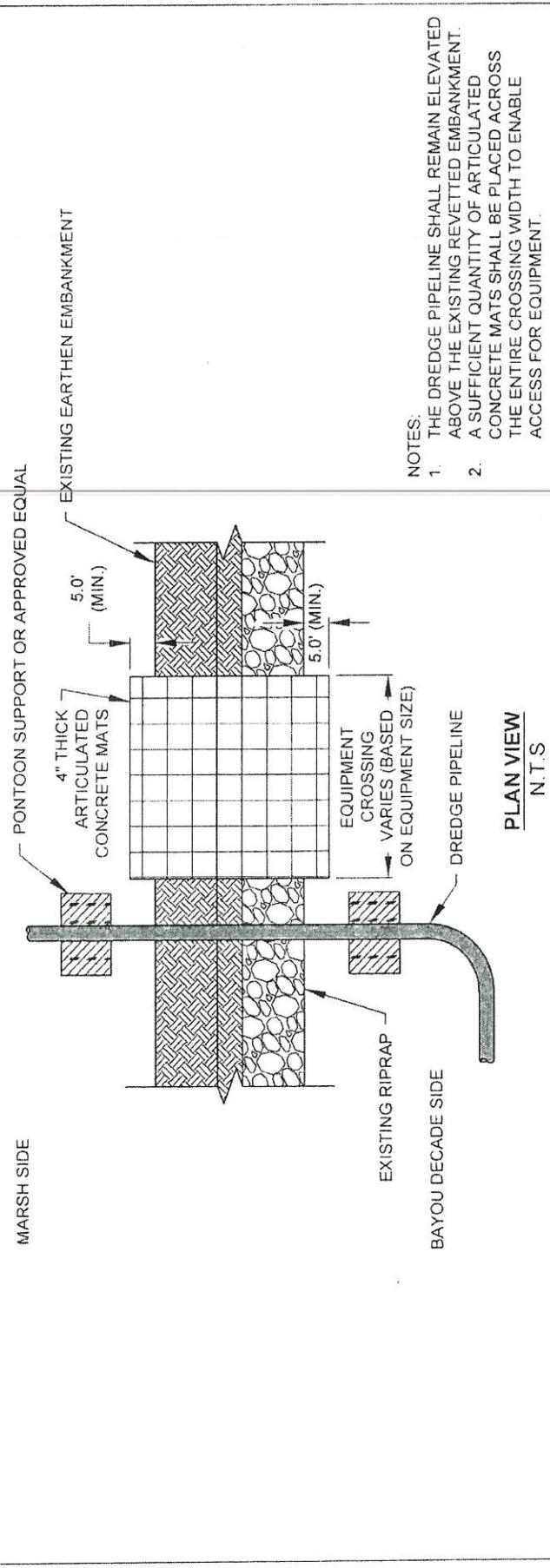
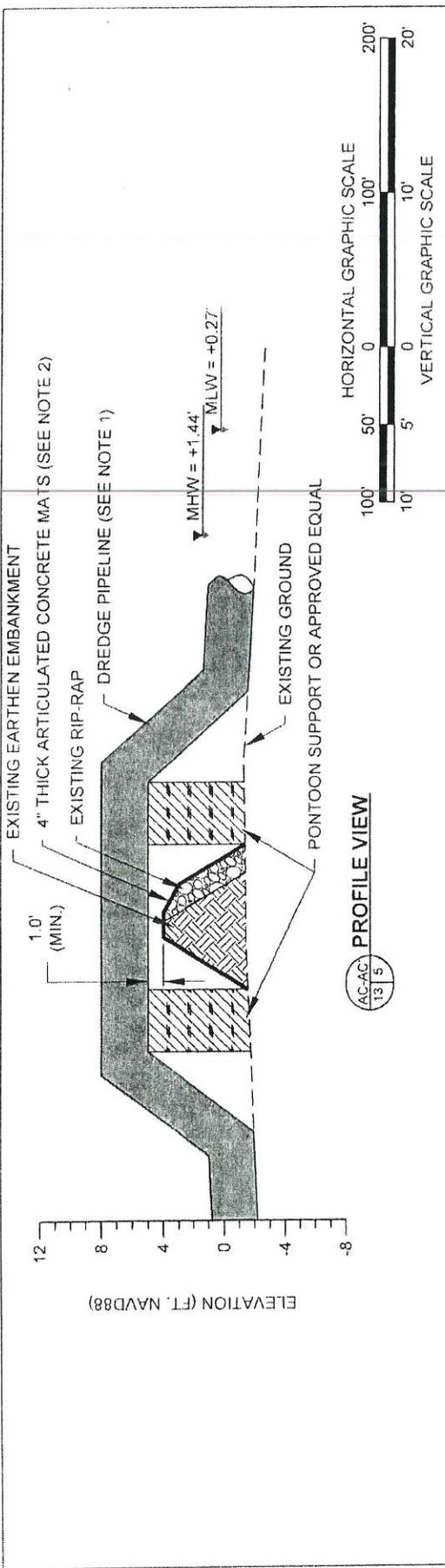
DATE: OCTOBER 2015

SHEET 11 OF 28

FEDERAL PROJECT NUMBER TE-72

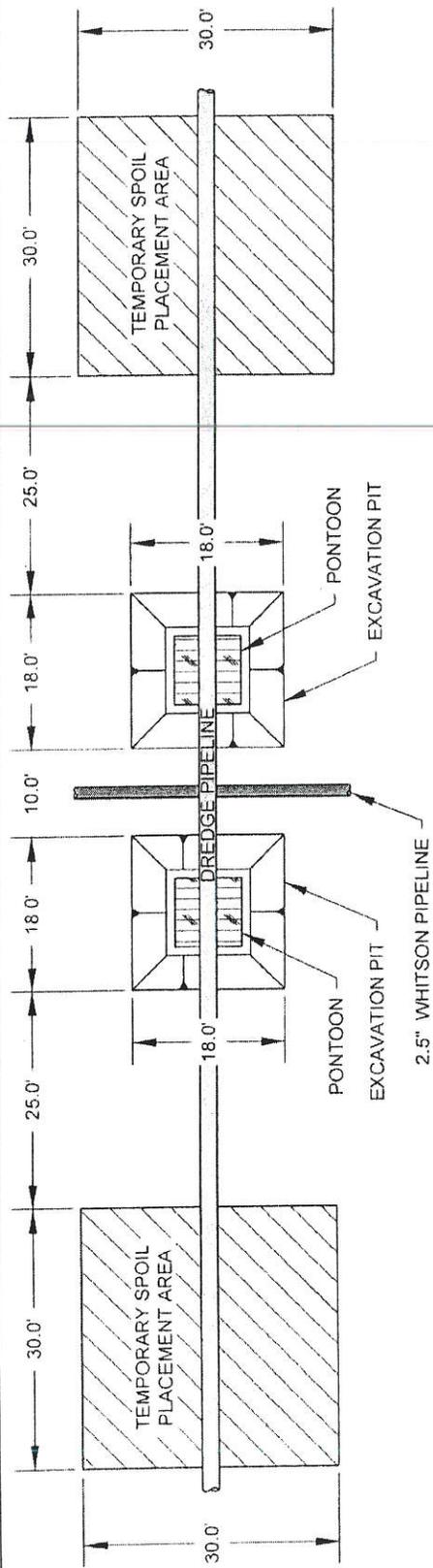


APPLICATION BY: UNITED STATES FISH AND WILDLIFE SERVICE 546 CALINDOUME BLVD, SUITE 400 LAFAYETTE, LA 70508	COASTAL PROTECTION AND RESTORATION AUTHORITY 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801	LOST LAKE MARSH CREATION AND HYDROLOGICAL RESTORATION PROJECT STATE PROJECT NUMBER TE-72 FEDERAL PROJECT NUMBER TE-72	BAYOU DECADE DREDGE PIPELINE ALIGNMENT DATE: OCTOBER 2015 SHEET 12 OF 28
DESIGNED BY: S HAYNES P E APPROVED BY: RUSS JOFFRION P E			
DRAWN BY: SHANE FAUST			

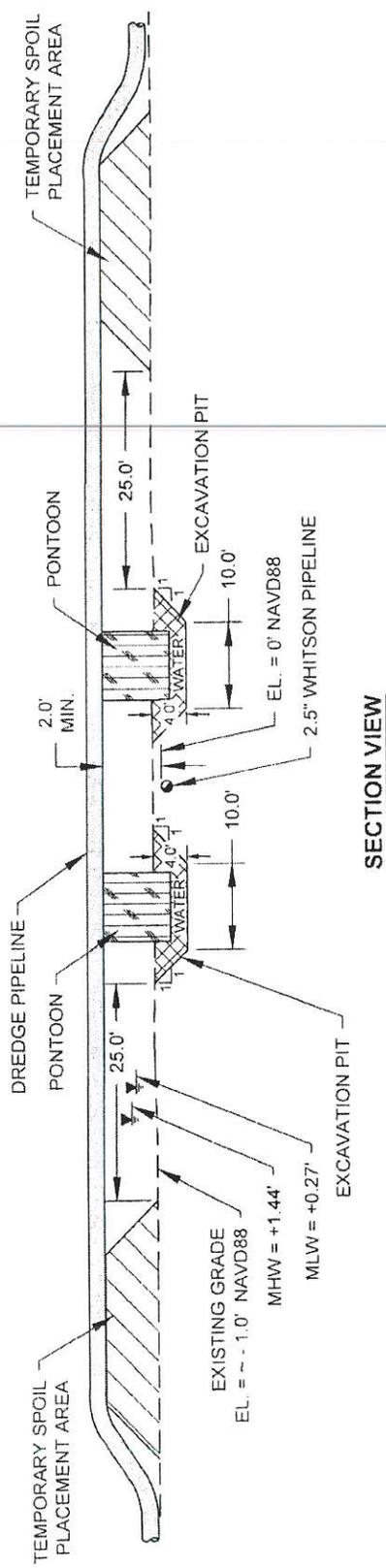


- NOTES:
1. THE DREDGE PIPELINE SHALL REMAIN ELEVATED ABOVE THE EXISTING REVETTED EMBANKMENT.
 2. A SUFFICIENT QUANTITY OF ARTICULATED CONCRETE MATS SHALL BE PLACED ACROSS THE ENTIRE CROSSING WIDTH TO ENABLE ACCESS FOR EQUIPMENT.

APPLICATION BY: UNITED STATES FISH AND WILDLIFE SERVICE 846 CAJUNDOME BLVD, SUITE 400 LAFAYETTE, LA 70598	COASTAL PROTECTION AND RESTORATION AUTHORITY 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801	LOST LAKE MARSH CREATION AND HYDROLOGICAL RESTORATION PROJECT	BAYOU DECADE REVETTED EMBANKMENT CROSSING
DRAWN BY SHANE FAUST	DESIGNED BY S. HAYNES, P.E. APPROVED BY RUSS JOFFRION, P.E.	STATE PROJECT NUMBER TE-72 FEDERAL PROJECT NUMBER TE-72	DATE OCTOBER 2015 SHEET 13 OF 28



PLAN VIEW



SECTION VIEW

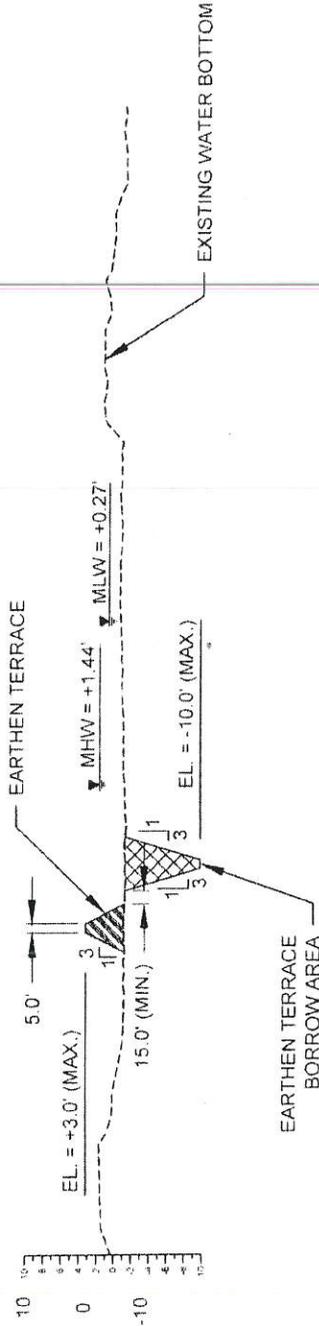
NOTES:
 1. SPOIL TO BE BACKFILLED.
 2. PONTOONS AND PIPELINE TO BE ANCHORED.

PIPELINE CROSSING DETAIL
 NOT TO SCALE

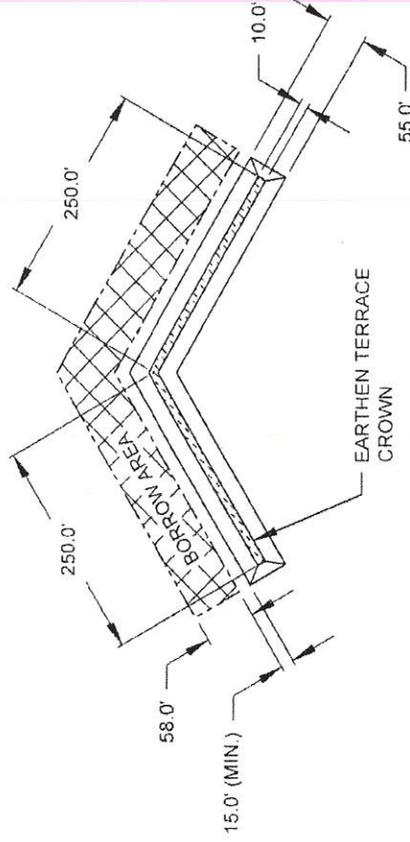


APPLICATION BY: UNITED STATES FISH AND WILDLIFE SERVICE (USFWS) 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	COASTAL PROTECTION AND RESTORATION AUTHORITY 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801	LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT STATE PROJECT NUMBER: TE-72 FEDERAL PROJECT NUMBER: TE-72	PIPELINE CROSSING DETAIL DATE: OCTOBER 2015 SHEET 14 OF 28
DESIGNED BY: S HAYNES P.E. APPROVED BY: R JOFFRION P.E.	DRAWN BY: K CANTU		

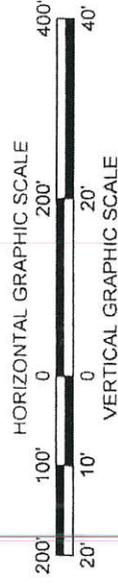
ELEVATION (FEET NAVD 88)



TYPICAL EARTHEN TERRACE SECTION



TYPICAL EARTHEN TERRACE
PLAN VIEW



NOTE:
EXACT LOCATION OF THE EARTHEN TERRACES SHALL
BE DETERMINED ON SITE AND WILL NOT DISTURB ANY
EXISTING MARSH.

APPLICATION BY:
UNITED STATES FISH AND WILDLIFE SERVICE
646 CAJUNDOME BLVD, SUITE 400
LAFAYETTE, LA 70598

**COASTAL PROTECTION AND
RESTORATION AUTHORITY**
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

LOST LAKE MARSH CREATION AND
HYDROLOGICAL RESTORATION PROJECT

TYPICAL EARTHEN TERRACE
SECTION

DRAWN BY SHANE FAUST

DESIGNED BY S HAYNES, P.E.

APPROVED BY RUSS JOFFRION, P.E.

STATE PROJECT NUMBER: TE-72

DATE: OCTOBER 2015

SHEET 15 OF 28

DRAWN BY SHANE FAUST

DESIGNED BY S HAYNES, P.E.

APPROVED BY RUSS JOFFRION, P.E.

STATE PROJECT NUMBER: TE-72

DATE: OCTOBER 2015

SHEET 15 OF 28

NO ATTEMPT HAS BEEN MADE BY SIGMA CONSULTING GROUP, INC. TO VERIFY TITLE, ACTUAL LEGAL OWNERSHIPS, SERVITUDES, EASEMENTS, RIGHTS-OF-WAY OR OTHER BURDENS ON THE PROPERTY.

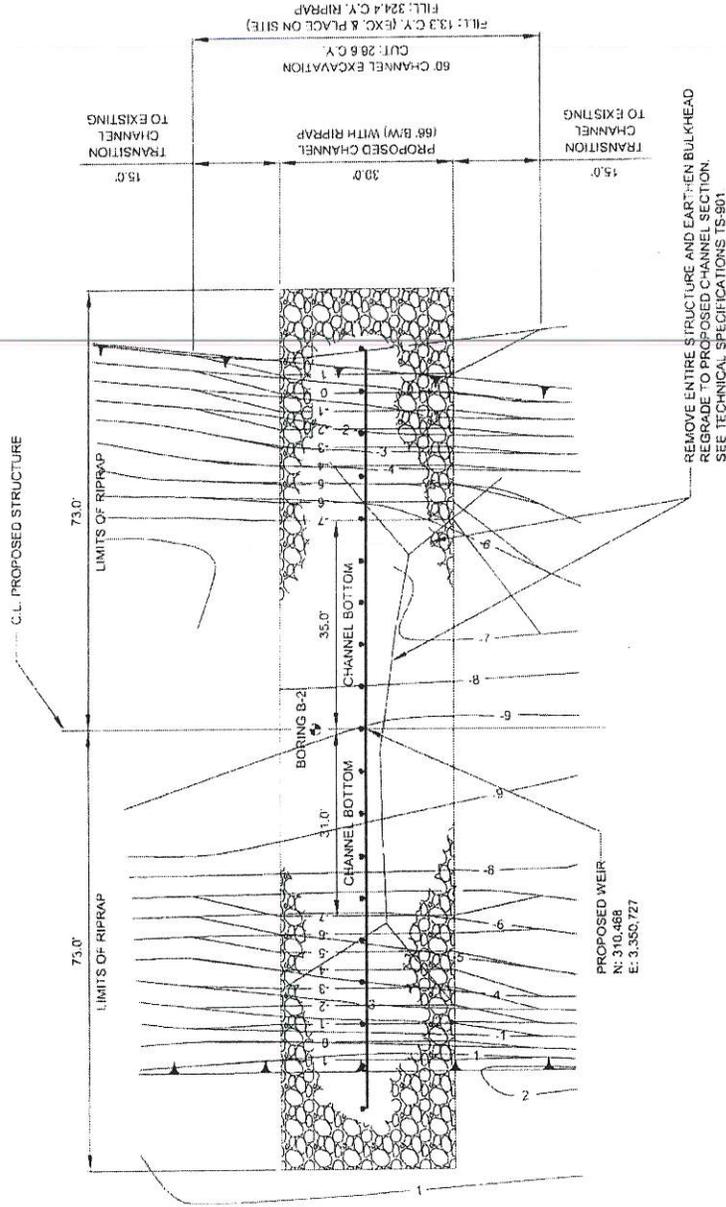
EXISTING TOPOGRAPHIC SURVEY PERFORMED BY HYBURN & ODOM MCA DATED MAY 2011.

