

OPERATION, MAINTENANCE, AND REHABILITATION PLAN

TERREBONNE BAY SHORE PROTECTION AND DEMONSTRATION PROJECT

State Project No. TE-45



June 2010



**OPERATION, MAINTENANCE, AND REHABILITATION
PLAN
TERREBONNE BAY SHORE PROTECTION
DEMONSTRATION PROJECT
TE-45**

June 2010

Prepared by:
Office of Coastal Protection and Restoration
Coastal Engineering Division

Table of Contents

History of Revisions	iii
Section 1. Project Description, Purpose, and Location	1
Section 2. Construction Completion	2
Section 3. Project Permits	2
Section 4. Items Requiring Operation, Maintenance, and Rehabilitation	3
Section 5. Operation and Maintenance Budget	3
Section 6. Operation of Structures	4
Section 7. Responsibilities – Maintenance and Rehabilitation	4
Signature Sheet	6
Attachment I. Cost Sharing Agreement	
Attachment II. Project Features	
Attachment III. Project Completion Report	
Attachment IV. As-built Drawings	
Attachment V. Project Permits & Permit Amendments	
Attachment VI. Operation, Maintenance, and Rehabilitation Budget	
Attachment VII. Operation of Structures	
Attachment VIII. Annual Inspections	

History of Revisions

OPERATION, MAINTENANCE, AND REHABILITATION PLAN
TERREBONNE BAY SHORE PROTECTION DEMONSTRATION PROJECT

(TE-45)

The Louisiana Department of Natural Resources (LDNR) and the United States Department of the Interior / Fish and Wildlife Service (USFWS) agree to carry out the terms of this Operation, Maintenance, Repair, and Rehabilitation Plan (hereinafter referred to as the “Plan”) of the accepted, completed project features in accordance with the Cost Sharing Agreement, DNR Agreement No. 2511-02-02 dated July 24, 2001 with amendments effective January 8, 2002 and August 7, 2007 (Attachment I).

The project features covered by this plan are inclusive of and are identified as the Terrebonne Bay Shore Protection Demonstration Project (TE-45). The intention of the provisions of this Plan is to maintain this project in a condition that will generally provide the anticipated benefits that the project was based on. This is a Demonstration Project and there are no requirements that this project function to any standard beyond the 8-year demonstration period, except that it is not left as a hazard to navigation or a detriment to the environment.

Construction of the Terrebonne Bay Shore Protection Demonstration Project is authorized by Section 303(a) of Title III Public Law 101-646, the Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA) enacted on November 29, 1990 as amended. The Terrebonne Bay Shore Protection Demonstration Project was approved on the 10th Priority Project List.

1. PROJECT DESCRIPTION, PURPOSE, AND LOCATION

The Terrebonne Bay Shore Protection Demonstration Project (TE-45) is located north of Terrebonne Bay and east of Bayou Terrebonne along the shoreline of Lake Barre, southeast of Chauvin, Louisiana in Terrebonne Parish. The project lies in the Timbalier sub-basin of the Terrebonne hydrologic basin.

Because of marsh loss in the area, Lake Barre is no longer distinct from Terrebonne Bay, and consequently the interior salt marshes have become exposed to the forces of waves and tides. These saline marshes provide a vital buffer zone between the more saline Gulf of Mexico waters and the less saline interior ecosystems.

The purpose of the project is to demonstrate, evaluate, and document the effectiveness of three shoreline/foreshore protection techniques designed to reduce shoreline erosion and promote oyster reef building at the head of a bay or coastal lake. Three shoreline sites, Reaches A, B, and E, were selected from five potential sites as most suitable to demonstrate the shoreline protection techniques. Each reach is approximately 1,500 feet in length. Reaches A and B are located on Burlington Resources, Inc. property, and Reach E is located on Castex-LaTerre, Inc. property. Each of the three shoreline protection treatments was installed at each of the three shoreline reaches (Attachment II – Project Features).

The project has a demonstration period of eight (8) years, which began in December 2007. The principal project features include:

Triton™ Gabion Mats Filled with Rock

Gabion mats are pre-fabricated with geotextile grid materials formed into baskets and interconnected to form a mat. The mats are filled with rock. Each mat is 20-foot long by 5-foot wide by 12 inches thick and anchored at the corners. Mats are installed alongside each other on the bank to form the shoreline protection feature.

A-Jacks™

A-Jacks are individual, pre-fabricated, concrete barrier units that have the shape of toy jacks. Each unit measures 24 inches and weighs 78 pounds. The individual units are tied together in groups with galvanized steel cable. The units are installed in an interlocking double row in shallow water adjacent to the eroding shoreline bank and are placed on a base comprised of a geotextile layer and 6 inches of crushed stone. The units are anchored every 10 feet with galvanized steel cable and 20' galvanized steel rod with anchor.

ReefBlks™

ReefBlks are pre-fabricated, double-frame, steel, triangular units that hold mesh bags filled with oyster shells. They are designed to emulate and create new artificial oyster reef. Each unit has a 5-foot triangular base and measures 2 feet high. Each unit is welded to another unit at a corner to form 10-foot wide unit pairs. The units are installed on a base comprised of a geotextile layer and 6 inches of crushed stone. The units are installed in shallow water adjacent to the eroding shoreline bank. The units are anchored every 10 feet with galvanized steel cable and 20' galvanized steel rod with anchor.

2. CONSTRUCTION COMPLETION

The Terrebonne Bay Shore Protection Demonstration Project (TE-45) completion report is included in Attachment III of this Plan. Within this completion report is a summary of information and significant events including: project personnel, final as-built project features, construction cost and CWPPRA project estimates, construction oversight cost, construction activities and change orders, pipeline and utility crossing owner information, and other significant milestone dates and comments.

The project “As-Built” construction drawings updated with all field changes and modifications that occurred during construction are included in Attachment IV.

3. PROJECT PERMITS

Project permit applications were completed and submitted to appropriate agencies, and permits were received prior to construction. These permits and permit amendments are included in Attachment V. Provisions for the renewal of Federal and State permits may be required prior to removal of these Structures.

4. ITEMS REQUIRING OPERATION, MAINTENANCE, AND REHABILITATION

This is a Demonstration Project with no provision for the operation, maintenance, or rehabilitation of any of the project features other than the performance of annual inspections of the project features during the 8-year demonstration period. The following completed, structural components jointly accepted by LDNR and USFWS will require annual inspections throughout the 8-year demonstration period of the project.

The project features to be inspected are listed in order of occurrence from the north end of each reach:

Reach A (Lat. 29° 17' 05" N and Long. 90° 37' 05" W)

- 2' ReefBlk Units – Approximately 300 L.F. (A-Jacks used to tie north end to shoreline)
- 24" A-Jacks – Approximately 300 L.F.
- Triton Gabion Mats – Approximately 300 L.F.
- Reference Area – No features constructed in reference area

Reach B (Lat. 29° 17' 15" N and Long. 90° 37' 10" W)

- Reference Area – No features constructed in reference area
- 2' ReefBlk Units – Approximately 300 L.F. (A-Jacks used to tie north end to shoreline)
- 24" A-Jacks – Approximately 300 L.F.
- Triton Gabion Mats – Approximately 300 L.F.

Reach E (Lat. 29° 18' 20" N and Long. 90° 34' 05" W)

- 24" A-Jacks – Approximately 300 L.F.
- 2' ReefBlk Units – Approximately 300 L.F. (A-Jacks used to tie north end to A-Jacks Armor Units and south end to Gabion Mats)
- Triton Gabion Mats – Approximately 300 L.F.
- Reference Area – No features constructed in reference area

5. OPERATION AND MAINTENANCE BUDGET

The Terrebonne Bay Shore Protection Demonstration Project (TE-45) is a demonstration project with an 8-year demonstration period. The costs associated with annual inspections approved by the CWPPRA Task Force are included in attachment VI. This figure represents funding for 2-day annual inspections of the project for eight years after construction. Under the current Cost Sharing Agreement between LDNR and USFWS no funds other than for inspections have been provided for the operation, maintenance, or rehabilitation of any of the project features in the Terrebonne Bay Shore Protection Demonstration Project (TE-45).

6. OPERATION OF STRUCTURES

No operation is required for this project. (Attachment VII intentionally blank)

7. RESPONSIBILITIES – MAINTENANCE AND REHABILITATION

A. LDNR will:

1. In accordance with the Cost Sharing Agreement (DNR Agreement No. 2511-02-02) outlined in Attachment I, assume all responsibilities for maintenance and rehabilitation of the accepted, completed project features identified in Section 4.
2. Conduct joint site inspections with USFWS of the project site at least annually and after major storm events if determined to be necessary by LDNR and USFWS. LDNR will submit to USFWS, a report detailing the condition of the project features and recommendations for any corrective action. If LDNR recommends that corrective actions are needed, the report will include the entire estimated cost for engineering and design, supervision and inspection, construction, contingencies, and the urgency of such action. Annual inspection reports may be compiled under attachment VIII - Annual Inspections.
3. Perform or have performed any corrective actions needed, if such corrective actions have been approved by LDNR, USFWS, and the CWPPRA Task Force. USFWS will participate with LDNR, or its appointed representative, in the engineering and design phases of the corrective actions for the project. Oversight of engineering and construction of the corrective actions for the project will be the responsibility of LDNR or its appointed representative. At least thirty (30) calendar days prior to the date of formal request for construction bids, LDNR or its appointed representative shall provide USFWS with final copies of all project corrective action designs and specifications for review and concurrence by USFWS. LDNR or its appointed representative shall approve the final designs and specifications prior to proceeding with bid solicitations on all project corrective action construction contracts in coordination with USFWS. Any plan and/or specification changes both before and after award of construction contracts shall be approved by LDNR in coordination with USFWS.
4. USFWS and LDNR representatives shall meet as necessary during the period of construction for corrective actions and shall make such recommendations as they deem necessary.

5. Provide the non-Federal contribution towards operation and maintenance activities as specified in the Cost Sharing Agreement between LDNR and USFWS.

B. USFWS will:

1. Conduct joint site inspections with LDNR of the project site at least annually and after major storm events if determined to be necessary by LDNR and USFWS.
2. Request funding and authorization from the CWPPRA Task Force for any corrective actions that are deemed necessary by LDNR and USFWS.
3. Provide guidance for the development of plans and implementation of the project, review final copies of any maintenance and rehabilitation project designs and specifications, and provide review and approval of all planning and construction details prior to formal request for construction bids or any corrective actions for the project.
4. Provide the Federal contribution towards operations and maintenance activities as specified in the Cost Sharing Agreement between LDNR and USFWS.

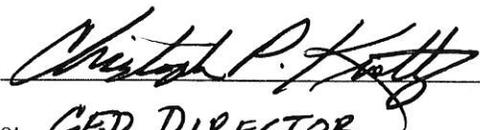
The undersigned parties, acting on behalf of their respective agencies, agree to operate, maintain, and rehabilitate the Terrebonne Bay Shore Protection Demonstration Project (TE-45) according to this document, referenced Cost Sharing Agreement, plans, and all applicable permits and laws.

UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

By: 
Title: Supervisor

Date: 2/23/09

LOUISIANA DEPARTMENT OF NATURAL RESOURCES

By: 
Title: CED DIRECTOR

Date: 4/30/09

ATTACHMENT I

TERREBONNE BAY SHORE PROTECTION DEMONSTRATION PROJECT (TE-45)

COST SHARING AGREEMENT



M.J. "MIKE" FOSTER, JR.
GOVERNOR

JACK C. CALDWELL
SECRETARY

DEPARTMENT OF NATURAL RESOURCES

July 30, 2001

Ronny Paille
U S Department of the Interior
Fish & Wildlife Services
Ecological Services
646 Cajundome Blvd, Suite 400
Lafayette, LA 70506

RE: Terrebonne Bay Shore Protection (Demo) Project
DNR Agreement No. 2511-02-02

Dear Mr. Paille:

Enclosed are two (2) signed originals of the above referenced Cost Share Agreement for the above referenced project reflecting approval from the Louisiana Department of Natural Resources under Special Delegation of Authority by Louisiana Division of Administration.

Should you have any questions, please contact Julia Raiford of my staff at (225) 342-4566.

Sincerely,

A handwritten signature in cursive script that reads "Karen Y. Lewis".

Karen Y. Lewis
Contracts & Grants Administrator

KYL/jr

cc: Dan Llewellyn, CRD
Verlie Wims, Fiscal Officer
Gay Browning, NODCOE

Rec'd
7/31/01
CS

Approved Under DNR Delegated Authority
CFMS# 574895
Karen L. Lewis

F ; Agreement No.
DNR Agreement No. 2511-02-02
Approved Format 16A

COST SHARE AGREEMENT

BETWEEN

U.S. DEPARTMENT OF THE INTERIOR - FISH AND WILDLIFE SERVICE

AND

THE STATE OF LOUISIANA

FOR PLANNING, ENGINEERING AND DESIGN, CONSTRUCTION, OPERATION,

MAINTENANCE, AND MONITORING OF THE

TERREBONNE BAY SHORE PROTECTION (DEMO) PROJECT

TE-45

THIS AGREEMENT, entered into this 24th day of July, 2001 by and between the U.S. Department of the Interior, represented by the Fish and Wildlife Service (hereinafter referred to as "FWS"), acting by and through the Regional Director, Region 4, and the State of Louisiana, acting by and through the Secretary, Department of Natural Resources (hereinafter referred to as "DNR").

WITNESSETH, THAT:

WHEREAS, expenditure of Phase I funding for the Terrebonne Bay Shore Protection (Demo) Project (TE-45) was authorized by the Coastal Wetlands Planning, Protection and Restoration Act (hereinafter referred to as "CWPPRA") of 1990 (16 U.S.C. Section 3961 *et seq.*; Public Law 101-646, Title III), and for local sponsorship by the Louisiana Coastal Wetlands Conservation Plan, by the State of Louisiana in January 2001; and,

WHEREAS, upon successful completion of Phase I, expenditure of Phase II funding for the Terrebonne Bay Shore Protection (Demo) Project may be authorized by the Louisiana Coastal Wetlands Conservation and Restoration Task Force (hereafter referred to as the "Task Force");

WHEREAS, the State's Coastal Wetlands Conservation Plan was approved on November 30, 1997; all costs incurred on or after December 1, 1997 are shared at eighty-five percent (85%) Federal and fifteen percent (15%) non-Federal;

WHEREAS, Section 303(e) of CWPPRA states that the Secretary of the Army shall not fund the identified project unless said project is subject to such terms and conditions necessary to ensure that wetlands restored, enhanced, or managed through the project will be administered for the long-term conservation of such lands and waters and dependent fish and wildlife populations; and,

Rec'd
7/31/01
ES:J

WHEREAS, FWS is authorized by federal law to enter a cost-sharing agreement with DNR to provide financial cost-share assistance for the construction, operation, maintenance, and monitoring of the Project; and,

WHEREAS, La. R.S. 49:213 and La. R.S. 49:214 state that the Secretary of DNR may enter into cost-sharing agreements with the federal government in order to conserve, restore, create, and enhance vegetated wetlands in coastal Louisiana in accordance with prescribed legislative oversight; and,

WHEREAS, DNR has agreed to pay 5% of the total Project cost in actual cash and the remaining balance of its share in the form of in-kind contributions; and,

WHEREAS, DNR is willing to participate in cost-sharing and financing in accordance with the terms of this Agreement;

NOW, THEREFORE, the parties agree as follows:

ARTICLE I – DEFINITIONS AND GENERAL PROVISIONS

For the purposes of this Agreement:

a. The term **“Project”** shall mean the work authorized by Congress as specified above for the construction of the Terrebonne Bay Shore Protection (Demo) Project (TE-45). The TE-45 Project is located in Terrebonne Parish. The Project objective is to demonstrate the cost and effectiveness of shore protection methods other than traditional rip-rap armoring, including artificial oyster reefs. Techniques evaluated will include, but not be limited to, a foreshore “grating” reef, a foreshore concrete mat over a two foot high berm, an onshore concrete mat, a concrete mat reef, and two rows of 2' Ajacks®. The effectiveness of the various techniques will be determined by monitoring shoreline position change rates. Elevation surveys from foreshore open water areas will be used to further evaluate sediment trapping and associated shoreline changes. Settlement surveys will be utilized to monitor sinking rates of the concrete structures.

b. The term **“total Project costs”** shall mean all costs incurred by DNR and FWS directly related to implementation of the Project. Such costs shall be those costs incurred after January 10, 2001; and which shall include, but not necessarily be limited to, the following: actual costs of applicable project management, geotechnical investigations, detailed engineering and design; actual construction costs; construction management, supervision and inspection costs; operation costs; monitoring costs; the cost of land rights acquisition, easements, servitudes, rights-of-way; utility and facility alterations or relocations; and maintenance for the Project.

c. The term **“total first costs”** shall mean all costs incurred by DNR and FWS directly related to completion of the construction phase of the project as identified in the official CWPPRA authorization document prepared by the CWPPRA Task Force January 10, 2001, and submitted to Congress.

d. The term “**period of construction**” shall mean the time from the advertisement of the first construction contract to the time that the Contracting Officer certifies to DNR that construction of the entire project is complete. The Contracting Officer shall furnish to DNR copies of the government’s written Notice of Acceptance of Complete Work furnished to contractor(s) for all contracts for the Project.

e. The term “**Contracting Officer**” shall mean the FWS Regional Director, Region 4, or his/her designee.

f. The term “**relocations**” shall mean the preparation of plans and specifications for, and the accomplishment of any alteration, modification, lowering or raising in place, and/or a new construction related to, but not limited to, existing: buildings, pipelines, public utilities (such as municipal water and sewer lines, telephone lines, and storm drains), aerial utilities, cemeteries, and other facilities, structures, and improvements determined by FWS and DNR to be necessary for the construction, operation, maintenance, and monitoring of the Project.

g. The term “**utility**” shall mean pipelines, cables, and similar facilities.

h. The term “**fiscal year**” shall mean one fiscal year of the United States Government, unless otherwise specifically indicated. The Government fiscal year begins on October 1 and ends on September 30.

i. The term “**construction management costs**” shall mean costs incurred by FWS directly supervising and administering construction contracts, to include related overhead costs, as specified in applicable contracting regulations.

j. The term “**Project Monitoring Plan**” shall mean a plan jointly developed and approved by DNR and FWS specifically for the Project which identifies all monitoring requirements, parameters and procedures. DNR will be responsible for collection of monitoring data and assimilation as part of the local cost-share responsibilities. Monitoring will be conducted for the expected life of the Project or as agreed by FWS and DNR.

k. The term “**maintenance**” shall mean any action completed after the construction period that is required to maintain the Project at “as built” standards, and costing less than twenty percent (20%) of the original construction cost.

l. The term “**Operation and Maintenance Plan**” shall be a plan jointly developed and approved by FWS and DNR upon completion of the Project and prior to acceptance by DNR of the completed Project or functional portion of the Project. The Operation and Maintenance Plan will address specific items, including engineering inspections and any related landrights issues, with estimated costs, to be performed throughout the expected life-span of the Project and will be revised periodically to reflect actual needs.

m. The term “**operation and maintenance costs**” shall mean all costs incurred by DNR and FWS related to operating and maintaining the final accepted Project. Specific requirements and responsibilities shall be identified and mutually accepted by both parties in an “Operations and Maintenance Plan”.

n. The term “**obligation**” refers to amount of orders placed contracts awarded, services rendered, or other commitments made during a given period which will require outlay during the same or some future period.

o. The term “**engineering and design costs**” shall mean all costs incurred by DNR and FWS related to the development, approval, and acceptance of detailed engineering and design plans, specifications, and Project bid documents. This will also include all supervision and administrative costs associated with the engineering and design phase of the Project and will terminate with the award of a Project construction contract.

p. The term “**monitoring costs**” shall mean all costs by DNR and FWS in developing and implementing the Project Monitoring Plan to evaluate the effectiveness of the Project in reaching Project objectives. This shall include, but not be limited to, such items as plan development and review, conducting pre- and post-construction monitoring procedures, collection and evaluation of data, and preparation of monitoring reports.

q. The term “**functional portion of the Project**” shall mean a completed portion of the Project as determined by the Contracting Officer and DNR in writing to be suitable for tender to DNR for operation and maintenance in advance of completion of the entire Project. To be suitable for tender, the Contracting Officer must determine that the completed portion of the Project can function independently and for a useful purpose, although the balance of the Project is not complete.

r. The term “**life of the Project**” shall mean the next eight (8) years starting at the date of acceptance of the final Project, or functional portion of the Project, as provided in Article V.e. of this Agreement.

s. The term “**Phase I**” shall include but not be limited to any necessary analysis of environmental benefits, any necessary hydrologic data collection and analysis, Pre-construction Biological Monitoring, and Engineering and Design. Engineering and Design includes Engineering, Design, Environmental Clearances, Permitting, Project Management and Real Estate requirements up to, but not including, the purchase of real estate.

t. The term “**Phase II**” shall mean Construction and the first three (3) years of Post-construction Biological and Structural Monitoring, Operation and Maintenance. Construction includes Project Management, Contract Management, Construction Supervision, Inspection, and the Purchase of Real Estate.

u. The term “**CWPPRA Project Standard Operating Procedures Manual**” shall mean the standard procedures to be used by FWS and the State in the management of the Project. These standard procedures shall not supersede nor invalidate any rules or regulations internal to FWS or the State.

ARTICLE II – OBLIGATIONS OF THE PARTIES

a. No federal funds may be used to meet the DNR share of Project costs under this Agreement unless the expenditure of such funds is expressly authorized by statute as verified in writing by the granting agency.

b. DNR shall:

1. Over the life of the Project, fund a total contribution equal to the non-federal share of the total Project costs, including a minimum cash contribution of five percent (5%) of the total Project costs. Said contribution will include cash and/or credit granted from land rights, easements, servitudes, and rights-of-way obtained through or owned by DNR, or relocations credit granted for Project features furnished by DNR, and all administrative and management costs required by DNR to fulfill the obligations specified in this Agreement including pre- and post-construction Project monitoring, permitting coordination, geotechnical investigation, engineering services, landrights amendment processing and or acquisition, and maintenance and operation responsibilities accepted by DNR.

2. Prior to advertisement of each construction contract, and as further specified in Article VI.b.2. hereof, provide a minimum cash contribution of five percent (5%) of that portion of total first costs incurred to date and anticipated to be expended through completion of that construction contract.

3. Prior to the advertisement of each construction contract, and as further specified in Article VI.b.2. hereof, provide a contribution equal to the non-federal share of that portion of total first costs incurred to date and anticipated to be expended through completion of that construction contract. Said contribution will include cash and/or credit granted from land rights, easements, servitudes, and rights-of-way obtained through or owned by DNR, or relocations credit granted for Project features furnished by DNR, administrative and management costs, and any engineering and/or, biological, or hydrological review evaluations required by DNR to fulfill the obligations specified in this Agreement.

4. Implement the Project Monitoring Plan in accordance with procedures jointly developed with FWS and, as further specified in Article VIII, to assure the performance of the long-term monitoring requirements.

5. Provide specific engineering services, associated with the Project, subject to the cost-sharing provisions, and as mutually agreeable to both DNR and FWS, or its engineering representative. Specific engineering services to be provided by DNR may include design surveys, preparation of plans and specifications, post-construction surveys, geotechnical, engineering, design, land services, and construction management services, etc., associated with the project, as requested by the FWS, subject to the cost-sharing provisions identified. All such services will be approved by and subject to the supervision and guidance of FWS Project Manager or engineering representative.

6. Acquire all land rights, servitudes, rights-of-way, easements, and material borrow and disposal areas associated with the Project which are determined to be necessary, subject to cost-sharing terms previously identified.

7. Jointly develop an Operation and Maintenance Plan with the FWS which will identify specific long-term maintenance and operation requirements. Said plan will be developed upon completion of the Project features in accordance with Article I.m., and will be reviewed and modified as necessary after an evaluation conducted by DNR, with FWS participation, within 12-18 months following completion of construction.

8. Provide the non-federal share of costs identified in the Operation and Maintenance Plan, according to Article VIII.a.

9. Assume all responsibilities (including engineering, design, and construction services) for operation and maintenance of the Project upon acceptance of the completed Project, limited only by the provisions of Article XVI. FWS will reimburse DNR using electronic funds transfer (EFT) procedures in accordance with 31 CFR 208 for the federal share of such costs, subject to availability of funds.

10. Participate in a preliminary design review with FWS at thirty percent (30%) completion of Phase I project evaluation in accordance with Section 6.(c). and 6.(f)., CWPPRA, Project Standard Operating Procedures Manual.

11. Provide authorized technical services including, but not limited to, obtaining basic information; preparation of drawings, design, and specifications; and performance of layout, inspection services, and quality assurance during construction. The design report, preliminary and final plans must be reviewed by the FWS Project Manager and concurred upon prior to advertisement.

12. Submit to FWS the completed As-built Surveys/Construction drawings and Construction Completion Report.

c. FWS shall:

1. Over the life of the Project, fund a total contribution equal to the federal share of the total Project costs, including any relocation costs associated with the Project.

2. Prior to the advertisement of each construction contract, FWS shall provide a contribution equal to the federal share of that portion of total first costs incurred to date and anticipated to be expended through completion of that construction contract, including any relocation costs associated with the Project.

3. Except as limited by the provisions of Article VIII.b., and subject to the availability of appropriations, reimburse DNR for the federal share of the approved cost of pre- and post-construction monitoring of the Project upon receipt of the request for reimbursement.

4. Reimburse DNR using electronic funds transfer (EFT) procedures in accordance with 31 CFR 208 for the federal share of the actual costs incurred by DNR for project management, geotechnical and engineering services, and permitting coordination provided for the Project, and acquiring all land rights (easements, servitudes, and rights-of-way, including suitable borrow material and disposal areas) as determined by FWS to be necessary for Project construction, operation, monitoring, and maintenance.

5. Participate with DNR on the level of design effort needed to determine the effectiveness of a project in achieving intended environmental benefits.

6. Provide all engineering, design, including but not limited to surveying, geotechnical investigations, hydrological modeling as deemed necessary by DNR and FWS, land services, and construction services, except those mutually agreed as specified in Article II.b.5. and Article II.b.9. associated with the Project, subject to the cost-sharing provisions identified.

7. Participate in a preliminary design review with EPC at thirty percent (30%) completion of Phase I project evaluation in accordance with Section 6.(e). and 6.(f)., CWPPRA, Standard Operating Procedure.

8. Provide the federal share of costs identified in the Operation and Maintenance, Plan and actually incurred by DNR, subject to the limitations on expenditures set forth in Article XIX.

9. Arrange for and conduct final inspection of the completed works of improvement with DNR to determine whether all work has been performed in accordance with the contractual requirements. Based on this determination, accept work from the contractor and notify DNR of acceptance.

10. Participate, with DNR, in an evaluation within 12 – 18 months following the completion of construction to assess maintenance and operation needs. FWS will also participate with DNR in any subsequent evaluations as the parties deem necessary to address long-term maintenance and operation of the Project.

11. Ensure that all National Environmental Policy Act (NEPA) and regulatory requirements, including permits, for the Project are met.

ARTICLE III – LAND RIGHTS, FACILITIES, AND PUBLIC LAW 91-646 RELOCATION ASSISTANCE

a. On non-Federal lands, DNR shall acquire all land rights, easements, servitudes, rights-of-way, and material borrow and disposal areas determined to be necessary for construction of the Project and as mutually agreed-to by DNR and FWS. Prior to the advertisement of any construction contract, DNR shall provide certification to FWS that all land rights, easements, servitudes, rights-of-way and material borrow and disposal areas required, have been acquired as part of this Agreement and shall furnish to FWS evidence supporting actual rights-of-way acquired by DNR for Project construction, operation, monitoring, and maintenance.

b. The State shall comply with the applicable provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646) as amended by Title IV of the Surface Transportation and Uniform Relocation Assistance Act of 1987 (Public Law 100-17), and the Uniform Regulations contained in 49 CFR part 24, in acquiring lands, easements, and rights-of-way for construction and subsequent operation, and maintenance of the project.

c. No title to the property or minerals affected herein are transferred with any easements, servitudes, rights-of-way, and material borrow and disposal areas provided by DNR pursuant to this Agreement. No public rights of ownership shall be transferred and vested in private parties as a result of the Project. Further, any easements, servitudes, rights-of-way, and material borrow and disposal areas shall provide for reasonable access for mineral exploration and development.

ARTICLE IV – VALUE OF LAND RIGHTS AND FACILITIES

a. The value of the land rights, easements, servitudes, and rights-of-way to be included in total Project costs and credited towards DNR's share of total Project costs will be determined in accordance with the following procedures:

1. The costs associated with securing all land rights, easements, servitudes, and rights-of-way to be acquired by DNR (Article III.a.) shall be the actual costs including, but not limited to, expenses associated with securing legal land rights instruments from all sources (legal reviews, recording fees, etc.) associated with Project activities. An estimate of such costs will be prepared by DNR and approved by FWS for credit allowance as part of the DNR cost-share. Credit allowance for any costs above this estimate must be approved by FWS.

2. Any costs incurred for relocations will be included in total Project costs and will be accomplished as part of Project construction through the agreed cost-share arrangement.

ARTICLE V – CONSTRUCTION PHASING AND MANAGEMENT

a. To provide for consistent and effective communication between DNR and FWS during the period of construction, DNR and FWS shall appoint representatives to coordinate scheduling, plans, specifications, modifications, contract costs, and other matters relating to construction of the Project.

b. FWS will participate with DNR, or its appointed representative, in the engineering and design phases of the Project. Oversight of engineering and construction of the Project will be the responsibility of DNR or its appointed representative. At least thirty (30) calendar days prior to the date of formal request for construction bids, DNR, or its appointed representative, shall provide FWS with final copies of all Project designs and specifications for review and concurrence by FWS. FWS, or its appointed representative, and DNR shall concur in the final designs and specifications prior to proceeding with bid solicitations on all project construction contracts. Any plan and/or specification(s) changes, both before and after award of construction contracts, shall be jointly approved by FWS and DNR.

c. The representatives appointed above shall meet as necessary during the period of construction and shall make such recommendations as they deem warranted to the Contracting Officer.

d. The Contracting Officer shall consider the recommendations of the representatives in all matters relating to construction of the Project; but the Contracting Officer, having ultimate responsibility for construction of the Project, has complete discretion to accept, reject, or modify the recommendations.

e. Following completion of the Project, or functional portion of the Project, final acceptance of the Project, or functional portion of the Project, will be jointly made by FWS and DNR. Should the Project, or functional portion of the Project, not meet plan specification objectives, then DNR will have the option to approve modification of the Operation and Maintenance Plan, or to terminate this Agreement. However, both DNR and FWS shall endeavor to modify the Project and/or its Operation and Maintenance Plan to ensure that the original plan specification objectives are achieved.

ARTICLE VI – METHOD OF PAYMENT

a. DNR shall provide the contributions required under Article II of this Agreement. The Task Force has estimated a Phase I cost of \$528,894 and authorized a maximum Phase I cost of \$661,118 for this particular Project. To meet its share, DNR will contribute, through in-kind services or in cash, the non-federal share of the maximum Phase I costs. The maximum amount of DNR's contribution is \$99,168. This figure is subject to modification as provided for in Section 303(f) of CWPPRA. Any costs in excess of the maximum Phase I cost of \$661,117 are subject to amendment of this Agreement and Task Force approval, as provided in Article XIX. The maximum amount of DNR's required minimum five percent (5%) cash contribution for Phase I is \$33,056. Funding methods and limits of obligations are specified in Article XIX – Project Cost Limits. Should the Task Force authorize expenditure of Phase II funding, this Agreement shall be amended in accordance with Article XX.

b. DNR shall provide its required cash contribution in proportion to the rate of federal expenditures in accordance with the following provisions:

1. For purposes of budget planning, FWS shall notify DNR by October 1 of each year of the estimated funds that will be required from DNR to meet its share of total Project costs for the subsequent fiscal year.

2. No later than sixty (60) calendar days prior to the advertisement of each construction contract, FWS shall notify DNR of DNR's share of that portion of total first costs incurred to date and anticipated to be expended through completion of that construction contract. This amount will include the non-federal share of total first costs in cash and/or credit as described in Article II.b.3., and the minimum cash contribution of five percent (5%) of total first costs as described in Article II.b.2. No later than thirty (30) calendar days thereafter, DNR shall verify to the satisfaction of FWS or its representative, that it has deposited the requisite amount in an escrow account with interest accruing to DNR.

3. For the second and subsequent fiscal years of Project implementation, no later than sixty (60) calendar days prior to the beginning of the fiscal year, DNR shall make the necessary funds available to FWS through the funding mechanism specified in Article VI.b.2. of this Agreement. As construction of the Project proceeds, FWS shall adjust the amount required to be provided under this paragraph to reflect actual costs.

4. If, at any time during the period of construction, FWS determines that additional funds will be needed from DNR to meet DNR's required share, FWS shall so notify DNR, and DNR, no later than forty-five (45) calendar days from receipt of such notice, shall make the necessary funds available through the funding mechanism specified in Article VI.b.2. of this Agreement.

c. FWS will draw on the escrow account such sums as FWS deems necessary to cover contractual and in-house fiscal obligations attributable to the Project on an annual basis, as well as costs incurred by FWS prior to the initiation of construction but after January 11, 2000, according to Article I.b.

d. The escrow account will be managed for FWS by the New Orleans District, U.S. Army Corps of Engineers. Funds will be withdrawn from the account and disbursed to FWS as requested.

e. Upon completion of the Project, or termination of this Agreement in accordance with Article XV of this Agreement, and resolution of all relevant contract claims and appeals, FWS shall compute the total Project costs and tender to DNR a final accounting of DNR's share of total Project costs. In the event that the total contribution by DNR is less than its minimum required share of total Project costs, DNR shall, no later than ninety (90) calendar days after receipt of written notice, make a cash payment to FWS of whatever sum is required to meet its minimum required non-federal share of total Project costs, subject to the availability of appropriations.

f. In the event DNR has made cash contributions in excess of five percent (5%) of total Project costs which result in DNR having provided more than its required share of total Project costs, FWS shall, no later than ninety (90) calendar days after the final accounting is complete, subject to the availability of appropriations, return said excess to DNR; however, DNR shall not be entitled to any refund of the five percent (5%) cash contribution required pursuant to Article II.b.2. of this Agreement.

g. If DNR's total contribution under this Agreement (including land rights, easements, rights-of-way, relocations, material borrow and disposal areas, and work-in-kind provided by DNR and approved by FWS) exceeds DNR's required non-federal share of total Project costs, FWS shall verify the actual exceeded costs and direct the U.S. Army Corps of Engineers, subject to the availability of appropriations for that purpose, and the minimum five percent (5%) cash requirement, refund the excess to DNR no later than ninety (90) calendar days after the final accounting is complete.

ARTICLE VII – DISPUTES

Before any party to this Agreement may bring suit in any court concerning an issue relating to this Agreement, such party must first seek in good faith to resolve the issue through negotiations or other forms of non-binding alternative dispute resolution mutually acceptable to the parties.

ARTICLE VIII – MONITORING, OPERATING AND MAINTENANCE

a. After FWS has accepted, with the concurrence of DNR, the completed Project, or the functional portion of the Project, DNR shall assume long-term monitoring responsibilities in accordance with the Project Monitoring Plan defined in Article I.j. of this Agreement. At this same time, DNR will also assume responsibilities for operation and maintenance of the completed Project, or functional portion of the Project, following the recommendations jointly developed and approved by DNR and FWS in the Project Operation and Maintenance Plan defined in Article I.m. of this Agreement. These responsibilities will remain in effect for the expected life of the Project which is eight (8) years from the date of acceptance of the completed Project unless otherwise agreed to by FWS and DNR.

b. DNR grants FWS the right to enter, at reasonable times and in a reasonable manner, upon land which it owns or maintains access easements to the Project, for the purpose of inspection related to monitoring, operating or maintaining the Project. If an inspection shows that DNR, for any reason, is failing to fulfill its obligations under this Agreement, FWS will send a written notice to DNR concerning a need for compliance. If DNR persists in such failure for ninety (90) calendar days after receipt of this notice, then FWS shall have a right to cancel the federal assistance portion of this Agreement for any additional expenses related to monitoring, operation and maintenance costs of the Project.

ARTICLE IX – MAINTENANCE OF RECORDS

FWS and DNR shall keep books, records, documents, and other evidence pertaining to costs and expenses incurred pursuant to this Agreement to the extent and in such detail as will properly reflect total Project costs. FWS and DNR shall maintain such books, records, documents and other evidence for a minimum of three (3) years after completion of construction, operation, maintenance, repair, and monitoring of the Project and resolution of all relevant claims arising therefrom, and shall make available at their offices at reasonable times, such books, records, documents, and other evidence for inspection and audit by authorized representatives of the parties to this Agreement.

ARTICLE X – GOVERNMENT REVIEW OF RECORDS

FWS shall have the right to conduct an audit, when appropriate, of DNR's records for the Project to ascertain the reasonableness and allowability of its costs for inclusion as credit against the non-federal share of Project costs.

ARTICLE XI – STATE REVIEW OF RECORDS

DNR shall have the right to conduct an audit, when appropriate, of FWS's records for the Project to ascertain the reasonableness and allowability of its costs for inclusion as credit against the federal share of Project costs.

ARTICLE XII – RELATIONSHIP OF PARTIES

The parties to this Agreement act in an independent capacity in the performance of their respective functions under this Agreement, and neither party is to be considered the officer, agent, or employee of the other.

ARTICLE XIII – OFFICIALS NOT TO BENEFIT

No member of, or delegate to, the Congress, or resident commissioner, shall be admitted to any share or part of this Agreement, or to any benefit that may arise therefrom.

ARTICLE XIV – COVENANT AGAINST CONTINGENT FEES

DNR warrants that no person or selling agency has been employed or retained to solicit or secure this Agreement upon agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by DNR for the purpose of securing business. For breach or violation of this warranty, FWS shall have the right to annul this Agreement without liability, or, in its discretion, to add to the Agreement or consideration, or otherwise recover, the full amount of such commission, percentage, brokerage, or contingent fee.

ARTICLE XV – TERMINATION OR SUSPENSION

a. If FWS or DNR fails to receive annual appropriations for the Project in amount sufficient to meet Project expenditure for the then-current or upcoming fiscal year, FWS or DNR shall so notify the other Party. After sixty (60) calendar days from such notification either party may elect, without penalty, to terminate this Agreement pursuant to this Article or to defer future performance hereunder;

however, deferral of future performance under this Agreement shall not affect existing obligations or relieve the parties of liability for any obligation previously incurred. In the event that either party elects to terminate this Agreement pursuant to this Article, both parties shall conclude their activities relating to the Project and proceed to final accounting in accordance with Article VI of this Agreement. In the event that either party elects to defer future performance under this Agreement pursuant to this Article, such deferral shall remain in effect until such time as FWS or DNR receives sufficient appropriations or until either party elects to terminate this Agreement.

b. Except as provided in paragraph (a) above, if at any time DNR fails to make the payments required under this Agreement, FWS shall terminate or suspend work on the Project until DNR is no longer in arrears, unless FWS determines that continuation of work on the Project is in the best interest of the United States or is necessary in order to satisfy agreements with any other non-federal interests in connection with the Project. DNR shall not be liable for any future payments should FWS continue work on the Project, but shall remain liable for obligations previously incurred.

ARTICLE XVI – OBLIGATIONS OF FUTURE APPROPRIATIONS

Nothing herein shall constitute, or be deemed to constitute, an obligation of future appropriations by the legislature of the State of Louisiana when obligating future appropriations would be inconsistent with the State's constitutional or statutory limitations.

ARTICLE XVII – NOTICES

a. All notices, requests, demands, and other communications required or permitted to be given under this Agreement shall be deemed to have been duly given if in writing and delivered personally, given by prepaid telegram, or mailed by first-class (postage pre-paid), registered, or certified mail, as follows:

If to DNR:

Secretary, Department of Natural Resources
P.O. Box 94396
Baton Rouge, LA 70804-9396

If to FWS:

Regional Director, U.S. Fish and Wildlife Service
1875 Century Boulevard
Atlanta, Georgia 30345

b. A party may change the address to which such communications are to be directed by giving written notice to the other party in the manner provided in this Article.

c. Any notice, request, demand, or other communication made pursuant to this Article shall be deemed to have been received by the addressee at such time as it is personally delivered or seven (7) calendar days after it is mailed, as the case may be.

ARTICLE XVIII – CONFIDENTIALITY

To the extent permitted by the laws governing each party, the parties agree to maintain the confidentiality of exchanged information when requested to do so by the providing party.

ARTICLE XIX – PROJECT COST LIMITS

a. The Task Force will finance the Project in two phases. Phase I funding is comprised of those funds needed for any necessary analysis of environmental benefits, any necessary hydrologic data collection and analysis, Pre-construction Biological Monitoring, and Engineering and Design. Engineering and Design includes Engineering, Design, Environmental Clearances, Permitting, Project Management and Real Estate requirements up to, but not including, the purchase of real estate. The Task Force estimated Phase I cost for this Project at \$528,894. To provide flexibility in Phase I of the Project, the Task Force has authorized a maximum Phase I cost of 125% of the estimated Phase I cost or \$661,117 for this particular Project. This is the total funding and obligation for FWS and the State until Phase II funding is approved. Any cost in excess of this maximum total Phase I cost is subject to Task Force approval and amendment of this Agreement, as provided in Article XX. The 125% budget for Phase I by funding category includes the following:

1.	E & D (including supervision & administration)	\$399,247
2.	Easements and Landrights	\$154,800
3.	Pre – Construction Monitoring	<u>\$ 107,070</u>
	Total	\$661,117

b. If, at any time during the performance of work for a particular funding category, the actual or anticipated cost of that category exceeds the 125% cost of that particular funding category as set forth in Article XIX.a. of this Agreement, all work in that particular category shall cease. FWS and DNR may agree to increase the cost of completing that particular category by transferring funds from one category to the other, but only if such increase would not result in the total Phase I costs exceeding the maximum total cost defined in Article XIX.a. of this Agreement. Such agreement regarding transferring funds from one category to the other shall be made by letter agreement confirmed by the mutual written approval of both the FWS Regional Director and the DNR Secretary. Work on that particular funding category shall thereafter resume.

c. After Phase I has been substantially completed, the Task Force may authorize expenditure of Phase II funding. This process will be accomplished as specified in the CWPPRA Project Standard Operating Procedures Manual. This Agreement shall then be amended in accordance with the provisions of Article XX to include the Phase II costs of Construction and the first three (3) years of Post-construction Biological Monitoring, Operation and Maintenance. Construction includes Project Management, Contract Management, Construction Supervision, Inspection, and the purchase of real estate. Operation and Maintenance includes Engineering Inspections.

d. Post-construction Biological Monitoring and Operation and Maintenance costs will be funded in accordance with Section 6.(j).2. of the CWPPRA Project Standard Operating Procedures Manual so as to maintain approximately three (3) years of authorized and funded post construction activity. This Agreement will be amended in accordance with the provisions of Article XX to reflect these CWPPRA and State funding obligations as they occur.

ARTICLE XX – AMENDMENTS TO BE IN WRITING

This Agreement may be modified by agreement of the parties, in accordance with the provisions of CWPPRA and applicable federal and state regulations. All such amendments, modifications, revisions, and/or changes to this Agreement must be made in writing and acknowledged by signature of the authorized representatives of all parties of this Agreement. All such amendments, modifications, revisions, and/or changes to this Agreement shall be subject to review and approval by the Division of Administration, State of Louisiana.

