

**OPERATION, MAINTENANCE AND REHABILITATION PLAN
FOR THE
NEW CUT DUNE AND MARSH RESTORATION PROJECT (TE-37)**



November 14, 2017



**Coastal Protection and
Restoration Authority of Louisiana**



**OPERATION, MAINTENANCE, AND REHABILITATION
PLAN**

**NEW CUT DUNE/MARSH RESTORATION PROJECT
TE-37**

November 2017

Prepared by:
Coastal Protection and Restoration Authority
Operations Division
Thibodaux Regional Office

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History of Revisions

OPERATION, MAINTENANCE, AND REHABILITATION PLAN

NEW CUT DUNE/MARSH RESTORATION PROJECT

(TE-37)

The Coastal Protection and Restoration Authority (CPRA) and the United States Environmental Protection Agency (EPA) 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 Memorandum of Agreement (MOA) No. C109050308.08 (Attachment I - MOA).

The project features covered by this plan are inclusive of and are identified as the New Cut Dune and Marsh Restoration (TE-37) Project. The intention of the provisions of this Plan is to maintain this project in a condition that will generally provide the anticipated benefits upon which the project was based. There are no requirements that this project function to any standard beyond the project life, except that it is not left as a hazard to navigation or a detriment to the environment.

Construction of the New Cut Dune and Marsh Restoration (TE-37) 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 New Cut Dune and Marsh Creation (TE-37) Project was approved on the 9th Priority Project List.

1. PROJECT DESCRIPTION, PURPOSE, AND LOCATION

The Isle Dernieres barrier island chain along the Louisiana coast has experienced some the highest rates of erosion in the world and has led to the landward migration and rapid disintegration of the Isle Dernieres barrier chain thereby decreasing the ability to protect the adjacent marshes and wetlands from the effects of storm surge, saltwater intrusion, increased tidal prism and wave action (McBride and Byrnes, 1997). The modern Isle Dernieres is the product of hundreds of years of persistent inundation and shoreline transgression, which has led to the formation of five separate island including Wine Island, East Island, Trinity Island, Whiskey Island, and Raccoon Island. Future land loss projections estimate that without restoration efforts, none of the Isles Dernieres chain would remain beyond 2050. Other predictions suggest that, without restoration, the island would have become subaqueous sand shoals by 2017.

The New Cut Dune and Marsh Restoration (TE-37) Project is located on the Isle Dernieres Barrier Island chain between Trinity and East Islands in Terrebonne Parish, Louisiana. The purpose of the project was to close an existing breach between East Island and Trinity island formed during Hurricane Carmen in 1974 and to restore approximately 248 acres of breach, dune and marsh habitat (Armbruster, C., Ecological Review). (Attachment II – Project Features)

Dune

The dune feature consisted of a 300 ft. wide and 8,300 linear ft. dune platform, a 340' wide bay platform and gulf berm with a varying width. The project totaled approximately 248 acres. The dune platform was constructed to a +7.0' NAVD 88 elevation with 15:1 side slopes, the gulf berm was constructed to a +4.0' NAVD 88 with 50:1 slope to the gulf and the bay platform was constructed to a +4.0' NAVD 88 elevation. The total in-place fill quantity for the project was estimated to be approximately 1,001,274 cubic yards based on as-built surveys. The fill material was hydraulically dredged from the offshore borrow site located approximately 3 to 4 miles southeast of the project area.

Sand Fence

A single row of sand fence, approximately 13,000 linear feet, was installed on top of the constructed dune, parallel to the dune, located 20 feet north of the Gulf-side edge of dune crest. The sand fence was constructed using 4-foot high, wood slat sand fence rolls fastened to 8-foot long, 4" diameter timber posts. The posts were embedded in the dune 4 feet. Galvanized, 13-gauge, steel wire was used to fasten the fence rolls to the posts.

The project has a 20-year project life, which began in July 2007.

2. CONSTRUCTION COMPLETION

The New Cut Dune and Marsh Restoration (TE-37) project 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, if any, are included in Attachment V.

4. ITEMS REQUIRING OPERATION, MAINTENANCE, AND REHABILITATION

Provisions for the Operation, Maintenance and Rehabilitation Plan of the New Cut Dune and Marsh Creation (TE-37) project includes project site inspections every three (3) years

and after major storm events, and planned vegetative plantings and fertilization of the dune. The following operations, maintenance and rehabilitation plan jointly accepted by CPRA and EPA will be conducted throughout the 20-year life of the project.

Project Inspections: EPA and the CPRA will perform on the ground inspections of the project features periodically (every 3 years) to assess the condition of the island and vegetative growth of the dune and marsh areas.

Plantings: A plantings project to re-plant the dune should benefit the project and is expected to be undertaken in year 2019.

Fertilization of Dune: To maintain a vegetative growth on the dune, a planned fertilization event to fertilize the dune plants will be implemented in years 2019 and 2021, and future years depending on budget availability.

5. OPERATION, MAINTENANCE, AND MONITORING BUDGET

The costs associated with Operations, Maintenance, Rehabilitation and Monitoring are included in Attachment VI. Under the current Memorandum of Agreement (MOA) between CPRA and EPA, approximately \$557,857 is available for project inspections, plantings and fertilization of the dune, and monitoring on the site of the New Cut Dune and Marsh Creation (TE-37) Project. (Attachment VI – OM&M Budget)

6. OPERATION OF STRUCTURES

No operation is required for this project.

7. RESPONSIBILITIES – MAINTENANCE AND REHABILITATION

A. CPRA will:

1. In accordance with the Memorandum of Agreement (MOA) No. c109050308.08 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 of the project site every three (3) and after major storm events if determined to be necessary by CPRA and EPA. CPRA will submit to EPA, a report detailing the condition of the project features and recommendations for any corrective action. If CPRA 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.

3. If corrective actions are needed beyond the scope of this plan and existing funding, CPRA will initiate negotiations with EPA to modify this plan to address those improvements according to the MOA and consistent with the CWPPRA Standard Operating Procedures. All responsibilities regarding planning and implementation of needed corrective actions will be outlined in the revised plan once approved and funded.

B. EPA will:

1. Participate in project inspections with CPRA every three (3) years and after major storm events if determined to be necessary by CPRA and EPA.
2. If required, assist CPRA in developing, recommending, and implementing any corrective actions that may be required beyond the scope of this plan. All responsibilities regarding planning and implementation of needed corrective actions will be outlined in the revised plan once approved and funded.

References:

- Armburster, C.K., 2000. New Cut Dune and Marsh Creation (TE-37) Project: Ecological Review, Coastal Restoration Division, Louisiana Department of Natural Resources; pp. 1-7.
- McBride, R.A., and M.R. Byrnes 1997. Regional variations in shore response along barrier island systems of the Mississippi River Delta Plain; historical change and future prediction. *Journal of Coastal Research* 13 (3); 628-655.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (EPA)

By:_____

Date:_____

Title: Project Manager

COASTAL PROTECTION AND RESTORATION AUTHORITY (CPRA)

By:_____

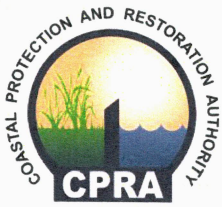
Date:_____

Title: Project Manager

ATTACHMENT I

NEW CUT DUNE AND MARSH RESTORATION PROJECT (TE-37)

MEMORANDUM OF AGREEMENT (MOA)



State of Louisiana

JOHN BEL EDWARDS
GOVERNOR

November 15, 2016

Mr. William Honkler, P.E.
Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

RE: CPRA MOA Agreement No. C109050308.08
"New Cut Dune and Marsh Restoration Project (TE-0037)"

Dear Mr. Honkler:

Enclosed for your records is a fully executed copy of the agreement for the above referenced project.

Should you have any questions, please contact your Project Manager Todd Folse at (985) 449-4082.

Sincerely,

Allison Richard
Coastal Resource Program Specialist

Enclosure

c: Todd Folse, Project Manager
Allison Richard, CPRA

Executive Division

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**Memorandum of Agreement
Between the
Environmental Protection Agency
And the
State of Louisiana through the
Coastal Protection and Restoration Authority Board of Louisiana
For the
Operations and Maintenance, Monitoring, and Inspection
of the
New Cut Dune and Marsh Restoration Project (TE-37)**

I. Parties and Authorities

This Memorandum of Agreement (MOA) between the Environmental Protection Agency (EPA) and the State of Louisiana (State) through the Coastal Protection and Restoration Authority Board (CPRA Board) acting by and through the Chairman of the CPRA Board, as authorized by CPRA Board Resolution on the 18th day of February, 2009 and the provisions of La R.S. 49:214.1 and 49:214.5.2, recognizes the agencies' cooperation and participation in the Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA), (16 U.S.C. 777c, Sections 3951-3956) which is chaired by the United State Army Corps of Engineers (USACE).

As members of the Task Force established by CWPPRA, the agencies are responsible for, among other things, baseline and long-term monitoring of certain coastal wetland restoration project areas and reference sites associated with such projects, as well as the long-term operation, maintenance, repair, and rehabilitation of authorized project features, where applicable. The New Cut Dune and Marsh Restoration Project (TE-37) is funded through the CWPPRA and has been approved by the PL 101-646 Task Force (TF) in accordance with the provisions and stipulations cited herein.

Pursuant to La. R.S. 49:214.5.2(A)(1), CPRA Board represents the State of Louisiana's position in policy relative to the protection, conservation, enhancement, and restoration of the coastal area of the state through oversight of integrated coastal protection projects and programs and has the power and authority under La. R.S. 49:214.5.2(A)(7) to enter into any contract or agreement with the federal government or any federal agency or any political subdivision of the state or private individual for the study, planning, engineering, design, construction, operation, maintenance, repair, rehabilitation, or replacement of any integrated coastal protection project and to this end, may contract for the acceptance of any grant money upon the terms and conditions, including any requirement of matching grants in whole or part, which may be necessary.

Pursuant to La. R.S. 49:214.6.1, the Coastal Protection and Restoration Authority (hereinafter the "CPRA") is the implementation and enforcement arm of the Non-Federal Sponsor and is directed by the policy set by CPRA Board. La. R.S. 49:214.6.2 provides that the CPRA shall administer the programs of the CPRA Board, shall implement projects relative to the protection, conservation, enhancement, and restoration of the coastal area of the State of Louisiana through oversight of integrated coastal projects and programs consistent with the legislative intent as

expressed in La. R.S. 49:214.1, and may acquire by purchase, donation, or otherwise any lands needed for integrated coastal protection projects. Accordingly, CPRA shall administer and implement the obligations undertaken by the State through the CPRA Board pursuant to this Agreement.

II. Project Responsibility and Project Goals

EPA and CPRA Board work cooperatively in the implementation of the overall CWPPRA program and in the funding and administration of specifically funded restoration projects for which EPA has been designated lead Federal agency.

The EPA was designated the lead Federal agency for the New Cut Dune and Marsh Restoration Project (TE-37) on Priority Project List (PPL) 09. The TE-37 project is located on the north by Lake Pelto, on the west by Trinity Island, on the east by East Island and on the south by the Gulf of Mexico, in Terrebonne Parish, Louisiana.

The primary goal of the TE-37 project was to close New Cut, an inlet that formed between East Island and Trinity Island during Hurricane Carmen in 1974, and the open water to sustainable beach, dune, barrier flat, and marsh habitat. It is anticipated that in addition to restoring critical barrier island habitat and providing storm protection, the closure of New Cut will also benefit adjacent beaches along East Island and Trinity Island by restoring the littoral drift system along the eastern Isle Dernieres. The goals of the TE-37 project are the creation of approximately 261 acres of dune and marsh habitat with dredged material. Specifically, the proposed project would include creation of a 150 foot sacrificial beach with an elevation of +2 feet NAVD built on the gulf side. The dune would match up with the dunes on East and Trinity Islands. The dune would have an elevation of +8 feet NAVD with a top width of 300 feet and side slopes of 1 to 15.

III. Purpose

The purpose of this MOA is to clarify the financial limits and coordination procedures for all Phase II O&M, monitoring, inspection, and associated administrative tasks for the New Cut Dune and Marsh Restoration Project (TE-37).

This MOA does not obligate or commit any funds, rather, establishes channels of communication and coordination for EPA review and ultimate TF (USACE) payment of eligible costs in accordance with TF standard operating procedures (SOP).

IV. Cost Limits

Because the TE-37 project was approved in PPL09, the cost share is 85% Federal and 15% State. The current ultimate fully funded authorization for the TE-37 project O&M, monitoring, inspection, and administration is estimated at \$557,857 therefore, the CPRA Board cost share is estimated to be \$83,679 after 20 years after all incremental approvals. The TF approved budget is summarized in the financial spreadsheets in Appendix A.

This project's O&M, monitoring, inspection, and administration has projected cost limits of \$120,218 for monitoring, \$391,160 for State inspection and administration, \$23,105 for US Army Corps of Engineer's administration, and \$23,374 for EPA inspection and administration. These cost limits may not be exceeded without prior TF approval. Any future funding adjustments (increases or decreases) made by the TF, including incremental approvals, are automatically incorporated into this agreement by reference. Should the anticipated total Agreement cost exceed the authorized maximum Agreement amount, CPRA Board and EPA shall suspend all work on the Project, including the award of contracts. Work shall resume upon approval of the TF and if necessary, execution of an amendment to this Agreement.

The TF approved maximum cost for State activities tracked under this Agreement is \$511,378 which requires CPRA Board to contribute an estimated maximum of \$83,679 (16.36%) and CWPPRA to contribute an estimated maximum of \$427,179 (83.64%) of the total State O&M, monitoring, inspection, and administration expenditures. The \$46,479 difference between the total cost and the total State cost is represented by:

- \$23,374 for inspection and administrative oversight by EPA.
- \$23,105 that the U.S. Army Corps of Engineers will hold in reserve for Phase I funding management.

While the project's long term O&M, monitoring, inspection, and administrative budgets were previously estimated and approved, the current funding ceiling is limited to the total incremental approvals obtained from the CWPPRA TF. The project was initially approved by the TF on January 11, 2000 which included incremental funding. Additional incremental approvals have occurred since that time and are summarized on the attached budget summary spreadsheets in Appendix A and the reporting spreadsheets in B. As future TF incremental approvals are obtained, the project's funding ceiling is automatically amended (increased) by the respective approved amounts. At no time can the total expenditures exceed the existing approved ceiling. Incremental funding will be tracked and reported on the financial spreadsheet in Appendix B.

V. Prior Agreements

This MOA is the first formal agreement specifically addressing the O&M, monitoring, and inspection activities for the TE-37 project.

VI. Scope

The O&M, monitoring, and inspection activities will include those listed in the approved "Operation, Maintenance, and Rehabilitation (OM&R) Plan" and "Monitoring Plan" for New Cut Dune and Marsh Restoration Project (TE-37). The OM&R plan and the Monitoring plan will be developed by CPRA Board and approved by EPA for implementation under this agreement. The plan(s) can be modified by agreement of both parties however; any change in scope that increases the overall budget must be approved by the TF prior to implementation. Future activities and reports are contingent on receiving appropriate successive funding increments from

the CWPPRA TF. Any expenditure incurred prior to TF approval may be disapproved for reimbursement by USACE.

VII. Responsibilities/Procedures

CPRA Board:

If not yet completed and approved, CPRA Board will develop and submit a DRAFT OM&R plan and a DRAFT Monitoring plan to EPA for approval within 30 days of the execution of this agreement. CPRA Board will respond to any EPA comments to the DRAFT plans within 30 days of receipt. The plans will become final upon acceptance by both CPRA Board and EPA. If it is determined that the either plan needs to be modified, CPRA Board will coordinate any amendments or changes with EPA. Revisions to the plan(s) will be obtained through the concurrence of both EPA and CPRA Board. Once modified and accepted by both agencies, the revised plan is automatically incorporated by reference.

CPRA Board will implement the Phase II O&M, monitoring and inspection according to the OM&R Plan and the Monitoring Plan jointly approved by CPRA Board and EPA. Reports shall be developed and submitted in accordance with the schedule outlined in the approved OM&R Plan and Monitoring Plan. CPRA Board will provide draft copies of the reports for review and comment by EPA at least 45 days prior to the due date for each respective report.

CPRA Board will initiate and prepare future funding requests to ensure the incremental funding is approved by the TF prior to the respective O&M, monitoring, inspection, and administration activities. CPRA Board will coordinate the incremental funding requests with EPA prior to the Technical Committee (TC) and TF budget meetings. Incremental approvals will be recorded and reported on the Expenditure Reporting Form (Appendix B).

Within 60 days of the effective date of this agreement, CPRA Board will provide EPA with documentation of all previous expenditures covered under the scope of this agreement. Expenditures will be summarized on the Expenditure Reporting Form (Appendix B) for accounting and tracking purposes. Expenditures/Invoices shall include appropriate documentation needed for EPA certification and approval in a format agreeable to EPA.

CPRA Board will send future invoices to EPA for certification and initial approval based on actual expenses for activities within the scope of this agreement. Invoices shall be submitted at least semi-annually. Expenditures will be summarized and reported on the Expenditure Reporting Form (Appendix B). Expenditures shall include sufficient information/documentation needed for EPA certification and approval, and, shall be in a format agreeable to EPA. If no activities or expenditures have occurred during the

previous 6 month reporting period, CPRA Board need only provide a letter stating that no activities or expenditures have occurred.

CPRA Board will provide all information and documentation necessary for the processing of invoices as required by USACE and/or EPA, and/or any other information requested by the CWPPRA TC and/or TF.

CPRA Board will coordinate with EPA staff when planning the periodic inspections as outlined in the approved OM&R Plan and Monitoring Plan. CPRA Board will make available the opportunity for EPA staff to accompany CPRA Board staff on the inspections. CPRA Board will provide transportation for the participants to and from the project site unless alternate arrangements have been made in advance.

CPRA Board is responsible for obtaining appropriate landowner permission to access the site prior to any site visit/inspection.

EPA:

EPA will review and comment on the DRAFT OM&R plan and the DRAFT Monitoring Plan within 30 days of receipt from CPRA Board. The plans will become final upon acceptance by both EPA and CPRA Board. If it is determined that the OM&R Plan or the Monitoring Plan need to be modified, EPA will assist CPRA Board with any amendments or changes as necessary. Any revised plans will become effective upon acceptance by both agencies.

EPA will review and comment on draft reports provided by CPRA Board within 30 days of receipt.

EPA will review CPRA Board invoices/expenditures within 30 days of receipt. If EPA determines that the information is incomplete, contains errors and/or omissions, then EPA will notify CPRA Board that a problem exists including an explanation of the information needed to correct the problem. Once EPA receives all required information, EPA will recommend approval and forward the invoices/expenditures within 30 days for subsequent reimbursement by the United States Army Corps of Engineers (USACE), and/or EPA will provide CPRA Board with an explanation as to why EPA is disapproving of the respective expenditure(s).

EPA will coordinate with CPRA Board to accompany their staff on periodic inspections. EPA participation will be dependent on the available resources and CWPPRA funding at the time of the inspection.

EPA will assist CPRA Board in preparing incremental funding requests in accordance with the CWPPRA Standard Operating Procedures (SOP) for approval by the TC and TF.

USACE:

While not a party to this agreement, it is acknowledged that the USACE acts as the banker for the entire CWPPRA program and is responsible for reimbursement of the appropriate federal cost share for invoices submitted by CPRA Board and approved by EPA in accordance with TF SOP.

VIII. Maintenance of Records

EPA and CPRA Board 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. EPA and CPRA BOARD shall maintain such books, records, documents and other evidence for a minimum of three (3) years after completion of construction, operation, maintenance, repair, replacement, and rehabilitation 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.

IX. Government Review of Records

EPA shall have the right to conduct an audit, when appropriate, of the CPRA Board'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.

X. State Review of Records

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

XI. 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.

XII. 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.

XIV. Federal and State Laws

- a. In exercise of CPRA Board's rights and obligations hereunder, CPRA Board agrees to comply with all applicable Federal and State laws and regulations.
- b. EPA 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.

XV. Fiscal Funding

The continuation of this Agreement is contingent upon the appropriation of funds to fulfill the requirements of the Agreement by the Louisiana legislature. 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.

XVI. Third Party Rights, Benefits, Or Liabilities

Nothing in this Agreement is intended, nor may be construed, to create any rights, confer any benefits, or relieve any liability, of any kind whatsoever in any third person not party to this Agreement.

XVII. Terms, Amendments, Modifications, and Termination

This MOA will be effective upon signature by both parties and will be in effect for the life of the New Cut Dune and Marsh Restoration Project (TE-37) subject to mandatory review every five (5) years. This MOA may be amended, modified, or terminated as mutually agreed upon, in writing, by the CPRA Board and EPA. This MOA will be terminated in the event of the de-authorization or closeout of the project and subsequent closeout of the books. This MOA is not intended to supersede the provisions of the CWPPRA legislation or the standard operating procedures of the CWPPRA Task Force and must conform to any changes in the law or policies set by the Task Force.

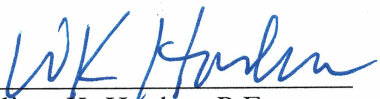
XVIII. Resolutions of Disagreements

Should disagreement arise on the interpretation of the provisions of this agreement, or amendments and/or revisions thereto that cannot be resolved at the operating level, the area(s) of disagreement shall be stated in writing by each Party and presented to the other Party for consideration. If agreement on interpretation is not achieved within 30 days, the Parties shall forward the written presentation of the disagreement to respective higher officials for appropriate resolution.

XIX. Signatures

The undersigned individuals attest that they represent their respective agencies in this MOA. On behalf of their respective agencies, they have signed this MOA on the day and year appearing with the signature of each authorized representative.

EPA

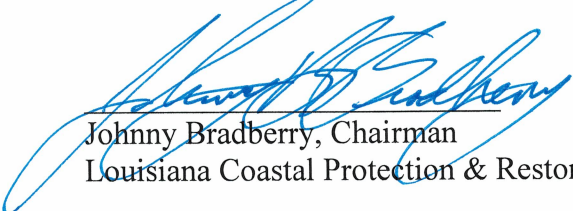


William K. Honker, P.E.
Director, Water Quality Division
Environmental Protection Agency, Region 6

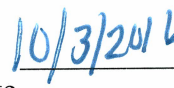


Date

Coastal Protection and Restoration Authority Board



Johnny Bradberry, Chairman
Louisiana Coastal Protection & Restoration Authority



Date

Appendix A

MOA Budget Spreadsheets

New Cut Dune and Marsh Restoration (TE-37)						
	Task	Task Name	State	Federal	Subtotal	
						MOA Total
MOA	1	Monitoring	\$ 19,672	\$ 100,546	\$ 120,218	\$ 511,378
MOA	2	O&M and Inspection	\$ 64,007	\$ 327,153	\$ 391,160	
MOA	3	EPA Admin		\$ 23,374	\$ 23,374	
MOA	4	COE PM		\$ 23,105	\$ 23,105	
MOA Total			\$ 83,679	\$ 474,179	\$ 557,857	
Overall Percentages			15.00%	85.00%		
			\$ 83,679	\$ 474,179	\$ 557,857	
		MOA Amount	\$ 83,679	\$ 427,700	\$ 511,378	
		MOA Percentages	16.36%	83.64%		

Year	FY	Eng. Monitoring	O&M & State Insp.	Corps Admin	Fed S&A & Insp
		\$0	\$100,000	\$692	\$0
		\$5,987	\$100,000	\$715	\$0
		\$6,184	\$100,000	\$739	\$0
		\$6,388	\$4,518	\$763	\$1,158
		\$77,808	\$4,612	\$788	\$1,183
		\$0	\$4,709	\$814	\$1,208
		\$0	\$4,808	\$841	\$1,233
		\$0	\$4,909	\$869	\$1,259
		\$0	\$5,012	\$1,252	\$1,285
		\$0	\$5,117	\$1,278	\$1,312
		\$0	\$5,225	\$1,305	\$1,340
		\$0	\$5,335	\$1,332	\$1,368
		\$0	\$5,447	\$1,360	\$1,397
		\$0	\$5,561	\$1,389	\$1,426
		\$0	\$5,678	\$1,418	\$1,456
		\$0	\$5,797	\$1,448	\$1,486
		\$0	\$5,919	\$1,478	\$1,518
		\$0	\$6,043	\$1,509	\$1,550
		\$0	\$6,170	\$1,541	\$1,582
		\$0	\$6,300	\$1,573	\$1,615
Totals		\$96,367	\$391,160	\$23,105	\$23,374

Appendix B

Tracking and Reporting Spreadsheets

New Cut Dune and Marsh Restoration (TE-37)

Instructions: Report each incremental O&MM approval on a separate line with TF approval date. Incremental requests will be made jointly between EPA and CPRA.

Incremental TF O&MM Approvals (100%)					
	TF Approval Date	Monitoring	O&M, Inspection	EPA S&A, Inspection	Comments
1	January 11, 2000 TF	\$23,851			TF approval January 2001 Phase 1 monitoring.
2	January 10, 2001 TF	\$18,559	\$300,000	\$0	TF Phase 2 increment 1 approval. Monitoring budget per Susan Mabry email.
3	October 18, 2006	\$77,808			October 18, 2006 TF meeting. Monitoring incremental approval. According to USACE spreadsheet, this is a cost increase not incremental approval.
4	October 11, 2012			\$4,782	October 11, 2012 TF meeting \$4782 Federal S&A
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
Current O&MM ceiling		\$120,218	\$300,000	\$4,782	

Instructions: For each reporting period, CPRA will summarize their expenditures on a new line. SEPARATE accounting is required for monitoring and O&M/inspection in order for EPA to report expenditures back to USACE. Any supporting information should be attached for each line item in a separate document(s).