DATE: ALL ELEVATIONS ARE IN NAVD 86 IN US SURVEY FEET. ALL HORIZONTAL COORDINATES ARE IN NAD 83 (LOUISIANA STATE PLANE, SOUTH ZONE) IN US SURVEY FEET. SEE GENERAL NOTES ON SHEET 2 FOR SURVEY CONTROL DATA.

ALL REQUIRED CHANNEL EXCAVATION IS TO BE PLACED ON SITE. REFER TO THE ELEVATION VIEW ON THE FOLLOWING SHEET FOR ADDITIONAL INFORMATION.

NON-VEGETATED WATER BOTTOM	
0.18 AC	EXCAVATION
28.6 C.Y.	INSITU FILL
13.3 C.Y.	ROCK/RIPRAP
324.4 C.Y.	

- LEGEND:**
- EXISTING CONTOURS
 - PROPOSED CONTOURS
 - EXISTING TOP OF BANK
 - PROPOSED WEIR
 - PROPOSED RIPRAV 2' THICK (MIN.)
 - EXISTING WEIR TO BE REMOVED



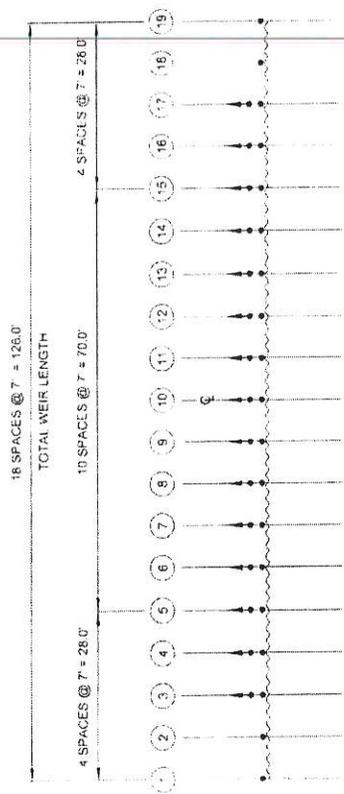
THIS DOCUMENT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING, NEGOTIATION, OR CONTRACT ADMINISTRATION UNLESS THE DESIGNING ENGINEER HAS BEEN ADVISED OF SUCH USE.

<p>SIGMA CONSULTING GROUP, INC. ENGINEERING CONSULTANTS 10205 Airline Highway Baton Rouge, Louisiana 70816</p>	<p>COASTAL PROTECTION AND RESTORATION AUTHORITY 80 LAUREL STREET BATON ROUGE, LOUISIANA 70801</p>		<p>LAST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION</p>
	<p>DESIGNED BY: AMH/DE</p>	<p>DESIGNED BY: SUB/BA</p>	<p>APPROVED BY: T/AR</p>
<p>STATE PROJECT NUMBER: TP-72</p>	<p>FEDERAL PROJECT NUMBER: TP-72</p>	<p>DATE: APRIL 2015</p>	<p>SHEET NO. 28</p>

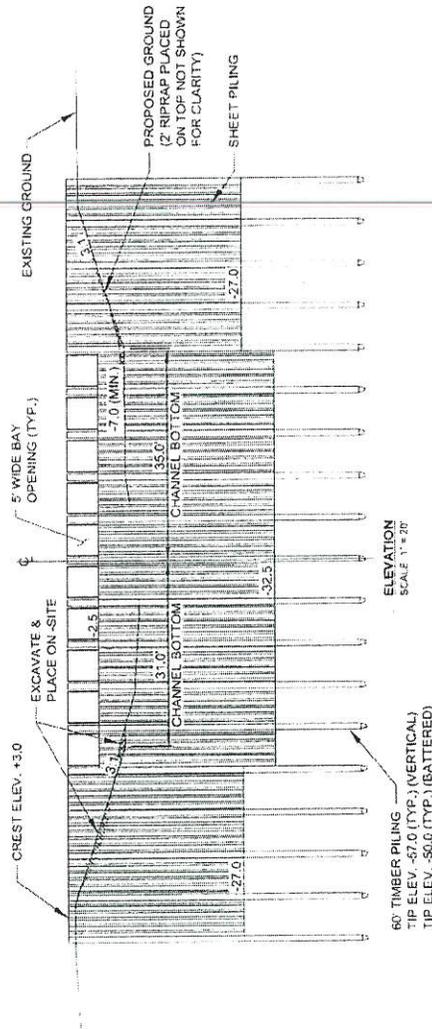


SITE NOTES

1. DATUM: ALL ELEVATIONS ARE NAVD 88 IN US FEET
MHW = +1.44 FT
MLW = -0.27 FT.
2. FOR STRUCTURAL DETAILS AND NOTES OF TIMBER PILING, SHEET PILE WALL AND STEEL BAYS, SEE SHEET 27.
3. CHANNEL EXCAVATION SHALL CONFORM TO TECHNICAL SPECIFICATION TS-905.
4. RIPRAP SHALL BE 55 LB. CLASS AND CONFORM TO TECHNICAL SPECIFICATION TS-911.
5. ONE (1) PERMANENT WARNING SIGN SHALL BE INSTALLED ON EACH SIDE OF THE STRUCTURE.



PILE LAYOUT PLAN
SCALE 1" = 20'



ELEVATION
SCALE 1" = 20'

LEGEND:

- VERTICAL PILE
- ↓ BATTERED PILE
- ▨ CHANNEL EXCAVATION
- ▩ IN-SITU FILL



SCALE 1" = 20'

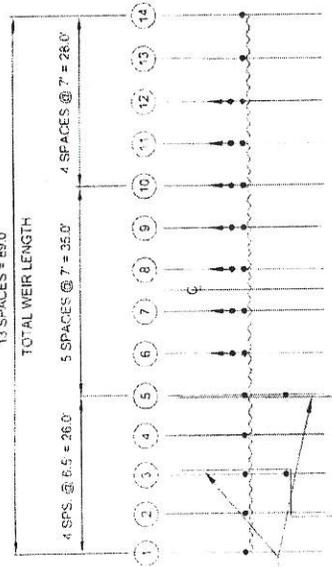


THIS DOCUMENT IS NOT TO BE USED FOR CONSTRUCTION, GRADING, RECORDATION, OR ANY OTHER PURPOSES WITHOUT THE EXPRESS WRITTEN PERMISSION OF THE ENGINEER.

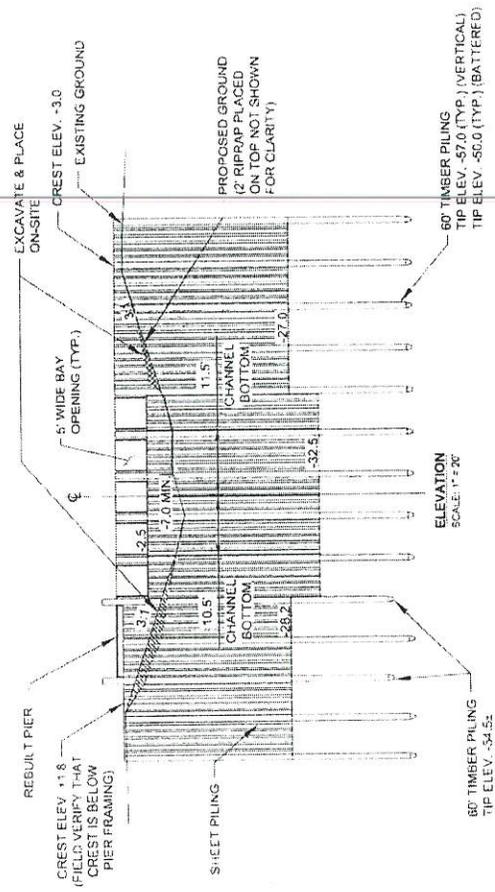
 ENGINEERING CONSULTANTS 10005 Airline Highway Baton Rouge, Louisiana 70816	COASTAL PROTECTION AND RESTORATION AUTHORITY 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801	LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION STATE PROJECT NUMBER: TE-2 FEDERAL PROJECT NUMBER: TE-2	SITE AND STRUCTURE DETAIL DATE: APRIL 2015 SHEET 18 OF 38
	DRAWN BY: AM/SH DESIGNED BY: SOPHIA	APPROVED BY: LEAR	

SITE NOTES

1. DATUM: ALL ELEVATIONS ARE NAVD 86 IN US FEET
 MHW = +1.44 FT.
 MLW = +0.27 FT.
2. FOR STRUCTURAL DETAILS AND NOTES OF TIMBER PILING SHEET PILE WALL AND STEEL BAYS, SEE SHEET 27
3. CHANNEL EXCAVATION SHALL CONFORM TO TECHNICAL SPECIFICATION TS-905
4. RIPRAP SHALL BE 55 LB CLASS AND CONFORM TO TECHNICAL SPECIFICATION TS-911.
5. ONE (1) PERMANENT WARNING SIGN SHALL BE INSTALLED ON EACH SIDE OF THE STRUCTURE.



PILE LAYOUT PLAN
SCALE: 1" = 20'



REBUILD PIER SECTION
NTS



LEGEND:

- VERTICAL PILE
- ! BATTERED PILE
- ▨ CHANNEL EXCAVATION
- ▨ IN-SITU FILL



PRELIMINARY

THIS DOCUMENT IS NOT TO BE USED FOR CONTRACTS, PERMITS, CONVEYANCE, SALES OR AS THE BASIS FOR THE ISSUANCE OF A PERMIT.

SIGMA CONSULTING GROUP, INC. ENGINEERING CONSULTANTS 10006 Sunrise Highway Ft. Lauderdale, Florida 33308-2008		DESIGNED BY: SUREDA	
DRAWN BY: ANTHONY		CHECKED BY: SUREDA	
COASTAL PROTECTION AND RESTORATION AUTHORITY SOUTH PALM BEACH, FLORIDA 33409		APPROVAL ONLY LEAR	
LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION STATE PROJECT NUMBER TP-72		STRUCTURE DETAIL	
DATE: APRIL 2015		SHEET 19 OF 25	

REV.	DATE	DESCRIPTION

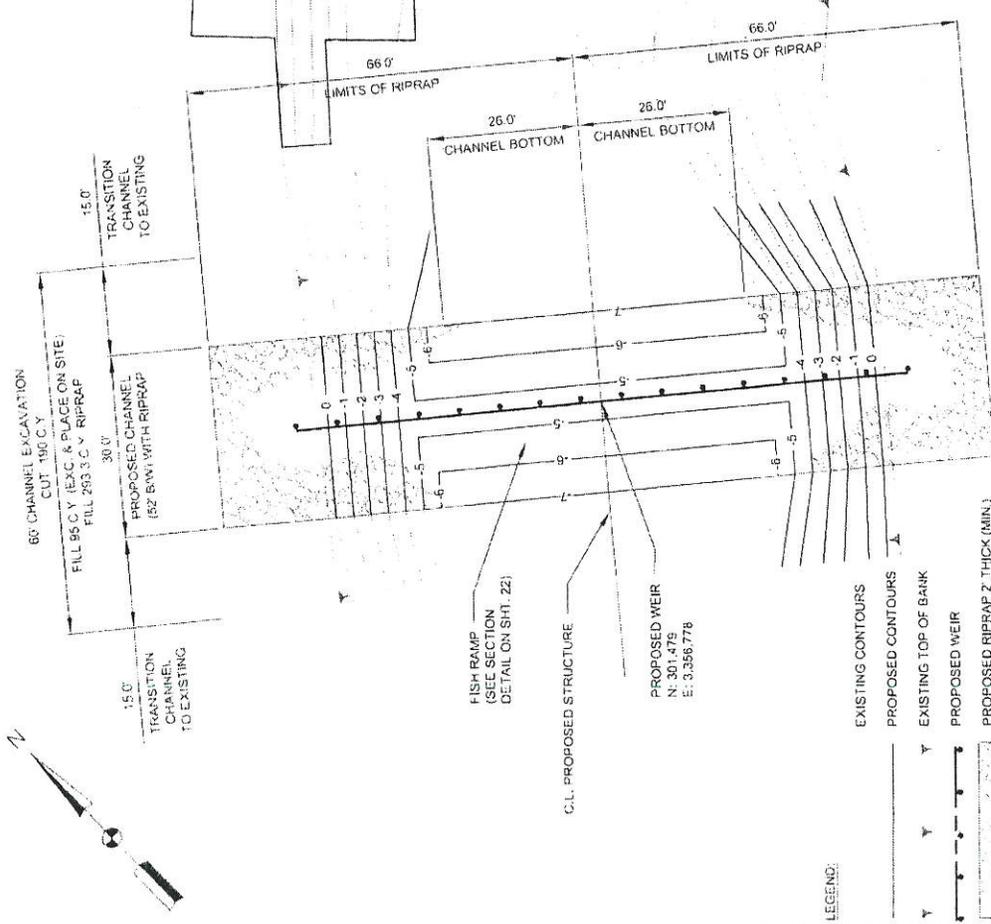
NON-VEGETATED WATER BOTTOM	
0.18 AC.	190.0 C.Y.
EXCAVATION	
0.18 AC.	95.0 C.Y.
IN-SITU FILL	
0.09 AC.	283.3 C.Y.
ROCK/RIPRAP	

NO ATTEMPT HAS BEEN MADE BY SIGMA CONSULTING GROUP, INC. TO VERIFY TITLE ACTUAL LEGAL OWNERSHIPS, SERVITUDES, EASEMENTS, RIGHTS-OF-WAY, OR OTHER BURDENS ON THE PROPERTY.

EXISTING TOPOGRAPHIC SURVEY PERFORMED BY PYBURN & ODOM, INC. DATED MAY 2011.

DATA: ALL ELEVATIONS ARE IN NAVD 88 IN US SURVEY FEET. ALL HORIZONTAL COORDINATES ARE IN NAD 83 (LOUISIANA STATE PLANE, SOUTH ZONE) IN US SURVEY FEET. SEE GENERAL NOTES ON SHEET 2 FOR SURVEY CONTROL DATA.

ALL REQUIRED CHANNEL EXCAVATION IS TO BE PLACED ON SITE. REFER TO THE ELEVATION VIEW ON THE FOLLOWING SHEET FOR ADDITIONAL INFORMATION.



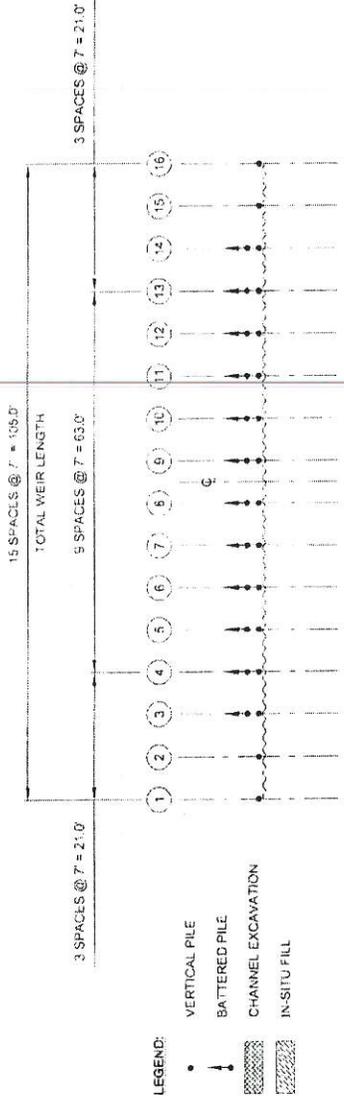
THIS DOCUMENT IS NOT TO BE USED FOR ANY PURPOSES OTHER THAN THE CONTRACTOR'S OBLIGATIONS AND LIABILITY AS THE BASIS FOR THE ISSUANCE OF A PERMIT.

<p>SIGMA CONSULTING GROUP, INC. ENGINEERING CONSULTANTS 10305 Airline Highway Metairie, Louisiana 70001</p>	COASTAL PROTECTION AND RESTORATION AUTHORITY 404 LAUREL STREET BATON ROUGE, LOUISIANA 70801		LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION STATE PROJECT NUMBER TE-22 FEDERAL PROJECT NUMBER TE-22	SITE WC-5 PLAN SHEET
	DRAWN BY: AME/LL DESIGNED BY: S/P/LL	APPROVED BY: ELAP	DATE: APRIL 20, 2011 SHEET 2 OF 28	
NO. DATE DESCRIPTION				

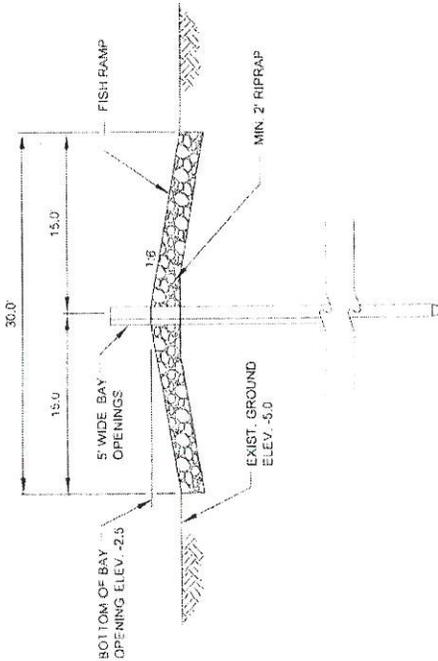


SITE NOTES

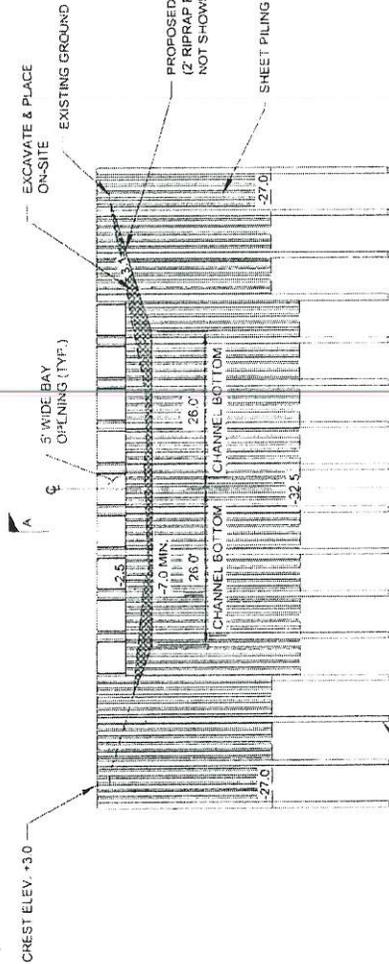
1. DATUM: ALL ELEVATIONS ARE NAVD 88 IN US FEET
MHW = +1.24 FT.
M.S.W = -0.27 FT.
2. FOR STRUCTURAL DETAILS AND NOTES OF TIMBER PILING SHEET PILE WALL AND STEEL BAYS, SEE SHEET 27
3. CHANNEL EXCAVATION SHALL CONFORM TO TECHNICAL SPECIFICATION TS-905.
4. RIPRAP SHALL BE 55 LB. CLASS AND CONFORM TO TECHNICAL SPECIFICATION TS-511
5. ONE (1) PERMANENT WARNING SIGN SHALL BE INSTALLED ON EACH SIDE OF THE STRUCTURE.