ARTICLE XXI – EQUAL OPPORTUNITY AND CIVIL RIGHTS

a. The program or activities conducted under this Agreement will be in compliance with the nondiscrimination provisions contained in the following Federal anti-discrimination laws: (1) Titles VI and VII of the Civil Rights Act of 1964 (Public Law 88-352), as amended; (2) the Civil Rights Restoration Act of 1987 (Public Law 100-259); (3) the Civil Rights Act of 1991 (Public Law 102-166), as amended; (4) Executive Order 11478, as amended; (5) Section 504 of the Rehabilitation Act of 1973 (PL 93-112), as amended; (6) Title II of the Americans with Disabilities Act of 1990 (PL 101-336); (7) the Age Discrimination in Employment Act (PL 93-259), as amended; (8) Age Discrimination Act of 1975 (PL 94-135); (9) Equal Pay Act; (10) Title IX of the Education Amendments of 1972, as amended; and (11) other Federal statutes that prohibit discrimination. They will also be in accordance with nondiscrimination regulations of the Secretary of Interior (43 CFR 17). The program or activities conducted under this Agreement will provide that no person in the United States shall on the grounds of race, color, national origin, age, sex, religion, marital status, handicap or sexual orientation be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity receiving federal financial assistance from the Department of Interior or any agency thereof.

ARTICLE XXII – SURVEY

Prior to commencement of any construction activities, FWS or the Office of Coastal Restoration and Management of DNR, at the option of DNR, shall (1) cause to be conducted, a survey to determine the highest tide during winter season or such other time which will indicate the extent of State ownership existing prior to commencement of any restoration activities, or (2) obtain aerial photographs or satellite images of the project area taken within one (1) year prior to commencement of the restoration activity, or (3) acquire such other information as is acceptable to DNR to indicate the extent of State ownership. Any costs associated with this Article are considered a part of total Project costs and shall be cost-shared according to the terms previously identified.

ARTICLE XXIII – FEDERAL AND STATE LAWS

a. In exercise of DNR's rights and obligations hereunder, DNR agrees to comply with all applicable Federal and State laws and regulations.

b. FWS agrees to comply with all applicable Federal and State of Louisiana laws and/or regulations, unless state law and regulations are preempted by federal law.

ARTICLE XXIV – FISCAL FUNDING

The continuation of this contract is contingent upon the appropriation of funds by the Louisiana Legislature to fulfill the requirements of the agreement. If the Louisiana Legislature fails to appropriate sufficient monies to provide for the continuation of the agreement, or if such appropriation is reduced by the veto of the governor or by any means provided in the appropriations act to prevent the total appropriation for the year from exceeding revenues for that year, or for any other lawful purpose, and the effect of such reduction is to provide insufficient monies for the continuation of the agreement, the agreement shall terminate on the date of the beginning of the first fiscal year for which funds are not appropriated.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed on the 24th day of July, 2001, before the undersigned witnesses.

**U.S. DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE**

THE STATE OF LOUISIANA

BY: *Sam D. Hamilton*
for Sam D. Hamilton
Regional Director

BY: *Jack C. Caldwell*
Jack C. Caldwell, Secretary
Louisiana Department of
Natural Resources

WITNESSES:

WITNESSES:

Kimberly A. ...
Peggy F. Kendrick
Debrah F. Young

Suzanne Ferrell
Julia ...
Karen Y. Lewis

CERTIFICATE OF AUTHORITY

I, Warren A. Fleet, do hereby certify that I am the principal legal officer of the Department of Natural Resources for the State of Louisiana, that the Department of Natural Resources for the State of Louisiana is a legally constituted public body with full authority and legal capability to perform the terms of the Agreement between the U. S. Fish and Wildlife Service and the State of Louisiana in connection with the Terrebonne Bay Shore Protection and Oyster Reef - Lake Athanasio (DEMO) (TE-45), Terrebonne Parish, LA, and that the persons who have executed this Agreement on behalf of the State have acted within their statutory authority.

IN WITNESS WHEREOF, I have made and executed this certification this 9th day of July, 2001.

Warren A. Fleet
Warren A. Fleet
General Counsel

CERTIFICATION REGARDING LOBBYING

The undersigned certifies, to the best of his or her knowledge and belief that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

DATE: July 5, 2001

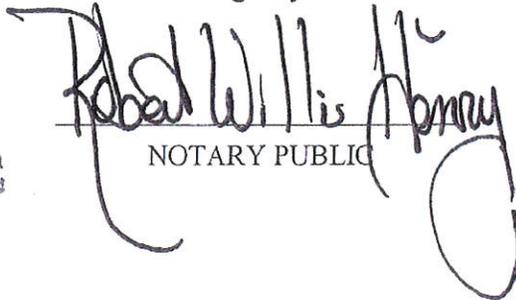


JACK CALDWELL, Secretary
Department of Natural Resources
State of Louisiana

STATE OF GEORGIA
COUNTY OF DEKALB

BEFORE ME, the undersigned authority, duly commissioned and qualified in and for said County and State aforesaid, on this 24th day of July, 2001, personally came and appeared ^{H. Dabettat} ~~Sam D. Hamilton~~ who declared that he is the Regional Director of the U.S. Department of the Interior, Fish and Wildlife Service, that he executed the foregoing instrument on behalf of said Federal Agency and that the instrument was signed pursuant to the authority granted to him by said Federal Agency and that he acknowledged the instrument to be the free act and deed of said Federal Agency.

ROBERT WILLIS HENRY
Notary Public, Cobb County, Georgia
My Commission Expires July 24, 2004

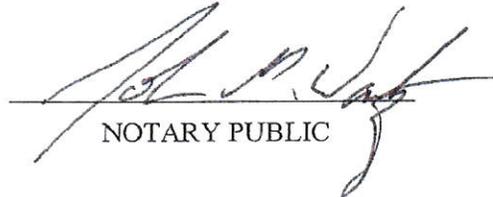

NOTARY PUBLIC

My commission expires: _____

(SEAL)

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 5th day of July, 2001, personally came and appeared Jack C. Caldwell, to me known, who declared that he is the Secretary of the Department of Natural Resources, 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.


NOTARY PUBLIC

My commission expires: w/ death

(SEAL)

CRD

State of Louisiana



M.J. "MIKE" FOSTER, JR.
GOVERNOR

JACK C. CALDWELL
SECRETARY

DEPARTMENT OF NATURAL RESOURCES

February 25, 2002

Ronny Paille
U S Department of the Interior
Fish & Wildlife Services
Ecological Services
646 Cajundome Blvd, Suite 400
Lafayette, LA 70506

RE: Terrebonne Bay Shore Protection (Demo) Project
DNR Agreement No. 2511-02-02
Amendment No. 1

Dear Mr. Paille:

Enclosed are two (2) signed originals of the above referenced Cost Share Agreement Amendment for the above referenced project reflecting approval from the Louisiana Department of Natural Resources under Special Delegation of Authority by Louisiana Division of Administration.

Should you have any questions, please contact Julia Raiford of my staff at (225) 342-4566.

Sincerely,

Karen Y. Lewis
Contracts & Grants Administrator

KYL/jr

cc: - Dan Llewellyn, CRD
Verlie Wims, Fiscal Officer
Gay Browning, NODCOE

Approved Under DNR Delegation Authority
CFMS# 574895
Karen C. Lewis

FWS Agreement No. _____
DNR Agreement No. 2511-02-02
Amendment No. 1
DRAFT 11/21/2001

AMENDMENT NO. 1
TO
COST SHARING AGREEMENT
BETWEEN

U.S. DEPARTMENT OF INTERIOR - FISH AND WILDLIFE SERVICE

AND

STATE OF LOUISIANA

FOR CONSTRUCTION, OPERATION, MAINTENANCE AND MONITORING OF THE

TERREBONNE BAY SHORE PROTECTION (DEMO) PROJECT

TE-45

Reference is made to ARTICLE XX-AMENDMENTS TO BE IN WRITING, of the Cost Sharing Agreement for the captioned Project entered into the 24th day of July, 2001, by and between the U.S. Department of Interior, represented by the Fish and Wildlife Service (hereinafter referred to as "FWS"), acting by and through the Regional Director, Region 4, and the State of Louisiana, acting by and through the Secretary, Department of Natural Resources (hereinafter referred to as "DNR"), which allows for the Cost Sharing Agreement to be amended in writing.

Therefore,

WITNESSETH THAT:

WHEREAS, Phase I categories of E&D (including supervision & administration), Easements and Landrights, and, Pre-Construction Monitoring are substantially completed; and,

WHEREAS, expenditure of Phase II for the Terrebonne Bay Shore Protection (Demo) Project (TE-45) was authorized by the PL 101-646 Task Force January 10, 2001.

NOW THEREFORE, the following Articles and Paragraphs are amended as follows:

1. ARTICLE VI – METHOD OF PAYMENT

Paragraph “a.” contained in the July 24, 2001 Agreement is deleted in its entirety and the following is substituted therefor:

“a. DNR shall provide the contributions required under Article II of this Agreement. The PL 101-646 Task Force has estimated a Phase I cost of \$528,894 and a Phase II cost of \$1,477,478.

To provide flexibility, the PL 101-646 Task Force has authorized a maximum Phase I cost of \$661,117 and a maximum Phase II cost of \$1,846,849 for this particular Project. To meet its share, DNR will contribute, through in-kind services or in cash, the non-federal share of the maximum Phase I and Phase II costs. The maximum amount of DNR’s contribution for Phase I is \$99,168 and for Phase II is \$277,027, the total of which is \$376,195. This figure is subject to modification as provided for in Section 303(f) of CWPPRA. Any costs in excess of the maximum Phase I cost of \$661,117 or the maximum Phase II cost of \$1,846,849 are subject to amendment of this Agreement and Task Force approval, as provided in ARTICLE XIX. The maximum amount of DNR’s required minimum five percent (5%) cash contribution for Phase I is \$33,056 and Phase II is \$92,342. Funding methods and limits of obligations are specified in ARTICLE XIX-PROJECT COST LIMITS. When the PL 101-646 Task Force authorizes expenditures for post-construction monitoring and operation, maintenance and rehabilitation beyond the initial three (3) year minimum, this Agreement shall be amended in accordance with ARTICLE XX.”

2. ARTICLE XIX – PROJECT COST LIMITS

Paragraph “a.” contained in the July 24, 2001 Agreement is deleted in its entirety and the following is substituted therefor:

“a. The PL 101-646 Task Force has financed Phase I at an estimated cost of \$528,894 and the Phase II at an estimated cost of \$1,477,478. Phase I funding is comprised of those funds needed for any necessary analysis of environmental benefits, any necessary hydrologic data collection and analysis, Pre-construction Biological Monitoring, and Engineering and Design and Real Estate requirements up to, but not including, the purchase of real estate. Engineering and Design includes Engineering, Design, Environmental Clearances, Permitting, and Project Management. Phase II funding is comprised of those funds needed for Construction, the first three (3) years of Post-construction Biological Monitoring, Operation, Maintenance and Rehabilitation and the Purchase of Real Estate. Construction includes Project Management, Contract Management, Construction Supervision and Inspection. To provide flexibility in the funding of the Project, the PL 101-646 Task Force has authorized a maximum Phase I and Phase II cost of 125% of the estimated Phase I and Phase II costs or \$661,117 and \$1,846,849 respectively. Any cost in excess of these maximum total Phase I and Phase II costs is subject to Task Force approval and amendment of this Agreement as provided in ARTICLE XX. The 125% budget for each Phase by funding category includes the following:

PHASE I

1.	E&D (including supervision & administration)	\$399,247
2.	Easements and Landrights	\$154,800
3.	Pre-Construction Monitoring	<u>\$107,070</u>
	Total Phase I	\$661,117

PHASE II

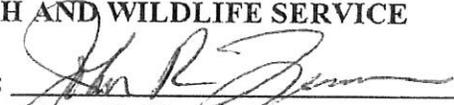
1.	Construction (including Project & construction management and construction supervision & inspection)	\$1,294,917
2.	Oyster Lease Impacts	\$ 39,939
3.	Post-Construction Monitoring	\$ 441,250
4.	Operation, Maintenance and Rehabilitation	\$ 60,875
5.	U.S. Corps of Engineers Project Management	<u>\$ 9,868</u>
	Total Phase II	\$ 1,846,849

GRAND TOTAL \$2,507,966

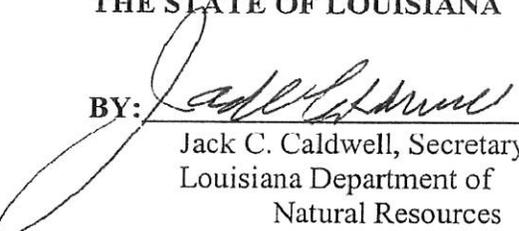
TERREBONNE BAY SHORE PROTECTION (DEMO) PROJECT TE-45

IN WITNESS WHEREOF, the parties hereto have caused this Amendment to be executed on this 24th day of January, 2002, before the undersigned witnesses.

**U.S. DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE**

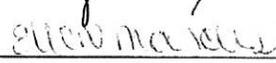
BY: 
for Sam D. Hamilton
Regional Director

THE STATE OF LOUISIANA

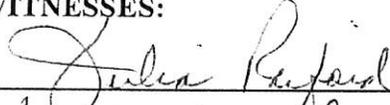
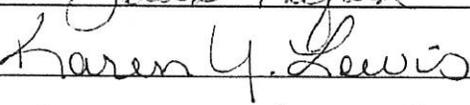
BY: 
Jack C. Caldwell, Secretary
Louisiana Department of
Natural Resources

WITNESSES:





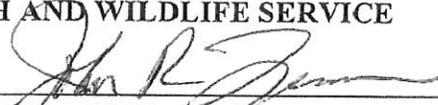
WITNESSES:

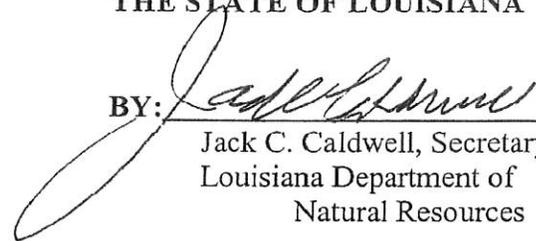

TERREBONNE BAY SHORE PROTECTION (DEMO) PROJECT TE-45

IN WITNESS WHEREOF, the parties hereto have caused this Amendment to be executed on this 2th day of January, 2002, before the undersigned witnesses.

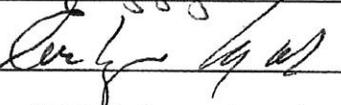
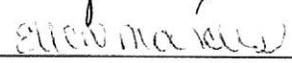
**U.S. DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE**

BY: 
for Sam D. Hamilton
Regional Director

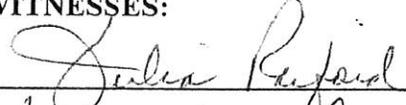
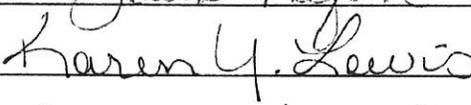
THE STATE OF LOUISIANA

BY: 
Jack C. Caldwell, Secretary
Louisiana Department of
Natural Resources

WITNESSES:

WITNESSES:


CERTIFICATION REGARDING LOBBYING

The undersigned certifies, to the best of his or her knowledge and belief that:

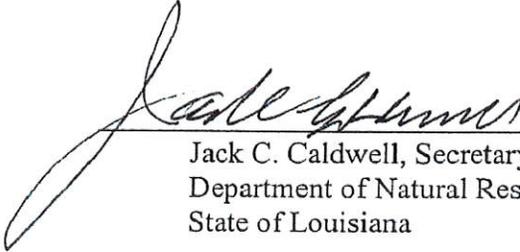
(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of a cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000.00 and not more than \$100,000.00 for each such failure.

DATE: 1-8-2002



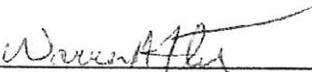
Jack C. Caldwell, Secretary
Department of Natural Resources
State of Louisiana

CERTIFICATION OF AUTHORITY

I, Warren A. Fleet, do hereby certify that I am the principal legal officer of the Department of Natural Resources for the State of Louisiana, that the Department of Natural Resources for the State of Louisiana is a legally constituted public body with full authority and legal capability to perform the terms of the Agreement between the U. S. Fish and Wildlife Service and the State of Louisiana in connection with the **TERREBONNE BAY SHORE PROTECTION (DEMO) PROJECT TE-45**, Terrebonne Parish, LA, and that the persons who have executed this Amendment on behalf of the State have acted within their statutory authority.

IN WITNESS WHEREOF, I have made and executed this certification this 9th day of

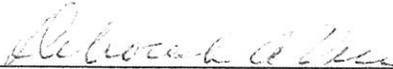
January, 2002.



Warren A. Fleet
General Counsel

**STATE OF GEORGIA
COUNTY OF DEKALB**

BEFORE ME, the undersigned authority, duly commissioned and qualified in and for said County and State aforesaid, on this 30th day of February, 2002, personally came and appeared Sam D. Hamilton who declared that he is the Regional Director of the U.S. Department of Interior, Fish and Wildlife Service, that he executed the foregoing instrument on behalf of said Federal Agency and that the instrument was signed pursuant to the authority granted to him by said Federal Agency and that he acknowledged the instrument to be the free act and deed of said Federal Agency.



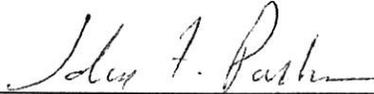
NOTARY PUBLIC

DEBORAH A. VESS
NOTARY PUBLIC, CHEROKEE COUNTY, GA
MY COMMISSION EXPIRES ON NOVEMBER 23, 2003

My commission expires: _____
(SEAL)

**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 January, 2002, personally came and appeared Jack C. Caldwell, to me known, who declared that he is the Secretary of the Department of Natural Resources, 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 by him by said State Agency and that he acknowledged the instrument to be the free act and deed of said State Agency.



NOTARY PUBLIC

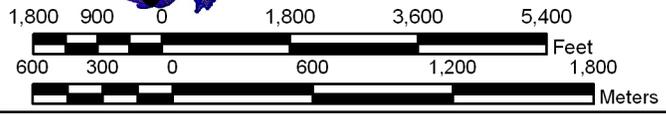
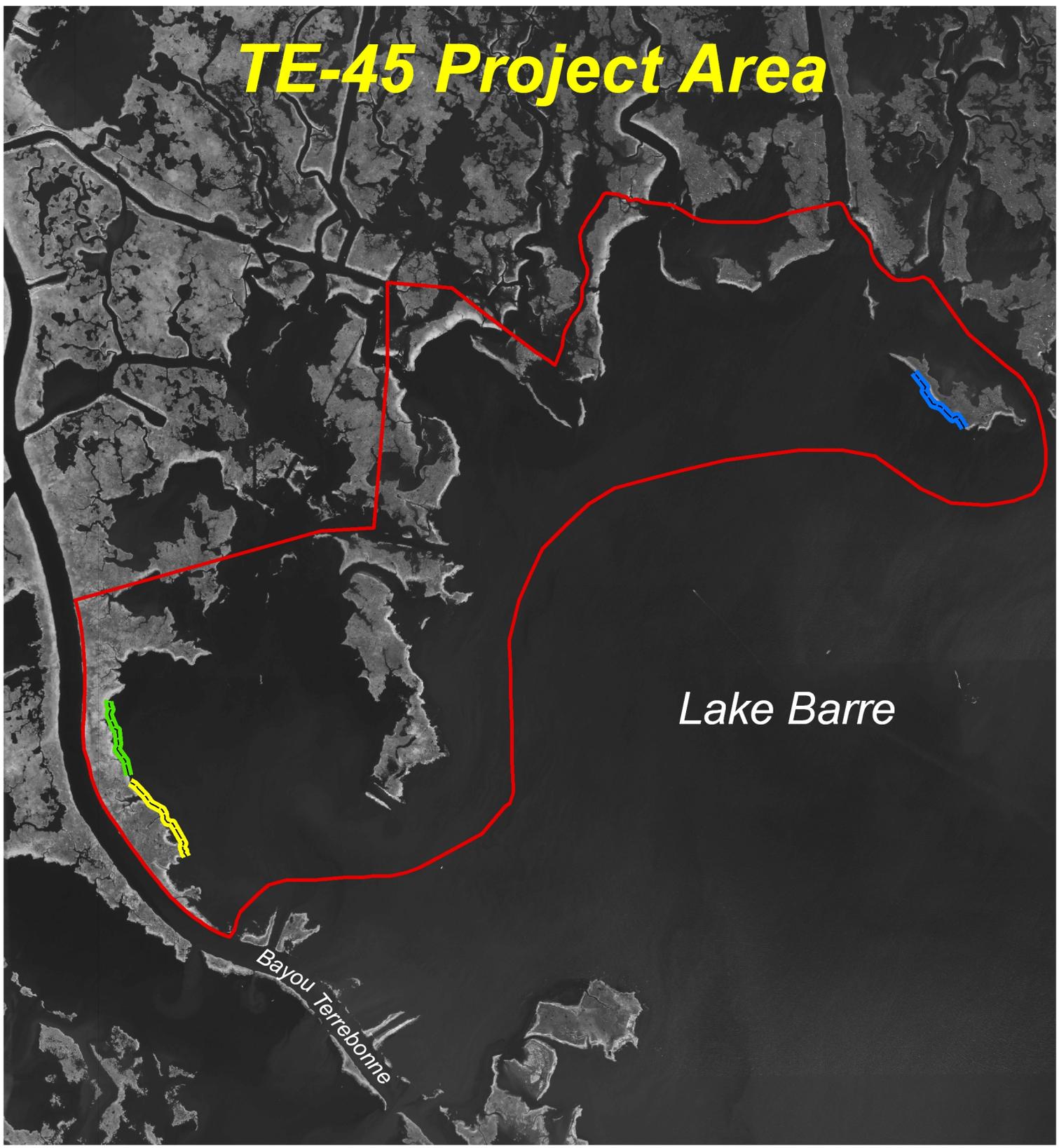
My commission expires: _____
(SEAL)

ATTACHMENT II

TERREBONNE BAY SHORE PROTECTION DEMONSTRATION PROJECT (TE-45)

PROJECT FEATURES

TE-45 Project Area



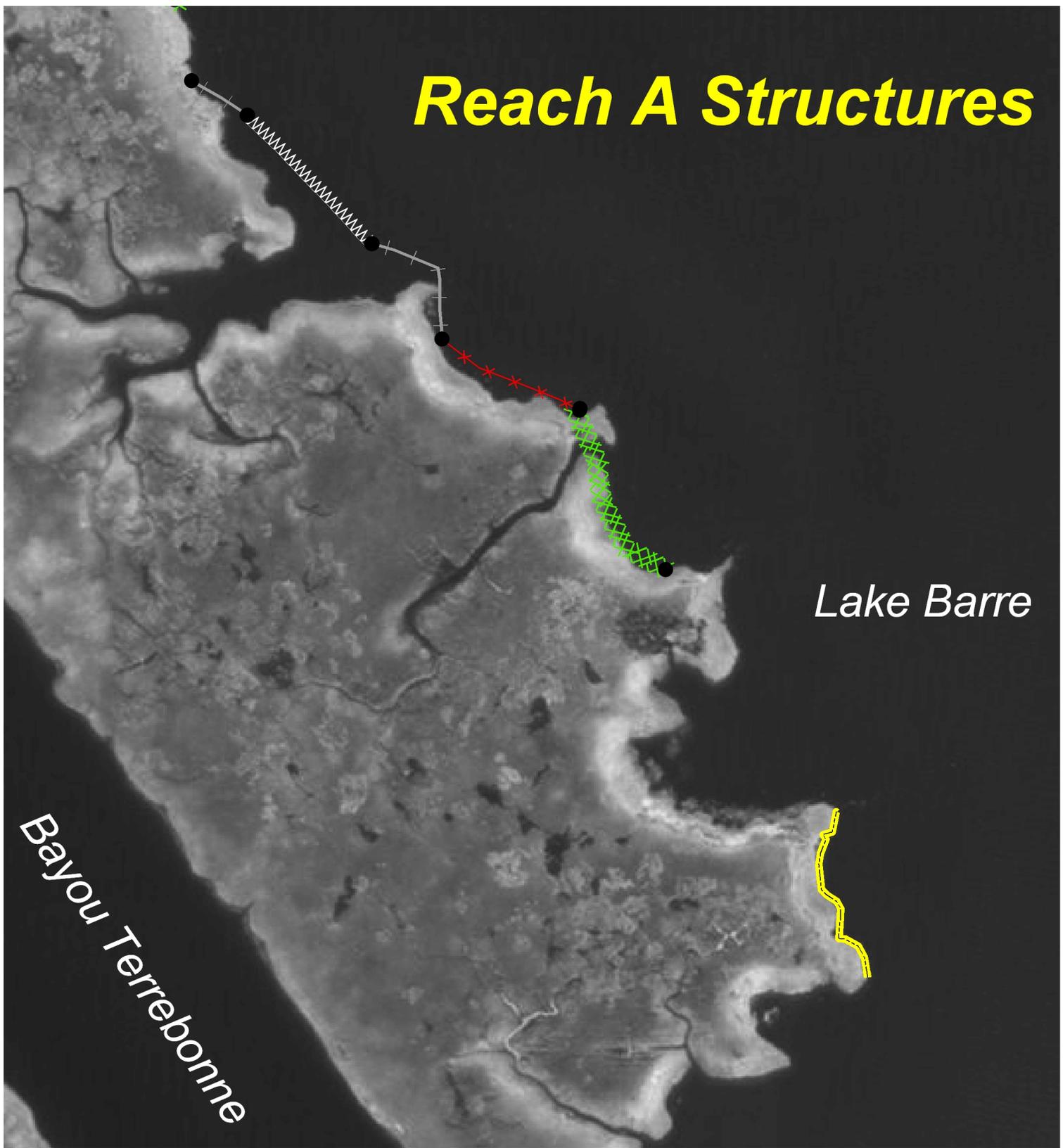
Data Source:
LA Dept. of Natural Resources
Coastal Restoration Division
Monitoring Section

2005 DOQQ

Date: September 23, 2008
Map ID: 2008-TFO-047

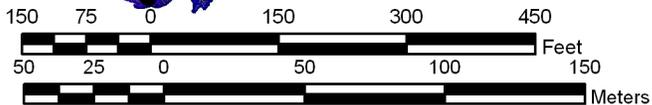
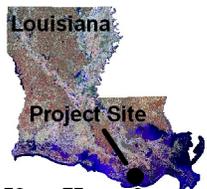
	<i>TE-45 Project Area</i>
	<i>Reach A</i>
	<i>Reach B</i>
	<i>Reach E</i>

Reach A Structures



Lake Barre

Bayou Terrebonne



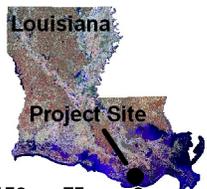
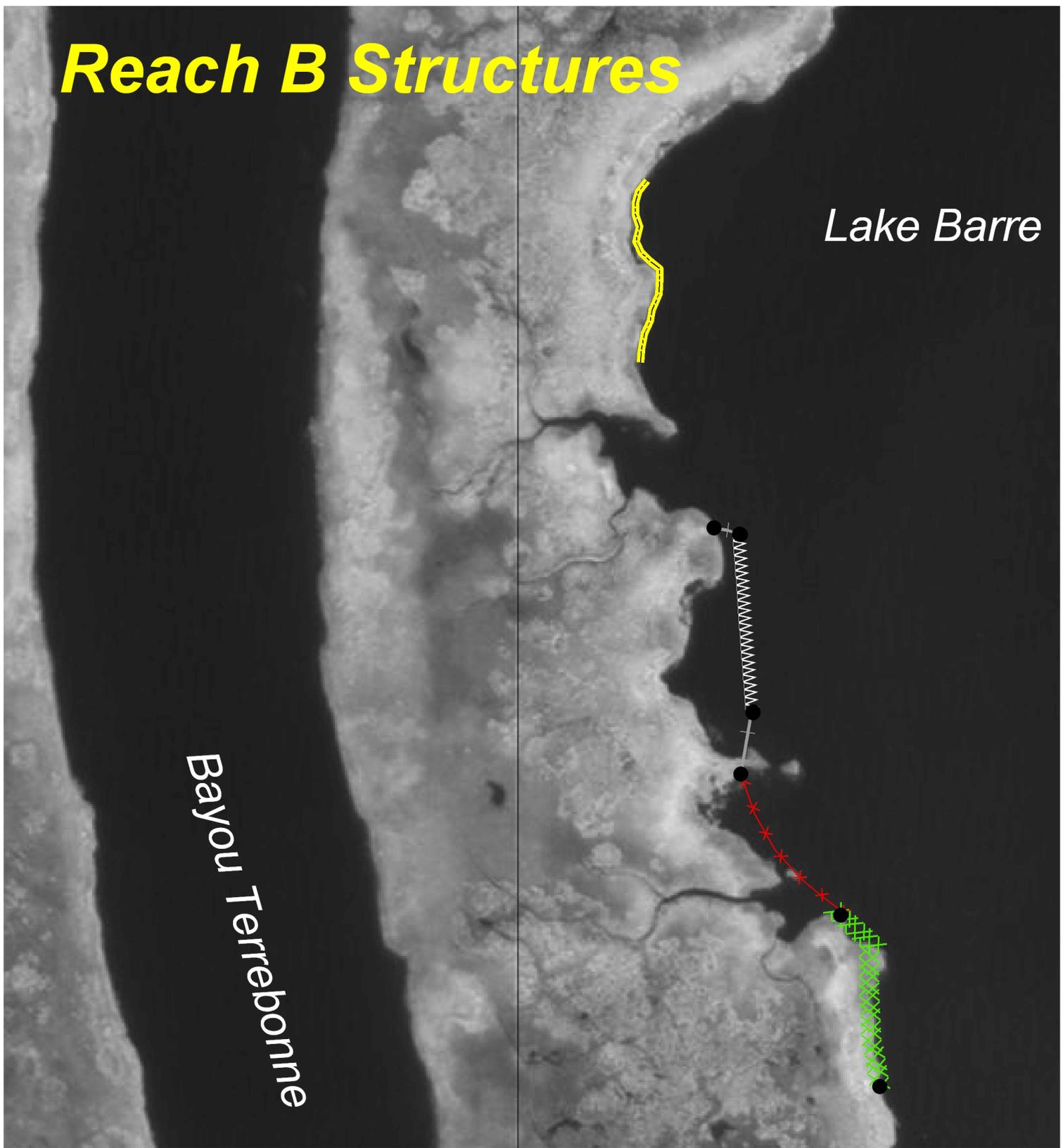
Data Source:
LA Dept. of Natural Resources
Coastal Restoration Division
Monitoring Section

2005 DOQQ

Date: September 23, 2008
Map ID: 2008-TFO-044

-  **A-Jack Treatment**
-  **Gabion Mat Treatment**
-  **Reef Block Treatment**
-  **Tie-In Units**
-  **Reference Area**

Reach B Structures



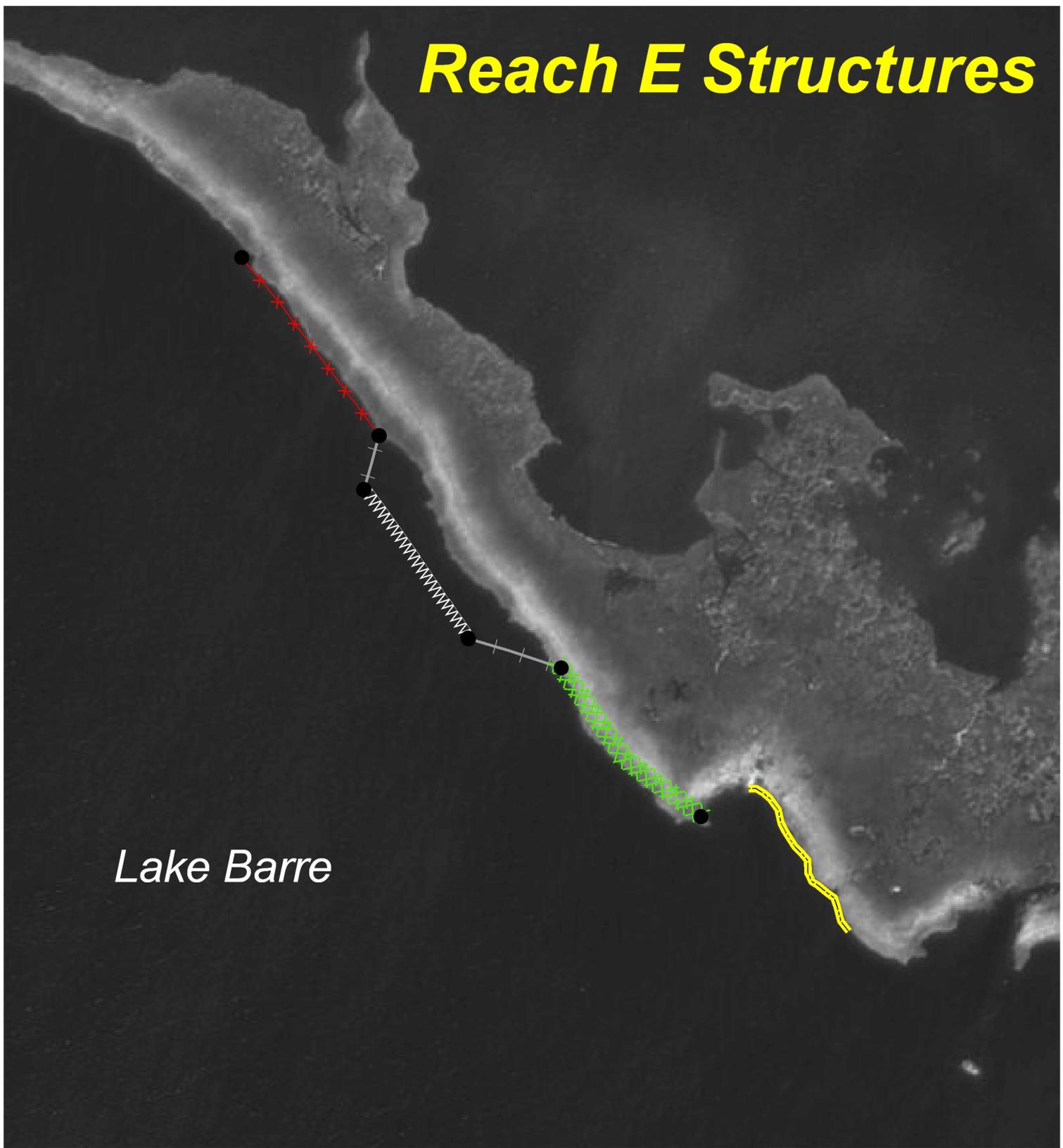
Data Source:
LA Dept. of Natural Resources
Coastal Restoration Division
Monitoring Section

2005 DOQQ

Date: September 23, 2008
Map ID: 2008-TFO-045

- A-Jack Treatment
- Gabion Mat Treatment
- Reef Block Treatment
- Tie-In Units
- Reference Area

Reach E Structures



Lake Barre



Data Source:
LA Dept. of Natural Resources
Coastal Restoration Division
Monitoring Section

2005 DOQQ

Date: September 23, 2008
Map ID: 2008-TFO-046



ATTACHMENT III

TERREBONNE BAY SHORE PROTECTION DEMONSTRATION PROJECT (TE-45)

PROJECT COMPLETION REPORT

**TERREBONNE BAY SHORE PROTECTION
DEMONSTRATION PROJECT
CWPPRA/STATE PROJECT NO. TE-45**

PROJECT COMPLETION REPORT



April 16, 2008

**Prepared for:
Louisiana Department of Natural Resources**

Prepared By:

**T. Baker Smith, Inc.
412 South Van Avenue
Houma, LA 70363**



T. BAKER SMITH
CORPORATE CONSULTING SINCE 1941

PROJECT COMPLETION REPORT

Table Of Contents

1. Project Managers/Contracting Officer	Page 3
2. Location and Description of Projects as Approved for Construction by Task Force.....	Page 3
3. Final, As-Built Features, Boundaries and Resulting Acreage	Page 3
4. Key Project Cost Elements.....	Page 4
5. Items of Work.....	Page 5
6. Construction and Construction Oversight	Page 6
7. Major Equipment Used	Page 6
8. Discuss Construction Sequences and Activities, Problems Encountered, Solutions to Problems, etc.	Page 6
9. Construction Change Orders and Field Changes	Page 7
10. Pipeline and Other Utility Crossing	Page 8
11. Safety and Accidents.....	Page 8
12. Additional Comments Pertaining to Construction, Completed Projects, Lessons Learned, etc.....	Page 8
13. Significant Construction Dates	Page 8

APPENDICES:

- A Change Orders and Field Orders
- B Preconstruction Conference Report
- C As-Built Drawings

PROJECT COMPLETION REPORT

PROJECT NAME: Terrebonne Bay Shore Protection Demonstration Project
CWPPRA/STATE PROJECT NO. TE-45

Report Date: April 2008 **By:** T. Baker Smith, Inc.

1. Project Managers/Contracting Officer:

DNR Construction Project Manager	Daniel Dearmond, P.E.	Telephone	985-449-5103
DNR Monitoring Manager	Glen Curole	Telephone	985-447-0995
Federal Sponsor (USFWS) Project Manager	Robert Dubois	Telephone	337-291-3100
Construction Administrator/Inspection	Barry J. Kennedy, P.E.	Telephone	985-868-1050

2. Location and Description of Projects as Approved for Construction by Task Force.

The Terrebonne Bay Shore Protection Project (TE-45) is an 8-year demonstration project located north of Terrebonne Bay and east of Bayou Terrebonne along the shoreline of Lake Barre in Terrebonne Parish. The Terrebonne Bay Shore Protection Demonstration Project (TE-45) has been approved for construction under the Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA).

The purpose of the project is to demonstrate, evaluate, and document the effectiveness of three shoreline/foreshore protection techniques designed to reduce shoreline erosion and promote oyster reef building at the head of a bay or coastal lake. Three shoreline sites, Reaches A, B, and E, were selected from five potential sites as most suitable to demonstrate the shoreline protection techniques. Each reach is approximately 3000 feet in length. Reaches A and B are located on Burlington Resources, Inc. property, and Reach E is located on Castex-LaTerre, Inc. property. Each of the following three treatments (300' lengths) will be installed at the three shoreline reaches:

Triton™ Gabion Mats Filled with Rock
A-Jacks™ Concrete Armor Units
ReefBlks™ Steel Rebar Triangular Units with Oyster Shell Bags

3. Final, As-Built Features, Boundaries and Resulting Acreage (use attachments if necessary).

The project was constructed as described above. For additional information see Appendix C, As-Built Drawings and Survey Report, As-Built / Transect Profiles.

4. Key Project Cost Elements**

	CWPPRA Project Report Estimates Data	Cost Incurred as of April 20, 2008**
Construction	1,549,856.00	1,742,440.86
E & D	409,115.00	333,951.05
Land rights	154,800.00	94,370.03
Monitoring	548,320.00	23,969.45
O & M	60,875.00	0.00
Total	2,722,966.00	2,194,731.39

**Cost Incurred does not include Federal Sponsor Administrative costs.

5. Items of Work

Item No.	Work	Estimated Quantity	Unit	Estimated Unit Price	Schedule of Items		Bid Unit Price	Bid Amount	As-Built Quantity	As-Built Amount
					Estimated Amount	Bid Quantity				
Base Bid										
1	Mobilization and Demobilization	1	LS	\$75,000.00	\$75,000.00	1	\$74,520.00	\$74,520.00	1	\$74,520.00
2	Surveying	1	LS	\$50,000.00	\$50,000.00	1	\$58,320.00	\$58,320.00	1	\$58,320.00
3	Onshore Armor Units	900	LN FT	\$225.00	\$202,500.00	900	\$311.00	\$279,900.00	900	\$279,900.00
4	Onshore Gabion Mat Units	900	LN FT	\$335.00	\$301,500.00	900	\$480.00	\$432,000.00	900	\$432,000.00
5	Foreshore Triangular Units	900	LN FT	\$220.00	\$198,000.00	900	\$250.00	\$225,000.00	900	\$225,000.00
6	Tie-Down Anchor System	186	EACH	\$632.00	\$117,552.00	186	\$637.00	\$118,482.00	186	\$118,482.00
7	Foundation Base Geogrid	2200	SQ YD	\$7.00	\$15,400.00	2200	\$14.00	\$30,800.00	2200	\$30,800.00
8	Foundation Base Crushed Stone	500	TON	\$55.00	\$27,500.00	500	\$143.00	\$71,500.00	645	\$92,235.00
9	Tie-In Units	790	LN FT	\$305.00	\$240,950.00	790	\$410.00	\$323,900.00	790	\$323,900.00
10	Permanent Warning Signs	6	EACH	\$2,000.00	\$12,000.00	6	\$3,024.00	\$18,144.00	6	\$18,144.00
DNR Estimated Amount: \$1,240,402.00						Original Base Bid Amount: \$1,632,566.00		As-Built Amount \$1,653,301.00		

6. Construction and Construction Oversight

Prime Construction Contractor	Larry Dorion Inc.
Subcontractor	JAG Construction Services
Original Construction Contract	\$1,632,566.00
Change Orders	\$20,735.00
Final Construction Contract	\$1,653,301.00

Construction Oversight Contractor: T. Baker Smith, Inc.

Construction Oversight Amount: \$73,957.45

7. Major Equipment Used

Koehring 440 Crane

Cat 910 Front-End Loader

Cat 325 Excavator

3 Outboards

Tug Madison Marie

2 Deck Barges

Cat 322 Marsh Buggy

8. Discuss Construction Sequences and Activities, Problems Encountered, Solutions to Problems, etc.

- September 6, 2007: Sub-Contractor, JAG Construction Services begins mobilization and installation of treatments.
- September 29, 2007: Sub-Contractor, JAG Construction Services completes installation of Gabion Mat units for all reaches.
- October 8, 2007: Field Order No. 1 is issued by T. Baker Smith for the changes in contract documents.
- October 9, 2007: Sub-Contractor, JAG Construction Services begins installation of A-JACKS units.
- October 18, 2007: Field Order No. 2 is issued by T. Baker Smith for the changes for the changes in contract.
- October 23, 2007: Sub-Contractor, JAG Construction Services begins installation of tie-in units.

- October 26, 2007: Sub-Contractor, JAG Construction Services completes installation of A-JACKS units on all reaches.
- November 13, 2007: Sub-Contractor, JAG Construction Services begins filling Triangular Units with oyster shells.
- December 6, 2007: Change Order No. 1 is issued by T. Baker Smith for the addition of 145 tons of Foundation Base Crushed Stone.
- December 11, 2007: Sub-Contractor, JAG Construction Services begins demobilization.
- December 12, 2007: Sub-Contractor, JAG Construction Services completes installation of tie-in units, thus completes all construction on all reaches.
- December 13, 2007: Sub-Contractor, JAG Construction Services completes demobilization.
- December 19, 2007: Final Inspection is held.
- February 14, 2008: T. Baker Smith arrives to begin as-built survey.
- February 20, 2008: T. Baker Smith completes as-built survey for all reaches.