Monitoring				
	Performance Period Date(s)	Expenditures		Comments
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
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Add additional lines as necessary				
Total Monitoring Expenditures		\$0.00		
Current Monitoring ceiling		\$120,218.00		
Available Monitoring Funding		\$120,218.00		
Total 20 Yr Monitoring Budget		\$120,218.00	\$0.00	\$120,218.00
Total Remaining 20 Yr Budget		\$120,218.00	\$0.00	\$120,218.00

O&M/Inspection				
	Performance Period Date(s)	Expenditures		Comments
1				
2				
3				
4				
5				
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Add additional lines as necessary				
Total O&M/Inspection Expenditures		\$0.00		
Current O&M/Inspection ceiling		\$300,000.00		
Available O&M/Inspection Funding		\$300,000.00		
Total 20 Yr O&M/Inspection Budget		\$391,160.40	\$0.00	\$391,160.40
Total Remaining 20 Yr Budget		\$391,160.40	\$0.00	\$391,160.40

ATTACHMENT II

NEW CUT DUNE AND MARSH RESTORATION PROJECT (TE-37)

PROJECT FEATURES

ATTACHMENT III

NEW CUT DUNE AND MARSH RESTORATION PROJECT (TE-37)

PROJECT COMPLETION REPORT

**NEW CUT DUNE/ MARSH RESTORATION PROJECT
CWPPRA/STATE PROJECT NO. TE-37**

PROJECT COMPLETION REPORT



October 5, 2007

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

Prepared By:

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



PROJECT COMPLETION REPORT

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1. Project Managers/Contracting Officer	Page 1
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8. Discuss Construction Sequences and Activities, Problems Encountered, Solutions to Problems, etc.	Page 4
9. Construction Change Orders and Field Changes	Page 6
10. Safety and Accidents.....	Page 7
11. Additional Comments Pertaining to Construction, Completed Projects, Lessons Learned, etc.....	Page 7
12. Significant Construction Dates	Page 8

APPENDICES:

- A Change Orders and Field Orders**
- B Preconstruction Conference Report**
- C Pre-and Post-construction Plan View**
- D As-built Volume Calculations**
- E As-built Drawings**
- F Pre-and Post-construction Geotechnical Sample Report**

PROJECT COMPLETION REPORT

PROJECT NAME: New Cut Dune/ Marsh Restoration Project
CWPPRA/STATE PROJECT NO. TE-37

Report Date: September 2007 **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		Telephone	
Federal Agency Project Manager	Patricia Taylor, P.E. (EPA)	Telephone	214-665-6403
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 New Cut Dune/ Marsh Restoration Project (TE-37) is located on the Isles Dernieres barrier island chain in Terrebonne Parish, Louisiana. The site of work associated with the base bid is located in the New Cut area between Trinity and East Islands. The borrow area for the project is located approximately three miles south of Wine Island in South Timbalier Block 9 and Block 10. The total bid quantity of hydraulic dredging is 830,650 C.Y. (in-place).

The purpose of the project is to restore the New Cut area using dredged sediment from nearshore sand sources. The project is sponsored by the United States Environmental Protection Agency (EPA) and the Louisiana Department of Natural Resources (LDNR) under the Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA).

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

The project was constructed as described above. For additional information see attached Appendix C, Pre and Post Construction Plan View and Appendix D, As-Built Drawings.

This project created approx. 8,300 L.F. of dune and nourished approximately 248 acres of beach / island area. The total quantity of material placed on the island was computed to be approx. 1,001,274 C.Y based on the final as-built surveys.

4. Key Project Cost Elements**

	CWPPRA Project Report Estimates Data	Cost Incurred as of July 29, 2007**
Construction	\$10,890,022.50	\$10,006,753.28
E & D	\$1,759,477.00	\$1,338,678.91
Land rights	\$29,329.52	\$30,704.59
Monitoring	\$120,218.00	\$20,271.10
O & M	\$307,473.00	\$0
Total	\$13,106,520.02	\$11,396,407.88

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

5. Items of Work

Schedule of Items										
Item No.	Work	Est. Quan.*	Unit	Estimated Unit Price	Estimated Amount	Bid Quan.	Bid Unit Price	Bid Amount	As-Built Quantity	As-Built Amount
Base Bid										
1	Mobilization and Demobilization	1	LS	\$	\$1,700,000.00	1	\$2,235,000.00	\$2,235,000.00	1	\$2,235,000.00
2	Surveying	1	LS	\$153,700.00	\$153,700.00	1	\$150,000.00	\$150,000.00	1	\$150,000.00
3	Access Channel	1	LS	\$64,400.00	\$64,400.00	1	\$275,000.00	\$275,000.00	1	\$275,000.00
4	Containment Dikes	7,468	LF	\$8.00	\$59,744.00	7,500	\$44.00	\$330,000.00	8,024	\$353,056.00
5*	Hydraulic Dredging (In-place)	830,651	CY	\$6.00	\$4,983,906.00	830,650	\$7.65	\$6,354,472.50	844,540.196*	\$6,460,732.50
6	Grading and Shaping	1	LS	\$83,000.00	\$83,000.00	1	\$100,000.00	\$100,000.00	1	\$100,000.00
7	Sand Fencing	17,050	LF	\$8.00	\$136,400.00	17,050	\$11.00	\$187,550.00	17,050	\$187,550.00
8	Seeding	0	AC	-	-	55	\$600.00	\$33,000.00	55	\$33,000.00
DNR Estimated Amount:					\$7,181,150.00	Original Base Bid Amount:		\$9,665,022.50		

*** - The As-Built Quantity indicated for Item No. 5 in the table is the volume approved for final payment. The actual As-Built Quantity for Hydraulic Dredging (In-place) was 1,001,274 C.Y. based on the Contractor's As-Built Survey.**

6. Construction and Construction Oversight

Prime Construction Contractor	Weeks Marine, Inc.
Subcontractor – Survey	Fenstermaker and Associates, Inc.
Subcontractor – Sand Fencing and Seeding	Erosion Control Services, Inc.
Original Construction Contract	\$9,665,022.50
Change Orders	\$ 129,316.00
Final Construction Contract	\$9,794,338.50

Construction Oversight Contractor: T. Baker Smith, Inc.

Construction Oversight Amount: \$203,697.00

7. Major Equipment Used

2 Tugs – “Jeanne James” and “Shai James”

Survey Vessel – M/V Steve L

Pushboat – George W

30” Cutterhead Dredge “E.W. Ellefsen”

Weeks 542 Bucket Dredge

BT-105 Quarters Barge

BT-213 Quarters Barge

Cat 966 Loader

2 - Cat D6R Dozers

Cat D6H XL Dozer

2 - Cat D6R LGP Dozers

2 – 30B Dragline excavators

CAT 325C Marshbuggie

24’ Survey Barge (Fenstermaker)

21’ Aluminum Workboat (Inspector’s vessel)

4 – Honda Foreman 4-Wheelers

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

- December 7, 2006: Sub-Contractor, Fenstermaker and Assoc. begin Pre-Construction surveys and layout of access channel.

- January 17, 2007: Weeks Marine Bucket Dredge (542) arrives on project site to begin access channel dredging.
- January 30, 2007: Weeks Marine Bucket Dredge (542) completes dredging of access channel. Pre-Construction Survey Data is Submitted to T. Baker Smith, Inc.
- February 6, 2007: LDNR completes review of Pre-Construction survey data and finalizes project design revisions. Weeks Marine's containment dike construction equipment arrives on site.
- February 7, 2007: T. Baker Smith issues Field Order No. 1, documenting required changes to the project layout. Weeks Marine's containment dike construction equipment arrives on site.
- February 8, 2007: Weeks Marine begins construction of containment dikes.
- March 5, 2007: Weeks Marine completes construction of all containment dikes.
- March 6, 2007: Sub-Contractor, Eustis Engineering on site to perform Nuclear Density and moisture testing.
- March 29, 2007: End of Original 180 day contract time.
- March 31, 2007: Dredge support barges arrive, and equipment is unloaded at site.
- April 2, 2007: Contractor began placement of dredge discharge pipe.
- April 14, 2007: Contractor installs 2 spill-boxes on the western end of the project area.
- April 23, 2007: Contractor installs 3rd spill-box near the access channel.
- April 27, 2007: Contractor completes discharge pipe installation. Awaiting arrival of Dredge.
- May 4, 2007: Dredge "E.W. Ellefsen" arrives on site.
- May 8, 2007: Dredge begins pumping material onto Eastern end of project – working west.
- May 11, 2007: Contractor has pumped adequate material from project Sta. 308+00 to Sta. 302+00.
- May 15, 2007: Contractor has pumped adequate material from project Sta. 308+00 to Sta. 288+00.
- May 23, 2007: Dredge is shutdown due to rough seas.
- May 28, 2007: Sub-Contractor, Erosion Control Services begins installation of Sand Fencing at Sta. 308+00 working westward.
- June 1, 2007: Dredge continues pumping operations this date after being shutdown by rough seas.
- June 3, 2007: Dredge was shutdown due to mechanical failure.
- June 6, 2007: Dredge is repaired and continues pumping operations.
- June 7, 2007: Dredge is shutdown due to rough seas.
- June 8, 2007: Dredge continues pumping operations.

- June 21, 2007: Sub-Contractor, Erosion Control Services, begins seeding dune area.
- June 28, 2007: Erosion control services completes construction of Sand fence this date.
- July 1, 2007: Contractor declares dredging operations complete this date. Dredge is shutdown.
- July 2, 2007: Dredge “E.W. Ellefsen” is towed off job site. Survey crews begin Post-Construction cross-section in fill areas.
- July 3, 2007: Contractor begins removing discharge pipe.
- July 9, 2007: Contractor has demobilized majority of equipment, Quarters barge remains.
- July 18, 2007: Final Inspection is held.

9. Construction Change Orders and Field Changes.

Change Order No. 1 (April 24, 2007):

The final quantity for bid item no. 4, Containment Dikes, exceeded the original contract quantity by 524 L.F. due to revisions in project design issued in Field Order No. 1.

The final quantity of Containment Dikes, as verified by the TBS project representative, was 8,024 L.F. The contract time was also extended by 17 calendar days to account for adverse weather conditions from the Months of December to March. Final pre-construction survey data was submitted by the contractor on January 30, 2007, and revised plans (Field Order No. 1) were issued to the Contractor on February 7, 2007. Therefore, the contract time was extended by an additional 10 calendar days to account for delays to the contractors construction progress due to revisions in project design issued in Field Order No. 1.

ITEM NO.	ITEM	UNIT	ORIGINAL QUANTITY	UNIT COST	ORIGINAL BID AMOUNT	ADDITIONAL QUANTITY	ADDITIONAL AMOUNT	BID ITEM TOTAL \$ AMOUNT
4	Containment Dikes	LF	7,500	\$44.00	\$330,000.00	524	\$23,056.00	\$353,056.00
TOTAL:							\$23,056.00	

Change Order No. 2 (June 27, 2007):

The contract time was extended by 6 calendar days to account for adverse weather conditions for the month of May.

Change Order No. 3 (August 22, 2007):

This project extended past the allotted contract time by 77 days. In lieu of reducing the value of work performed due to deductions from 77 days of Liquidated Damages, the Contractor has elected to pump an additional quantity of material equal to the total value of these liquidated damages. This change order increased

the contract quantity of hydraulic dredging by 13,890 C.Y., for a total increase in Contract Price of \$106,260.00.

ITEM NO.	ITEM	UNIT	ORIGINAL QUANTITY	UNIT COST	ORIGINAL BID AMOUNT	ADDITIONAL QUANTITY	ADDITIONAL AMOUNT	BID ITEM TOTAL \$ AMOUNT
5	Hydraulic Dredging	CY	830,650	\$7.65	\$6,354,472.50	13,890.196	\$106,260.00	\$6,460,732.50
TOTAL:							\$106,260.00	

Field Order No. 1 (February 6, 2007):

The project design template (profile) was shifted 150' Gulfward from the original template. The marsh creation area or "marsh platform" was also removed. The containment dike alignment was modified to coincide with the modifications to the design template.

Field Order No. 2 (April 24, 2007):

The plans were revised to include two (2) rows of sand fence, as opposed to the single row in the original plans. The original bid quantity was sufficient to construct the sand fence in this manner.

Field Order No. 3 (June 21, 2007):

This Field Order directed the Contractor to disperse 100% Bermuda seed, instead of Gulf Annual Rye. The Bermuda was found to be a more appropriate seed for the current growing season. Specification section TS-10 Seeding, 11.2 was revised as follows:

"Method: For New Cut - Bermuda (Cynodon sp.) seed is to be dispersed onto the island immediately after all construction, including dredging/ grading activities and sand fence instalation, is completed.

A total of 1,375 lbs of Bermuda (Cynodon sp.) pure live seed shall be evenly dispersed onto the dune platform of the New Cut Project Area. Twenty-five (25) lbs of Bermuda grass seed are required per acre. Approximately 55 acres of the dune platform is to be seeded. Seed dispersal shall be uniform across the entire dune platform."

10. Pipeline and Other Utility Crossings.

	<u>Structure</u>	<u>Owner</u>	<u>Rep. To Contact</u>
1.	Natural Gas Pipeline	Bois d' Arc	Greg Martin
2.			
3.		.	

11. Safety and Accidents.

There were no accidents reported during the New Cut Dune/Marsh Restoration Project.

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

1. Issue: Hydraulic Fill - Settlement Verification Surveys

Discussion: This project required that the fill area be inspected/surveyed every seven days, up to 28 days, to show that there had been no settlement before payments could be made to the Contractor. This required extensive surveying efforts and somewhat delayed payments to the Contractor. All surveys were taken after the material had dewatered and very little settlement, if any, was ever found between two surveys. On a beach / dune creation project such as this, where the majority of material is sand, it appears that this level of effort is not needed to document settlement of pumped material.

2. Issue: Borrow Area Surveys

Discussion: The Cut to Fill ratio for this project was calculated to be less than 1. It is believed that the borrow area filled in substantially between the time pumping began and the time the final borrow area surveys were performed. In order to get an accurate cut to fill ratio, intermediate borrow area surveys should be required to give a true representation of the material removed from the borrow pit. This would also allow the Engineer to track the material accurately throughout the project.

3 Issue: Erosion and Ponding of Bay Berm Fill Area

Discussion: No slope was specified for the berm area on either side of the dune. Leaving this area flat allows rainwater to pond, which eventually leads to a washout area. Future designs should consider applying a minimal slope to allow rainwater to drain.

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	April 19, 2006
Construction Contract	
Preconstruction Conference	September 20, 2006
Notice to Proceed	October 1, 2006
Mobilization	January 17, 2007
Construction Start	January 17, 2007
Construction Completion	July 10, 2007
Final Acceptance	July 18, 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.

ATTACHMENT IV

NEW CUT DUNE AND MARSH RESTORATION PROJECT (TE-37)

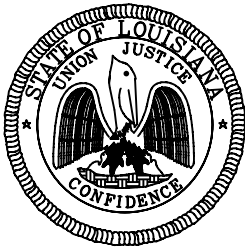
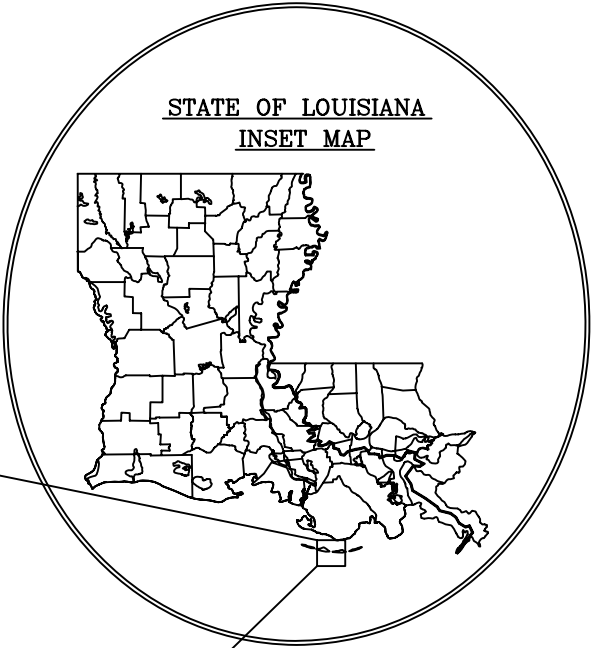
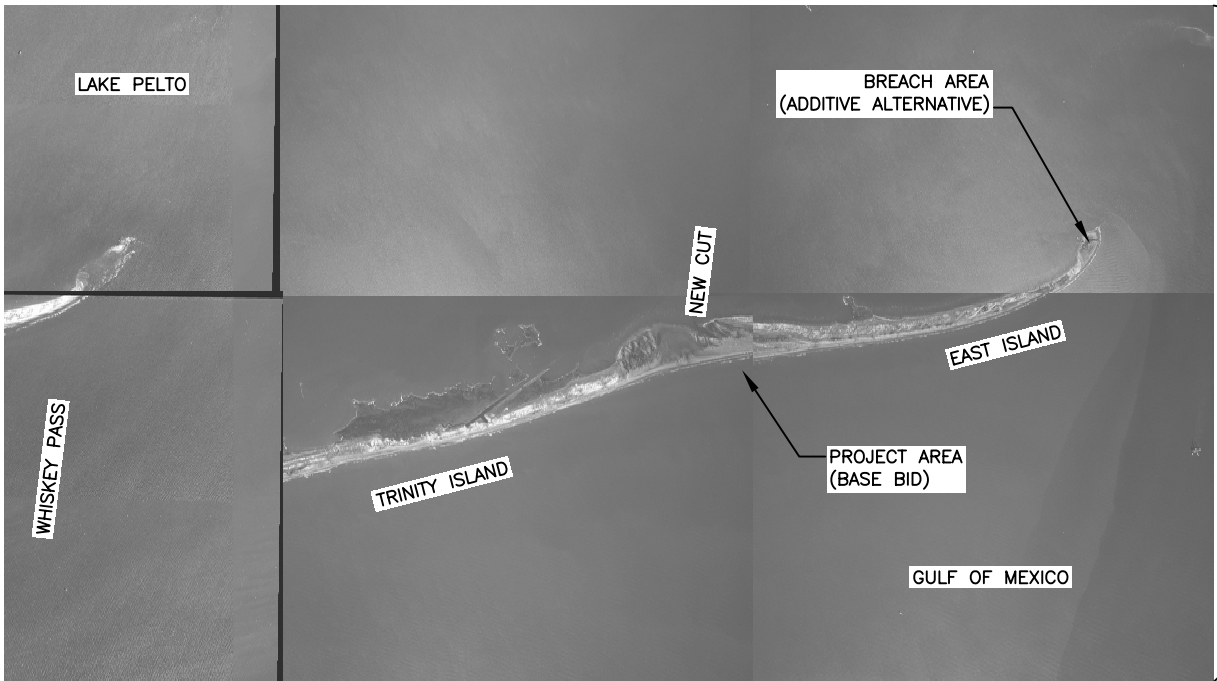
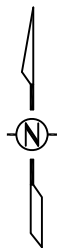
AS-BUILT DRAWINGS

STATE OF LOUISIANA
DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION

INDEX TO SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	GENERAL NOTES
3	PROJECT LAYOUT
4	CONSTRUCTION ACCESS
5	PROFILE LAYOUTS
6	PIPELINE & WELL LOCATIONS
7	WELL LOCATION COORDINATES
8	BORROW LAYOUT
9	MAGNETOMETER ANOMALY TABLE
10	SAND FENCE LAYOUT
11	SAND FENCE DETAILS
12	TYPICAL CROSS SECTIONS
13	BREACH FILL LOCATION
14	DETAILS
15-20	CROSS SECTIONS
21	BORROW LAYOUT CROSS SECTIONS

NEW CUT DUNE/MARSH
RESTORATION PROJECT
TE-37
TERREBONNE PARISH



AS-BUILT

TYPE OF CONSTRUCTION

CLASSIFICATION III (HEAVY CONSTRUCTION)
BARRIER ISLAND DUNE/MARSH RESTORATION
HYDRAULIC DREDGING

FEDERAL
PROJECT
SPONSOR

REV.	DATE	DESCRIPTION	BY

STATE
PROJECT
SPONSOR

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

DRAWN BY: SHANE FAUST

DESIGNED BY: RICKEY BROUILLETTE, P.E.

NEW CUT DUNE/MARSH
RESTORATION PROJECT

STATE PROJECT NUMBER: TE-37

FEDERAL PROJECT NUMBER: TE-11A

APPROVED BY: LUKE LE BAS, P.E.

CED DIRECTOR

CED ENGINEER MANAGER

CED PROJECT ENGINEER

TITLE SHEET

DATE: FEBRUARY 2006

SHEET 1 OF 21

GENERAL NOTES

1. ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88), U.S. SURVEY FEET. ALL HORIZONTAL COORDINATES ARE GIVEN IN THE NORTH AMERICAN DATUM OF 1983 (NAD 83), LOUISIANA STATE PLANE, SOUTH ZONE, U.S. SURVEY FEET.
2. THE RECOMMENDED BORROW AREAS ARE SHOWN ON SHEET 8 OF THE DRAWINGS. THE LOCATION OF ALL VIBRACORES AND SAND VERIFICATION CORES ARE AVAILABLE UPON REQUEST. BASED ON THE INFORMATION GIVEN IN THESE DRAWINGS, THE CONTRACTOR SHALL DEVELOP A DREDGING PLAN TO BE APPROVED BY THE ENGINEER. IN NO CASE SHALL THE CONTRACTOR DREDGE BELOW OR OUTSIDE THE LIMITS STATED ON SHEET 8 WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE ENGINEER.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING SAFE ACCESS TO THE PROJECT AREA AND FOR NAVIGATING WITHIN THE AREA THOUGHOUT THE ENTIRE CONSTRUCTION PHASE. THE ENGINEER OR HIS REPRESENTATIVE WILL MONITOR THE PROJECT AREA AND ACCESS LOCATIONS DURING CONSTRUCTION.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING PIPELINE OPERATORS FIVE (5) WORKING DAYS IN ADVANCE OF THE WORK. ALL PIPELINES SHALL BE INTIALLY MARKED WITH BUOYS BY THE CONTRACTOR. THE CONTRACTOR SHALL MAINTAIN BUOYS DURING CONSTRUCTION AND SHALL HAVE ADEQUATE NAVIGATIONAL EQUIPMENT ON THE DREDGE TO AVOID DREDGING IN RESTRICTED AREAS. THE FOLLOWING IS A LIST OF PIPELINE OPERATORS KNOWN TO HAVE PIPELINES IN THE VICINITY. THE CONTRACTOR SHALL CALL LOUISIANA-ONE-CALL AND PIPELINE SAFETY (225) 342-3417, FIVE (5) WORKING DAYS PRIOR TO MOBILIZATION. THE CONTRACTOR SHALL NOT PERFORM ANY OPERATIONS WITHIN 200' OF A PIPELINE.

TENNESSEE GAS PIPELINE
CONTACT: PAUL CRAFT
PHONE: (985) 223-6420
FAX: (985) 868-1423
PIPE SIZE: 8"

BOIS D'ARC
CONTACT: GREG MARTIN
PHONE: (713) 228-0438
FAX: (713) 228-1759
PIPE SIZE: 8"

TEXAS GAS TRANSMISSION LLC
CONTACT: WAYNE JOHNS
PHONE: (985) 631-0186
FAX: (985) 631-4937
PIPE SIZE: 8"

STONE ENERGY
CONTACT: TED RUSSELL
PHONE: (337) 521-2069
FAX: (337) 232-2276
PIPE SIZE: 4"

TEXACO EXP. AND PROD.
CONTACT: ANTHONY BODINE
PHONE: (337) 572-3747
FAX: (337) 572-3822
PIPE SIZE: FLOW LINES

5. OYSTER LEASES ARE IN THE VICNITY OF THE WORK. THE CONTRACTOR SHALL NOT DREDGE OR DISTURB BOTTOM WITHIN THE LIMIT OF OYSTER LEASES SHOWN ON THE DRAWINGS. KNOWN LEASES ARE LISTED BELOW:
- LEASE NO: L-2720099 (AS SHOWN ON SHEET 3)
LEASEE: TIDELANDS SEAFOOD
PHONE: (504) 563-4516
STATUS: ACTIVE
6. VOLUMES SHOWN ARE FOR BIDDING PURPOSES ONLY AND WERE CALCULATED ACCORDING TO CONDITIONS SURVEYED FROM APRIL 2005 TO JULY 2005. FOR THE PROJECT AREA (BASE BID) BEFORE AND AFTER DREDGING, CROSS SECTIONS OF THE FILL AREAS SHALL BE SURVEYED BY THE CONTRACTOR FOR MEASUREMENT AND PAYMENT PURPOSES. THE CONTRACTOR SHALL ALSO SURVEY THE BORROW AREA PRIOR TO BEGINNING DREDGING FOR THE BASE BID. IF THE ADDITIVE ALTERNATE IS NOT AWARDED, THE CONTRACTOR SHALL ALSO SURVEY THE BORROW AREA AFTER FINAL ACCEPTANCE OF THE BASE BID.

FOR THE BREACH AREA (ADDITIVE ALTERNATIVE), IF PERFORMED, AND AFTER COMPLETING THE BASE BID CONSTRUCTION, CROSS SECTIONS OF THE BORROW AREAS USED TO CONSTRUCT THE BREACH FILL SHALL BE SURVEYED BY THE CONTRACTOR FOR MEASUREMENT AND PAYMENT PURPOSES BEFORE BEGINNING AND AFTER COMPLETING THE BREACH FILL WORK. PRIOR TO BEGINNING PLACEMENT OF BREACH FILL, AND PRIOR TO ACCEPTANCE OF THE BREACH FILL AREA, THE CONTRACTOR SHALL SURVEY THE BREACH FILL FOOT PRINT WITH SECTIONS EVERY 500' ALONG THE CENTERLINE OF THE DUNE.

