



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](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

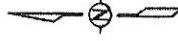
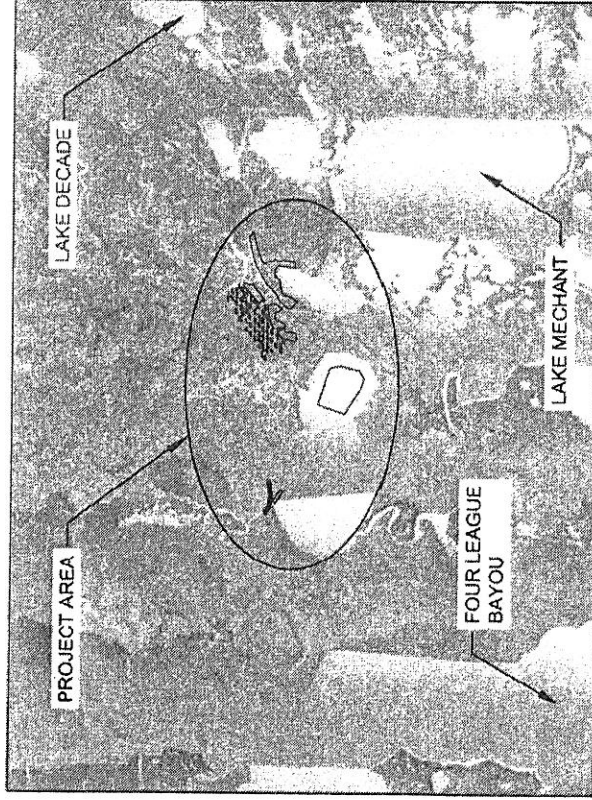
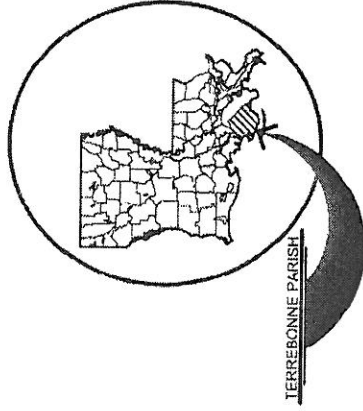
7. Any alterations or modifications to the permitted plan must be submitted to the Corps for re-evaluation prior to beginning work. If the authorized project requires additional structures or facilities not expressly permitted herein, you must obtain a separate approval for those facilities or structures 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



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

PROFESSIONAL ENGINEER  
JASON LANCIOS  
LICENSE No. 77777

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                             |

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

DESIGNED BY: SHANE FAUST

APPROVED BY: TRAVIS BYLAND E.I.

APPROVED BY: JASON LANCIOS, P.E.

LOST LAKE MARSH CREATION AND  
HYDROLOGIC RESTORATION PROJECT

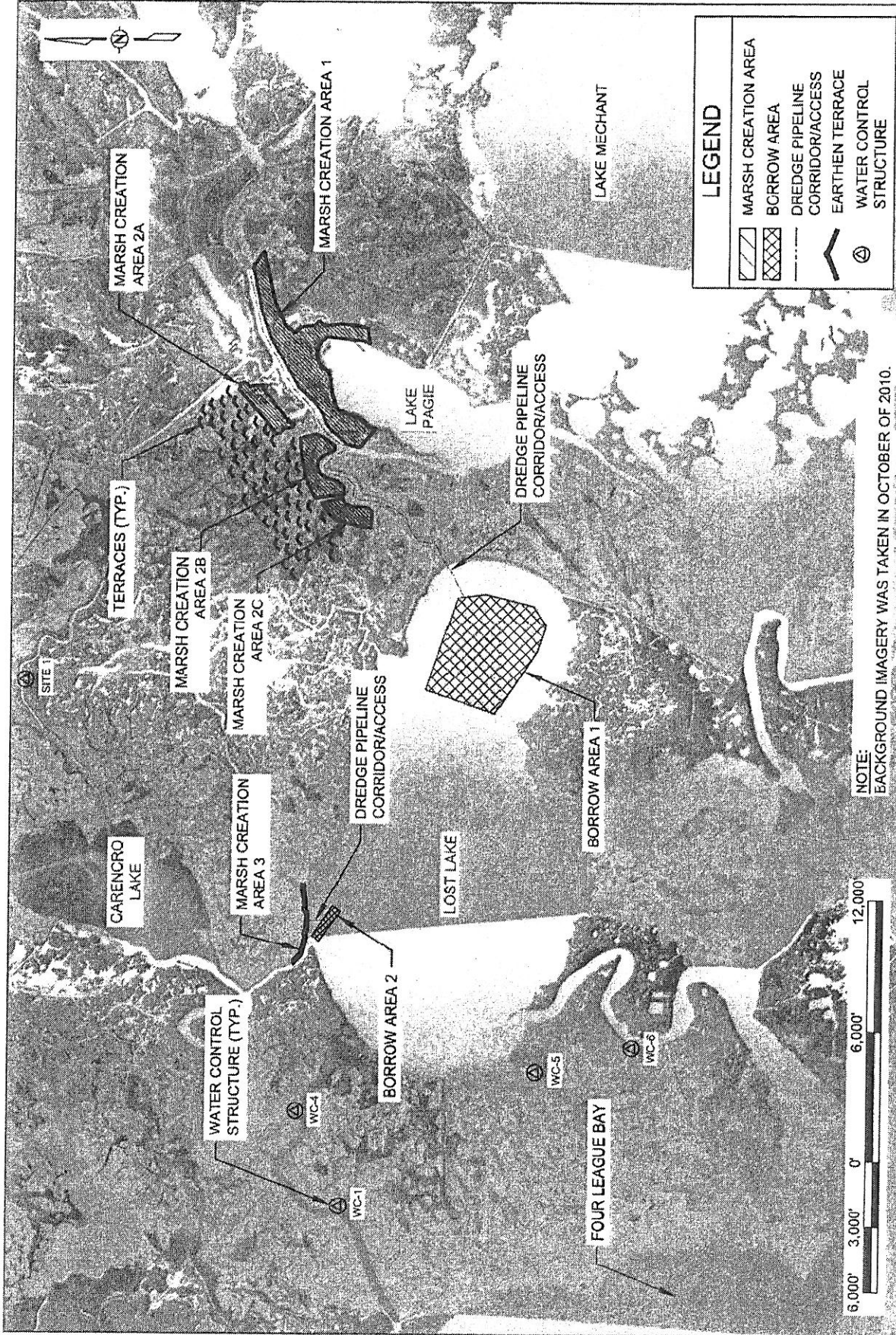
TITLE SHEET

DATE: NOVEMBER 2012

STATE PROJECT NUMBER: TE-72

FEDERAL PROJECT NUMBER: TE-72

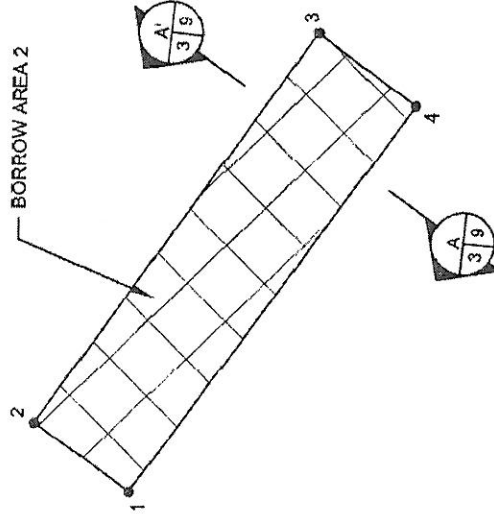
SHEET 1 OF 26



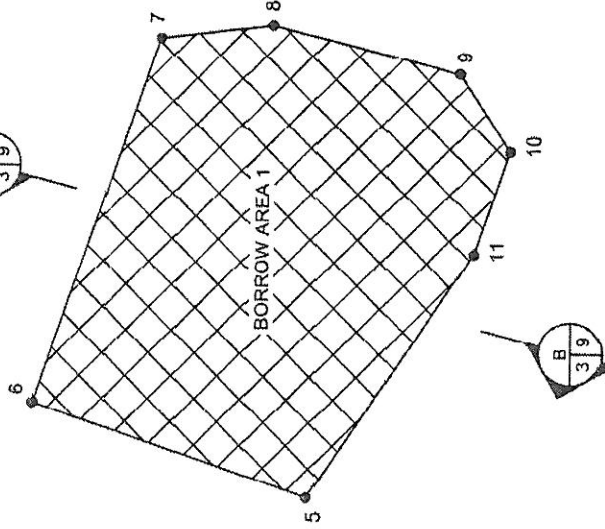
| LEGEND |                                 |
|--------|---------------------------------|
|        | MARSH CREATION AREA             |
|        | BORROW AREA                     |
|        | DREDGE PIPELINE CORRIDOR/ACCESS |
|        | EARTHEN TERRACE                 |
|        | WATER CONTROL STRUCTURE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

|  |   |   |   |
|--|---|---|---|
| APPLICATION BY:<br>UNITED STATES FISH AND WILDLIFE SERVICE<br>646 CAJUNDOME BLVD, SUITE 600<br>LAFAYETTE, LA 70506 | COASTAL PROTECTION AND RESTORATION AUTHORITY<br>450 LAUREL STREET<br>BATON ROUGE, LOUISIANA 70801 | LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT<br>STATE PROJECT NUMBER: TE-72<br>FEDERAL PROJECT NUMBER: TE-72 | PLAN VIEW<br>DATE: NOVEMBER 2012<br>SHEET 2 OF 28 |
| DRAWN BY: SHANE FAUST  | DESIGNED BY: TRAVIS BYLAND, E.I. APPROVED BY: JASON LANCIOS, P.E.                                 |   |   |

| 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" |



| 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 CAJUNOISE 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.

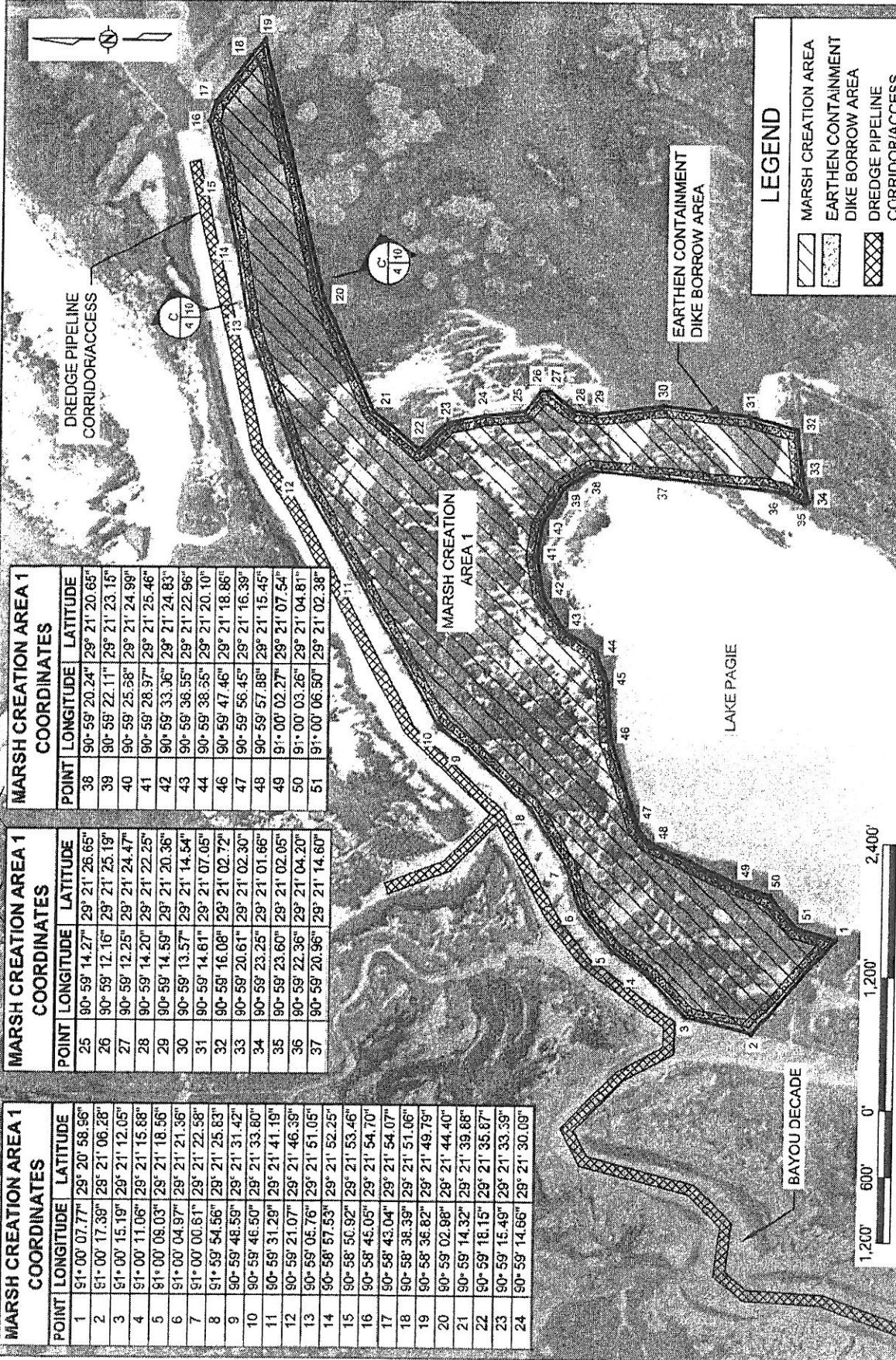
STATE PROJECT NUMBER: TE-72  
 FEDERAL PROJECT NUMBER: TE-72

DATE: NOVEMBER 2012  
 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                                 | 91° 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' 15.49" | 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° 59' 22.11" | 29° 21' 23.15" |
| 40                                | 90° 59' 25.58" | 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' 16.39" |
| 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' 04.81" |
| 51                                | 91° 00' 06.50" | 29° 21' 02.38" |