9. Construction Change Orders and Field Changes.

Change Order No. 1 (December 6, 2007):

The final quantity for bid item No. 8, Foundation Base Crushed Stone, exceeded the original contract quantity by 145 tons due to underestimation of settlement values. The final quantity of Foundation Base Crushed Stone, as verified by the TBS project representative, was 645 tons. The contract time was not affected.

ITEM NO.	ITEM	UNIT	ORIGINAL QUANTITY	UNIT COST	ORIGINAL BID AMOUNT	ADDITIONAL QUANTITY	ADDITIONAL AMOUNT	BID ITEM TOTAL \$ AMOUNT
8	Foundation Base Crushed Stone	TON	500	\$143.00	\$71,500.00	145	\$20,735.00	\$92,235.00
TOTAL:							\$20,735.00	

Field Order No. 1 (October 8, 2007):

Plan Sheets 6 of 25 and 7 of 25 were revised and were replaced with the revised sheets showing the updated alignment and coordinates for reaches A, B, and E for locations of the Onshore Armor Units and Foreshore Triangular Units.

Field Order No. 2 (October 18, 2007):

Plan Sheet 5 of 25 was revised to show the changes to the Typical Anchor Detail. The location of the threaded eye was changed so that it was installed above the layer of crushed stone for both the Armor Unit and Triangular Unit installations.

10. Pipeline and Other Utility Crossings.

	<u>Structure</u>	<u>Owner</u>	<u>Rep. To Contact</u>
1.	Natural Gas pipeline	Chevron Texaco	Shannon Montgomery (985)758-0230
2.			
3.			

11. Safety and Accidents.

There were no accidents reported during the Terrebonne Bay Shore Protection Demonstration Project.

12. Additional Comments Pertaining to Construction, Completed Projects, Lessons Learned, etc.

13. Significant Construction Dates: To be filled out by DNR Construction Project Manager or Contracting Officer for construction for Agency responsible for construction.

ACTION	Date
Bid Opening	June 14, 2007
Construction Contract Award	August 8, 2007
Preconstruction Conference	August 20, 2007
Notice to Proceed	August 22, 2007
Mobilization	September 6, 2007
Construction Start	September 6, 2007
Construction Completion	December 12, 2007
Final Acceptance	December 19, 2007

**If different bids are taken, repeat this table to individually reflect each bid and attach tables.
Other significant Project Dates**

	<u>Date</u>
Project Implementation closeout**	
Start of Preconstruction Monitoring***	
Preconstruction Aerial Photography Acquisition***	
Monitoring Plan Completion***	

** Final implementation closeout is made by either the DNR Project Manager or the Federal Agency Contracting Officer depending on which organization had lead role for construction of project.

*** To be completed by DNR Project Manager.

APPENDIX A
FIELD ORDERS AND CHANGE ORDERS

FIELD ORDER NO. ONE (1)

PROJECT:
Terrebonne Bay Shore Protection Demonstration

DATE OF ISSUANCE:
October 8, 2007

OWNER:
Louisiana Department of Natural Resources
1440 Tiger Drive Suite B
Thibodaux, LA 70301

OWNER'S PROJECT NO.
TE-45

CONTRACTOR:
Larry Doiron, Inc.
P.O. Box 1640
Morgan City, LA 70380

ENGINEER:
T. Baker Smith, Inc.
412 S. Van Avenue
Houma, LA 70361

CONTRACT FOR:
Terrebonne Bay Shore Protection Demonstration

ENGINEER'S PROJECT NO.
2007.1628

You are directed to make the following changes in the Contract Documents.

Description:

Plan Sheet 6 of 25 and 7 of 25 have been revised and shall be replaced with the attached drawings. The revised sheets show the updated alignment and coordinates for reaches A, B and E for locations of the Onshore Armor Units and Foreshore Triangular Units.

Attachments:

1. Plan Sheet 6 of 25
2. Plan Sheet 7 of 25

This Field Order does not constitute a change in Contract Time and/or Contract Cost.

RECOMMENDED:

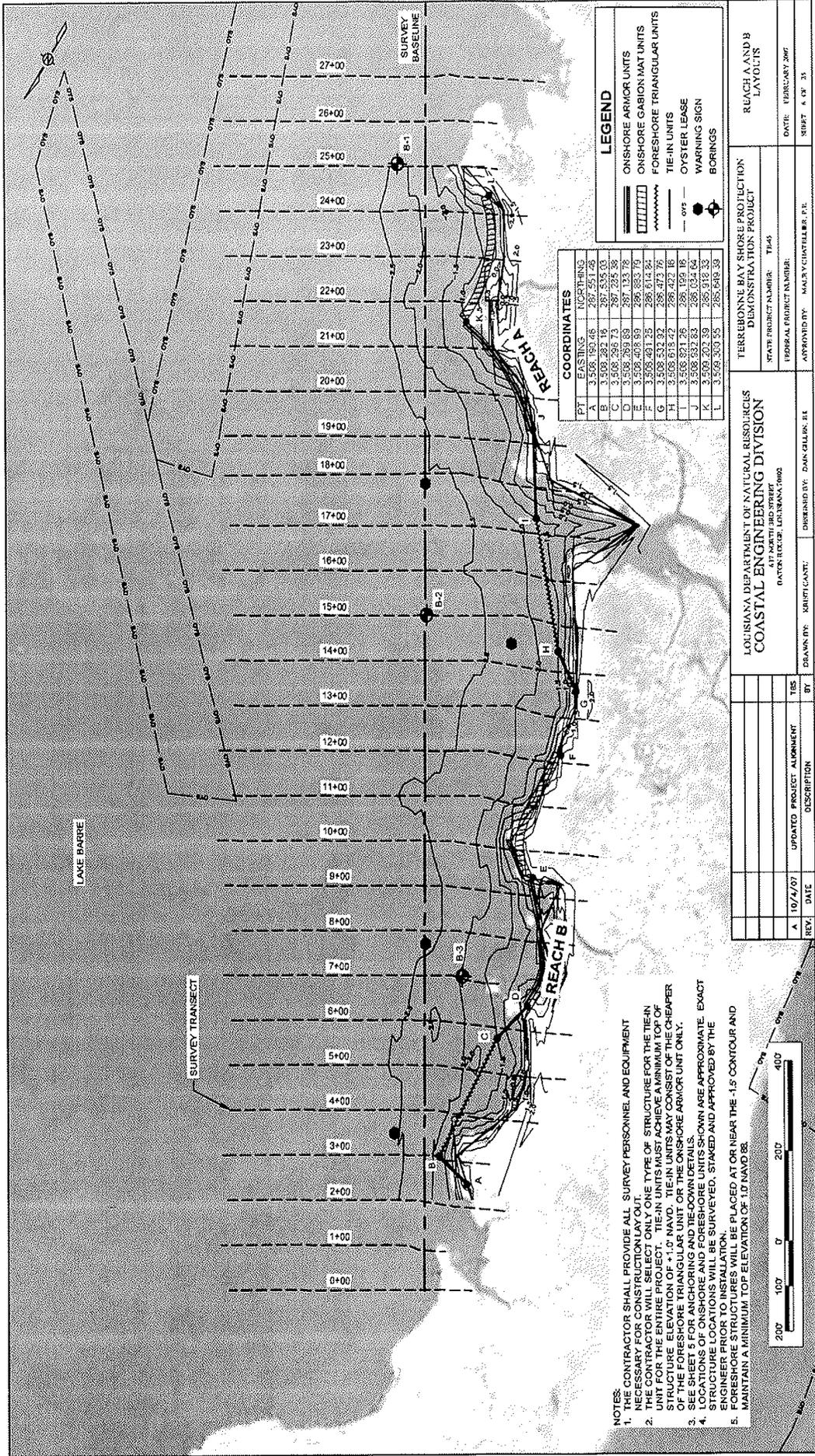
By: Benny J. Kennedy
Date: 10/9/07

APPROVED:

By: Daniel Hammond
Date: 12/14/07

ACCEPTED:

By: Samuel Woodson
Date: 12/10/07



LEGEND

- ONSHORE ARMOR UNITS
- ONSHORE GABION MAT UNITS
- FORESHORE TRIANGULAR UNITS
- TIE-IN UNITS
- OYSTER LEASE
- WARNING SIGN
- BORINGS

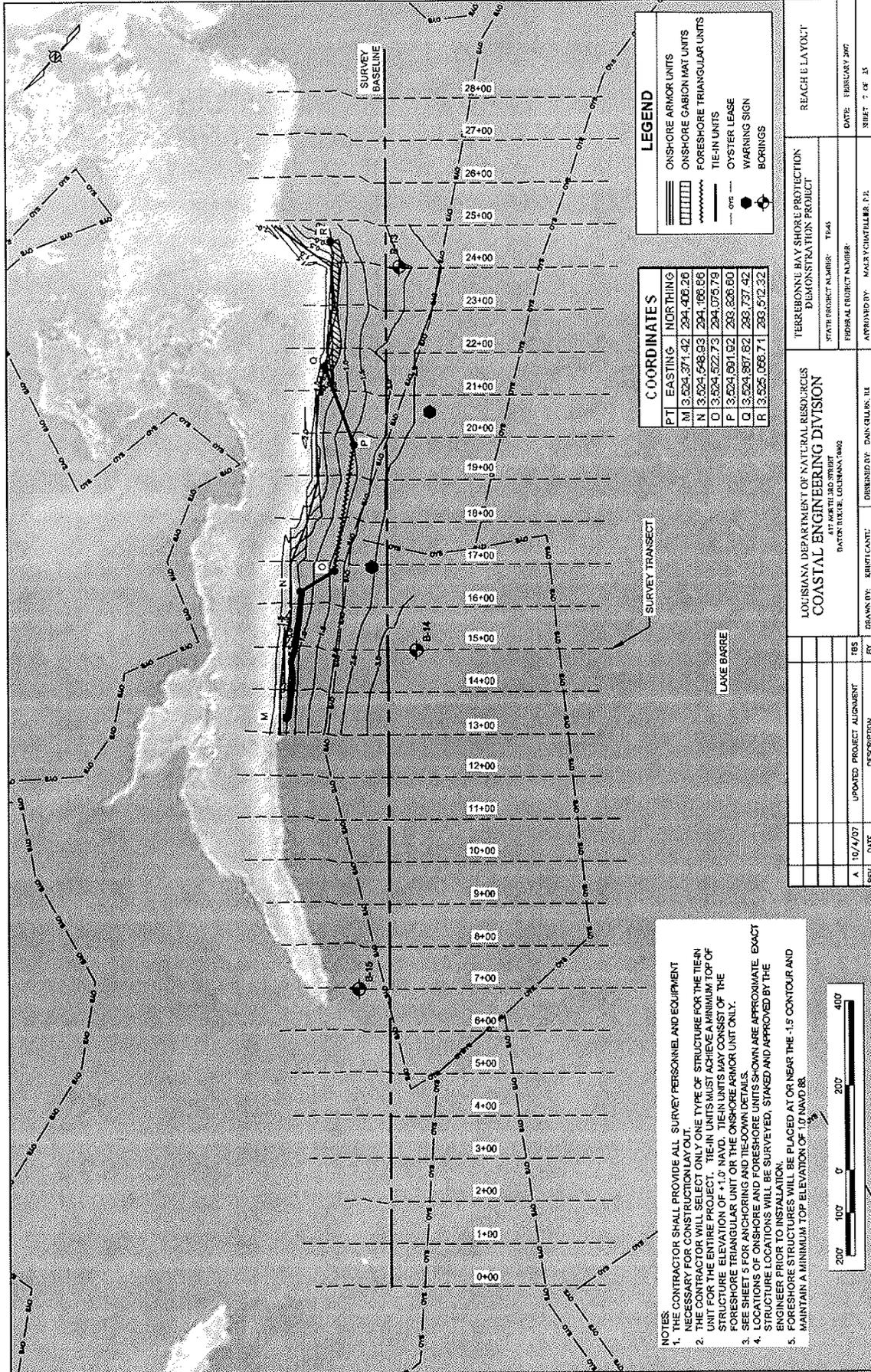
COORDINATES

PT	EASTING	NORTHING
A	3,508,190.46	287,551.26
B	3,509,282.16	287,535.03
C	3,508,295.73	287,225.88
D	3,508,293.89	287,123.72
E	3,509,401.39	286,513.64
F	3,508,213.43	286,422.16
G	3,508,213.43	286,159.18
H	3,508,213.43	286,034.64
I	3,509,202.39	285,918.33
J	3,509,202.39	285,648.33
K	3,509,202.39	285,648.33
L	3,509,202.39	285,648.33

- NOTES:**
- THE CONTRACTOR SHALL PROVIDE ALL SURVEY PERSONNEL AND EQUIPMENT NECESSARY FOR CONSTRUCTION OF ALL STRUCTURES FOR THE TIE-IN UNITS AND FORESHORE TRIANGULAR UNITS. THE CONTRACTOR SHALL SELECT ONE TYPE OF STRUCTURE FOR THE TIE-IN UNIT FOR THE ENTIRE PROJECT. TIE-IN UNITS MUST ACHIEVE A MINIMUM TOP OF STRUCTURE ELEVATION OF +1.0' NAVD. TIE-IN UNITS MAY CONSIST OF THE CHEAPER OF THE FORESHORE TRIANGULAR UNIT OR THE ONSHORE ARMOR UNIT ONLY.
 - SEE SHEET 5 FOR ANCHORING AND TIE-DOWN DETAILS.
 - LOCATIONS OF ONSHORE AND FORESHORE UNITS SHOWN ARE APPROXIMATE. EXACT STRUCTURE LOCATIONS WILL BE SURVEYED, STAKED AND APPROVED BY THE ENGINEER.
 - FORESHORE STRUCTURES WILL BE PLACED AT OR NEAR THE -1.5' CONTOUR AND MAINTAIN A MINIMUM TOP ELEVATION OF 1.0' NAVD 88.

LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION		TERREBONNE BAY SHORE PROTECTION DEMONSTRATION PROJECT	
DATE: 10/21/07	DESIGNED BY: DAN GILLUM, PE	DATE: FEBRUARY 2007	REACH A AND B LAYOUTS
REV: A	BY: []	APPROVED BY: MALY CHATELIER, P.E.	SHEET 4 OF 31
DESCRIPTION: []	DISSEMINATED BY: []	FEDERAL PROJECT NUMBER: []	
UPDATED PROJECT ALIGNMENT: []		STATE PROJECT NUMBER: []	
DATE: []		FEDERAL PROJECT NUMBER: []	





LEGEND

- ONSHORE ARMOR UNITS
- ONSHORE GABION MAT UNITS
- FORESHORE TRIANGULAR UNITS
- TIE-IN UNITS
- OYSTER LEASE
- WARNING SIGN
- BORINGS

C. COORDINATES

PT	EASTING	NORTHING
M	3,524,371.42	294,426.26
N	3,524,548.93	294,186.66
O	3,524,522.73	294,075.79
P	3,524,891.92	293,826.60
Q	3,524,867.62	288,737.42
R	3,525,088.71	293,572.32

LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION DATE: 10/14/07		FERRIBONNI BAY SHORE PROTECTION DEMONSTRATION PROJECT STATE PROJECT NUMBER: TEAS FEDERAL PROJECT NUMBER: APPROVED BY: DAN GILLES, EL DESIGNED BY: LUCIANA SMOG DRAWN BY: SIGNIFICANT BY: RBS		REACH E LAYOUT DATE: FEBRUARY 2007 SHEET 7 OF 15	
REV.	DATE	DESCRIPTION			
A	10/14/07	UPDATED PROJECT ALIGNMENT			

NOTES

1. THE CONTRACTOR SHALL PROVIDE ALL SURVEY PERSONNEL AND EQUIPMENT NECESSARY FOR CONSTRUCTION LAYOUT.
2. THE CONTRACTOR SHALL CONSTRUCT LAYOUT OF THE TYPE OF STRUCTURE FOR THE TIE-IN UNITS AND FORESHORE UNITS. TIE-IN UNITS MUST ACHIEVE A MINIMUM TOP OF STRUCTURE ELEVATION OF -1.0' NAVD. TIE-IN UNITS MAY CONSIST OF THE FORESHORE TRIANGULAR UNIT OR THE ONSHORE ARMOR UNIT ONLY.
3. SEE SHEET 5 FOR ANCHORING AND TIE-DOWN DETAILS.
4. LOCATIONS OF ONSHORE AND FORESHORE UNITS SHOWN ARE APPROXIMATE. EXACT STRUCTURE LOCATIONS WILL BE SURVEYED, STAKED AND APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.
5. FORESHORE STRUCTURES WILL BE PLACED AT OR NEAR THE -1.5' CONTOUR AND MAINTAIN A MINIMUM TOP ELEVATION OF 1.0' NAVD 88.



FIELD ORDER NO. TWO (2)

PROJECT:
Terrebonne Bay Shore Protection Demonstration

DATE OF ISSUANCE:
October 18, 2007

OWNER:
Louisiana Department of Natural Resources
1440 Tiger Drive Suite B
Thibodaux, LA 70301

OWNER'S PROJECT NO.
TE-45

CONTRACTOR:
Larry Doiron, Inc.
P.O. Box 1640
Morgan City, LA 70380

ENGINEER:
T. Baker Smith, Inc.
412 S. Van Avenue
Houma, LA 70361

CONTRACT FOR:
Terrebonne Bay Shore Protection Demonstration

ENGINEER'S PROJECT NO.
2007.1628

You are directed to make the following changes in the Contract Documents.

Description:

TYPICAL ANCHOR DETAIL, as shown on plan sheet 5 of 25, is hereby revised to show. The location of the threaded eye is to be installed so the eye is to be located above layer of crushed stone for both the ARMOR UNIT and TRIANGULAR UNIT installations.

Attachments: N/A

This Field Order does not constitute a change in Contract Time and/or Contract Cost.

RECOMMENDED:
By: Barry J. Kemerly
Date: 12/10/07

APPROVED:
By: Daniel Pearson
Date: 12/14/07

ACCEPTED:
By: Dennis Doiron
Date: 12/10/07

CHANGE ORDER NO. ONE (1)

PROJECT:
Terrebonne Bay Shore Protection Demonstration

DATE OF ISSUANCE:
December 6, 2007

OWNER:
Louisiana Department of Natural Resources
1440 Tiger Drive STE B
Thibodaux, LA 70301

OWNER'S PROJECT NO.
TE-45

CONTRACTOR:
Larry Doiron, Inc.
P.O. Box 1640
Morgan City, LA 70380

ENGINEER:
T. Baker Smith, Inc.
412 S. Van Ave.
Houma, LA 70363

CONTRACT FOR:
Terrebonne Bay Shore Protection Demonstration

ENGINEER'S PROJECT NO.
2007.1628

You are directed to make the following changes in the Contract Documents.

Description:
Add additional quantity of Foundation Base Crushed Stone in the amount of 145 tons for an adjusted contract total of 645 tons.

This change order increases the contract quantity of Foundation Base Crushed Stone for a total increase in Contract Price of \$20,735.00.

RECEIVED
DEC 17 2007
CCP

CHANGE IN CONTRACT PRICE:	CHANGE IN CONTRACT TIME:
Original Contract Price \$ <u>1,632,566.00</u>	Original Contract Time <u>240 Calendar Days</u> days or date
Previous Change Orders \$ <u>0.00</u>	Net Change from previous Change Orders <u>0 Calendar Days</u> days or date
Contract Price Prior to This Change Order \$ <u>1,632,566.00</u>	Contract Time Prior to this Change Order <u>240 Calendar Days</u> days or date
Net Increase of this Change Order \$ <u>20,735.00</u>	Net Increase of this Change Order <u>0 Calendar Days</u> days or date
Contract Price with all approved Change Orders \$ <u>1,653,301.00</u>	Contract Time with all approved Change Orders <u>240 Calendar Days</u> days or date

RECOMMENDED: By: *Barry J. Kennedy*
Engineer
Date: 12/19/07

APPROVED: By: *David Dearmot*
LGJ/IT
Date: 12/17/07

APPROVED: By: *[Signature]*
Contractor
Date: 12/13/07

Louisiana Department of Natural Resources
Terrebonne Bay Shore Protection Demonstration Project (TE-45)

File No. O 26640 DL
Purchase Order No. 3208625

Change Order No. 1 Summary

Change Order No. 1 will increase the Contract Price from \$1,632,566.00 to \$1,653,301.00 with no increase in Contract Time.

The following Bid Items will be modified:

Item No.	Item	Unit	Original Quantity	Unit Price	Original Bid \$ Amount	Additional Quantity	Additional Bid \$ Amount	Total Quantity	Bid Item Total \$ Amount
8	Foundation Base Crushed Stone	TON	500	\$143.00	\$71,500.00	145	\$20,735.00	645	\$92,235.00
TOTAL:							\$20,735.00		

Bid Item No. 8:

An additional 145 tons of rock are required to complete the project. The original quantity of 500 tons was an estimate based on field conditions at the time of survey and assumed settlement values.

APPENDIX B

PRE-CONSTRUCTION CONFERENCE REPORT

PRE-CONSTRUCTION CONFERENCE REPORT

DATE: September 20, 2006

TIME: 9:00 a.m.

PROJECT NAME: TERREBONNE BAY SHORE PROTECTION DEMONSTRATION PROJECT

LDNR PROJECT NO. TE-45

TBS PROJECT NO. 2007.1628

1. INTRODUCTION

A. Attendees (Introduction)

Philip Chauvin, Jr. - T. Baker Smith, Inc.
Jason Kennedy - T. Baker Smith
Dale Pellegrin - T. Baker Smith
Larry Doiron - Larry Doiron, Inc.
Rickie Taylor - Larry Doiron, Inc.
Gary Duhon - Jag Construction Services

Gary Curole - LDNR
Robert Dubois - USFWS
Ralph Liberat - LDNR/CED
Daniel Dearmond - LDNR/CED/Thibodaux
Dain Gillen - LDNR/CED/BTR

B. Brief description of "Scope of Project"

The Purpose of this project is to demonstrate, evaluate, and document the effectiveness of three shoreline/foreshore protection techniques designed to reduce shoreline erosion and promote oyster reef building at the head of a bay or coastal lake. Three shoreline sites, Reaches A, B, and E, were selected from five potential sites as most suitable to demonstrate the shoreline protection techniques. Each reach is approximately 3000 feet in length. Reaches A and B are located on Burlington Resources, Inc. property, and Reach E is located on Castex-LaTerre, Inc. property. Each of the following three treatments (300' lengths) will be installed at each of the three shoreline reaches:

- 1) Triton - Gabion Mats filled with Rock
- 2) A-Jacks - Concrete Armor Units
- 3) ReefBlks - Steel Rebar Triangular Units with Oyster Shell Bags

C. Contact Personnel for the project:

2. OWNER Louisiana Department of Natural Resources

	NAME	PHONE #	EMERGENCY #
PROJECT MANAGER	<u>Daniel Dearmond</u>	<u>(985) 449-5103</u>	<u>(985) 446-5722</u>
FIELD REP.	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>

3. ENGINEER T. BAKER SMITH, INC

	NAME	PHONE #	CELL #
PROJECT MANAGER	<u>Jason Kennedy</u>	<u>(985) 223-9272</u>	<u>(985) 852-0232</u>
CONSTRUCTION MGT.	<u>Philip Chauvin</u>	<u>(985) 223-9228</u>	<u>(985) 790-0587</u>
PROJECT REP.	<u>Dale Pellegrin</u>	<u>(985) 868-1050</u>	<u>(985) 790-0741</u>
PROJECT REP.	<u>Mike Kay</u>	<u>(985) 868-1050</u>	<u>(985) 852-7084</u>

4. CONTRACTOR: Larry Doiron, Inc.

	NAME	PHONE #	EMERGENCY #
PRIME CONTACTOR	<u>Larry Doiron</u>	<u>(985) 384-3351</u>	
SUB CONTRACTOR	<u>Gary Duhon</u>	<u>(985) 876-1593</u>	<u>(985) 637-2892</u>
FIELD SUPERINTENDENT	<u>Jimmy Duhon</u>	<u>(985) 876-1593</u>	<u>(985) 397-2370</u>
SURVEY SUB CONTRACTOR	<u>David Waitz</u>	<u>(985) 447-4017</u>	<u>(985) 804-0221</u>
FOUNDATION CRUSHED STONE	<u>Martin Marrietta Aggregate</u>	<u>(985) 879-3588</u>	
GEOTEXTILE GEOGRID	<u>Industrial Fabrics</u>	<u>(225) 273-9600</u>	
ONSHORE GEOGRID	<u>Tensar Internation Corp.</u>	<u>(404) 250-1290</u>	
FOREHORE TRIANGLE UNITS	<u>Coastal Environmental, Inc.</u>	<u>(225) 383-7455</u>	
TIE DOWN ANCHORS	<u>A B Manufacturing, Inc.</u>	<u>(504) 367-7449</u>	
PERMANENT SIGNS	<u>Construction Materials</u>	<u>(225) 751-4000</u>	

5. CONSTRUCTION AGREEMENT

- A. Executed and Recorded √ Yes No
- B. Copies Distributed Yes √ No
- C. Payment and Performance Bonds √ Yes No

6. INSURANCE

- A. Contractual Liability - Certificate Received √ Yes No
- B. Builder's Risk - Certificate Received √ Yes No
- C. Owner's/Engineer's Protective Liability - Certificate Received √ Yes No

Remarks: Received by DNR with signed contract documents

7. SUBCONTRACTORS

- A. Subcontractors List Received Yes √ No
- B. List Approved Yes √ No
- C. Contracts Received Yes √ No

Remarks: Larry Doiron, Inc. to provide sub contractor list, TBS to review and respond, DNR to forward executed contract to contractor

8. PAYROLLS AND LABOR STANDARDS

- A. Certifications Reviewed Yes √ No
 - B. Wage Rates and Rosters Distributed Yes √ No
 - C. Payrolls to be submitted to: N/A
- Name _____
- D. Will job interviews be required Yes √ No

Remarks: N/A

9. PROGRESS SCHEDULES

- A. Time of Complete Project. 240 Calendar Days
- B. Amount of liquidated damages. \$900.00 per calendar day
- C. Bar Chart received. √ Yes No
- D. Does Contractor expect any unavoidable delays in completing the project on time? Yes √ No
If yes, explain:

Remarks: Progress Schedule to be submitted by Jag at pre-construction meeting

10. SHOP DRAWINGS

- A. Schedule of submittal received Yes √ No
If not, date due: Larry Doiron to submit on

B. Distribution of copies: Contractor will submit three (3) copies for review. Approved submittals will be distributed as follows:

Owner	<u> </u> 1	(# of Copies)
USFWS	<u> </u> -	(# of Copies)
Engineer	<u> </u> 1	(# of Copies)
Contractor	<u> </u> 1	(# of Copies)

- C. Has contractor been informed he must certify submittals before submission: Failure to comply will result in rejection of submittal. √ Yes No

Remarks: All submittals routed through TBS

11. QUALITY CONTROL

A. System Manager

Name: _____

Alter. System Manager

Phone #: _____

System Inspector

Name: _____

System Inspector

Phone #: _____

System Inspector

Name: _____

Phone #: _____

Name: _____

Phone #: _____

Name: _____

Phone #: _____

B. Authorized to Execute Change Orders and Modifications:

Name: Gary Duhon

C. Contractors informed that they will be responsible for record drawings:

Yes No

D. Daily Quality Control Form and Report reviewed:

Yes No

Remarks: Larry Doiron to submit on

12. ENVIRONMENTAL PROTECTION PLAN

(Burning, Dust Control, Sanitary Facilities, etc.)

Received

Yes No

If not, date due:

Remarks: Larry Doiron to Submit

13. PROJECT SIGN

A. Required

Yes No

B. Location

N/A

Remarks: N/A

14. NOTICE TO PROCEED

A. Issued at Meeting

Yes No

B. Date

August 22, 2007

C. Construction Start Date

August 25, 2007

D. Construction Completion Date

April 18, 2008

Remarks: NTP previously issued to Larry Doiron

15. MONTHLY PAYMENT REQUESTS

A. Has Schedule of Values been Submitted?

Yes No

If not, due date: Larry Doiron to submit on

B. Has Schedule of Values been Approved?

Yes No

C. Pay request ending date will be: monthly (end of month)
(Day of Month)

D. Time anticipated for review:

A. Engineer 1 week

B. Owner 1 week

ATTACHMENT IV

TERREBONNE BAY SHORE PROTECTION DEMONSTRATION PROJECT (TE-45)

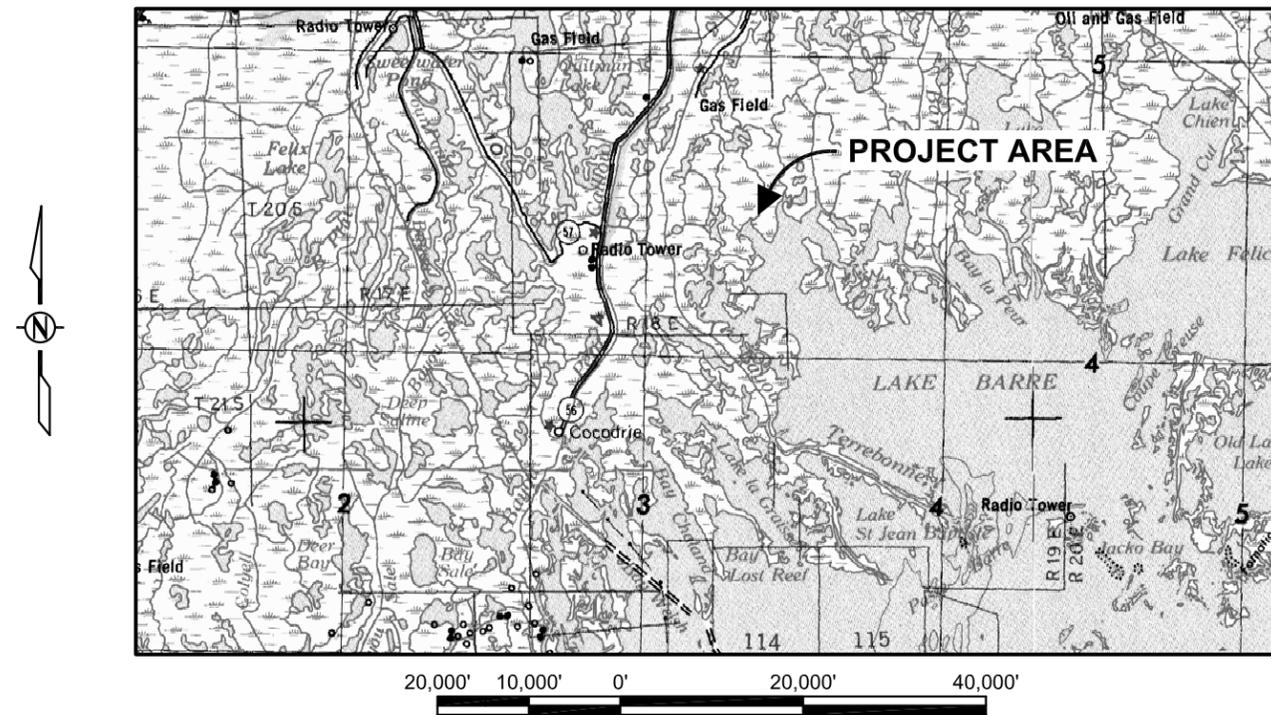
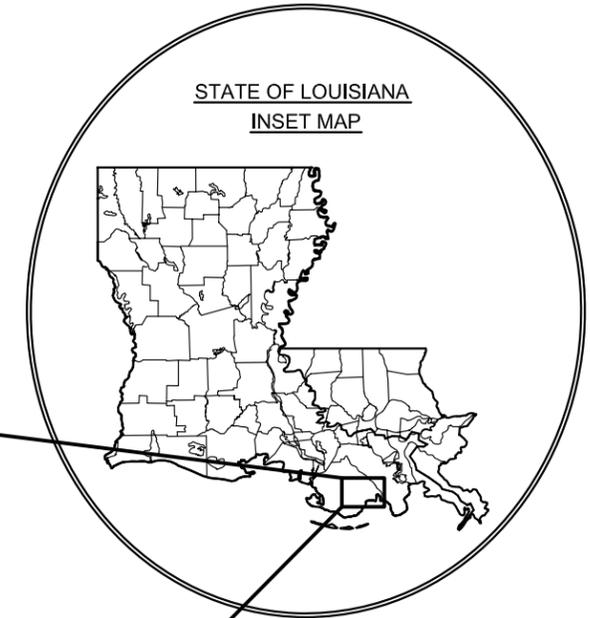
AS-BUILT DRAWINGS

STATE OF LOUISIANA
DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION

INDEX TO SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	GENERAL NOTES
3	PLAN VIEW
4	TYPICAL UNIT PROFILES
5	ANCHORING AND TIE-DOWN DETAILS
6	REACH A AND B LAYOUTS
7	REACH E LAYOUT
8	ONSHORE ARMOR UNIT DETAILS
9	ONSHORE GABION MAT UNIT DETAILS
10	FORESHORE TRIANGULAR UNIT DETAILS
11	WARNING SIGN DETAILS
12-18	REACH A AND B PROFILES
19-25	REACH E PROFILES

TERREBONNE BAY SHORE PROTECTION
DEMONSTRATION PROJECT
TE-45
TERREBONNE PARISH, LOUISIANA



FEDERAL
PROJECT
SPONSOR

STATE
PROJECT
SPONSOR

CED DIRECTOR

CED ENGINEER MANAGER

CED PROJECT ENGINEER

AS-BUILT

TYPE OF CONSTRUCTION

CLASSIFICATION III (HEAVY CONSTRUCTION)
SHORE PROTECTION

				LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	TERREBONNE BAY SHORE PROTECTION DEMONSTRATION PROJECT	TITLE SHEET
					STATE PROJECT NUMBER: TE-45	
				DRAWN BY: KRISTI CANTU	DESIGNED BY: DAIN GILLEN, E.I.	APPROVED BY: MAURY CHATELLIER, P.E.
REV.	DATE	DESCRIPTION	BY	SHEET 1 OF 25		

GENERAL NOTES

1. ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88). ALL HORIZONTAL COORDINATES ARE GIVEN IN THE NORTH AMERICAN DATUM OF 1983 (NAD 83).
2. BENCHMARK TE-45-SM-01 HAS BEEN ESTABLISHED AT THE SITE BY THE OWNER. SEE SHEET 3 FOR BENCHMARK LOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE TO ESTABLISH AND MAINTAIN TEMPORARY BENCHMARKS DURING CONSTRUCTION AS NEEDED.
3. ELEVATIONS SHOWN ON PLANS ARE BASED ON SURVEYS PERFORMED BETWEEN JUNE 23, 2002 AND JULY 6, 2002 BY MORRIS P. HERBERT, INC.
4. CONTRACTOR SHALL VISIT THE SITE OF WORK TO BECOME FAMILIAR WITH THE LOCAL CONDITIONS AND WHAT EFFECTS THE CONDITIONS MAY HAVE ON ACCESS AND CONSTRUCTION.
5. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, EXISTING ELEVATIONS AND CONDITIONS SHOWN ON THE DRAWINGS PRIOR TO ORDERING MATERIAL, COMMENCEMENT OF CONSTRUCTION, AND PREPARATION OF SHOP DRAWINGS. ENGINEER SHALL BE NOTIFIED OF ALL DISCREPANCIES.
6. THE CONTRACTOR SHALL MAKE HIS OWN INTERPRETATION OF THE CHARACTER AND CONDITION OF THE MATERIALS WHICH WILL BE ENCOUNTERED BETWEEN THE BORING LOCATIONS. THE CONTRACTOR, AT HIS OWN EXPENSE, MAY MAKE ADDITIONAL SURVEYS AND INVESTIGATIONS AS HE DEEMS NECESSARY TO DETERMINE CONDITIONS WHICH WILL AFFECT PERFORMANCE OF THE WORK.
7. THE LOCATIONS OF THE STRUCTURES SHOWN ON THE DRAWINGS ARE APPROXIMATE. THE CONTRACTOR SHALL PROVIDE ALL SURVEY PERSONNEL AND EQUIPMENT NECESSARY TO LAY OUT THE STRUCTURES AT THE BEGINNING OF CONSTRUCTION.
8. LOCATION OF UTILITIES INDICATED ON THE DRAWINGS ARE FOR INFORMATIONAL PURPOSES ONLY AND ARE BASED IN PART ON INFORMATION PROVIDED BY THE RESPECTIVE UTILITY COMPANIES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL EXISTING UTILITY LOCATIONS PRIOR TO CONSTRUCTION.
9. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES CAUSED BY THE CONTRACTOR'S NEGLIGENCE. THE DAMAGE SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE.
10. FORTY-EIGHT (48) HOURS PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL CALL LOUISIANA ONE CALL AT 1-800-272-3020 TO LOCATE ANY UTILITY OR PIPELINES IN THE AREA WHICH MAY BE UNKNOWN TO THE OWNER. ADDITIONALLY, THE CONTRACTOR SHALL PERFORM A MAGNETOMETER SURVEY WITHIN THE CONSTRUCTION AREA AND WHERE THE STRUCTURES ARE TO BE LOCATED. FURTHERMORE, CONTRACTOR SHALL NOTIFY CHEVRONTXACO A MINIMUM OF 14 DAYS PRIOR TO ACCESSING THE SITE AT (985) 758-0230 OR (504) 247-3383, ATTENTION SHANNON MONTGOMERY, TO HAVE THE PIPELINE IN THE PROJECT AREA PROPERLY MARKED PRIOR TO MOBILIZATION.
11. ALL PIPELINES WITHIN THE PROJECT AREA SHALL BE CLEARLY MARKED WITH BUOYS BY THE CONTRACTOR. THE CONTRACTOR SHALL MAINTAIN BUOYS DURING CONSTRUCTION OR HAVE ADEQUATE NAVIGATIONAL EQUIPMENT ON THE DREDGE TO AVOID DREDGING IN RESTRICTED AREAS. THE CONTRACTOR SHALL NOT ANCHOR OR EXCAVATE WITHIN 100 FEET OF ANY PIPELINE.
12. ALL STRUCTURAL STEEL SHALL BE ASTM A-36, UNLESS OTHERWISE NOTED.
13. ALL WELDING SHALL BE ELECTRIC WELDING. WORKMANSHIP AND TECHNIQUE, WHERE APPLICABLE, SHALL CONFORM TO THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE.
14. WELDING SYMBOLS SHOWN ARE THOSE ADOPTED BY THE AMERICAN WELDING SOCIETY AND INDICATE ONLY SIZE AND TYPE OF WELDS REQUIRED. DETAILED INFORMATION SHALL BE SHOWN ON THE SHOP DRAWINGS AND SUBMITTED BY THE CONTRACTOR FOR APPROVAL.
15. STRUCTURAL STEEL FABRICATION AND ERECTION SHALL CONFORM TO THE A.I.S.C. MANUAL OF STEEL CONSTRUCTION LATEST EDITION UNLESS NOTED OTHERWISE.
16. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI UNLESS OTHERWISE SPECIFIED.
17. TIE-IN UNITS CONNECT THE ONSHORE UNITS WITH THE FORESHORE UNITS. TIE-IN UNITS MAY CONSIST OF THE FORESHORE TRIANGULAR UNIT OR ONSHORE ARMOR UNIT WITH A GEOGRID AND CRUSHED STONE FOUNDATION BASE. ALL TIE-IN STRUCTURES SHALL BE OF THE SAME TYPE FOR THE ENTIRE PROJECT. THE TOP OF ALL TIE-IN UNITS MUST BE AT ELEVATION +1.0' NAVD 88.
18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MOBILIZING, COMPLETING THE REQUIRED CONSTRUCTION ACTIVITIES, AND DEMOBILIZING WITHOUT CROSSING OR OTHERWISE IMPACTING UNACQUIRED OYSTER LEASES SHOWN ON SHEET 3.

SUMMARY OF ESTIMATED QUANTITIES

ITEM No.	DESCRIPTION	UNIT	ESTIMATED QUANTITY	AS-BUILT QUANTITY
1	MOBILIZATION AND DEMOBILIZATION	LUMP SUM	1	1
2	SURVEYING	LUMP SUM	1	1
3	ONSHORE ARMOR UNIT	LINEAR FOOT	900	900
4	ONSHORE GABION MAT UNIT	LINEAR FOOT	900	900
5	FORESHORE TRIANGULAR UNIT	LINEAR FOOT	900	900
6	TIE-DOWN ANCHOR	EACH	186	186
7	FOUNDATION BASE GEOTEXTILE GEOGRID	SQ. YARD	2200	2200
8	FOUNDATION BASE CRUSHED STONE	TON	500	645
9	TIE-IN UNIT*	LINEAR FOOT	790	790
10	PERMANENT WARNING SIGN	EACH	6	6

NOTES:

1. APPROXIMATELY 180 GABION MAT UNITS, 1470 ARMOR UNITS WITH 93 ANCHORS, AND 180 TRIANGULAR UNITS WITH 93 ANCHORS WILL BE PLACED.
2. THE TIE-IN UNITS WILL REQUIRE APPROXIMATELY 85 ANCHORS. THE AMOUNT OF GEOTEXTILE GEOGRID AND CRUSHED STONE REQUIRED FOR THE TIE-IN UNITS WILL VARY DEPENDING ON WHAT TYPE OF TIE-IN UNIT IS CHOSEN.
- *3. TIE-IN UNITS SHALL CONSIST OF THE CHOSEN TYPE OF STRUCTURE, FOUNDATION BASE GEOTEXTILE GEOGRID, FOUNDATION BASE CRUSHED STONE, AND ANCHOR SYSTEM. BIDS PLACED ON TIE-IN UNITS SHALL INCLUDE THE ASSOCIATED COST FOR ALL OF THE ABOVE MATERIALS.