ALL SURVEY WORK PERFORMED BY THE CONTRACTOR FOR MEASUREMENT AND PAYMENT WILL BE MONITORED BY THE ENGINEER OR HIS REPRESENTATIVE. THE ENGINEER WILL REVIEW BEFORE AND AFTER SURVEY CROSS SECTIONS FOR COMPLETENESS AND ACCURACY.

7. HORIZONTAL AND VERTICAL DATUM INFORMATION IS BASED ON POINT, "TRINITY". X = 3,476,498.85; Y = 200,955.97; ELEVATION = 4.67' (NAVD 88).
8. MEAN LOW WATER EQUALS -0.05 FT. NAVD 88 BASED ON A LOCAL TEMPORARY GAGE CORRELATED TO THE GRAND ISLE GAGE.
9. MEAN HIGH WATER EQUALS 1.32 FT. NAVD 88 BASED ON A LOCAL TEMPORARY GAGE CORRELATED TO THE GRAND ISLE GAGE.
10. AERIALS ARE BASED ON 1998 DOQQ'S.

AS-BUILT

SUMMARY OF ESTIMATED QUANTITIES

BASE BID

ITEM No.	DESCRIPTION	UNIT	ESTIMATED QUANTITY	AS-BUILT QUANTITY
1	MOBILIZATION AND DEMOBILIZATION	LUMP SUM	1	1
2	SURVEYING	LUMP SUM	1	1
3	ACCESS CHANNEL	LUMP SUM	1	1
4	CONTAINMENT DIKES	LINEAR FEET	7,500	8,024
5	HYDRAULIC DREDGING (IN PLACE)	CUBIC YARDS	830,650	844,540.20 *
6	GRADING AND SHAPING	LUMP SUM	1	1
7	SAND FENCING	LINEAR FEET	17,050	17,050
8	SEEDING	ACRES	55	55

* ACTUAL MEASURED IN-PLACE QUANTITY WAS 1,001,276 C.Y. BASED ON AS-BUILT SURVEY

ADDITIVE ALTERNATE BID

ITEM No.	DESCRIPTION	UNIT	ESTIMATED QUANTITY
9	MOBILIZATION AND DEMOBILIZATION	LUMP SUM	1
10	SURVEYING	LUMP SUM	1
11	ACCESS CHANNEL	LUMP SUM	1
12	BREACH FILL DREDGING (CUT VOLUME)	CUBIC YARDS	970,000
13	GRADING AND SHAPING	LUMP SUM	1
14	SAND FENCING	LINEAR FEET	4,400
15	SEEDING	ACRES	15

NOTE: ADDITIVE ALTERNATE NOT CONSTRUCTED

LOW BIDDER WILL BE DETERMINED ON THE BASIS OF THE BASE BID ALONE. THE OWNER RESERVES THE RIGHT TO AWARD ALL, PART OR NONE OF THE ADDITIVE ALTERNATE BASED ON AVAILABILITY OF FUNDS.

QUANTITIES SHOWN ARE FOR BID PURPOSES ONLY AND WERE CALCULATED ACCORDING TO CONDITIONS SURVEYED FROM 04/04/05 TO 7/22/05. THE OWNER RESERVES THE RIGHT TO ADJUST QUANTITIES HIGHER OR LOWER WITHOUT ADJUSTMENT OF THE UNIT PRICE.

				LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802		NEW CUT DUNE/MARSH RESTORATION PROJECT		GENERAL NOTES
						STATE PROJECT NUMBER: TE-37		
						FEDERAL PROJECT NUMBER: TE-37		
REV.	DATE	DESCRIPTION	BY			DRAWN BY: SHANE FAUST	DESIGNED BY: RICKEY BROUILLETTE, P.E	APPROVED BY: LUKE LE BAS, P.E.

NOTES:

1. STA. 193+63 THROUGH 214+63 ARE SPACED AT 500' INTERVALS. STA. 220+63 THROUGH 292+76 ARE SPACED AT 600' INTERVALS.
2. SEE SHEET 12 FOR TYPICAL SECTION A-A' REFERENCE STATION 250+64
3. SEE SHEET 12 FOR TYPICAL SECTION C-C' REFERENCE STATION 274+64
4. THE ENDS OF ALL FEATURES SHALL BE GRADED TO EXISTING GROUND ON A SLOPE.
5. CONTRACTOR IS PROHIBITED FROM TRAVERSING OVER ANY EXISTING VEGETATED AREAS OUTSIDE THE PROJECT CORRIDOR FOOT PRINT AND THE ACCESS CORRIDOR DENOTE ON SHEET 4.
6. ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88), U.S. SURVEY FEET. ALL HORIZONTAL COORDINATES ARE GIVEN IN THE NORTH AMERICAN DATUM OF 1983 (NAD 83), U.S. SURVEY FEET.
7. CONTRACTOR SHALL SUBMIT DESIGN DRAWINGS OF THE EFFLUENT STRUCTURES TO LDNR FOR APPROVAL.
8. EFFLUENT SPILL BOX TO BE LOCATED SUCH THAT THE DREDGE EFFLUENT FLOWS INTO OPEN WATER/LOW LYING NON VEGETATED AREAS WHERE POSSIBLE.

ACTIVE OYSTER LEASE # 2720099

AS-BUILT VOLUMES				
STATION	AREA	AVG. AREA	LENGTH	VOLUME
	S.F.	S.F.	FEET	C.Y.
208+64	4779			
		5283.00	600	317403.000000
212+64	5190			
		5922.00	600	355320.000000
216+64	5437			
		5872.50	600	352350.000000
219+64	5624			
		5785.50	600	347130.000000
220+64	5673			
		3958.50	600	237510.000000
226+64	2644			
		2975.00	600	178350.000000
232+64	2894			
		2572.00	600	154320.000000
236+64	2830			
		2325.00	600	139500.000000
244+64	2600			
		2434.00	600	146040.000000
250+64	2368			
		2345.00	600	140700.000000
256+64	2310			
		2305.50	612	141000.000000
262+64	1863			
		1715.00	688	117700.000000
268+64	1566			
		1437.00	500	71850.000000
274+64	1306			
		853.00	500	42650.000000
280+64	4329			
		1038.00	410	42540.000000
286+64	0			
TOTAL FILL (C.Y.)				1001274.351882

TE24-SM-02
X = 3,477,189.08
Y = 201,525.64
ELEV. = 4.42'

AS-BUILT
CUT/FILL VOLUMES

TOTAL FILL (AVG. END AREA) = 1,001,274.35 C.Y.
TOTL CUT (PRIZMOIDAL VOL.) = 729,517.64 C.Y.
CUT/FILL RATIO = 0.729

AS-BUILT

1000' 500' 0' 1000' 2000'

SURVEY BASELINE COORDINATES		
PT.	X	Y
A	3,480,238.31	202,076.74
B	3,488,399.75	205,094.59
C	3,489,013.79	205,184.32
D	3,490,193.57	205,166.46
E	3,491,192.35	204,938.55

STA: 299+65
STA: 304+65
STA: 309+65
END PROJECT
STA: 314+89

LEGEND

	BAY BERM
	DUNE PLATFORM
	GULF BERM
	GULF SLOPE
	OPEN WATER

1	2/1/07	TEMPLATE MOVED 150' TOWARD GULF	KC
2	2/1/07	DELETED MARSH CREATION & EXISTING MARSH	KC
3	2/1/07	MOVED EFFLUENT STRUCTURES	KC
4	2/1/07	ADDED NOTES	KC
5	2/1/07	NEW MONUMENT	KC
REV.	DATE	DESCRIPTION	BY

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION

617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: SHANE FAUST

DESIGNED BY: RICKY BROUILLETTE, P.E.

NEW CUT DUNE/MARSH
RESTORATION PROJECT

STATE PROJECT NUMBER: TE-57

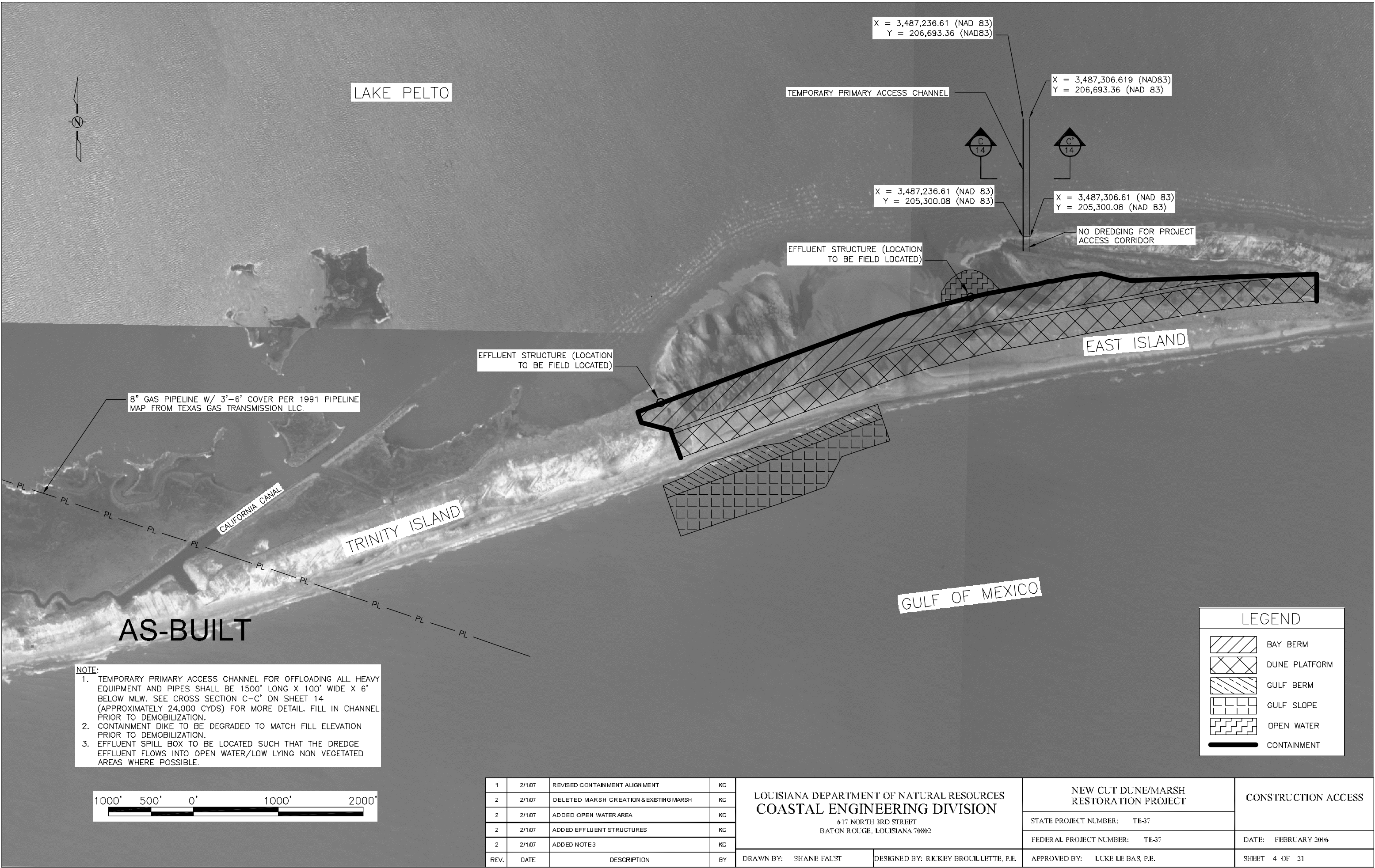
FEDERAL PROJECT NUMBER: TE-11A

APPROVED BY: LUKE LE BAS, P.E.

PROJECT LAYOUT

DATE: FEBRUARY 2006

SHEET 3 OF 21



LAKE PELTO

TEMPORARY PRIMARY ACCESS CHANNEL

X = 3,487,306.619 (NAD83)
Y = 206,693.36 (NAD 83)

X = 3,487,236.61 (NAD 83)
Y = 206,693.36 (NAD83)

X = 3,487,236.61 (NAD 83)
Y = 205,300.08 (NAD 83)

X = 3,487,306.61 (NAD 83)
Y = 205,300.08 (NAD 83)

NO DREDGING FOR PROJECT
ACCESS CORRIDOR

EFFLUENT STRUCTURE (LOCATION
TO BE FIELD LOCATED)

EFFLUENT STRUCTURE (LOCATION
TO BE FIELD LOCATED)

8" GAS PIPELINE W/ 3'-6' COVER PER 1991 PIPELINE
MAP FROM TEXAS GAS TRANSMISSION LLC.

CALIFORNIA CANAL

TRINITY ISLAND

EAST ISLAND

GULF OF MEXICO

AS-BUILT

- NOTE:
1. TEMPORARY PRIMARY ACCESS CHANNEL FOR OFFLOADING ALL HEAVY EQUIPMENT AND PIPES SHALL BE 1500' LONG X 100' WIDE X 6' BELOW MLW. SEE CROSS SECTION C-C' ON SHEET 14 (APPROXIMATELY 24,000 CYDS) FOR MORE DETAIL. FILL IN CHANNEL PRIOR TO DEMOBILIZATION.
 2. CONTAINMENT DIKE TO BE DEGRADED TO MATCH FILL ELEVATION PRIOR TO DEMOBILIZATION.
 3. EFFLUENT SPILL BOX TO BE LOCATED SUCH THAT THE DREDGE EFFLUENT FLOWS INTO OPEN WATER/LOW LYING NON VEGETATED AREAS WHERE POSSIBLE.

LEGEND	
	BAY BERM
	DUNE PLATFORM
	GULF BERM
	GULF SLOPE
	OPEN WATER
	CONTAINMENT



1	2/1/07	REVISED CONTAINMENT ALIGNMENT	KC
2	2/1/07	DELETED MARSH CREATION & EXISTING MARSH	KC
2	2/1/07	ADDED OPEN WATER AREA	KC
2	2/1/07	ADDED EFFLUENT STRUCTURES	KC
2	2/1/07	ADDED NOTE 3	KC
REV.	DATE	DESCRIPTION	BY

LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802		NEW CUT DUNE/MARSH RESTORATION PROJECT		CONSTRUCTION ACCESS
		STATE PROJECT NUMBER: TE-37		
				FEDERAL PROJECT NUMBER: TE-37
DRAWN BY: SHANE FAUST		DESIGNED BY: RICKY BROUILLETTE, P.E.		APPROVED BY: LUKE LE BAS, P.E.
				SHEET 4 OF 21

TABLE 1

PROFILE	BEARING	COORDINATE @ BASELINE	
		X	Y
STA. 214+63	N 19°13'16" W	3481645.44	202597.05
STA. 220+63	N 19°13'16" W	3482208.32	202805.19
STA. 226+64	N 19°13'16" W	3482771.18	203013.31
STA. 232+64	N 19°13'16" W	3483334.03	203221.44
STA. 238+64	N 19°13'16" W	3483896.90	203429.57
STA. 244+64	N 19°13'16" W	3484459.75	203637.70
STA. 250+64	N 19°13'16" W	3485022.61	203845.83
STA. 256+64	N 19°13'16" W	3485585.46	204053.95
STA. 262+64	N 19°13'16" W	3486148.33	204262.08
STA. 268+64	N 19°13'16" W	3486711.18	204470.21
STA. 274+64	N 19°13'16" W	3487274.04	204678.33
STA. 280+64	N 19°13'16" W	3487836.89	204886.46
STA. 286+64	N 19°13'16" W	3488399.75	205094.59
STA. 292+76	N 19°13'16" W	3489004.38	205182.94
STA. 299+65	S 0°18'47" W	3489693.62	205174.70
STA. 304+65	S 0°18'47" W	3490193.57	205166.46
STA. 309+77	S 0°18'47" W	3490692.97	205052.51

TABLE 2

STA. 226+64		STA. 232+64		SAT. 238+64		STA. 244+64	
OFFSET	ELEVATION	OFFSET	ELEVATION	OFFSET	ELEVATION	OFFSET	ELEVATION
473	4.00	−235	4.00	−235	4.00	−235	4.00
833	4.00	25	4.00	104	4.00	105	4.00
1411	−7.54	133	5.87	150	7.00	150	7.00
		150	7.00	450	7.00	450	7.00
		450	7.00	508	3.10	495	4.00
		495	4.00	622	4.00	833	4.00
		834	4.00	834	4.00	1453	−8.39
		1405	−7.38	1428	−7.88		

TABLE 3

STA. 250+64		STA. 256+64		STA. 262+64		STA. 268+64	
OFFSET	ELEVATION	OFFSET	ELEVATION	OFFSET	ELEVATION	OFFSET	ELEVATION
−235	4.00	−235	4.00	−197	4.00	−138	4.00
105	4.00	105	4.00	143	4.00	202	4.00
150	7.00	150	7.00	188	7.00	247	7.00
450	7.00	450	7.00	489	7.00	550	7.00
494	4.00	515	2.68	552	2.78	607	3.24
833	4.00						
1454	−8.50						

TABLE 4

STA. 274+64		STA. 280+64		STA. 286+64		STA. 292+76	
OFFSET	ELEVATION	OFFSET	ELEVATION	OFFSET	ELEVATION	OFFSET	ELEVATION
−38	4.00	65	4.00	161	4.00	246	4.00
302	4.00	405	4.00	501	4.00	474	4.00
348	7.00	450	7.00	547	7.00	520	7.00
651	7.00	750	7.00	850	7.00	826	7.00
708	3.20	796	4.15	889	4.44	855	5.13

TABLE 5

STA. 299+65		STA. 304+65		STA. 309+65	
OFFSET	ELEVATION	OFFSET	ELEVATION	OFFSET	ELEVATION
350	2.65	298	3.48	203	6.52
417	7.00	351	7.00	210	7.00
719	7.00	653	7.00	510	7.00
763	4.10	688	4.70	540	5.01

- AS-BUILT
- NOTES:
1. OFFSET DISTANCES ARE IN FEET. ELEVATIONS ARE IN FEET.
2. THE NEGATIVE OFFSET NUMBERS ARE HEADING NORTH FROM THE BASELINE/PROFILE INTERSECTION COORDINATE ALONG THE GIVEN BEARING.
3. THE POSITIVE OFFSET NUMBERS ARE HEADING SOUTH FROM THE BASELINE/PROFILE INTERSECTION COORDINATE ALONG THE GIVEN BEARING.

1	2/1/07	DELETED ORIGINAL TABLE 2	KC	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802		NEW CUT DUNE/MARSH RESTORATION PROJECT		PROFILE LAYOUTS
2	2/1/07	REVISED TABLES 2, 3, 4, AND 5	KC					
						STATE PROJECT NUMBER: TE-37		
						FEDERAL PROJECT NUMBER: TE-37		
						DATE: FEBRUARY 2006		
REV.	DATE	DESCRIPTION	BY	DRAWN BY: SHANE FAUST	DESIGNED BY: RICKEY BROUILLETTE, P.E.	APPROVED BY: LUKE LE BAS, P.E.		SHEET 5 OF 21

NOTES:
1. SEE SHEET 7 FOR THE LOCATION/COORDINATES OF WELLS.
2. SEE SHEET 8 FOR THE BORROW AREA LAYOUT.

LEGEND

50
Ø

PLUGGED & ABANDONED WELL

61
⊙

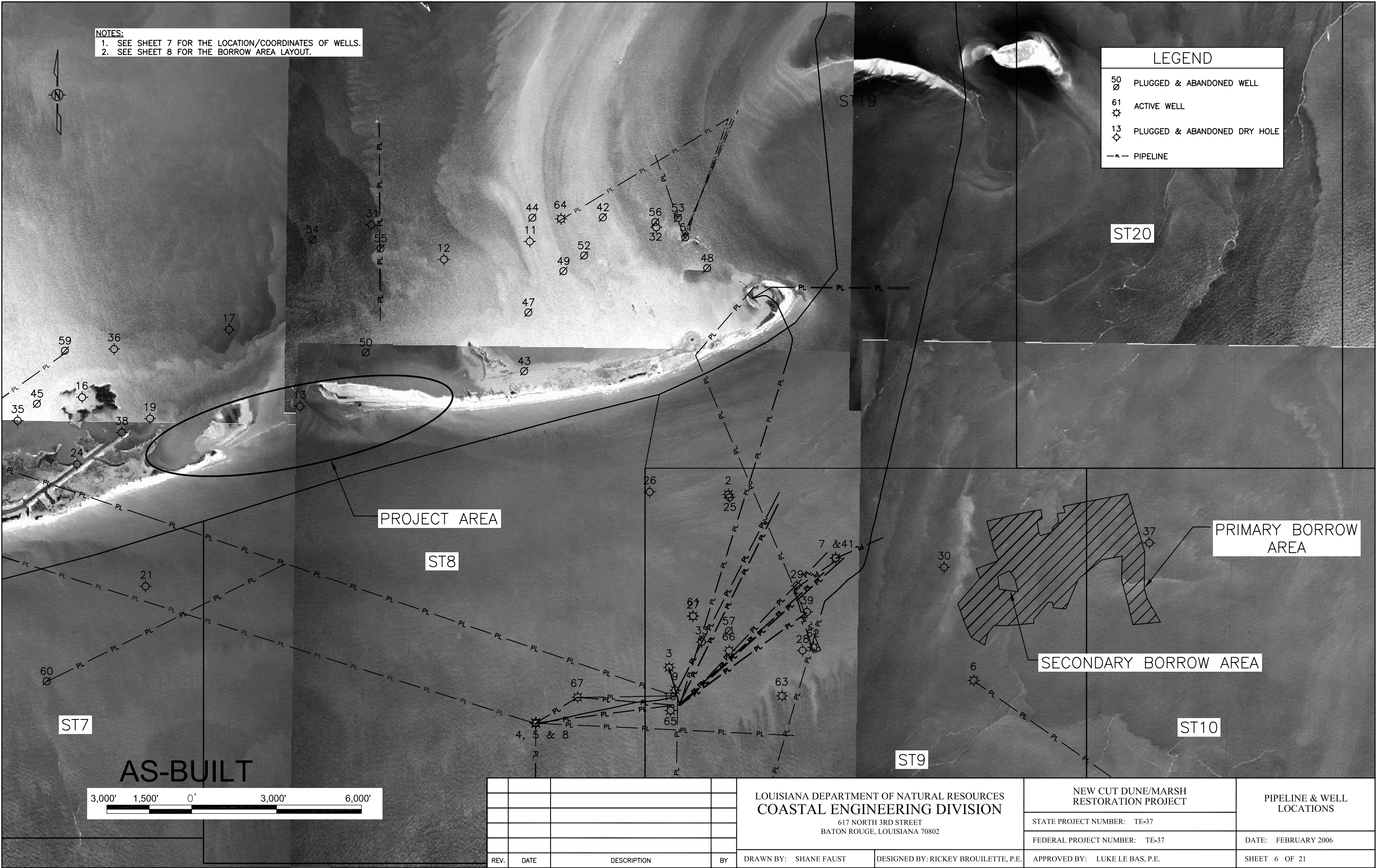
ACTIVE WELL

13
Ø

PLUGGED & ABANDONED DRY HOLE

— PL —

PIPELINE



REV.	DATE	DESCRIPTION	BY

LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	
DRAWN BY: SHANE FAUST	DESIGNED BY: RICKEY BROUILLETTE, P.E.

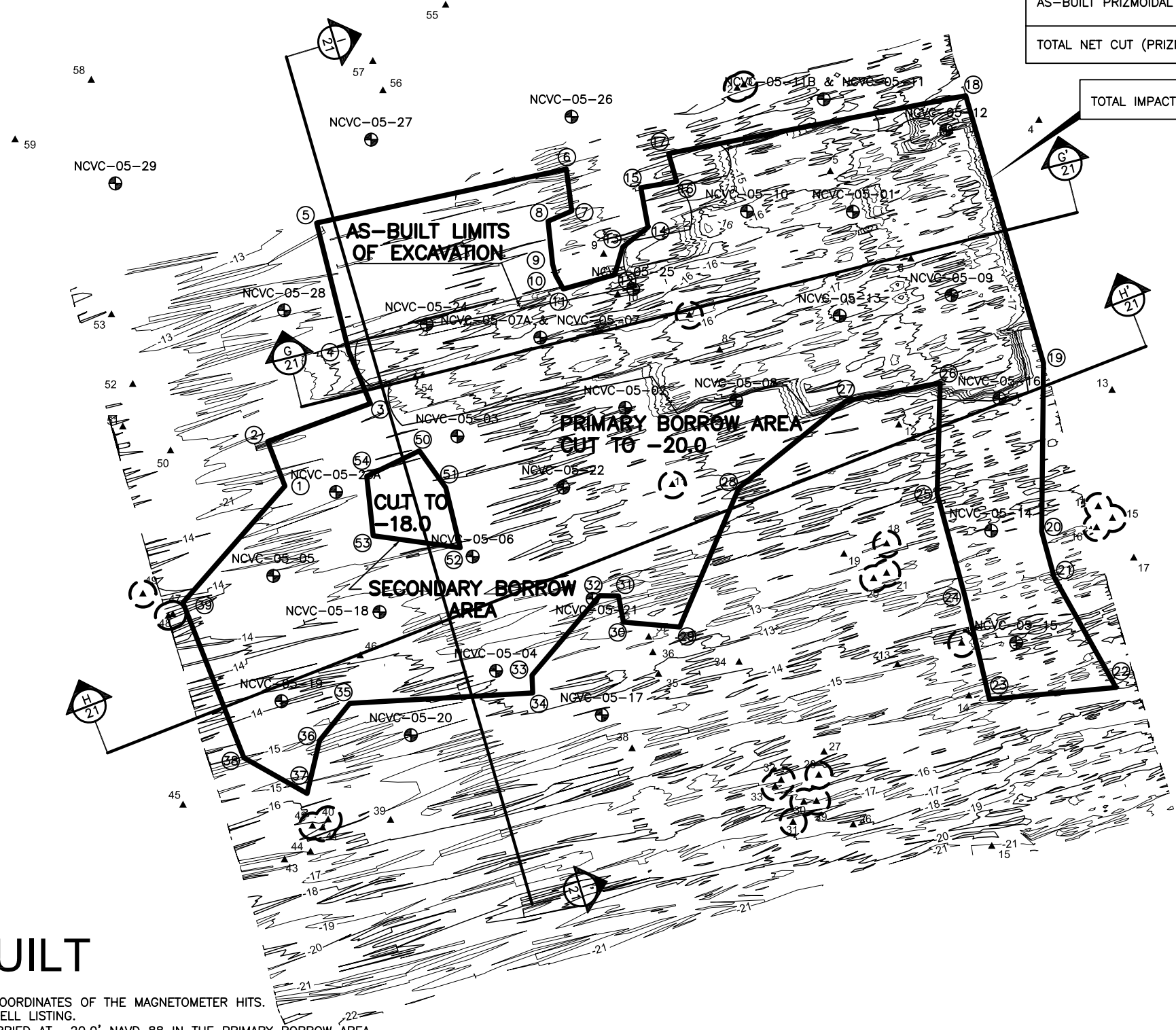
NEW CUT DUNE/MARSH RESTORATION PROJECT	
STATE PROJECT NUMBER: TE-37	
FEDERAL PROJECT NUMBER: TE-37	
APPROVED BY: LUKE LE BAS, P.E.	