PILE LAYOUT PLAN
SCALE: 1" = 20'



FISH RAMP DETAIL
SECTION "A-A"
SCALE: 1" = 20'



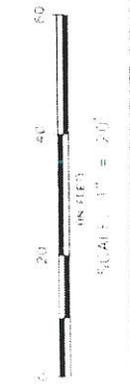
60" TIMBER PILING
TOP ELEV. -57.0 (TYP.) (VERTICAL)
TIP ELEV. -50.0 (TYP.) (BATTERED)



PRELIMINARY

THIS DOCUMENT IS NOT TO BE USED FOR CONSTRUCTION. ANY WORK DONE HEREON IS AT THE USER'S RISK AND WITHOUT LIABILITY FOR THE ISSUANCE OF A PERMIT.

 ENGINEERING CONSULTANTS 10005 Alpine Highway Houston, Texas 77044		COASTAL PROTECTION AND RESTORATION AUTHORITY 101 LAUREL STREET HOUSTON, TEXAS 77002		LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION STATE PROJECT NUMBER TR-22 FEDERAL PROJECT NUMBER FE-27		SITE WC-5 STRUCTURE: DETAIL	
		DRAWN BY: AMY/BL DESIGNED BY: SUP/DIA	APPROVED BY: UJ/AR	DATE: APRIL 2013	SHEET 33 OF 34		



NO ATTEMPT HAS BEEN MADE BY SIGMA CONSULTING GROUP, INC. TO VERIFY TITLE, ACTUAL LEGAL OWNERSHIP, SERVITUDES, EASEMENTS, RIGHTS-OF-WAY OR OTHER BURDENS ON THE PROPERTY.

EXISTING TOPOGRAPHIC SURVEY PERFORMED BY: BYBURN & ODOM MCA
DATE: ED MAY 2011

DA-UM: ALL ELEVATIONS ARE IN NAVD 88 IN US SURVEY FEET. ALL HORIZONTAL COORDINATES ARE IN NAD 83 (LOUISIANA STATE PLANE, SOUTH-ZONE) IN US SURVEY FEET. SEE GENERAL NOTES ON SHEET 2 FOR SURVEY CONTROL DATA.

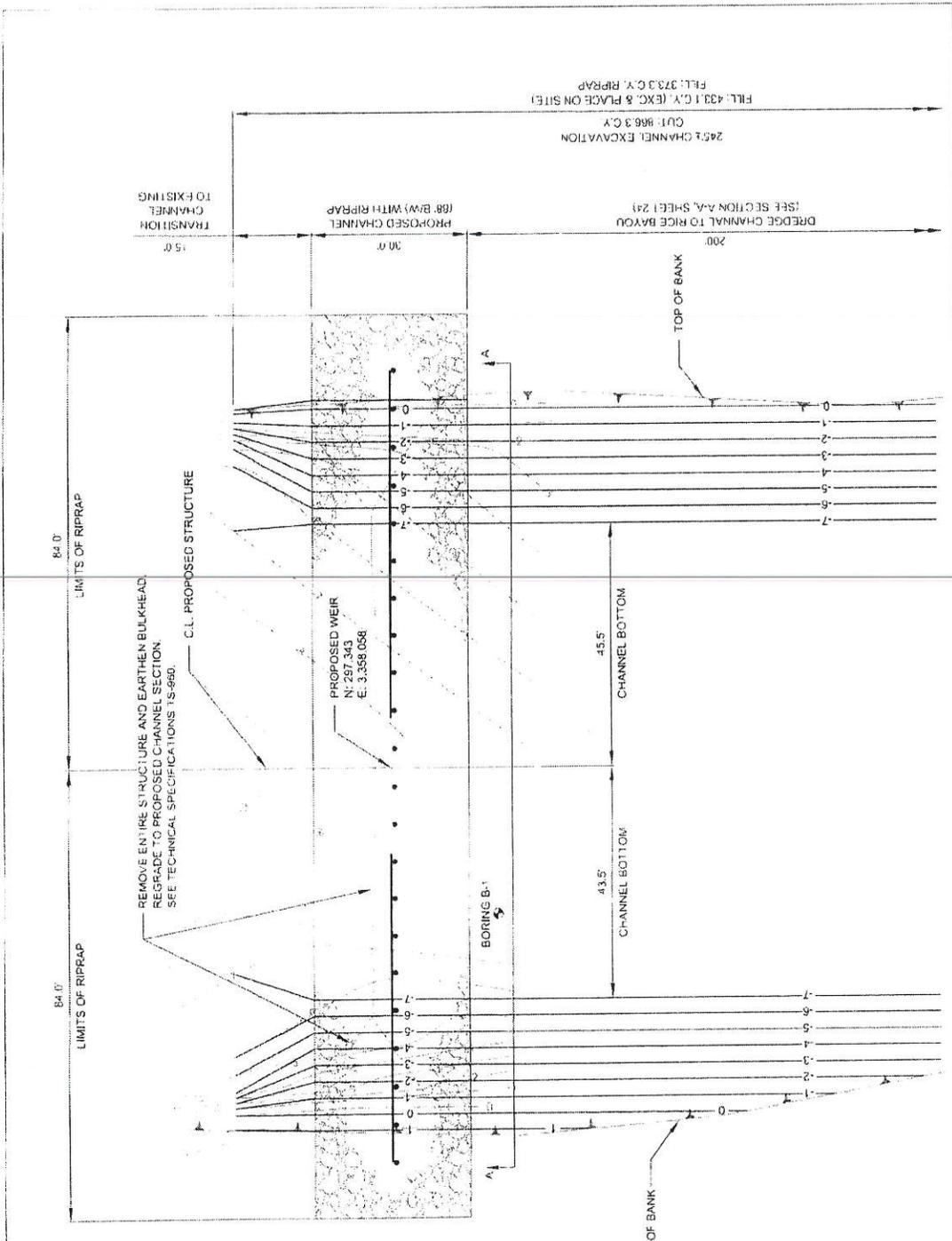
ALL REQUIRED CHANNEL EXCAVATION IS TO BE PLACED ON SITE. REFER TO THE ELEVATION VIEW ON THE FOLLOWING SHEET FOR ADDITIONAL INFORMATION.

NON-VEGETATED WATER BOTTOM	
0.75 AC	866.3 C.Y. EXCAVATION
0.75 AC	433.1 C.Y. INSTU FILL
0.12 AC	373.3 C.Y. ROCK/RIPRAP

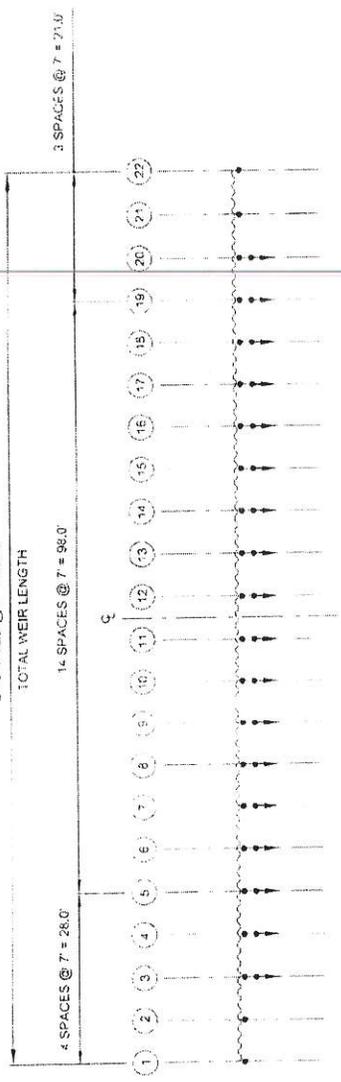
- LEGEND**
- EXISTING CONTOURS
 - - - PROPOSED CONTOURS
 - EXISTING TOP OF BANK
 - - - PROPOSED WEIR
 - EXISTING RIPRAP 2" THICK (MIN.)
 - - - EXISTING WEIR TO BE REMOVED



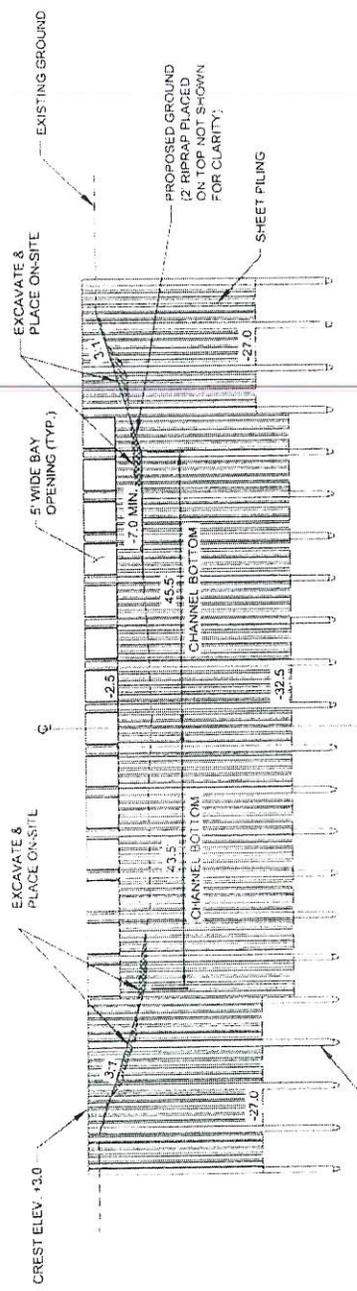
THIS DOCUMENT IS NOT TO BE USED FOR ANY PURPOSES OTHER THAN THE CONFORMANCE SALES OR AS THE BASIS FOR THE ISSUANCE OF A PERMIT.



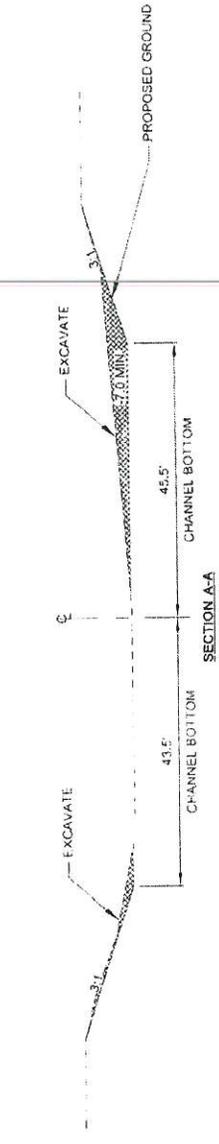
SIGMA CONSULTING GROUP, INC. ENGINEERING CONSULTANTS 1000 Airline Highway Baton Rouge, Louisiana 70816	DESIGNED BY: SIGMA DRAWN BY: ANTHEE	COASTAL PROTECTION AND RESTORATION AUTHORITY 100 LAUREL STREET MONROE, LOUISIANA 70131	APPROVED BY: LEAR DATE: APRIL 2011
	FEDERAL PROJECT NUMBER: T-2 STATE PROJECT NUMBER: T-2		SITE WC-6 PLAN SHEET



PILE LAYOUT PLAN
SCALE: 1" = 20'



ELEVATION
SCALE: 1" = 20'



SECTION A-A
SCALE: 1" = 20'

- SITE NOTES**
1. DATUM: ALL ELEVATIONS ARE NAVD 86 IN US FEET
MHW = +1.44 FT.
MLW = -0.27 FT.
 2. FOR STRUCTURAL DETAILS AND NOTES OF TIMBER PILING, SHEET PILE WALL AND STEEL BAYS, SEE SHEET 27
 3. CHANNEL EXCAVATION SHALL CONFORM TO TECHNICAL SPECIFICATION TS-400
 4. RIPRAP SHALL BE 55 LB. CLASS AND CONFORM TO TECHNICAL SPECIFICATION TS-720.
 5. ONE (1) PERMANENT WARNING SIGN SHALL BE INSTALLED ON EACH SIDE OF THE STRUCTURE.

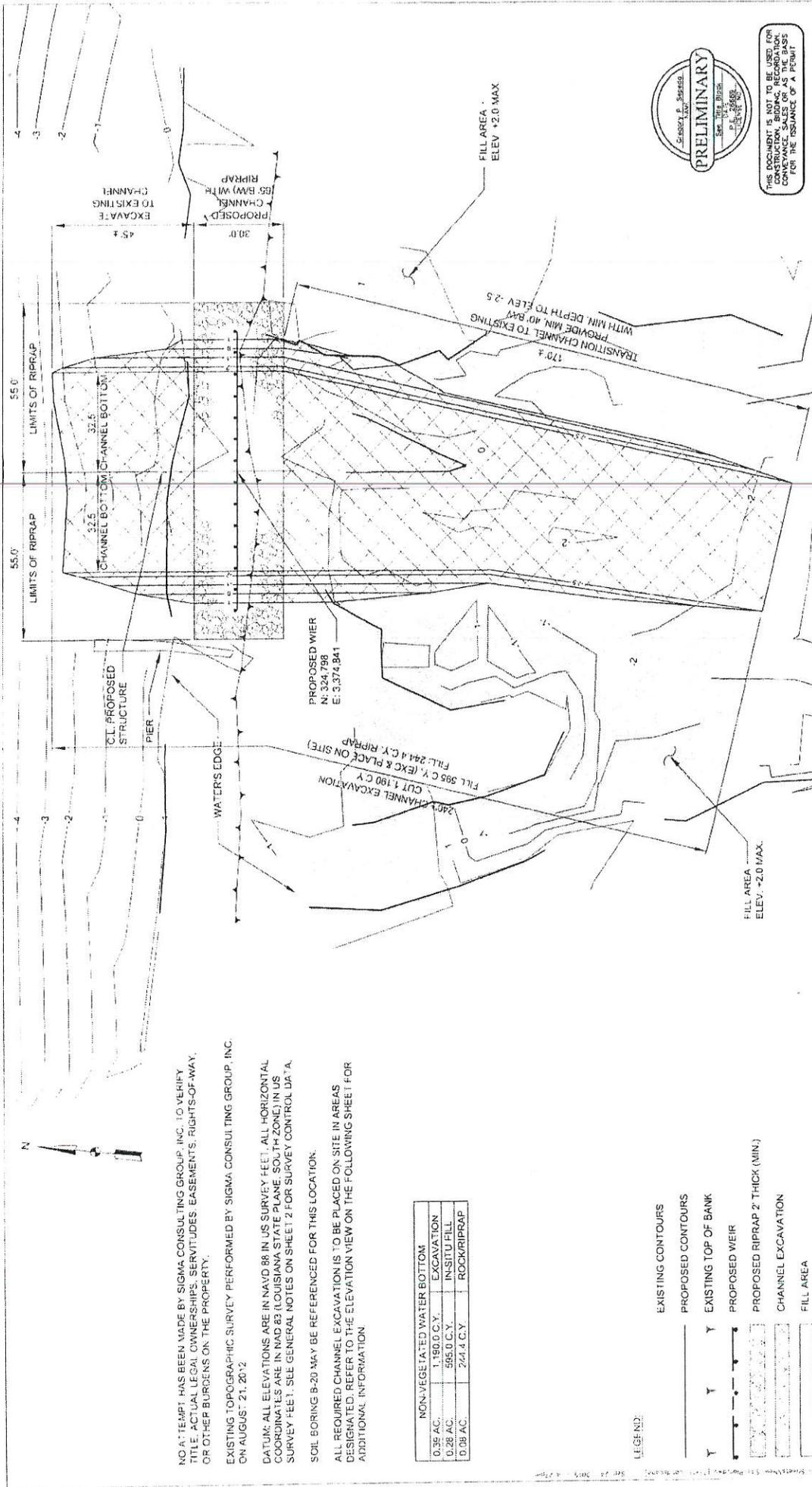
- LEGEND:**
- VERTICAL PILE
 - ! BATTERED PILE
 - ▨ CHANNEL EXCAVATION
 - ▩ IN-SITU FILL



PRELIMINARY

THIS DOCUMENT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING, RECONSTRUCTION, OR PERMITS WITHOUT THE SIGNATURE AND SEAL FOR THE ISSUANCE OF A PERMIT.

 SIGMA CONSULTING GROUP, INC. ENGINEERING CONSULTANTS 10806 Airline Highway Baton Rouge, Louisiana 70810	COASTAL PROTECTION AND RESTORATION AUTHORITY BOLAIREL STREET BATON ROUGE, LOUISIANA 70801	LUST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION STEP PROJECT NUMBER: TP-2 FEDERAL PROJECT NUMBER: TP-3	SITE: WC-4 STRUCTURE DETAIL
	DRAWN BY: ANADURF DESIGNED BY: SP/IDA	DATE: APRIL 2013 SHEET: 21 OF 28	APPROVAL BY: [Signature]



LEGEND:

- EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING TOP OF BANK
- PROPOSED WEIR
- PROPOSED RIPRAP 2' THICK (MIN.)
- CHANNEL EXCAVATION
- FILL AREA

SCALE: 1" = 30'

0 30 60 90

NO.	DATE	DESCRIPTION

SIGMA CONSULTING GROUP, INC.
ENGINEERING CONSULTANTS
10005 Airline Highway
Baton Rouge, Louisiana 70816

COASTAL PROTECTION AND RESTORATION AUTHORITY
200 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DESIGNED BY: AMTDH1 DRAWN BY: JMBUDY CHECKED BY: SBRDA

LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION
STATE PROJECT NUMBER: TE-22
FEDERAL PROJECT NUMBER: TE-22

SITE-1
PLAN VIEW

DATE: APRIL 2015
APPROVED BY: ULAG SHEET 15 OF 28

PRELIMINARY

Shirley E. Spalding
SHEILA BISHOP
PROJECT ENGINEER

THIS DOCUMENT IS NOT TO BE USED FOR CONSTRUCTION OR AS THE BASIS FOR THE ISSUANCE OF A PERMIT.

NO ATTEMPT HAS BEEN MADE BY SIGMA CONSULTING GROUP, INC. TO VERIFY TITLE, ACTUAL LEGAL OWNERSHIPS, SERVICITUDES, EASEMENTS, RIGHTS-OF-WAY, OR OTHER BURDENS ON THE PROPERTY.

EXISTING TOPOGRAPHIC SURVEY PERFORMED BY SIGMA CONSULTING GROUP, INC. ON AUGUST 21, 2012.

DATE: ALL ELEVATIONS ARE IN NAVD 88 IN US SURVEY FEET. ALL HORIZONTAL COORDINATES ARE IN NAD 83 (LOUISIANA STATE PLANE, SOUTH ZONE) IN US SURVEY FEET. SEE GENERAL NOTES ON SHEET 2 FOR SURVEY CONTROL DATA.

SOIL BORING B-20 MAY BE REFERENCED FOR THIS LOCATION.

ALL REQUIRED CHANNEL EXCAVATION IS TO BE PLACED ON SITE IN AREAS DESIGNATED. REFER TO THE ELEVATION VIEW ON THE FOLLOWING SHEET FOR ADDITIONAL INFORMATION.