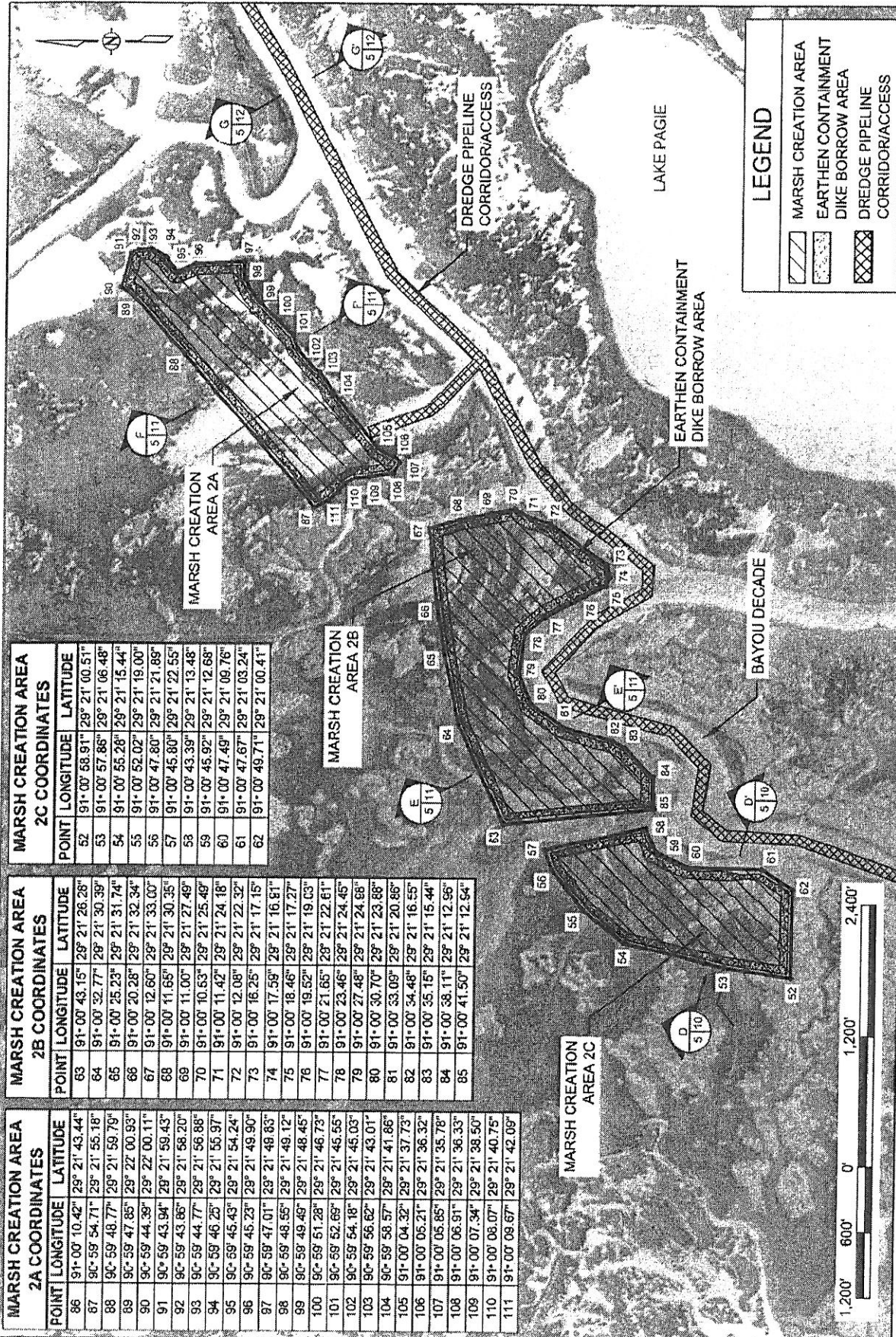


|   |   |   |                              |
|---|---|---|------------------------------|
| APPLICATION BY:<br>UNITED STATES FISH AND WILDLIFE SERVICE<br>646 CAJUNDOME BLVD, SUITE 400<br>LAFAYETTE, LA, 70506 | COASTAL PROTECTION AND RESTORATION AUTHORITY<br>430 LAUREL STREET<br>BATON ROUGE, LOUISIANA 70801 | LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT | MARSH CREATION AREA 1 LAYOUT |
| DRAWN BY: SHANE FAUST   | DESIGNED BY: TRAVIS BYLAND, P.E.  | STATE PROJECT NUMBER: TE-72                                 | DATE: NOVEMBER 2012          |
|   |   | FEDERAL PROJECT NUMBER: TE-72                               | SHEET 4 OF 26                |

| 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' 00.93" |
| 90                                 | 90° 59' 44.39" | 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' 56.88" |
| 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' 09.67" | 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' 32.94" |
| 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' 16.25" | 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' 20.85" |
| 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' 47.80" | 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' 47.87" | 29° 21' 03.24" |
| 62                                 | 91° 00' 49.71" | 29° 21' 00.41" |



**LEGEND**

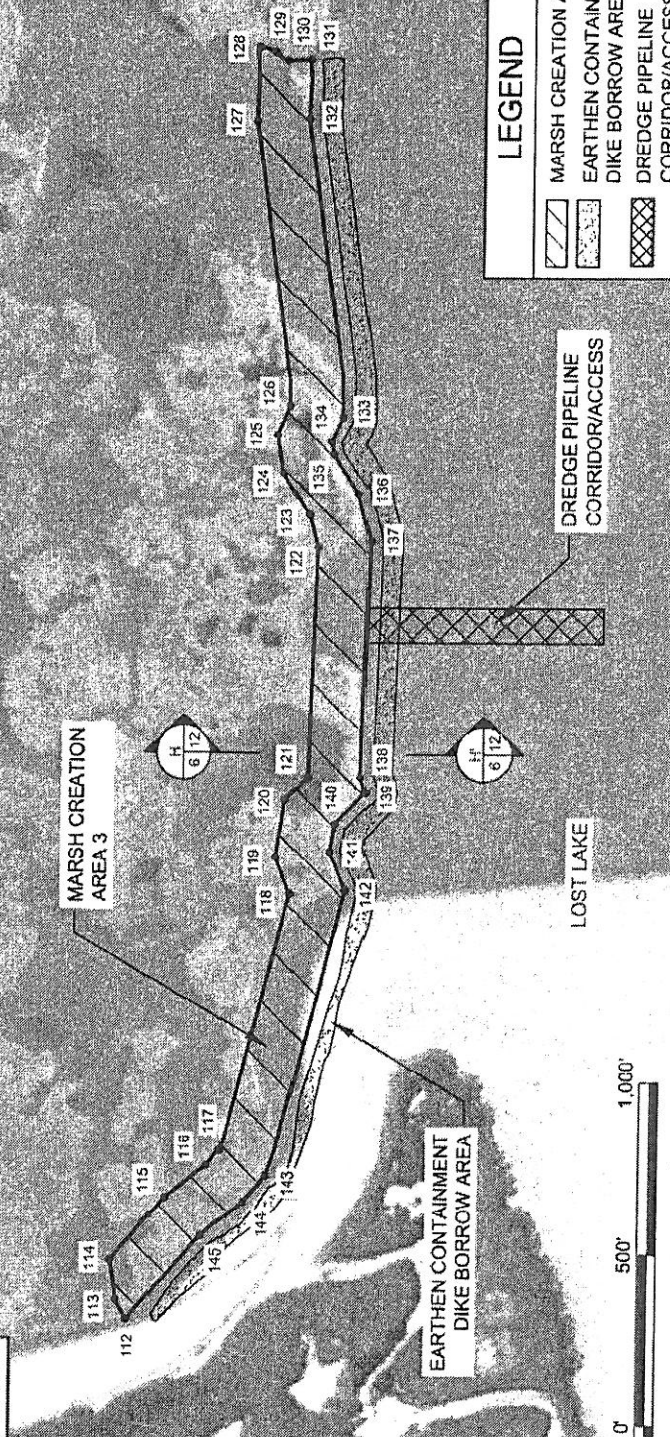
- MARSH CREATION AREA
- EARTHEN CONTAINMENT DIKE BORROW AREA
- DREDGE PIPELINE CORRIDOR/ACCESS

|   |   |   |
|---|---|---|
| <p>APPLICATION BY:<br/>UNITED STATES FISH AND WILDLIFE SERVICE<br/>646 CAJUNDOME BLVD, SUITE 400<br/>LAFAYETTE, LA. 70506</p> | <p><b>COASTAL PROTECTION AND RESTORATION AUTHORITY</b><br/>400 LAUREL STREET<br/>BATON ROUGE, LOUISIANA 70801</p> | <p>DESIGNED BY: SHANE FAUST</p> <p>APPROVED BY: TRAVIS BYLAND, E.I.</p> |
| <p>LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT</p>  |   |   |
| <p>MARSH CREATION AREA 2A, 2B &amp; 2C LAYOUT</p>   |   |   |
| <p>STATE PROJECT NUMBER: TE-72</p>  |   | <p>DATE: NOVEMBER 2012</p>  |
| <p>FEDERAL PROJECT NUMBER: TE-72</p>  |   | <p>SHEET 5 OF 26</p>  |



| MARSH CREATION AREA 3 COORDINATES |                |                |
|-----------------------------------|----------------|----------------|
| POINT                             | LONGITUDE      | LATITUDE       |
| 120                               | 91° 04' 3.57"  | 29° 21' 29.89" |
| 131                               | 91° 04' 3.55"  | 29° 21' 29.26" |
| 122                               | 91° 04' 5.50"  | 29° 21' 29.28" |
| 133                               | 91° 04' 15.21" | 29° 21' 28.75" |
| 134                               | 91° 04' 16.03" | 28° 21' 28.58" |
| 135                               | 91° 04' 16.46" | 29° 21' 28.51" |
| 136                               | 91° 04' 17.73" | 28° 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" | 28° 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" | 28° 21' 30.09" |

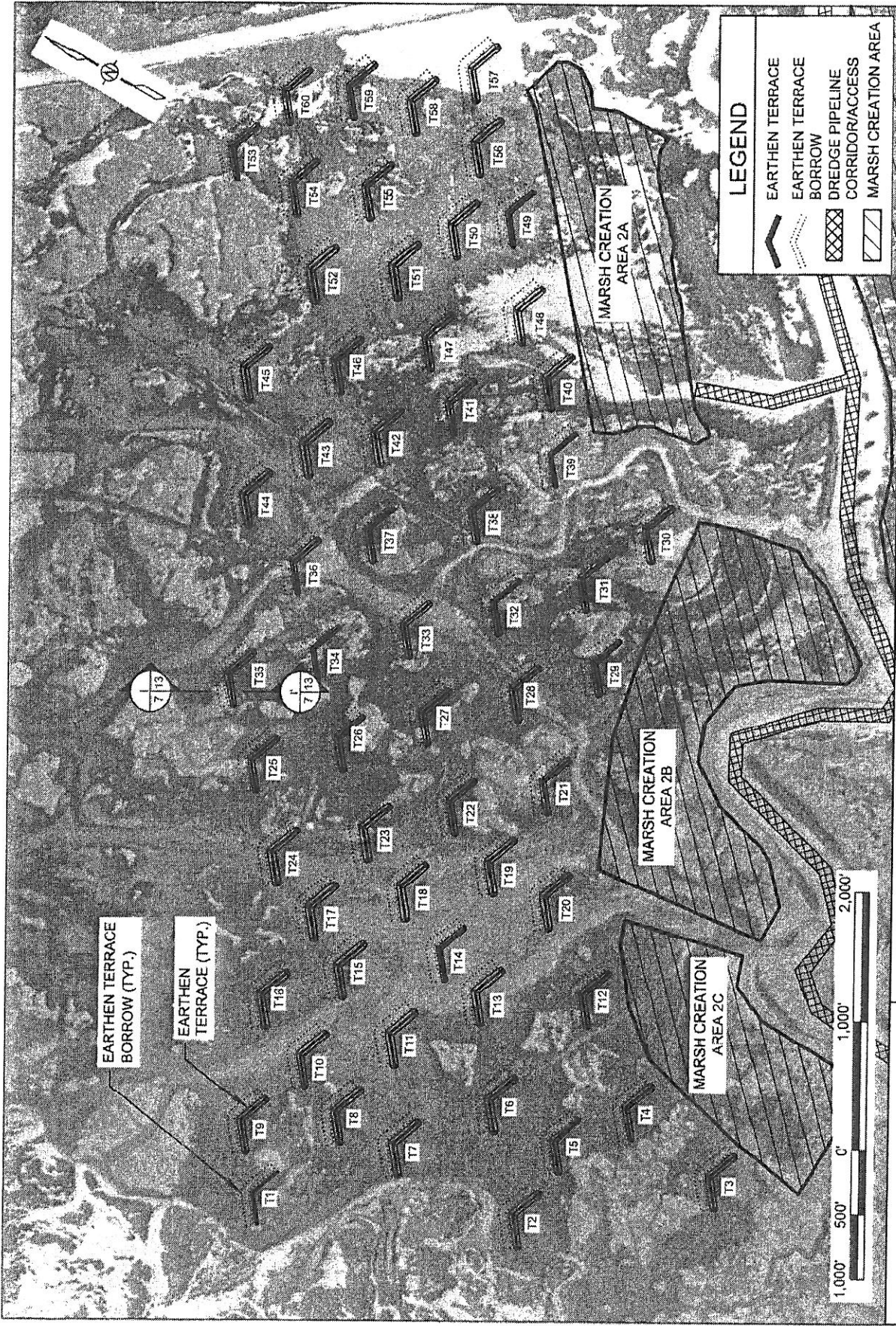
| MARSH CREATION AREA 3 COORDINATES |                |                |
|-----------------------------------|----------------|----------------|
| POINT                             | LONGITUDE      | LATITUDE       |
| 112                               | 91° 04' 44.82" | 29° 21' 34.20" |
| 113                               | 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" | 28° 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' 28.96" |
| 123                               | 91° 04' 18.41" | 29° 21' 29.18" |
| 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" |