PIPELINE & WELL LOCATIONS	
DATE: FEBRUARY 2006	
SHEET 6 OF 21	

INDEX	SERIA NO.	OPERATOR	Well Status	X NAD 83	Y NAD 83
1	228707	HELIS OIL & GAS COMPANY	01 Permitted Well	3,462,079.87	195,114.90
2	108427	CHEVRON OIL COMPANY	10 Producing Well(Oil)	3,501,389.62	201,331.58
3	181205	STONE ENGERY COPORATION	10 Producing Well(Oil)	3,499,296.63	195,219.53
4	220388	STONE ENGERY COPORATION	10 Producing Well(Gas&Condensate)	3,494,582.60	193,265.50
5	223907	STONE ENGERY COPORATION	10 Producing Well(Gas&Condensate)	3,494,582.60	193,241.50
6	225555	BOLS d'ARC OFFSHORE LTD.	10 Producing Well(Gas&Condensate)	3,510,062.71	194,760.56
7	226041	STONE ENGERY COPORATION	10 Producing Well(Gas&Condensate)	3,505,185.66	199,084.58
8	227780	STONE ENGERY COPORATION	10 Producing Well(Gas&Condensate)	3,494,584.60	193,270.50
9	119836	CHEVRON OIL COMPANY	18 Temporarily Abandoned Wells	3,499,513.63	194,410.52
10	211690	UNKNOWN	22 Wells Reverted To Single Completion	3,499,346.63	193,699.52
11	33447	THE TEXAS COMPANY	29 P&A Dry Hole	3,494,371.55	210,271.63
12	50414	UNKNOWN	29 P&A Dry Hole	3,491,339.53	209,635.62
13	59666	HUNT OIL COMPANY	29 P&A Dry Hole	3,486,257.50	204,443.56
14	59894	SHELL OIL COMPANY	29 P&A Dry Hole	3,462,705.33	204,900.51
15	59895	UNION OIL COMPANY OF CALIFORNIA	29 P&A Dry Hole	3,473,405.41	205,646.54
16	65544	UNION OIL COMPANY OF CALIFORNIA	29 P&A Dry Hole	3,478,554.45	204,764.55
17	70052	UNION OIL COMPANY OF CALIFORNIA	29 P&A Dry Hole	3,483,749.48	207,156.58
18	73980	UNION OIL COMPANY OF CALIFORNIA	29 P&A Dry Hole	3,471,535.40	202,836.52
19	83291	THE CALIFORNIA COMPANY	29 P&A Dry Hole	3,480,955.47	204,013.55
20	87150	THE CALIFORNIA COMPANY	29 P&A Dry Hole	3,475,352.43	200,128.51
21	90303	THE CALIFORNIA COMPANY	29 P&A Dry Hole	3,480,796.48	198,085.50
22	95305	THE CALIFORNIA COMPANY	29 P&A Dry Hole	3,471,100.42	194,288.45
23	99254	THE CALIFORNIA COMPANY	29 P&A Dry Hole	3,464,407.36	196,981.46
24	101602	THE CALIFORNIA COMPANY	29 P&A Dry Hole	3,478,375.45	202,399.53
25	107068	CHEVRON OIL COMPANY	29 P&A Dry Hole	3,501,428.63	201,229.58
26	107779	UNKNOWN	29 P&A Dry Hole	3,498,608.60	201,423.57
27	109890	CHEVRON OIL COMPANY	29 P&A Dry Hole	3,500,137.63	197,032.55
28	111359	UNKNOWN	29 P&A Dry Hole	3,504,011.66	195,819.55
29	114664	CHEVRON OIL COMPANY	29 P&A Dry Hole	3,503,805.65	198,109.56
30	126980	CHEVRON OIL COMPANY	29 P&A Dry Hole	3,509,010.69	198,759.58
31	149055	TEXACO INC	29 P&A Dry Hole	3,488,776.51	210,857.62
32	153464	TEXACO INC	29 P&A Dry Hole	3,498,840.58	210,770.64
33	163973	CHEVRON OIL COMPANY	29 P&A Dry Hole	3,500,446.63	196,118.54
34	180081	LADD PETROLEUM CORPORATION	29 P&A Dry Hole	3,460,886.33	199,417.47
35	189641	DAC OIL CORPORATION	29 P&A Dry Hole	3,476,276.43	203,939.54
36	189932	PROGRESS PETROLEUM COMPANY	29 P&A Dry Hole	3,479,686.45	206,469.56
37	218280	NUEVO ENGERY	29 P&A Dry Hole	3,516,260.74	199,621.61
38	219503	LINDER OIL COMPANY	29 P&A Dry Hole	3,479,955.46	203,520.54
39	221645	STONE ENGERY COPORATION	29 P&A Dry Hole	3,504,164.66	197,183.56
40	222637	TRANSWORLD EXPOL. & PROD. INC.	29 P&A Dry Hole	3,461,347.33	197,401.45
41	226312	STONE ENGERY COPORATION	29 P&A Dry Hole	3,505,175.66	199,084.57
42	41947	THE TEXAS COMPANY	30 P&A Gas & Condensate Producer	3,496,953.57	211,123.64
43	55854	THE TEXAS COMPANY	30 P&A Producer	3,494,174.56	205,688.59
44	57617	THE TEXAS COMPANY	30 P&A Gas & Condensate Producer	3,494,462.55	211,108.64
45	64700	UNION OIL COMPANY OF CALIFORNIA	30 P&A Oil Producer	3,476,958.43	204,537.54
46	83502	THE CALIFORNIA COMPANY	30 P&A Oil Producer	3,471,271.41	198,361.48
47	84083	TEXACO INC	30 P&A Producer	3,494,321.56	207,762.61
48	88143	TEXACO INC	30 P&A Gas & Condensate Producer	3,500,638.60	209,326.64
49	88712	TEXACO INC	30 P&A Oil Producer	3,495,559.56	209,223.62
50	93091	TEXACO INC	30 P&A Producer	3,488,578.52	206,347.58
51	94712	TEXACO E & P INC.	30 P&A Producer	3,499,865.59	210,413.64
52	94936	TEXACO INC	30 P&A Producer	3,496,290.56	209,773.63
53	98124	TEXACO INC	30 P&A Oil Producer	3,499,605.58	211,102.65
54	108250	TEXACO INC	30 P&A Producer	3,486,703.49	210,336.61
55	151519	TEXACO INC	30 P&A Gas & Condensate Producer	3,489,101.51	210,023.61
56	158032	CHEVRON OIL COMPANY	30 P&A Producer	3,498,807.58	210,952.65
57	167267	THE CALIFORNIA COMPANY	30 P&A Gas & Condensate Producer	3,501,406.64	196,509.55
58	171293	LADD PETROLEUM CORPORATION	30 P&A Oil Producer	3,460,768.33	199,565.47
59	196355	PANTERRA EXPLORATION CO.	30 P&A Oil Producer	3,477,946.44	206,409.56
60	216239	STONE PETROLEUM CORP.	30 P&A Gas & Condensate Producer	3,477,304.46	194,733.47
61	110448	CHEVRON OIL COMPANY	33 Shut-in Productive Wells--Future Utility (Gas & Condensate)	3,500,137.63	197,032.55
62	111754	CHEVRON OIL COMPANY	33 Shut-in Productive Wells--Future Utility (Gas & Condensate)	3,504,394.66	195,930.55
63	112544	CHEVRON OIL COMPANY	33 Shut-in Productive Wells--Future Utility (Gas & Condensate)	3,503,286.66	194,214.53
64	160274	BURLINGTON RESOURCES	33 Shut-in Productive Wells--Future Utility (Gas & Condensate)	3,495,475.55	211,068.64
65	193000	CHEVRON OIL COMPANY	33 Shut-in Productive Wells--Future Utility (Gas & Condensate)	3,499,346.63	193,699.52
66	211554	STONE PETROLEUM CORP.	33 Shut-in Productive Wells--Future Utility (Gas & Condensate)	3,501,418.64	195,810.54
67	216118	TORCH OPERATING COMPANY	33 Shut-in Productive Wells--Future Utility (Gas & Condensate)	3,496,062.60	194,168.51

AS-BUILT

				LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NEW CUT DUNE/MARSH RESTORATION PROJECT		WELL LOCATION COORDINATES
					STATE PROJECT NUMBER: TE-37		
					FEDERAL PROJECT NUMBER: TE-37		DATE: FEBRUARY 2006
REV.	DATE	DESCRIPTION	BY		DRAWN BY: SHANE FAUST	DESIGNED BY:RICKEY BROUILLETTE, P.E	APPROVED BY: LUKE LE BAS, P.E.



AS-BUILT PRIZMOIDAL VOLUME CALCULATION
TOTAL NET CUT (PRIZMOIDAL VOL.)=729,517.64 C.Y.

TOTAL IMPACTED AREA: 159.5 ACRES

PRIMARY BORROW AREA COORDINATES		
POINT	X NAD 83 FT	Y NAD 83 FT
1	3,510,280.67	198,366.01
2	3,510,148.93	198,708.29
3	3,510,936.83	198,998.67
4	3,510,770.80	199,398.22
5	3,510,524.13	200,382.91
6	3,512,437.95	200,795.76
7	3,512,479.98	200,474.30
8	3,512,297.96	200,396.32
9	3,512,332.65	200,066.07
10	3,512,356.54	199,982.31
11	3,512,414.83	199,876.84
12	3,512,808.55	199,985.23
13	3,512,870.20	200,198.44
14	3,513,064.64	200,350.64
15	3,513,008.55	200,653.68
16	3,513,283.55	200,700.09
17	3,513,,221.44	200,915.69
18	3,515,499.62	201,358.90
19	3,516,095.89	199,309.02
20	3,516,081.97	198,017.16
21	3,516,177.86	197,667.45
22	3,516,651.66	196,821.94
23	3,515,681.49	196,731.69
24	3,515,495.36	197,515.16
25	3,515,281.02	198,304.83
26	3,515,303.58	199,157.15
27	3,514,581.93	199,018.82
28	3,513,761.07	198,353.26
29	3,513,306.82	197,285.32
30	3,512,876.18	197,323.09
31	3,512,837.98	197,523.94
32	3,512,692.15	197,525.50
33	3,512,174.94	196,915.77
34	3,512,180.36	196,780.36
35	3,510,777.33	196,700.84
36	3,510,546.11	196,415.72
37	3,510,450.66	196,009.79
38	3,509,966.34	196,283.53
39	3,509,499.34	197,472.32

SECONDARY BORROW AREA COORDINATES		
POINT	X NAD 83 FT.	Y NAD 83 FT.
50	3,511,311.79	198,636.52
51	3,511,513.86	198,354.17
52	3,511,624.63	197,894.01
53	3,510,957.43	197,985.62
54	3,510,908.36	198,441.07

LEGEND

-
- UNIDENTIFIED MAGNETIC ANOMALY WITH
REFERENCE NUMBER (3/23/05-3/25/05)
-
- MAGNETIC ANOMALY AREA OF AVOIDANCE
(100' BUFFER)
-
- NCVC-05-03
VIBROCORE
-
- VERTICE OF PRIMARY/SECONDARY BORROW
AREA BOUNDARIES
-
- CONTOURS OF ELEVATION OF GULF FLOOR

AS-BUILT

- NOTES:
- SEE SHEET 9 OF 21 FOR THE COORDINATES OF THE MAGNETOMETER HITS.
 - SEE SHEET 7 OF 21 FOR THE WELL LISTING.
 - THE CUTTER HEAD SHALL BE CARRIED AT -20.0' NAVD 88 IN THE PRIMARY BORROW AREA.
 - THE CUTTER HEAD SHALL BE CARRIED AT -18.0' NAVD 88 IN THE SECONDARY BORROW AREA.
 - ALL COORDINATES SHOWN REFERENCE THE NORTH AMERICAN DATUM OF 1983 (NAD 83) LOUISIANA SOUTH ZONE U. S. SURVEY FEET.
 - THE PRIMARY BORROW AREA CONTAINS APPROXIMATELY 4,297,810 CU. YDS OF MATERIAL.
 - THE SECONDARY BORROW AREA CONTAINS APPROXIMATELY 51,217 CU. YDS. OF MATERIAL.
 - RESULTS OF BORROW AREA SURVEY AND GEOPHYSICAL INVESTIGATIONS ARE FROM THE AUGUST 2005 CPE REPORT BY FINKL, BENEDET AND CAMPBELL FOR TE-37.
 - ALL MARINE VESSELS SHALL FOLLOW THE INLAND NAVIGATIONAL RULES AND AIDS TO NAVIGATION RULES WHICH ARE CONTAINED IN THE FOLLOWING FEDERAL LAWS OR REGULATION: INTERNATIONAL RULES ACT OF 1977 (PUBLIC LAW 95-75, 91 STAT. 308, U.S.C. 1601-1608), AND THE INLAND NAVIGATIONAL RULES ACT OF 1980 (PUBLIC LAW 96-591, 94 STAT. 3415, 33 U.S.C. 2001-2038).
 - CONTRACTOR SHALL BE RESPONSIBLE FOR PERMITTING, DESIGN, CONSTRUCTION AND MAINTENANCE OF ALL TEMPORARY SIGNS AND LIGHTING FOR THE PROJECT TO MEET THE REQUIREMENT OF NOTE 9 ON THIS SHEET.



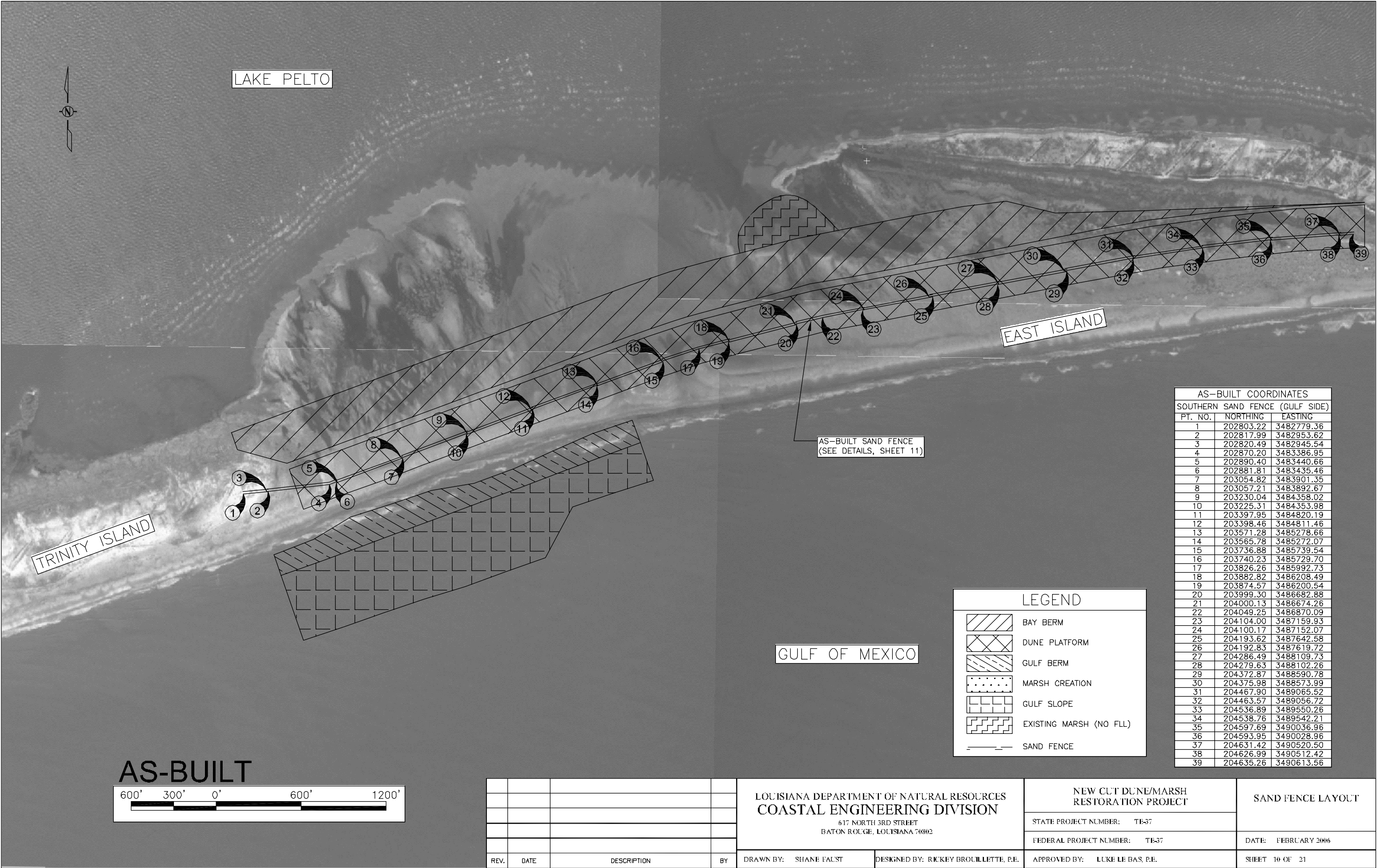
				LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NEW CUT DUNE/MARSH RESTORATION PROJECT		BORROW AREA LAYOUT
					STATE PROJECT NUMBER: TE-37		
					FEDERAL PROJECT NUMBER: TE-37		DATE: FEBRUARY 2006
REV.	DATE	DESCRIPTION	BY		DRAWN BY: SHANE FAUST	DESIGNED BY:RICKEY BROUILLETTE, P.E	APPROVED BY: LUKE LE BAS, P.E.

New Cut Borrow Area Unidentified Magnetic Anomaly Table						
Ref Number	Amplitude	Signature Type	Signature Duration	Description	X Coordinate	Y Coordinate
1	8	Monopolar	62	Single Object/Debris	3515469.6	202674.6
2	20	Dipolar	98	Potentially Significant	3513749.8	201412.8
3	33	Dipolar	76	Potentially Significant	3513800	201432.9
4	7	Monopolar	113	Single Object/Debris	3516058.4	201165.3
5	8	Monopolar	34	Single Object/Debris	3514466.7	200770.4
6	13	Monopolar	62	Single Object/Debris	3515084.4	200106.4
7	3	Complex	199	Potentially Significant	3513378.9	199675.8
8	19	Monopolar	71	Single Object/Debris	3513614.3	199407
9	11	Monopolar	36	Single Object/Debris	3512731	200136.4
10	17	Dipolar	61	Single Object/Debris	3512835	199837.9
11	71	Dipolar	197	Potentially Significant	3513248.8	198372.7
12	22	Dipolar	81	Single Object/Debris	3514983	198831.8
13	5	Dipolar	47	Single Object/Debris	3516628.6	199102.2
14	16	Complex	213	Potentially Significant	3516520.4	198206
15	10	Partial Signature	42	Potentially Significant	3516635.1	198117.7
16	6	Monopolar	119	Potentially Significant	3516509.8	198044.7
17	14	Monopolar	120	Single Object/Debris	3516790.4	197813.6
18	54	Dipolar	187	Potentially Significant	3514896.1	197919.9
19	11	Dipolar	86	Single Object/Debris	3514571.8	197842.7
20	42	Complex	153	Potentially Significant	3514795.9	197655.1
21	95	Dipolar	141	Potentially Significant	3514898.6	197696
22	49	Dipolar	101	Potentially Significant	3515472.4	197159.7
23	8	Monopolar	82	Single Object/Debris	3514987.2	196998.7
24	8	Monopolar	53	Single Object/Debris	3515525.9	196756.6
25	10	Dipolar	86	Single Object/Debris	3515706	195600.8
26	6	Monopolar	45	Single Object/Debris	3514636.4	195771.7
27	6	Monopolar	59	Single Object/Debris	3514415	196325.5
28	43	Complex	175	Potentially Significant	3514381	196150.8
29	76	Monopolar	221	Potentially Significant	3514360.9	195946.9
30	129	Dipolar	390	Potentially Significant	3514265.5	195947.7
31	53	Monopolar	318	Potentially Significant	3514181.6	195790.3
32	185	Dipolar	290	Potentially Significant	3514087.7	196112.5
33	44	Dipolar	514	Potentially Significant	3514039.1	196061.8
34	7	Monopolar	59	Single Object/Debris	3513765.3	197016.6
35	5	Monopolar	58	Single Object/Debris	3513147.6	196932.3
36	5	Monopolar	47	Single Object/Debris	3513103	197084.3
37	5	Monopolar	66	Single Object/Debris	3513069.3	197198.7
38	6	Monopolar	107	Single Object/Debris	3512945.1	196352.3
39	7	Monopolar	69	Single Object/Debris	3511093.1	195802
40	5	Monopolar	95	Potentially Significant	3510613.2	195804.5

New Cut Borrow Area Unidentified Magnetic Anomaly Table						
Ref Number	Amplitude	Signature Type	Signature Duration	Description	X Coordinate	Y Coordinate
41	102	Dipolar	171	Potentially Significant	3510571.5	195747.9
42	62	Monopolar	183	Potentially Significant	3510504.2	195760
43	22	Monopolar	81	Single Object/Debris	3510280.2	195501.4
44	5	Monopolar	84	Single Object/Debris	3510474	195562.9
45	8	Monopolar	86	Single Object/Debris	3509507.1	159521.1
46	20	Monopolar	61	Single Object/Debris	3510860.4	197062.5
47	6	Monopolar	109	Potentially Significant	3509425.6	197377.5
48	84	Monopolar	178	Potentially Significant	3509390.2	197364
49	62	Dipolar	240	Potentially Significant	3509190.4	197531.9
50	8	Monopolar	59	Single Object/Debris	3509401	198633.2
51	1,237	Dipolar	353	Debris/Well Head	3509040.2	198819.4
52	94	Dipolar	603	Debris/Well Head	3509110.4	199138.4
53	7	Monopolar	75	Single Object/Debris	3508961.9	199667.9
54	25	Monopolar	77	Single Object/Debris	3511284.5	199195.7
55	9	Dipolar	52	Single Object/Debris	3511516.1	202045.3
56	12	Monopolar	83	Single Object/Debris	3511035.2	201396.6
57	5	Monopolar	48	Single Object/Debris	3510962.1	201619
58	19	Dipolar	94	Single Object/Debris	3508799.3	201468.7
59	9	Dipolar	52	Single Object/Debris	3508218.1	201020.2
60	101	Monopolar	123	Out of Area	3506922.5	201493.9
61	1,650	Dipolar	199	Out of Area	3506829.4	201358.2

AS-BUILT

				LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802		NEW CUT DUNE/MARSH RESTORATION PROJECT		MAGNETIC ANOMALY TABLE	
						STATE PROJECT NUMBER: TE-37			
						FEDERAL PROJECT NUMBER: N/A		DATE: FEBRUARY 2006	
REV.	DATE	DESCRIPTION	BY			DRAWN BY: SHANE FAUST	DESIGNED BY:RICKEY BROUILLETTE, P.E.	APPROVED BY: LUKE LE BAS, P.E.	