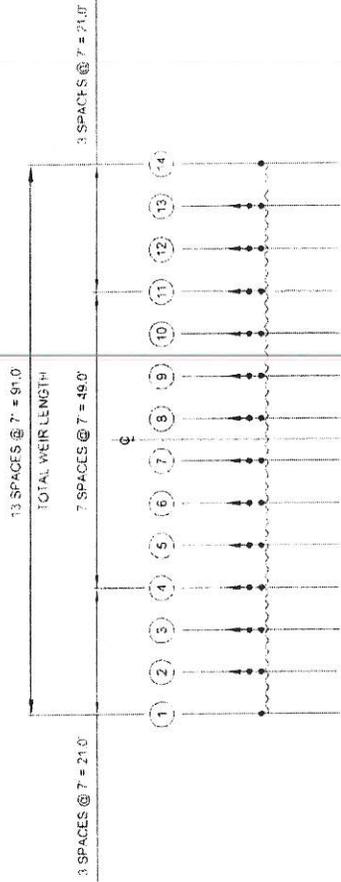
NON-VEGETATED WATER BOTTOM	
0.35 AC	1,190.0 C.Y. EXCAVATION
0.28 AC	595.0 C.Y. IN-SITU HILL
0.28 AC	2,014.4 C.Y. ROCK/RIPRAP

SITE NOTES

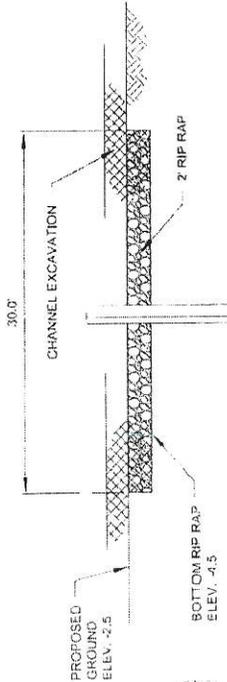
1. DATUM: ALL ELEVATIONS ARE NAVD 88 IN US FEET
M.H.V. = +1.64 FT.
M.L.W. = +0.27 FT.
2. FOR STRUCTURAL DETAILS AND NOTES OF TIMBER PILING, SEE SHEET 27.
3. CHANNEL EXCAVATION SHALL CONFORM TO TECHNICAL SPECIFICATION TS-805.
4. RIP RAP SHALL BE 55 LB. CLASS AND CONFORM TO TECHNICAL SPECIFICATION TS-911.
5. ONE (1) PERMANENT WARNING SIGN SHALL BE INSTALLED ON EACH SIDE OF THE STRUCTURE.

LEGEND:

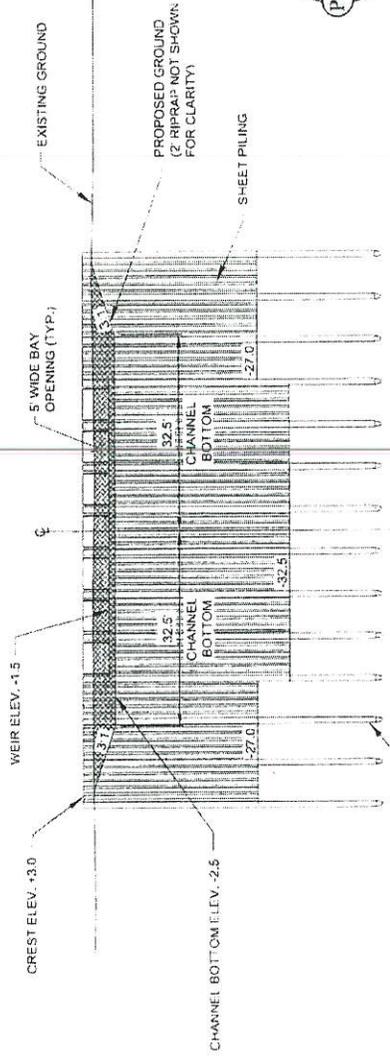
- VERTICAL PILE
- ! BATTERED PILE
- ▨ CHANNEL EXCAVATION
- ▨ IN-SITU FILL



PILE LAYOUT PLAN
SCALE 1" = 20'



SECTION
SCALE 1" = 10'



ELEVATION
SCALE 1" = 20'

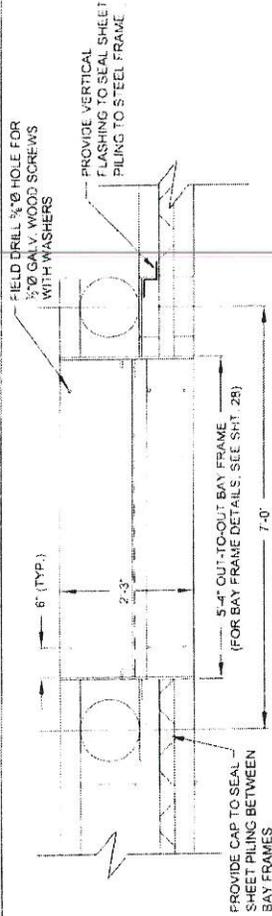


THIS DOCUMENT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING, RECORDATION, OR AS A BASIS FOR THE ISSUANCE OF A PERMIT.

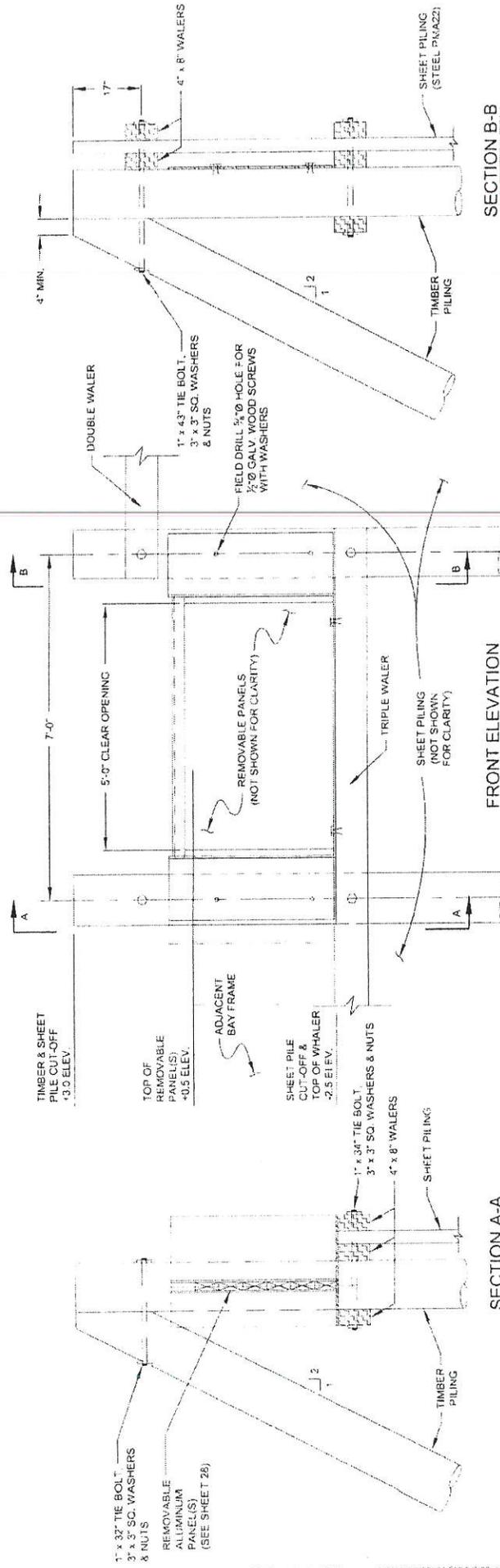
 ENGINEERING CONSULTANTS 10205 Airline Highway Baton Rouge, Louisiana 70810	DRAWN BY: ANJDI CHECKED BY: SPYDRA	APPROVED BY: CLAP	LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION STATE PROJECT NUMBER TR-12 FEDERAL PROJECT NUMBER 71-72	DATE: APRIL 2013 SHEET 26 OF 28
	COASTAL PROTECTION AND RESTORATION AUTHORITY 56 LAUREL STREET BATON ROUGE, LOUISIANA 70801		SITE 1 STRUCTURE DETAIL	

STRUCTURE NOTES:

1. TIMBER PILES SHALL CONFORM TO TECHNICAL SPECIFICATION TS-806. PILES SHALL BE TREATED WITH A CREOSOTE SOLUTION CONFORMING TO AWPAP2 TO A MINIMUM RESIDUAL CONCENTRATION OF 20 PCF AND CAPPED.
2. TIMBER PILING SHALL BE 60" IN LENGTH WITH A NORMAL "3" DIAMETER BUTT" AND 7" MINIMUM DIAMETER AT THE TIP.
3. THE TOP OF THE PILES SHALL BE COATED WITH CREOSOTE OIL PRIOR TO PLACING CAP. THE PILE CAP SHALL BE ATTACHED USING ALUMINUM OR STAINLESS STEEL NAILS.
4. THE WALERS SHALL BE TREATED STRUCTURAL TIMBER AND CONFORM TO TECHNICAL SPECIFICATION TS-808.
5. THE STEEL SHEET PILING SHALL CONFORM TO TECHNICAL SPECIFICATION TS-807.
6. WHEN FIELD DRILLING HOLES IN STEEL PLATES FOR THE WOOD SCREWS, CARE SHOULD BE TAKEN NOT TO PENETRATE THE TIMBER MEMBER MORE THAN 1/4".



TOP VIEW
(END BAY FRAME)
SCALE: 1/2" = 1'-0"



FRONT ELEVATION
(END BAY FRAME)
SCALE: 1/2" = 1'-0"

SECTION B-B
SCALE: 1/2" = 1'-0"

SECTION A-A
SCALE: 1/2" = 1'-0"

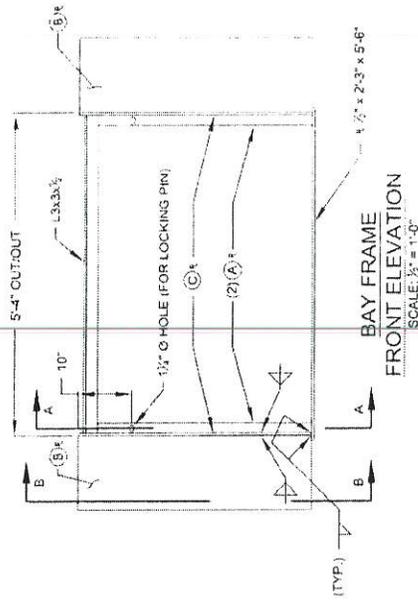


THIS DOCUMENT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING, RECORDATION, OR FOR THE ISSUANCE OF A PERMIT.

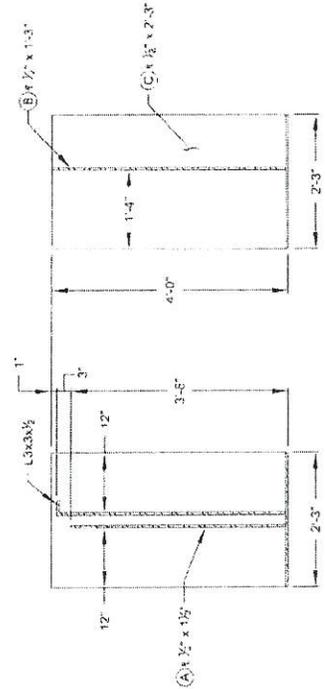
<p>ENGINEERING CONSULTANTS 10305 Airline Highway Baton Rouge, Louisiana 70816</p>		<p>COASTAL PROTECTION AND RESTORATION AUTHORITY AND LAUREL STRAIT NATIONAL POLICE, LOUISIANA 70301</p>		<p>LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION STATE PROJECT NUMBER: TR-72 FEDERAL PROJECT NUMBER: TR-57 APPROVED BY: BRADUELL</p>		<p>TYPICAL DETAILS DATE: APRIL 2016 SHEET NO. OF 28</p>	
DESIGNED BY:	DR. S. J. B. JONES	DRAWN BY:	Y. ARIPOURAN	IN CHARGE:	DR. S. J. B. JONES	APPROVED BY:	BRADUELL

STEEL NOTES:

1. ALL STRUCTURAL STEEL WORK SHALL CONFORM TO TECHNICAL SPECIFICATION TS-909.
2. ALL STRUCTURAL STEEL SHALL BE STRUCTURAL CARBON STEEL (GRADE 36). ALL STEEL SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION.
3. ALUMINUM PLANKS SHALL CONFORM TO TECHNICAL SPECIFICATION TS-910.
4. CLEVIS PINS SHALL BE STAINLESS STEEL MATERIAL, AND ARE AT NO DIRECT FAY. PADLOCKS ARE TO BE PROVIDED BY CPRA.

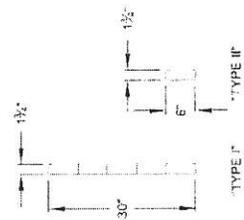


BAY FRAME FRONT ELEVATION
SCALE: 1/2" = 1'-0"

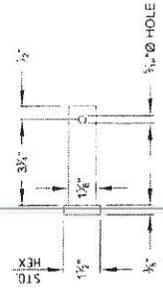


SECTION A-A
SCALE: 1/2" = 1'-0"

SECTION B-B
SCALE: 1/2" = 1'-0"



ALUMINUM PLANKS
N.T.S.
(ONE TYPE I & TYPE II REQUIRED PER EACH BAY)



CLEVIS LOCKING PIN
N.T.S.
(2 PINS REQUIRED PER BAY)



THIS DOCUMENT IS NOT TO BE USED FOR CONTRACTS, PERMITS, SALES OR AS THE BASIS FOR THE ISSUANCE OF A PERMIT

DRAWN BY: V. APPROVED BY: SHREYA	DESIGNED BY: SHREYA	SIGMA CONSULTING GROUP, INC. ENGINEERING CONSULTANTS 10045 Airline Highway Baton Rouge, Louisiana 70816	COASTAL PROTECTION AND RESTORATION AUTHORITY 46 LAUREL STREET BATON ROUGE, LOUISIANA 70801	LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION	TYPICAL DETAILS
				STATE PROJECT NUMBER: TS-72 FEDERAL PROJECT NUMBER: TS-72 APPROVED BY: BRANDEE	APRIL 2014 SHEET 2 OF 2

**FINAL
ENVIRONMENTAL ASSESSMENT
LOST LAKE MARSH CREATION AND HYDROLOGIC
RESTORATION
TE-72**

TERREBONNE PARISH, LOUISIANA



U.S. FISH AND WILDLIFE SERVICE

ECOLOGICAL SERVICES

LAFAYETTE, LOUISIANA

May 2014

**FINAL
ENVIRONMENTAL ASSESSMENT
LOST LAKE MARSH CREATION AND HYDROLOGIC
RESTORATION
TE-72**

TERREBONNE PARISH, LOUISIANA



May 2014

**Preparer:
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LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION
CWPPRA Project TE-72
Terrebonne Parish, Louisiana

SECTION 1.0 PURPOSE AND NEED FOR PROPOSED ACTION

SECTION 1.1 INTRODUCTION

Louisiana accounts for 90 percent of the coastal marsh loss in the lower 48 states (Dahl 2000). The most recent assessment of coastal land loss in Louisiana indicates an annual loss rate of approximately 16.57 square miles per year from 1985 to 2010 (Couvillion et al., 2011). Coastal land loss from 1932 to 2010 totaled 1,883 square miles (Couvillion et al., 2011). Previous assessments indicated loss rates from approximately 25 square miles per year (Dunbar et al. 1992) to 35 square miles per year (Barras et al. 1994), and statewide coastal wetland loss is projected to be over 10 square miles per year through 2050 (Barras et al. 2003). Causes of Louisiana's coastal wetlands loss include sea level rise, subsidence, sediment deprivation, canalization, saltwater intrusion, and altered hydrology (Turner and Cahoon 1987, Turner 1990). The wetland loss resulting from Hurricanes Katrina and Rita alone is estimated to be 198 square miles (Barras et al. 2008).

Concern over Louisiana's coastal wetland loss prompted President George Bush to sign into law the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) in 1990. CWPPRA provides approximately \$70 million to \$90 million per year for planning, design, and construction of coastal restoration projects in Louisiana. Each year, a list of projects is selected for implementation and funds are approved for engineering and design. That annual list is referred to as the Priority Project List, and the Lost Lake Marsh Creation and Hydrologic Restoration Project was funded as part of the 19th Priority Project List in 2010.

In 1998, the Louisiana Coastal Wetlands Conservation and Restoration Task Force (LCWCRTF) and the Wetlands Conservation and Restoration Authority (WCRA) developed the Coast 2050 Plan which serves as the official restoration plan for coastal Louisiana (LCWCRTF and WCRA 1998a). The Coast 2050 Plan divided the Louisiana coastal zone into four regions encompassing nine hydrologic basins, and restoration strategies were developed for each region. Each basin was also divided into mapping units for which additional strategies were developed. The Coast 2050 Plan would be implemented using a number of different funding sources including the CWPPRA, the Water Resources Development Act, and the State's Coastal Wetlands Conservation and Restoration Fund.

The Lost Lake Marsh Creation and Hydrologic Restoration Project is located within Region 3, which encompasses the Terrebonne Basin, Atchafalaya Basin, and Teche-Vermilion Basin. The project area is located in the western Terrebonne Basin (Figure 1). Wetlands in the upper part of the western Terrebonne basin include swamp around the Gulf Intracoastal Waterway and fresh marsh down to Lake Decade and Carencro Lake. Intermediate marsh is encountered in the

are -0.49 percent per year and -0.17 percent per year, respectively. The causes of marsh loss appear to be primarily from subsidence, storm damage, and possibly impoundment. The need to address coastal Louisiana's severe wetland loss has been identified in numerous restoration plans, programs, and State and Federal laws; implementation of the proposed project would help to fulfill that need.