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



|   |  |  |   |                              |
|---|--|--|---|------------------------------|
| APPLICATION BY:<br>UNITED STATES FISH AND WILDLIFE SERVICE<br>646 CAJUNDOME BLVD, SUITE 600<br>LAFAYETTE, LA. 70506 | DESIGNED BY: TRAVIS BYLAND, E.I.<br>APPROVED BY: JASON LANCIOS, P.E.<br>BATON ROUGE, LOUISIANA 70801 | STATE PROJECT NUMBER: TE-72<br>FEDERAL PROJECT NUMBER: TE-72 | MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT | MARSH CREATION AREA 3 LAYOUT |
| DRAWN BY: SHANE FAUST   | DATE: JULY 2012  | SHEET 8 OF 26  |   |                              |



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

| TERRACE COORDINATES |                 |                |
|---------------------|-----------------|----------------|
| TERRACE             | LONGITUDE       | LATITUDE       |
| 11                  | 91° 01' 24.72"  | 29° 21' 34.66" |
|                     | 91° 01' 22.54"  | 29° 21' 36.24" |
|                     | 91° 01' 19.90"  | 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' 59.00"  | 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' 28.03" |
|                     | 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' 33.16" |
| 19                  | 91° 01' 17.54"  | 29° 21' 39.88" |
|                     | 91° 01' 14.90"  | 29° 21' 39.00" |
|                     | 101° 28' 40.57" | 37° 24' 33.09" |
| 110                 | 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° 29' 01.96" | 37° 24' 46.26" |
|                     | 101° 29' 00.23" | 37° 24' 48.28" |
|                     | 101° 29' 01.55" | 37° 24' 50.49" |
| 113                 | 91° 00' 59.85"  | 29° 21' 27.92" |
|                     | 91° 00' 57.67"  | 29° 21' 29.49" |
|                     | 91° 00' 55.02"  | 29° 21' 28.63" |
| 114                 | 91° 00' 58.18"  | 29° 21' 31.97" |
|                     | 91° 00' 56.00"  | 29° 21' 33.55" |
|                     | 91° 00' 53.35"  | 29° 21' 32.68" |
| 115                 | 91° 01' 01.85"  | 29° 21' 39.50" |
|                     | 91° 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' 49.48" | 29° 21' 32.13" |
|                     | 91° 00' 47.31" | 29° 21' 33.71" |
|                     | 91° 00' 44.67" | 29° 21' 32.84" |
| 120                 | 91° 00' 49.70" | 29° 21' 27.18" |
|                     | 91° 00' 47.52" | 29° 21' 28.75" |
|                     | 91° 00' 44.88" | 29° 21' 27.89" |
| 121                 | 91° 00' 41.12" | 29° 21' 31.72" |
|                     | 91° 00' 38.94" | 29° 21' 33.30" |
|                     | 91° 00' 36.29" | 29° 21' 32.43" |
| 122                 | 91° 00' 46.68" | 29° 21' 37.00" |
|                     | 91° 00' 44.50" | 29° 21' 38.57" |
|                     | 91° 00' 41.86" | 29° 21' 37.71" |
| 123                 | 91° 00' 52.34" | 29° 21' 41.64" |
|                     | 91° 00' 50.16" | 29° 21' 43.22" |
|                     | 91° 00' 47.52" | 29° 21' 42.35" |
| 124                 | 91° 00' 58.12" | 29° 21' 46.73" |
|                     | 91° 00' 55.94" | 29° 21' 48.30" |
|                     | 91° 00' 53.22" | 29° 21' 47.44" |
| 125                 | 91° 00' 52.13" | 29° 21' 51.64" |
|                     | 91° 00' 49.95" | 29° 21' 53.22" |
|                     | 91° 00' 47.30" | 29° 21' 52.35" |
| 126                 | 91° 00' 46.68" | 29° 21' 46.78" |
|                     | 91° 00' 44.50" | 29° 21' 48.36" |
|                     | 91° 00' 41.86" | 29° 21' 47.49" |
| 127                 | 91° 00' 41.13" | 29° 21' 42.23" |
|                     | 91° 00' 38.95" | 29° 21' 43.80" |
|                     | 91° 00' 36.30" | 29° 21' 42.94" |
| 128                 | 91° 00' 35.42" | 29° 21' 37.33" |
|                     | 91° 00' 33.24" | 29° 21' 38.80" |
|                     | 91° 00' 30.59" | 29° 21' 37.94" |
| 129                 | 91° 00' 29.91" | 29° 21' 32.96" |
|                     | 91° 00' 27.73" | 29° 21' 34.55" |
|                     | 91° 00' 25.08" | 29° 21' 33.69" |
| 130                 | 91° 00' 17.65" | 29° 21' 34.71" |
|                     | 91° 00' 15.47" | 29° 21' 36.29" |
|                     | 91° 00' 12.83" | 29° 21' 35.42" |
| 131                 | 91° 00' 24.15" | 29° 21' 37.06" |
|                     | 91° 00' 21.97" | 29° 21' 38.63" |
|                     | 91° 00' 19.33" | 29° 21' 37.77" |
| 132                 | 91° 00' 26.75" | 29° 21' 41.86" |
|                     | 91° 00' 24.57" | 29° 21' 43.43" |
|                     | 91° 00' 24.92" | 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' 56.51" |
|                     | 91° 00' 44.47" | 29° 21' 58.09" |
|                     | 91° 00' 41.83" | 29° 21' 57.22" |
| 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' 24.88" | 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' 14.03" | 29° 21' 43.84" |
|                     | 91° 00' 11.39" | 29° 21' 44.55" |
|                     | 91° 00' 08.47" | 29° 21' 47.08" |
| 140                 | 91° 00' 05.82" | 29° 21' 47.80" |
|                     | 91° 00' 03.64" | 29° 21' 52.53" |
| 141                 | 91° 00' 16.71" | 29° 21' 54.10" |
|                     | 91° 00' 14.54" | 29° 21' 56.20" |
|                     | 91° 00' 11.88" | 29° 21' 53.24" |
| 142                 | 91° 00' 18.93" | 29° 21' 57.77" |
|                     | 91° 00' 17.28" | 29° 21' 56.91" |
|                     | 91° 00' 15.10" | 29° 21' 56.04" |
| 143                 | 91° 00' 23.90" | 29° 22' 00.39" |
|                     | 91° 00' 21.72" | 29° 22' 01.97" |
|                     | 91° 00' 19.54" | 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' 20.82" | 29° 22' 08.62" |
|                     | 91° 00' 18.64" | 29° 22' 10.20" |
|                     | 91° 00' 16.46" | 29° 22' 11.78" |
| 146                 | 91° 00' 16.28" | 29° 22' 03.10" |
|                     | 91° 00' 14.10" | 29° 22' 04.68" |
|                     | 91° 00' 11.92" | 29° 22' 06.26" |
| 147                 | 91° 00' 10.61" | 29° 21' 58.11" |
|                     | 91° 00' 08.43" | 29° 21' 59.69" |
|                     | 91° 00' 06.25" | 29° 21' 58.27" |
| 148                 | 91° 00' 06.88" | 29° 21' 51.58" |
|                     | 91° 00' 04.70" | 29° 21' 53.16" |
|                     | 91° 00' 02.52" | 29° 21' 52.29" |

| TERRACE COORDINATES |                |                |
|---------------------|----------------|----------------|
| TERRACE             | LONGITUDE      | LATITUDE       |
| 149                 | 90° 59' 59.98" | 29° 21' 55.80" |
|                     | 90° 59' 57.80" | 29° 21' 57.48" |
|                     | 90° 59' 55.62" | 29° 21' 56.11" |
| 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' 02.15" |
| 152                 | 91° 00' 12.71" | 29° 22' 06.66" |
|                     | 91° 00' 10.53" | 29° 22' 08.24" |
|                     | 91° 00' 07.88" | 29° 22' 07.37" |
| 153                 | 91° 00' 07.02" | 29° 22' 16.59" |
|                     | 91° 00' 04.85" | 29° 22' 18.17" |
|                     | 91° 00' 02.67" | 29° 22' 17.30" |
| 154                 | 91° 00' 07.05" | 29° 22' 11.24" |
|                     | 91° 00' 04.87" | 29° 22' 12.81" |
|                     | 91° 00' 02.69" | 29° 22' 11.95" |
| 155                 | 91° 00' 04.14" | 29° 22' 08.27" |
|                     | 91° 00' 01.96" | 29° 22' 07.85" |
|                     | 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' 03.95" |
| 157                 | 90° 59' 48.57" | 29° 22' 05.43" |
|                     | 90° 59' 46.39" | 29° 22' 04.56" |
|                     | 90° 59' 44.21" | 29° 22' 06.62" |
| 158                 | 90° 59' 53.82" | 29° 22' 08.19" |
|                     | 90° 59' 51.64" | 29° 22' 09.77" |
|                     | 90° 59' 49.46" | 29° 22' 11.34" |
| 159                 | 90° 59' 57.35" | 29° 22' 11.18" |
|                     | 90° 59' 55.17" | 29° 22' 12.75" |
|                     | 90° 59' 52.99" | 29° 22' 14.32" |
| 160                 | 91° 00' 00.50" | 29° 22' 15.23" |
|                     | 90° 59' 58.33" | 29° 22' 16.80" |
|                     | 90° 59' 56.15" | 29° 22' 15.94" |