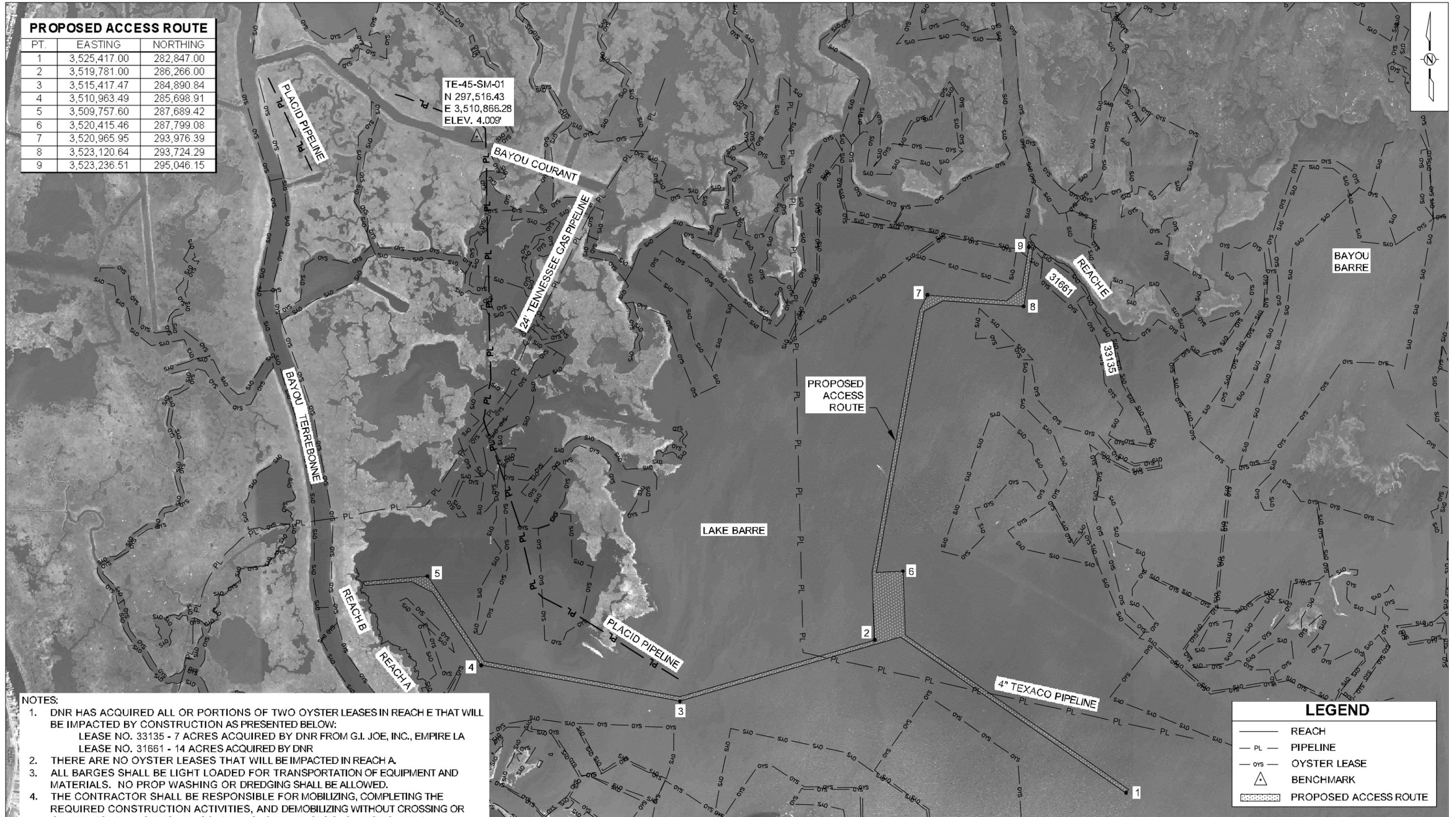
AS- BUILT NOTES:

1. ONSHORE ARMOR UNITS WAS SELECTED AND USED BY THE CONTRACTOR AS THE TIE-IN UNIT.

AS-BUILT

				LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	TERREBONNE BAY SHORE PROTECTION DEMONSTRATION PROJECT	GENERAL NOTES	
					STATE PROJECT NUMBER: TE-45		
					FEDERAL PROJECT NUMBER:		DATE: FEBRUARY 2007
					APPROVED BY: MAURY CHATELLIER, P.E.		SHEET 2 OF 25
REV.	DATE	DESCRIPTION	BY	DRAWN BY: KRISTI CANTU	DESIGNED BY: DAIN GILLEN, E.I.		

PROPOSED ACCESS ROUTE		
PT.	EASTING	NORTHING
1	3,525,417.00	282,847.00
2	3,519,781.00	286,266.00
3	3,515,417.47	284,890.84
4	3,510,963.49	285,698.91
5	3,509,757.60	287,689.42
6	3,520,415.46	287,799.08
7	3,520,965.95	293,976.39
8	3,523,120.64	293,724.29
9	3,523,236.51	295,046.15



- NOTES:**
1. DNR HAS ACQUIRED ALL OR PORTIONS OF TWO OYSTER LEASES IN REACH E THAT WILL BE IMPACTED BY CONSTRUCTION AS PRESENTED BELOW:
LEASE NO. 33135 - 7 ACRES ACQUIRED BY DNR FROM G.I. JOE, INC., EMPIRE LA
LEASE NO. 31661 - 14 ACRES ACQUIRED BY DNR
 2. THERE ARE NO OYSTER LEASES THAT WILL BE IMPACTED IN REACH A.
 3. ALL BARGES SHALL BE LIGHT LOADED FOR TRANSPORTATION OF EQUIPMENT AND MATERIALS. NO PROP WASHING OR DREDGING SHALL BE ALLOWED.
 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MOBILIZING, COMPLETING THE REQUIRED CONSTRUCTION ACTIVITIES, AND DEMOBILIZING WITHOUT CROSSING OR OTHERWISE IMPACTING UNACQUIRED OYSTER LEASES SHOWN ON SHEET 3.
 5. THE AERIAL PHOTOGRAPHY WAS TAKEN IN THE FALL OF 2005.

LEGEND	
	REACH
	PIPELINE
	OYSTER LEASE
	BENCHMARK
	PROPOSED ACCESS ROUTE

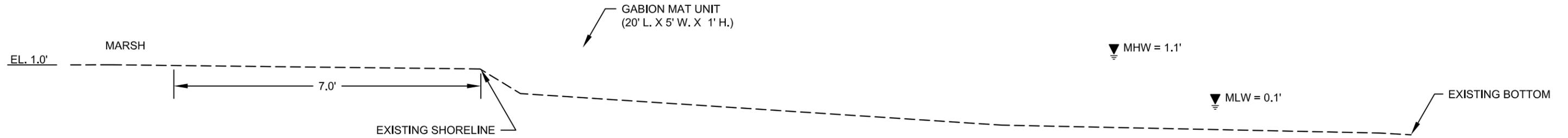


REV.	DATE	DESCRIPTION	BY
	4/18/08	AS-BUILT DETAILS ADDED	TBS

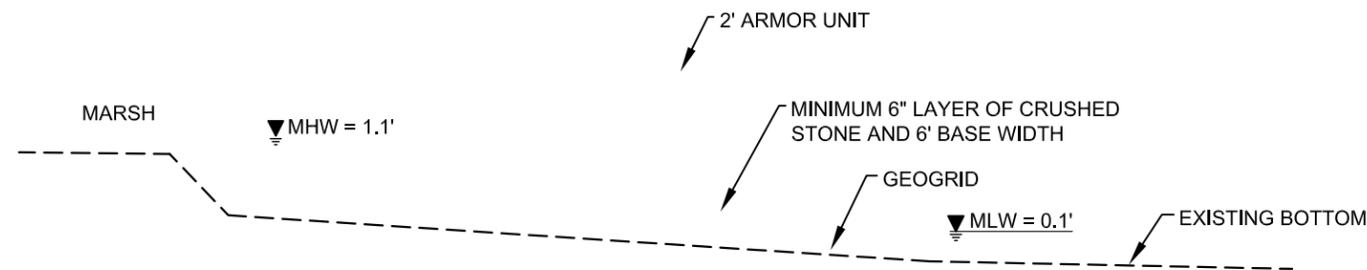
LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
 617 NORTH 3RD STREET
 BATON ROUGE, LOUISIANA 70802

DRAWN BY: KRISTI CANTU DESIGNED BY: DAIN GILLEN, E.I.

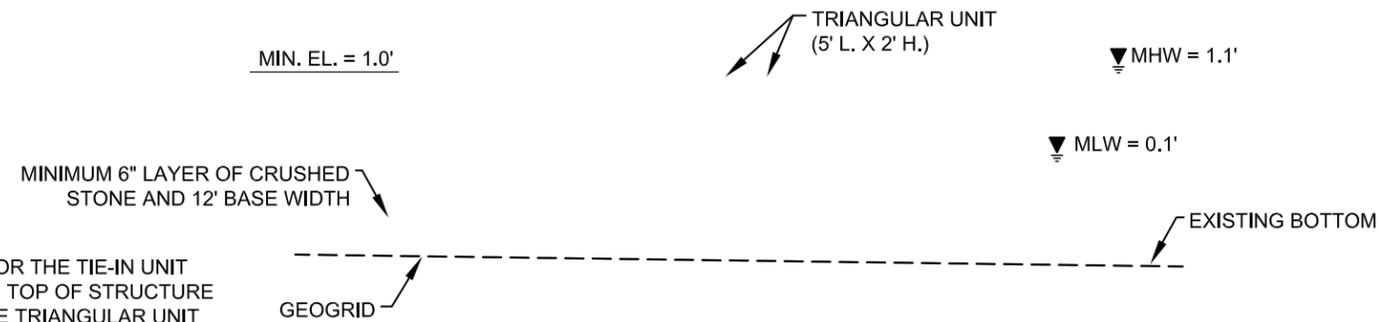
TERREBONNE BAY SHORE PROTECTION DEMONSTRATION PROJECT		PLAN VIEW
STATE PROJECT NUMBER: TE45		DATE: FEBRUARY 2007
FEDERAL PROJECT NUMBER:		SHEET 3 OF 25
APPROVED BY: MAURY CHATELIER, P.E.		



TYPICAL ONSHORE GABION MAT UNIT
NOT TO SCALE



TYPICAL ONSHORE ARMOR UNIT
NOT TO SCALE



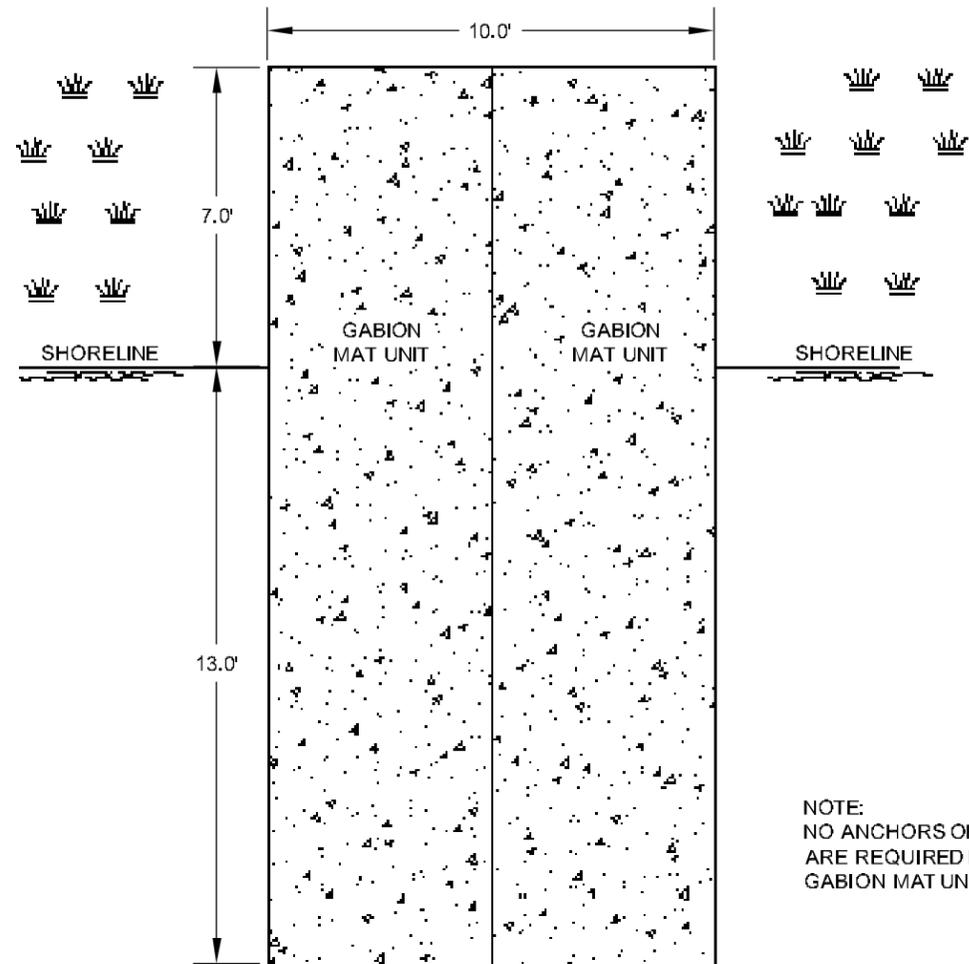
TYPICAL FORESHORE TRIANGULAR UNIT
NOT TO SCALE

- NOTES:
1. THE CONTRACTOR WILL SELECT ONLY ONE TYPE OF STRUCTURE FOR THE TIE-IN UNIT FOR THE ENTIRE PROJECT. TIE-IN UNITS MUST ACHIEVE A MINIMUM TOP OF STRUCTURE ELEVATION OF +1.0'. TIE-IN UNITS MAY CONSIST OF THE FORESHORE TRIANGULAR UNIT OR THE ONSHORE ARMOR UNIT WITH A GEOGRID AND CRUSHED STONE FOUNDATION BASE. GABION MAT UNITS WILL NOT BE ALLOWED AS TIE-IN UNITS.
 2. SEE SHEET 5 FOR ANCHORING AND TIE-DOWN DETAILS.

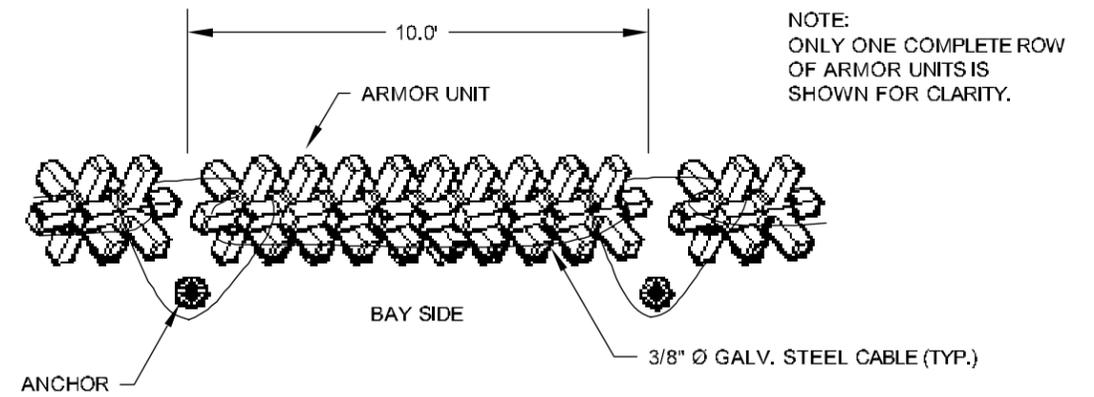
- AS-BUILT NOTES:
1. THE ONSHORE ARMOR UNIT WAS SELECTED AND USED BY CONTRACTOR AS THE TIE-IN UNIT.

AS-BUILT

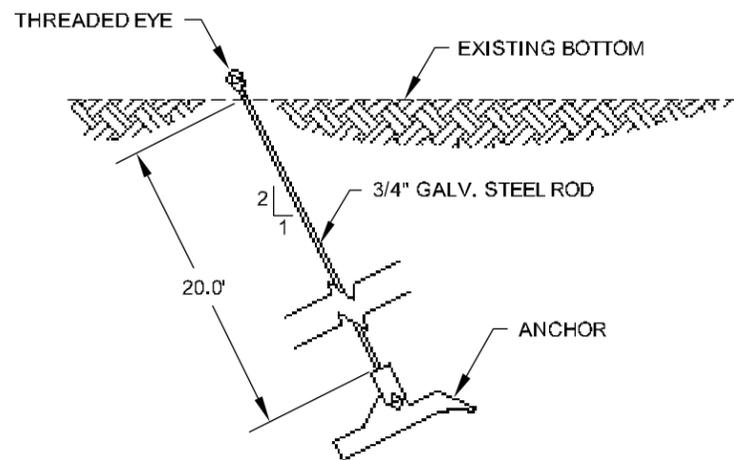
				LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	TERREBONNE BAY SHORE PROTECTION DEMONSTRATION PROJECT	TYPICAL UNIT PROFILES
					STATE PROJECT NUMBER: TE-45	
					FEDERAL PROJECT NUMBER:	DATE: FEBRUARY 2007
REV.	DATE	DESCRIPTION	BY	DRAWN BY: KRISTI CANTU	DESIGNED BY: DAIN GILLEN, E.I.	APPROVED BY: MAURY CHATELLIER, P.E.
	4/18/08	AS-BUILT DETAILS ADDED	TBS			SHEET 4 OF 25



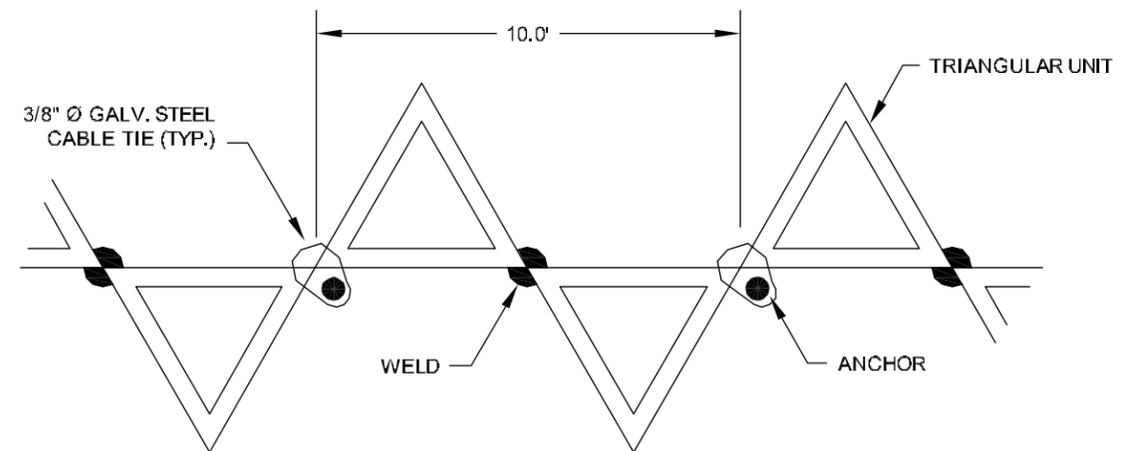
GABION UNIT DETAIL
NOT TO SCALE



ARMOR UNIT DETAIL
NOT TO SCALE

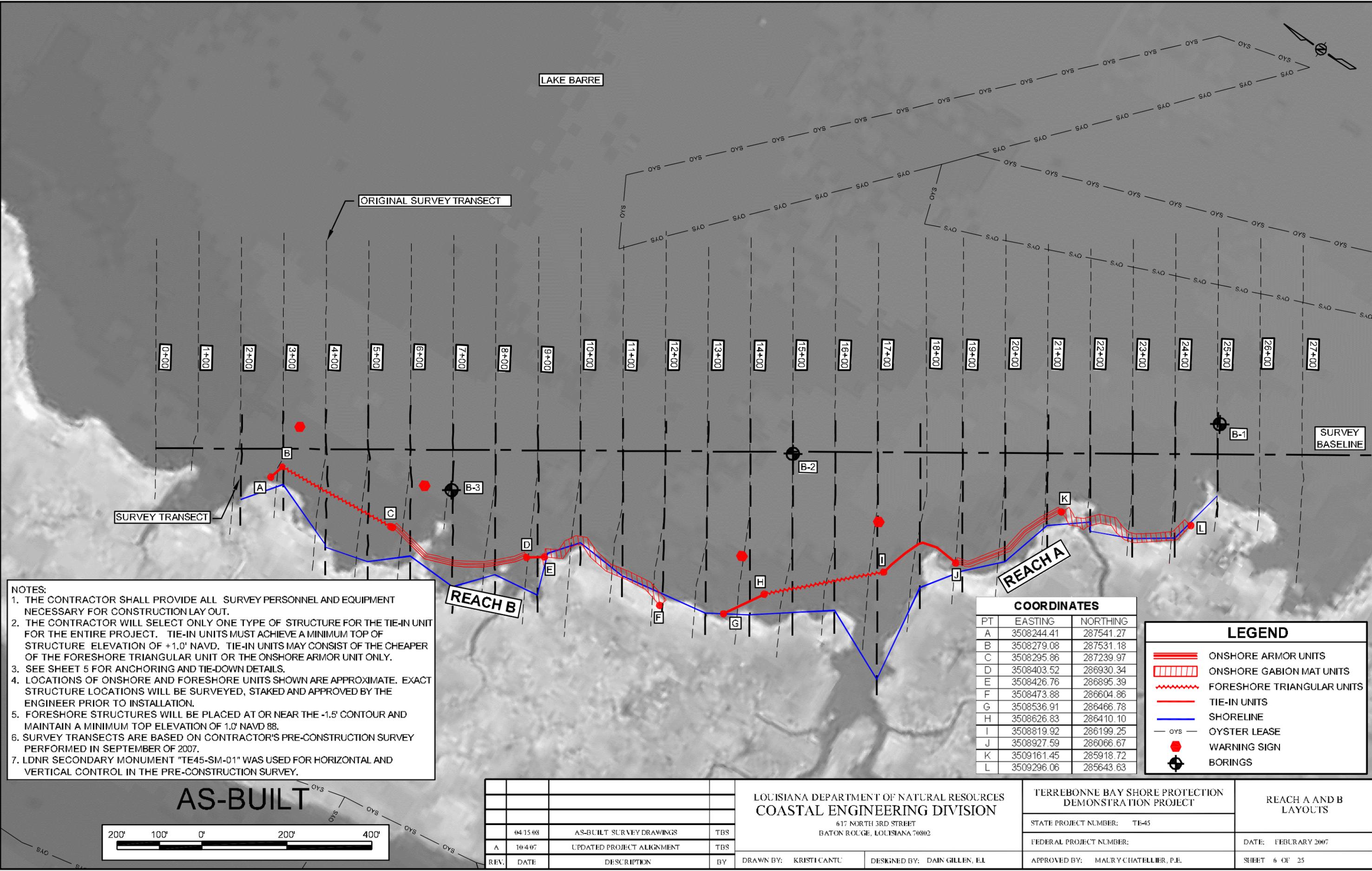


AS-BUILT TYPICAL ANCHOR DETAIL
NOT TO SCALE



TRIANGULAR UNIT DETAIL
NOT TO SCALE

				LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	TERREBONNE BAY SHORE PROTECTION DEMONSTRATION PROJECT	ANCHORING AND TIE-DOWN DETAILS
					STATE PROJECT NUMBER: TE-45	
					FEDERAL PROJECT NUMBER:	DATE: FEBRUARY 2007
REV.	DATE	DESCRIPTION	BY	DRAWN BY: KRISTI CANTU	DESIGNED BY: DAIN GILLEN, E.I.	APPROVED BY: MAURY CHATELIER, P.E.
	4/18/08	AS-BUILT DETAILS ADDED	TBS			SHEET 5 OF 25

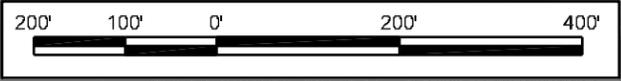


NOTES:

1. THE CONTRACTOR SHALL PROVIDE ALL SURVEY PERSONNEL AND EQUIPMENT NECESSARY FOR CONSTRUCTION LAY OUT.
2. THE CONTRACTOR WILL SELECT ONLY ONE TYPE OF STRUCTURE FOR THE TIE-IN UNIT FOR THE ENTIRE PROJECT. TIE-IN UNITS MUST ACHIEVE A MINIMUM TOP OF STRUCTURE ELEVATION OF +1.0' NAVD. TIE-IN UNITS MAY CONSIST OF THE CHEAPER OF THE FORESHORE TRIANGULAR UNIT OR THE ONSHORE ARMOR UNIT ONLY.
3. SEE SHEET 5 FOR ANCHORING AND TIE-DOWN DETAILS.
4. LOCATIONS OF ONSHORE AND FORESHORE UNITS SHOWN ARE APPROXIMATE. EXACT STRUCTURE LOCATIONS WILL BE SURVEYED, STAKED AND APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.
5. FORESHORE STRUCTURES WILL BE PLACED AT OR NEAR THE -1.5' CONTOUR AND MAINTAIN A MINIMUM TOP ELEVATION OF 1.0' NAVD 88.
6. SURVEY TRANSECTS ARE BASED ON CONTRACTOR'S PRE-CONSTRUCTION SURVEY PERFORMED IN SEPTEMBER OF 2007.
7. LDNR SECONDARY MONUMENT "TE45-SM-01" WAS USED FOR HORIZONTAL AND VERTICAL CONTROL IN THE PRE-CONSTRUCTION SURVEY.

COORDINATES		
PT	EASTING	NORTHING
A	3508244.41	287541.27
B	3508279.08	287531.18
C	3508295.86	287239.97
D	3508403.52	286930.34
E	3508426.76	286895.39
F	3508473.88	286604.86
G	3508536.91	286466.78
H	3508626.83	286410.10
I	3508819.92	286199.25
J	3508927.59	286066.67
K	3509161.45	285918.72
L	3509296.06	285643.63

LEGEND	
	ONSHORE ARMOR UNITS
	ONSHORE GABION MAT UNITS
	FORESHORE TRIANGULAR UNITS
	TIE-IN UNITS
	SHORELINE
	OYSTER LEASE
	WARNING SIGN
	BORINGS



AS-BUILT

REV.	DATE	DESCRIPTION	BY
	04/15/08	AS-BUILT SURVEY DRAWINGS	TBS
A	10/4/07	UPDATED PROJECT ALIGNMENT	TBS

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
 617 NORTH 3RD STREET
 BATON ROUGE, LOUISIANA 70802

DRAWN BY: KRISTI CANTU DESIGNED BY: DAIN GILLEN, E.I.

TERREBONNE BAY SHORE PROTECTION
 DEMONSTRATION PROJECT

STATE PROJECT NUMBER: TH-45

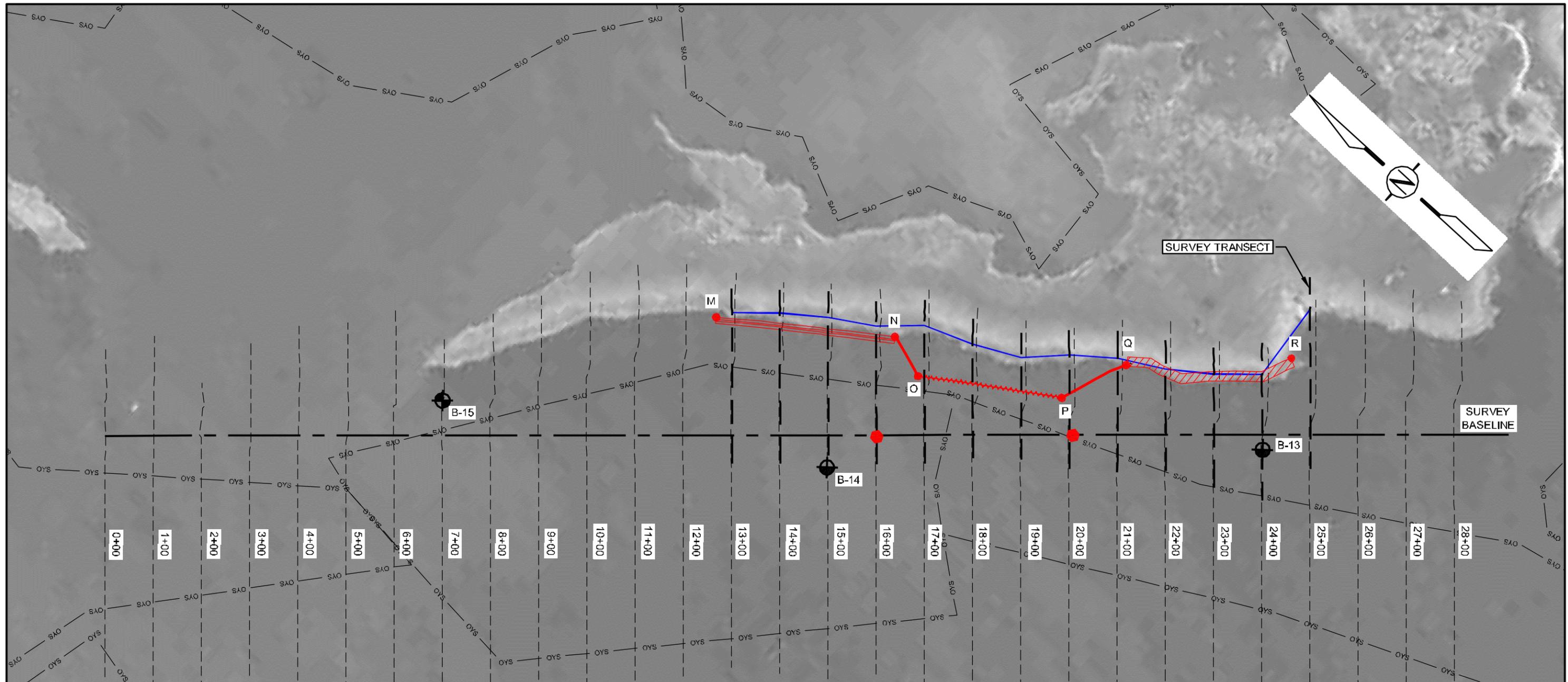
FEDERAL PROJECT NUMBER:

APPROVED BY: MAURY CHATELIER, P.E.

REACH A AND B
 LAYOUTS

DATE: FEBRUARY 2007

SHEET 6 OF 25

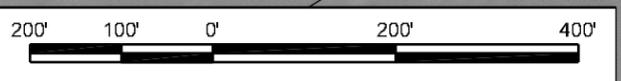


- NOTES:**
1. THE CONTRACTOR SHALL PROVIDE ALL SURVEY PERSONNEL AND EQUIPMENT NECESSARY FOR CONSTRUCTION LAY OUT.
 2. THE CONTRACTOR WILL SELECT ONLY ONE TYPE OF STRUCTURE FOR THE TIE-IN UNIT FOR THE ENTIRE PROJECT. TIE-IN UNITS MUST ACHIEVE A MINIMUM TOP OF STRUCTURE ELEVATION OF +1.0' NAVD. TIE-IN UNITS MAY CONSIST OF THE FORESHORE TRIANGULAR UNIT OR THE ONSHORE ARMOR UNIT ONLY.
 3. SEE SHEET 5 FOR ANCHORING AND TIE-DOWN DETAILS.
 4. LOCATIONS OF ONSHORE AND FORESHORE UNITS SHOWN ARE APPROXIMATE. EXACT STRUCTURE LOCATIONS WILL BE SURVEYED, STAKED AND APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.
 5. FORESHORE STRUCTURES WILL BE PLACED AT OR NEAR THE -1.5' CONTOUR AND MAINTAIN A MINIMUM TOP ELEVATION OF 1.0' NAVD 88.
 6. SURVEY TRANSECTS ARE BASED ON CONTRACTOR'S PRE-CONSTRUCTION SURVEY PERFORMED IN SEPTEMBER OF 2007.
 7. LDNR SECONDARY MONUMENT "TE45-SM-01" WAS USED FOR HORIZONTAL AND VERTICAL CONTROL IN THE PRE-CONSTRUCTION SURVEY.

LEGEND	
	ONSHORE ARMOR UNITS
	ONSHORE GABION MAT UNITS
	FORESHORE TRIANGULAR UNITS
	TIE-IN UNITS
	SHORELINE
	OYSTER LEASE
	WARNING SIGN
	BORINGS

COORDINATES		
PT	EASTING	NORTHING
M	3524328.07	294463.64
N	3524551.18	294164.68
O	3524524.21	294074.49
P	3524694.70	293825.40
Q	3524850.02	293772.90
R	3525079.67	293533.19

AS-BUILT

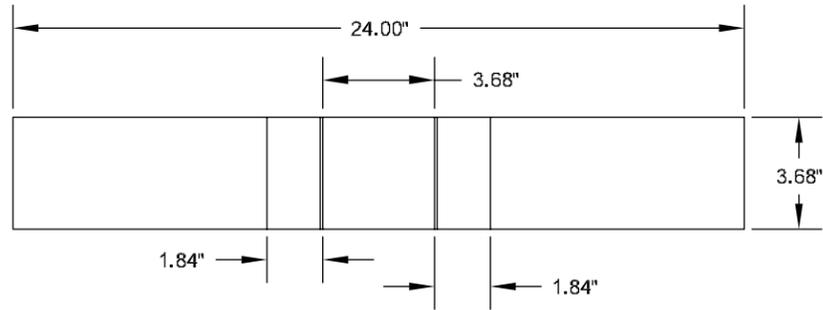


REV.	DATE	DESCRIPTION	BY
A	10-4-07	UPDATED PROJECT ALIGNMENT	TBS
	4-15-08	AS-BUILT SURVEY DRAWINGS	TBS

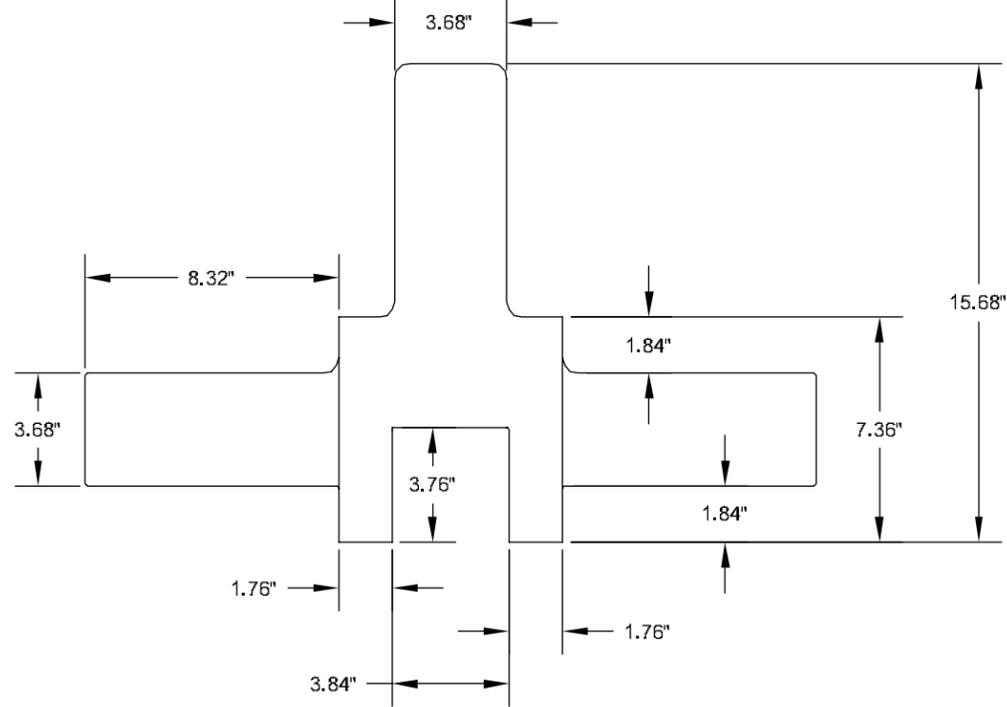
LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
 617 NORTH 3RD STREET
 BATON ROUGE, LOUISIANA 70802

DRAWN BY: KRISTI CANTU DESIGNED BY: DAIN GILLEN, E.I.

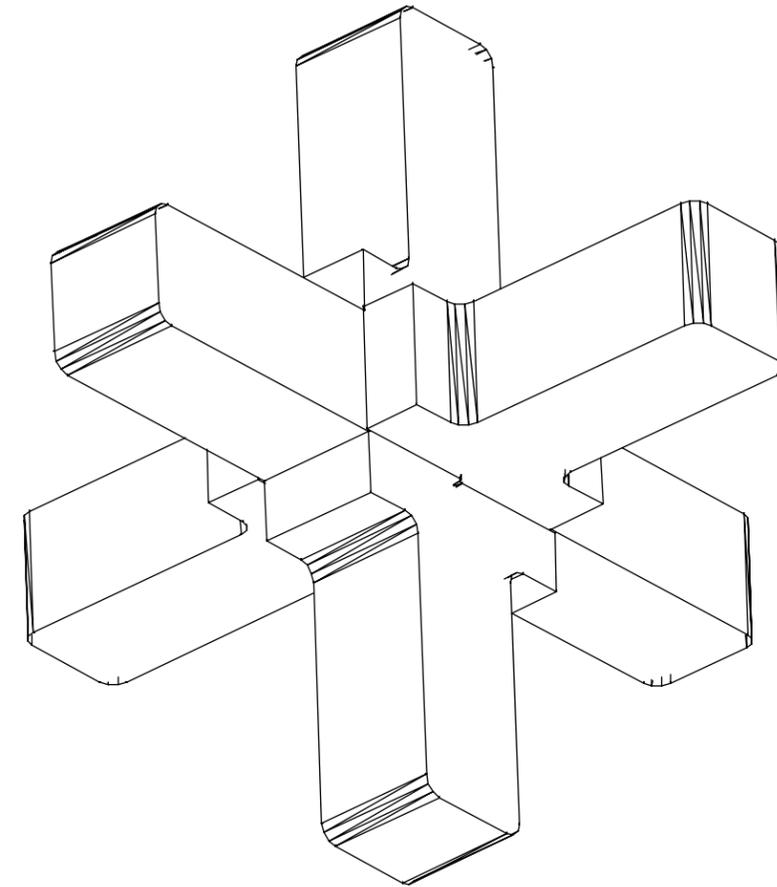
TERREBONNE BAY SHORE PROTECTION DEMONSTRATION PROJECT		REACH E LAYOUT
STATE PROJECT NUMBER:	TH-45	DATE: FEBRUARY 2007
FEDERAL PROJECT NUMBER:		SHEET 7 OF 25
APPROVED BY:	MAURY CHATELIER, P.E.	



TOP
SCALE: 1" = 6"



FRONT
SCALE: 1" = 6"



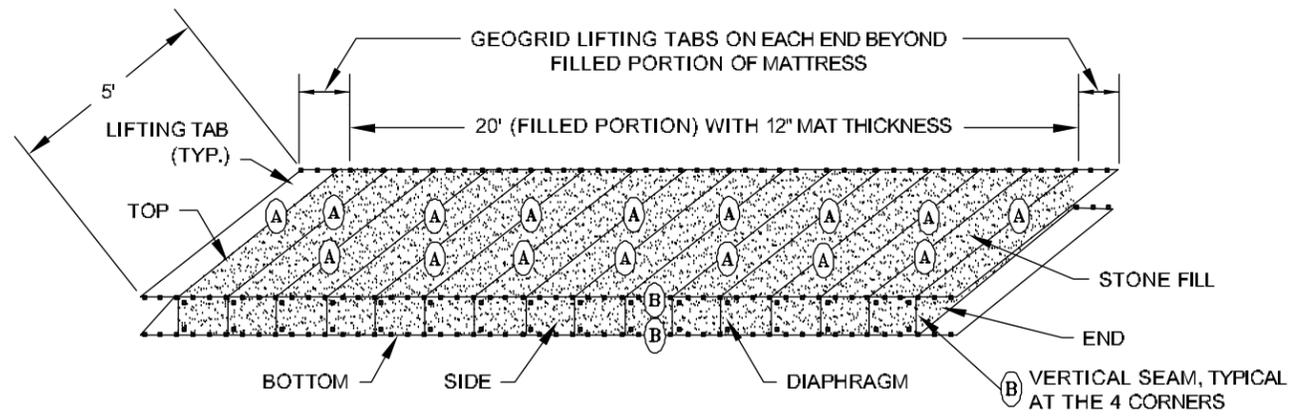
ARMOR UNIT
NOT TO SCALE

NOTES:

1. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI.
2. ADHESIVE SHALL BE USED TO JOIN ALL HALVES TO FORM A SINGLE UNIT.
3. IF CONTRACTOR SELECTS ARMOR UNIT AS HIS TIE-IN UNIT, THE TOP OF THE ARMOR UNIT MUST BE AT A MINIMUM ELEVATION OF +1.0' NAVD.
4. SEE SHEET 5 FOR ANCHORING AND TIE-DOWN DETAILS.

AS-BUILT

				LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802		TERREBONNE BAY SHORE PROTECTION DEMONSTRATION PROJECT		ONSHORE ARMOR UNIT DETAILS	
						STATE PROJECT NUMBER: TE45			
						FEDERAL PROJECT NUMBER:		DATE: FEBRUARY 2007	
				DRAWN BY: KRISTI CANTU		DESIGNED BY: DAIN GILLEN, E.I.		APPROVED BY: MAURY CHATELIER, P.E.	
REV.	DATE	DESCRIPTION	BY	SHEET 8 OF 25					
	4/18/08	AS-BUILT DETAILS ADDED	TBS						

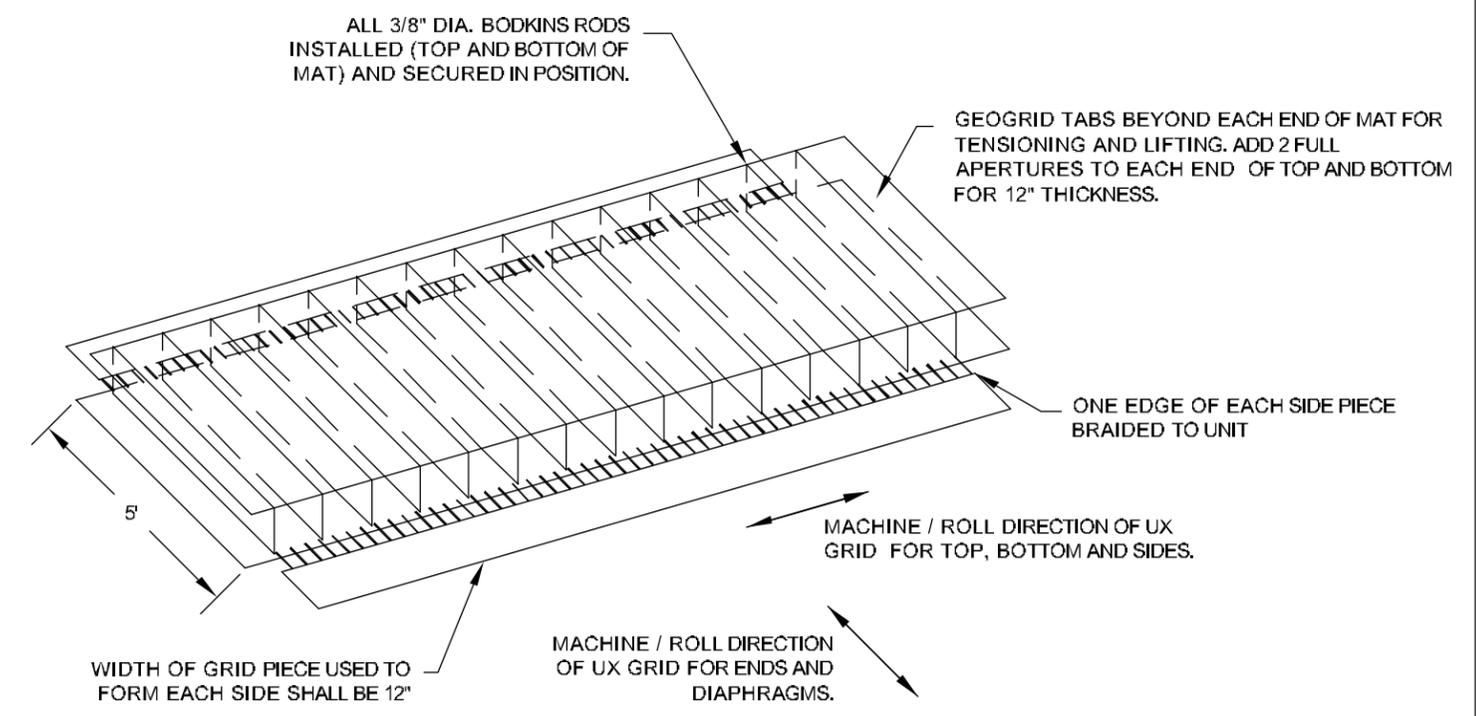


- (A) INDICATES BODKIN CONNECTION USING 3/8" DIAMETER HDPE BODKIN ROD
- (B) INDICATES BRAIDED SEAM USING 3/16" DIAMETER HIGH UV HDPE BRAID

TYPICAL CONFIGURATION OF FILLED GABION MAT UNITS
SCALE: NOT TO SCALE

CONSTRUCTION NOTES:

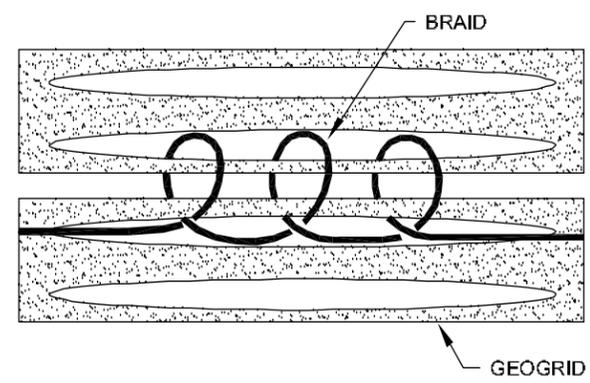
1. ENDS, TOP, BOTTOM, SIDES AND ANY EXTRA LENGTH USED FOR LIFTING OR ANCHORING PURPOSES SHALL BE COMPOSED OF TENSAR UXTRITON200 GEOGRID, PLASTIC CABLES TIES MAY BE USED TO SECURE BODKIN CONNECTORS IN POSITION PRIOR TO TENSIONING OR FILLING OF MAT UNITS.
2. INTERNAL DIAPHRAGMS SHALL BE COMPOSED OF TENSAR UXTRITON100 GEOGRID.
3. GABION MAT SHALL BE FILLED WITH ASTM CLASS #1 STONE, OR ENGINEER APPROVED EQUIVALENT.
4. NOMINAL WIDTH: 5 FT. (FILLED)
5. NOMINAL THICKNESS: 12 IN. (FILLED)
6. NOMINAL WEIGHT: 9000 LBS. (20' X 5' X 12")



TYPICAL CONFIGURATION OF FABRICATED GABION MAT
SCALE: NOT TO SCALE

FABRICATION NOTES:

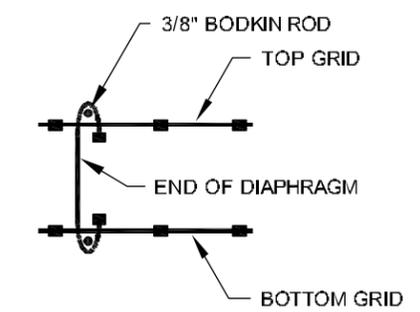
1. TYPICAL SPACING OF DIAPHRAGMS IS EVERY THREE APERTURE LENGTHS. A SHORTER SPACING MAY BE USED IN ORDER TO MATCH THE REQUIRED MAT LENGTH. LENGTH OF END PIECES AND INTERNAL DIAPHRAGMS PIECES ARE 2 GRID APERTURES LONG.
2. DUE TO THE ENVIRONMENTALLY SENSITIVE NATURE OF THE PROJECT AND POSSIBLE LIFT RESTRICTIONS OF THE CONTRACTOR'S EQUIPMENT, GABION MATS MAY BE SPLIT INTO TWO EQUAL 10' LONG MATS IN ACCORDANCE WITH THE MANUFACTURER SPECIFICATIONS.