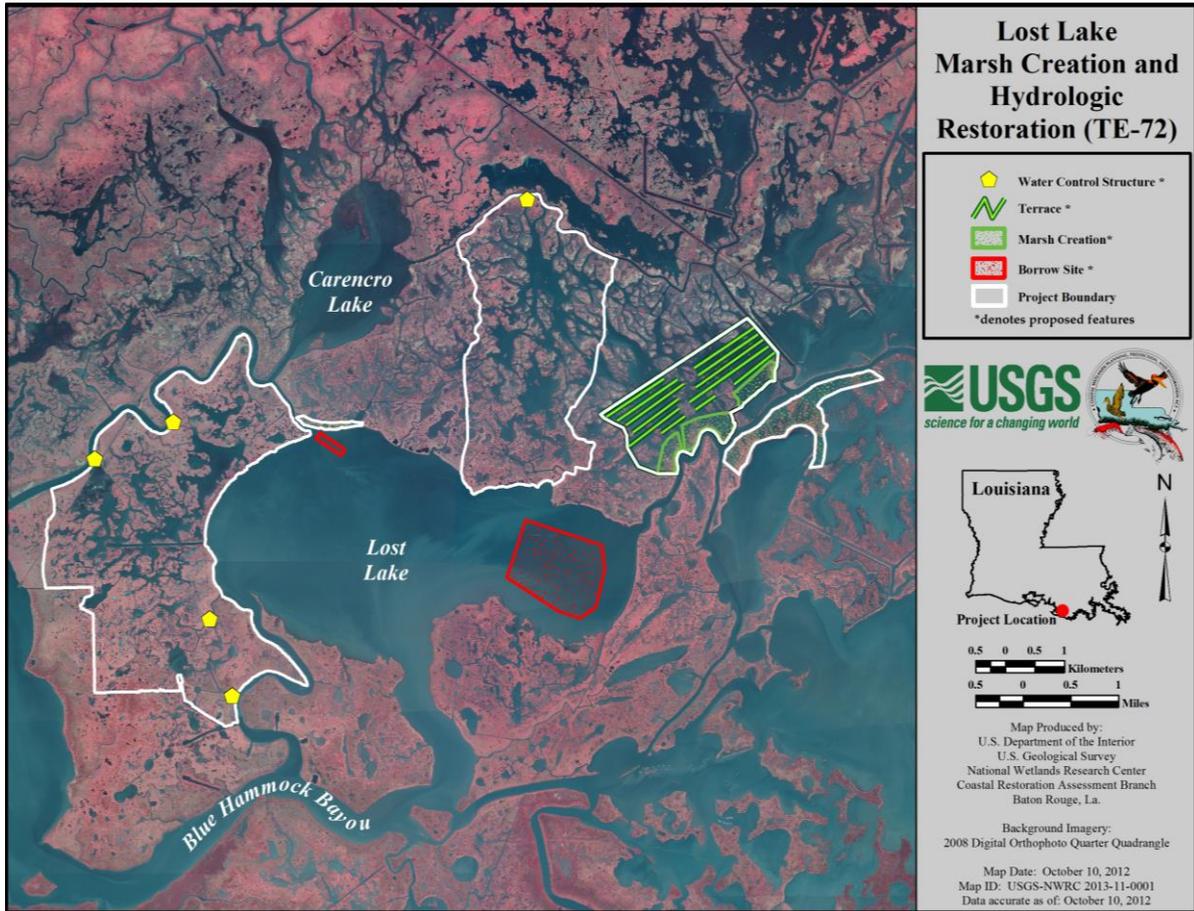


Figure 2. Project features.

The primary goals of the Lost Lake Marsh Creation and Hydrologic Restoration Project are to 1) restore an important feature of structural framework between Lake Pagie and Bayou Decade to prevent the coalescence of those two water bodies and 2) increase the delivery of fresh water, sediments, and nutrients into marshes north and west of Lost Lake. Marshes north, east, and west of Lost Lake serve an important function as an intermediate zone buffering fresh marshes to the north from the higher salinities to the south.

Specific goals of the project are: 1) Create approximately 468 acres (345 acres of marsh creation and 123 acres of marsh nourishment) of marsh with dredged material from Lost Lake; 2) increase the delivery of fresh water, sediments, and nutrients by replacing 4 fixed-crest weirs and one plug with variable-crest, flap-gated structures; and 3) create approximately 18 acres of emergent marsh via the construction of 30,000 feet of terraces.

SECTION 1.3 PROBLEM

The Terrebonne Basin lost approximately 506 square miles of land from 1932 to 2010 and has experienced the highest rate of wetland loss of any coastal basin (Couvillion et al., 2011). Causes of loss stem from subsidence, wave action, sediment deprivation, saltwater intrusion, and storm damage. The most recent analysis of land area change for the Terrebonne Basin indicates a 1985 to 2010 annual loss rate of 4.37 square miles per year.

The Coast 2050 Region 3 Plan divides the Terrebonne Basin into 22 mapping units or subbasins. The project area is located within the Mechant/DeCade mapping unit (Figure 3), which contains approximately 108,167 acres of marsh and open water habitats (LCWCRTF and WCRA 1998b). Within the Mechant/DeCade mapping unit, over 14,000 acres of wetlands were lost from 1932 to 1990. The primary causes of that loss were subsidence and altered hydrology from the dredging of numerous canals and waterways which allowed greater tidal exchange and saltwater intrusion. The rate of subsidence within this unit is high and ranges from 2.1 to 3.5 feet per century (LCWCRTF and WCRA 1998b).



The project area encompasses 7,312 acres of marsh and open water habitats and has experienced significant wetland loss. Land-water data from the USGS indicates that nearly 600 acres of land were lost within the project area from 1984 to 2011. The annual loss rate during that time period

was -0.45 percent per year. The causes of marsh loss within the project area appear to be primarily from subsidence, altered hydrology, and storm damage. Implementation of this project would create and protect important wetland habitat within the project area. By offsetting the loss of emergent marsh and creating new marsh, fish and wildlife habitat quality and detrital production would increase.

SECTION 1.4 REQUIRED DECISIONS

The decision to implement the Preferred Alternative has been made only after a thorough public review and full consideration of all comments. Opportunities for public comment occurred at public meetings conducted during the project development and selection stages of the CWPPRA planning process. Public meetings which offered the opportunity for public comment occurred on January 28, 2009, April 15, 2009, November 17, 2009, November 18, 2009, December 2, 2009, and January 20, 2010. Opportunity for public comment was also provided through review of the draft Environmental Assessment (EA) which was sent to the appropriate Federal, State, and local agencies, and other interested parties in November 2012.

SECTION 1.5 COORDINATION AND CONSULTATION

Planning, engineering, and design of this project have been coordinated with all LCWCRTF agencies, Terrebonne Parish, and other natural resource agencies. This project was nominated and selected as part of the 19th Priority Project List of CWPPRA. Projects on the 19th Priority Project List were nominated and developed at a series of public meetings held in January of 2009. Meeting participants included the LCWCRTF agencies, members of the CWPPRA Academic Advisory Group, landowners, environmental groups, Parish officials, and members of the general public. The CWPPRA Technical Committee met publicly on April 15, 2009, to consider preliminary costs and project benefits, and selected 10 projects for further evaluation as candidate projects. Interagency evaluations of those projects occurred from May to August 2009. Upon completion of project evaluations, public meetings were held on November 17 and 18, 2009, to allow the opportunity for public comment. The CWPPRA Technical Committee again met publicly on December 2, 2009, to select projects for recommendation to the CWPPRA Task Force. The CWPPRA Task Force selected 4 projects, including this one, for funding of engineering and design at a public meeting on January 20, 2010. Details concerning the plan formulation process for the 19th Priority Project List and the CWPPRA Standard Operating Procedures Manual are available at www.mvn.usace.army.mil/pd/cwppra_mission.utm.

An engineering and design review meeting was held on June 19, 2012, and a final design review meeting was held on October 31, 2012. Final approval for construction was granted by the CWPPRA Task Force on January 24, 2013. All LCWCRTF agencies were invited to attend those meetings. Support for this project has been expressed by all entities involved.

SECTION 2.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION

SECTION 2.1 ALTERNATIVE 1 - NO ACTION

Under this alternative, no restoration funds would be spent and no action would be taken to restore or protect wetlands within the project area. Marsh loss would continue to occur resulting in a decline in fish and wildlife productivity.

SECTION 2.2 ALTERNATIVE 2 – PREFERRED ALTERNATIVE

Project design information included within this section is taken from the Final (95%) Design Report (Louisiana Coastal Protection and Restoration Authority 2012). Figure 2 displays the project features and detailed drawings of all project features are found in Appendix A.

The Preferred Alternative consists of dredging bottom sediments in Lost Lake and pumping that material into open-water and fragmented marsh areas in the project area to create approximately 468 acres of marsh. Containment dikes will be constructed around the fill sites to contain the dredged material slurry. In addition, 30,000 linear feet of earthen terraces will be constructed from *in situ* borrow material resulting in the creation of approximately 18 acres of wetlands. Approximately 448 acres of water bottom in Lost Lake would be dredged to a maximum depth of -15 feet North American Vertical Datum of 1988 (NAVD 88; all following elevations are reported in NAVD 88). Also, four fixed-crest weirs and one plug will be replaced with variable-crest structures to allow greater introduction of fresh water, sediments, and nutrients. Minimal access dredging may be required to construct one of the water control structures.

Marsh Creation

Five marsh creation sites will be filled with hydraulically dredged material from Lost Lake. Marsh creation between Lake Pagie and Bayou DeCade (Figure 4) is designed to prevent the coalescence of those two water bodies and restore/protect some key features of structural framework (i.e., lake rim and bayou bank). This feature will connect to one of the marsh creation cells recently constructed under the North Lake Mechant Landbridge Restoration Project (TE-44).

Marsh creation north of Bayou DeCade (Figure 4) is divided into three marsh creation cells. The marsh creation cells are divided so that water exchange can still occur with two water control structures on Bayou Decade constructed as part of the Penchant Basin Natural Resources Plan Project (TE-34).

A small marsh creation/nourishment cell (27 acres) is also proposed along the northwestern Lost Lake shoreline near the mouth of Crochet Canal. The shoreline in this area has deteriorated considerably in recent years and several breaches have developed.

To determine target elevations for the fill sites, marsh elevation surveys were performed. Marsh elevation surveys revealed that the average elevation of healthy marsh within the project area

was approximately +1.14 feet (Pyburn and Odom 2011). The mean high water (MHW), mean water (MW), and mean low water (MLW) elevations for the project area are +1.44 feet, 0.86 feet, and 0.27 feet, respectively. Mean water elevations are based on an analysis of water level data (August 1999 to March 2002) from USGS stage recorder #0738165067 located in Bayou Raccourci southeast of the project area. Data from the USGS gauge was correlated to data from

National Oceanic and Atmospheric Administration station #8761724 located in Grand Isle, Louisiana. Often, a goal of marsh restoration projects is for the marsh platform to settle to an elevation within the intertidal zone so that the created marsh functions similarly to natural marsh. To achieve a sustainable marsh elevation throughout the project life, the marsh platform will initially be pumped to a higher elevation during construction and allowed to settle to the desired target elevation over time.

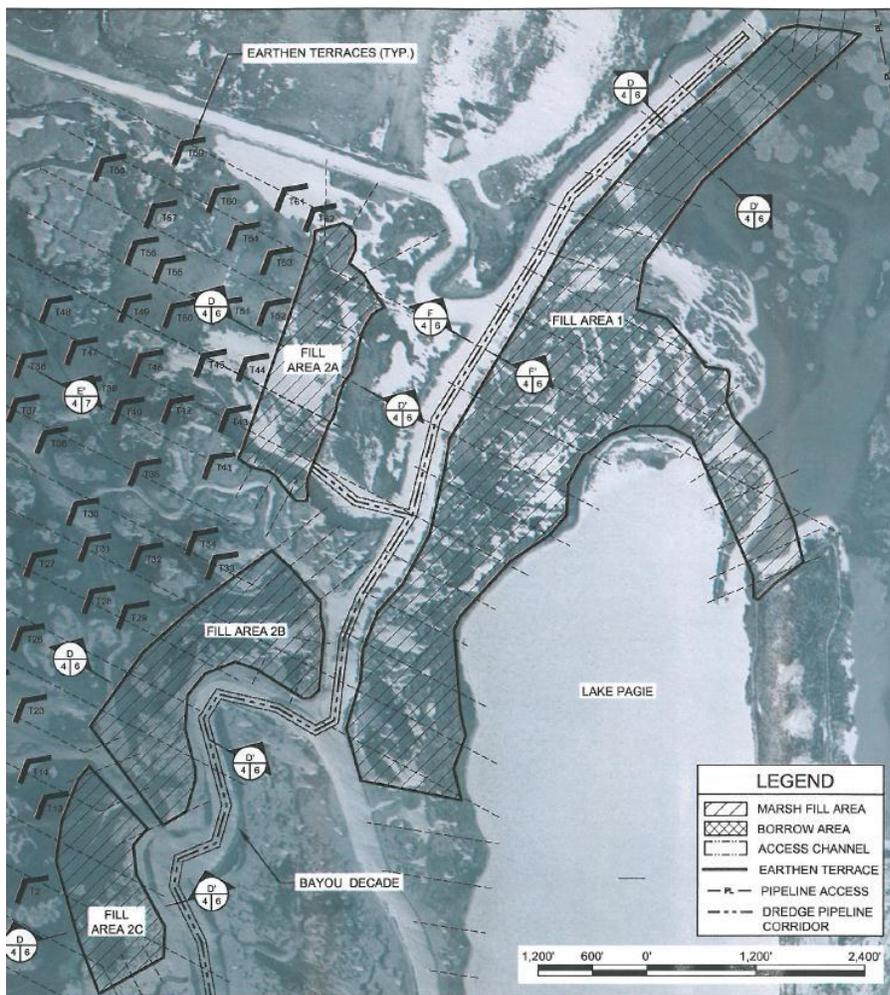


Figure 4. Marsh creation features near Lake Pagie and Bayou Decade.

The key design component of the marsh creation fill areas is the estimated volume of material required to achieve the construction marsh fill elevation. This elevation was chosen based on the mean high water elevation, mean low water elevation, and target marsh elevation. This means that the marsh elevation should be below MHW (+1.44 feet) shortly after construction and above MLW (+.27 feet) at Year 20, while staying as close to the target marsh elevation (+1.14 feet) as

possible. Several fill elevations were evaluated in order to determine the final construction marsh fill elevation. Marsh creation fill areas 1, 2A, 2B, and 2C will be initially constructed to +1.5 feet, followed by a 30 day minimum waiting period, and then constructed to +3.5 feet. Using this two-lift construction method, each of these fill areas are expected to settle to an approximate elevation of 1.1 feet by Year 20, which meets the goals of the project.

Complete perimeter containment dikes will be utilized in the construction of marsh creation cells 1, 2A, 2B, and 2C. Containment dikes will be gapped, notched, or degraded prior to construction demobilization to achieve tidal connection between the created marsh and adjacent waters. A containment dike gapping plan shall be developed in coordination with all interested natural resource agencies. Gaps will be excavated down to the surrounding marsh elevation (approximately +1.0 feet) and 25 feet wide. Gaps will be placed at the best possible locations to promote tidal exchange with the surrounding wetlands. Gaps will not be created along the Lake Pagie shoreline as wave energy which may enter through those gaps might result in excessive removal of the newly-placed dredged material.

In order to optimize costs and improve constructability, Fill Area 3 (Figure 5) will be constructed without the use of containment dikes on the northern (landward) side of the fill area. This construction technique will eliminate the need of nearly 8,000 linear feet of containment dikes. This semi-confined construction technique will create approximately 13 acres of marsh at an elevation of approximately +2.0 feet and nourish an additional 14 acres. This acreage will begin at the existing shoreline and extend approximately 150 feet northward. From this point, the marsh fill will begin a gradual slope, approximately 100H:1V until reaching the existing marsh elevation. The marsh fill material will be pumped from Borrow Area 2 by the use of a small dredge.

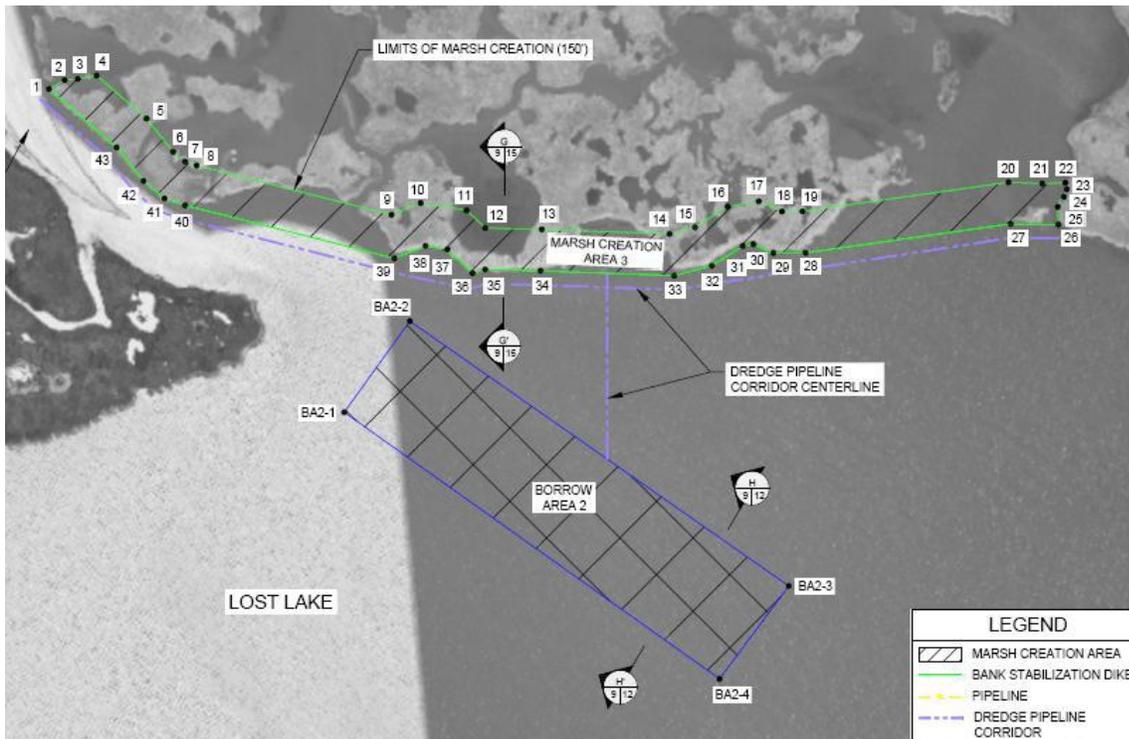


Figure 5. Marsh creation/nourishment features along the Lost Lake shoreline.

Borrow Area

The size of the borrow area is determined by the total volume of marsh fill required for the project. The borrow area should also provide sufficient latitude for the contractor to select the most effective area to dredge and access. A summary of in-place fill and cut volumes for each marsh creation fill area is presented in Table 1.

Table 1. Marsh creation quantities.

Marsh Creation Fill Area	In-place Quantity (yd³)	Cut Quantity (yd³)
1	1,365,620	2,048,430
2A	305,554	458,331
2B	344,751	517,126
2C	215,973	323,959
3	79,807	119,710
Total	2,311,705	3,467,556

The borrow area is approximately 448 acres and the available volume of material is approximately 7.5 million cubic yards of sediment (i.e., soft clay with varying amounts of organic matter). In order to limit the ecological impacts to the existing environment, the depth of cut has been limited to an elevation of -15 feet.

Terraces

Approximately 30,000 linear feet of earthen terraces will be constructed using in-situ material (Figure 6). The terraces will create edge habitat, provide conditions more conducive to submerged aquatic vegetation, and limit fetch in open water areas.