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

TERRACE COORDINATES

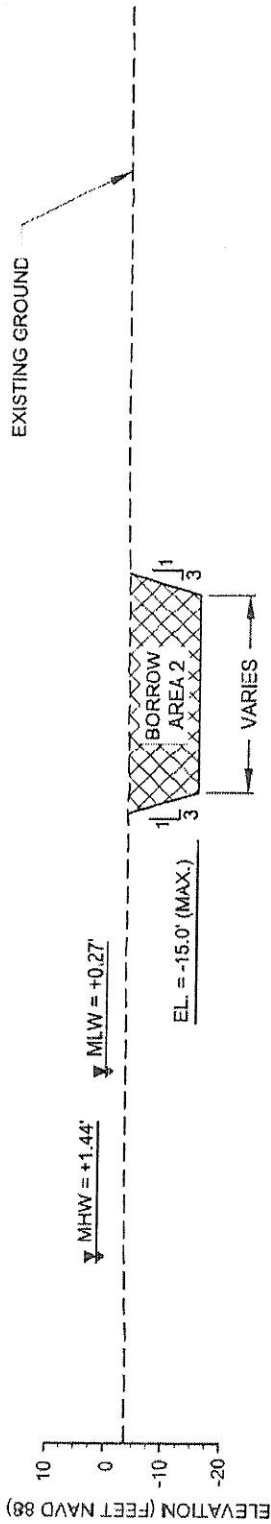
DRAWN BY: SHANE FAUST

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

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

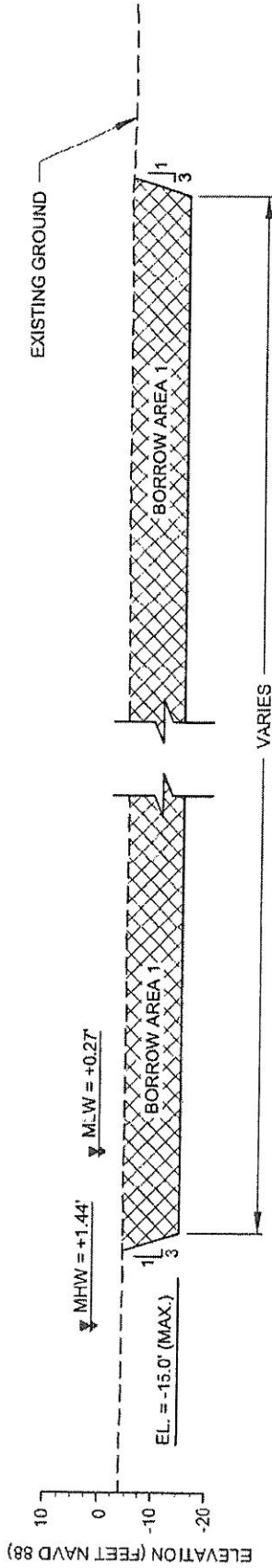
DATE: NOVEMBER 2012  
 SHEET 8 OF 26





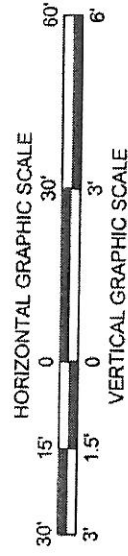
**TYPICAL BORROW AREA 2 SECTION**

AA-  
9 | 3

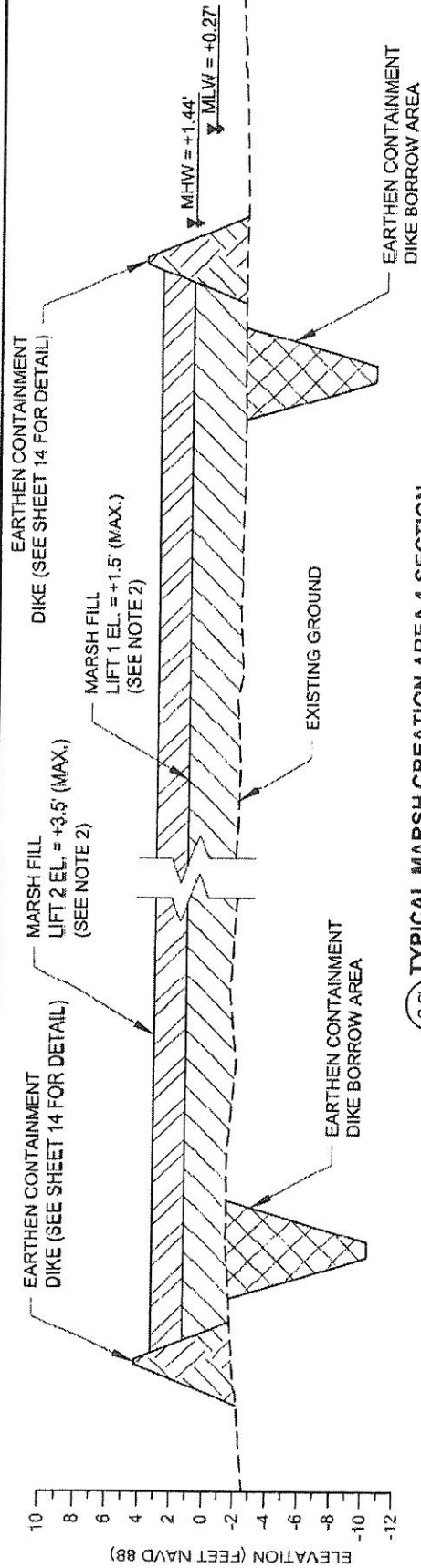


**TYPICAL BORROW AREA 1 SECTION**

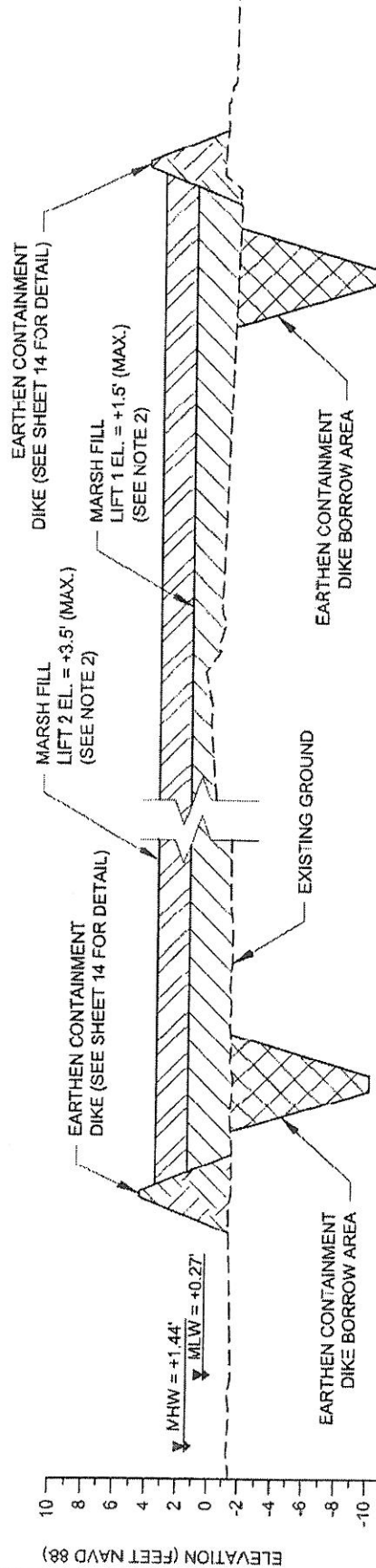
BB-8'  
9 | 3



|   |  |  |                                      |
|---|--|--|--------------------------------------|
| APPLICATION BY:<br>UNITED STATES FISH AND WILDLIFE SERVICE<br>846 CAJUNDOME BLVD SUITE 400<br>LAFAYETTE, LA 70506 | <b>COASTAL PROTECTION AND RESTORATION AUTHORITY</b><br>450 LAUREL STREET<br>BATON ROUGE, LOUISIANA 70801 | LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT  | TYPICAL BORROW SECTIONS              |
| DRAWN BY: SHANE FAUST   | DESIGNED BY: TRAVIS BYLAND, E.I. APPROVED BY: JASON LANCLOS, P.E.  | STATE PROJECT NUMBER: TE-72<br>FEDERA. PROJECT NUMBER: TE-72 | DATE: NOVEMBER 2012<br>SHEET 9 OF 28 |



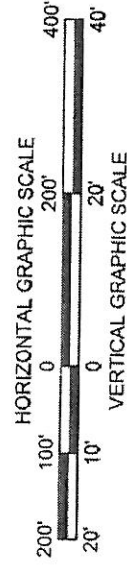
**TYPICAL MARSH CREATION AREA 1 SECTION**



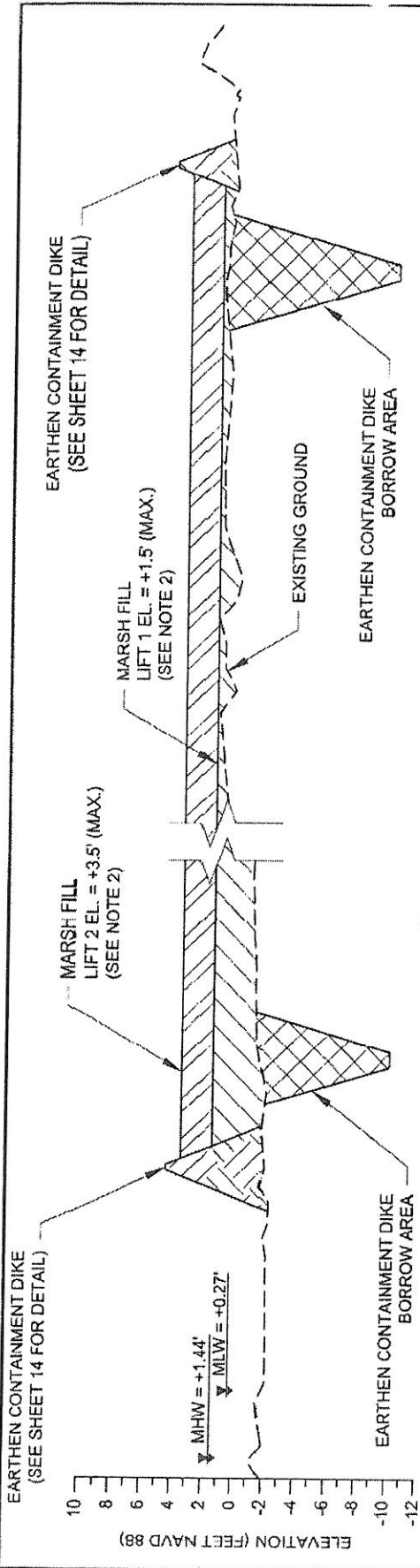
**TYPICAL MARSH CREATION AREA 2C SECTION**

**NOTES:**

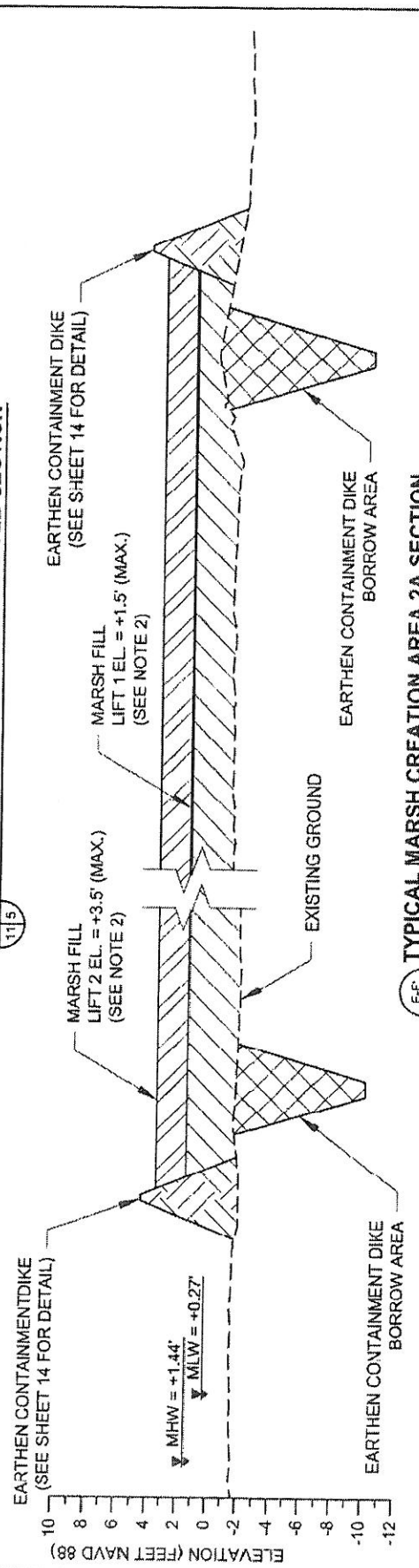
1. A TWO LIFT SYSTEM IS REQUIRED TO MEET THE MARSH FILL DESIGN HEIGHT.
2. A MINIMUM WAITING PERIOD OF THIRTY (30) DAYS FROM THE COMPLETION OF MARSH FILL LIFT 1 SHOULD OCCUR PRIOR TO THE PLACEMENT OF THE MARSH FILL OF LIFT 2.
3. DISCHARGE SHALL BE DIRECTED TO RETAIN AS MUCH MATERIAL AS POSSIBLE.



|   |   |   |                                       |
|---|---|---|---------------------------------------|
| APPLICATION BY:<br>UNITED STATES FISH AND WILDLIFE SERVICE<br>646 CALJUNCOME BLVD, SUITE 400<br>LAFAYETTE, LA 70508 | COASTAL PROTECTION AND RESTORATION AUTHORITY<br>438 LAUREL STREET<br>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                                   | DATE: NOVEMBER 2012<br>SHEET 10 OF 26 |



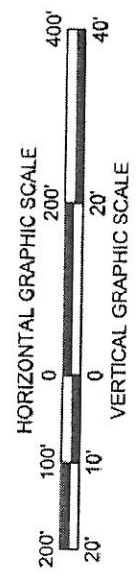
EE' 11|5 TYPICAL MARSH CREATION AREA 2B SECTION



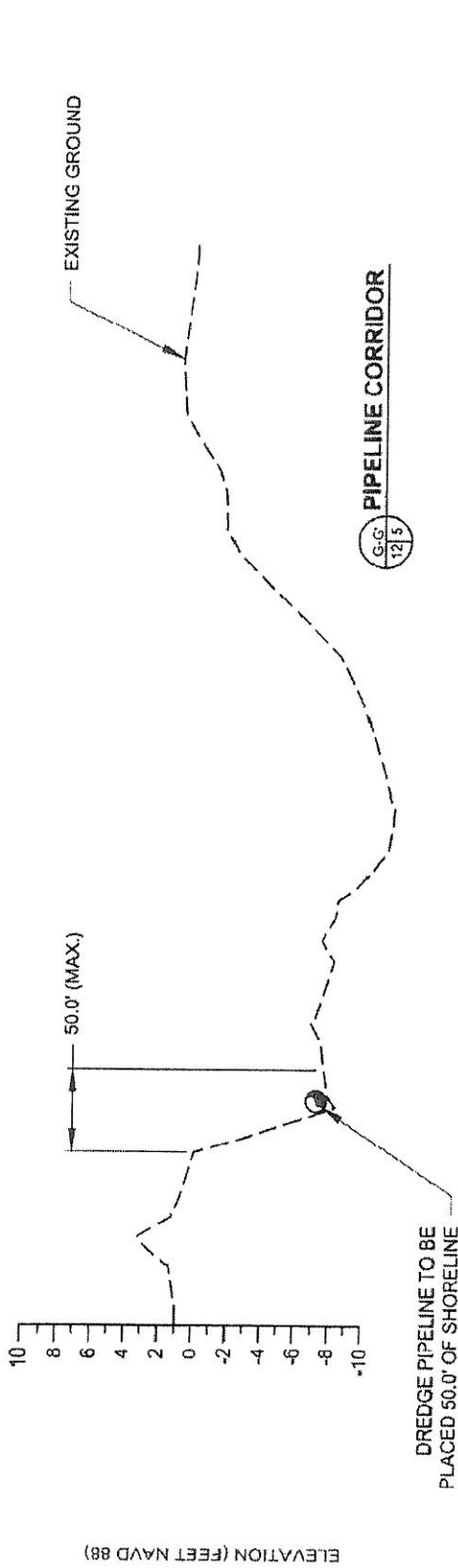
EE' 11|5 TYPICAL MARSH CREATION AREA 2A SECTION

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.



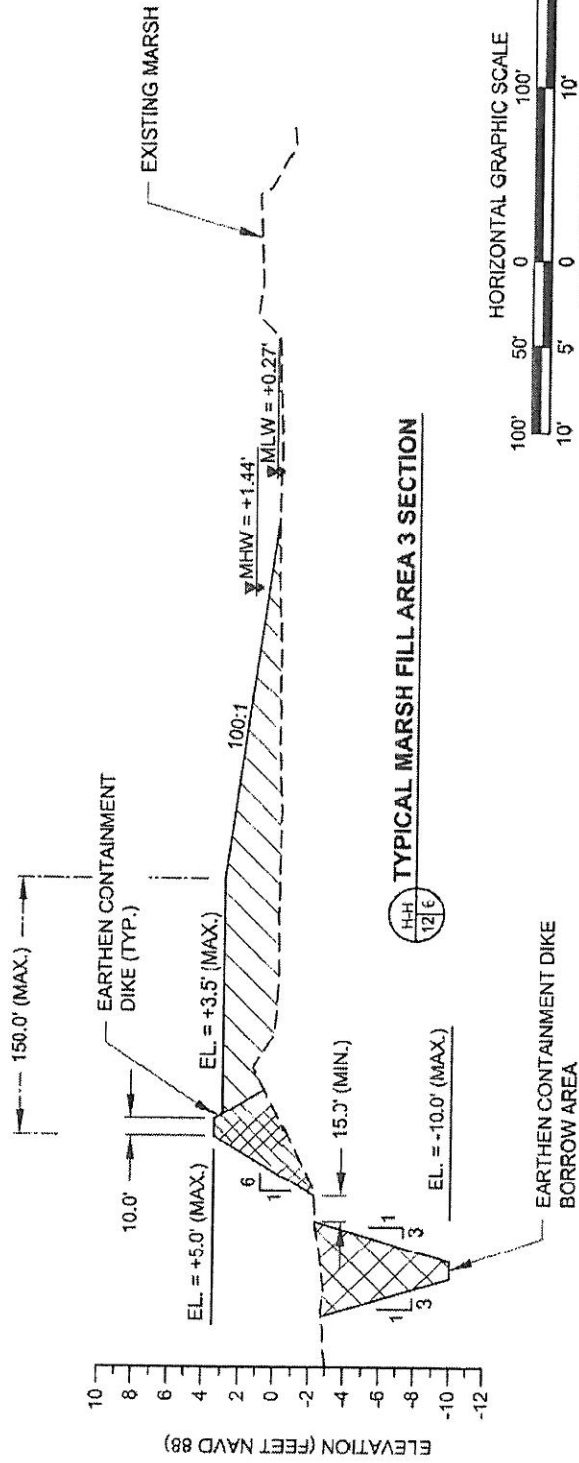
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|---|--|---|---------------------------------------|
| APPLICATION BY:<br>UNITED STATES FISH AND WILDLIFE SERVICE<br>646 CAJUNDOME BLVD, SUITE 400<br>LAFAYETTE, LA. 70508 | <b>COASTAL PROTECTION AND RESTORATION AUTHORITY</b><br>458 LAUREL STREET<br>BATON 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 LANCLDS, P.E.  | STATE PROJECT NUMBER: TE-72<br>FEDERAL PROJECT NUMBER: TE-72  | DATE: NOVEMBER 2012<br>SHEET 11 OF 26 |