TYPICAL STITCHED SEAM DETAILS
SCALE: NOT TO SCALE

SEAM NOTES:

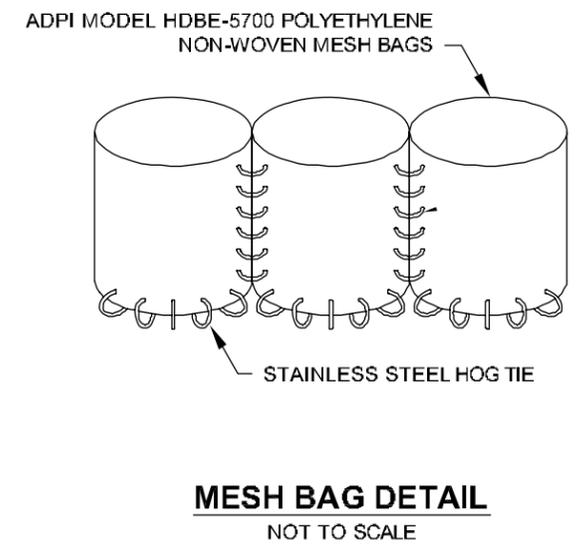
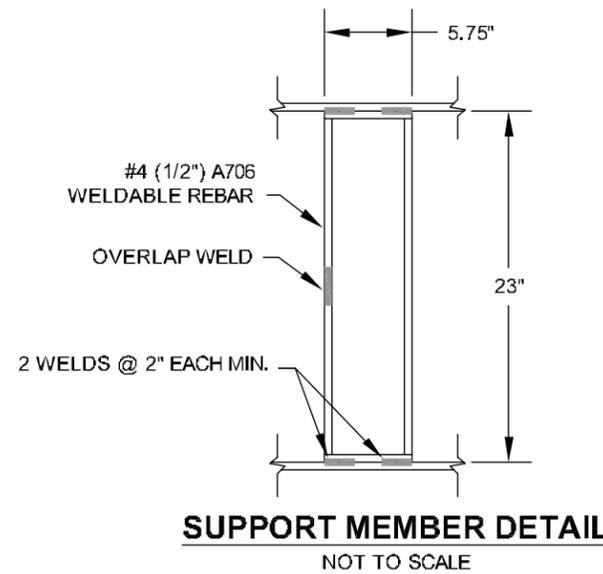
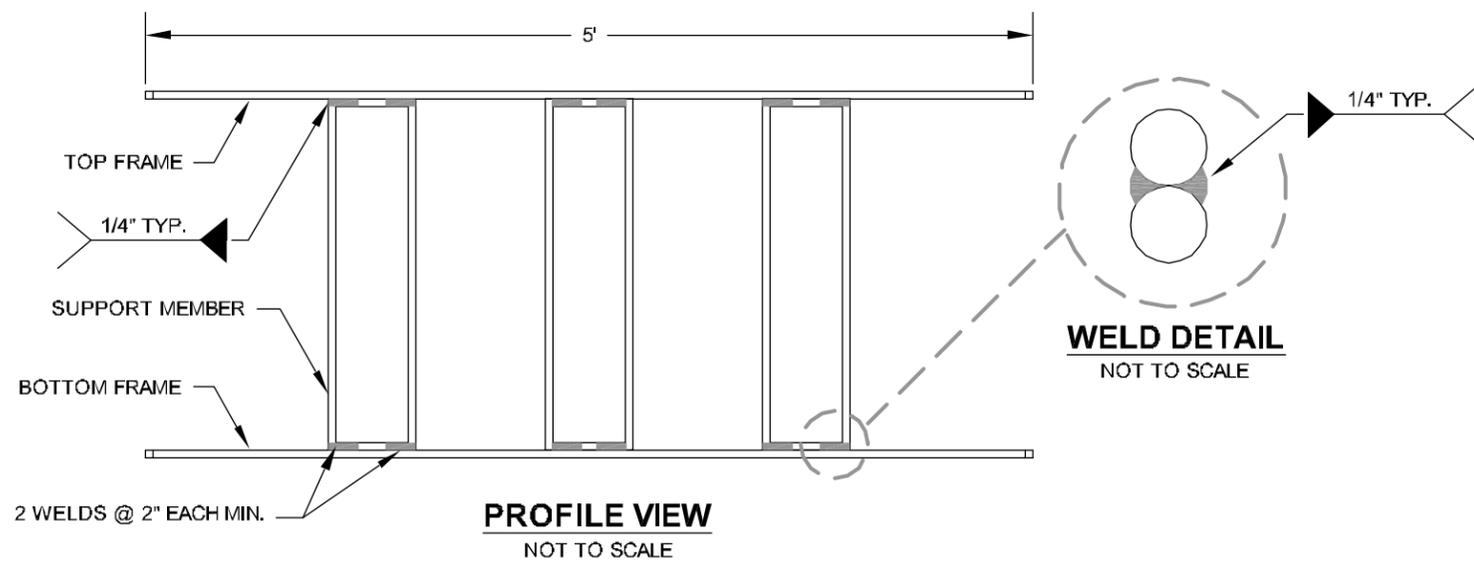
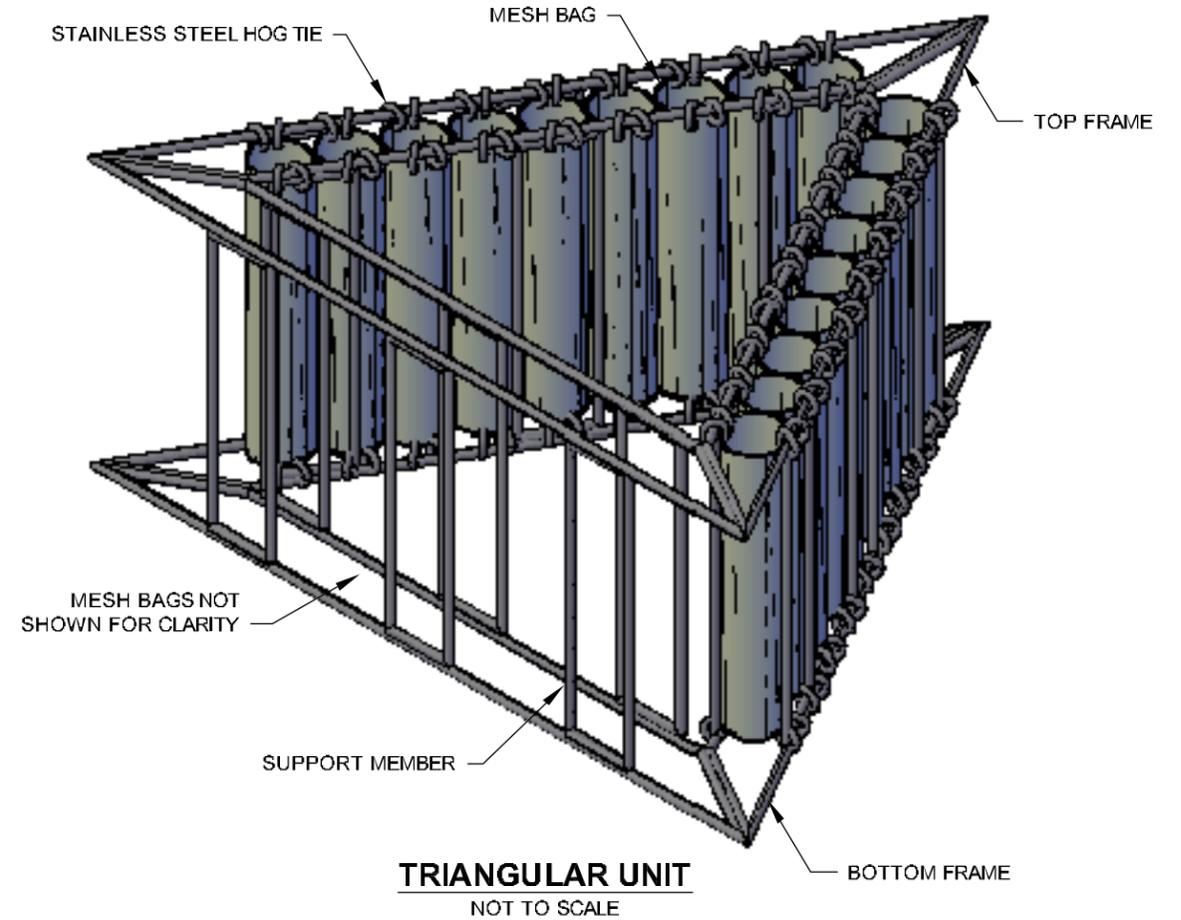
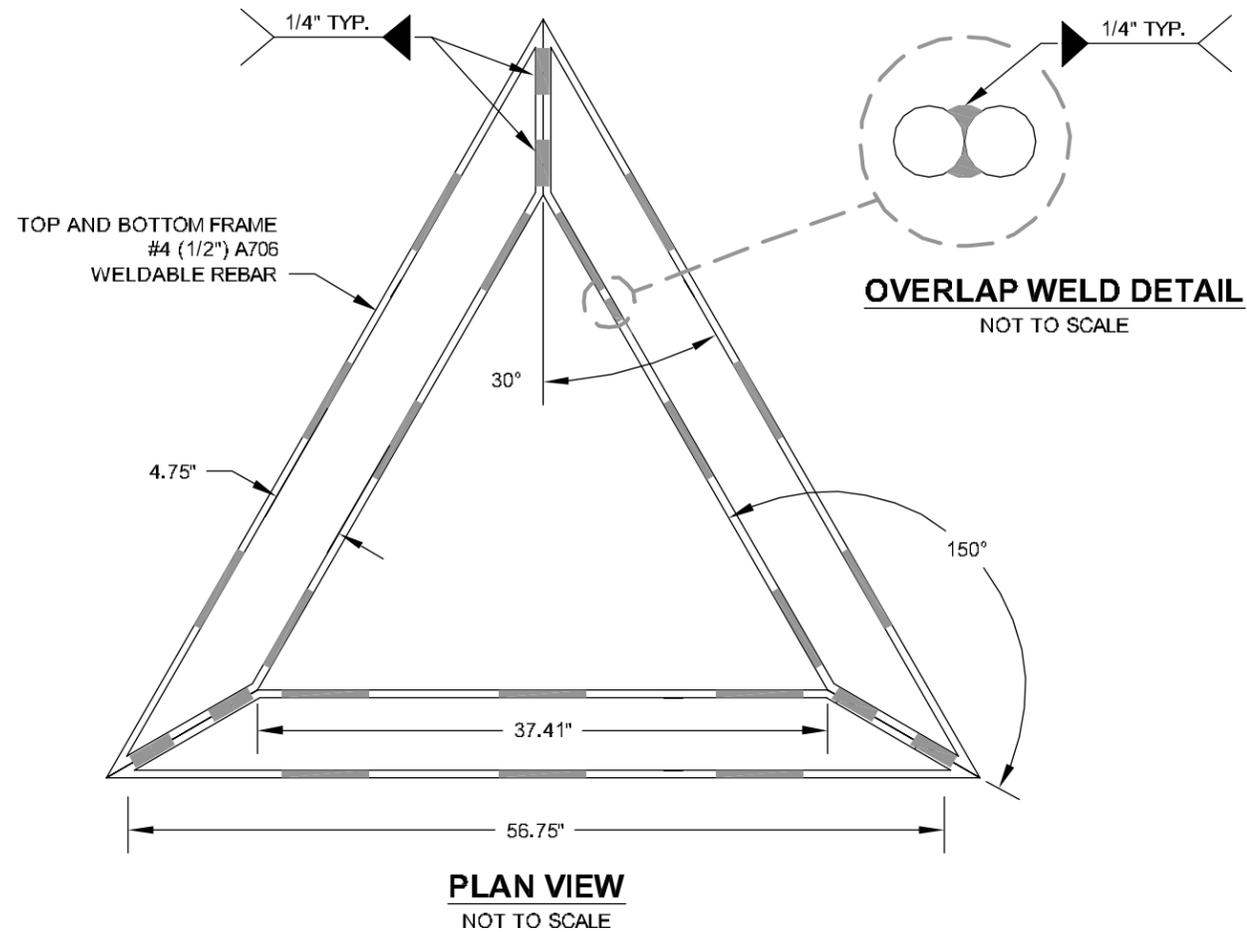
1. ALL CUT ENDS OF BRAID MATERIAL SHALL BE KNOTTED WITHIN 1/2" TO 2" OF THE END TO PREVENT RAVELING OF BRAID.
2. THE BRAID SHALL BE SECURELY KNOTTED TO THE GEOGRID AT ALL ENDS OF ALL BRAIDED SEAMS. THE BRAID SHALL BE KNOTTED WHEN SPLICING TO THE NEXT PIECE OF BRAID, OR WHEN SECURING IT TO THE GEOGRID. AT ALL ENDS, EACH BRAIDED SEAM SHALL BE CONTINUOUS, WITH SECURELY KNOTTED SPLICES ALLOWED. THE BRAID SHALL BE SECURELY KNOTTED TO THE GEOGRID AT A SPACING NOT TO EXCEED 6 FT ALONG ANY SEAM.
3. THE BRAID SHALL BE STITCHED THROUGH EACH PAIR OF APERTURES ALONG THE SEAM AT LEAST ONCE, AND THE MINIMUM NUMBER OF STITCHES PER FOOT ALONG THE SEAM SHALL BE SIX (6). THE SPACING OF STITCHES ALONG EACH SEAM SHALL BE REASONABLY UNIFORM.
4. ALL KNOTS SHALL BE TIED IN A MANNER TO PREVENT SLIPPING AND CINCHING. THE WRAPS ALONG THE SEAM SHALL BE SUFFICIENTLY TIGHT TO CLOSE THE GAP BETWEEN THE ADJACENT PIECES OF GEOGRID, BUT SHALL NOT BE OVER-TIGHTENED SUCH THAT THE GEOGRID BINDS ALONG THE SEAM.



EXPANDED SECTION AT DIAPHRAGM
SCALE: NOT TO SCALE

AS-BUILT

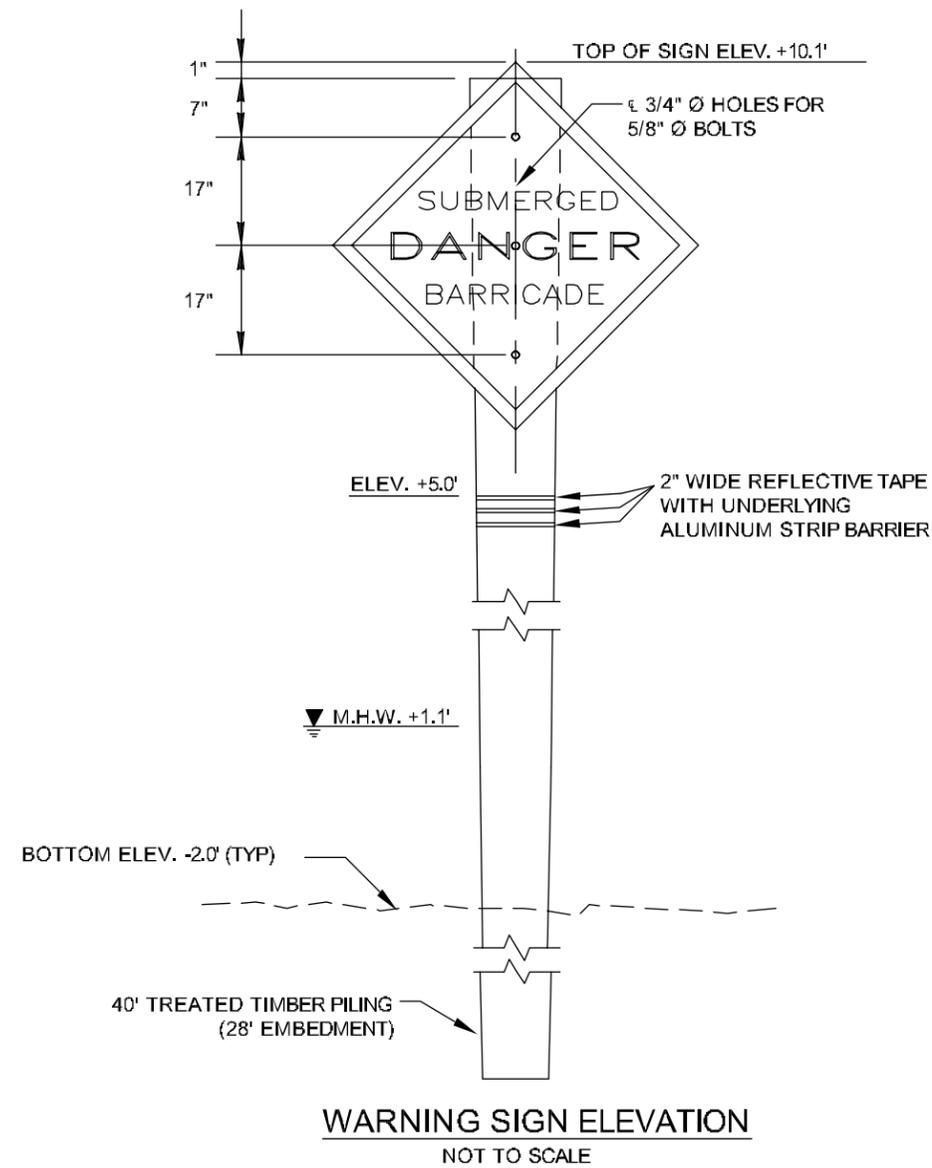
				LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802		TERREBONNE BAY SHORE PROTECTION DEMONSTRATION PROJECT		ONSHORE GABION MAT UNIT DETAILS	
						STATE PROJECT NUMBER: TE45			
						FEDERAL PROJECT NUMBER:		DATE: FEBRUARY 2007	
				DRAWN BY: KRISTI CANTU		DESIGNED BY: DAIN GILLEN, E.I.		APPROVED BY: MAURY CHATELIER, P.E.	
REV.	DATE	DESCRIPTION	BY					SHEET 9 OF 25	
	4/18/08	AS-BUILT DETAIL ADDED	TBS						



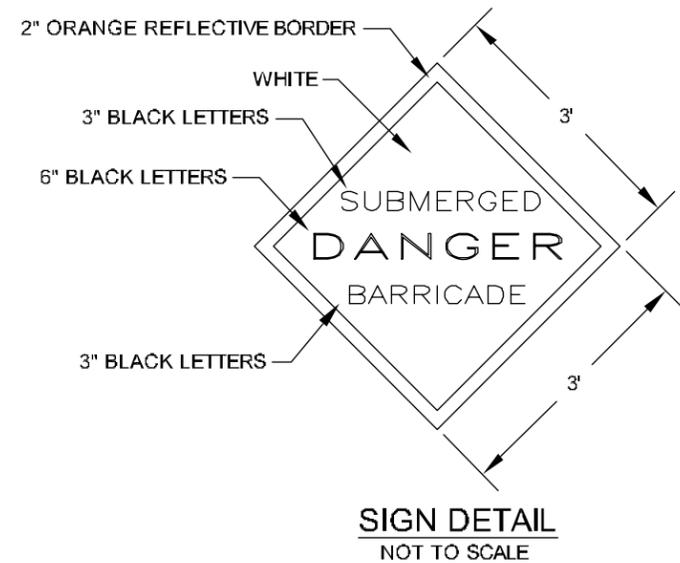
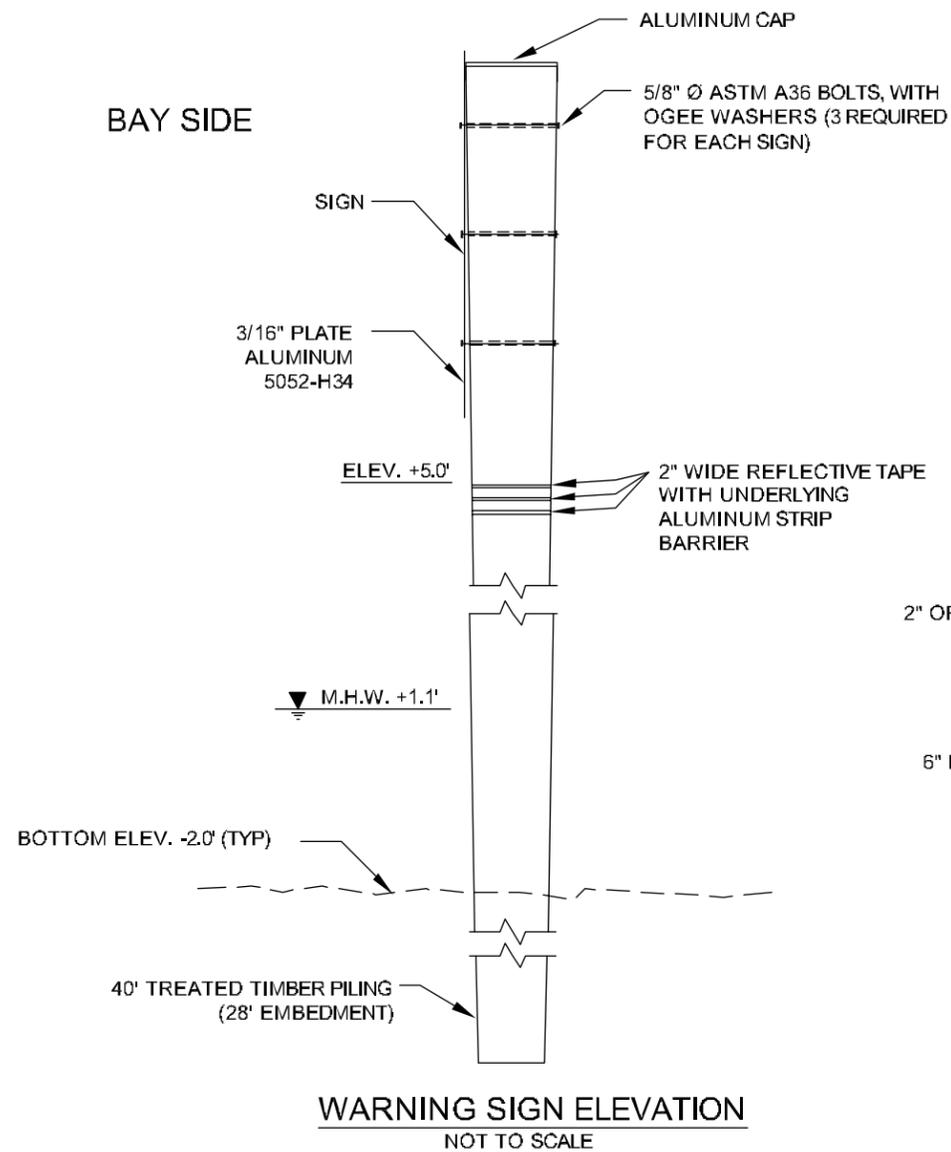
- NOTES:
1. ALL STRUCTURAL STEEL SHALL BE ASTM A-706 WELDABLE NO. 4(1/2 INCH) REBAR.
 2. SEE SHEET 5 FOR ANCHORING AND TIE-DOWN DETAILS.

AS-BUILT

				LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	TERREBONNE BAY SHORE PROTECTION DEMONSTRATION PROJECT	FORESHORE TRIANGULAR UNIT DETAILS
					STATE PROJECT NUMBER: TB-45	
					FEDERAL PROJECT NUMBER:	DATE: FEBRUARY 2007
REV.	DATE	DESCRIPTION	BY	DRAWN BY: KRISTI CANTU	DESIGNED BY: DAIN GILLEN, E.I.	APPROVED BY: MAURY CHATELIER, P.E.
	4/18/08	AS-BUILT DETAILS ADDED	TBS			SHEET 10 OF 25



BAY SIDE

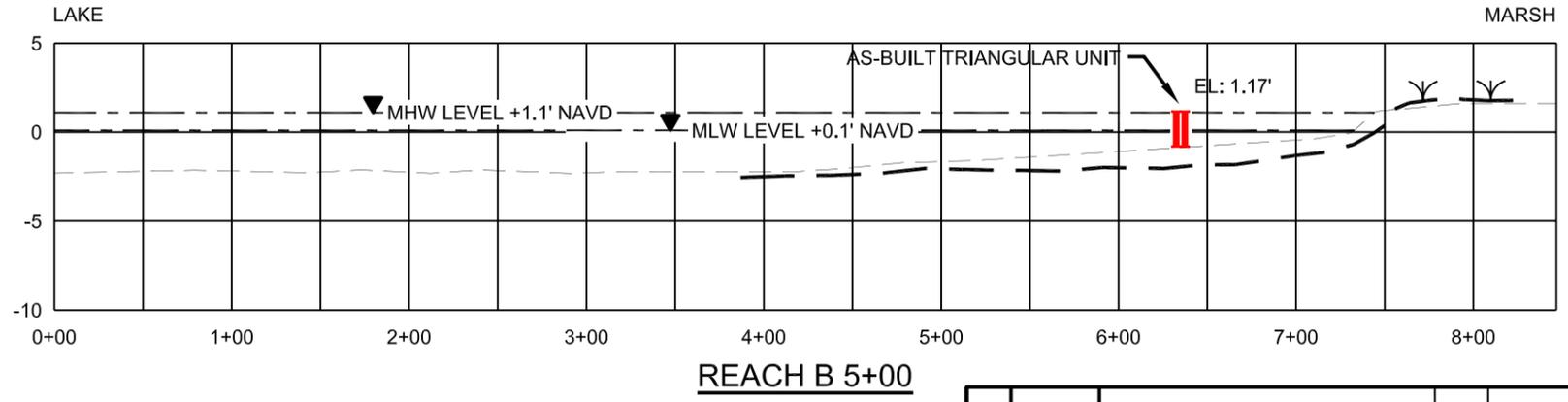
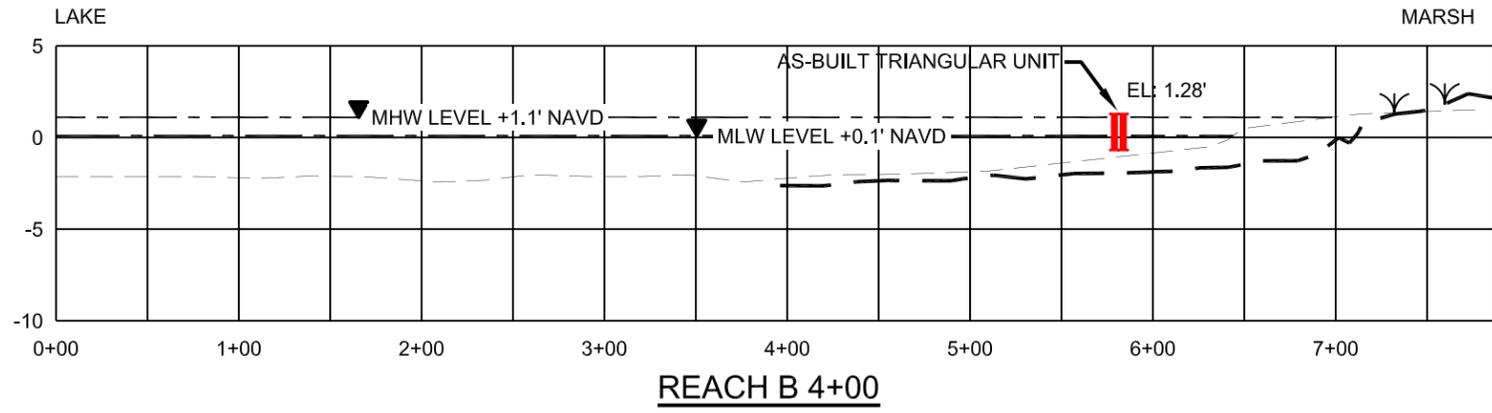
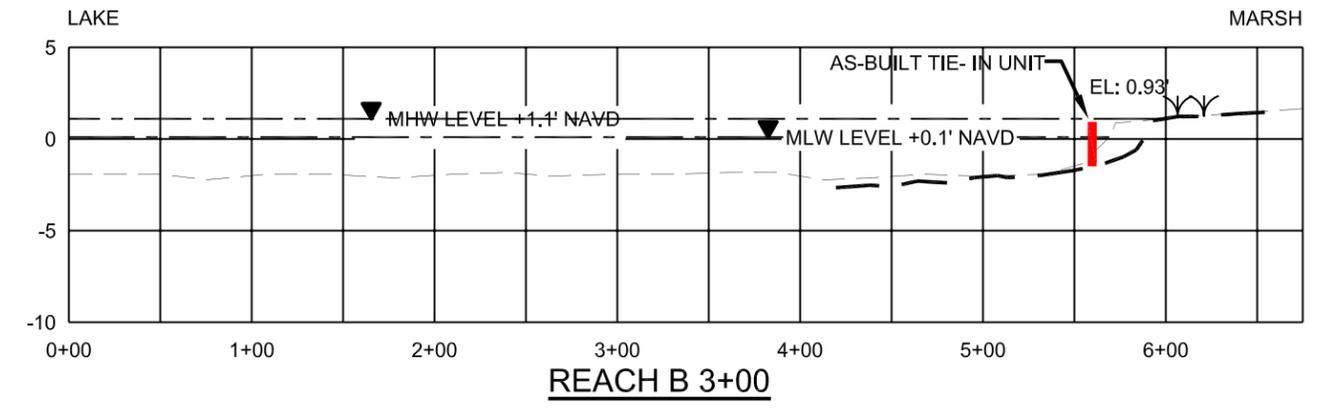
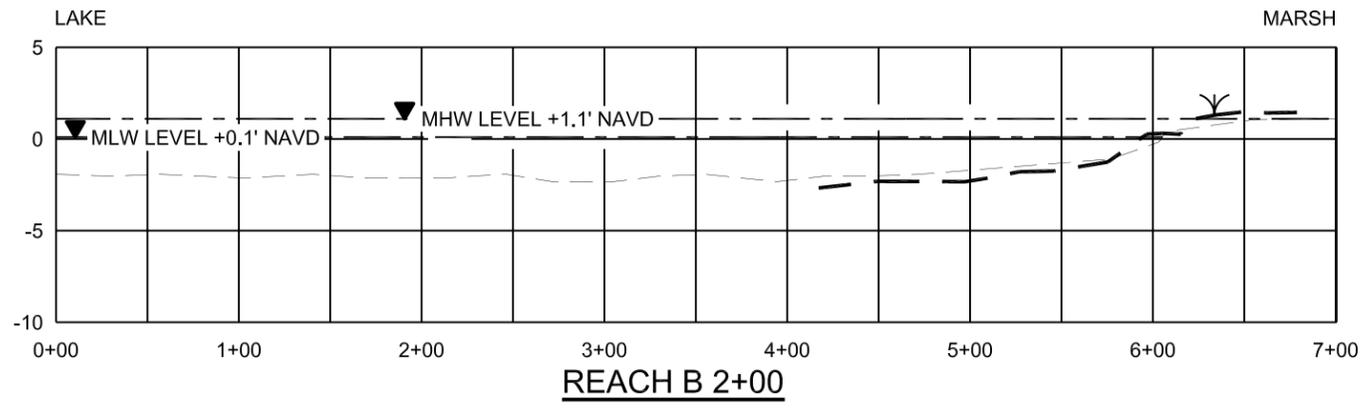
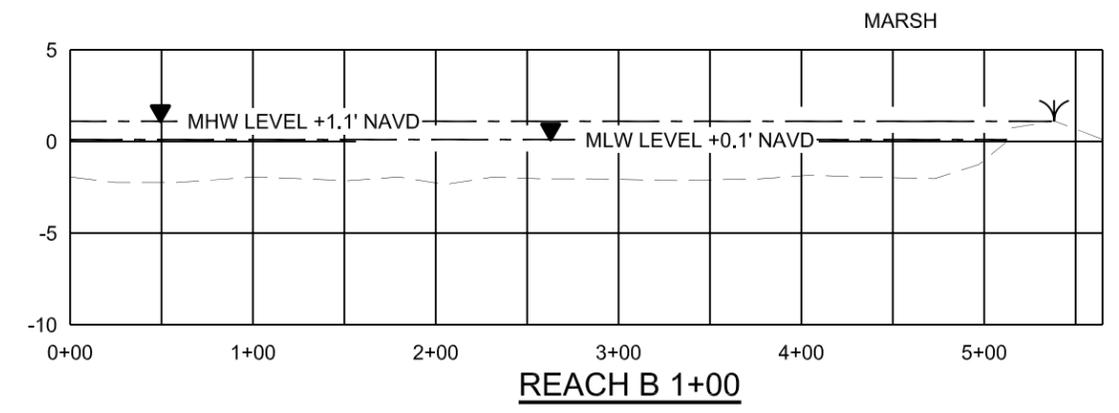
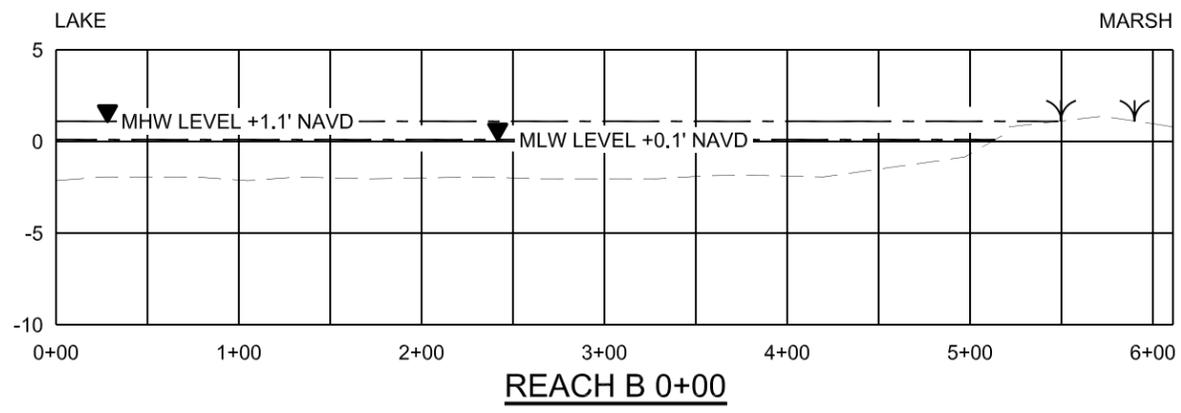


NOTES:

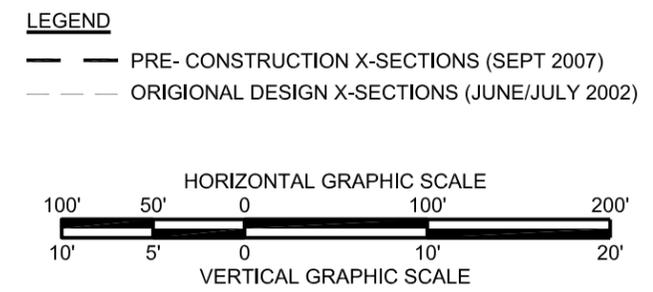
1. REFERENCES HEREIN TO THE "STANDARD SPECIFICATIONS" REFER TO THE "LA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES", LATEST EDITION, INCLUDING AMENDMENTS, BY THE DEPT. OF TRANSPORTATION AND DEVELOPMENT. MEASUREMENT AND PAYMENT WILL BE MADE AS DESCRIBED THEREIN, EXCEPT WHERE STATED OTHERWISE.
2. TWO WARNING SIGNS SHALL BE INSTALLED WITHIN EACH REACH (6 TOTAL) AS SHOWN ON THE DRAWINGS OR AS DIRECTED BY THE PROJECT ENGINEER. APPROXIMATE LOCATIONS OF THE WARNING SIGNS ARE SHOWN ON SHEETS 6 AND 7. ACTUAL LOCATIONS WILL BE DETERMINED IN THE FIELD.
3. THE 2" BORDER ON THE WARNING SIGN WILL BE A REFLECTIVE MATERIAL OF ORANGE COLOR. THE LETTERING FIELD WILL BE A REFLECTIVE MATERIAL OF WHITE COLOR. THE LETTERING FOR THE WARNING SIGNS WILL BE BLACK. ALL SIGNS MUST MEET U.S. COAST GUARD STANDARDS; IN ACCORDANCE WITH 33 CFR 330.4 (a) (1).
4. NEOPRENE WASHERS SHALL BE PLACED BETWEEN THE SIGN AND THE PILING AT ALL POINTS OF CONTACT.
5. HARDWARE FOR TIMBER CONNECTIONS SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH SECTION 811.15 OF THE LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, AS PUBLISHED BY THE LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT, LATEST EDITION.
6. TIMBER PILES SHALL CONFORM TO SECTIONS 804 AND 1014 OF THE LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, AS PUBLISHED BY THE LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT, LATEST EDITION. PILES SHALL BE TREATED WITH A CREOSOTE SOLUTION CONFORMING TO AWPA P2 TO A MINIMUM RETENTION OF 16 PCF.
7. TIMBER PILINGS SHALL BE 40-FEET IN LENGTH WITH A 12-INCH DIAMETER BUTT AND 7-INCH DIAMETER AT THE TIP.
8. EXPOSED BOLT THREADS SHALL BE EITHER TACK WELDED TO NUTS, STRIPPED, OR DAMAGED BY OTHER APPROVED METHOD TO PREVENT EASY REMOVAL.