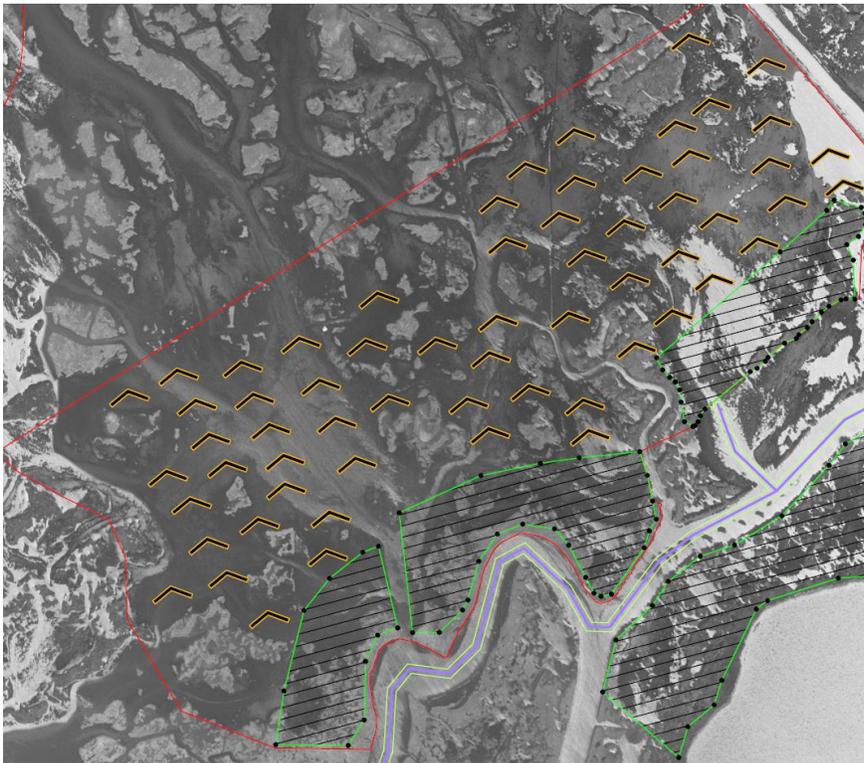


Figure 6. Earthen terrace layout.

The terraces will be constructed with a 10-foot crown width, 3H:1V side slopes, and +3.0 foot crown elevation. The earthen terraces are expected to have a maximum settlement of 12 inches over the project life. This means that the crown elevation of the terraces will be approximately 0.5 feet above MHW for the majority of the project life. The terrace slopes will be planted with two rows of smooth cordgrass and the perimeter of the terrace crowns will be planted with one row of seashore paspalum. The terraces will be constructed so that the footprint of each terrace will not impact any existing marsh.

Hydrologic Restoration

Two fixed-crest weirs (WC-1 and WC-4) along Big Carencro Bayou (Figure 7) and one plug along Carencro Bayou (Figure 8) will be replaced with structures containing variable-crest bays (Figure 9) to increase the introduction of fresh water, sediments, and nutrients. Big Carencro Bayou is an excellent source of fresh water and sediments from the Atchafalaya River/Four League Bay system. Carencro Bayou is also an excellent source of fresh water at certain times of the year. However, delivery of that water into the marshes west and north of Lost Lake is limited by existing plugs and fixed-crest weirs. Installing structures with bays/gates will increase freshwater and sediment delivery. In addition, two fixed-crest weirs (WC-5 and WC-6) near Rice Bayou (Figure 7) will be replaced with similar structures to provide flow-through conditions in the system (i.e., water enters the system from Big Carencro Bayou and exits through the structures near Rice Bayou). Water level gauges installed at sites TE-72-01, 02, 03, and 04 were used to determine flows at each structure site.

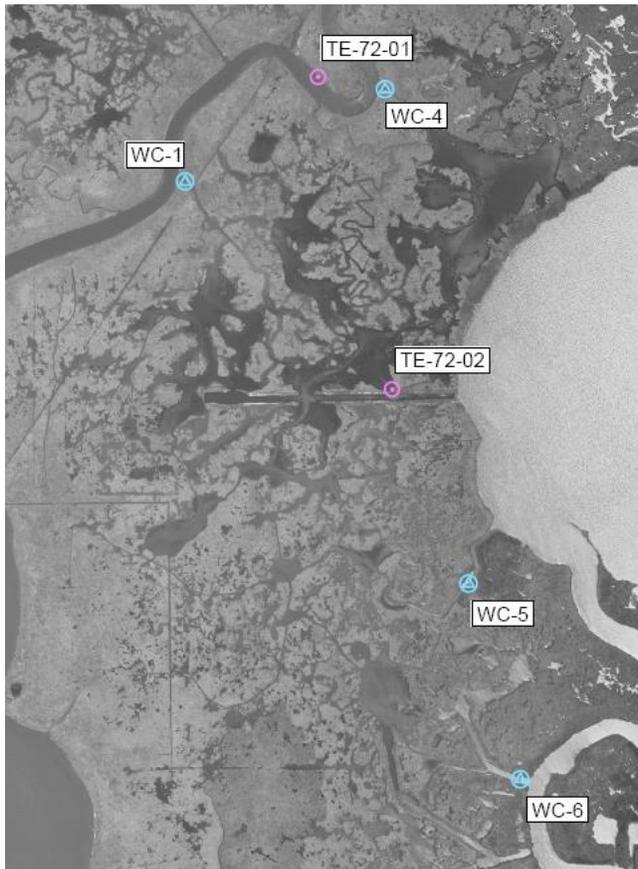


Figure 7. Water control structures and gauges west of Lost Lake.

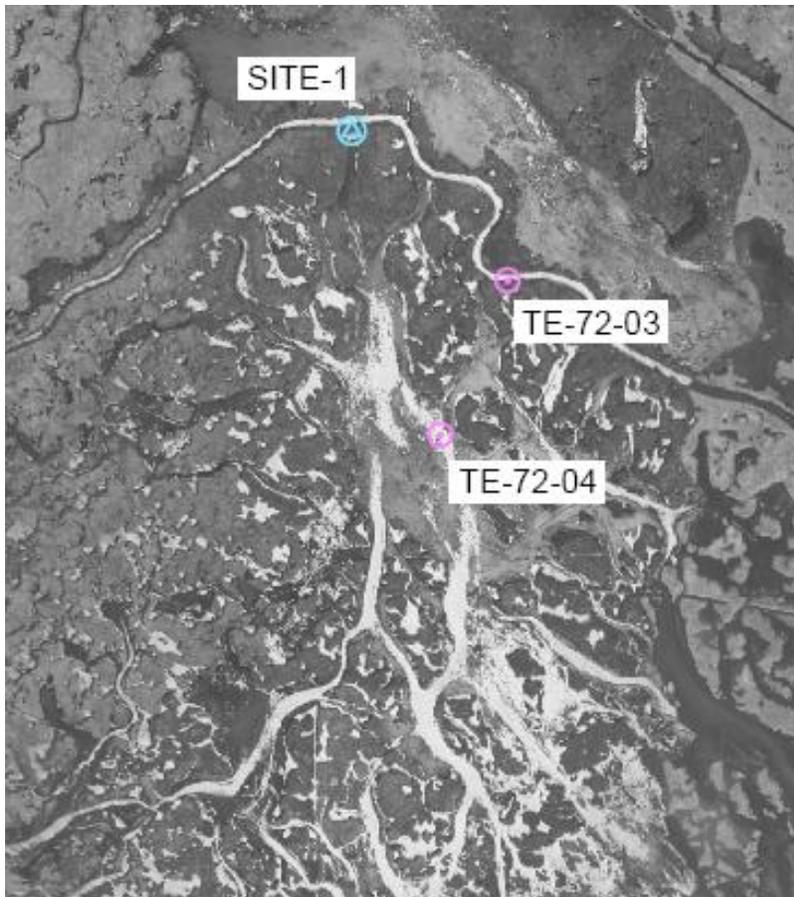


Figure 8. Water control structures and gauges north of Lost Lake.

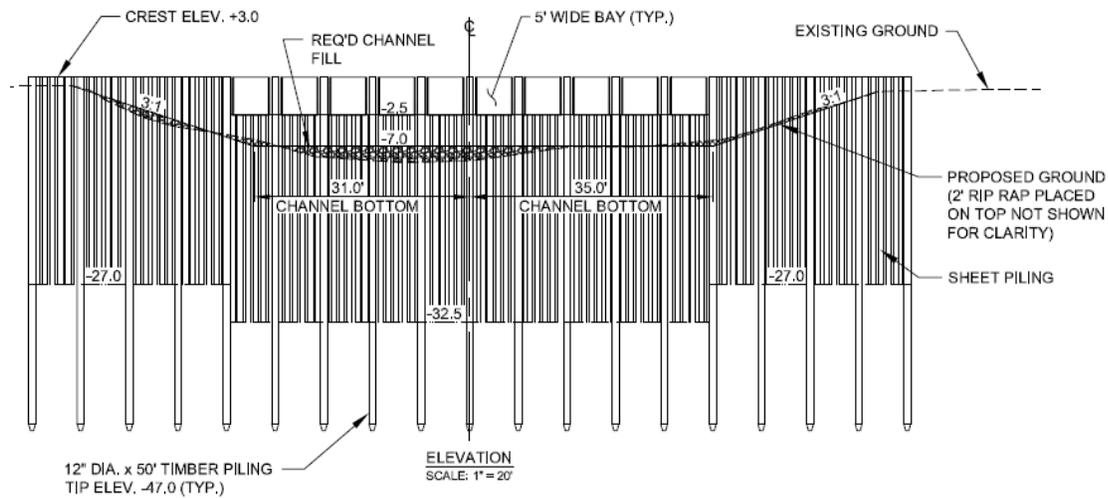


Figure 9. Proposed water control structure.

Minimal access dredging will likely be required to construct WC-6. Dredged material can be sidecast in adjacent open water to avoid impacts to wetlands

SECTION 2.3 OTHER ALTERNATIVES CONSIDERED

Shoreline protection/restoration alternatives were considered along the northern rim of Lake Pagie and Lost Lake. Alternatives consisted of a rock dike or revetment placed along the shoreline. However, shoreline erosion rates generally average less than five feet per year and the cost of rock shoreline protection would result in a project with low cost effectiveness.

The placement of additional water control structures west and north of Lost Lake was also considered. However, it was determined that the project goal of improving the distribution of fresh water, sediments, and nutrients could be accomplished by selecting only those sites which offered the best opportunity for freshwater introduction. Other sites may have been selected but a marginal increase in project benefits would have resulted.

SECTION 3.0 AFFECTED ENVIRONMENT

SECTION 3.1 PHYSICAL ENVIRONMENT

A. Hydrology

The project area is located within a band of intermediate to brackish marsh in the western Terrebonne Basin. Project area marshes are tidal with Big Carencro Bayou, Bayou Decade, Carencro Bayou, and Rice Bayou serving as the most important tidal exchange routes with surrounding lakes and bays. Important area water bodies include Lost Lake, Lake Pagie, and Four League Bay. Although primarily a tidal, estuarine system, the project area receives substantial freshwater input from the Atchafalaya River system via the vast network of bayous, oil/gas canals, and other waterways that lie north and west of the project area. At certain times of the year, the entire project area is inundated with fresh water from the Atchafalaya River system. In fact, marshes in the project area have experienced a freshening trend with an increase in fresh/intermediate marsh and a decrease in brackish marsh. However, certain areas, particularly west of Lost Lake, receive less freshwater input due to semi-impoundment of the marsh by plugs and fixed-crest weirs.

B. Water Quality

The Louisiana Department of Environmental Quality (LDEQ) surface water monitoring program is designed to measure progress towards achieving water quality goals at the state and national levels, to gather baseline data used in establishing and reviewing the state water quality standards, and to provide a database for use in determining the assimilative capacity of the waters of the State. The surface water monitoring program consists of a fixed station long-term network, intensive surveys, special studies, and wastewater discharge compliance sampling. The LDEQ routinely monitors 29 conventional parameters and fecal coliform bacteria on a monthly or bimonthly basis using a fixed station, long-term network. In addition to the conventional parameters, volatile organic compounds are sampled at each site (Louisiana Department of Environmental Quality 2010).

The Louisiana Water Quality Standards define eight designated uses for surface waters: primary contact recreation, secondary contact recreation, fish and wildlife propagation, drinking water

supply, shellfish propagation, agriculture, outstanding natural resource, and limited aquatic and wildlife use. Each water body is evaluated as fully supporting, partially supporting, or not supporting of each of its designated use(s). Water quality assessments for Lost Lake and Four League Bay are presented in Table 2. Both waterbodies are listed as fully supporting their designated uses for primary and secondary contact recreation and fish and wildlife propagation. However, it should be noted that fecal coliforms are listed as a suspected cause of impairment for oyster propagation.

Table 2. Evaluation of water quality (LDEQ 2010).

Water Body Subsegment Code	Water Body Name and Description	Primary Contact Recreation	Secondary Contact Recreation	Fish and Wildlife Propagation	Oyster Propagation
LA120708_00	Lost Lake and Four League Bay	Fully Supporting	Fully Supporting	Fully Supporting	Not Supporting

SECTION 3.2 BIOLOGICAL ENVIRONMENT

A. Vegetation

Based on the 1978 and 1988 vegetative type maps (Chabreck and Linscombe 1978, 1988), the majority of the project area was classified as brackish marsh. Since that time, the area has experienced a freshening trend with some areas transitioning to fresh marsh that were historically brackish. The 2007 marsh type survey (Sasser et al., 2008) classifies the entire project area as intermediate and brackish marsh (Figure 10). The transition from intermediate to brackish marsh lies just north of Lost Lake.

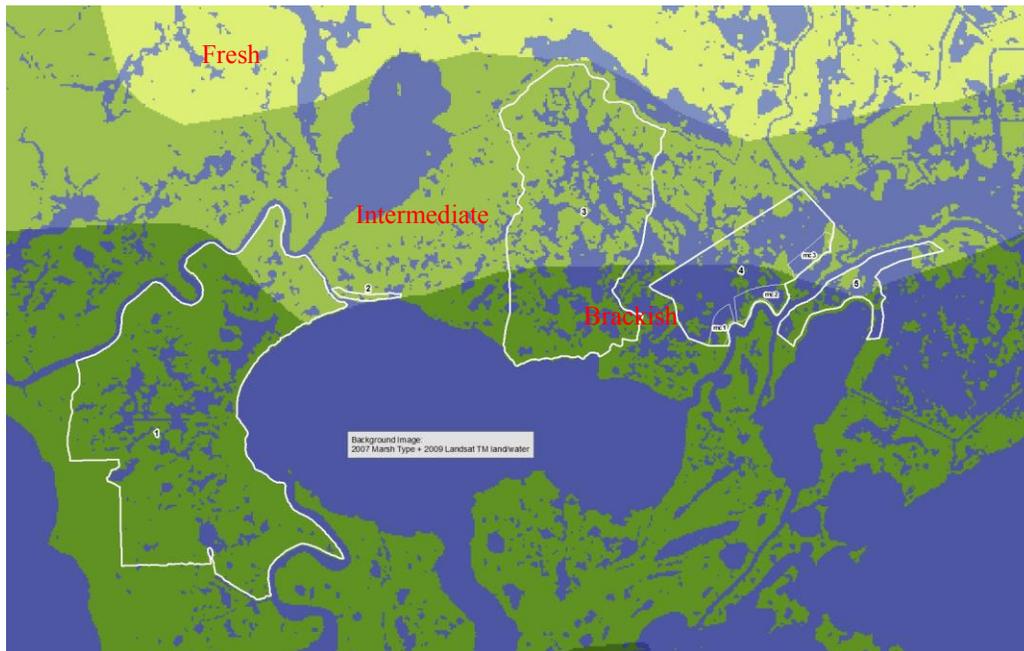


Figure 10. Marsh types per the 2007 Marsh Type Survey.

Based on field investigations conducted since 2009, the project area is primarily intermediate marsh. Common species include marshhay cordgrass, bulltongue, cattail, Roseau cane, California bulrush, and Olney bulrush. Submerged aquatic vegetation includes Eurasian water milfoil, coontail, and water celery.

Three (4045, 0354, 0399) Coastwide Reference Monitoring System (CRMS) stations (Figure 11) near the project area also provide insight as to the marsh type classification for the project area. Recent marsh type classifications and average annual salinities for each station are found in Table 3.



Figure 11. Locations of CRMS stations.

Table 3. Marsh type and average annual salinity for CRMS stations near the project area.

Year	CRMS 4045	CRMS 0354	CRMS 0399
2006		Intermediate	Intermediate
2007		Intermediate	Intermediate
2008	Intermediate	Intermediate	Intermediate
2009	Intermediate	Intermediate	Intermediate
2010	Intermediate	Intermediate	Intermediate
2011	Intermediate	Intermediate	Brackish
Mean Salinity	1.0 ppt	3.6 ppt	4.8 ppt

B. Fisheries

The project area supports a diverse assemblage of estuarine-dependent fishes and shellfishes, and species presence is largely dictated by salinity levels and season. During low-salinity periods, species such as blue catfish, Gulf menhaden, blue crab, white shrimp, and striped mullet are present in the project area. During high-salinity periods, more salt-tolerant species such as spotted seatrout, black drum, red drum, Atlantic croaker, sheepshead, southern flounder, and brown shrimp may move into the project area. Wetlands throughout the project area also support small resident fishes and shellfish such as least killifish, sheepshead minnow, sailfin molly, grass

shrimp and others. Those species are typically found along marsh edges or among submerged aquatic vegetation, and provide forage for a variety of fish and wildlife.

C. Essential Fish Habitat

The project is located within an area identified as Essential Fish Habitat (EFH) by the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA). The 2005 generic amendment of the Fishery Management Plans for the Gulf of Mexico, prepared by the Gulf of Mexico Fishery Management Council, identifies EFH in the project area to be estuarine emergent wetlands, submerged aquatic vegetation (SAV), estuarine water column, and mud substrates. Under the MSFCMA, wetlands and associated estuarine waters in the project area are identified as EFH for postlarval/juvenile and subadult brown shrimp; postlarval/juvenile and subadult white shrimp; and postlarval/juvenile and subadult red drum. Table 4 provides a more detailed description of EFH within the project area.

Table 4. EFH requirements for managed species that occur in the project area.

Species	Life Stage	Essential Fish Habitat	Occurrence in Project Area
Brown shrimp	postlarval/juvenile	marsh edge, SAV, tidal creeks, inner marsh	All habitats are found throughout the project area
	subadult	mud bottoms, marsh edge	All habitats are found throughout the project area
White shrimp	postlarval/juvenile subadult	marsh edge, SAV, marsh ponds, inner marsh, oyster reefs	All habitats are found throughout the project area (excluding oyster reefs)
Red drum	postlarval/juvenile	SAV, estuarine mud bottoms, marsh/water interface	All habitats are found throughout the project area
	subadult	mud bottoms, oyster reefs	Mud bottoms are found within open-water areas

D. Wildlife

The project area provides important habitat for several species of wildlife, including waterfowl, wading birds, shorebirds, mammals, reptiles and amphibians. The project area provides wintering habitat for migratory puddle ducks including gadwall, blue-winged teal, green-winged teal, American widgeon, and northern shoveler. Diving duck species which utilize the project area include lesser scaup and ring-necked ducks. The resident mottled duck, which nests in fresh to brackish marshes, is found throughout the year.