LAKE PELTO

TRINITY ISLAND

EAST ISLAND

AS-BUILT SAND FENCE
(SEE DETAILS, SHEET 11)

GULF OF MEXICO

AS-BUILT COORDINATES		
SOUTHERN SAND FENCE (GULF SIDE)		
PT. NO.	NORTHING	EASTING
1	202803.22	3482779.36
2	202817.99	3482953.62
3	202820.49	3482945.54
4	202870.20	3483386.95
5	202890.40	3483440.66
6	202881.81	3483435.46
7	203054.82	3483901.35
8	203057.21	3483892.67
9	203230.04	3484358.02
10	203225.31	3484353.98
11	203397.95	3484820.19
12	203398.46	3484811.46
13	203571.28	3485278.66
14	203565.78	3485272.07
15	203736.88	3485739.54
16	203740.23	3485729.70
17	203826.26	3485992.73
18	203882.82	3486208.49
19	203874.57	3486200.54
20	203999.30	3486682.88
21	204000.13	3486674.26
22	204049.25	3486870.09
23	204104.00	3487159.93
24	204100.17	3487152.07
25	204193.62	3487642.58
26	204192.83	3487619.72
27	204286.49	3488109.73
28	204279.63	3488102.26
29	204372.87	3488590.78
30	204375.98	3488573.99
31	204467.90	3489065.52
32	204463.57	3489056.72
33	204536.89	3489550.26
34	204538.76	3489542.21
35	204597.69	3490036.96
36	204593.95	3490028.96
37	204631.42	3490520.50
38	204626.99	3490512.42
39	204635.26	3490613.56

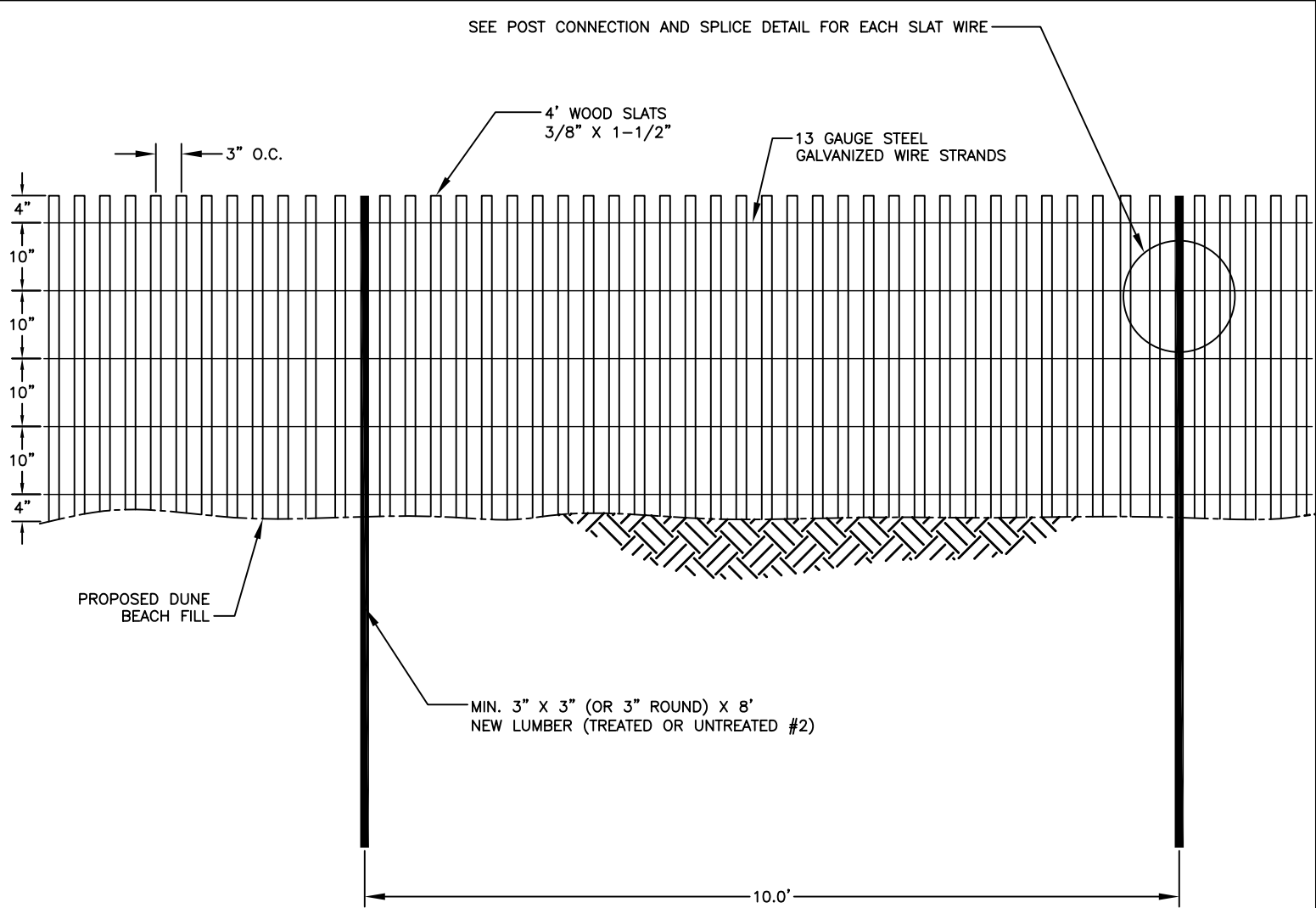
LEGEND

- BAY BERM
- DUNE PLATFORM
- GULF BERM
- MARSH CREATION
- GULF SLOPE
- EXISTING MARSH (NO FLL)
- SAND FENCE

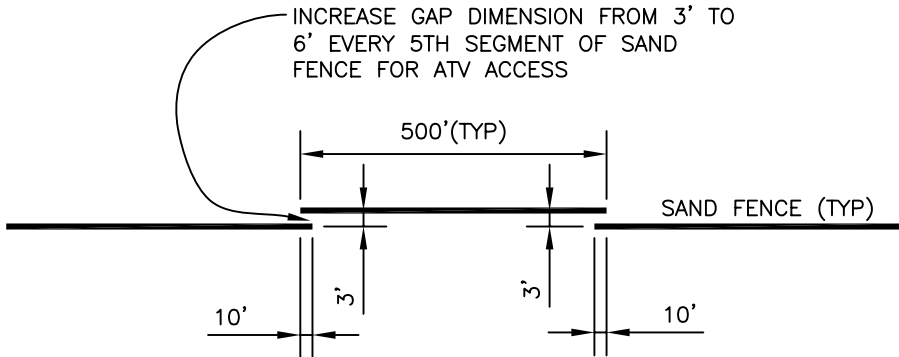
AS-BUILT



				LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NEW CUT DUNE/MARSH RESTORATION PROJECT		SAND FENCE LAYOUT
					STATE PROJECT NUMBER: TE-37		
					FEDERAL PROJECT NUMBER: TE-37		DATE: FEBRUARY 2006
REV.	DATE	DESCRIPTION	BY		DRAWN BY: SHANE FAUST	DESIGNED BY: RICKEY BROUILLETTE, P.E.	APPROVED BY: LUKE LE BAS, P.E.

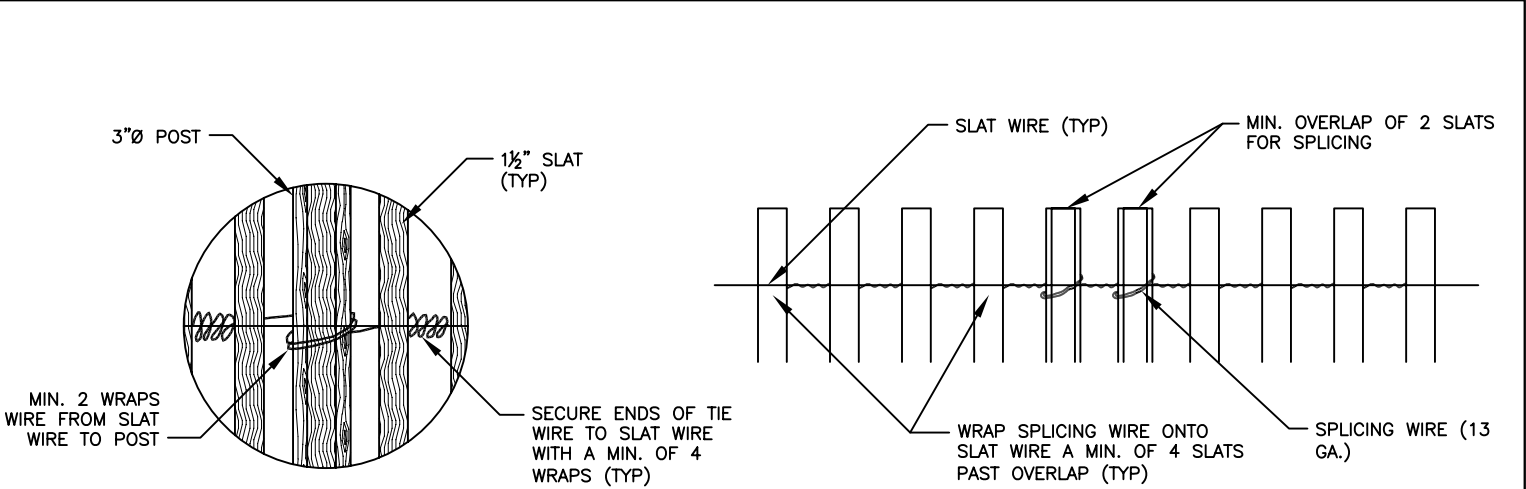


FENCING DIMENSIONS
2' 1' 0' 2' 4'



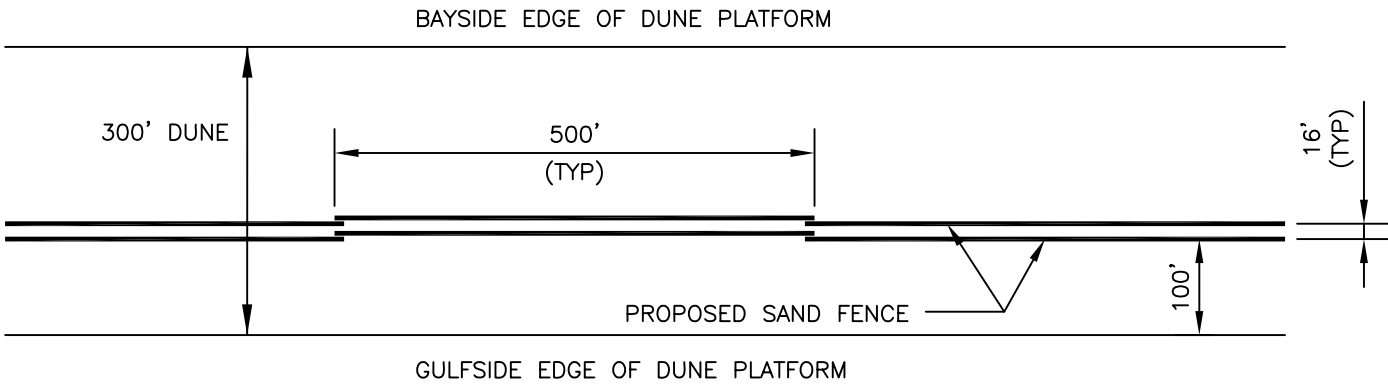
GAPPING DIMENSIONS
N.T.S.

AS-BUILT



POST CONNECTION
N.T.S.

SPLICE DETAIL
N.T.S.

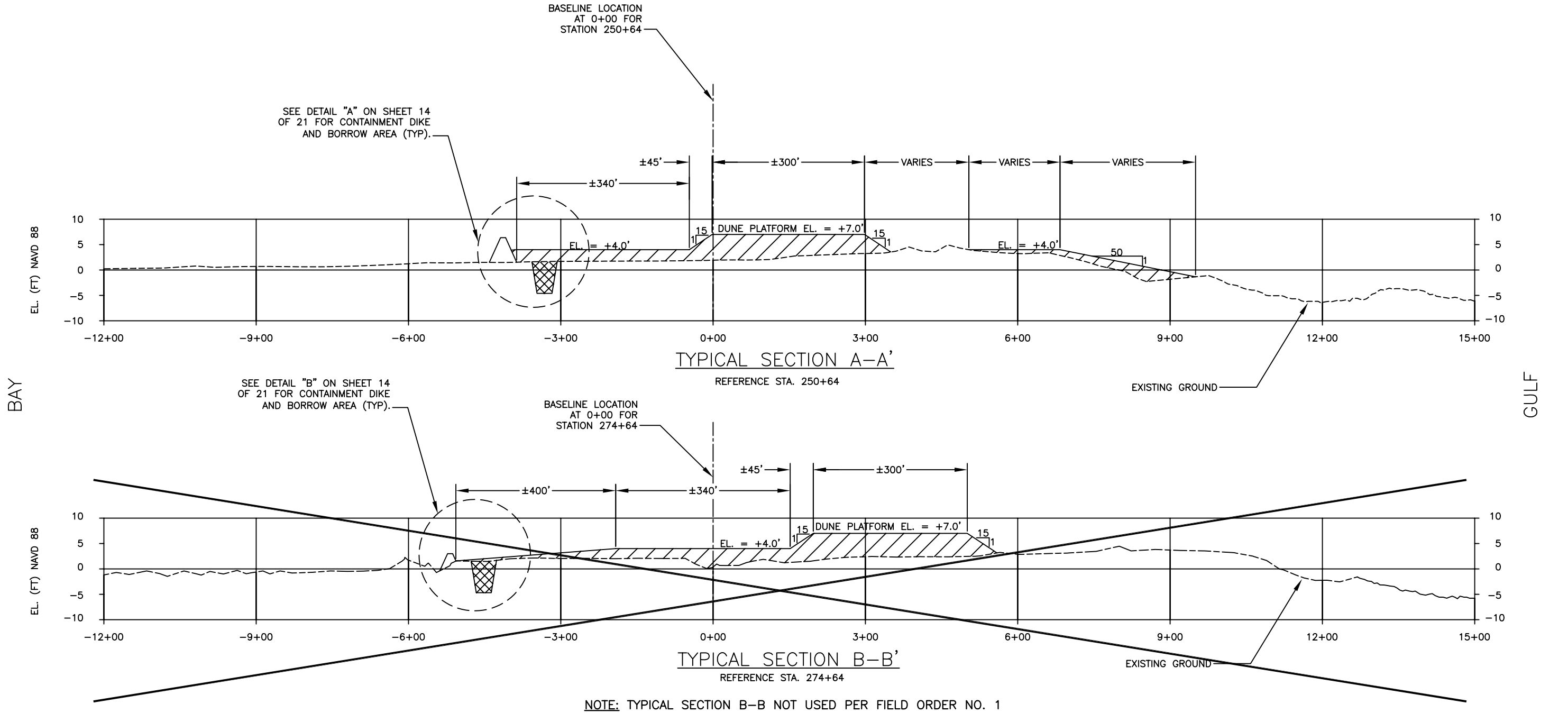


SAND FENCE LAYOUT

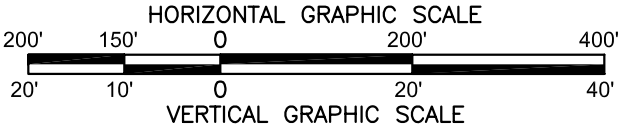


- NOTES:
1. ACTUAL PLACEMENT OF SAND FENCING MAY BE ADJUSTED BY THE ENGINEER TO ACCOMODATE THE EXISTING CONDITIONS UPON INITIATING CONSTRUCTION OF THE FENCE.
 2. THE DISTANCE FROM THE SAND FENCE TO THE EDGE OF DUNE PLATFORM ON THE GULF SIDE IS 100'.

				LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802		NEW CUT DUNE/MARSH RESTORATION PROJECT		SAND FENCE DETAILS
						STATE PROJECT NUMBER: T3-37		
						FEDERAL PROJECT NUMBER: TE-37		
1	3/28/07	FIELD CHANGE NO. 2	SJT					DATE: FEBRUARY 2006
REV.	DATE	DESCRIPTION	BY	DRAWN BY: SHANE FAUST	DESIGNED BY: RICKY BROUILLETTE, P.E.	APPROVED BY: LUKE LE BAS, P.E.		SHEET 11 OF 21



AS-BUILT



LEGEND	
	FILL
	CONTAINMENT BORROW SOURCE
	EXISTING GROUND
	DESIGN TEMPLATE

NOTE:
TYPICAL SECTIONS A-A' AND B-B' ARE BASED ON REFERENCE SURVEYS IN M.P. HEBERT
SURVEY REPORT DATED AUGUST 2005. ACTUAL CONDITIONS MAY VARY.

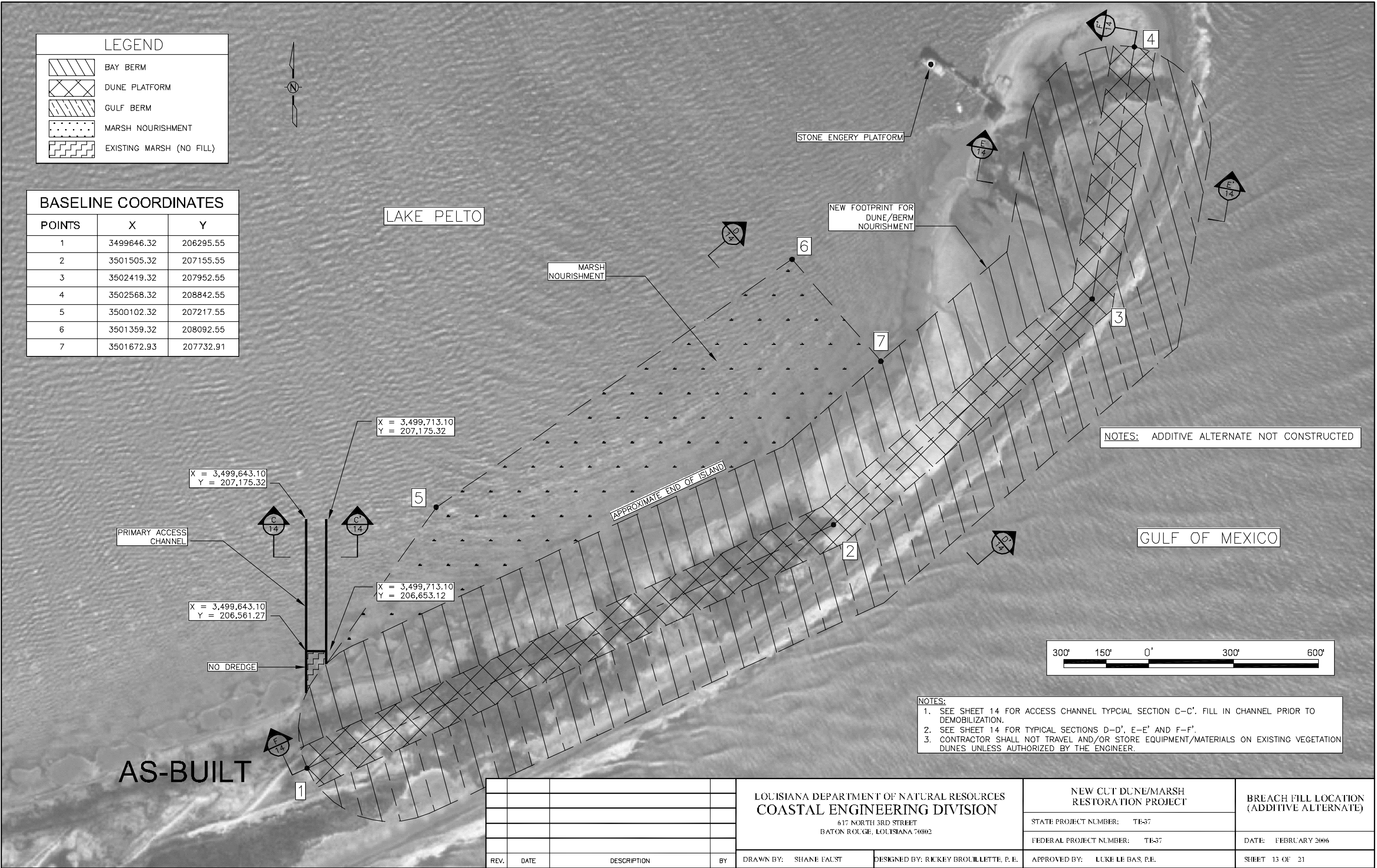
				LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802		NEW CUT DUNE/MARSH RESTORATION PROJECT		TYPICAL CROSS SECTIONS
						STATE PROJECT NUMBER: TE-37		
						FEDERAL PROJECT NUMBER: TE-37		DATE: FEBRUARY 2006
REV.	DATE	DESCRIPTION	BY			DRAWN BY: SHANE FAUST	DESIGNED BY:RICKEY BROUILLETTE, P. E	APPROVED BY: LUKE LE BAS, P.E.

LEGEND

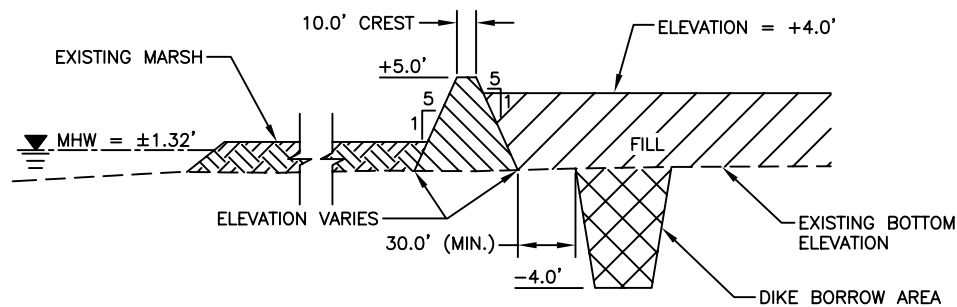
BAY BERM

DUNE PLATFORM

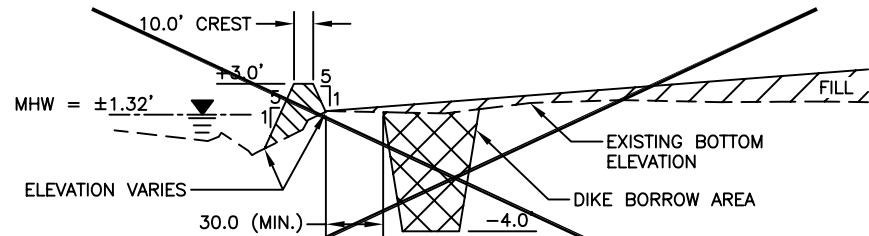
BASELINE COORDINATES		
POINTS	X	Y
1	3499646.32	206295.55
2	3501505.32	207155.55
3	3502419.32	207952.55
4	3502568.32	208842.55
5	3500102.32	207217.55
6	3501359.32	208092.55
7	3501672.93	207732.91



				LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802		NEW CUT DUNE/MARSH RESTORATION PROJECT	BREACH FILL LOCATION (ADDITIVE ALTERNATE)
				DRAWN BY: SHANE FAUST		DESIGNED BY: RICKEY BROUILLETTE, P.E.	STATE PROJECT NUMBER: TE-37
							FEDERAL PROJECT NUMBER: TE-37
							DATE: FEBRUARY 2006
REV.	DATE	DESCRIPTION	BY			APPROVED BY: LUKE LE BAS, P.E.	SHEET 13 OF 21

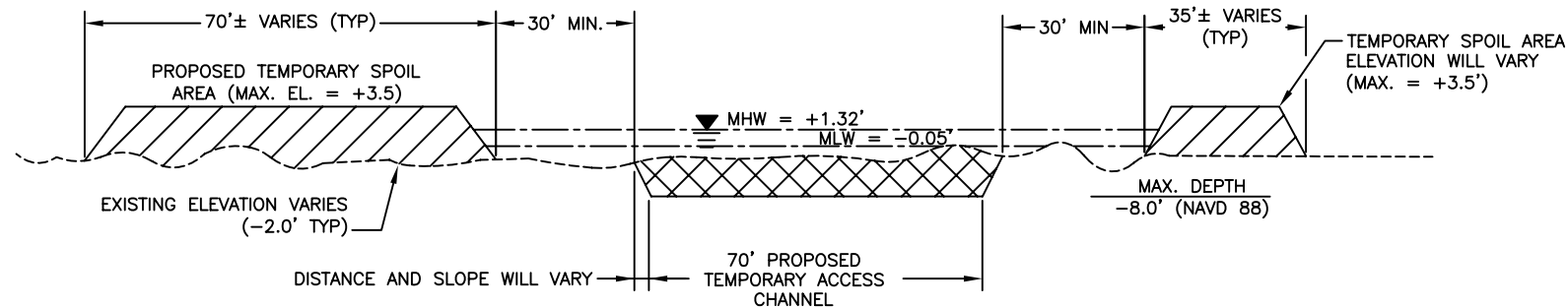


DETAIL "A"
NEW CUT-LAKE PELTO SIDE
CONTAINMENT DIKE-NO MARSH AREA
HORIZONTAL SCALE: 1" = 100'
VERTICAL SCALE: 1" = 10'
(SEE SHEET 12)

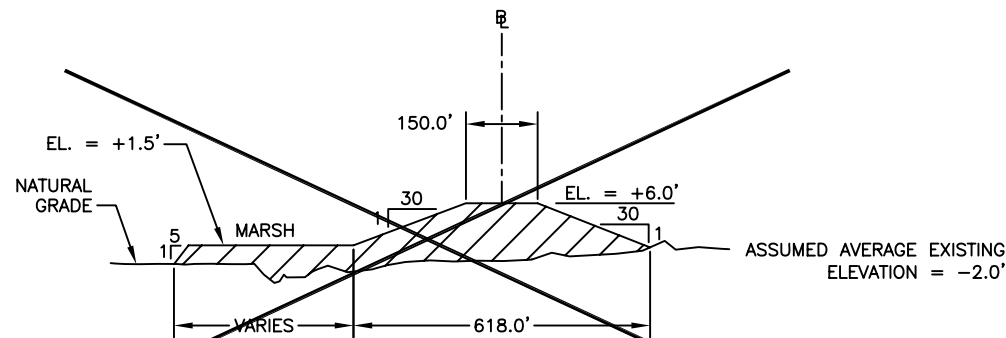


DETAIL "B"
NEW CUT-LAKE PELTO SIDE
CONTAINMENT DIKE-MARSH FILL AREA
HORIZONTAL SCALE: 1" = 100'
VERTICAL SCALE: 1" = 10'
(SEE SHEET 12)