PIPELINE CORRIDOR

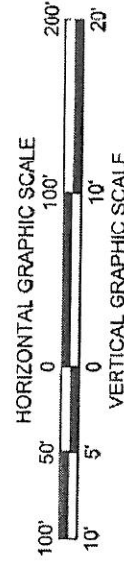
G-G  
12|5

DREDGE PIPELINE TO BE  
PLACED 50.0' OF SHORELINE

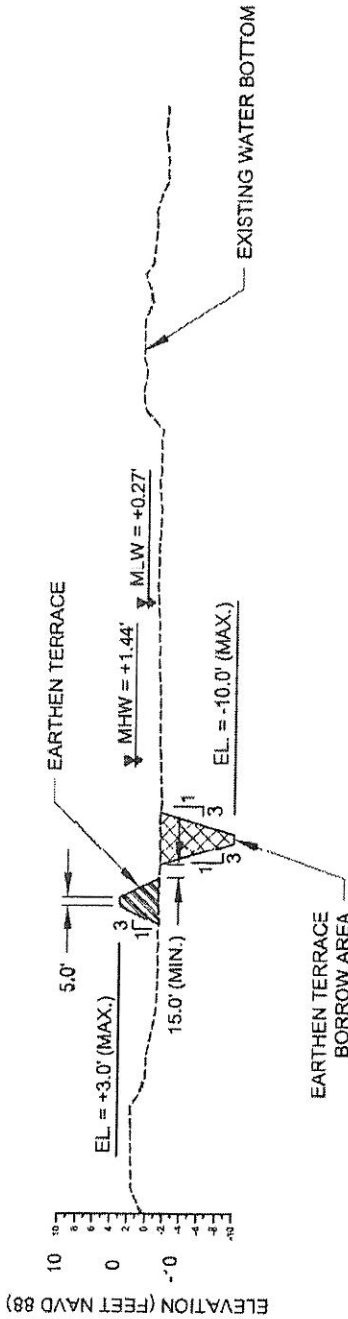


TYPICAL MARSH FILL AREA 3 SECTION

H-H  
12|6

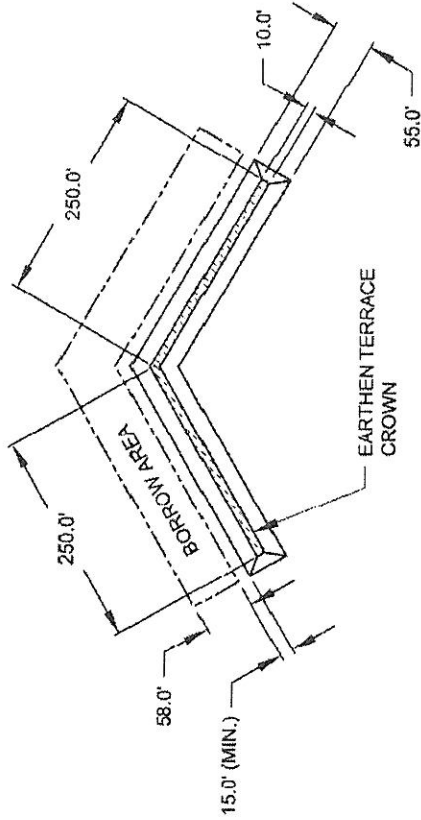


|  |  |   |   |
|--|--|---|---|
| APPLICATION BY:<br>UNITED STATES FISH AND WILDLIFE SERVICE<br>646 CAJUNDOME BLVD, SUITE 400<br>LAFAYETTE, LA 70508 | <b>COASTAL PROTECTION AND RESTORATION AUTHORITY</b><br>459 LAUREL STREET<br>BATON ROUGE, LOUISIANA 70801 | LOST LAKE MARSH CREATION AND HYDROLOGICAL RESTORATION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

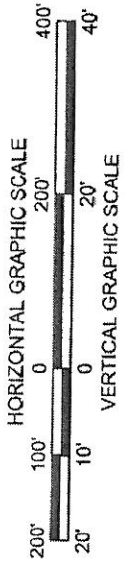


**TYPICAL EARTHEN TERRACE SECTION**

137

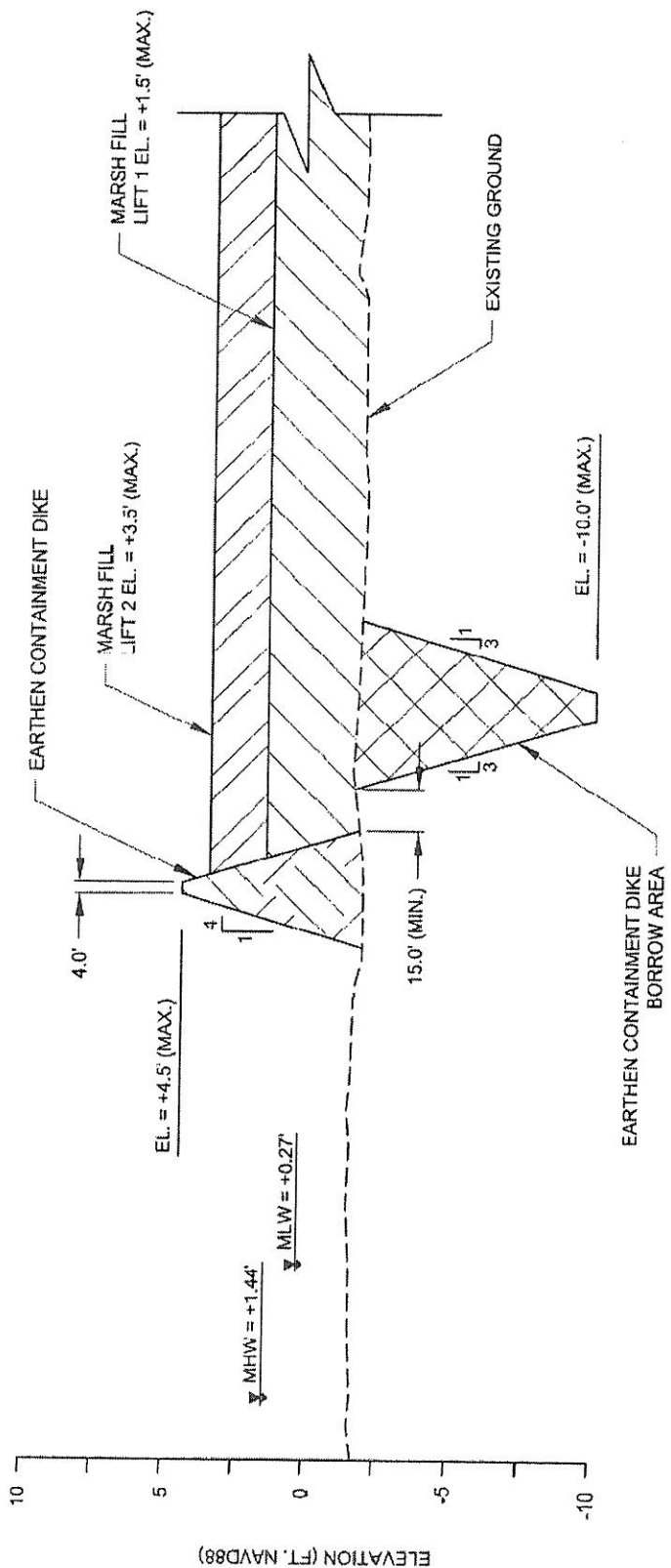


**TYPICAL EARTHEN TERRACE**  
PLAN VIEW

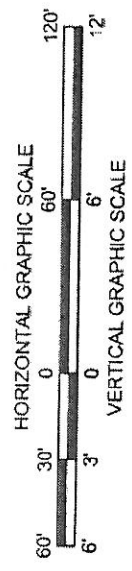


NOTE: EXACT LOCATION OF THE EARTHEN TERRACES SHALL BE DETERMINED ON SITE AND WILL NOT DISTURB ANY EXISTING MARSH.

|   |   |   |  |
|---|---|---|--|
| APPLICATION BY:<br>UNITED STATES FISH AND WILDLIFE SERVICE<br>646 CAJUNDOME BLVD, SUITE 400<br>LAFAYETTE, LA, 70598 | COASTAL PROTECTION AND RESTORATION AUTHORITY<br>458 LAUREL STREET<br>BATON ROUGE, LOUISIANA 70801 | LCST LAKE MARSH CREATION AND HYDROLOGICAL RESTORATION PROJECT | TYPICAL EARTHEN TERRACE SECTION<br><br>DATE: NOVEMBER 2012<br>SHEET 13 OF 26 |
| DRAWN BY: SHANE FAUST   | DESIGNED BY: TRAVIS BYLAND, E.I. APPROVED BY: JASON LANCLOS, P.E.                                 | STATE PROJECT NUMBER: TE-72<br>FEDERAL PROJECT NUMBER: TE-72  |  |

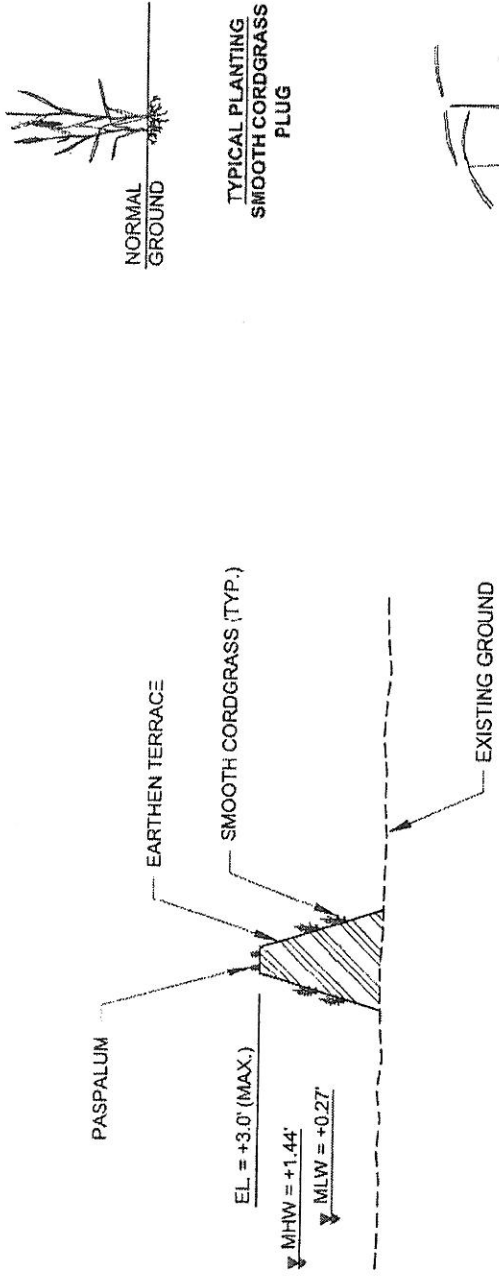


**MARSH CREATION AREAS 1, 2A, 2B, 2C & 3**  
**EARTHEN CONTAINMENT DIKE**  
 DETAIL



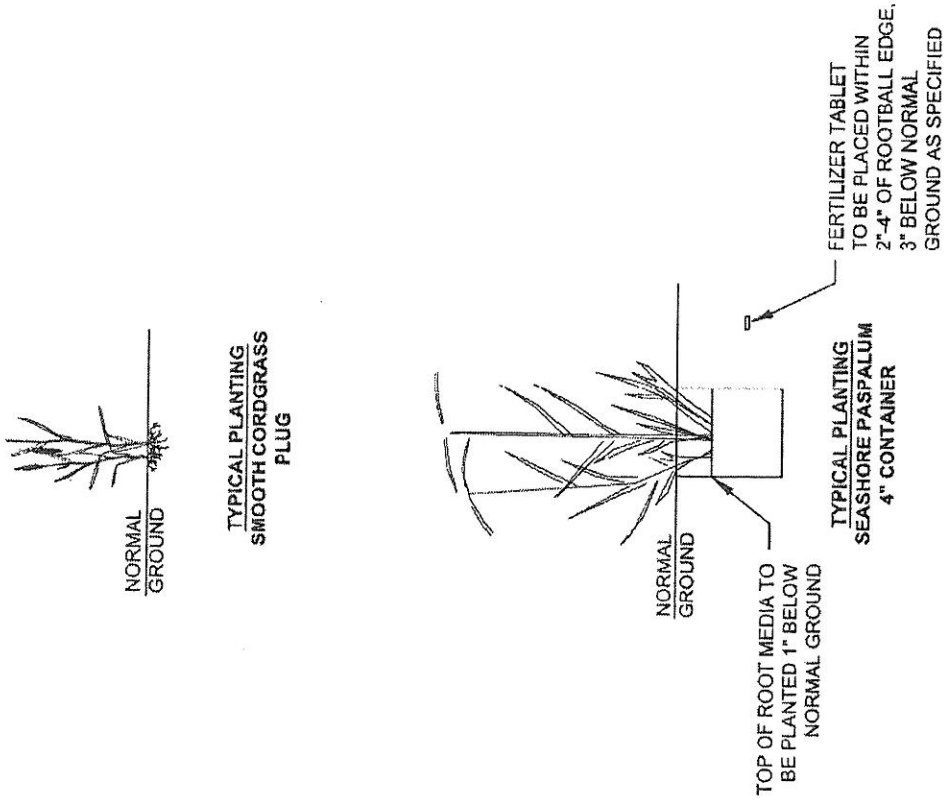
- NOTES:**
1. CONTAINMENT DIKES SHALL BE CONSTRUCTED USING IN-SITU MATERIAL.
  2. NO DREDGING WILL BE ALLOWED WITHIN 15.0' OF THE CONTAINMENT DIKE TO EARTHEN CONTAINMENT DIKE BORROW AREAS.

|   |   |   |  |
|---|---|---|--|
| APPLICATION BY:<br>UNITED STATES FISH AND WILDLIFE SERVICE<br>846 CAJUNDOME BLVD SUITE 200<br>LAFAYETTE, LA 70508 | COASTAL PROTECTION AND RESTORATION AUTHORITY<br>430 LAUREL STREET<br>BATON ROUGE, LOUISIANA 70801 | LOST LAKE MARSH CREATION AND HYDROLOGICAL RESTORATION PROJECT<br><br>STATE PROJECT NUMBER: TE-72<br>FEDERAL PROJECT NUMBER: TE-72 | MARSH CREATION DETAIL<br><br>DATE: NOVEMBER 2012<br>SHEET 14 OF 26 |
| DRAWN BY: SHANE FAUST   | DESIGNED BY: TRAVIS BYLAND, E.I.  | APPROVED BY: JASON LANCIOS, P.E.  | APPROVED BY: JASON LANCIOS, P.E.                                   |



**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

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

PLANTING LAYOUT AND DETAIL

DATE: NOVEMBER 2012  
SHEET 15 OF 26

DRAWN BY: SHANE FAUST

DESIGNED BY: TRAVIS BYALIND, E.I.