Common wading bird species which utilize the project area include the great blue heron, green heron, tricolored heron, great egret, snowy egret, yellow-crowned night-heron, black-crowned night-heron, and white ibis. Mudflats and shallow-water areas provide habitat for numerous species of shorebirds and seabirds. Shorebirds include the American avocet, willet, black-necked stilt, dowitchers, and various species of sandpipers. Seabirds include the white pelican, herring gull, laughing gull, and several species of terns.

Migratory and resident non-game birds, such as the boat-tailed grackle, red-winged blackbird, seaside sparrow, northern harrier, belted kingfisher, and marsh wrens, also utilize the project area. Important gamebirds found in the area include the clapper rail, sora rail, Virginia rail, American coot, common moorhen, and common snipe in addition to resident and migratory waterfowl.

Mammals found within the project area include nutria, muskrat, mink, river otter, and raccoon, all of which are commercially important furbearers. Reptiles and amphibians are fairly common in the low-salinity brackish and intermediate marshes found within the project area. Reptiles include the American alligator, western cottonmouth, water snakes, speckled kingsnake, rat snake, and eastern mud turtle. Amphibians expected to occur in the area include the bullfrog, southern leopard frog, and Gulf coast toad.

E. Threatened and Endangered Species

Federally listed as an endangered species, the West Indian manatee may occur within the project area. West Indian manatees occasionally enter Lakes Pontchartrain and Maurepas, and associated coastal waters and streams during the summer months (i.e., June through September). Manatee occurrences 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 Louisiana. They have also been occasionally observed elsewhere along the Louisiana Gulf coast. The manatee has declined in numbers due to collisions with boats and barges, entrapment in flood control structures, poaching, habitat loss, and pollution. Cold weather and outbreaks of red tide may also adversely affect these animals.

SECTION 3.3 CULTURAL AND RECREATIONAL RESOURCES

Various cultural resources occur throughout the Louisiana coastal zone, including both prehistoric and historic sites. The Louisiana Department of Culture, Recreation and Tourism maintains catalogues of cultural resource sites, but many areas remain unsurveyed and the significance or eligibility of some sites for inclusion in the National Register of Historic Places has not been determined. A review by the Louisiana Office of Cultural Development, Division of Archeology indicated that no archaeological sites are located within the project area. In a November 28, 2012 email, they indicated no objection to the proposed project. They did request a minor modification to one of the containment dikes on the eastern side of Lake Pagie to avoid any potential impacts to a cultural resources site located to the south along the Lake Pagie shoreline. The containment dike alignment will be adjusted accordingly.

Recreational use of the project area is oriented primarily toward hunting, fishing, and non-consumptive uses such as wildlife observation. Access to the project area is by boat only, as no roads or highways are present.

SECTION 3.4 ECONOMIC RESOURCES

Project-area wetlands provide essential nursery habitat for commercially and recreationally important fishes and shellfishes such as Gulf menhaden, red drum, spotted seatrout, southern flounder, brown shrimp, white shrimp, blue crab and others. National Marine Fisheries Service statistics for the last 20 years indicate that coastal Louisiana contributes approximately 20 percent of the nation's total commercial fisheries harvest (LCWCRTF and WCRA 1998a). In 2003, commercial fishery landings in coastal Louisiana exceeded 1 billion pounds with a dockside value of over \$285 million with a total economic effect of more than \$2.5 billion

(Southwick Associates 2005). Additionally, Louisiana's shrimp and oyster harvests comprise approximately 35 to 40 percent of the national total for those species (LCWCRTF 1993).

Louisiana's coastal wetlands also produce more wild furs and alligator skins than any other State in the nation. Nutria, muskrat, and raccoon constitute 94 percent of the value of the Louisiana fur industry, valued at approximately \$1.3 million annually (Louisiana Fur and Alligator Advisory Council 1997). In 2003, the Louisiana fur harvest totaled \$1.6 million (Southwick Associates 2005). The wild alligator harvest is also an important economic resource in coastal Louisiana. The wild harvest from 1972 to 1997 produced one million skins with an estimated value of \$128.6 million. The annual harvest averaged 26,742 from 1992 to 1997, and the value of skins and meat was worth over \$9.3 million (Louisiana Fur and Alligator Advisory Council 1997) during that period. In 2003, the wild alligator harvest totaled over \$6 million in retail sales (Southwick Associates 2005).

Recreational saltwater fishing contributed over \$435 million to Louisiana's economy in 2003 (Southwick Associates 2005). Coastal marshes also provide a substantial economic value associated with waterfowl hunting.

SECTION 4.0 ENVIRONMENTAL CONSEQUENCES

SECTION 4.1 ALTERNATIVE 1 - NO ACTION

A. Physical Environment

Hydrology

Under the No Action Alternative, the hydrology of the project area would likely be altered by the ongoing processes of shoreline erosion, shoreline breaching, and marsh deterioration. As marsh loss continues and additional shoreline breaching occurs, tidal connectivity with Lake Pagie, Bayou Decade, and Lost Lake could increase as more tidal channels form and tidal exchange increases.

Water Quality

Under the No Action Alternative, water quality in the project area will likely remain the same.

B. Biological Environment

Vegetation

Under the No Action Alternative, vegetation in the project area would likely remain the same as it is today with a vegetative community typical of an intermediate marsh. Marshhay cordgrass, bulltongue, cattail, and Roseau cane would likely remain as the dominant plant species.

Marsh loss from shoreline erosion, storms, and subsidence would continue. The Wetland Value Assessment (WVA) prepared by the CWPPRA Environmental Work Group projected that 218 acres of marsh would be lost under the No Action Alternative (USFWS 2012).

Fisheries

Although marsh loss would continue under the No Action Alternative, the project area would continue to support a diverse assemblage of estuarine-dependent fishery species. However, the loss of intertidal, emergent wetlands to shallow, unvegetated open water would result in decreased fishery productivity. As a marsh complex exceeds 70 percent unvegetated open water, shrimp and blue crab populations may decline (Minello and Rozas 2002).

Essential Fish Habitat Assessment

Under the No Action Alternative, estuarine marsh is the primary type of EFH impacted by continued wetland loss and deterioration. According to the WVA conducted by the CWPPRA Environmental Work Group, 218 acres of emergent marsh would be converted to shallow open water (i.e., mud bottom) over the project life. Although an increase in some types of EFH (i.e., mud bottom and estuarine water column) would occur, adverse impacts would occur to more productive types of EFH (i.e., estuarine emergent wetlands). The loss of estuarine emergent wetlands would result in negative impacts to postlarval/juvenile and subadult brown shrimp; postlarval/juvenile and subadult white shrimp; and postlarval/juvenile red drum.

Wildlife

Under the No Action Alternative, the project area would continue to provide habitat for a multitude of species including migratory waterfowl, wading birds, shorebirds, mammals, reptiles, and amphibians. However, the continued loss of emergent wetlands would negatively impact those species which utilize the project area. Intertidal marsh is utilized by those species for foraging, resting, or nesting habitat. Conversion of that habitat type to unvegetated, open-water areas would diminish habitat value for all wildlife species.

Threatened and Endangered Species

The endangered West Indian manatee is occasionally found in Lakes Pontchartrain and Maurepas, and associated coastal waters and streams during the summer months (i.e., June through September). Manatee occurrences 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 Louisiana. They have also been occasionally observed elsewhere along the Louisiana Gulf coast. Although unlikely to occur in the project area, their use would continue under the No Action Alternative.

C. Cultural and Recreational Resources

No archeological sites are located within the project area; therefore, no impacts are expected under the No Action Alternative. Recreational opportunities within the project area, such as hunting and fishing, may decrease somewhat with the ongoing loss of marsh and diminished capacity of the area to support fish and wildlife populations.

D. Economic Resources

Commercial and recreational activities within the project area are important components of the local economy. Waterfowl hunting, recreational fishing, and commercial shrimping and crabbing contribute greatly toward the economies of the surrounding communities. The continued loss of emergent wetlands would decrease the project area's ability to support those activities.

SECTION 4.2 ALTERNATIVE 2 - PREFERRED ALTERNATIVE

A. Physical Environment

Hydrology

Under the Preferred Alternative, hydrologic conditions within the project area would be impacted by the creation of marsh and the replacement of fixed-crest weirs and plugs with variable-crest structures. The large, open-water areas and some of the tidal waterways through which water exchange now occurs would be filled with dredged material. However, the marsh creation features would not prevent tidal exchange in the surrounding marshes. The surrounding marshes are serviced by a number of existing channels that would not be filled so that tidal connectivity would be maintained.

Containment dikes which surround the marsh creation cells would be gapped at the end of project construction to allow the formation of tidal channels as the marsh platform settles. In addition, tidal channels are anticipated to form as differential settlement of the dredged material occurs. Existing tidal channels, boat trails, and other waterways occur throughout the project area and higher settlement of dredged material is anticipated in those areas as they are deeper than the adjacent open-water areas being filled. Those areas would be the lowest points on the marsh platform, so water exchange would naturally occur at those sites. In addition, the marsh platform is anticipated to consolidate and settle to the existing marsh elevation over the project life. As the marsh platform subsides, more tidal connections and other open-water areas would form throughout the project area.

In the areas west and north of Lost Lake, the installation of variable-crest weirs will result in greater tidal connectivity and input of fresh water. The current system of fixed-crest weirs and plugs provides for a reduced level of tidal exchange which will be improved with more open water control structures. From February through the end of October, the variable-crest structures will be set at an elevation of -2.5 feet which will considerably increase exchange within the project area. Freshwater flow into the area west of Lost Lake is estimated to increase by approximately 641 cubic feet per second (cfs) and by approximately 190 cfs north of Lost Lake.

Water Quality

Under the Preferred Alternative, dredging activities in Lost Lake, the placement of dredged material in the project area, and the construction of containment dikes and terraces would increase turbidity as bottom sediments are disturbed. However, the increased turbidity would only occur during periods of active dredging and is expected to dissipate rapidly upon completion of construction. Dewatering of the marsh creation fill sites will also result in increased turbidities in the surrounding open water areas. In addition, turbidities may increase after rainfall events as water runs off the unvegetated marsh platform, especially immediately after dredged material deposition.

B. Biological Environment

Vegetation

Under the Preferred Alternative, approximately 468 acres of marsh would be created/nourished within the marsh creation cells. In addition, 18 acres of emergent habitat would result from construction of the earthen terraces. Very little emergent vegetation would be present immediately after construction as most of the project area would be unvegetated dredged material. Those areas of marsh which are nourished would likely revegetate more rapidly than the large, open-water areas which are filled. Marsh vegetation nourished with 6 to 12 inches of material has been shown to respond favorably and revegetate quickly (Mendelssohn and Kuhn 1999). Large, open-water areas which are filled with dredged material would likely revegetate at a slower rate than nourished marsh. However, based on the performance of other marsh creation projects, revegetation could be expected within 1 to 2 years after construction. Vegetative communities would likely be very similar to those currently found within the project area.

Under the Preferred Alternative, marsh loss would continue in the project area, but at a reduced rate. The WVA prepared by the CWPPRA Environmental Work Group projected that land loss would continue at approximately one-half of the existing marsh loss rate within the marsh creation cells (USFWS 2012). Within the hydrologic restoration areas, marsh loss would be reduced by 100% west of Lost Lake and by 21% north of Lost Lake. Approximately 3,881 acres of marsh would remain at the end of the 20-year project life compared to 3,429 acres under the No Action Alternative, resulting in a net of 452 acres.

The WVA indicates that the coverage of submerged aquatic vegetation is also projected to increase under the Preferred Alternative (USFWS 2012). The smaller, shallower ponds which would form within the marsh creation areas would be more conducive for the establishment of submerged aquatic vegetation. Those smaller waterbodies would be less susceptible to increases in turbidity from wind-generated waves. In addition, the increased delivery of fresh water and nutrients resulting from the installation of the variable-crest structures would enhance the production of submerged aquatics. Furthermore, the 30,000 linear feet of terraces would reduce fetch and turbidity across 752 acres of fragmented marsh and open water providing conditions more conducive to the establishment of submerged aquatic vegetation.

Fisheries

Under the Preferred Alternative, the project area would continue to support a diverse assemblage of fishes and shellfishes. The creation and nourishment of intertidal marsh would ensure that the project area continues to provide important nursery functions well beyond the 20-year project life. Several studies indicate that vegetated habitats (i.e., emergent marsh and submerged aquatic vegetation beds) generally support higher densities of fish and crustaceans than unvegetated habitat (Castellanos and Rozas 2001, Rozas and Minello 2001, Minello and Rozas 2002). Population declines of shrimp and blue crabs may become evident when a marsh complex exceeds 70 percent unvegetated, open water (Minello and Rozas 2002). Compared to the No Action Alternative, an additional 452 acres of marsh would result from project implementation (USFWS 2012). Although the earthen terraces only result in 18 acres of emergent marsh, over 60,000 feet (i.e., over 11 miles) of edge habitat would be created. Much of that habitat would

exist within the intertidal zone and would provide foraging and nursery habitat for a number of estuarine species.

The Preferred Alternative will result in four fixed-crest weirs and one plug being replaced with variable-crest weirs. Replacement of the existing structures will result in greater cross-sectional area at each location which will improve access for estuarine organisms. The crest elevation of the fixed-crest weirs ranges from 0.0 feet to 0.5 feet. From February to November, the crest elevation of the variable-crest weirs is -2.5 feet as the structure bays will be completely open. Fisheries access will be enhanced for approximately 6,092 acres of marsh and open water habitats.

Dredging activities in Lost Lake would increase turbidity as bottom sediments are disturbed. The increased turbidity and disturbance from dredging activities could result in some fishery species being displaced. It is likely that those species would simply relocate to an area of more suitable habitat. However, the increased turbidity would only occur during periods of active dredging and is expected to dissipate rapidly once dredging activities cease.

Essential Fish Habitat Assessment

Estuarine emergent wetland is the primary type of EFH that would increase significantly under the Preferred Alternative; such habitat would be created in open-water areas and deteriorated marsh. According to the WVA, 452 additional acres of emergent marsh would exist at the end of the project life under the Preferred Alternative, compared to the No Action Alternative. Coverage of submerged aquatic vegetation is also expected to increase. Increases in those habitat types would benefit postlarval/juvenile and subadult brown shrimp; postlarval/juvenile and subadult white shrimp; and postlarval/juvenile red drum.

The creation of estuarine emergent wetlands would result in the loss of mud bottom and estuarine water column as emergent marsh would replace those habitat types. Loss of mud bottom EFH could result in negative impacts to subadult brown shrimp and postlarval/juvenile, red drum. Although adverse impacts would occur to some types of EFH, more productive types of EFH (i.e., estuarine emergent wetlands) would be created under the Preferred Alternative. In addition, open-water habitat would form within the marsh platform as ponds and other waterbodies develop as a result of natural marsh loss processes. Open-water habitats are expected to experience an increase in the percent coverage of submerged aquatic vegetation under the Preferred Alternative. Therefore, the Preferred Alternative would result in a net positive benefit to all managed species that occur in the project area.

Replacement of four fixed-crest weirs and a plug with variable-crest structures would also improve marine fishery access to semi-impounded wetlands containing several types of EFH including estuarine emergent wetlands, mud bottom, submerged aquatic vegetation, and estuarine water column. Access for estuarine organisms would improve to approximately 6,092 acres of marsh and open water habitats. That area encompasses 3,427 acres of estuarine emergent wetlands and 2,665 acres of open water. Of the open water acreage, it is estimated that 666 acres contain submerged aquatic vegetation. Improved access to those habitat types would increase habitat value for postlarval/juvenile and subadult white and brown shrimp and postlarval/juvenile and subadult red drum.

Wildlife

The Preferred Alternative would result in improved habitat conditions for several species of wildlife including migratory and resident waterfowl, shorebirds, wading birds, and furbearers. Migratory waterfowl utilizing the project area would benefit from a greater food supply resulting from the increased abundance and diversity of emergent and submerged species. Habitat for the resident mottled duck would also improve considerably as the marsh platform and terraces would provide more desirable nesting habitat.

Intertidal marsh and marsh edge would also provide increased foraging opportunities for shorebirds and wading birds. Small fishes and crustaceans are often found in greater densities along vegetated marsh edge (Castellanos and Rozas 2001, Rozas and Minello 2001), and many of those species are important prey items for wading birds such as the great blue heron, little blue heron, great egret, black-crowned night-heron, and snowy egret. Mudflats and shallow water habitat created by the deposition of dredged material would provide increased foraging opportunities for shorebirds such as least sandpipers, killdeer, and the American avocet. Those species feed on tiny invertebrates and crustaceans found on mudflats which are exposed at low tide and in shallow-water areas of the appropriate depth.

Furbearers (such as the nutria and muskrat) which feed on vegetation would benefit from the increased marsh acreage in the project area. Representative furbearers such as the mink, river otter, and raccoon have a diverse diet and feed on many different species of fishes and crustaceans. Those species often feed along vegetated shorelines which provide cover for many of their prey species.

Threatened and Endangered Species

The Service has conducted an Intra-Service Section 7 Endangered Species Act consultation of the Preferred Alternative's impacts on the West Indian Manatee. Based on that consultation, the Service has determined that the Preferred Alternative would be "not likely to adversely affect" the endangered West Indian manatee.

The West Indian manatee, although it is unlikely, may be found in the estuarine waters in or near the project area. Construction equipment (e.g., boats, barges, airboats) may encounter manatees in the waterbodies found within and around the project area. Specific language will be included within the project's plans and specifications to avoid/minimize impacts to the West Indian manatee. The following precautions will be implemented from May to October, when manatees have the greatest potential for entering the project area:

To ensure protection of the West Indian Manatee, all personnel associated with the project will be informed of the potential presence of manatees and take actions to induce them to leave the immediate work area prior to dredging regardless of water depth or time of year. The following precautions will be implemented from May to October, when manatees have the greatest potential for entering the project area:

- 1) The cutterhead shall remain completely buried in the bottom material during dredging operations.

- 2) If pumping water through the cutterhead is necessary to dislodge material or to clean the pumps or cutterhead, etc., the pumping rate shall be reduced to the lowest rate possible until the cutterhead is at mid-depth, where the pumping rate can then be increased.
- 3) During dredging, the pumping rates shall be reduced to the slowest speed feasible while the cutterhead is descending to the lake bottom.
- 4) All on-site project personnel are responsible for observing water-related activities for the presence of manatee(s).
- 5) All personnel associated with the project shall be instructed about the possible presence of manatees and the need to avoid collisions with and injury to manatees. Any sighting of, collision with, or injury to a manatee shall be immediately reported to the Engineer.