AS-BUILT

				LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	TERREBONNE BAY SHORE PROTECTION DEMONSTRATION PROJECT	WARNING SIGN DETAILS
					FEDERAL PROJECT NUMBER:	DATE: FEBRUARY 2007
				DRAWN BY: KRISTI CANTU	DESIGNED BY: DAIN GILLEN, E.I.	APPROVED BY: MAURY CHATELIER, P.E.
REV.	DATE	DESCRIPTION	BY	SHEET 11 OF 25		



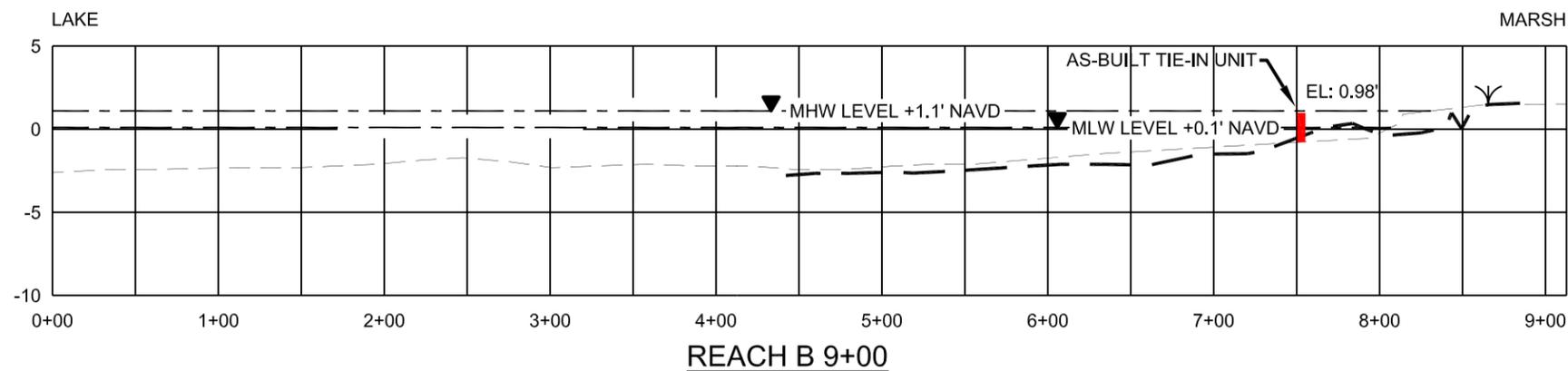
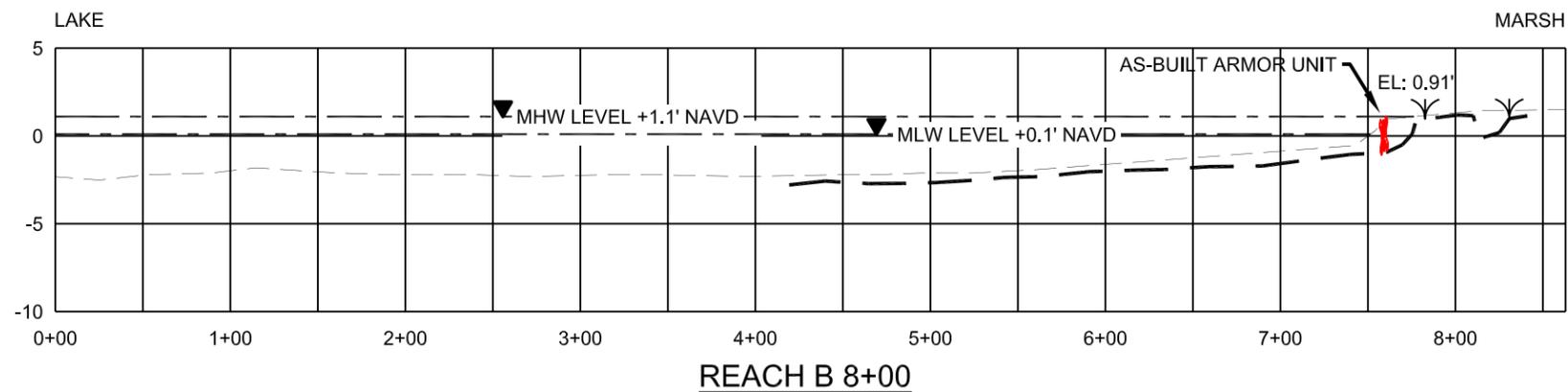
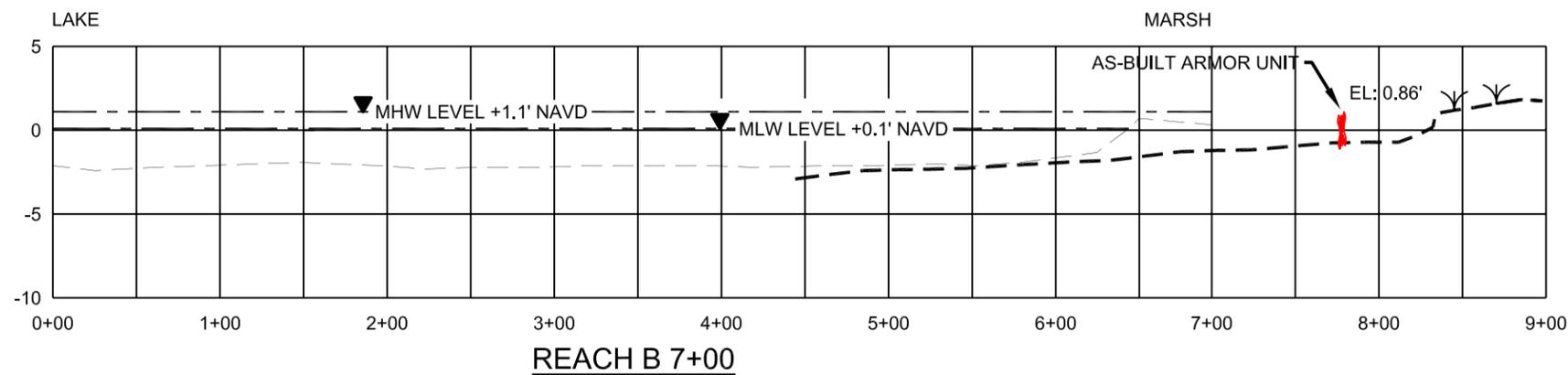
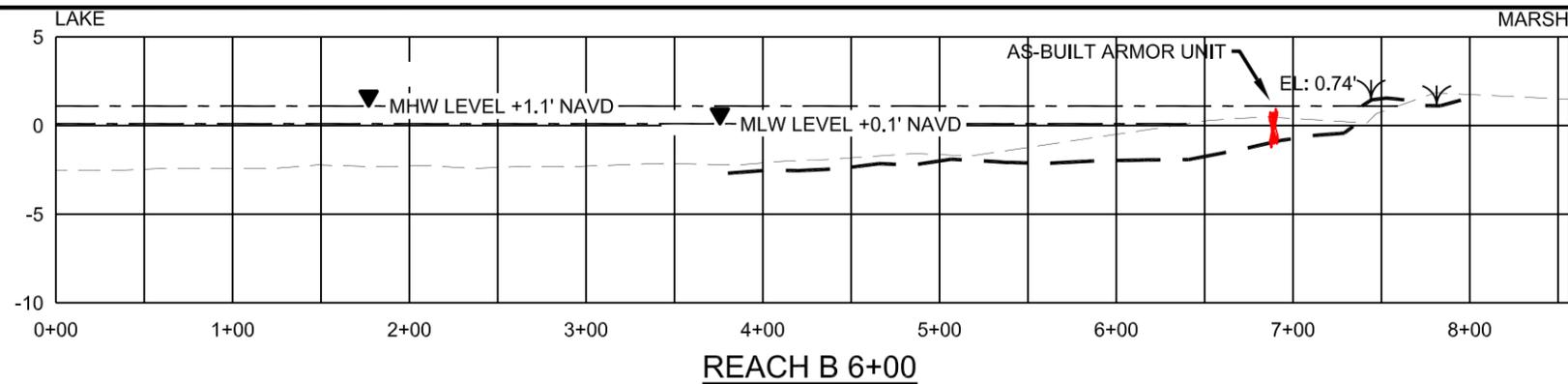
- NOTES:
1. THE MEAN HIGH WATER (MHW) AND MEAN LOW WATER (MLW) ELEVATIONS ARE BASED ON THE BAYOU PETIT CAILLOU GAGE #76305 READINGS FROM 1992-2002 HAVING A VERTICAL DATUM OF NGVD 29 WHICH WAS CONVERTED TO NAVD 88 ELEVATIONS.
 2. ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
 3. CROSS-SECTIONS ARE BASED ON CONTRACTOR'S PRE-CONSTRUCTION SURVEY PERFORMED IN SEPTEMBER OF 2007.
 4. AS-BUILT POSITIONS AND ELEVATIONS OF STRUCTURES WAS TAKEN FROM CONTRACTOR'S AS-BUILT SURVEY PERFORMED IN JANUARY OF 2008.



AS-BUILT

REV.	DATE	DESCRIPTION	BY
4/18/08		AS-BUILT DETAIL ADDED	TBS

LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802		TERREBONNE BAY SHORE PROTECTION DEMONSTRATION PROJECT	REACH A AND B PROFILES
		STATE PROJECT NUMBER: TE-45	
DRAWN BY: KRISTI CANTU		FEDERAL PROJECT NUMBER:	DATE: FEBRUARY 2007
DESIGNED BY: DAIN GILLEN, E.I.		APPROVED BY: MAURY CHATELLIER, P.E.	SHEET 12 OF 25

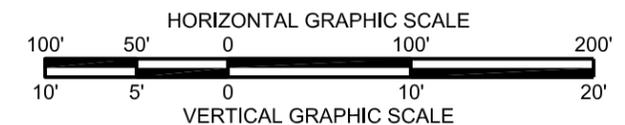


NOTES:

1. THE MEAN HIGH WATER (MHW) AND MEAN LOW WATER (MLW) ELEVATIONS ARE BASED ON THE BAYOU PETIT CAILLOU GAGE #76305 READINGS FROM 1992-2002 HAVING A VERTICAL DATUM OF NGVD 29 WHICH WAS CONVERTED TO NAVD 88 ELEVATIONS.
2. ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
3. CROSS-SECTIONS ARE BASED ON CONTRACTOR'S PRE -CONSTRUCTION SURVEY PERFORMED IN SEPTEMBER OF 2007.
4. AS-BUILT POSITIONS AND ELEVATIONS OF STRUCTURES WAS TAKEN FROM CONTRACTOR'S AS-BUILT SURVEY PERFORMED IN JANUARY OF 2008.

LEGEND

- PRE- CONSTRUCTION X-SECTIONS (SEPT 2007)
- - - ORIGINAL DESIGN X-SECTIONS (JUNE/JULY 2002)



AS-BUILT

REV.	DATE	DESCRIPTION	BY
4/18/08		AS-BUILT DETAIL ADDED	TBS

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION

617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KRISTI CANTU

DESIGNED BY: DAIN GILLEN, E.I.

TERREBONNE BAY SHORE PROTECTION
DEMONSTRATION PROJECT

STATE PROJECT NUMBER: TE-45

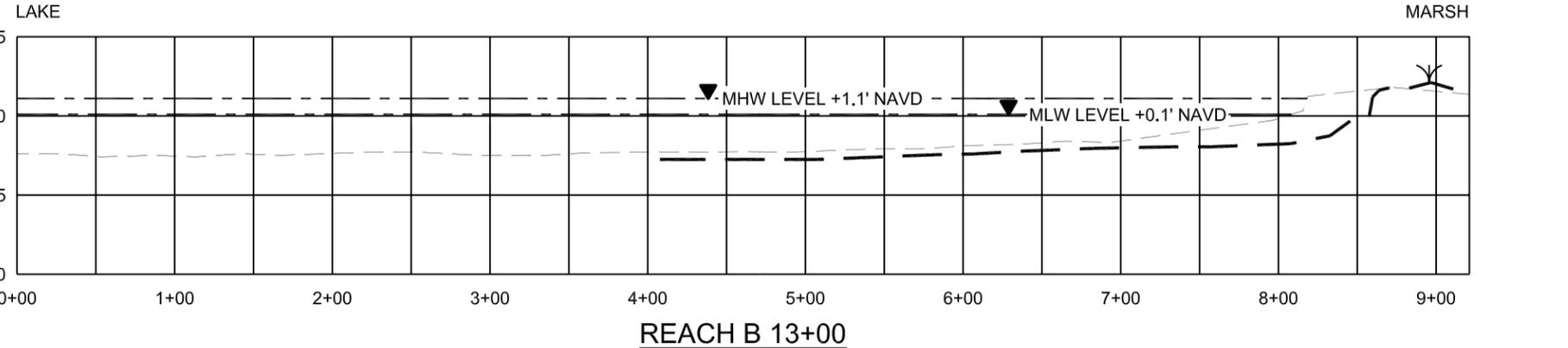
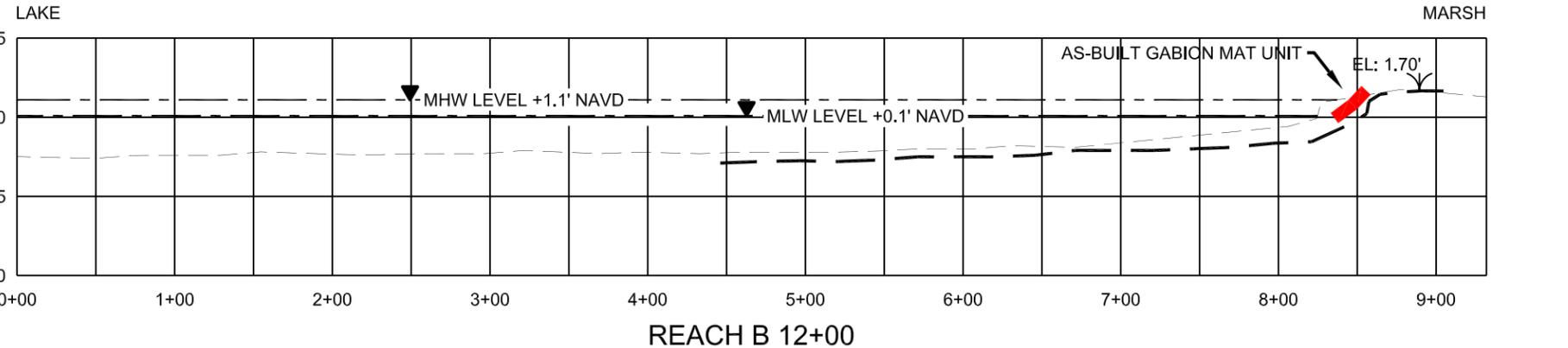
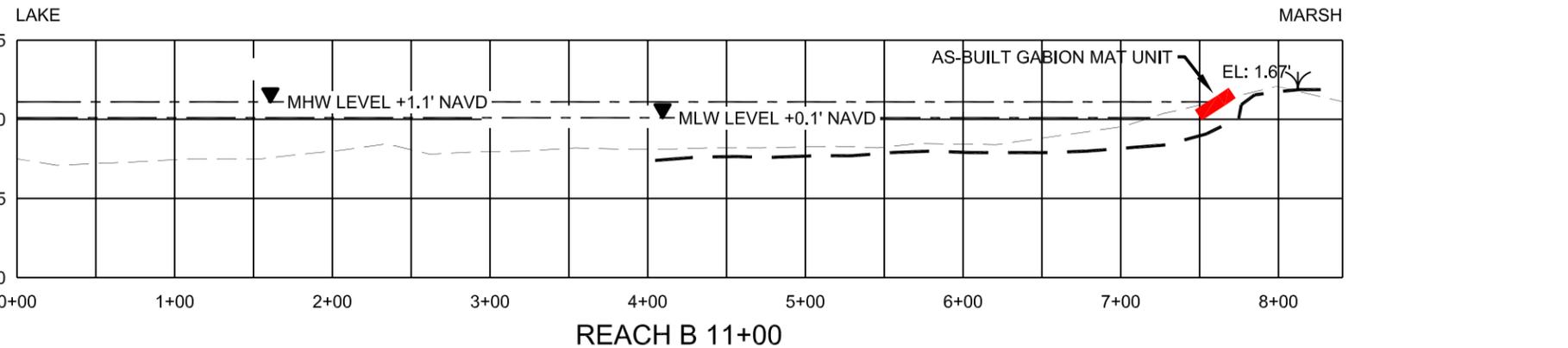
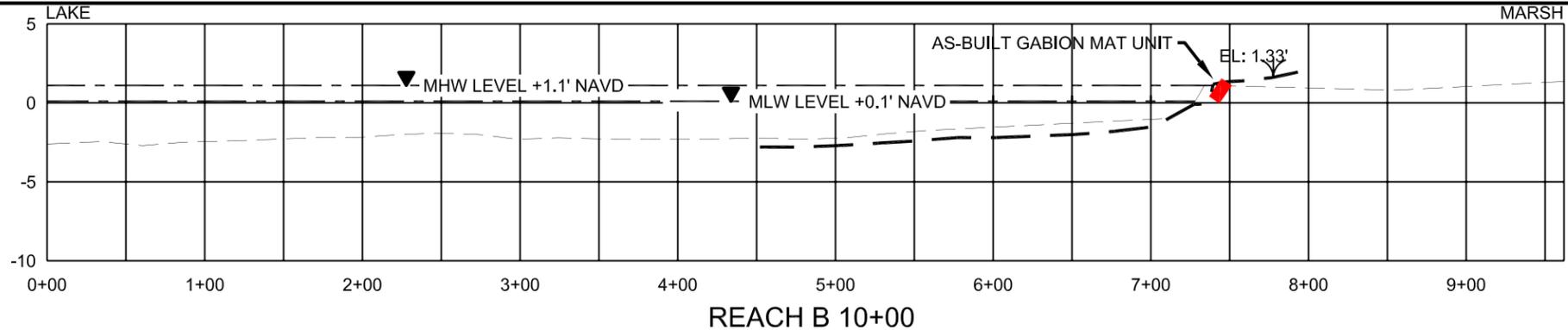
FEDERAL PROJECT NUMBER:

APPROVED BY: MAURY CHATELLIER, P.E.

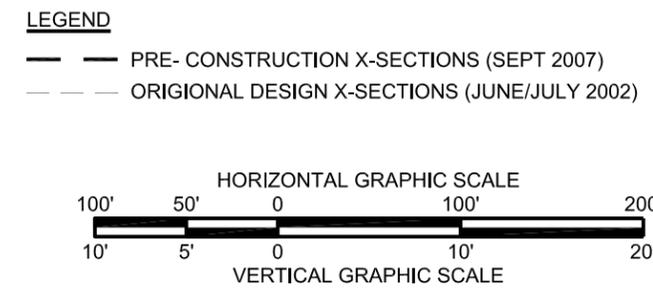
REACH A AND B
PROFILES

DATE: FEBRUARY 2007

SHEET 13 OF 25



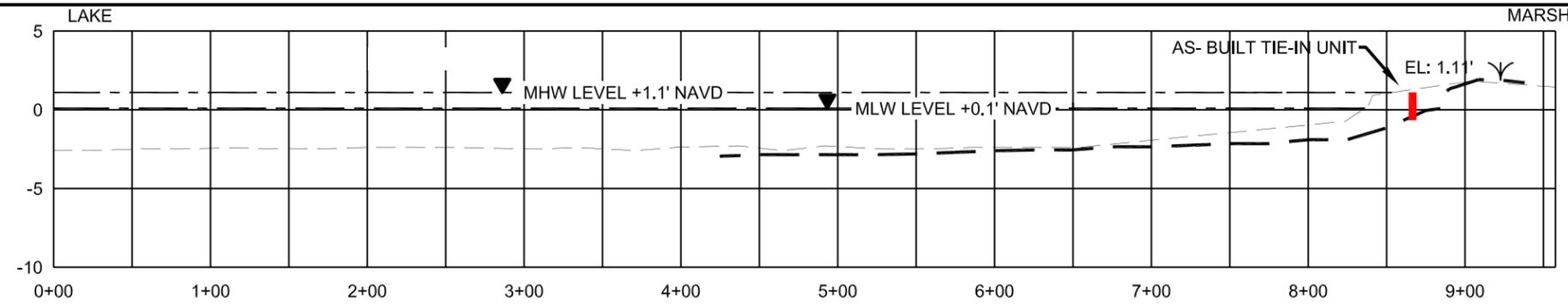
- NOTES:
1. THE MEAN HIGH WATER (MHW) AND MEAN LOW WATER (MLW) ELEVATIONS ARE BASED ON THE BAYOU PETIT CAILLOU GAGE #76305 READINGS FROM 1992-2002 HAVING A VERTICAL DATUM OF NGVD 29 WHICH WAS CONVERTED TO NAVD 88 ELEVATIONS.
 2. ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
 3. CROSS-SECTIONS ARE BASED ON CONTRACTOR'S PRE-CONSTRUCTION SURVEY PERFORMED IN SEPTEMBER OF 2007.
 4. AS-BUILT POSITIONS AND ELEVATIONS OF STRUCTURES WAS TAKEN FROM CONTRACTOR'S AS-BUILT SUREY PERFORMED IN JANUARY OF 2008.



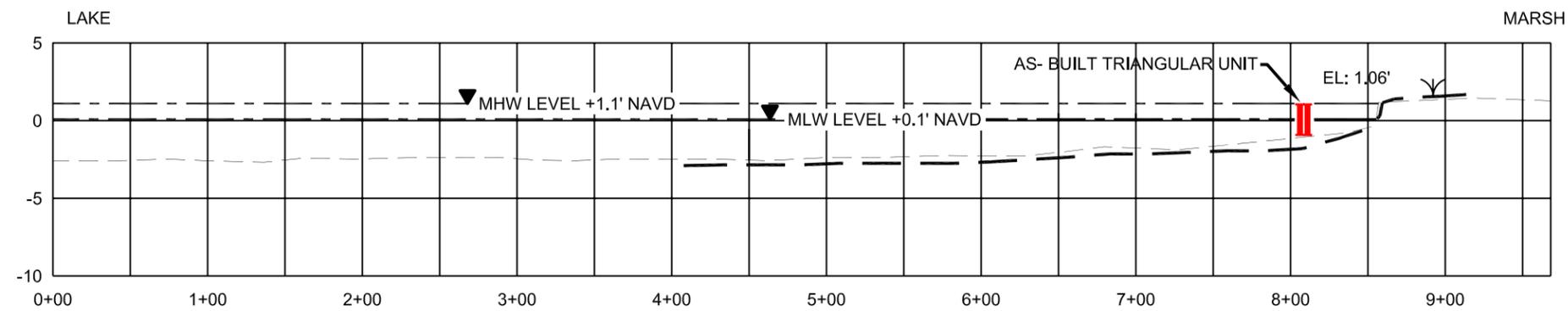
AS-BUILT

REV.	DATE	DESCRIPTION	BY
4/18/08		AS-BUILT DETAIL ADDED	TBS

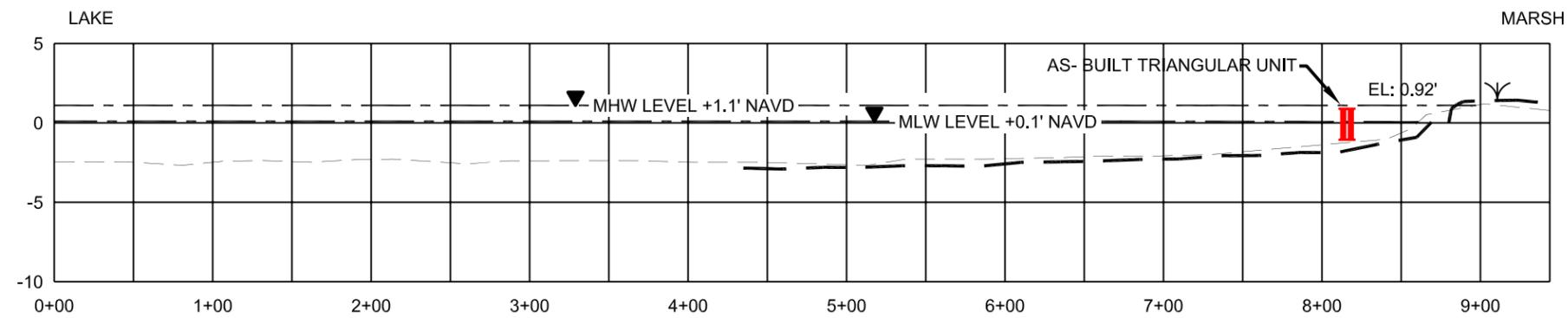
LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802		TERREBONNE BAY SHORE PROTECTION DEMONSTRATION PROJECT	REACH A AND B PROFILES
		STATE PROJECT NUMBER: TE-45	
DRAWN BY: KRISTI CANTU		FEDERAL PROJECT NUMBER:	DATE: FEBRUARY 2007
DESIGNED BY: DAIN GILLEN, E.I.		APPROVED BY: MAURY CHATELLIER, P.E.	SHEET 14 OF 25



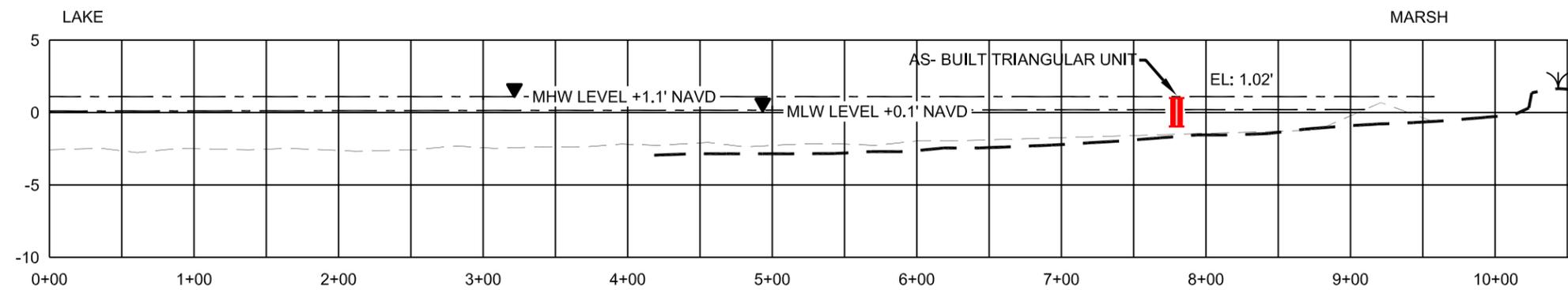
REACH A 14+00



REACH A 15+00



REACH A 16+00



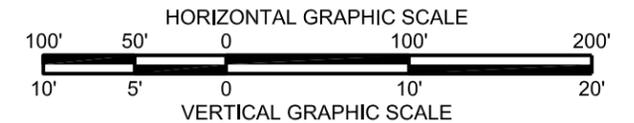
REACH A 17+00

NOTES:

1. THE MEAN HIGH WATER (MHW) AND MEAN LOW WATER (MLW) ELEVATIONS ARE BASED ON THE BAYOU PETIT CAILLOU GAGE #76305 READINGS FROM 1992-2002 HAVING A VERTICAL DATUM OF NGVD 29 WHICH WAS CONVERTED TO NAVD 88 ELEVATIONS.
2. ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
3. CROSS-SECTIONS ARE BASED ON CONTRACTOR'S PRE-CONSTRUCTION SURVEY PERFORMED IN SEPTEMBER OF 2007.
4. AS-BUILT POSITIONS AND ELEVATIONS OF STRUCTURES WAS TAKEN FROM CONTRACTOR'S AS-BUILT SURVEY PERFORMED IN JANUARY OF 2008.

LEGEND

- PRE-CONSTRUCTION X-SECTIONS (SEPT 2007)
- - - ORIGINAL DESIGN X-SECTIONS (JUNE/JULY 2002)



AS-BUILT

REV.	DATE	DESCRIPTION	BY
4/18/08		AS-BUILT DETAIL ADDED	TBS

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
 617 NORTH 3RD STREET
 BATON ROUGE, LOUISIANA 70802

TERREBONNE BAY SHORE PROTECTION
 DEMONSTRATION PROJECT

REACH A AND B
 PROFILES

STATE PROJECT NUMBER: TE-45

FEDERAL PROJECT NUMBER:

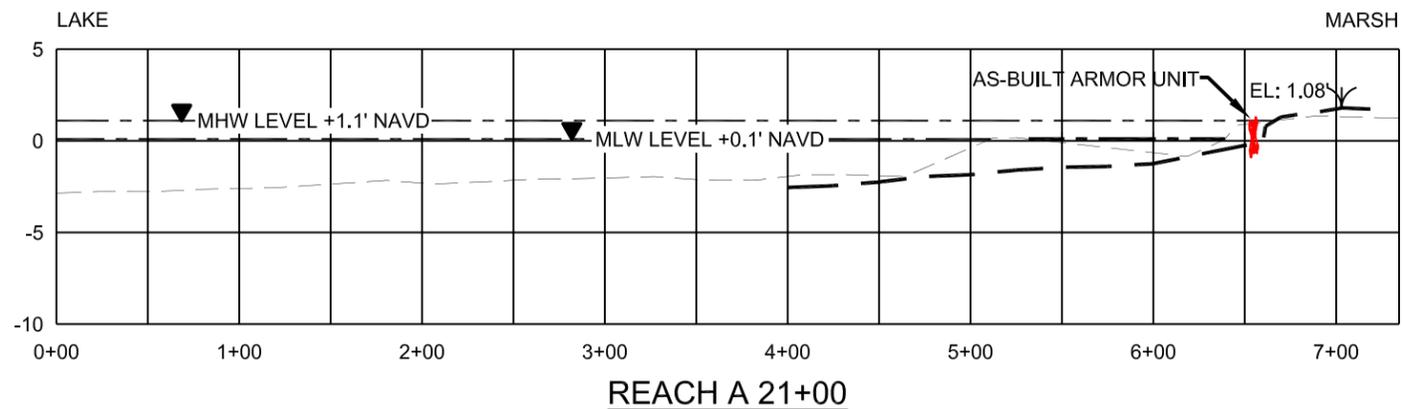
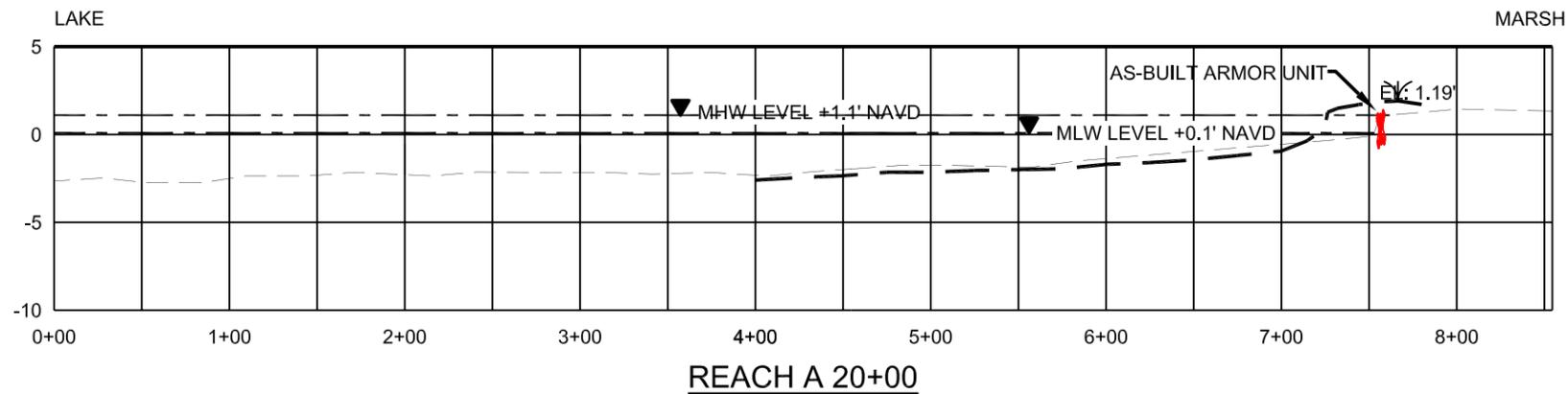
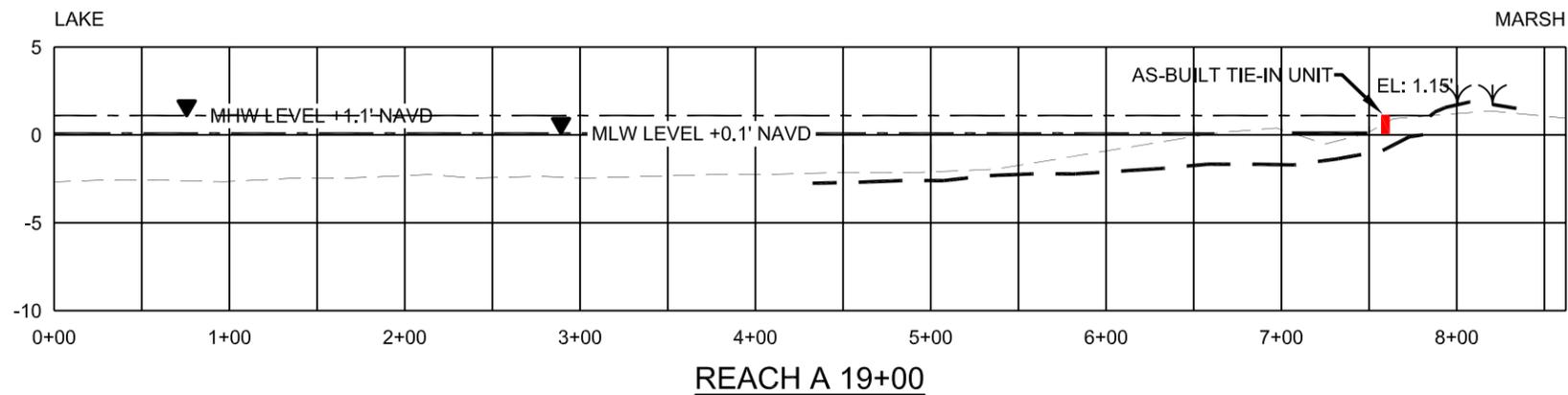
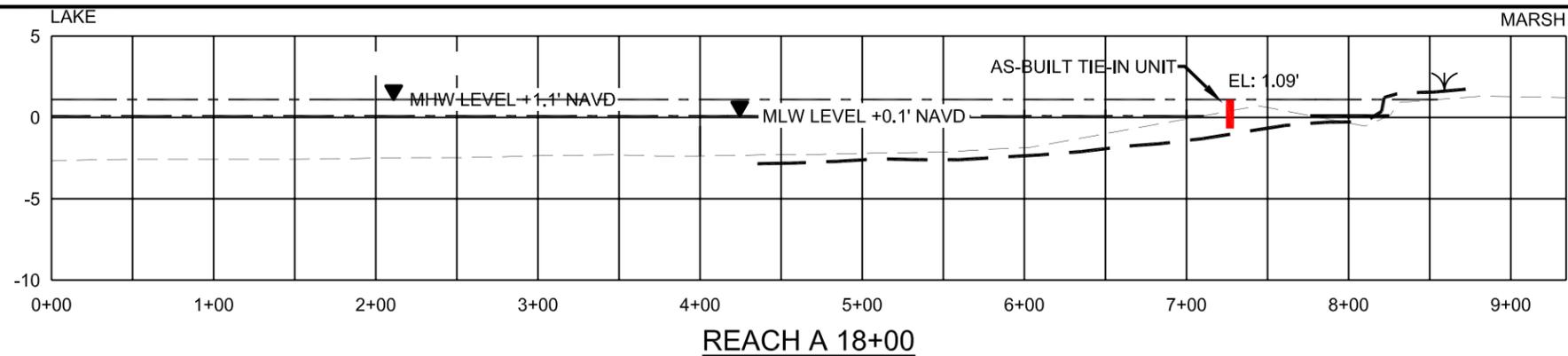
DATE: FEBRUARY 2007

DRAWN BY: KRISTI CANTU

DESIGNED BY: DAIN GILLEN, E.I.

APPROVED BY: MAURY CHATELLIER, P.E.

SHEET 15 OF 25

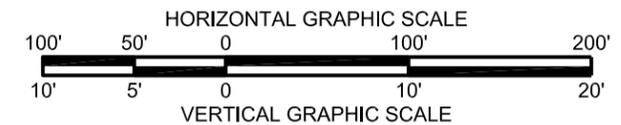


NOTES:

1. THE MEAN HIGH WATER (MHW) AND MEAN LOW WATER (MLW) ELEVATIONS ARE BASED ON THE BAYOU PETIT CAILLOU GAGE #76305 READINGS FROM 1992-2002 HAVING A VERTICAL DATUM OF NGVD 29 WHICH WAS CONVERTED TO NAVD 88 ELEVATIONS.
2. ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
3. CROSS-SECTIONS ARE BASED ON CONTRACTOR'S PRE-CONSTRUCTION SURVEY PERFORMED IN SEPTEMBER OF 2007.
4. AS-BUILT POSITIONS AND ELEVATIONS OF STRUCTURES WAS TAKEN FROM CONTRACTOR'S AS-BUILT SURVEY PERFORMED IN JANUARY OF 2008.

LEGEND

- PRE- CONSTRUCTION X-SECTIONS (SEPT 2007)
- - - ORIGINAL DESIGN X-SECTIONS (JUNE/JULY 2002)



AS-BUILT

REV.	DATE	DESCRIPTION	BY
4/18/08		AS-BUILT DETAIL ADDED	TBS

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION

617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

TERREBONNE BAY SHORE PROTECTION
DEMONSTRATION PROJECT

STATE PROJECT NUMBER: TE-45

FEDERAL PROJECT NUMBER:

APPROVED BY: MAURY CHATELLIER, P.E.

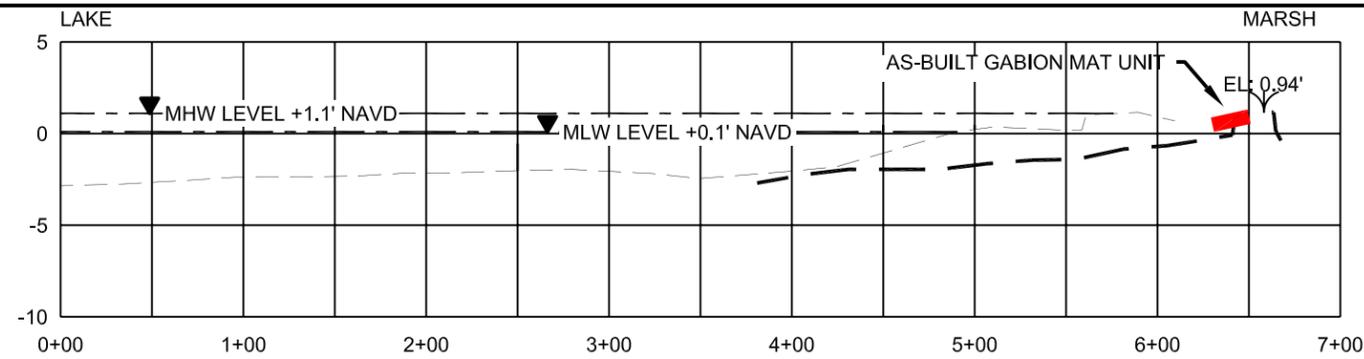
REACH A AND B
PROFILES

DATE: FEBRUARY 2007

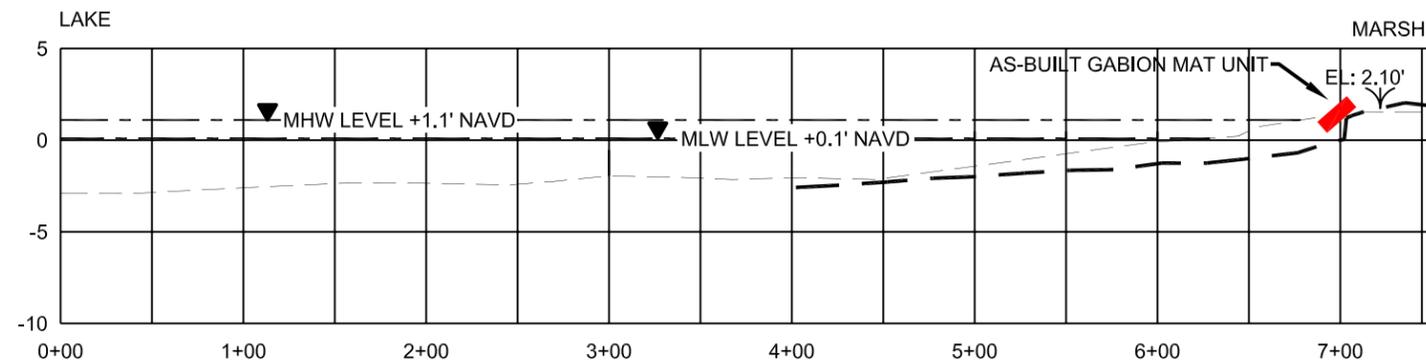
SHEET 16 OF 25

DRAWN BY: KRISTI CANTU

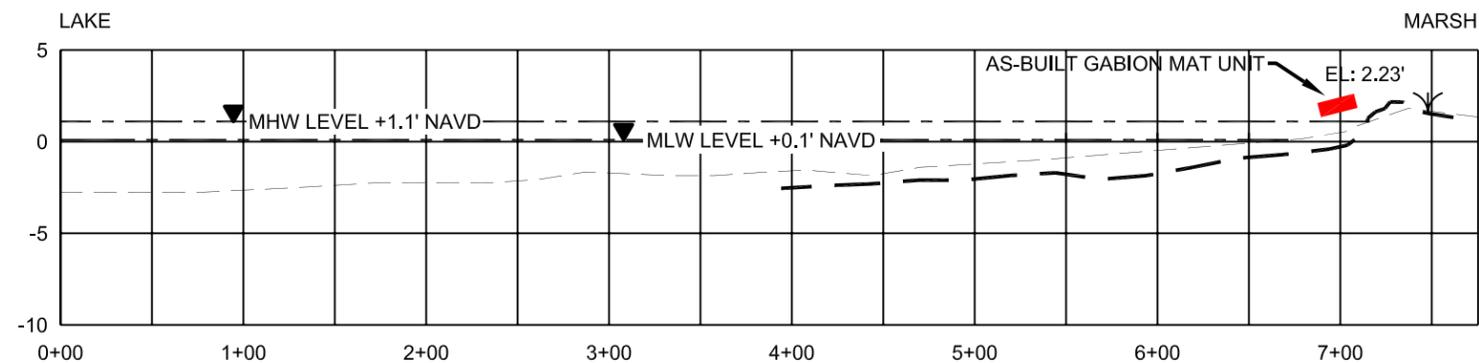
DESIGNED BY: DAIN GILLEN, E.I.



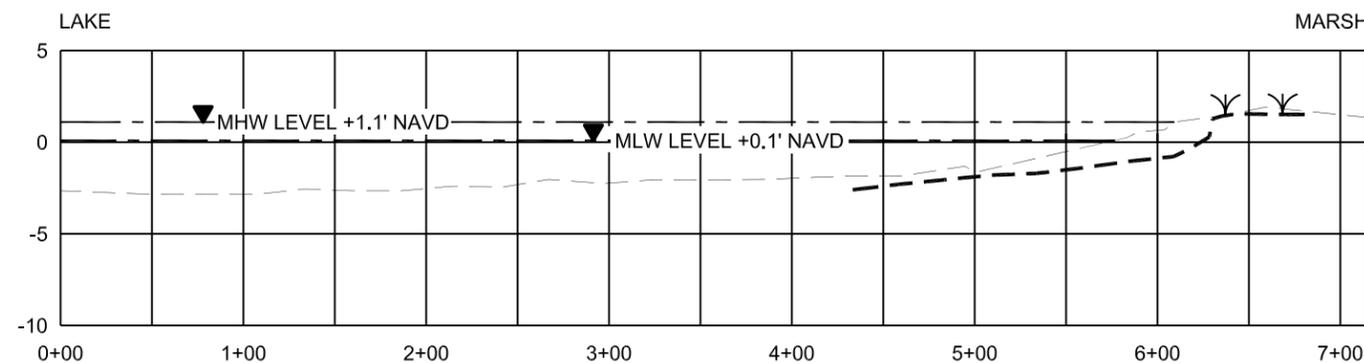
REACH A 22+00



REACH A 23+00



REACH A 24+00



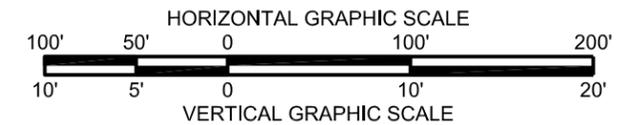
REACH A 25+00

NOTES:

1. THE MEAN HIGH WATER (MHW) AND MEAN LOW WATER (MLW) ELEVATIONS ARE BASED ON THE BAYOU PETIT CAILLOU GAGE #76305 READINGS FROM 1992-2002 HAVING A VERTICAL DATUM OF NGVD 29 WHICH WAS CONVERTED TO NAVD 88 ELEVATIONS.
2. ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
3. CROSS-SECTIONS ARE BASED ON CONTRACTOR'S PRE-CONSTRUCTION SURVEY PERFORMED IN SEPTEMBER OF 2007.
4. AS-BUILT POSITIONS AND ELEVATIONS OF STRUCTURES WAS TAKEN FROM CONTRACTOR'S AS-BUILT SURVEY PERFORMED IN JANUARY OF 2008.

LEGEND

- — PRE- CONSTRUCTION X-SECTIONS (SEPT 2007)
- - - ORIGINAL DESIGN X-SECTIONS (JUNE/JULY 2002)



AS-BUILT

REV.	DATE	DESCRIPTION	BY
4/18/08		AS-BUILT DETAIL ADDED	TBS

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
 617 NORTH 3RD STREET
 BATON ROUGE, LOUISIANA 70802

TERREBONNE BAY SHORE PROTECTION
 DEMONSTRATION PROJECT

STATE PROJECT NUMBER: TE-45

FEDERAL PROJECT NUMBER:

APPROVED BY: MAURY CHATELLIER, P.E.