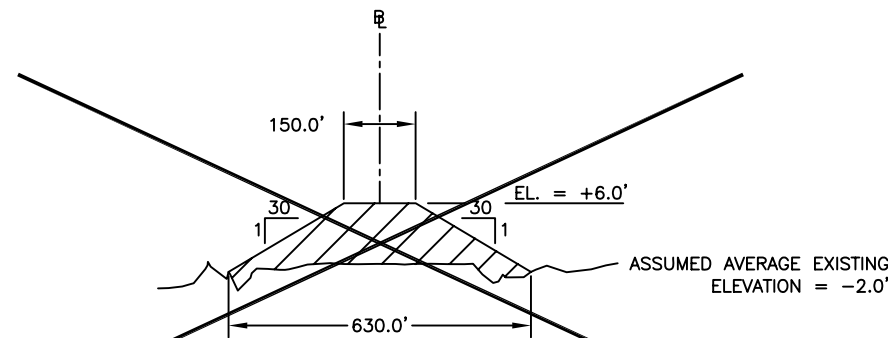
NOTE: DETAIL "B" NOT USED PER FIELD ORDER NO. 1



CROSS SECTION C-C'
PRIMARY ACCESS CHANNEL LOOKING SOUTH
HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 20'
(SEE SHEETS 4 AND 13)

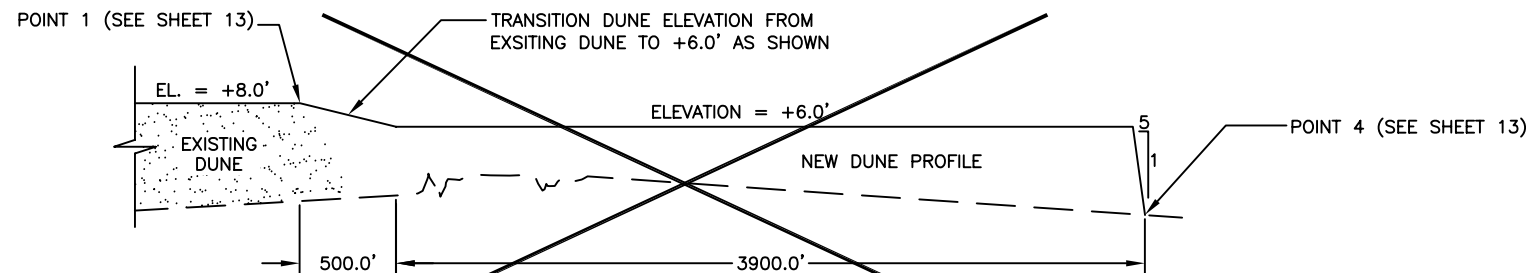


CROSS SECTION D-D'
HORIZONTAL SCALE: 1" = 400'
VERTICAL SCALE: 1" = 20'
(SEE SHEET 13)



CROSS SECTION E-E'
HORIZONTAL SCALE: 1" = 400'
VERTICAL SCALE: 1" = 20'
(SEE SHEET 13)

NOTE: ADDITIVE ALTERNATE NOT CONSTRUCTED



CROSS SECTION F-F'
HORIZONTAL SCALE: 1" = 100'
VERTICAL SCALE: 1" = 20'
(SEE SHEET 13)

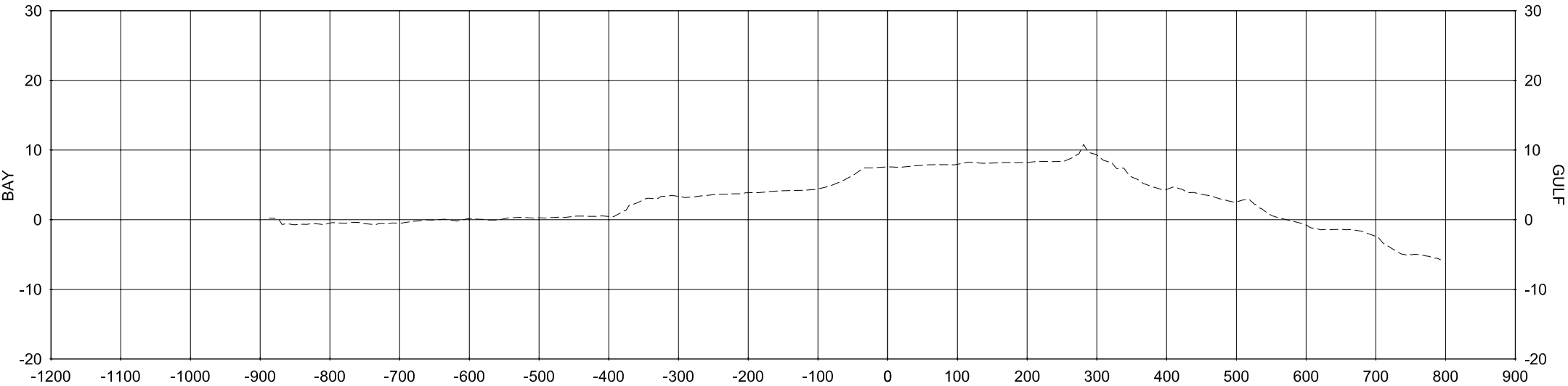
NOTE: ADDITIVE ALTERNATE NOT CONSTRUCTED

AS-BUILT

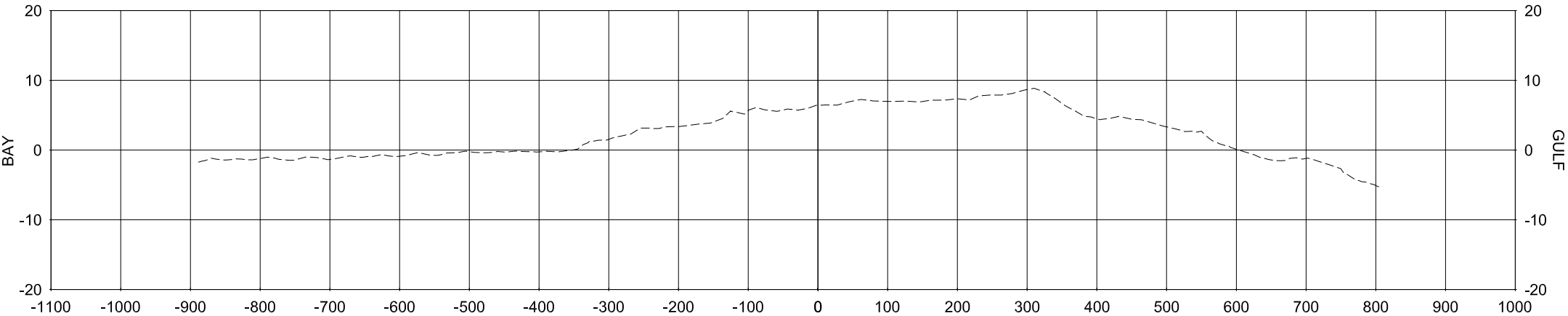
NOTES:

1. CONTAINMENT DIKE TO BE DEGRADED TO MATCH MARSH ELEVATION AND BAY BERM ELEVATION PRIOR TO DEMOBILIZATION.
2. THE CONTAINMENT DIKE SHALL SPREAD OVER THE MARSH FILL OR BAT BERM SUCH THAT THE MAXIMUM THICKNESS OF DEGRADED DIKE MATERIAL SHALL NOT EXCEED 6".

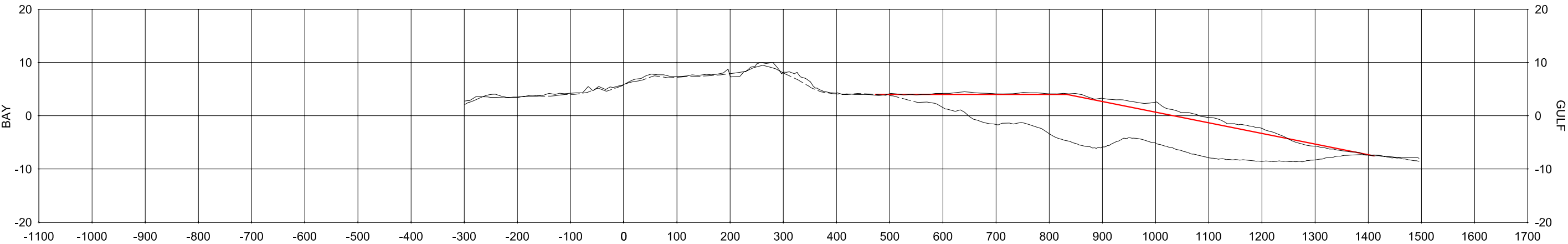
				LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802		NEW CUT DUNE/MARSH RESTORATION PROJECT		DETAILS	
						STATE PROJECT NUMBER: TE-37			
						FEDERAL PROJECT NUMBER: TE-37			DATE: FEBRUARY 2006
REV.	DATE	DESCRIPTION	BY	DRAWN BY: SHANE FAUST	DESIGNED BY:RICKEY BROUILLETTE, P.E	APPROVED BY: LUKE LE BAS, P.E.		SHEET 14 OF 21	



214+63
LOOKING EAST

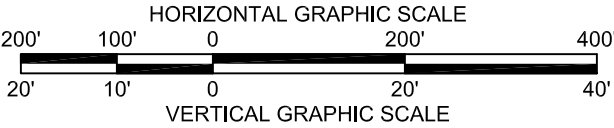


220+63
LOOKING EAST



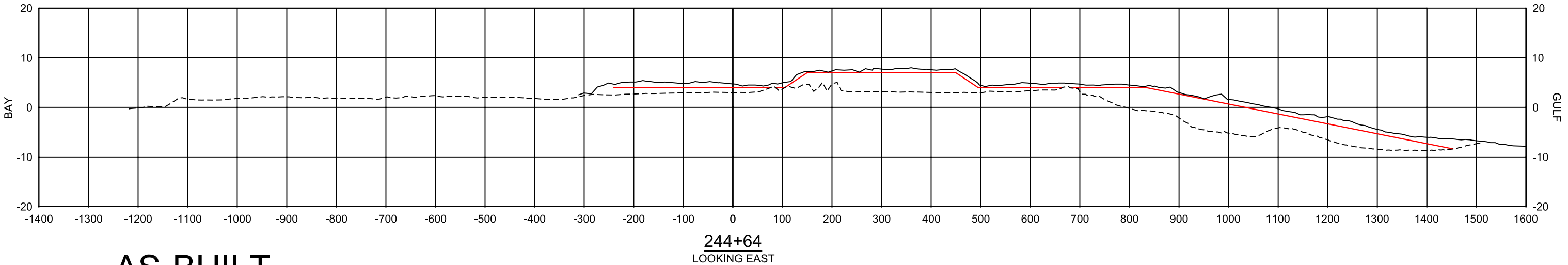
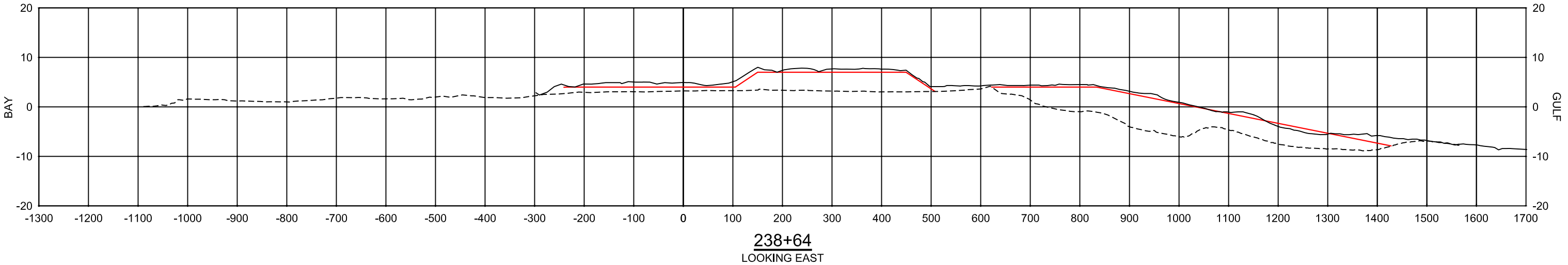
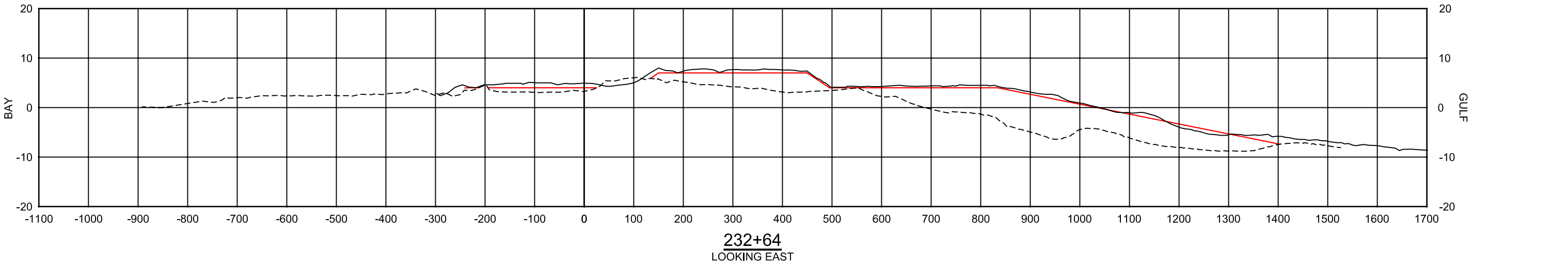
226+64
LOOKING EAST

AS-BUILT

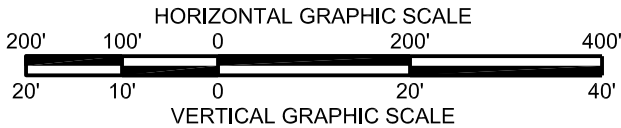


LEGEND	
---	EXISTING GROUND
—	AS-BUILT DUNE
—	PROPOSED TEMPLATE

1	2/1/07	REVISED EXISTING GROUND	KC	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NEW CUT DUNE/MARSH RESTORATION PROJECT		AS-BUILT CROSS SECTIONS
REV.	DATE	DESCRIPTION	BY	DRAWN BY: KRISTI CANTU	DESIGNED BY: BEAU TATE, P.E.	APPROVED BY: LUKE LEBAS, P.E.	SHEET 15 OF 21

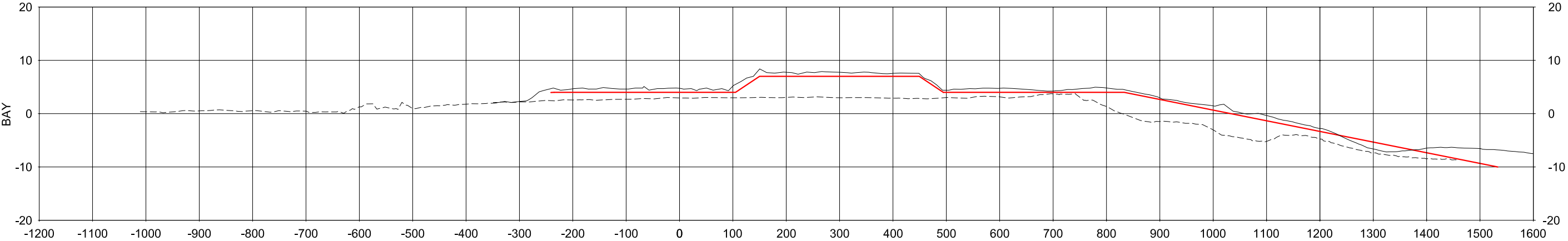


AS-BUILT

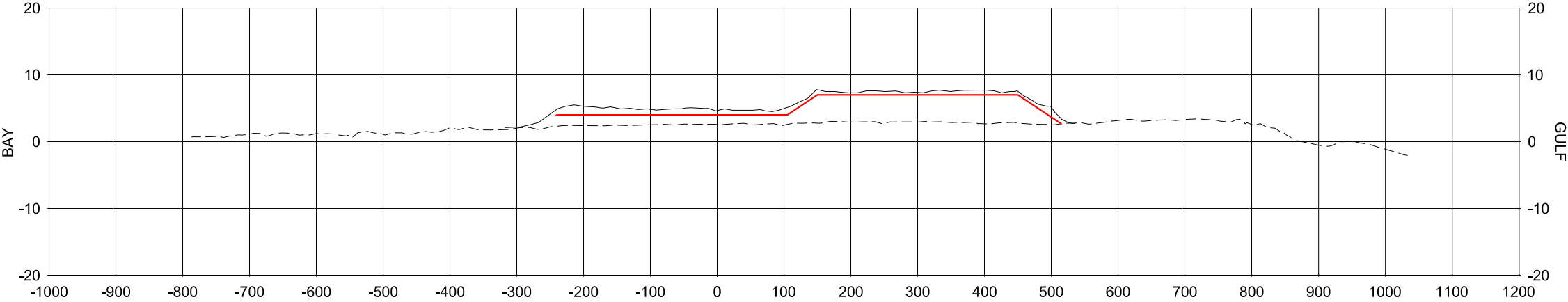


LEGEND	
---	EXISTING GROUND
—	AS-BUILT DUNE
—	PROPOSED TEMPLATE

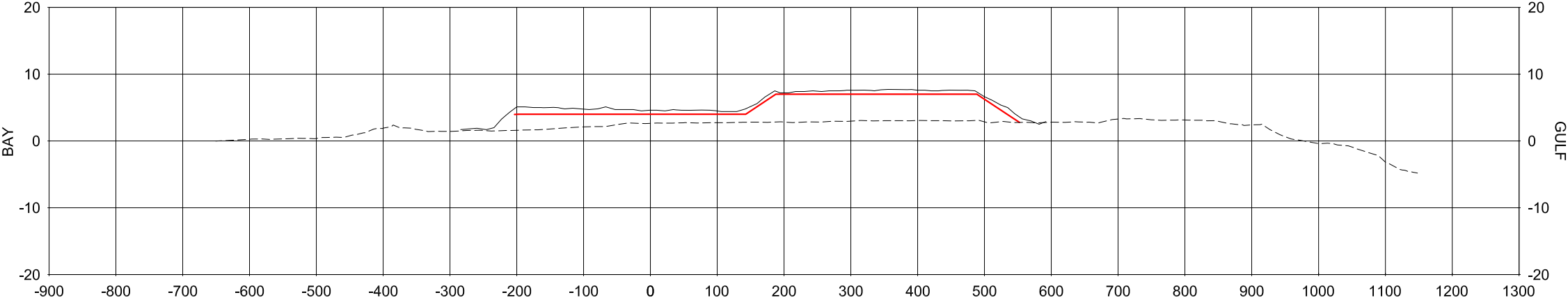
1	2/1/07	REVISED EXISTING GROUND	KC	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NEW CUT DUNE/MARSH RESTORATION PROJECT		AS-BUILT CROSS SECTIONS
REV.	DATE	DESCRIPTION	BY	DRAWN BY: KRISTI CANTU	DESIGNED BY: BEAU TATE, P.E.	APPROVED BY: LUKE LEBAS, P.E.	SHEET 16 OF 21



250+64
LOOKING EAST

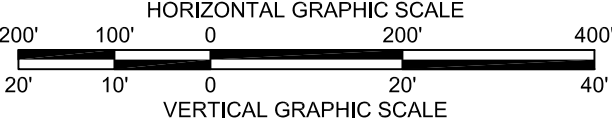


256+64
LOOKING EAST



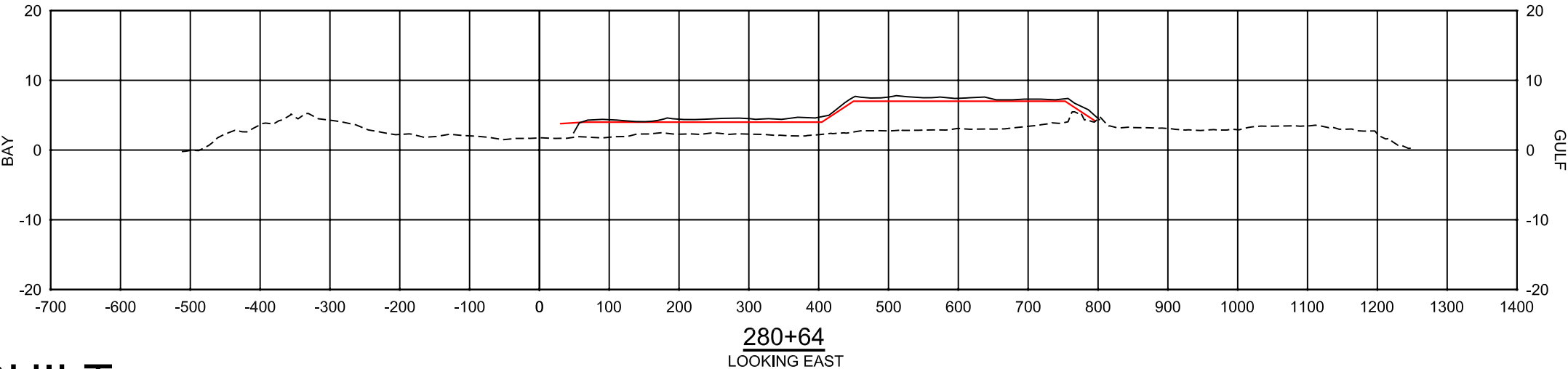
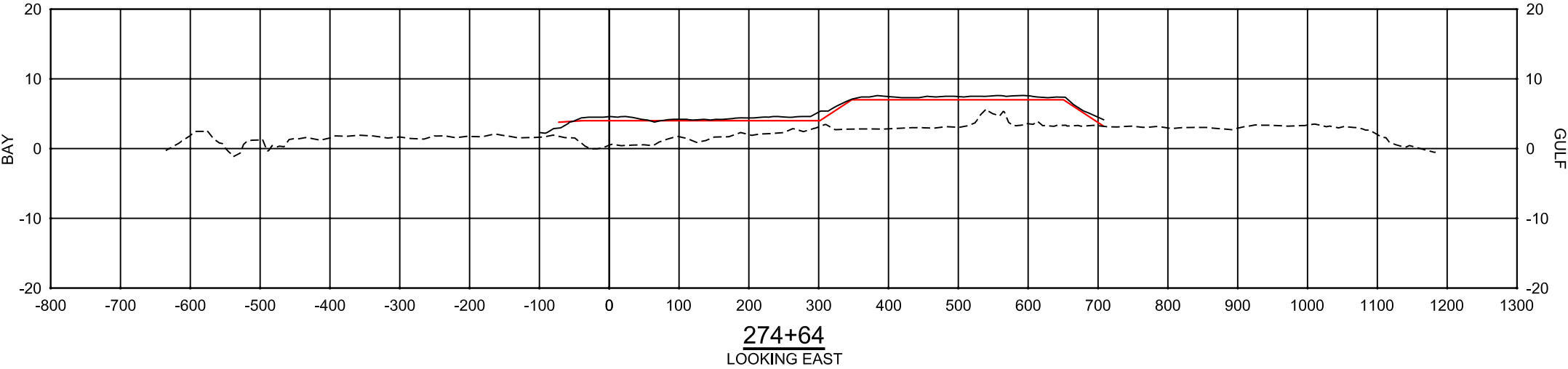
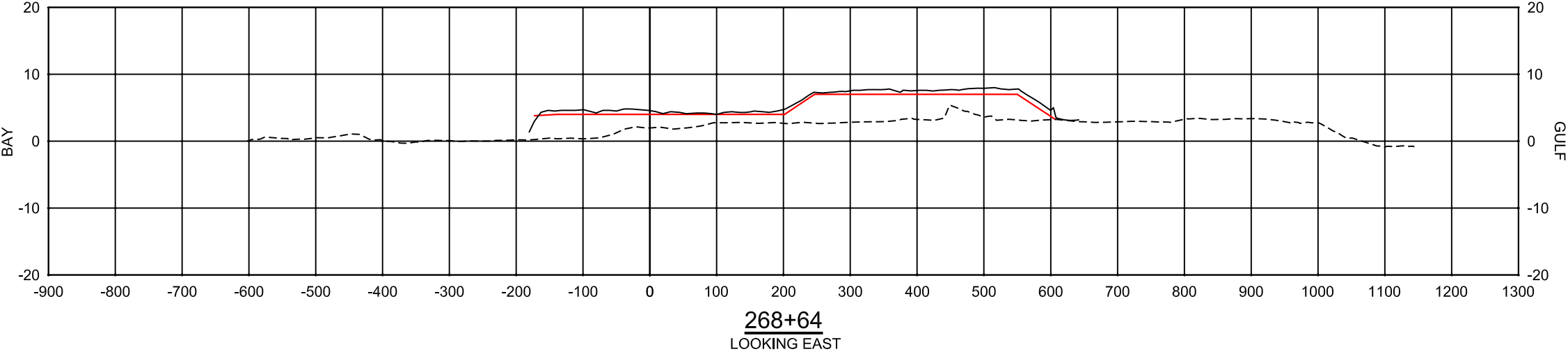
262+64
LOOKING EAST

AS-BUILT

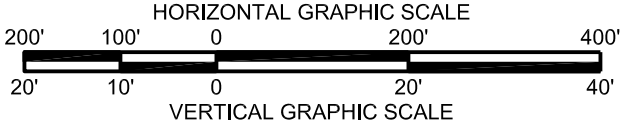


LEGEND	
---	EXISTING GROUND
---	AS-BUILT DUNE
---	PROPOSED TEMPLATE

1	2/1/07	REVISED EXISTING GROUND	KC	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NEW CUT DUNE/MARSH RESTORATION PROJECT		AS-BUILT CROSS SECTIONS
REV.	DATE	DESCRIPTION	BY	DRAWN BY: KRISTI CANTU	DESIGNED BY: BEAU TATE, P.E.	APPROVED BY: LUKE LEBAS, P.E.	SHEET 17 OF 21