APPROVED BY: JASON LANCIOS, P.E.







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 PETERSON & COOMBS, INC. DATED MAY 2011.

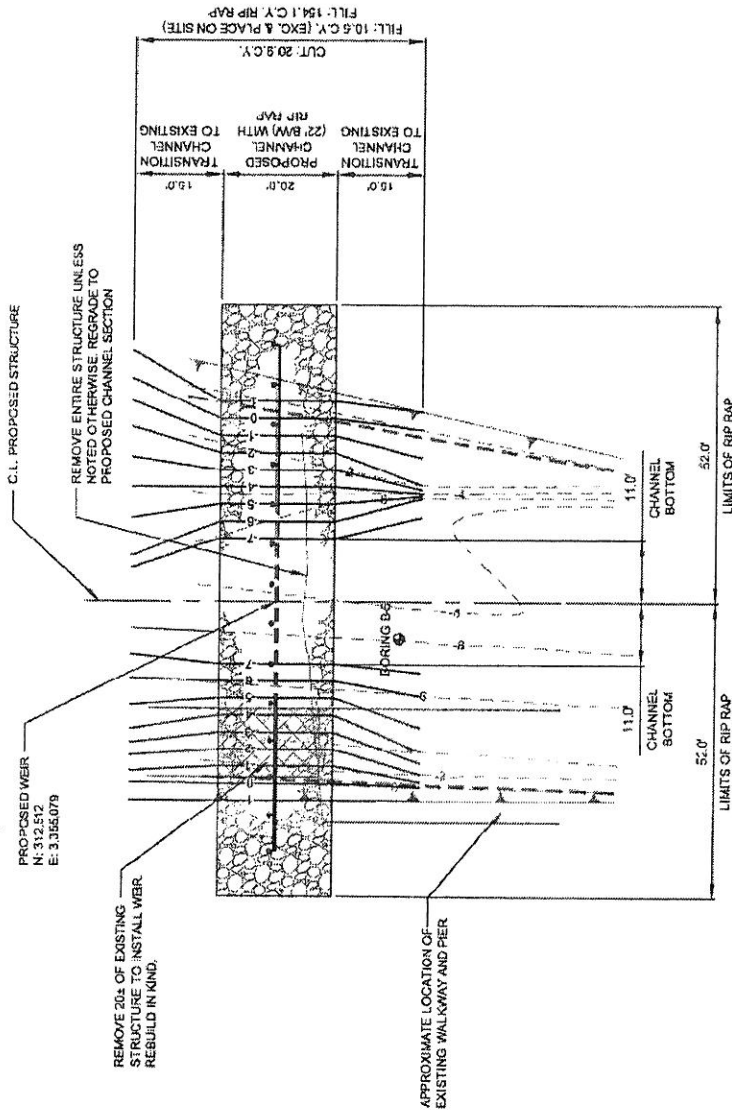
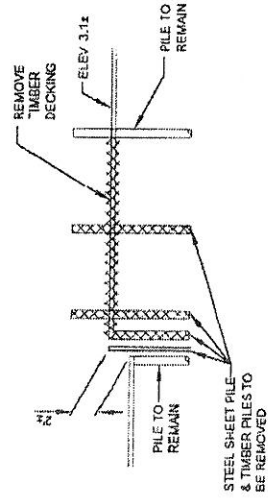
DATUM NOTE: ALL ELEVATIONS ARE IN NAVD 88 IN US SURVEY FEET. ALL HORIZONTAL COORDINATES ARE IN NAD 83 (LOUISIANA STATE PLANE SOUTH ZONE) IN US SURVEY FEET. SEE GENERAL NOTES ON SHEET 2 FOR SURVEY CONTROL DATA.

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

| NON-VEGETATED WATER BOTTOM |                         |
|----------------------------|-------------------------|
| 0.08 AC.                   | 20.3 C.Y. EXCAVATION    |
| 0.08 AC.                   | 10.5 C.Y. INST. U/HILL  |
| 0.08 AC.                   | 154.1 C.Y. ROCK/RIP RAP |

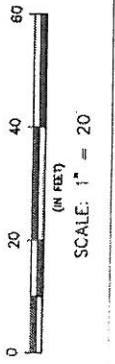
**LEGEND:**

- EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING TOP OF BANK
- PROPOSED WEIR
- PROPOSED RIP RAP 7" THICK (MIN.)
- EXISTING WEIR TO BE REMOVED



THIS DOCUMENT IS NOT TO BE USED FOR CONSTRUCTION, DESIGN, OR INSTALLATION OF ANY STRUCTURE OR EQUIPMENT WITHOUT THE SIGNATURE OF A REGISTERED PROFESSIONAL ENGINEER.

|  |  |   |   |
|--|--|---|---|
|  | <b>COASTAL PROTECTION AND RESTORATION AUTHORITY</b><br><small>509 LAUREL STREET<br/>         METairie, LA 70001-1001</small> | DESIGNED BY: NOLLY<br>DRAWN BY: ASHLEY<br>CHECKED BY: | APPROVAL BY:<br>DATE: NOVEMBER 2012<br>SHEET NO. 42 OF 49 |
| SIGMA CONSULTING GROUP, INC.<br><small>INCORPORATED IN LOUISIANA<br/>         10000 Lake Road, Metairie, Louisiana 70008</small> |  | SITE WC-4<br>PLAN VIEW                                |   |





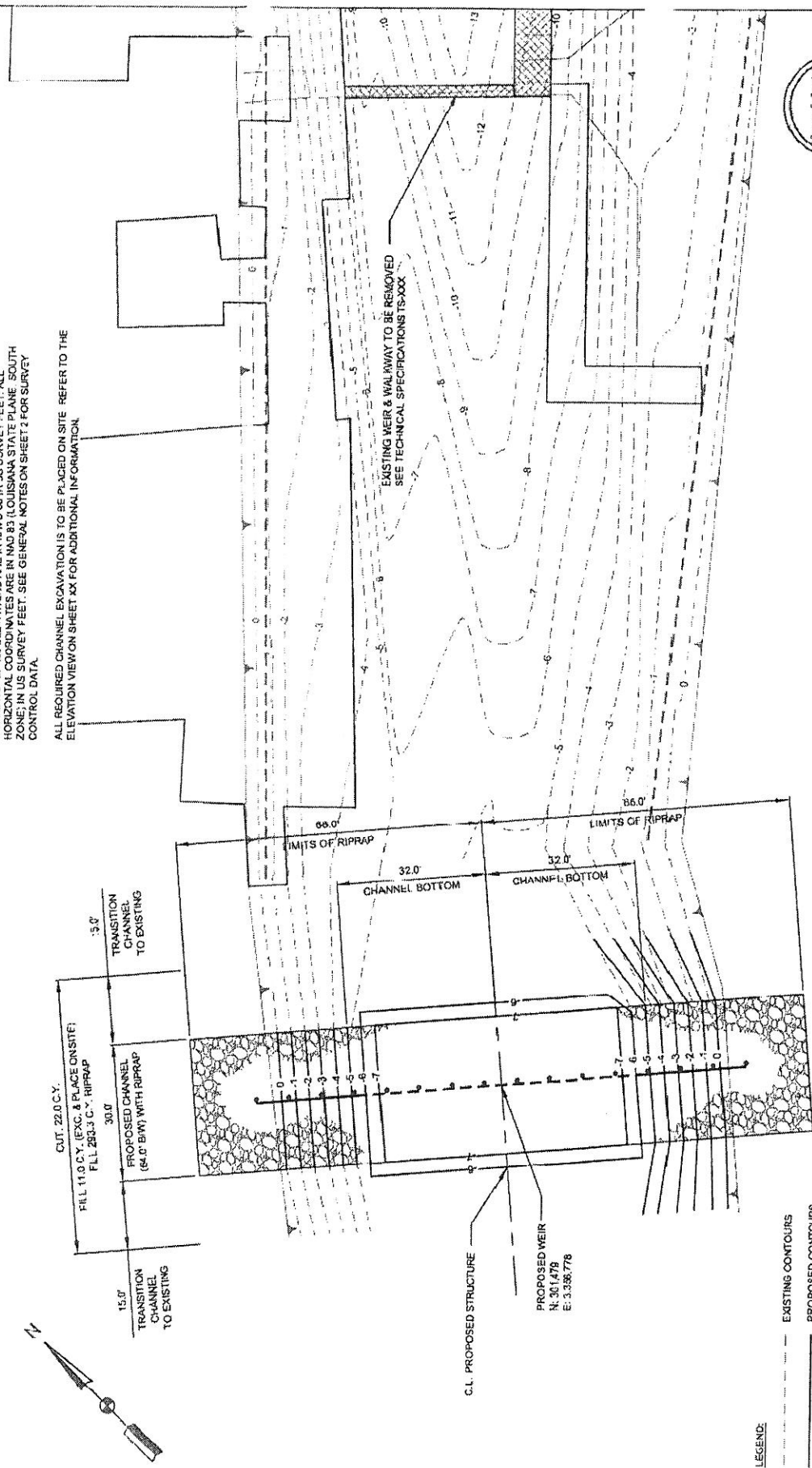
NO ATTEMPT HAS BEEN MADE BY SIGMA CONSULTING GROUP, INC. TO VERIFY TITLE, ACTUAL LEGAL OWNERSHIP, SERVITUDES EASEMENTS, RIGHTS-OF-WAY, OR OTHER BURDENS ON THE PROPERTY.

EXISTING TOPOGRAPHIC SURVEY PERFORMED BY PYSBURN & JOOHI, MCA DATED MAY 2011

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

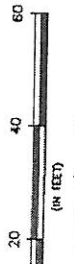
ALL REQUIRED CHANNEL EXCAVATION IS TO BE PLACED ON SITE. REFER TO THE ELEVATION VIEW ON SHEET 5X FOR ADDITIONAL INFORMATION.

|                            |          |            |              |
|----------------------------|----------|------------|--------------|
| NON-VEGETATED WATER BOTTOM | 0.18 AC. | 22.0 C.Y.  | EXCAVATION   |
|                            | 8.18 AC. | 11.0 C.Y.  | IN-SITU FILL |
|                            | 0.89 AC. | 233.1 C.Y. | ROCK/RIPRAP  |



THIS DOCUMENT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES. RESTORATION CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF A PERMIT.

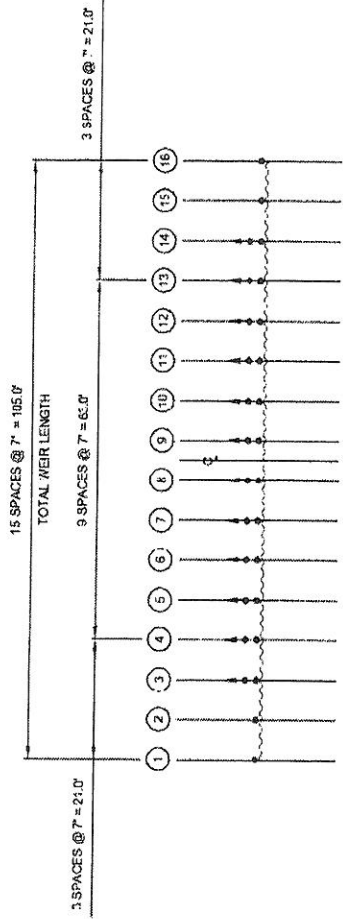
|  |   |   |                            |
|--|---|---|----------------------------|
| <p><b>SIGMA CONSULTING GROUP, INC.</b><br/>         ENGINEERING CONSULTANTS<br/>         13306 Airline Highway<br/>         Baton Rouge, Louisiana 70815</p> | <p><b>COASTAL PROTECTION AND RESTORATION AUTHORITY</b><br/>         APRIL KILPATRICK<br/>         BRIDGE BAY, LOUISIANA (RFB)</p> | <p>LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION<br/>         STATE PROJECT NO. 14-7<br/>         FEDERAL PROJECT NO. 4814-11-22<br/>         APPROVAL NO. 14-001</p> | <p>SITE AND PLAN SHEET</p> |
|  | <p>DESIGNED BY: [Name]</p>  | <p>DATE: MAY 2011</p>   | <p>SCALE: 1" = 20'</p>     |



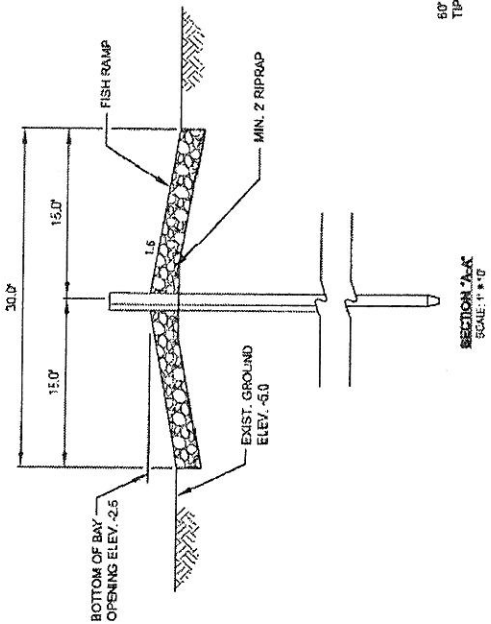
- LEGEND:**
- EXISTING CONTOURS
  - PROPOSED CONTOURS
  - EXISTING TOP OF BANK
  - PROPOSED WEIR
  - PROPOSED RIPRAP 2' THICK (MIN.)
  - EXISTING WEIR TO BE REMOVED