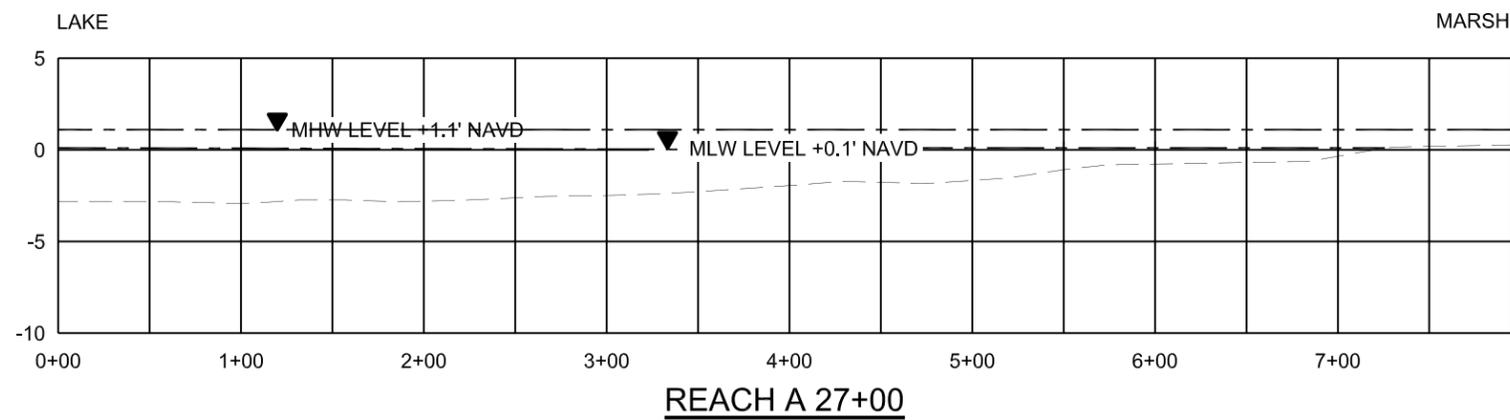
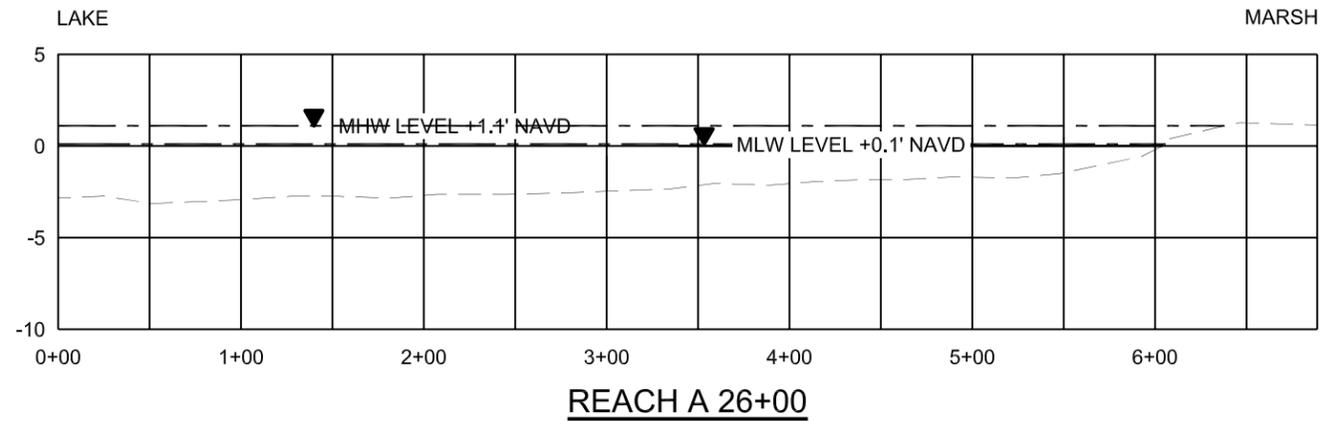
REACH A AND B
 PROFILES

DATE: FEBRUARY 2007

SHEET 17 OF 25

DRAWN BY: KRISTI CANTU

DESIGNED BY: DAIN GILLEN, E.I.

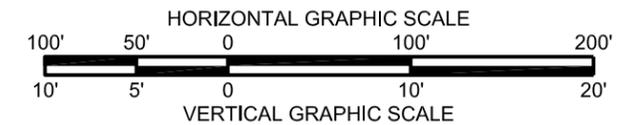


NOTES:

1. THE MEAN HIGH WATER (MHW) AND MEAN LOW WATER (MLW) ELEVATIONS ARE BASED ON THE BAYOU PETIT CAILLOU GAGE #76305 READINGS FROM 1992-2002 HAVING A VERTICAL DATUM OF NGVD 29 WHICH WAS CONVERTED TO NAVD 88 ELEVATIONS.
2. ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
3. CROSS-SECTIONS ARE BASED ON CONTRACTOR'S PRE-CONSTRUCTION SURVEY PERFORMED IN SEPTEMBER OF 2007.
4. AS-BUILT POSITIONS AND ELEVATIONS OF STRUCTURES WAS TAKEN FROM CONTRACTOR'S AS-BUILT SURVEY PERFORMED IN JANUARY OF 2008.

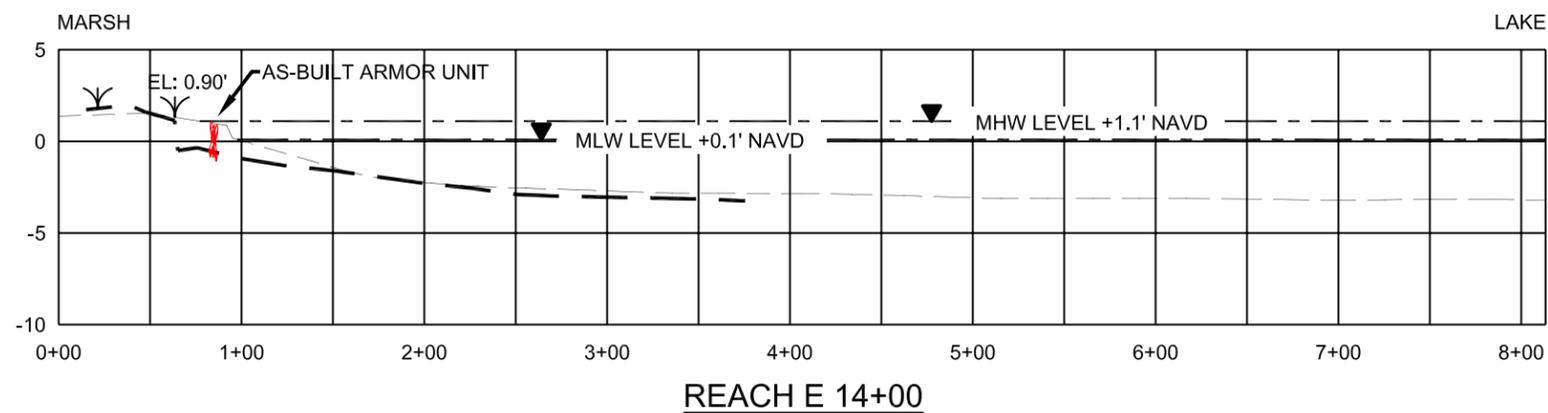
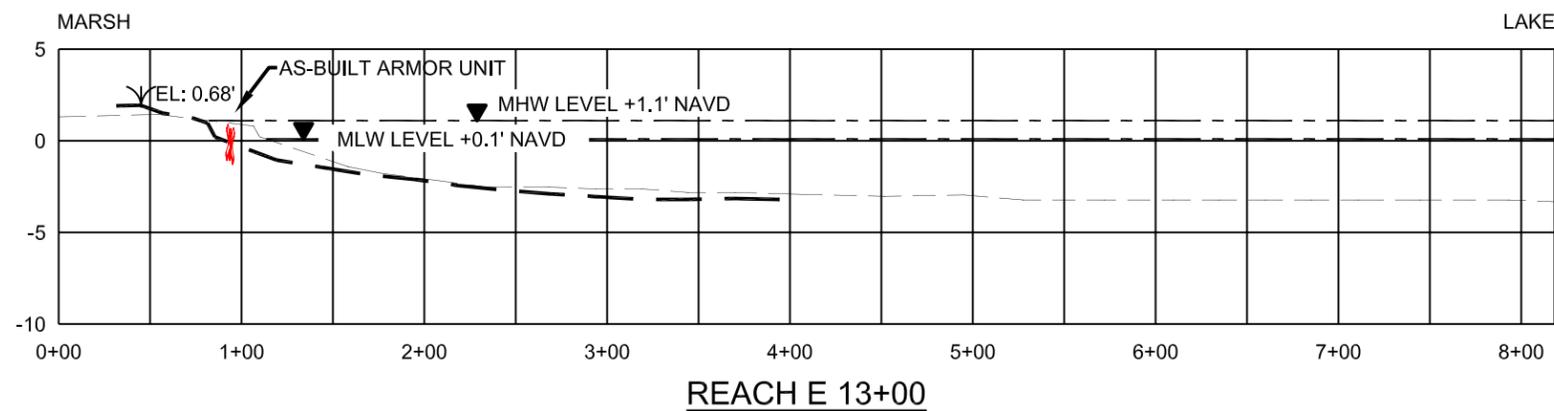
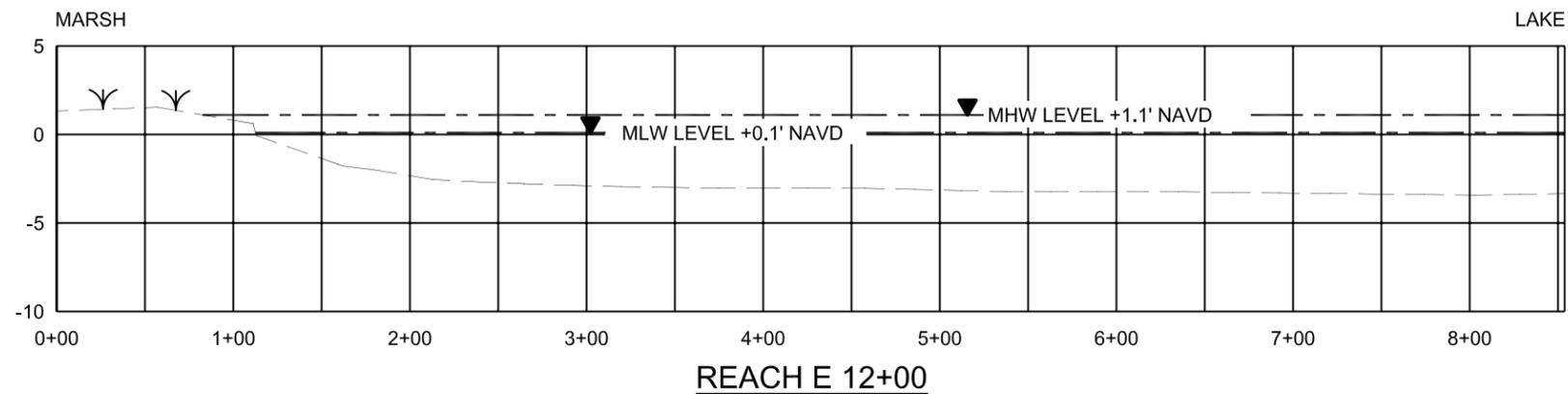
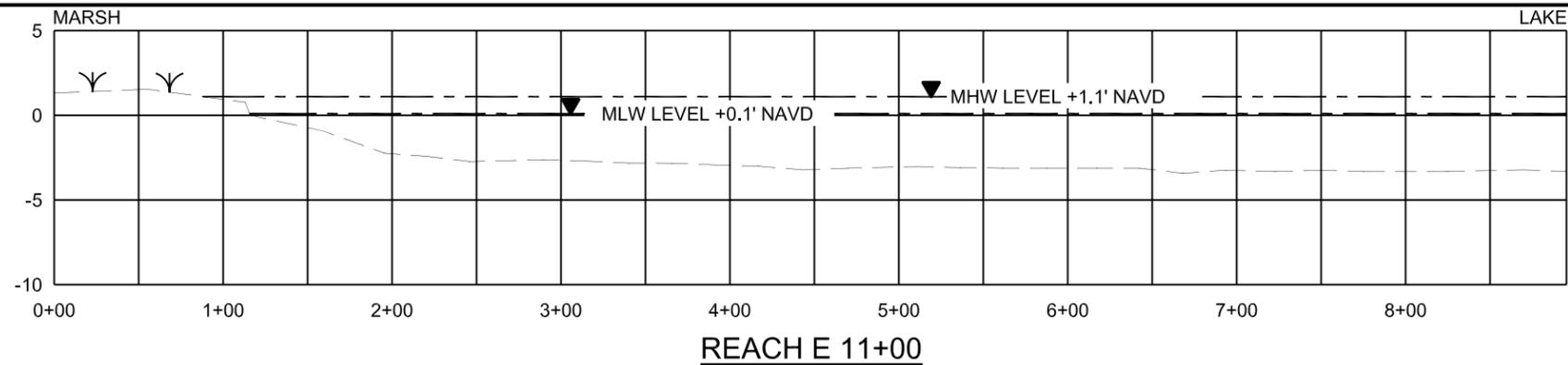
LEGEND

- — — PRE- CONSTRUCTION X-SECTIONS (SEPT 2007)
- - - ORIGINAL DESIGN X-SECTIONS (JUNE/JULY 2002)



AS-BUILT

				LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	TERREBONNE BAY SHORE PROTECTION DEMONSTRATION PROJECT	REACH A AND B PROFILES
					STATE PROJECT NUMBER: TE-45	
					FEDERAL PROJECT NUMBER:	DATE: FEBRUARY 2007
REV.	DATE	DESCRIPTION	BY	DRAWN BY: KRISTI CANTU	DESIGNED BY: DAIN GILLEN, E.I.	APPROVED BY: MAURY CHATELLIER, P.E.
	4/18/08	AS-BUILT DETAIL ADDED	TBS			SHEET 18 OF 25

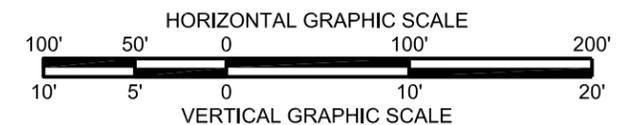


NOTES:

1. THE MEAN HIGH WATER (MHW) AND MEAN LOW WATER (MLW) ELEVATIONS ARE BASED ON THE BAYOU PETIT CAILLOU GAGE #76305 READINGS FROM 1992-2002 HAVING A VERTICAL DATUM OF NGVD 29 WHICH WAS CONVERTED TO NAVD 88 ELEVATIONS.
2. ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
3. CROSS-SECTIONS ARE BASED ON CONTRACTOR'S PRE-CONSTRUCTION SURVEY PERFORMED IN SEPTEMBER OF 2007.
4. AS-BUILT POSITIONS AND ELEVATIONS OF STRUCTURES WAS TAKEN FROM CONTRACTOR'S AS-BUILT SURVEY PERFORMED IN JANUARY OF 2008.

LEGEND

- PRE-CONSTRUCTION X-SECTIONS (SEPT 2007)
- - - ORIGINAL DESIGN X-SECTIONS (JUNE/JULY 2002)



AS-BUILT

REV.	DATE	DESCRIPTION	BY
4/18/08		AS-BUILT DETAIL ADDED	TBS

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION

617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

TERREBONNE BAY SHORE PROTECTION
DEMONSTRATION PROJECT

STATE PROJECT NUMBER: TE-45

FEDERAL PROJECT NUMBER:

APPROVED BY: MAURY CHATELLIER, P.E.

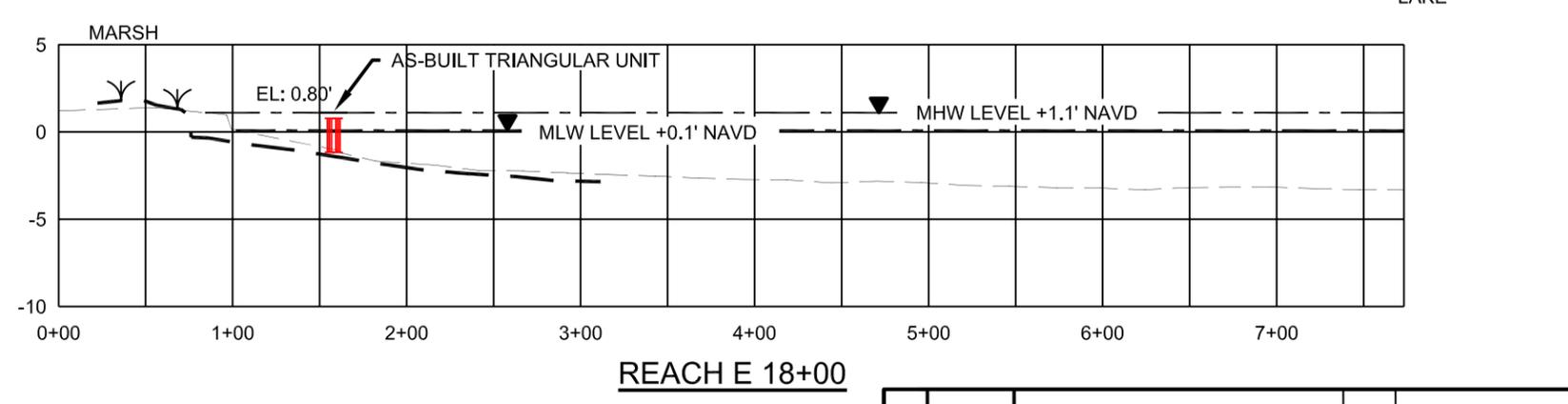
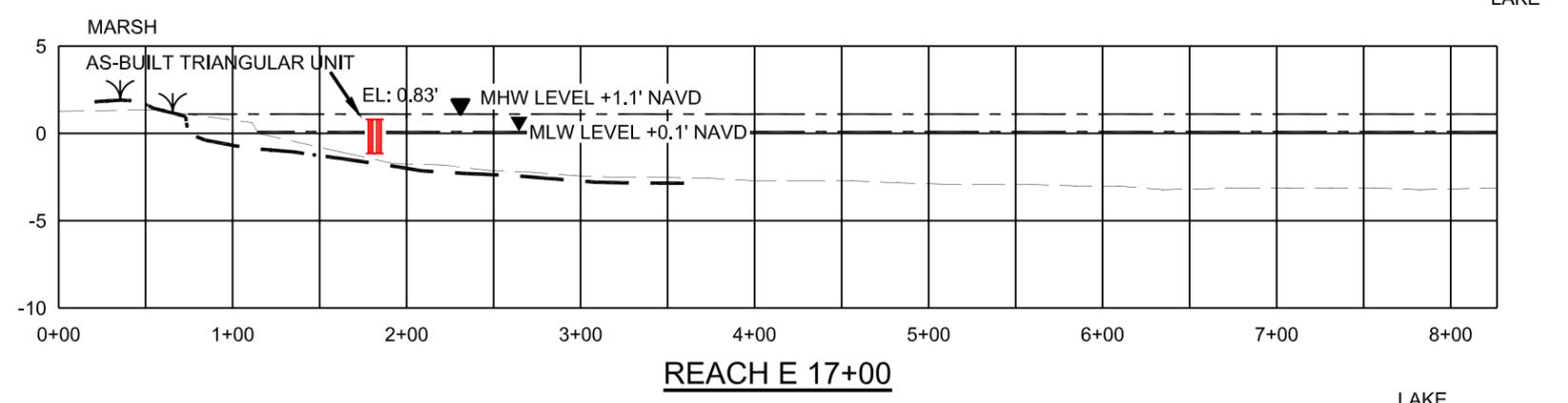
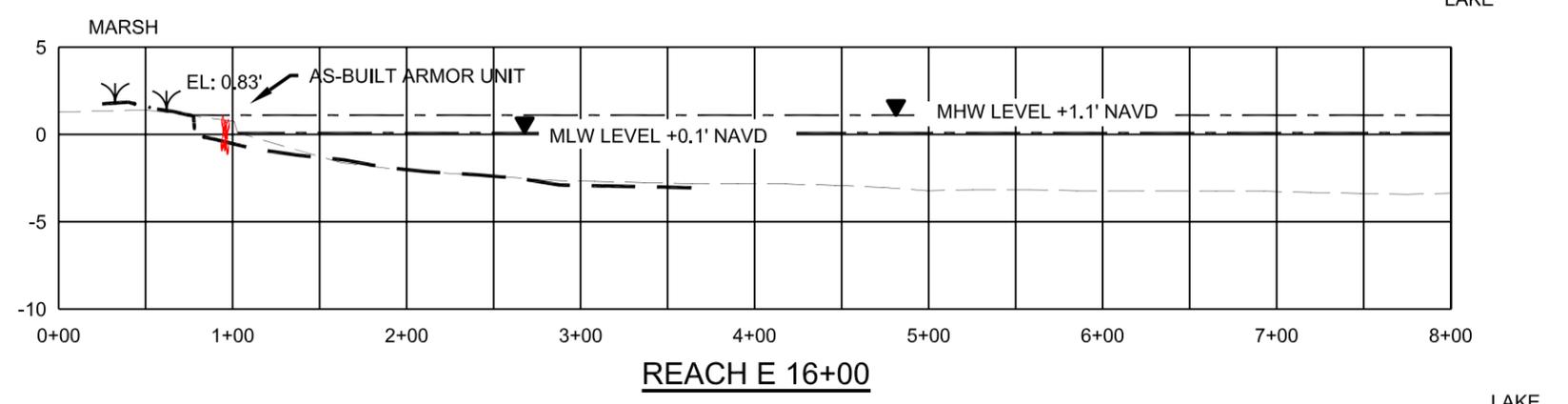
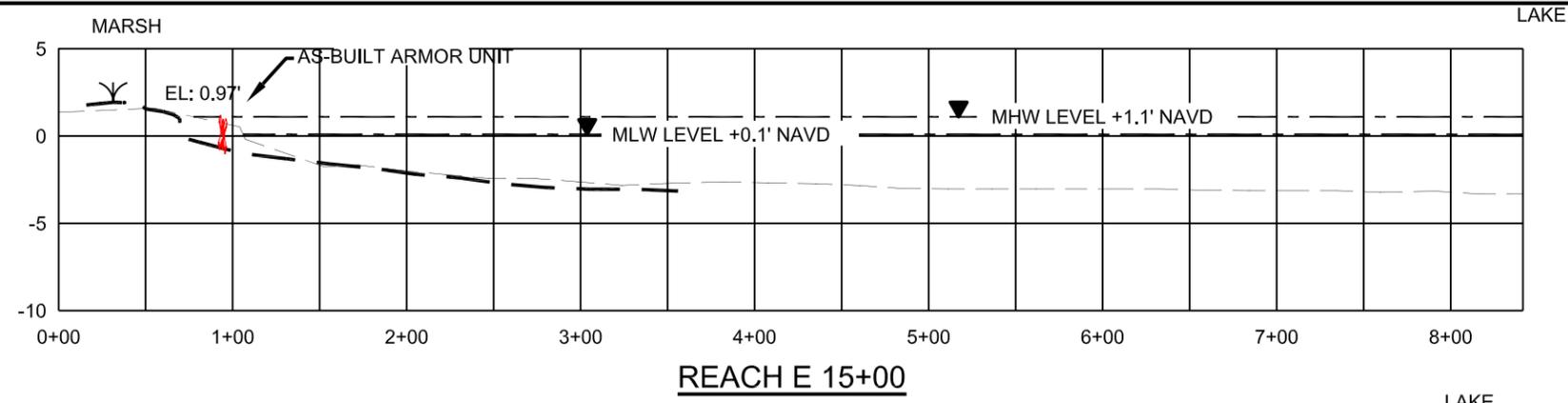
REACH E PROFILES

DATE: FEBRUARY 2007

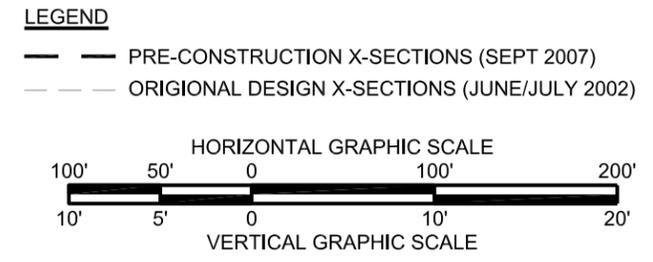
SHEET 21 OF 25

DRAWN BY: KRISTI CANTU

DESIGNED BY: DAIN GILLEN, E.I.



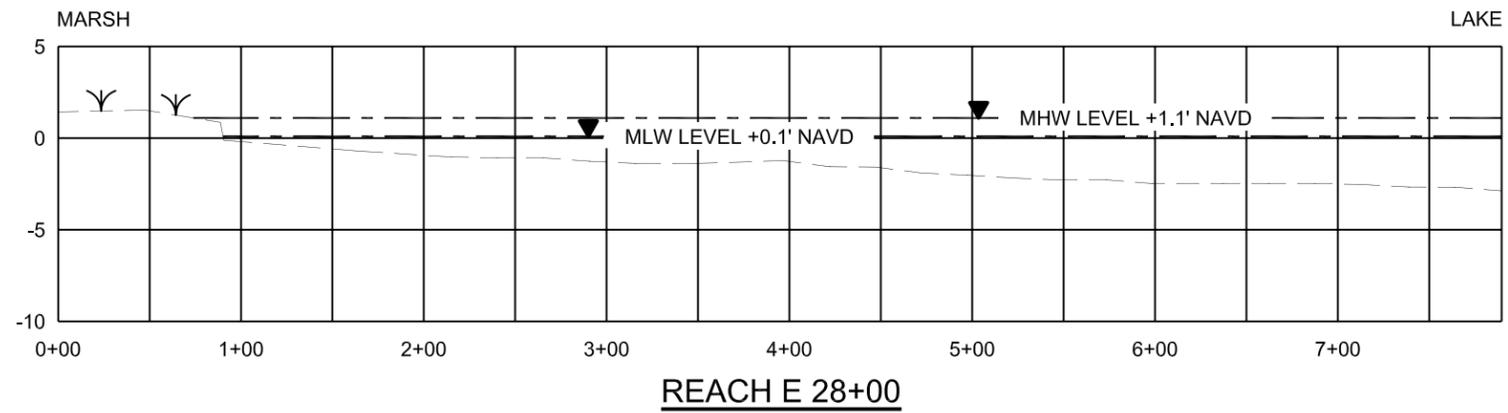
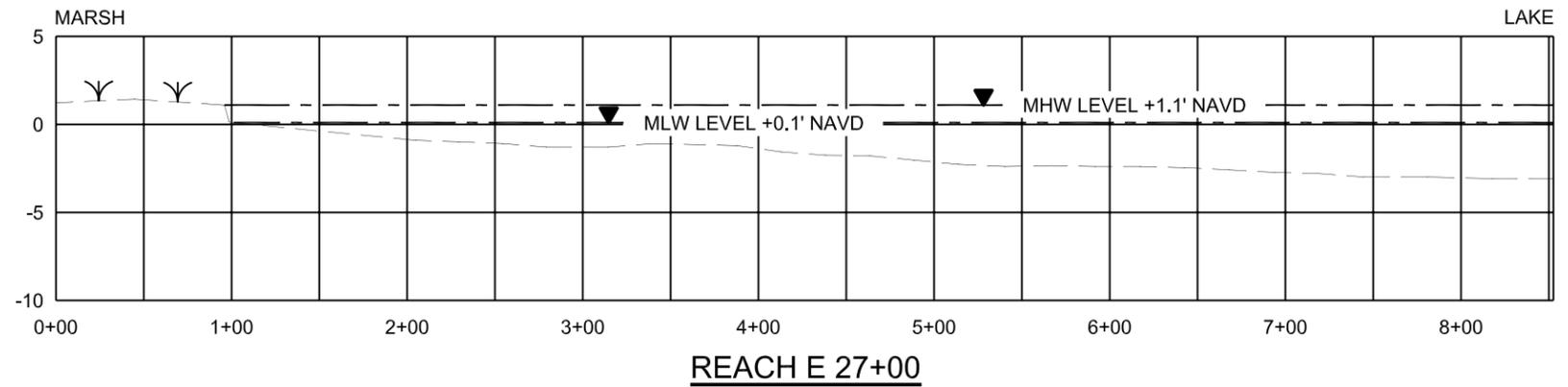
- NOTES:
1. THE MEAN HIGH WATER (MHW) AND MEAN LOW WATER (MLW) ELEVATIONS ARE BASED ON THE BAYOU PETIT CAILLOU GAGE #76305 READINGS FROM 1992-2002 HAVING A VERTICAL DATUM OF NGVD 29 WHICH WAS CONVERTED TO NAVD 88 ELEVATIONS.
 2. ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
 3. CROSS-SECTIONS ARE BASED ON CONTRACTOR'S PRE-CONSTRUCTION SURVEY PERFORMED IN SEPTEMBER OF 2007.
 4. AS-BUILT POSITIONS AND ELEVATIONS OF STRUCTURES WAS TAKEN FROM CONTRACTOR'S AS-BUILT SURVEY PERFORMED IN JANUARY OF 2008.



AS-BUILT

REV.	DATE	DESCRIPTION	BY
4/18/08		AS-BUILT DETAIL ADDED	TBS

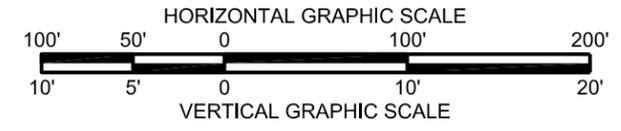
LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802		TERREBONNE BAY SHORE PROTECTION DEMONSTRATION PROJECT	REACH E PROFILES
		STATE PROJECT NUMBER: TE-45	
DRAWN BY: KRISTI CANTU		FEDERAL PROJECT NUMBER:	DATE: FEBRUARY 2007
DESIGNED BY: DAIN GILLEN, E.I.		APPROVED BY: MAURY CHATELLIER, P.E.	SHEET 22 OF 25



- NOTES:
1. THE MEAN HIGH WATER (MHW) AND MEAN LOW WATER (MLW) ELEVATIONS ARE BASED ON THE BAYOU PETIT CAILLOU GAGE #76305 READINGS FROM 1992-2002 HAVING A VERTICAL DATUM OF NGVD 29 WHICH WAS CONVERTED TO NAVD 88 ELEVATIONS.
 2. ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
 3. CROSS-SECTIONS ARE BASED ON CONTRACTOR'S PRE-CONSTRUCTION SURVEY PERFORMED IN SEPTEMBER OF 2007.
 4. AS-BUILT POSITIONS AND ELEVATIONS OF STRUCTURES WAS TAKEN FROM CONTRACTOR'S AS-BUILT SURVEY PERFORMED IN JANUARY OF 2008.

LEGEND

- — — — PRE-CONSTRUCTION X-SECTIONS (SEPT 2007)
- - - - ORIGINAL DESIGN X-SECTIONS (JUNE/JULY 2002)



AS-BUILT

				LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802		TERREBONNE BAY SHORE PROTECTION DEMONSTRATION PROJECT		REACH E PROFILES	
						STATE PROJECT NUMBER: TE-45			
						FEDERAL PROJECT NUMBER:		DATE: FEBRUARY 2007	
REV.	DATE	DESCRIPTION	BY	DRAWN BY: KRISTI CANTU	DESIGNED BY: DAIN GILLEN, E.I.	APPROVED BY: MAURY CHATELLIER, P.E.		SHEET 25 OF 25	
	4/18/08	AS-BUILT DETAIL ADDED	TBS						

ATTACHMENT V

TERREBONNE BAY SHORE PROTECTION DEMONSTRATION PROJECT (TE-45)

**PROJECT PERMITS
&
PERMIT AMENDMENTS**



DEPARTMENT OF THE ARMY

NEW ORLEANS DISTRICT, CORPS OF ENGINEERS

P.O. BOX 60267

NEW ORLEANS, LOUISIANA 70160-0267

REPLY TO
ATTENTION OF:

MAY 6 2003

Operations Division
Central Evaluation Section

SUBJECT: CY-20-030-0679

U.S. Fish and Wildlife Service
646 Cajundome Blvd
Lafayette, Louisiana 70506

Gentlemen:

Enclosed is a permit dated this date, subject as above, authorizing work under the Department of the Army permit program.

You are again reminded that any work not in accordance with the approved plans is subject to removal regardless of the expense and the inconvenience that such removal may involve and regardless of the date when the discrepancy is discovered.

Your attention is directed to all the terms and conditions of the approval. In order to have the work approved in accordance with the issued permit, all terms and conditions of the permit and plans shown on the drawings attached thereto must be rigidly adhered to.

It is necessary that you notify the District Engineer, Attention: Central Evaluation Section, in writing, prior to commencement of work and also upon its completion. The notification must include the permittee's name, as shown on the permit, and the permit number. Please note the expiration date on the permit. Should the project not be completed by that date, you may request a permit time extension. Such requests must be received before, but no sooner than six months before, the permit expiration date and must show the work completed and the reason the project was not finished within the time period granted by the permit.

A copy of Page 1 of the permit (ENG Form 1721) must be conspicuously displayed at the project site. Also, you must keep a copy of the signed permit at the project site until the work is completed.

RECEIVED
AUG 18 2003

Sincerely,

Martin S. Mayer

Martin S. Mayer
Chief, Central Evaluation Section

Enclosures

DEPARTMENT OF THE ARMY PERMIT

Permittee: U. S. Fish and Wildlife Service

Permit No. **CY-20-030-0679**

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: Install and maintain various shore protection structures in three different locations identified as Reaches A, B and E along the shores of Lake Barre to demonstrate their effectiveness against erosion (CWPPRA Project No. TE-45), in accordance with drawings attached in twelve sheets and one revision dated July 17, 2002.

Project Location: In Terrebonne Parish, approximately 20 miles southeasterly from Houma, Louisiana.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on **May 31, 2008**. 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.

RECEIVED
AUG 18 2003

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.
6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions: Page (s) 4.& 5

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

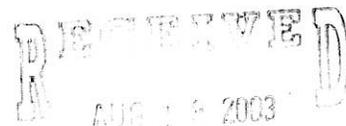
- Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
- Section 404 of the Clean Water Act (33 U.S.C. 1344).
- Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

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 Gerard M. Legendre X May 1, 2003
 (PERMITTEE) (Agent) (DATE)

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

Martin S. Mayer 6 May 2003
 Martin S. Mayer, Chief, Western Evaluation Section (DATE)
 for Peter J. Rowan, District Engineer

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.

 (TRANSFEEE) (DATE)

RECEIVED
 AUG 18 2003

SPECIAL CONDITIONS: CY-20-030-0679

7. The permitted activity must not interfere with the public's right to free navigation on all navigable waters of the United States.

8. The permittee must install and maintain, at the permittee's expense, any safety lights, signs, and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, on the permittee's authorized facilities.

9. The permittee is aware of the attached letter, dated February 3, 2003, from the Chitimacha Tribe of Louisiana. They have stated that the project area is part of the aboriginal Chitimacha homelands. If during the course of work at the site, cultural resources are discovered, you must contact the Chitimacha Tribe at the address indicated on their letter in addition to contacting this office. We will initiate the federal and state coordination required to determine if the remains warrant a recovery effort.

10. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

11. The permittee is aware that all local, state and parish approvals must be obtained prior to the commencement of work at the project site.

12. The permittee shall limit construction activities to areas essential to the development of the project. The remainder of the site shall be left in its natural state.

RECEIVED
AUG 18 2003

13. If the proposed project requires any additional work not expressly permitted herein, or impact any wetlands other than the areas indicated on the attached drawings, the permittee must apply for an amendment to this authorization prior to commencement of work.

RECEIVED
AUG 18 2003

CHITIMACHA
TRIBE OF LOUISIANA

FEB 26 2003

CULTURAL DEPARTMENT

February 3, 2003

John Herman, Project Manager
U.S. Corps of Engineers, New Orleans District
Regulatory Branch
P.O. Box 60267
New Orleans, LA 70160-0267

Dear Mr. John Herman,

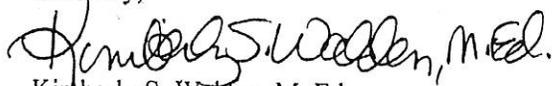
RE: Terrebonne Parish, LA : approximately 20 miles southeast of Houma, LA, along the shores of Lake Barre. Reach A is in Sections 32 & 33, T20S-R18E, Reach B is in Section 118, T20S-R18E, and Reach E is in Section 30, T20-R19E; CY-20-030-0679; WOC #030114-02

I am in receipt of your Joint Public Notice dated January 28, 2003, which describes the proposal to test various shore protection structures in three different locations identified as Reaches A, B, & E along the shores of Lake Barre for their effectiveness against erosion (CWPPRA Project No. TE-45). The project consists of installing approximately 400 linear feet of six (6) different shore protection structures along 3 reaches for a total of approximately 7,200 linear feet of shoreline to be protected against erosion. The shore protection structures consist of A-Jack units, ReefBall units, ReefBlk units, Concrete Frame units, Gabion Rock Filled Mats and Articulating Concrete Mats. All shore protection structures will be placed in open water on the natural water bottom and will not be placed on top of existing marsh with the exception of the Articulating Concrete mats and Gabion Rock filled mats, which will extend from the water bottom up onto existing marsh for shoreline stabilization. The structure will remain in place for the life of the project, which is 8 yrs. No dredging will be required.

After review of the information and the enclosed map, we have determined that the Terrebonne area, where the proposed project is to take place, is a part of the aboriginal Chitimacha homelands. As such, burial sites, sacred sites, and village sites were in place in this area. If, at any time during the course of your work, any traditional cultural properties were to be discovered, please notify us as soon as possible so that consultation may begin.

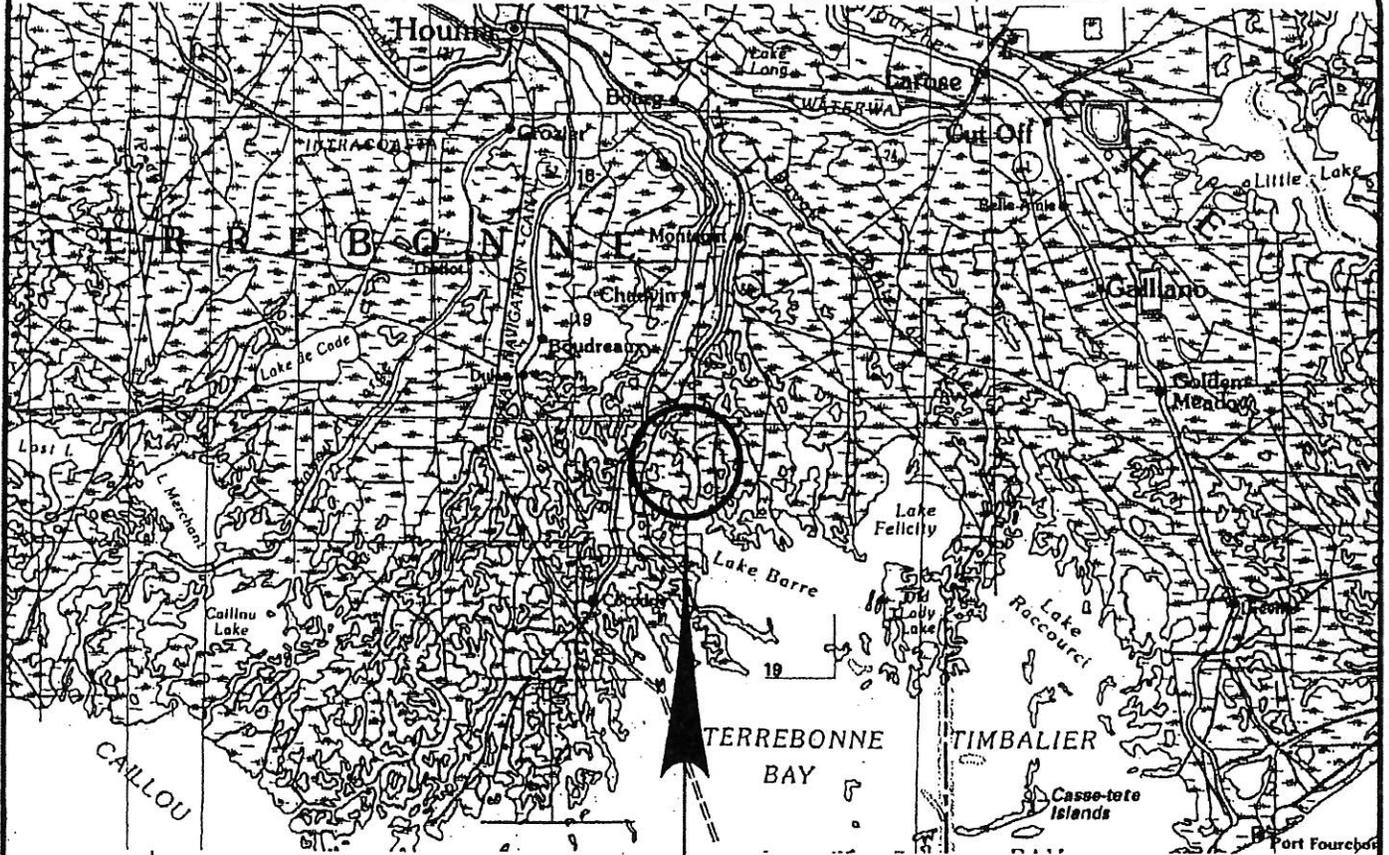
The Chitimacha Tribe of Louisiana appreciates your compliance with the Federal and State laws regarding notification of Native American Tribes.