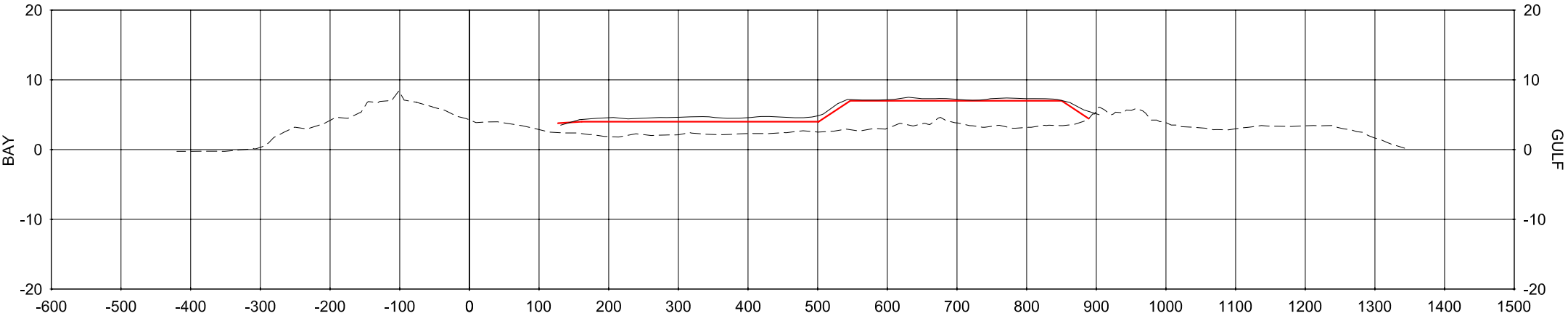


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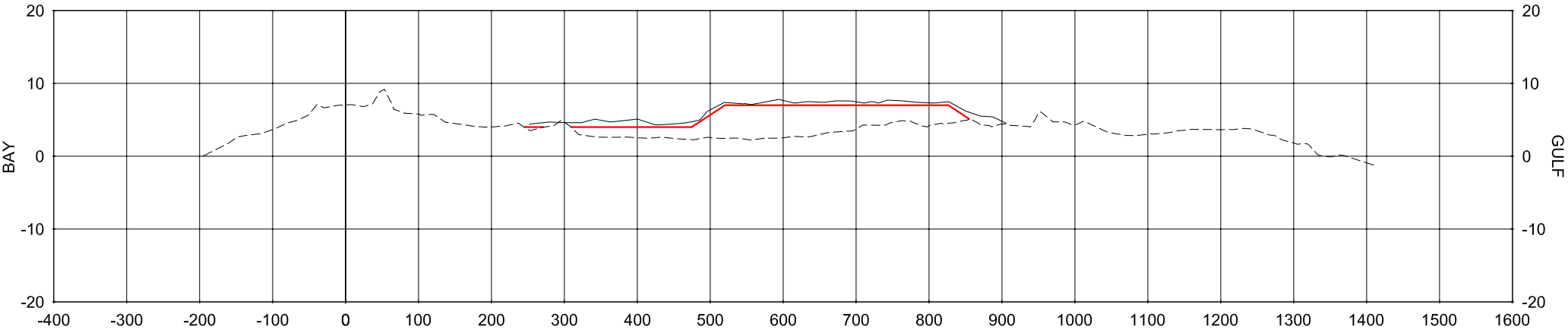


LEGEND	
---	EXISTING GROUND
—	AS-BUILT DUNE
—	PROPOSED TEMPLATE

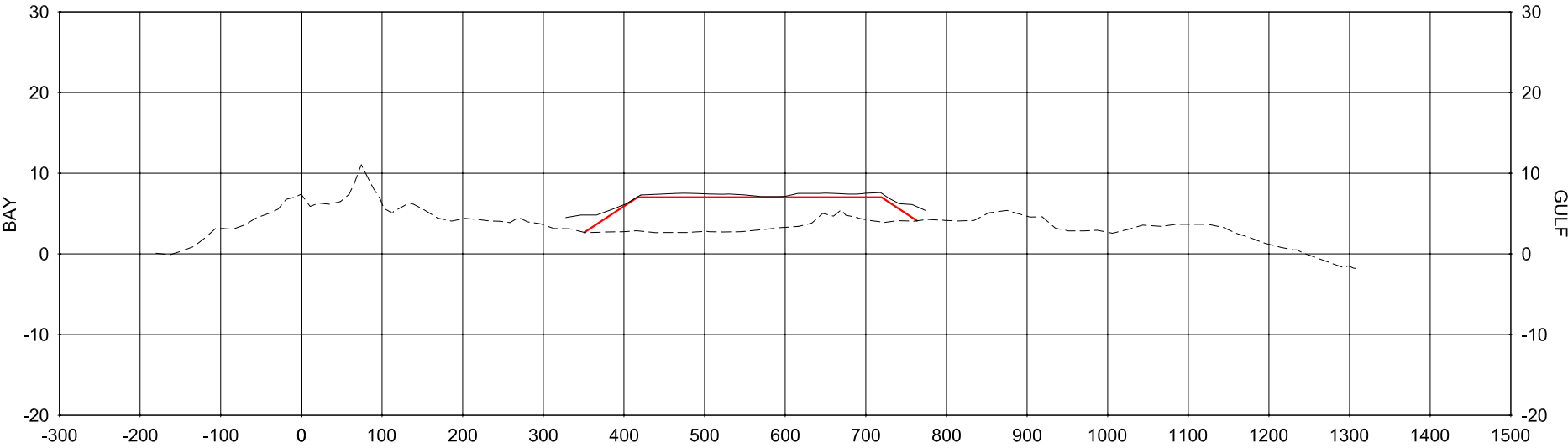
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REV.	DATE	DESCRIPTION	BY	DRAWN BY: KRISTI CANTU	DESIGNED BY: BEAU TATE, P.E.	APPROVED BY: LUKE LEBAS, P.E.	SHEET 18 OF 21



286+64
LOOKING EAST

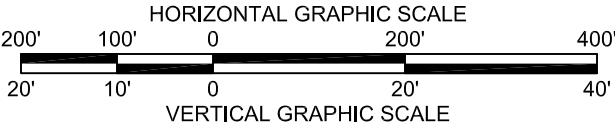


292+76
LOOKING EAST



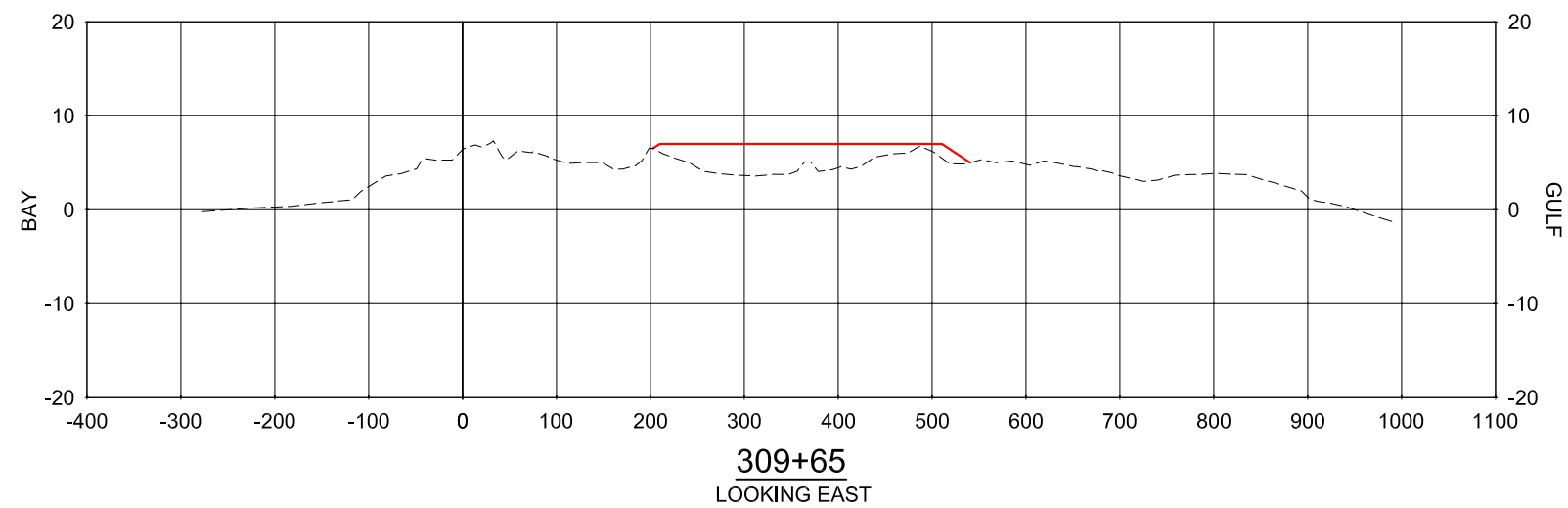
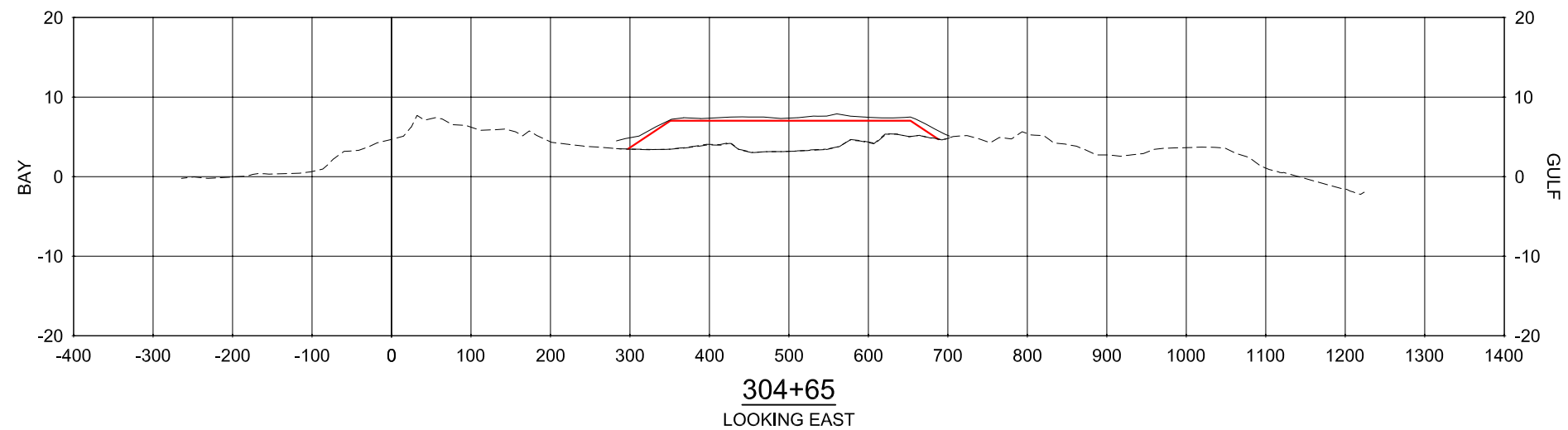
299+65
LOOKING EAST

AS-BUILT

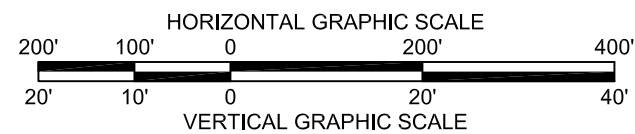


LEGEND	
---	EXISTING GROUND
---	AS-BUILT DUNE
---	PROPOSED TEMPLATE

1	2/1/07	REVISED EXISTING GROUND	KC	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NEW CUT DUNE/MARSH RESTORATION PROJECT		AS-BUILT CROSS SECTIONS
REV.	DATE	DESCRIPTION	BY	DRAWN BY: KRISTI CANTU	DESIGNED BY: BEAU TATE, P.E.	APPROVED BY: LUKE LEBAS, P.E.	SHEET 19 OF 21

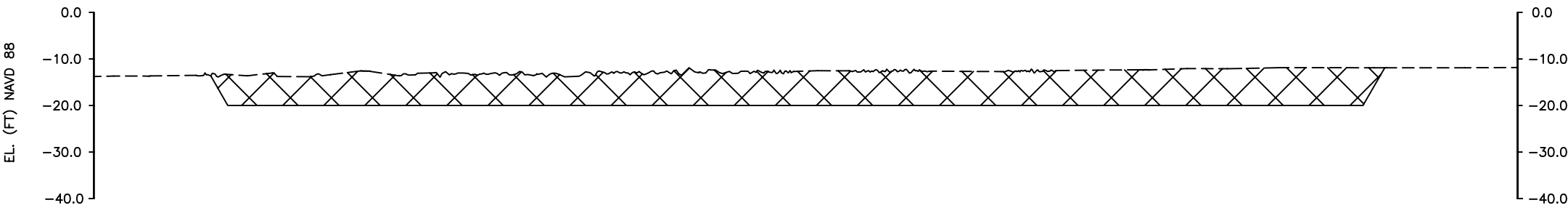


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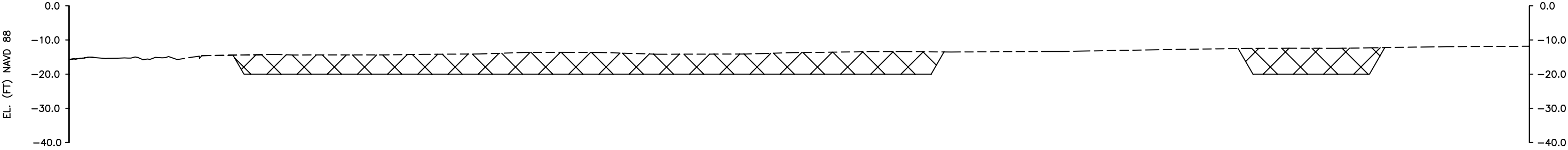


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---	EXISTING GROUND
—	AS-BUILT DUNE
—	PROPOSED TEMPLATE

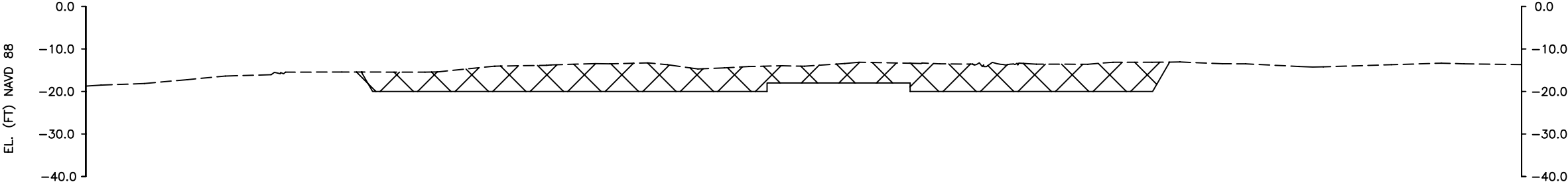
1	2/1/07	REVISED EXISTING GROUND	KC	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NEW CUT DUNE/MARSH RESTORATION PROJECT	AS-BUILT CROSS SECTIONS	
					STATE PROJECT NUMBER: TE-37		
					FEDERAL PROJECT NUMBER: TE-37		DATE: FEBRUARY 2006
REV.	DATE	DESCRIPTION	BY		DRAWN BY: KRISTI CANTU	DESIGNED BY: BEAU TATE, P.E.	APPROVED BY: LUKE LEBAS, P.E.



TYPICAL SECTION G-G'
LOOKING NORTHWARD
(SEE SHEET 8)

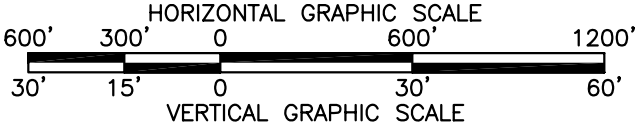




TYPICAL SECTION H-H'
LOOKING NORTHWARD
(SEE SHEET 8)



TYPICAL SECTION I-I'
LOOKING WESTWARD
(SEE SHEET 8)

AS-BUILT



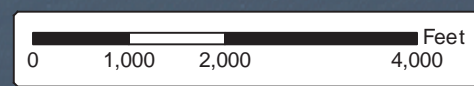
LEGEND	
	FILL FROM BORROW SOURCE
	EXISTING GROUND

				LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NEW CUT DUNE/MARSH RESTORATION PROJECT		BORROW AREA SECTIONS
					STATE PROJECT NUMBER: TE-37		
					FEDERAL PROJECT NUMBER: TE-37		DATE: FEBRUARY 2006
REV.	DATE	DESCRIPTION	BY		DRAWN BY: SHANE FAUST	DESIGNED BY:RICKEY BROUILLETTE, P. E	APPROVED BY: LUKE LE BAS, P.E.



LAKE PELTO

WINE ISLAND PASS



283 Corporate Drive
P.O. Box 3106
Houma, LA 70361
Voice: (985) 879-2731
Fax: (985) 876-9052

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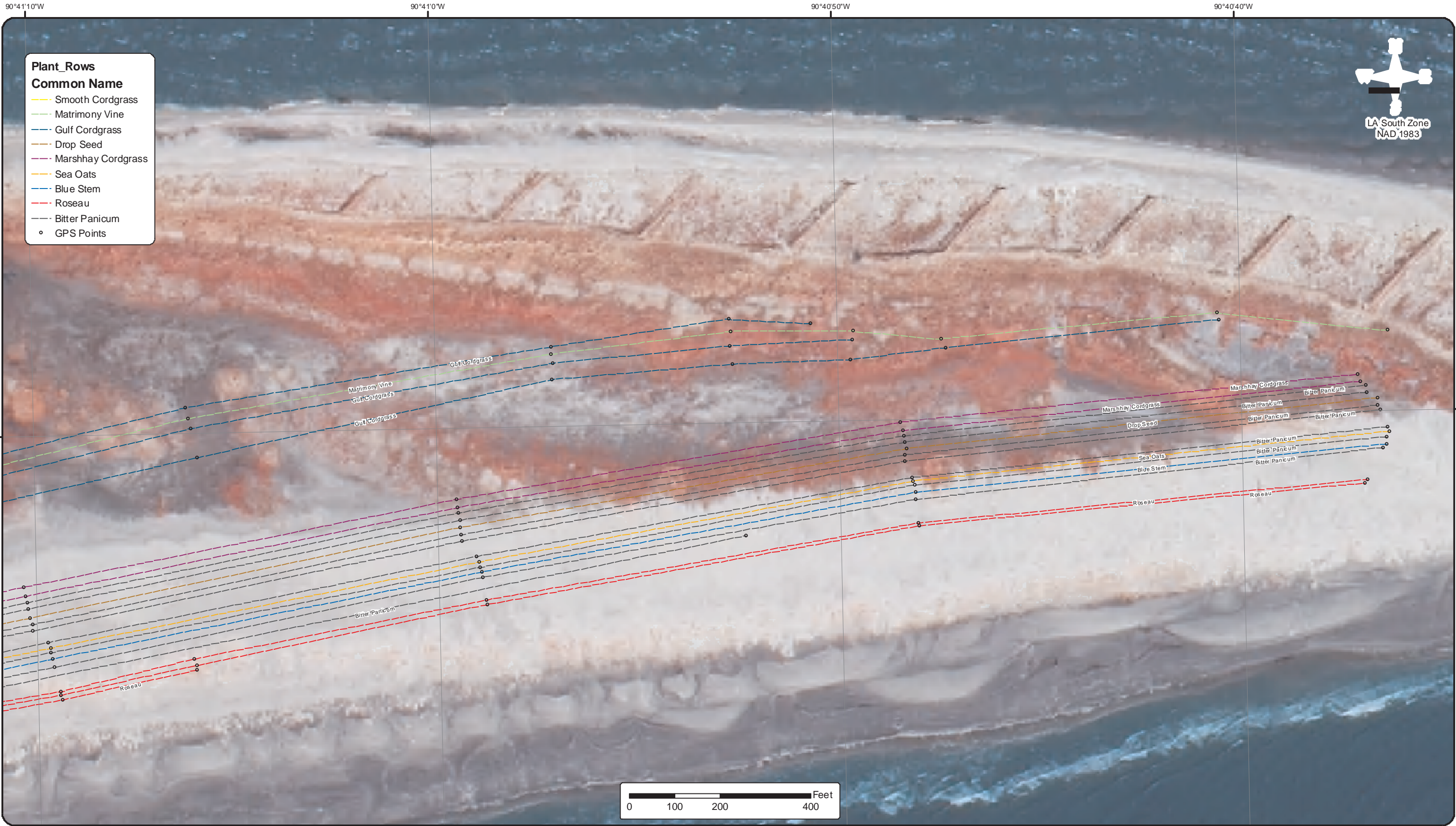
One Sterling Place
10101 SW Freeway, Ste 400
Houston, TX 77074
Voice: (713) 219-1470
Fax: (713) 219-4171

2005 DOQQ
C2909059.NES
C2909059.SES
C2909059.NWS
C2909059.SWS

BLACK LAKE MARSH, INC.
AS-BUILT FOR DNR-CED (TE-37) / EPA (TE-11A)
NEW CUT VEGETATIVE PLANTINGS
TERREBONNE PARISH, LOUISIANA

NOTE:
DGPS points were taken at the
beginning and ending of the plant
rows and along each plant rows
every 1000 feet ± and at significant
changes in direction.

DRAWN BY:	GML	SHEET:	1
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APPROVED BY:	J. MURPHY	DATE:	7/24/2007
DRAWING NO.:	W:9525_BLACK LAKE\9525DNR0001A0.MXD		



283 Corporate Drive
P.O. Box 3106
Houma, LA 70361

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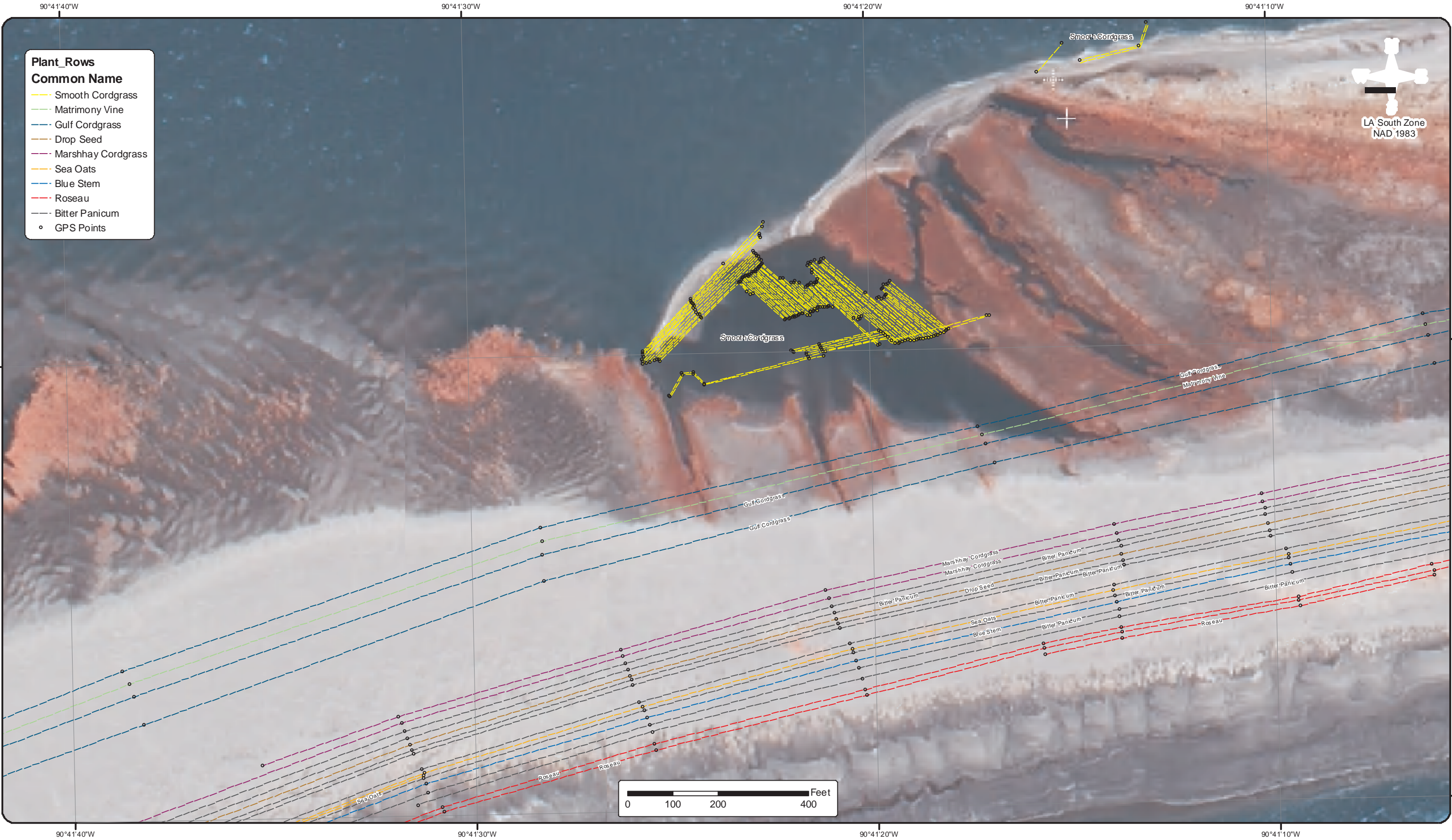
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C2909059.NWS
C2909059.SWS

BLACK LAKE MARSH, INC.