**SITE NOTES**

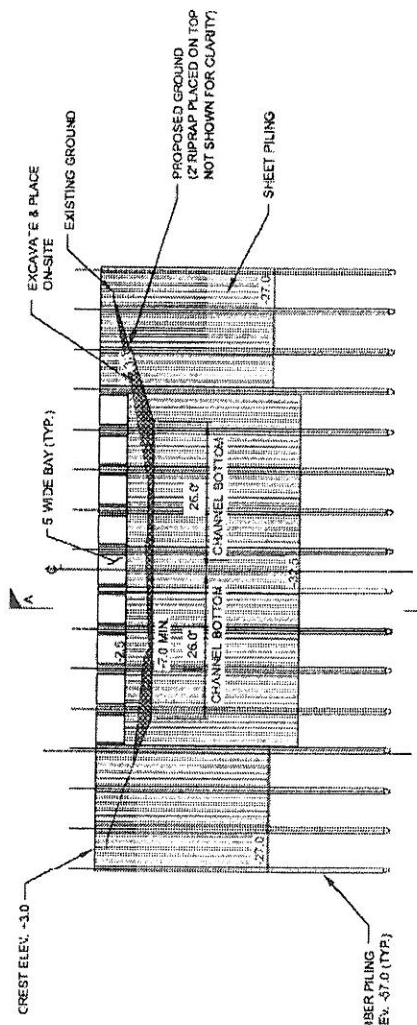
1. DATUM NOTE: ALL ELEVATIONS ARE NAVD 88 IN US FEET  
 MHW = 1.44 FT.  
 MLW = 0.27 FT.
2. FOR STRUCTURAL DETAILS AND NOTES OF TIMBER PILING, SHEET PILE WALL AND STEEL BAYS, SEE SHEET 7B.
3. CHANNEL EXCAVATION SHALL CONFORM TO TECHNICAL SPECIFICATION TS-XXX.
4. RIPRAP SHALL BE 55 LB. CLASS AND CONFORM TO SECTION 711 OF THE LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, AS PUBLISHED BY THE STATE OF LOUISIANA, DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT, 2005 EDITION.
5. ONE (1) PERMANENT WARNING SIGN SHALL BE INSTALLED ON EACH SIDE OF THE STRUCTURE. FOR WARNING SIGN DETAILS AND NOTES, SEE SHEET 13.



**PILE LAYOUT PLAN**  
SCALE: 1" = 20'



**SECTION A-A**  
SCALE: 1" = 4'



**ELEVATION**  
SCALE: 1" = 2'



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|   |                       |   |                       |  |                       |                                |                       |
|---|-----------------------|---|-----------------------|--|-----------------------|--------------------------------|-----------------------|
| <p><b>SIGMA CONSULTING GROUP, INC.</b><br/>ENGINEERING CONSULTANTS<br/>10805 Highway 100<br/>Baton Rouge, Louisiana 70815</p> |                       | <p><b>COASTAL PROTECTION AND RESTORATION AUTHORITY</b><br/>615 CALHOUN BLVD.<br/>BATON ROUGE, LOUISIANA 70802</p> |                       | <p>LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION</p> |                       | <p>SITE: W.C-5</p>             |                       |
|   |                       |   |                       | <p>APPROVED BY: _____</p>                                  |                       | <p>DATE: NOVEMBER 19, 2013</p> |                       |
| <p>PROJECT NO: 122725-01800</p>   | <p>DATE: 11/14/13</p> | <p>PROJECT: W.C-5</p>   | <p>DATE: 11/14/13</p> | <p>PROJECT: W.C-5</p>                                      | <p>DATE: 11/14/13</p> | <p>PROJECT: W.C-5</p>          | <p>DATE: 11/14/13</p> |



SCALE: 1" = 20'

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 WCA DATED MAY 2011

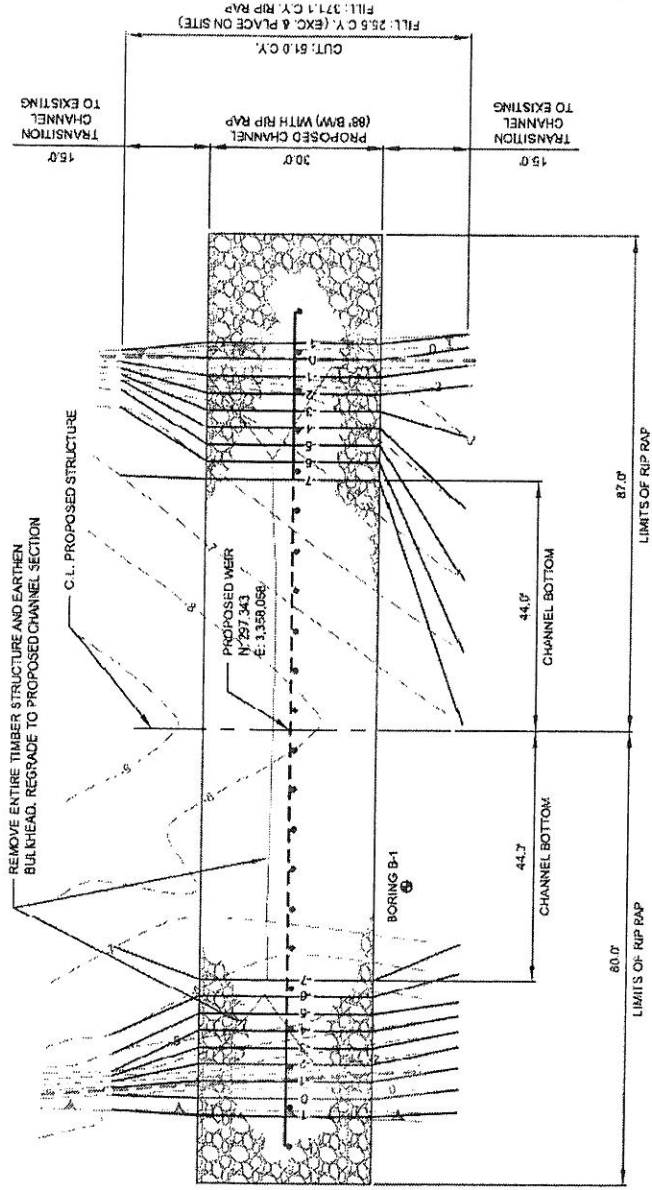
DATUM NOTE: ALL ELEVATIONS ARE IN NAVD 88 IN US SURVEY FEET. ALL HORIZONTAL COORDINATES ARE IN NAD 83 (LOUISIANA STATE PLANE, SOUTH ZONE) IN US SURVEY FEET. SEE GENERAL NOTES ON SHEET 2 FOR SURVEY CONTROL DATA.

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

| NON-VEGETATED WATER BOTTOM |              |
|----------------------------|--------------|
| 0.19 AC.                   | EXCAVATION   |
| 31.0 C.Y.                  | INSITIL FILL |
| 25.5 C.Y.                  | ROCK-RIP RAP |
| 371.1 C.Y.                 |              |

**LEGEND**

- EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING TOP OF BANK
- PROPOSED WEIR
- PROPOSED RIP RAP 2' THICK (MIN)
- EXISTING WEIR TO BE REMOVED



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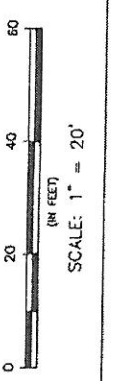
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|-----------------------|----------------|
| PROJECT NUMBER: 11-17 | DATE: 12/18/20 |
| APPROVAL:             |                |

LOUISIANA MARSH CREATION AND HYDROLOGIC RESTORATION  
 STATE PROJECT NUMBER: 11-17  
 FEDERAL PROJECT NUMBER: 11-17  
 APPROVAL:

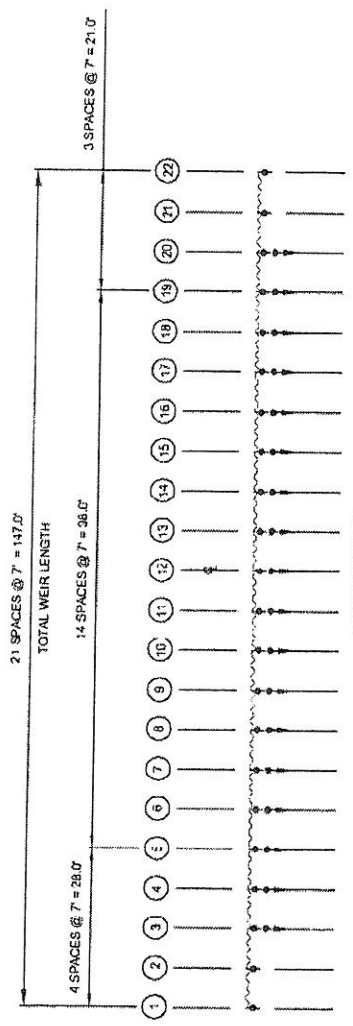
COASTAL PROTECTION AND RESTORATION AUTHORITY  
 45 LA. REG. 1101  
 84108-AK-14, LUISIANA 0001  
 DESIGNED BY: MULLER  
 CHECKED BY: SCLYDA

**SIGMA CONSULTING GROUP, INC.**  
 ENGINEERING CONSULTANTS  
 1001 Highway 77  
 Baton Rouge, Louisiana 70818

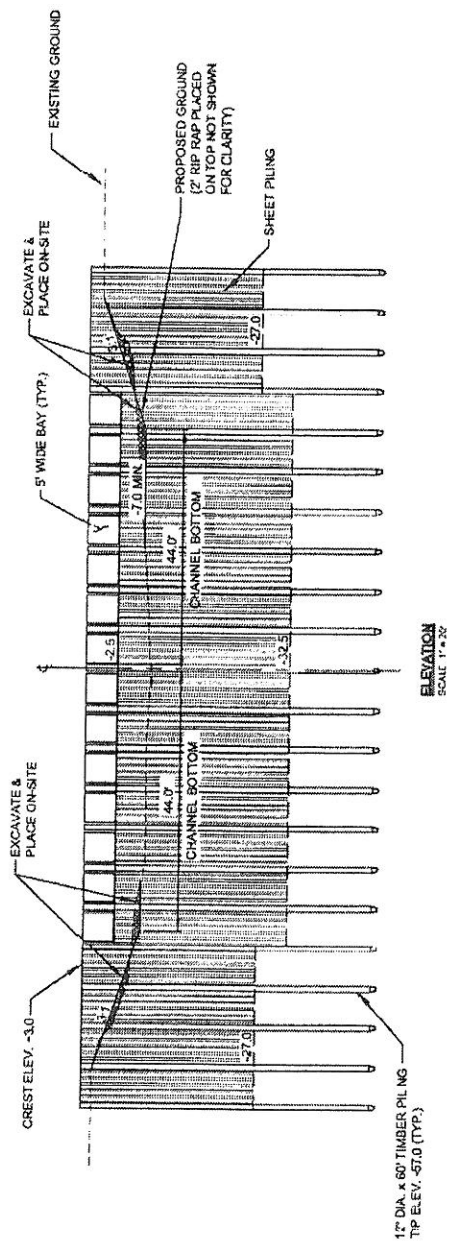
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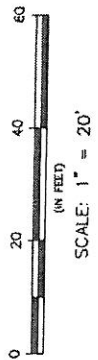
NOTE: ALL ELEVATIONS ARE NAVD 88 IN US FEET  
 MHW = 1.44 FT.  
 MLLW = 0.27 FT.



FILE LAYOUT PLAN  
 SCALE: 1" = 20'



ELEVATION  
 SCALE: 1" = 20'



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|   |  |   |  |                                    |  |
|---|--|---|--|------------------------------------|--|
|   |  | COASTAL PROTECTION AND RESTORATION AUTHORITY<br>1500 S.W. 10TH AVENUE, SUITE 100<br>MIAMI, FL 33135 |  | DEAN BY: AUBREY   DESIGNER: SERGIO |  |
| LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION |  | STATE PROJECT NUMBER: FL-2  |  | APPROVED BY:                       |  |
| SITE WC-A<br>STRUCTURAL DETAIL                      |  | FEDERAL PROJECT NUMBER: 14-7  |  | DATE: 12-1-14                      |  |
| SHEET NO. 15-3                                      |  | SHEET TOTAL: 38   |  | DRAWN BY:                          |  |