Sincerely,

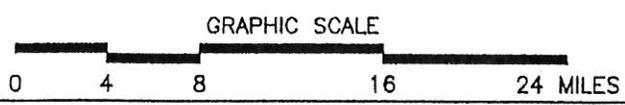

Kimberly S. Walden, M. Ed.
Cultural Director
KW/SL

RECEIVED
AUG 18 2003

THE PROJECT SITE IS LOCATED APPROXIMATELY: 20 MILES SOUTHEAST OF HOUMA, LOUISIANA



PROJECT LOCATION



2	12/27/02	INCORPORATED USACE COMMENTS
NO.	DATE	REVISION

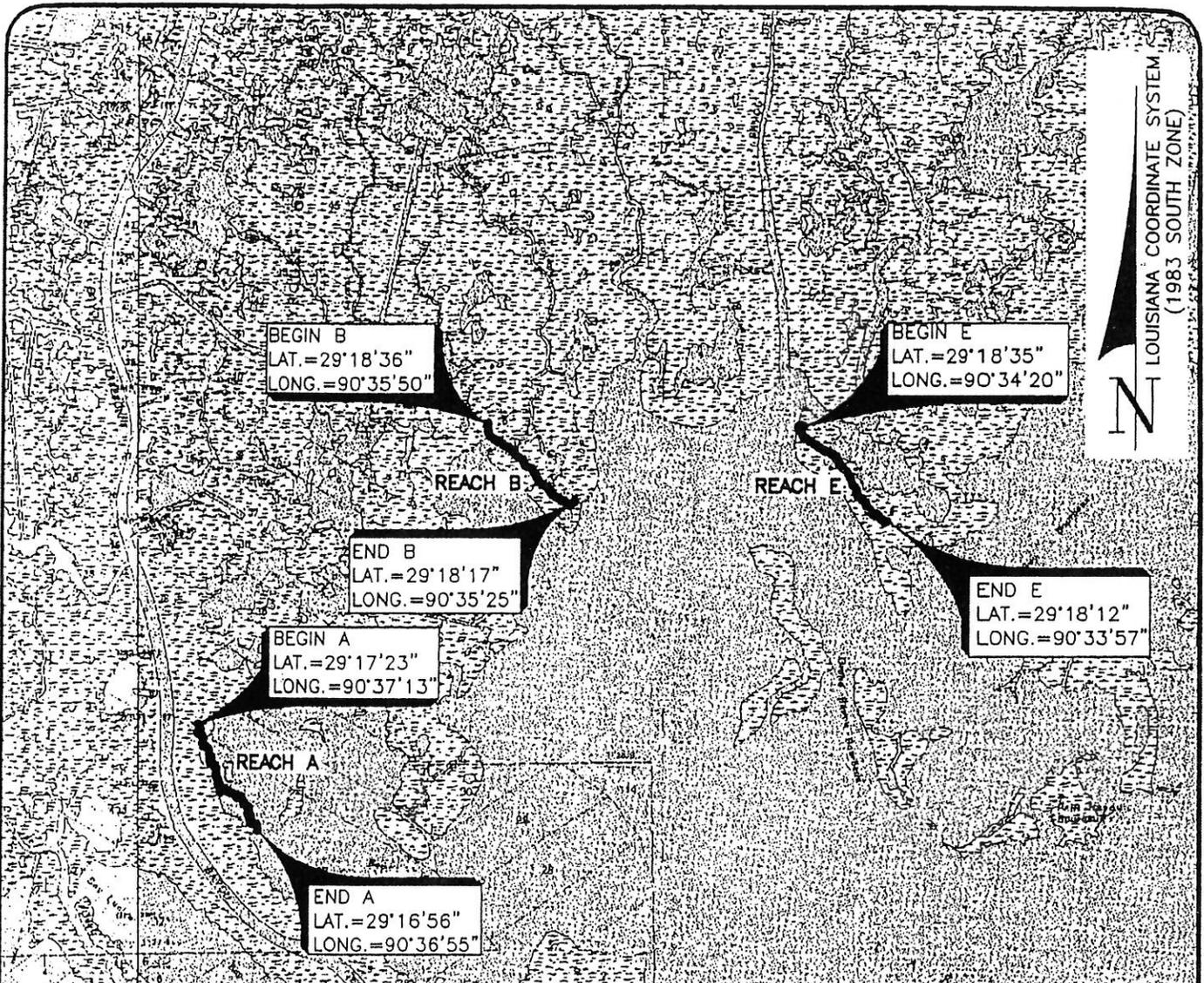
USFWS AND LDNR/CRD

VICINITY MAP
 TERREBONNE BAY SHORE PROTECTION DEMONSTRATION PROJECT (TE-45)
 TERREBONNE PARISH, LOUISIANA

RECEIVED
 AUG 18 2003

Morris P. Hebert, Inc.
 SURVEYING • ENGINEERING • ENVIRONMENTAL SERVICES
 P.O. BOX 3106 • HOUMA, LOUISIANA 70361-3106 • (985) 879-2731

DRAWN BY: TJF	SHEET: 1
CHECKED BY: RCJ	SCALE: 1" = 8 MILES
APPROVED BY: DBK	DATE: 7/17/02
CAD FILE: 6818COE0001A2	



REFERENCE:
LAKE QUITMAN & LAKE TAMBOUR QUADRANGLES
7.5 MINUTE QUADRANGLE IMAGES

GRAPHIC SCALE
0 2000' 4000' 8000' 1200'

2	12/27/02	INCORPORATED USACE COMMENTS
NO.	DATE	REVISION

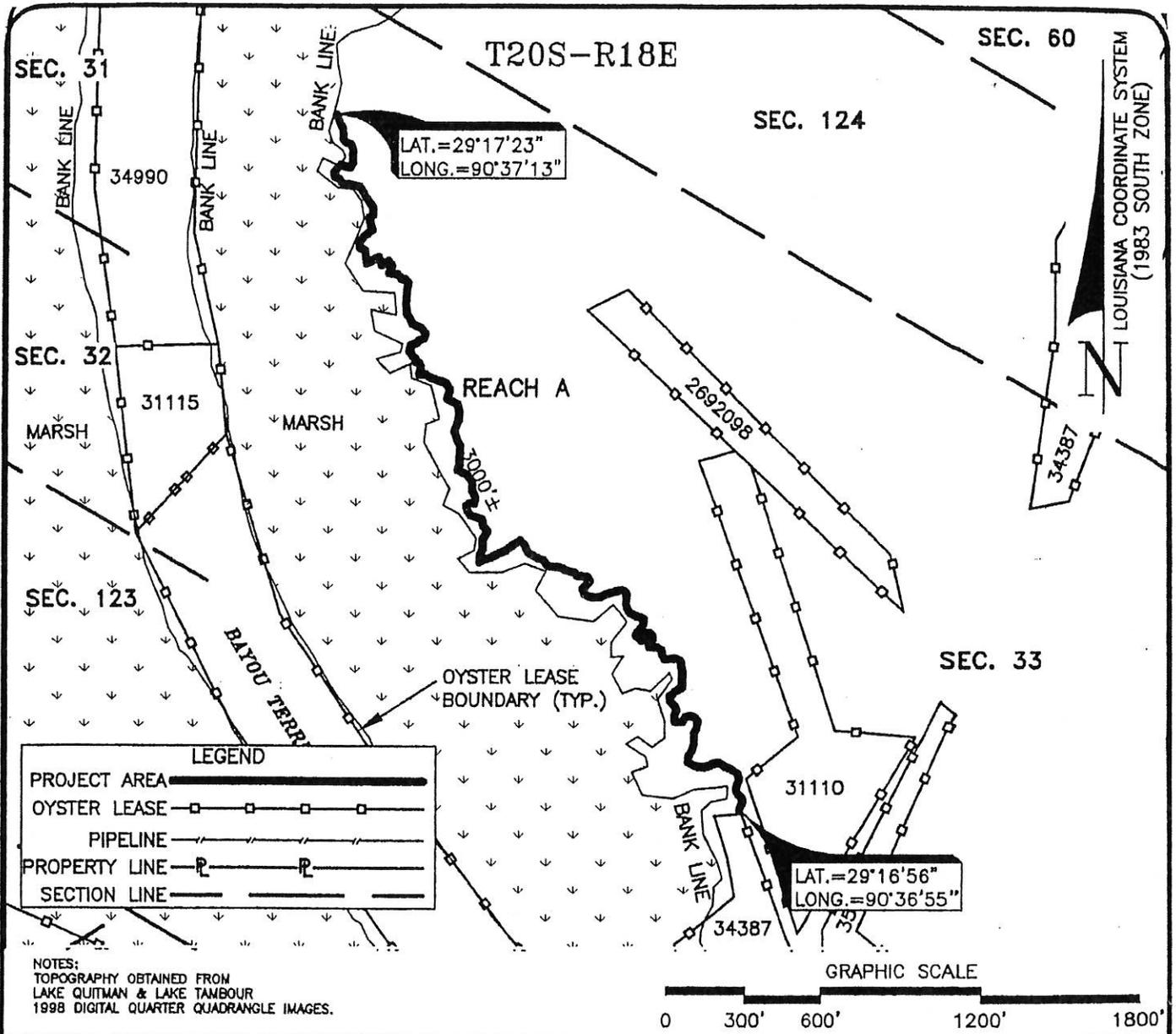
RECEIVED
AUG 18 2003

USFWS AND LDNR/CRD

AREA MAP
TERREBONNE BAY SHORE PROTECTION DEMONSTRATION PROJECT (TE-45)
TERREBONNE PARISH, LOUISIANA

mph
Morris P. Hebert, Inc.
SURVEYING • ENGINEERING • ENVIRONMENTAL SERVICES
P.O. BOX 3106 • HOUMA, LOUISIANA 70361-3106 • (985) 879-2731

DRAWN BY: TJF	SHEET: 2
CHECKED BY: RCJ	SCALE: 1"=4000'
APPROVED BY: DBK	DATE: 7/17/02
MPH CAD FILE: 6818COE0002A2	



2	12/27/02	INCORPORATED USACE COMMENTS
NO.	DATE	REVISION

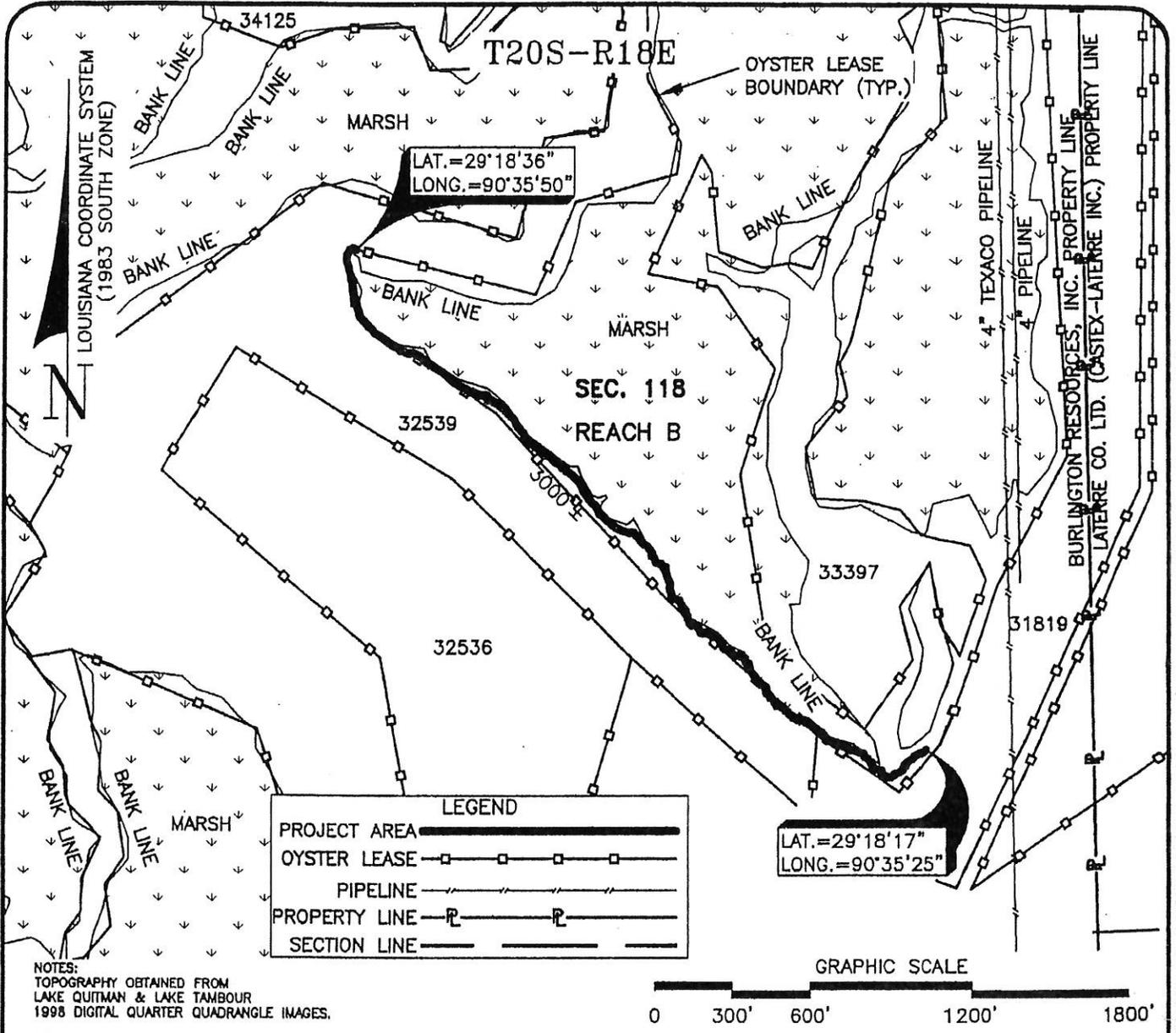
USFWS AND LDNR/CRD

PLAN OF REACH A
TERREBONNE BAY SHORE PROTECTION DEMONSTRATION PROJECT (TE-45)
TERREBONNE PARISH, LOUISIANA

mph
Morris P. Hebert, Inc.
 SURVEYING • ENGINEERING • ENVIRONMENTAL SERVICES
 P.O. BOX 3106 • HOUMA, LOUISIANA 70361-3106 • (885) 879-2731

DRAWN BY: TJF	SHEET: 3
CHECKED BY: RCJ	SCALE: 1"=600'
APPROVED BY: DBK	DATE: 7/17/02
MPH CAD FILE: 6818COE0003A2	

DECLINED
 003



2	12/27/02	INCORPORATED USACE COMMENTS
NO.	DATE	REVISION

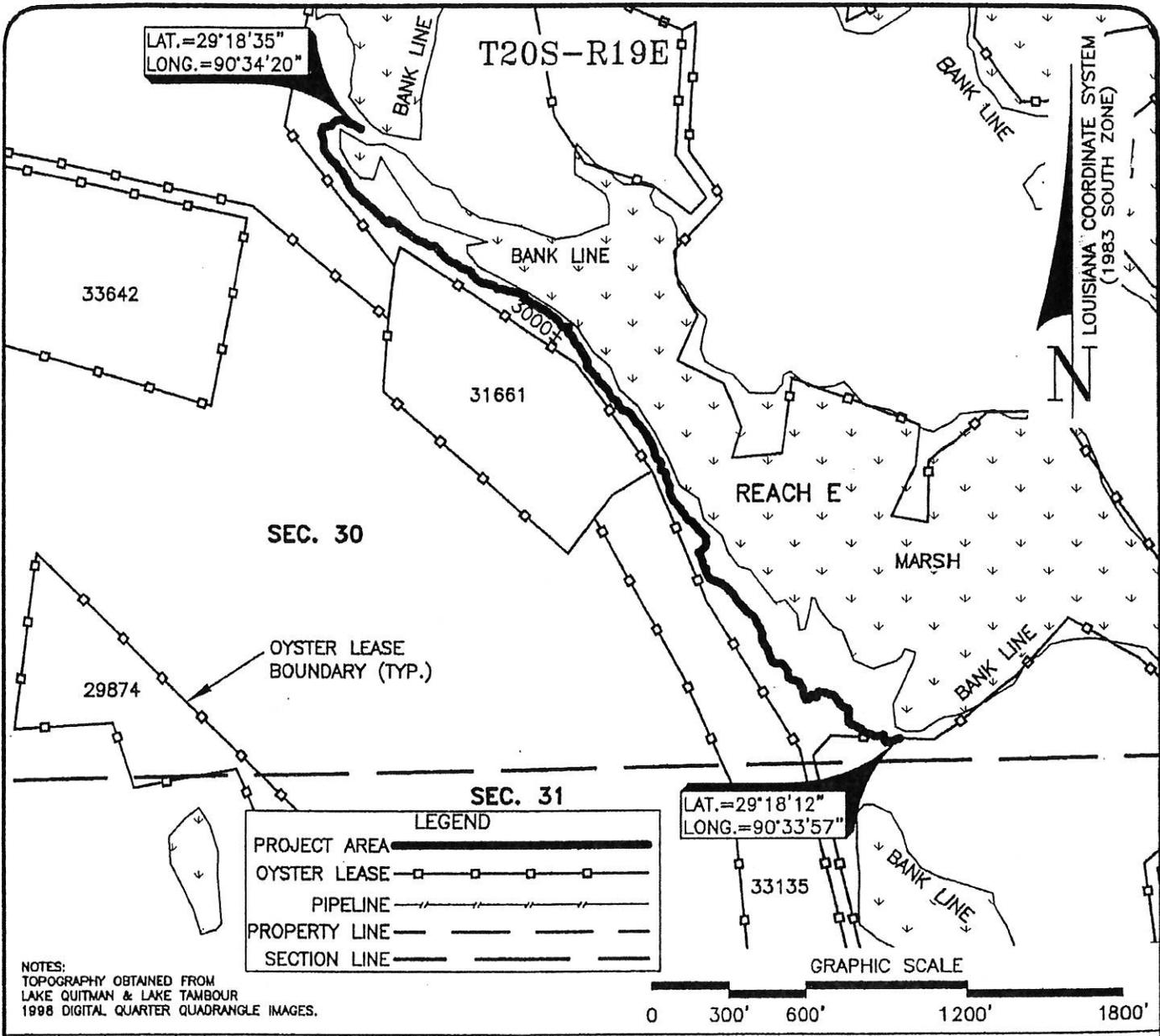
USFWS AND LDNR/CRD

RECEIVED
18 2003

PLAN OF REACH B
TERREBONNE BAY SHORE PROTECTION DEMONSTRATION PROJECT (TE-45)
TERREBONNE PARISH, LOUISIANA

Morris P. Hebert, Inc.
SURVEYING • ENGINEERING • ENVIRONMENTAL SERVICES
P.O. BOX 3106 • HOUMA, LOUISIANA 70361-3106 • (985) 879-2731

DRAWN BY: TJF	SHEET: 4
CHECKED BY: RCJ	SCALE: 1"=600'
APPROVED BY: DBK	DATE: 7/17/02
MPH CAD FILE: 6818COE0004A2	



2	12/27/02	INCORPORATED USACE COMMENTS
NO.	DATE	REVISION

RECEIVED

USFWS AND LDNR/CRD

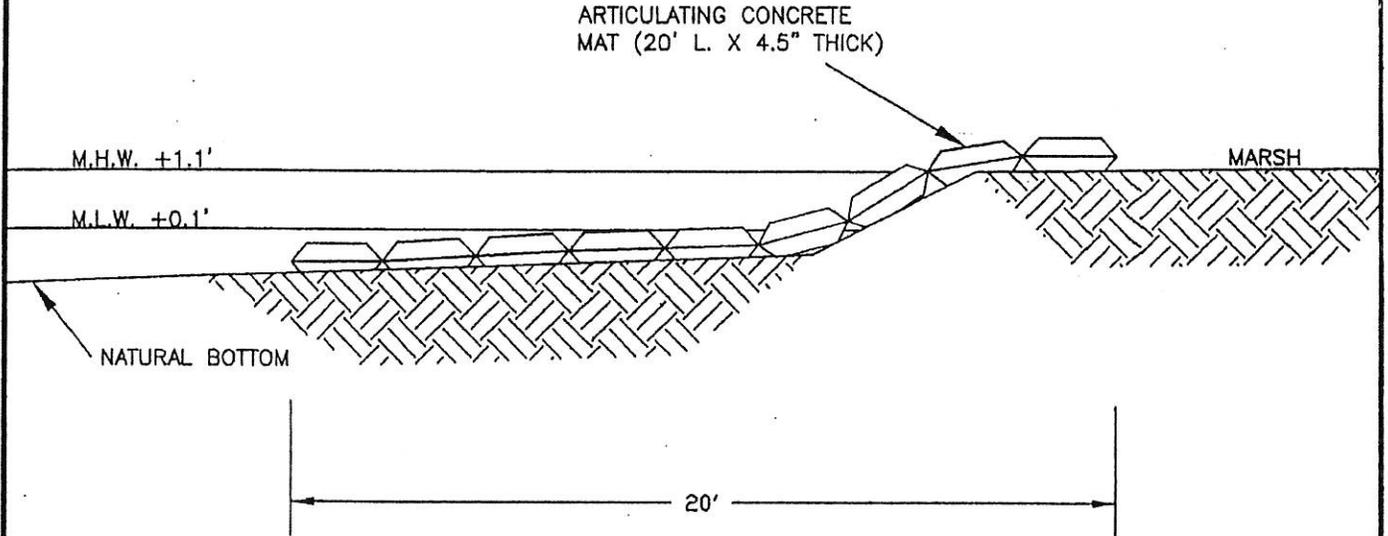
10 18 2003

PLAN OF REACH E
TERREBONNE BAY SHORE PROTECTION DEMONSTRATION PROJECT (TE-45)
TERREBONNE PARISH, LOUISIANA

mph
Morris P. Hebert, Inc.
SURVEYING • ENGINEERING • ENVIRONMENTAL SERVICES
P.O. BOX 3106 • HOUMA, LOUISIANA 70361-3106 • (985) 879-2731

DRAWN BY: TJF	SHEET: 5
CHECKED BY: RCJ	SCALE: 1"=600'
APPROVED BY: DBK	DATE: 7/17/02
MPH CAD FILE: 6818COE0007A2	

NOTE:
 NO DREDGING OR FLOTATION CHANNELS WILL BE ALLOWED
 FOR CONSTRUCTION ACCESS. SPECIALIZED SHALLOW DRAFT
 EQUIPMENT WILL BE UTILIZED DURING CONSTRUCTION.



PROFILE
 NOT TO SCALE

2	12/27/02	INCORPORATED USAGE COMMENTS
NO.	DATE	REVISION

USFWS AND LDNR/CRD

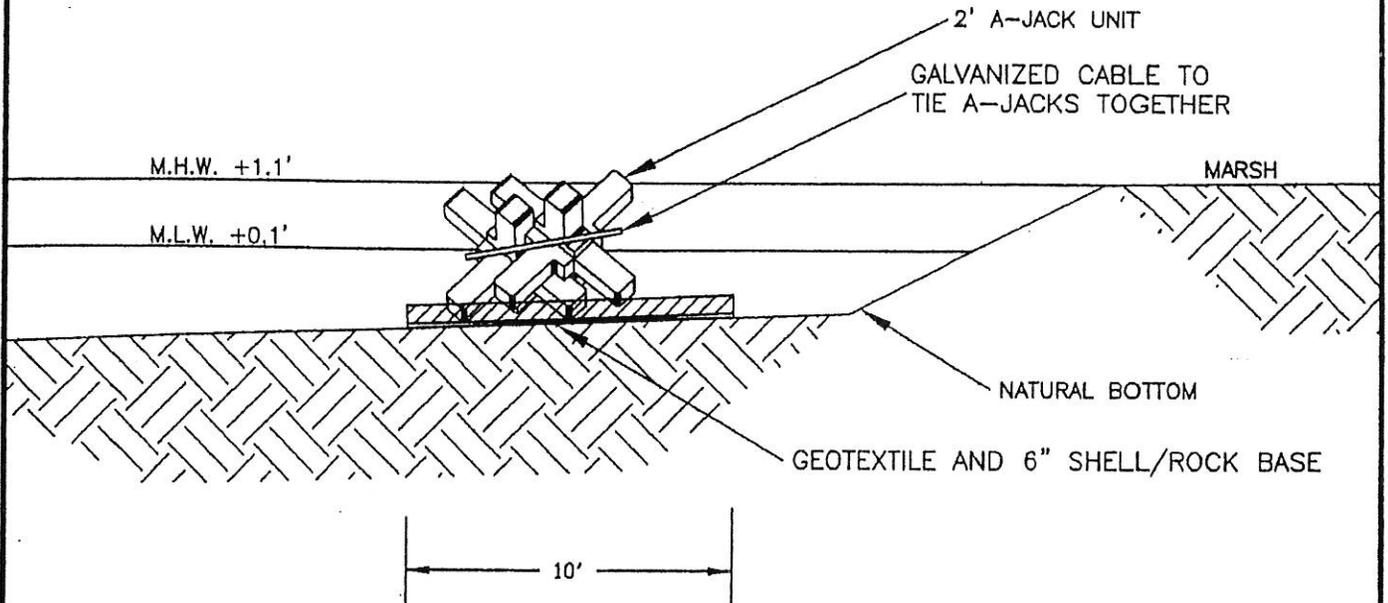
RECEIVED
 AUG 18 2003

TYPICAL DETAIL OF ARTICULATING CONCRETE MAT
 TERREBONNE BAY SHORE PROTECTION DEMONSTRATION PROJECT (TE-45)
 TERREBONNE PARISH, LOUISIANA

mph
 Morris P. Hebert, Inc.
 SURVEYING • ENGINEERING • ENVIRONMENTAL SERVICES
 P.O. BOX 3106 • HOUMA, LOUISIANA 70361-3106 • (985) 879-2731

DRAWN BY: TJF	SHEET: 6
CHECKED BY: RCJ	SCALE: N.T.S.
APPROVED BY: DBK	DATE: 7/17/02
MPH CAD FILE: 6818COE0013A2	

- NOTES:
1. NO DREDGING OR FLOTATION CHANNELS WILL BE ALLOWED FOR CONSTRUCTION ACCESS. SPECIALIZED SHALLOW DRAFT EQUIPMENT WILL BE UTILIZED DURING CONSTRUCTION.
 2. APPROXIMATELY 222 CUBIC YARDS OF SHELL/ROCK TO BE IMPORTED AND DEPOSITED FOR BASE.



PROFILE
NOT TO SCALE

2	12/27/02	INCORPORATED USACE COMMENTS
NO.	DATE	REVISION

RECEIVED
AUG 18 2003

USFWS AND LDNR/CRD

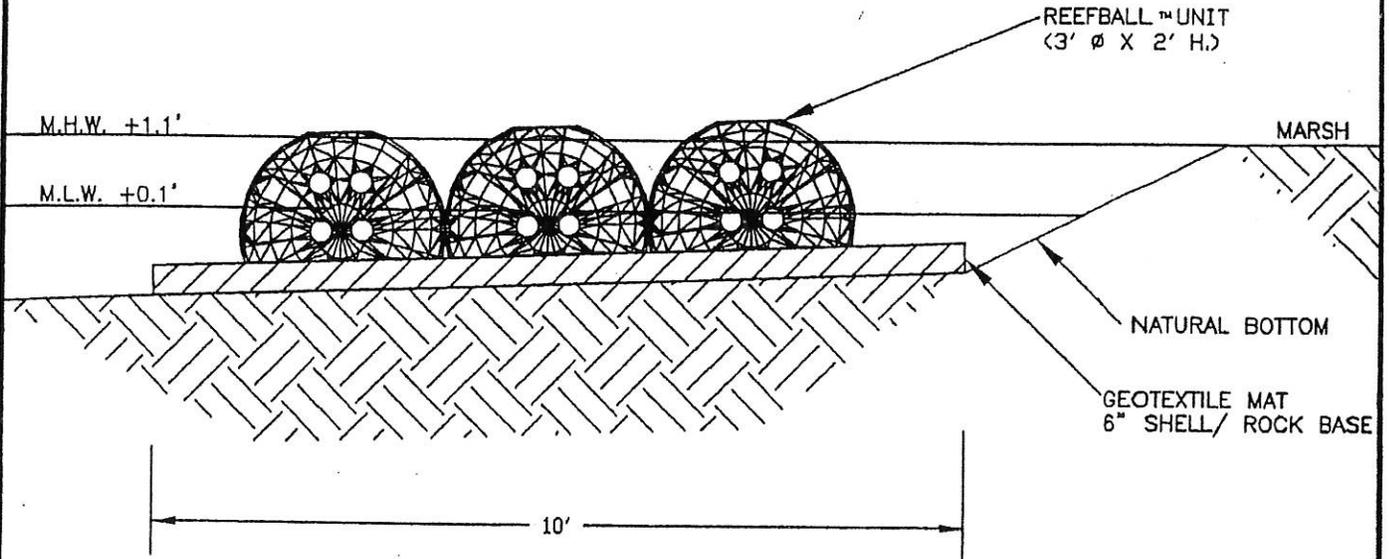
TYPICAL DETAIL OF A-JACK UNIT
TERREBONNE BAY SHORE PROTECTION DEMONSTRATION PROJECT (TE-45)
TERREBONNE PARISH, LOUISIANA

mph
Morris P. Hebert, Inc.
SURVEYING • ENGINEERING • ENVIRONMENTAL SERVICES
P.O. BOX 3106 • HOUMA, LOUISIANA 70361-3106 • (985) 879-2731

DRAWN BY: TJF	SHEET: 7
CHECKED BY: RCJ	SCALE: N.T.S.
APPROVED BY: DBK	DATE: 7/17/02
MPH CAD FILE: 6818COE0009A2	

NOTES:

1. NO DREDGING OR FLOTATION CHANNELS WILL BE ALLOWED FOR CONSTRUCTION ACCESS. SPECIALIZED SHALLOW DRAFT EQUIPMENT WILL BE UTILIZED DURING CONSTRUCTION.
2. APPROXIMATELY 222 CUBIC YARDS OF SHELL/ROCK TO BE IMPORTED AND DEPOSITED FOR BASE.



PROFILE
NOT TO SCALE

2	12/27/02	INCORPORATED USACE COMMENTS
NO.	DATE	REVISION

USFWS AND LDNR/CRD

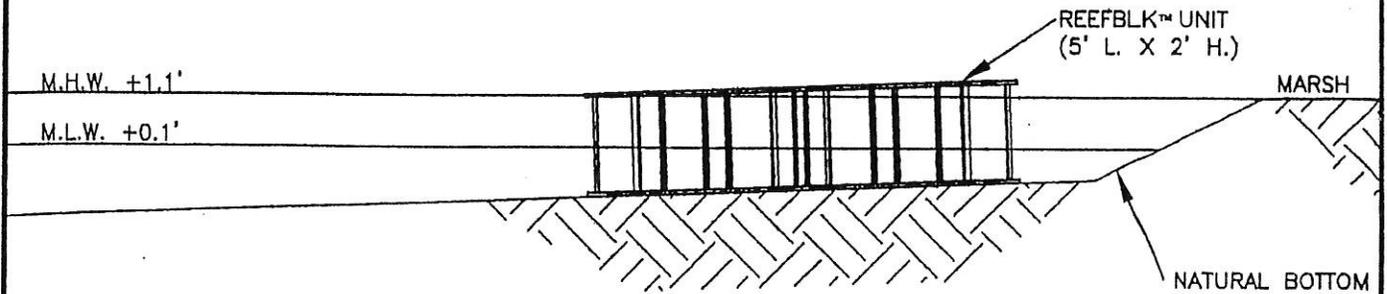
TYPICAL DETAIL OF REEFBALL UNIT
TERREBONNE BAY SHORE PROTECTION DEMONSTRATION PROJECT (TE-45)
TERREBONNE PARISH, LOUISIANA

mph
Morris P. Hebert, Inc.
SURVEYING • ENGINEERING • ENVIRONMENTAL SERVICES
P.O. BOX 3106 • HOUMA, LOUISIANA 70361-3106 • (985) 879-2731

DRAWN BY: TJF	SHEET: 8
CHECKED BY: RCJ	SCALE: N.T.S.
APPROVED BY: DBK	DATE: 7/17/02
MPH CAD FILE: 6818COE0011A2	

RECEIVED
AUG 18 2003

NOTE:
 NO DREDGING OR FLOTATION CHANNELS WILL BE ALLOWED
 FOR CONSTRUCTION ACCESS. SPECIALIZED SHALLOW DRAFT
 EQUIPMENT WILL BE UTILIZED DURING CONSTRUCTION.



PROFILE
 NOT TO SCALE

2	12/27/02	INCORPORATED USACE COMMENTS
NO.	DATE	REVISION

USFWS AND LDNR/CRD

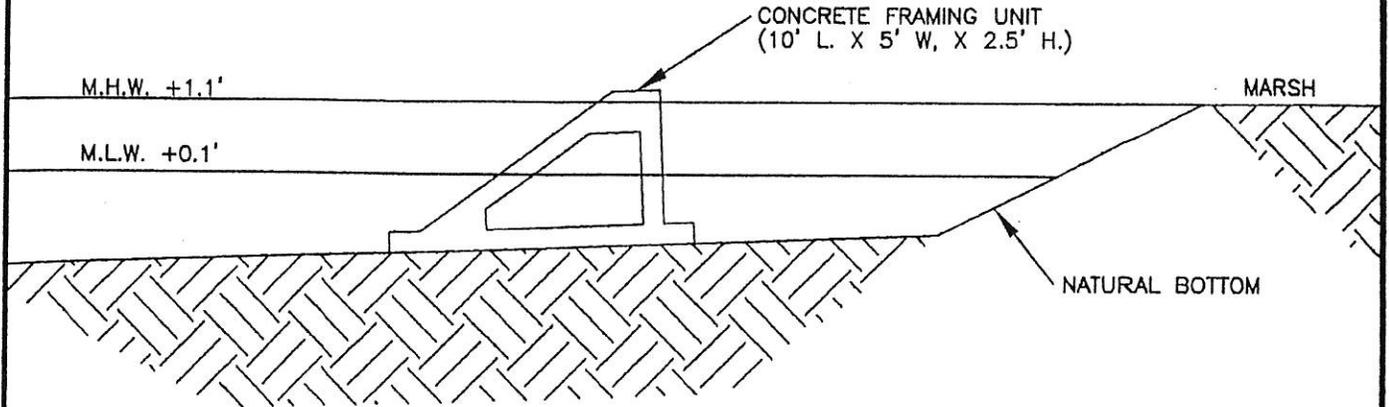
RECEIVED
 AUG 18 2003

TYPICAL DETAIL OF REEFBLK UNIT
 TERREBONNE BAY SHORE PROTECTION DEMONSTRATION PROJECT (TE-45)
 TERREBONNE PARISH, LOUISIANA

mph
 Morris P. Hebert, Inc.
 SURVEYING • ENGINEERING • ENVIRONMENTAL SERVICES
 P.O. BOX 3106 • HOUMA, LOUISIANA 70361-3106 • (985) 879-2731

DRAWN BY: TJF	SHEET: 9
CHECKED BY: RCJ	SCALE: N.T.S.
APPROVED BY: DBK	DATE: 7/17/02
MPH CAD FILE: 6818COE0012A2	

NOTE:
 NO DREDGING OR FLOTATION CHANNELS WILL BE ALLOWED
 FOR CONSTRUCTION ACCESS. SPECIALIZED SHALLOW DRAFT
 EQUIPMENT WILL BE UTILIZED DURING CONSTRUCTION.



PROFILE
 NOT TO SCALE

2	12/27/02	INCORPORATED USACE COMMENTS
NO.	DATE	REVISION

USFWS AND LDNR/CRD

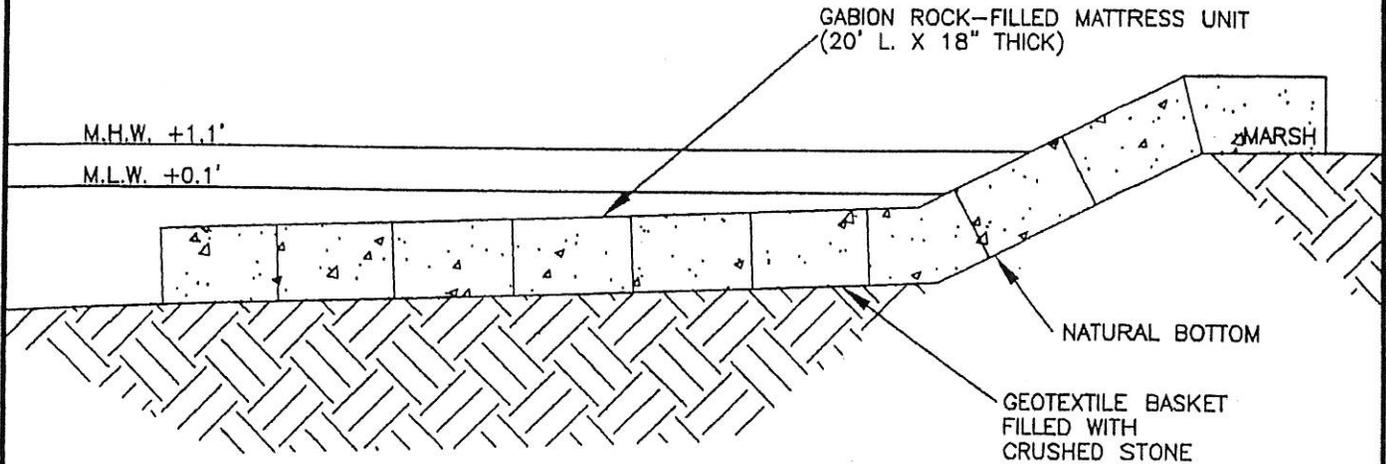
RECEIVED
 AUG 18 2003

TYPICAL DETAIL OF CONCRETE FRAME UNIT
 TERREBONNE BAY SHORE PROTECTION DEMONSTRATION PROJECT (TE-45)
 TERREBONNE PARISH, LOUISIANA

mph
 Morris P. Hebert, Inc.
 SURVEYING • ENGINEERING • ENVIRONMENTAL SERVICES
 P.O. BOX 3106 • HOUNA, LOUISIANA 70361-3106 • (985) 879-2731

DRAWN BY: TJF	SHEET: 10
CHECKED BY: RCJ	SCALE: N.T.S.
APPROVED BY: DBK	DATE: 7/17/02
MPH CAD FILE: 6818COE0014A3	

NOTE:
 NO DREDGING OR FLOTATION CHANNELS WILL BE ALLOWED
 FOR CONSTRUCTION ACCESS. SPECIALIZED SHALLOW DRAFT
 EQUIPMENT WILL BE UTILIZED DURING CONSTRUCTION.



PROFILE
 NOT TO SCALE

2	12/27/02	INCORPORATED USACE COMMENTS
NO.	DATE	REVISION

USFWS AND LDNR/CRD

RECEIVED
 AUG 18 2003

TYPICAL DETAIL OF GABION ROCK-FILLED MATTRESS UNIT
 TERREBONNE BAY SHORE PROTECTION DEMONSTRATION PROJECT (TE-45)
 TERREBONNE PARISH, LOUISIANA

mph
 Morris P. Hebert, Inc.
 SURVEYING • ENGINEERING • ENVIRONMENTAL SERVICES
 P.O. BOX 3106 • HOUMA, LOUISIANA 70361-3106 • (985) 879-2731

DRAWN BY: TJF	SHEET: 11
CHECKED BY: RCJ	SCALE: N.T.S.
APPROVED BY: DBK	DATE: 7/17/02
MPH CAD FILE: 6818COE0015A2	

State of Louisiana



M.J. "MIKE" FOSTER, JR.
GOVERNOR

JACK C. CALDWELL
SECRETARY

DEPARTMENT OF NATURAL RESOURCES

April 14, 2003

Gerard Legendre
Morris P. Hebert, Inc.
Post Office Box 3106
Houma, LA 70361

RE: **C20020576** Coastal Zone Consistency
U.S. Fish and Wildlife Service
Direct Federal Action
Terrebonne Bay Shore Protection Demonstration CWPPRA Project TE-45, **Terrebonne Parish,**
Louisiana.

Dear Mr. Legendre:

The above referenced project has been reviewed for consistency with the approved Louisiana Coastal Resource Program (LCRP) as required by Section 307 of the Coastal Zone Management Act of 1972, as amended. The project, as proposed in the application, is consistent with the LCRP. If you have any questions concerning this determination please contact Brian Marcks, of the Consistency Section at (225)342-7939 or 1-800-267-4019.

Sincerely,

Terry W. Howey,
Administrator

TWH/JH/bgm

cc: Fred Dunham, LDWF
Charles Mestayer, CMD/FI
Ron Ventola, NOD-COE
James Miller, Terrebonne Parish
Jason Harris, CRD

RECEIVED
AUG 18 2003



State of Louisiana
Department of Environmental Quality



M. J. "MIKE" FOSTER, JR.
GOVERNOR

L. HALL BOHLINGER
SECRETARY

March 21, 2003

Morris P. Hebert, Inc.
P.O. Box 3106
Houma, LA 70361
Attn: Gerald Legendre

RE: Water Quality Certification (WQC 030114-02)/Agency Interest (AI 106102)
Corps of Engineers Permit (CY-20-030-0679)
Terrebonne Parish

Dear Mr. Legendre:

The Department has received an application for the U.S. Fish & Wildlife Service to test various shore protection structures in three different locations identified as Reaches A, B & E along the shores of Lake Barre for their effectiveness against erosion (CWPPRA Project No. TE-45) approximately 20 miles southeast of Houma, Louisiana.

The requirements for Water Quality Certification have been met in accordance with LAC 33:IX.1507.A-E. Based on the information provided in your application, we have determined that the placement of the fill material will not violate the water quality standards of Louisiana provided for under LAC 33:IX.Chapter 11. Therefore, the Department has no objection to this project.

Sincerely,

Jodi G. Miller
Environmental Scientist Manager
Registrations and Certifications Section

JGM/mvb

c: Corps of Engineers, New Orleans
Coastal Management Division

RECEIVED
AUG 18 2003





P.O. BOX 6097
HOUMA, LOUISIANA 70361
868-5050



P.O. BOX 2768
HOUMA, LOUISIANA 70361
868-3000

TERREBONNE PARISH
CONSOLIDATED GOVERNMENT

*Department of Planning & Zoning
Coastal Zone Management*

January 30, 2003

Gerard Legendre
Morris P. Hebert, Inc.
P.O. Box 3106
Houma, LA 70361

RE: Letter of No Objection No. 1016
U.S. Fish & Wildlife Service
Terrebonne Bay Shore Protection Demonstration Project (TE-45)
Sections 32 & 33, T20S-R18E, Section 118, T20S-R18E, Section 30, T20S-R19E
C20020516 / TP021215

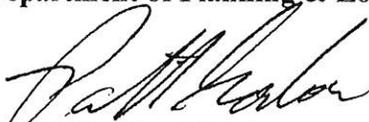
Dear Mr. Legendre:

This correspondence serves as an official **letter of no objection** from the Terrebonne Parish Consolidated Government to the issuance of the permit to perform the referenced project.

Should you have any questions or require additional information, please do not hesitate in contacting our office at (985) 580-8145.

Sincerely,

Department of Planning & Zoning


Patrick Gordon, Director

PG/bmc

Cc: Ronald Ventola, USACE
Marilyn Forbes, LA DNR
Coastal Zone File
Council Reading File
Correspondence File

RECEIVED
AUG 18 2003

ATTACHMENT VI

TERREBONNE BAY SHORE PROTECTION DEMONSTRATION PROJECT (TE-45)

**OPERATION, MAINTENANCE, AND REHABILITATION
BUDGET**

ATTACHMENT VI

OPERATION AND MAINTENANCE BUDGET

TERREBONNE BAY SHORE PROTECTION DEMONSTRATION (TE-45)

FEDERAL SPONSOR: U. S. Fish & Wildlife Service

The Terrebonne Bay Shore Protection Demonstration Project (TE-45) is a demonstration project with an 8-year demonstration period with no provision for the operation, maintenance, or rehabilitation of any of the project features other than the performance of annual inspections of the project features during the 8-year demonstration period. The costs associated with annual inspections approved by the CWPPRA Task Force are shown below. This figure represents funding for 2-day annual inspections of the project for eight years after construction completion. Under the current Cost Sharing Agreement between LDNR and USFWS no funds other than for inspections have been provided for the operation, maintenance, or rehabilitation of any of the project features in the Terrebonne Bay Shore Protection Demonstration Project (TE-45).

COSTS OF ANNUAL INSPECTIONS

YEAR 1	\$ 5,438
YEAR 2	\$ 5,612
YEAR 3	\$ 5,791
YEAR 4	\$ 5,977
YEAR 5	\$ 6,168
YEAR 6	\$ 6,365
YEAR 7	\$ 6,569
YEAR 8	\$ 6,779
<hr/>	
TOTAL O&M BUDGET	\$ 48,699
	\$ 48,700 (APPROVED CURRENT EST. 6/27/07)

ATTACHMENT VII

TERREBONNE BAY SHORE PROTECTION DEMONSTRATION PROJECT (TE-45)

OPERATION OF STRUCTURES

ATTACHMENT VIII

TERREBONNE BAY SHORE PROTECTION DEMONSTRATION PROJECT (TE-45)

ANNUAL INSPECTIONS

The purpose of the annual inspections is to inspect and evaluate the condition of all project features to determine if structures are operating correctly and identify any deficiencies that may require maintenance. An annual inspection report outlining these field observations will be drafted by LDNR. This report shall include the type of structure and description, date and time of inspection, personnel present for inspection, weather conditions, water levels at the time of inspection, general condition of and any observed damages to structures.

In the case of severe storms and tidal events, additional inspections may be required during the annual inspection period to assess potential damage from such weather events.