Temporary signs should be posted prior to and during all construction/dredging activities to remind personnel to be observant for manatees during active construction/dredging operations or within vessel movement zones (i.e., work area), and at least one sign should be placed where it is visible to the vessel operator. Siltation barriers, if used, should be made of material in which manatees could not become entangled, and should be properly secured and monitored. If a manatee is sighted within 100 yards of the active work zone, special operating conditions should be implemented, including: no operation of moving equipment within 50 feet of a manatee; all vessels should operate at no wake/idle speeds within 100 yards of the work area; and siltation barriers, if used, should be re-secured and monitored. Once the manatee has left the 100-yard buffer zone around the work area on its own accord, special operating conditions are no longer necessary, but careful observations would be resumed. Any manatee sighting should be immediately reported to the Service's Lafayette, Louisiana Field Office (337/291-3100) and the Louisiana Department of Wildlife and Fisheries, Natural Heritage Program (225/765-2821).

C. Cultural and Recreational Resources

The Louisiana Department of Culture, Recreation and Tourism has reviewed the project information to determine if any cultural resources may be impacted by project implementation. A review by the Louisiana Office of Cultural Development, Division of Archeology indicated that no archaeological sites are located within the project area. In a November 28, 2012 email, they indicated no objection to this project. They did request a minor modification to one of the containment dikes on the eastern side of Lake Pagie to avoid any potential impacts to a cultural resources site located to the south along the Lake Pagie shoreline. The containment dike alignment will be adjusted as necessary.

Recreational opportunities within the project area, such as hunting, fishing, and bird watching, may increase with the increased formation of emergent marsh and other fish and wildlife habitats. An increase in habitat value would likely result in increased fish and wildlife usage of the project area.

D. Economic Resources

By increasing emergent wetlands, and subsequently fish and wildlife resources, the Preferred Alternative would help to maintain that portion of the local economy dependent on recreational and commercial fish and wildlife resources found within the project area. Project-area waterfowl hunting and recreational fishing are important components of the local economy, and creation of

emergent marsh and other fish and wildlife habitats could increase the ability of the project area to support those activities. The increased acreage of emergent wetlands would also act as a storm buffer for flood protection levees north and east of the project area.

SECTION 5.0 RATIONALE FOR SELECTING PREFERRED ALTERNATIVE

Marsh loss in the project area has resulted in a decline in fish and wildlife habitat and the loss is expected to continue at current rates. Marsh elevations in some areas of deteriorated marsh are not conducive to the continued existence of the dominant plant species, marshhay cordgrass, which prefers higher elevations. Ponding and prolonged inundation, due to subsidence, have resulted in the deterioration of marsh and the formation of shallow, open-water habitat. Continued subsidence would result in the future deterioration of the remaining stands of healthy, unfragmented marsh. Elevation surveys conducted at three sites within the project area indicate an average marsh elevation of +1.1 feet (Pyburn and Odom, Inc. 2011). With the current design elevation of +3.5 feet, the marsh platform would support emergent vegetation throughout the 20-year project life.

Dedicated dredging to create marsh in shallow, open-water areas has been successfully used as a restoration technique across coastal Louisiana. Since CWPPRA was authorized in 1990, several marsh creation projects have been constructed and many more are authorized for engineering and design, or construction, by the LCWCRTF (Table 5). Also, several barrier island restoration projects have been constructed which utilize hydraulic dredging to create dune and marsh habitats. In addition, many other marsh creation projects have been constructed by the State of Louisiana through its Coastal Restoration Program as mitigation for wetland impacts under Section 404 of the Clean Water Act, and by the Corps of Engineers under other authorities such as Sections 204 and 1135 of the Water Resources Development Act.

Table 5. Marsh creation projects constructed/authorized under CWPPRA.

Project Name	Acres Benefited	Construction Completion Date
Bayou Labranche Wetland Creation	203	1994
Barataria Waterway Wetland Restoration	9	1996
West Belle Pass Headland Restoration	474	1998
Lake Chapeau Sediment Input and Hydrologic Restoration, Point Au Fer Island	509	1999
Sabine Refuge Marsh Creation	993	Cycles 1, 2, and 3 completed. Cycles 4 and 5 are pending.
Little Lake Shoreline Protection/Dedicated Dredging near Round Lake	713	2006
Goose Point/Point Platte Marsh Creation	436	2008
North Lake Mechant Landbridge Restoration	604	2009

Bayou Dupont Sediment Delivery System	326	2010
Dedicated Dredging on the Barataria Basin Landbridge	242	2010
West Lake Boudreaux Shoreline Protection and Marsh Creation	277	2011
East Marsh Island Marsh Creation	169	2011
South Shore of the Pen Shoreline Protection and Marsh Creation	106	2012

Scientific studies in coastal Louisiana also provide support for the use of dedicated dredging to restore coastal wetlands. Most research conducted on dedicated dredging projects in coastal Louisiana has occurred in saline marsh habitats. Although the project area supports an intermediate marsh community, the response should be somewhat similar to that observed in saline marsh. Marshes created at the correct elevation take only a few years to develop vegetative communities similar to those in natural marshes (Edwards and Proffitt 2003). Percent vegetative cover also equals that found in natural marshes, but only after several years of growth (Proffitt and Young 1999). However, soil characteristics between created and natural marshes are often very different, with created marshes being lower in organic matter and higher in bulk density (Edwards and Proffitt 2003).

Thin-layer sediment deposition to the marsh surface (i.e., marsh nourishment) has also been investigated as a restoration technique in coastal Louisiana. Mendelssohn and Kuhn (1999) studied the impacts of sediment addition to a deteriorating saline marsh dominated by smooth cordgrass. Sediment addition ranging from trace amounts to nearly 24 inches above natural marsh elevations produced increases in plant cover and plant height. Sediment addition reduced flooding, allowed for better soil aeration, and lowered concentrations of phytotoxins which provided better conditions for plant growth. Ford et al. (1999) investigated the effects of thin-layer deposition of dredged material via spray dredging in a deteriorated saline marsh. One year following the addition of approximately 9 inches of sediment, percent cover of smooth cordgrass increased three-fold over pre-project conditions with no lasting negative impacts on the native marsh plant community.

The Preferred Alternative is supported by the LCWCRTF, which approved funding for construction at their January 24, 2013, meeting. The Preferred Alternative would create emergent marsh in the project area, increase its habitat value for fish and wildlife resources, and result in a net gain of 452 acres of marsh at the end of the project life compared to the No Action Alternative. The Preferred Alternative also supports the restoration strategies recommended for this region in the Coast 2050 Plan.

SECTION 6.0 COMPATIBILITY WITH CWPPRA AND COMMUNITY OBJECTIVES

The Preferred Alternative would help to achieve CWPPRA objectives for protection and restoration of Louisiana's coastal wetlands. The cumulative impact of all CWPPRA projects approved to date would result in the protection/creation/restoration of over 113,000 acres of

coastal wetlands. Cumulative impacts of the CWPPRA Program are addressed in the Louisiana Coastal Wetlands Restoration Plan Main Report and Environmental Impact Statement (LCWCRTF 1993).

Community objectives would likely be enhanced by the proposed project. Common socioeconomic goals include the conservation of sustainable fishing, shrimping, crabbing, and hunting opportunities in the region. The general public also supports wetland restoration and preservation for fish and wildlife habitat, and for recreational, aesthetic, and other non-consumptive uses. In addition, the public is now much more aware of the surge reduction benefits provided by wetlands since the passage of Hurricanes Katrina and Rita in 2005.

SECTION 7.0 COMPLIANCE WITH LAWS, REGULATIONS AND POLICIES

This Environmental Assessment was prepared in compliance with the National Environmental Policy Act of 1969 (NEPA). It is consistent with the NEPA-compliance procedures contained in the Fish and Wildlife Service Manual (550 FW 1-3), and employs a systematic, interdisciplinary approach. The proposed action alternative involves disposal of fill material into waters or wetlands; therefore, an evaluation under Section 404(b)(1) of the Clean Water Act of 1977, as amended, is required, as well as State of Louisiana water quality certification under Section 401. A Section 404 permit (dated February 24, 2014) has been received from the U.S. Army Corps of Engineers as well as Water Quality Certification (dated April 17, 2013) from the Louisiana Department of Environmental Quality. In addition, the Louisiana Department of Natural Resources has determined that the project is consistent with the Louisiana Coastal Resources Program (dated April 17, 2013).

Under the Magnuson-Stevens Fishery Conservation and Management Act, the Service initiated consultation with the National Marine Fisheries Service upon submission of the draft Environmental Assessment in November, 2012. Project-related impacts to EFH within the project area have been evaluated. The Preferred Alternative would result in adverse impacts to some categories (i.e., mud bottom and estuarine water column) of EFH; however, more productive categories of EFH, such as estuarine emergent wetlands, would be created. Therefore, the Service finds that the Preferred Alternative would not result in net adverse impacts to habitats designated as EFH under the MSFCMA.

By correspondence dated October 16, 2012, the Service initiated consultation with the Louisiana Department of Culture, Recreation and Tourism to determine project impacts on cultural resources within the project area. A review by the Louisiana Office of Cultural Development, Division of Archeology indicated that no archaeological sites are located within the project area. In a November 28, 2012 email, they indicated no objection to this project. They did request a minor modification to one of the containment dikes on the eastern side of Lake Pagie to avoid any potential impacts to a cultural resources site located to the south along the Lake Pagie shoreline. The containment dike alignment will be adjusted as necessary.

Pursuant to Executive Order 12898 (Environmental Justice for Minority Populations), the Service has determined that the Preferred Alternative would not result in disproportionately high and adverse human health or environmental impacts on minority and low-income populations.

The proposed action has been internally reviewed by the Fish and Wildlife Service for compliance with the Endangered Species Act of 1973, as amended. In addition, the proposed action has been reviewed for compliance with the Archeological and Historic Preservation Act of 1974; Executive Order 11988 (Floodplain Management); Executive Order 11990 (Protection of Wetlands); and Executive Order 13186 (Responsibilities of Federal Agencies to Protect Migratory Birds).

SECTION 8.0 PREPARER

This Environmental Assessment was prepared by Kevin J. Roy, Senior Field Biologist with the Fish and Wildlife Service, Lafayette Field Office, Lafayette, Louisiana.

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APPENDIX F: DIRECTIONS TO BOAT LAUNCH

Directions to Boat Launch: From Houma, take LA 315 south 12.5 miles. Turn west approximately 0.2 miles north of the Falgout Canal Bridge and cross Bayou du Large. Turn south on Doctor Beatrous Road. The Falgout Canal Marina is located at 1868 Doctor Beatrous Road. The coordinates are Latitude 29.41354, Longitude -90.78371.



APPENDIX G: SURVEY MONUMENT DATA



VICINITY MAP Not to Scale

Reproduced from Louisiana 2005 DOQQ

Station Name: "TE34 SM 04"

Location: From the intersection of State Highway 3219 and State Highway 3127 south of Lagan, Louisiana, proceed westerly on State Highway 3127 for approximately 0.7 mile to the monument on the left, approximately 382 feet westerly of a gravel oilfield road leading south to Cut Grass Coulee Oilfield. The Monument is located 43.3 feet southerly from the centerline of the highway and 25.8 feet northerly from the north edge of a canal. Permission is required for Right of entry from Burlington Resources, POC: Jeff Deblieux at (985) 853-3009 or (985) 879-1517.

Monument Description: NGS Style floating sleeve monument; 9/16" stainless steel rods driven 60 feet to refusal, set in a sand filled 6" PVC pipe with access cover set flush with the ground.

Stamping: TE34-SM-04

Installation Date: May 2004 **Date of Survey:** June 2008

Monument Established By: JCLS

For: JCLS

Adjusted NAD83 Geodetic Position (NSRS2007)

Lat. 29°21'45.47779" N
Long. 090°59'34.13005" W

Adjusted NAD83 Datum LSZ (1702) Ft (NSRS2007)

N= 313,874.11
E= 3,389,307.21

Adjusted NAVD88 Height (2006.81)

Elevation = 2.99 feet (0.911 mtrs)

*Ellipsoid Height = -23.939 mtrs.
Geoid03 Height = -24.850 mtrs. (2004.65)*

FOR REFERENCE ONLY

LCZ Adjusted NAVD88 Height (Geoid99)
Elevation = 3.43 feet (1.045 mtrs)



APPENDIX H: GEOTECHNICAL REPORT

Paste the following link into web browser:

<ftp://ftp.coastal.la.gov/TE-72/Geotechnical%20Report/>

APPENDIX I: DESIGN SURVEY REPORT

Paste the following link into web browser:

<ftp://ftp.coastal.la.gov/TE-72/Survey%20Report/>

APPENDIX J: HYDRAULIC DREDGE DATA SHEET

HYDRAULIC DREDGE DATA SHEET

LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT (TE-72)

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)	

APPENDIX K: EQUIPMENT DATA SHEET

EQUIPMENT DATA SHEET

LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT (TE-72)

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	

Predicted production rate (CY/hour)	N/A
Weight (tons)	N/A
Power (Horsepower)	N/A
Reach (ft)	N/A
Dimensions (ft)	N/A
Method of mobilization and demobilization	N/A

Dredge Pipeline

Material Composition (Steel/Plastic)	
Trunk Diameter (ft)/Length (ft)/Thickness (in)	
Lateral Diameter (ft)/Length (ft)/Thickness (in)	

APPENDIX L: DAILY PROGRESS REPORT FORM

DAILY PROGRESS REPORT No. _____ By _____ (Contractor) Date: _____ 2016
Lost Lake Marsh Creation and Hydrologic Restoration Project (TE-72)

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: _____
 Hydraulic Dredge(s) Utilized: _____ Booster Pump 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): _____
 Pile Driving (1 day prior to start): _____ Landowner/Utility Contacted: _____
 Pile Tip Elevation Unattainable: _____

Construction

Marsh Creation Area 1A

Dike Constructed Today:	Sta Start - End: -	Dike Constructed to Date:	Sta Start - End: -
Marsh Fill Quantity Today:	Lift 1 / Lift 2 (CY):	Marsh Fill Quantity to Date:	Lift 1 - Lift 2 (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 1B

Dike Constructed Today:	Sta Start - End: -	Dike Constructed to Date:	Sta Start - End: -
Marsh Fill Quantity Today:	Lift 1 / Lift 2 (CY):	Marsh Fill Quantity to Date:	Lift 1 - Lift 2 (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:

DAILY PROGRESS REPORT No. _____ By _____ (Contractor) Date: _____ 2016
Lost Lake Marsh Creation and Hydrologic Restoration Project (TE-72)

Marsh Creation Area 2A

Dike Constructed Today:	Sta Start - End: -	Dike Constructed to Date:	Sta Start - End: -
Marsh Fill Quantity Today:	Lift 1 / Lift 2 (CY):	Marsh Fill Quantity to Date:	Lift 1 - Lift 2 (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 2B (East)

Dike Constructed Today:	Sta Start - End: -	Dike Constructed to Date:	Sta Start - End: -
Marsh Fill Quantity Today:	Lift 1 / Lift 2 (CY):	Marsh Fill Quantity to Date:	Lift 1 - Lift 2 (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 2B (West)

Dike Constructed Today:	Sta Start - End: -	Dike Constructed to Date:	Sta Start - End: -
Marsh Fill Quantity Today:	Lift 1 / Lift 2 (CY):	Marsh Fill Quantity to Date:	Lift 1 - Lift 2 (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 2C

Dike Constructed Today:	Sta Start - End: -	Dike Constructed to Date:	Sta Start - End: -
Marsh Fill Quantity Today:	Lift 1 / Lift 2 (CY):	Marsh Fill Quantity to Date:	Lift 1 - Lift 2 (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 2D

Dike Constructed Today:	Sta Start - End: -	Dike Constructed to Date:	Sta Start - End: -
Marsh Fill Quantity Today:	Lift 1 / Lift 2 (CY):	Marsh Fill Quantity to Date:	Lift 1 - Lift 2 (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 3

Dike Constructed Today:	Sta Start - End: -	Dike Constructed to Date:	Sta Start - End: -
Bank Stabilization Constructed Today:	Sta Start - End: -	Bank Stabilization Constructed to Date:	Sta Start - End: -
Marsh Fill Quantity Today:	Lift 1 / Lift 2 (CY):	Marsh Fill Quantity to Date:	Lift 1 - Lift 2 (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:

Terraces

Terraces Constructed Today:	No (s):	Terraces Constructed To Date:	No (s):
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Channels

Borrow Area 1 Channel:	Dredged/Backfilled (CY):	Water Control Structure Channel:	Dredged/Backfilled (CY):
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DAILY PROGRESS REPORT No. _____ By _____ (Contractor) Date: _____ 2016
Lost Lake Marsh Creation and Hydrologic Restoration Project (TE-72)

Water Control Structures

Site 1:	Complete (%)	WC-5:	Complete (%)
WC-1:	Complete (%)	WC-6:	Complete (%)
WC-4:	Complete (%)		

Dredge Pipe

Borrow Area 1 Trunk Installed/Removed:	Sta Start - End:	-	Fill Area 2B Lateral Installed/Removed:	Sta Start - End:	-
Borrow Area 2 Trunk Installed/Removed:	Sta Start - End:	-	Fill Area 2C Lateral Installed/Removed:	Sta Start - End:	-
Fill Area 1A Lateral Installed/Removed:	Sta Start - End:	-	Fill Area 2D Lateral Installed/Removed:	Sta Start - End:	-
Fill Area 1B Lateral Installed/Removed:	Sta Start - End:	-	Fill Area 3 Lateral Installed/Removed:	Sta Start - End:	-
Fill Area 2A Lateral Installed/Removed:	Sta Start - End:	-	Bayou Decade Crossing:		Installed / Removed
Fill Area 2B Revetment Crossing:		Installed / Removed	Fill Area 2C Revetment Crossing:		Installed / Removed

Borrow Area 1

Quantity Dredged:	_____	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 2

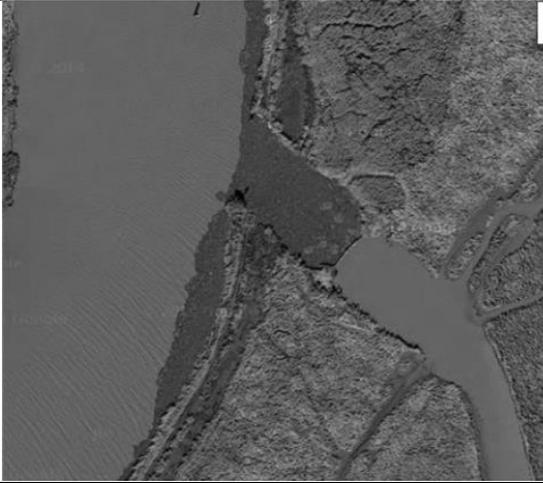
Quantity Dredged:	_____	CY	Dredge Operational Time:	_____	Hrs
Depth Dredged:	_____	ft NAVD88	Dredge Production Rate:	_____	CY/HR
Dredge Advance Schematic Attached:		Yes / No	Estimated Percent Solids:		%

APPENDIX M: PHOTOGRAPHS OF EXISTING WATER CONTROL STRUCTURES

Water Control Structure Site 1 (New Construction)



Water Control Structure WC-1 (Demolition and Reconstruction)



Water Control Structure WC-5 (Demolition and Reconstruction)



Water Control Structure WC-6 (Demolition and Reconstruction)



Water Control Structure WC-4 (Partial Demolition and New Construction)