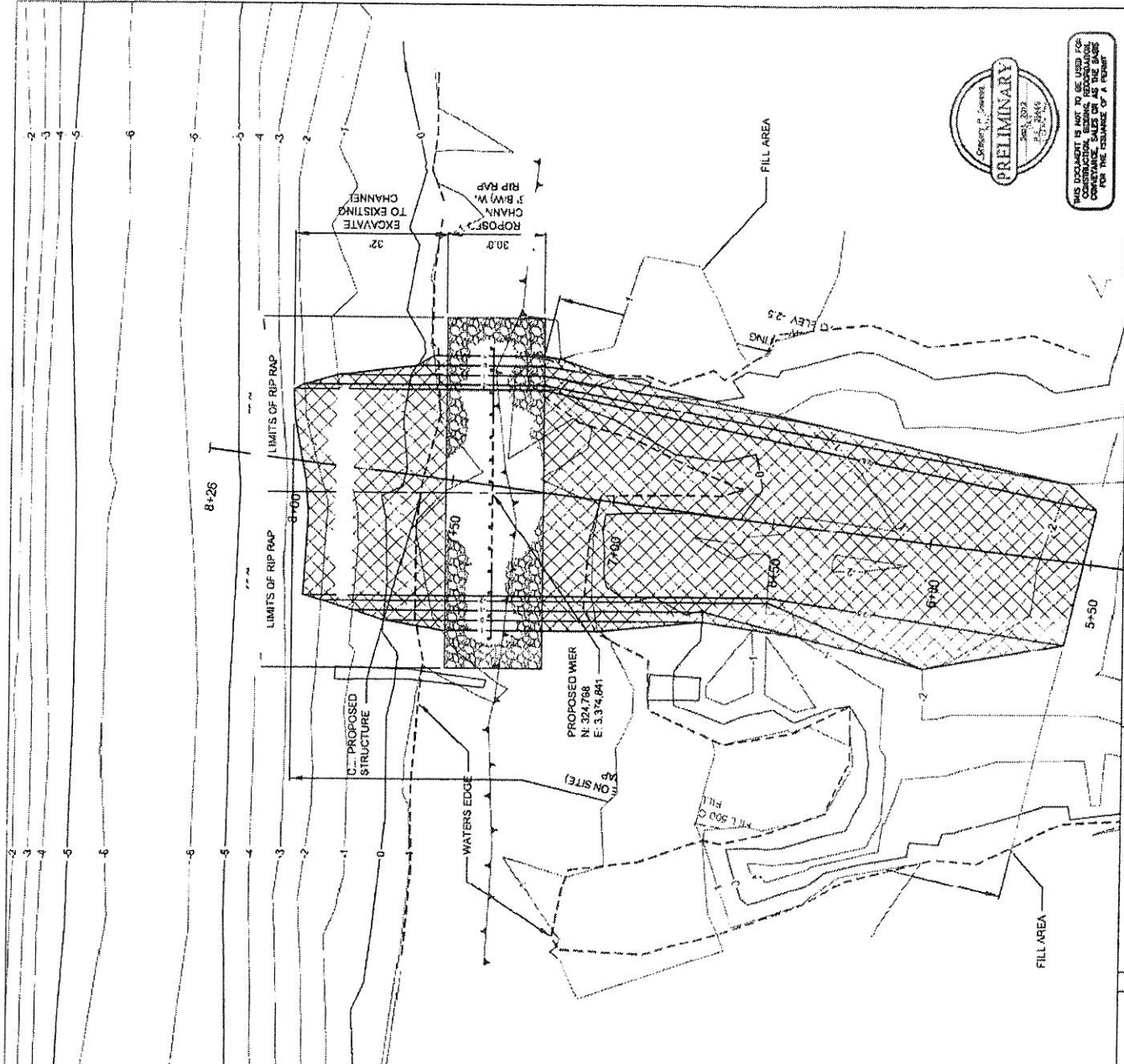
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EXISTING TOPOGRAPHIC SURVEY PERFORMED BY SIGMA CONSULTING GROUP, INC. ON AUGUST 21, 2012

DATA NOTE: 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 SHEET XX FOR ADDITIONAL INFORMATION.

| NON-VEGETATED WATER BOTTOM | EXCAVATION   |
|----------------------------|--------------|
| 0.20 AC.                   | 1,000.0 C.Y. |
| 0.28 AC.                   | 500.0 C.Y.   |
| 0.08 AC.                   | 242.4 C.Y.   |
|                            | ROCK/RIP RAP |

- LEGEND:**
- EXISTING CONTOURS
  - PROPOSED CONTOURS
  - EXISTING TOP OF BANK
  - PROPOSED WEIR
  - PROPOSED RIP RAP 2' THICK (MIN.)
  - EXCAVATION AREA
  - FILL AREA



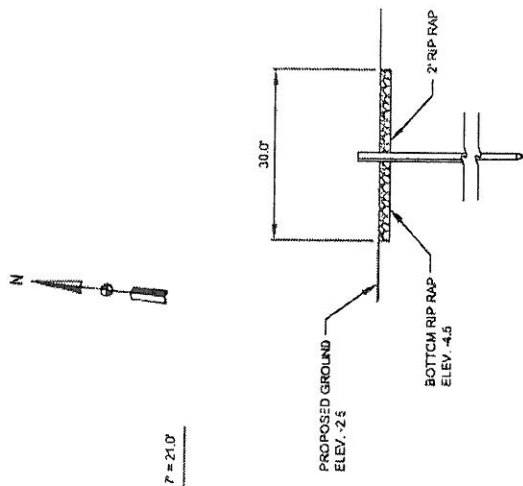
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|--|------|--|----|--|--|-----|------|-------------|----|--|--|--|--|--|--|--|--|--|--|--|--|
|  |      | <p>LOST LAKE MARSH RESTORATION AND HYDROLOGIC RESTORATION<br/>STATE PROJECT NUMBER: TLJ7<br/>FEDERAL PROJECT NUMBER: 15-12</p> |    | <p>DATE: 08/16/12<br/>SHEET NO. OF 5</p>   |  |     |      |             |    |  |  |  |  |  |  |  |  |  |  |  |  |
| <p>SCALE: 1" = 30'<br/>(IN FEET)</p>   |      | <p>0 30 60 90</p>  |    | <p>REVISIONS</p> <table border="1"> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> <th>BY</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table> |  | NO. | DATE | DESCRIPTION | BY |  |  |  |  |  |  |  |  |  |  |  |  |
| NO.  | DATE | DESCRIPTION  | BY |  |  |     |      |             |    |  |  |  |  |  |  |  |  |  |  |  |  |
|  |      |  |    |  |  |     |      |             |    |  |  |  |  |  |  |  |  |  |  |  |  |
|  |      |  |    |  |  |     |      |             |    |  |  |  |  |  |  |  |  |  |  |  |  |
|  |      |  |    |  |  |     |      |             |    |  |  |  |  |  |  |  |  |  |  |  |  |

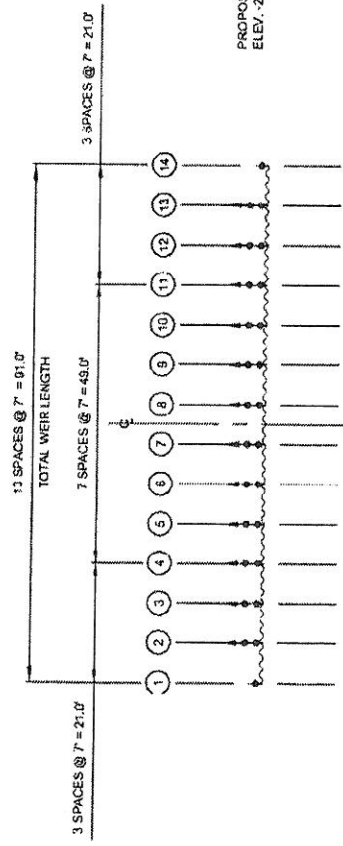


NOTE: ALL ELEVATIONS ARE NAVD 88 IN US FEET

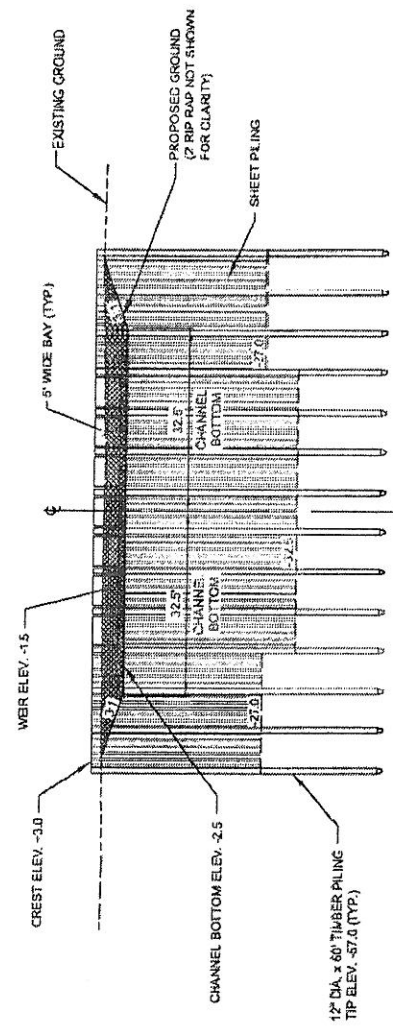
MHW = 1.44 FT.  
MLW = 0.27 FT.



SECTION  
SCALE: 1" = 20'



PIILING LAYOUT PLAN  
SCALE: 1" = 20'

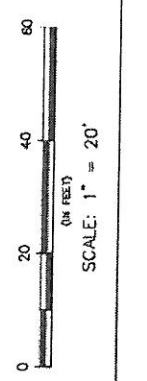


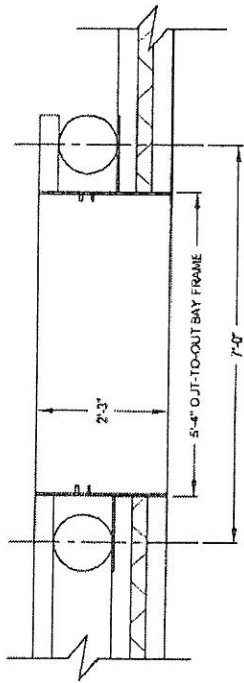
ELEVATION  
SCALE: 1" = 20'



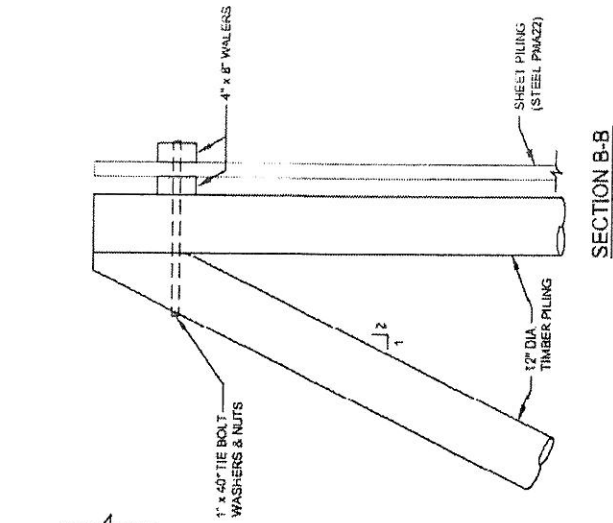
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|   |          |   |          |  |          |                                      |          |
|---|----------|---|----------|--|----------|--------------------------------------|----------|
| <p><b>SICMA CONSULTING GROUP, INC.</b><br/>ENGINEERING CONSULTANTS<br/>1005 Lakeside Blvd.<br/>Baton Rouge, Louisiana 70816</p> |          | <p>COASTAL PROTECTION AND RESTORATION AUTHORITY<br/>500 ALBERTSRUELL<br/>BATON ROUGE, LOUISIANA 70801</p> |          | <p>LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION<br/>STATE PROJECT NUMBER: TL-2<br/>FEDERAL PROJECT NUMBER: 1520</p> |          | <p>SITE - J<br/>STRUCTURE DETAIL</p> |          |
| DATE:   | 12/11/10 | DESIGNED BY:  | COLLEEN  | DRAWN BY:  | COLLEEN  | APPROVED BY:                         | COLLEEN  |
| DATE:   | 12/11/10 | DATE:   | 12/11/10 | DATE:  | 12/11/10 | DATE:                                | 12/11/10 |

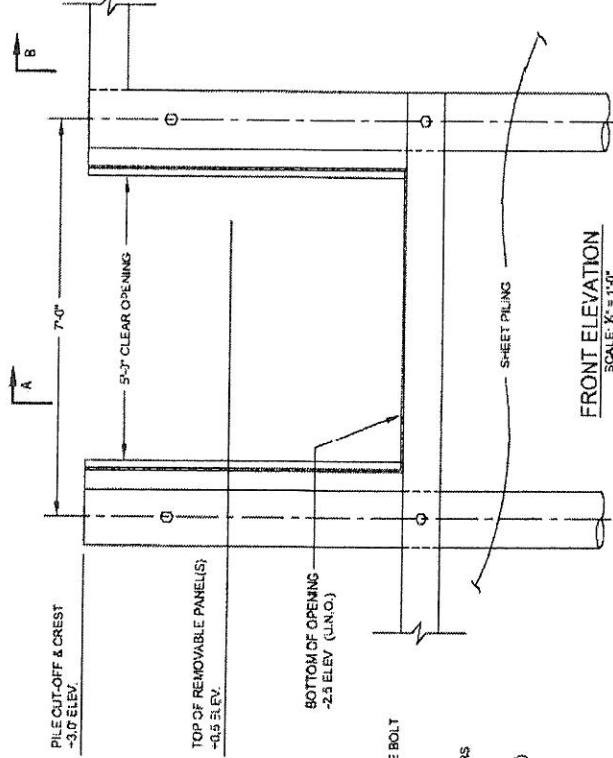




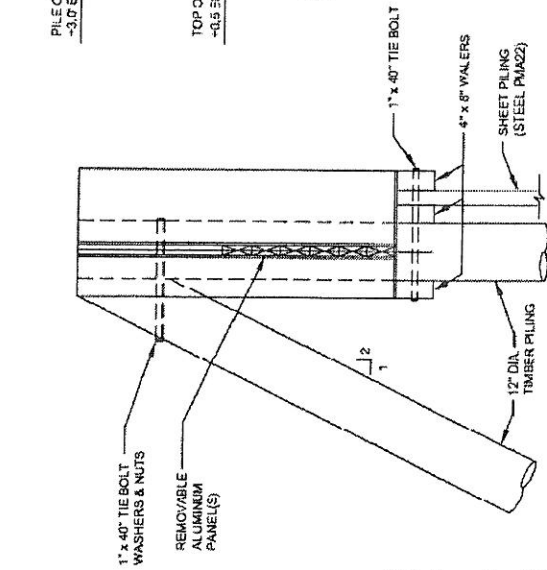
TOP VIEW  
SCALE: 1/2" = 1'-0"



SECTION B-B  
SCALE: 1/2" = 1'-0"



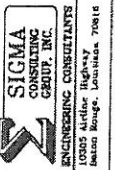
FRONT ELEVATION  
SCALE: 1/2" = 1'-0"



SECTION A-A  
SCALE: 1/2" = 1'-0"



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COASTAL PROTECTION AND RESTORATION AUTHORITY  
NEW ORLEANS, LOUISIANA 70004  
6500 RIVER ROAD, SUITE 200  
BUNNELL, GEORGIA 31526

LAKE MARSH CREATION AND HYDROLOGIC RESTORATION  
STATE PROJECT NUMBER: FL-2  
FEDERAL PROJECT NUMBER: FL-2  
APPROVED BY: [Signature]  
DATE: [Date]  
SHEET NO. 10 OF 10