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NEW CUT VEGETATIVE PLANTINGS
TERREBONNE PARISH, LOUISIANA

NOTE:
DGPS points were taken at the beginning and ending of the plant rows and along each plant rows every 1000 feet ± and at significant changes in direction.

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APPROVED BY:	J. MURPHY	DATE:	7/24/2007
DRAWING NO.:	W:9525_BLACK LAKE\9525DNR0002A0.MXD		



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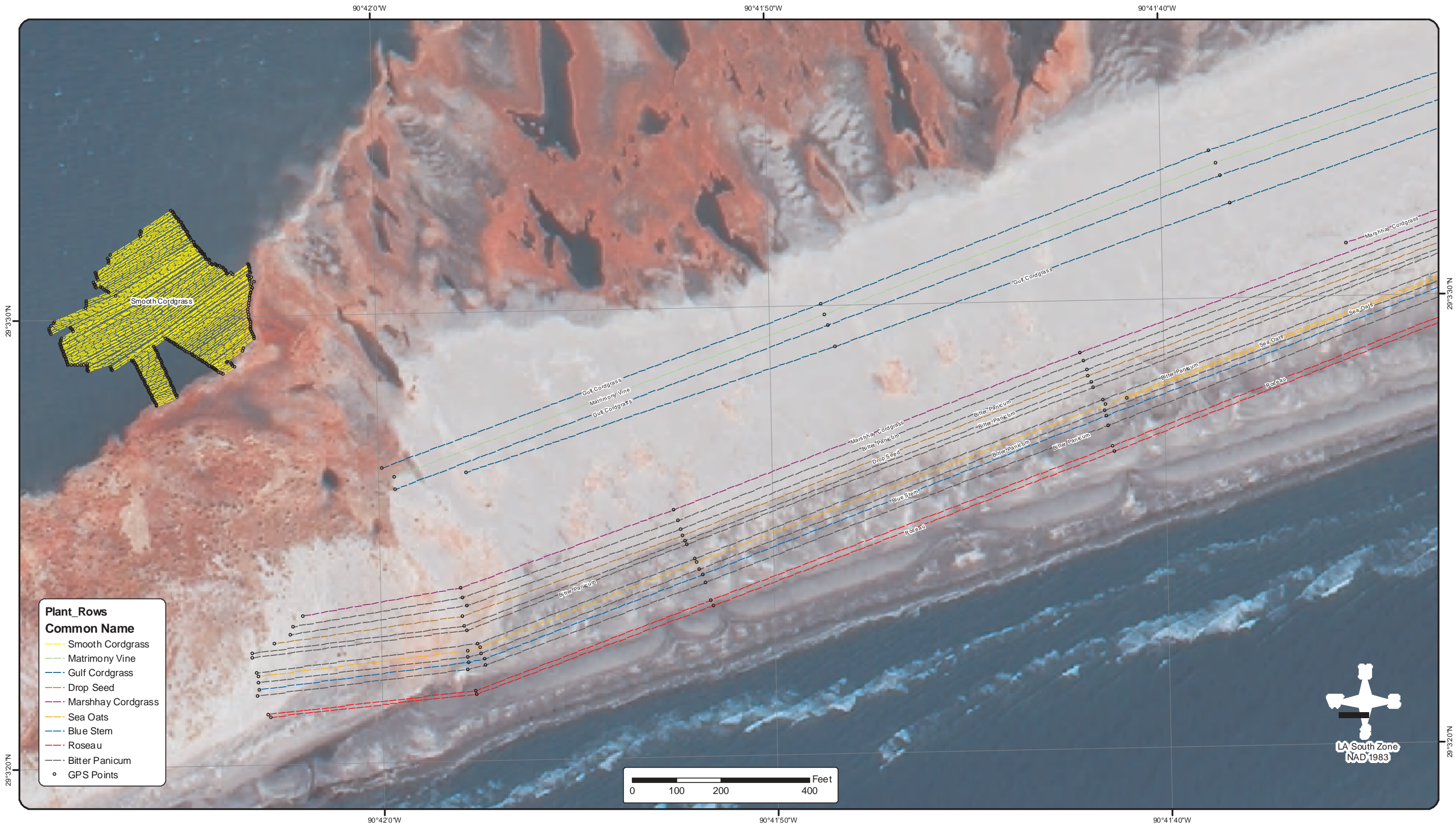
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BLACK LAKE MARSH, INC.

AS-BUILT FOR DNR-CED (TE-37) / EPA (TE-11A)
NEW CUT VEGETATIVE PLANTINGS
TERREBONNE PARISH, LOUISIANA

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rows and along each plant rows
every 1000 feet ± and at significant
changes in direction.

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APPROVED BY:	J. MURPHY	DATE:	7/24/2007
DRAWING NO.:	W:9525_BLACK LAKE\9525DNR0003A0.MXD		



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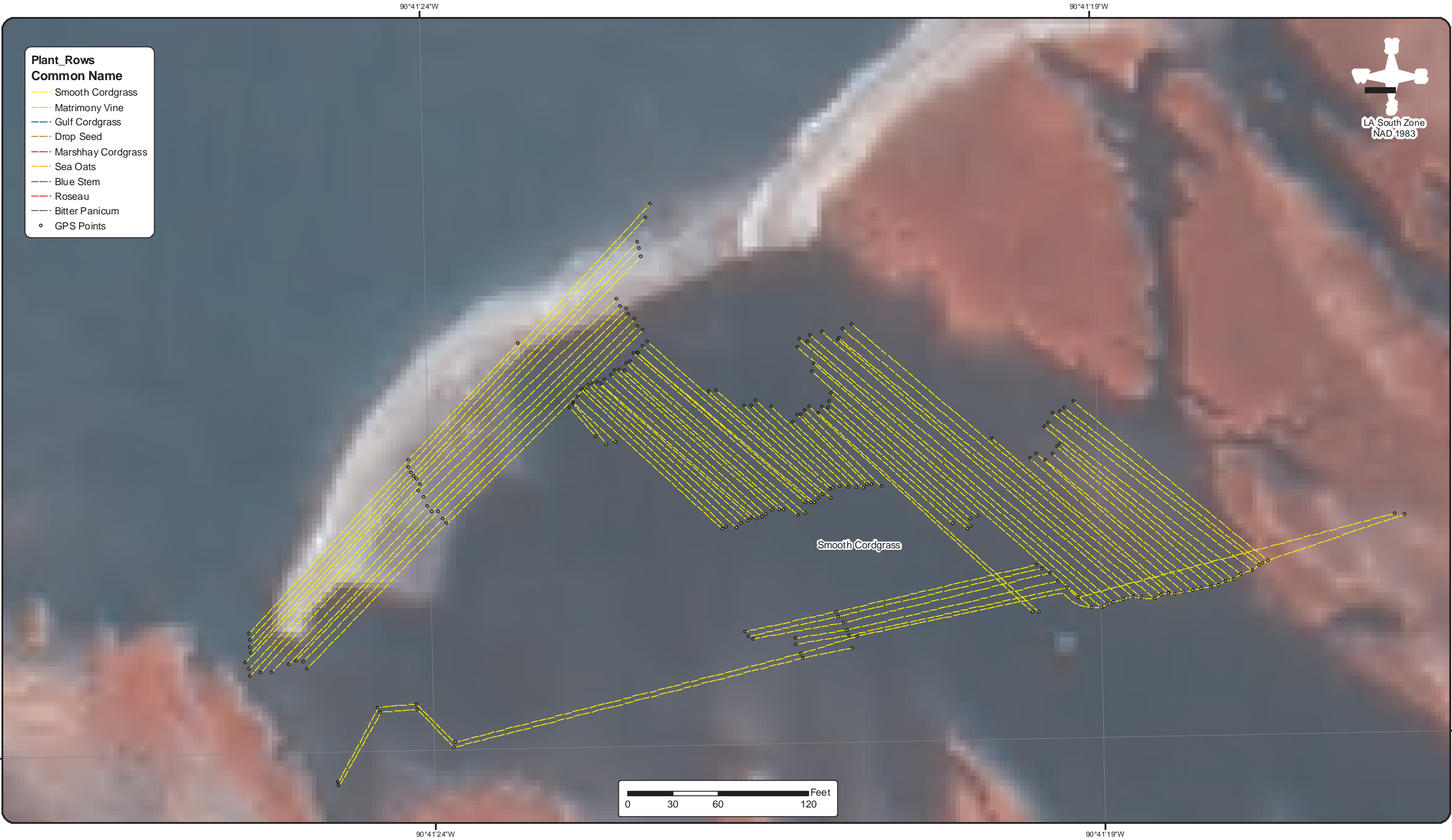
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BLACK LAKE MARSH, INC.

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NEW CUT VEGETATIVE PLANTINGS
TERREBONNE PARISH, LOUISIANA

NOTE:
DGPS points were taken at the beginning and ending of the plant rows and along each plant rows every 1000 feet ± and at significant changes in direction.

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APPROVED BY:	J. MURPHY	DATE:	7/24/2007
DRAWING NO.:	W:9525_BLACK LAKE\9525DNR0004A0.MXD		



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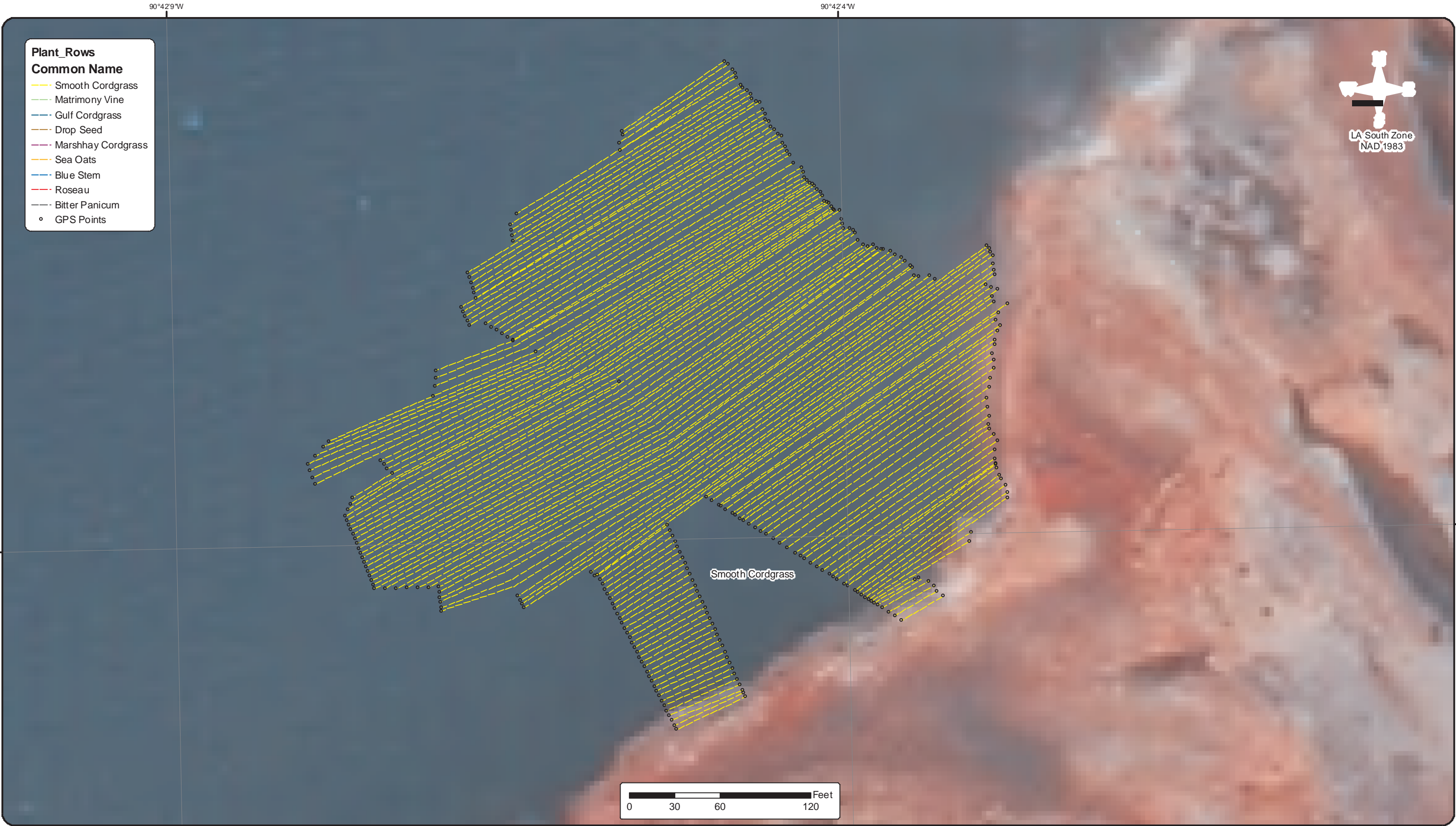
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rows and along each plant rows
every 1000 feet ± and at significant
changes in direction.

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APPROVED BY:	J. MURPHY	DATE:	7/24/2007
DRAWING NO.: W:9525_BLACK LAKE\9525DNR0005A0.MXD			



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C2909059.SWS

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rows and along each plant rows
every 1000 feet ± and at significant
changes in direction.

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CHECKED BY:	DEC	SCALE:	1 " equals 60 '
APPROVED BY:	J. MURPHY	DATE:	7/24/2007
DRAWING NO.:	W:9525_BLACK LAKE\9525DNR0006A0.MXD		

ATTACHMENT V

NEW CUT DUNE AND MARSH RESTORATION PROJECT (TE-37)

**PROJECT PERMITS
&
PERMIT AMENDMENTS**

Site Copy

DEPARTMENT OF THE ARMY PERMIT

Permittee: Louisiana Department of Wildlife and Fisheries

Permit No. MVN 2006-772 CY

Issuing Office: New Orleans District

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: Dredge for access and material, and construct and maintain a dune, berm and marsh platform, all to implement the East Island Breach Dune/Marsh Restoration Project (CWPPRA TE-37), in accordance with drawings enclosed in nine sheets, dated January 2006, and one revision, dated May 4, 2006.

Project Location: In the Isles Dernieres Island chain at the eastern end of East Island, approximately 16 miles southwesterly from Cocodrie, Louisiana, and the borrow area located in the Gulf of Mexico approximately 1.5 miles southeasterly from East Island, in Terrebonne Parish.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on **MAY 31, 2011**. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least 1 month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and State coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

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

Special Conditions: Page 4.

Further Information:

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

- ☒ 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 *LCI With*
(PERMITTEE)

X *5/30/2006*
(DATE)

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

Martin S. Mayer
Martin S. Mayer, Chief Central Evaluation Section

9 June 2006
(DATE)

for Richard P. Wagenaar, District Commander

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

(TRANSFeree)

(DATE)

SPECIAL CONDITIONS: MVN 2006-772-CY

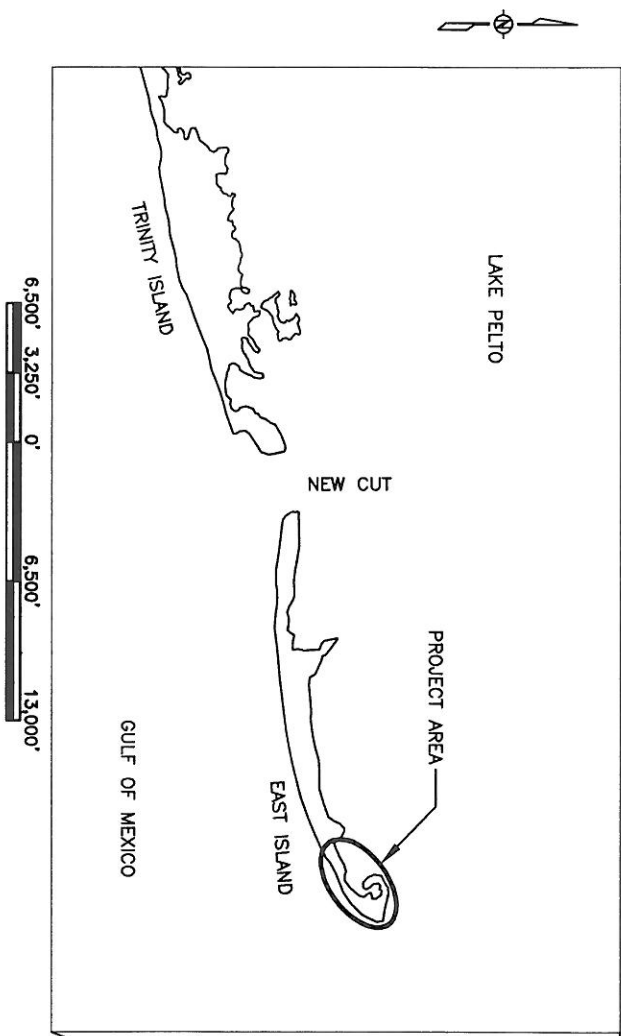
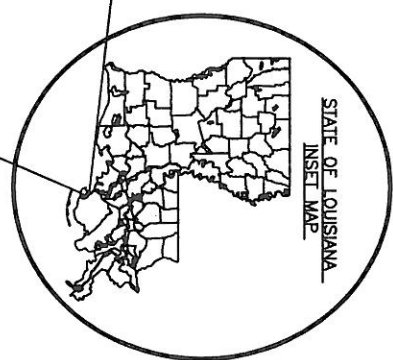
7. The permitted activity must not interfere with the public's right to free navigation on all navigable waters of the United States.
8. The permittee must install and maintain, at the permittee's expense, any safety lights, signs, and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, on the permittee's authorized facilities.
9. The permittee 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.
10. If the proposed project, or future maintenance work, involves the use of floating construction equipment (barge mounted cranes, barge mounted pile driving equipment, floating dredge equipment, dredge discharge pipelines, etc.) in the waterway, you are advised to notify the Eighth Coast Guard District so that a Notice to Mariners, if required, may be prepared. Notification, with a copy of your permit approval and drawings, should be mailed to the Commander (oan), Eighth Coast Guard District, ATTN: Marine Information Branch, 501 Magazine Street, New Orleans, Louisiana 70130-3396, about 1 month before you plan to start work. Telephone inquiries can be directed to (504) 589-6277.
11. The time limit to perform dredging to maintain navigability and obtain material for island maintenance, unless specifically revoked or suspended by this office, expires 10 years from the effective date of this approval. Maintenance operations shall not exceed specifications as shown on permit drawings without prior authorization from the U. S. Army Corps of Engineers, New Orleans District (CEMVN).
12. The Chitimacha Tribe of Louisiana has stated that the project area is part of the aboriginal Chitimacha homelands. If during the course of work at the site, prehistoric and/or historic aboriginal cultural materials are discovered, the permittee will contact the Chitimacha Tribe of Louisiana at P.O. Box 661, Charenton, LA 70523, and CEMVN. CEMVN will initiate the required federal, state, and Tribal coordination to determine the significance of the cultural materials and the need, if applicable, for additional cultural resource investigations.

STATE OF LOUISIANA
DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION

INDEX TO SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	BREACH FILL LOCATION
3	TOWNSHIP & RANGE
4	BORROW AREA LAYOUT
5-6	SAND FENCE DETAILS
7	CROSS SECTIONS
8	VEGETATIVE SECTION
9	VEGETATIVE GENERAL NOTES

EAST ISLAND BREACH
DUNE/MARSH RESTORATION PROJECT
TE-37
TERREBONNE PARISH, LA



TYPE OF CONSTRUCTION
CLASSIFICATION III (Heavy Construction)
BARRIER ISLAND DUNE/MARSH RESTORATION
HYDRAULIC DREDGING

APPLICATION BY:
DEPARTMENT OF NATURAL RESOURCES
617 NORTH 3RD STREET
BATON ROUGE, LA 70802

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

DRAWN BY: RUDY SIMONEAUX, E.I.

DESIGNED BY: RICKEY BROUILLETTE, P.E.

APPROVED BY: LUKE LE BAS, P.E.

EAST ISLAND BREACH
RESTORATION PROJECT

TITLE SHEET

STATE PROJECT NUMBER: TE-37

DATE: JANUARY 2006

FEDERAL PROJECT NUMBER: TE-37

SHEET 1 OF 9

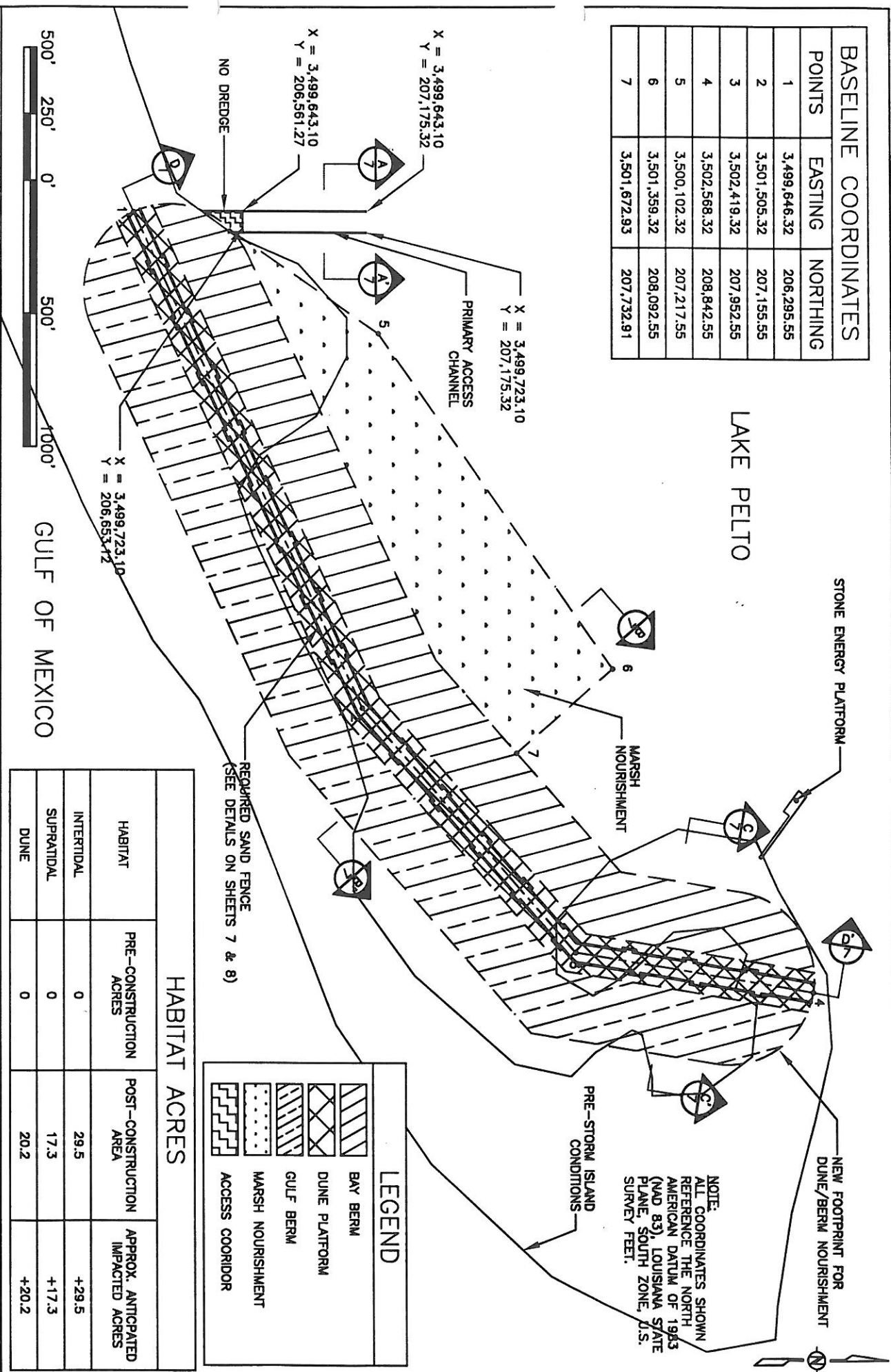
CED DIRECTOR

CED ENGINEER MANAGER

CED PROJECT ENGINEER

BASELINE COORDINATES		
POINTS	EASTING	NORTHING
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2	3,501,505.32	207,155.55
3	3,502,419.32	207,952.55
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5	3,500,102.32	207,217.55
6	3,501,359.32	208,092.55
7	3,501,672.93	207,732.91

LAKE PELTO



APPLICATION BY:
DEPARTMENT OF NATURAL RESOURCES
617 NORTH 3RD STREET
BATON ROUGE, LA. 70802

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

EAST ISLAND BREACH
RESTORATION PROJECT

BREACH FILL LOCATION

STATE PROJECT NUMBER: TE-37

DATE: JANUARY 2006

DRAWN BY: SHANE FAUST

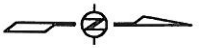
DESIGNED BY: RICKY BROUILLETTE, P.E.

APPROVED BY: LUNE LE BAS, P.E.

FEDERAL PROJECT NUMBER: TE-37

SHEET 2 OF 9

Rev. 5/4/06



5000' 2500' 0' 5000' 10000'

LAKE PELITO

ST19

PROJECT AREA

ST20

ST8

ST7

ST9

ST10

PRIMARY
BORROW AREA

SECONDARY
BORROW AREA

NOTE:
SEE SHEET 4 FOR BORROW AREA LAYOUT.

APPLICATION BY:

DEPARTMENT OF NATURAL RESOURCES
617 NORTH 3RD STREET
BATON ROUGE, LA. 70802

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

EAST ISLAND BREACH
RESTORATION PROJECT

TOWNSHIP & RANGE

STATE PROJECT NUMBER: TE-37

DATE: JANUARY 2006

DRAWN BY: RUDY SIMONEAUX, E.I.

DESIGNED BY: ROCKY BROUILLETTE, P.E.

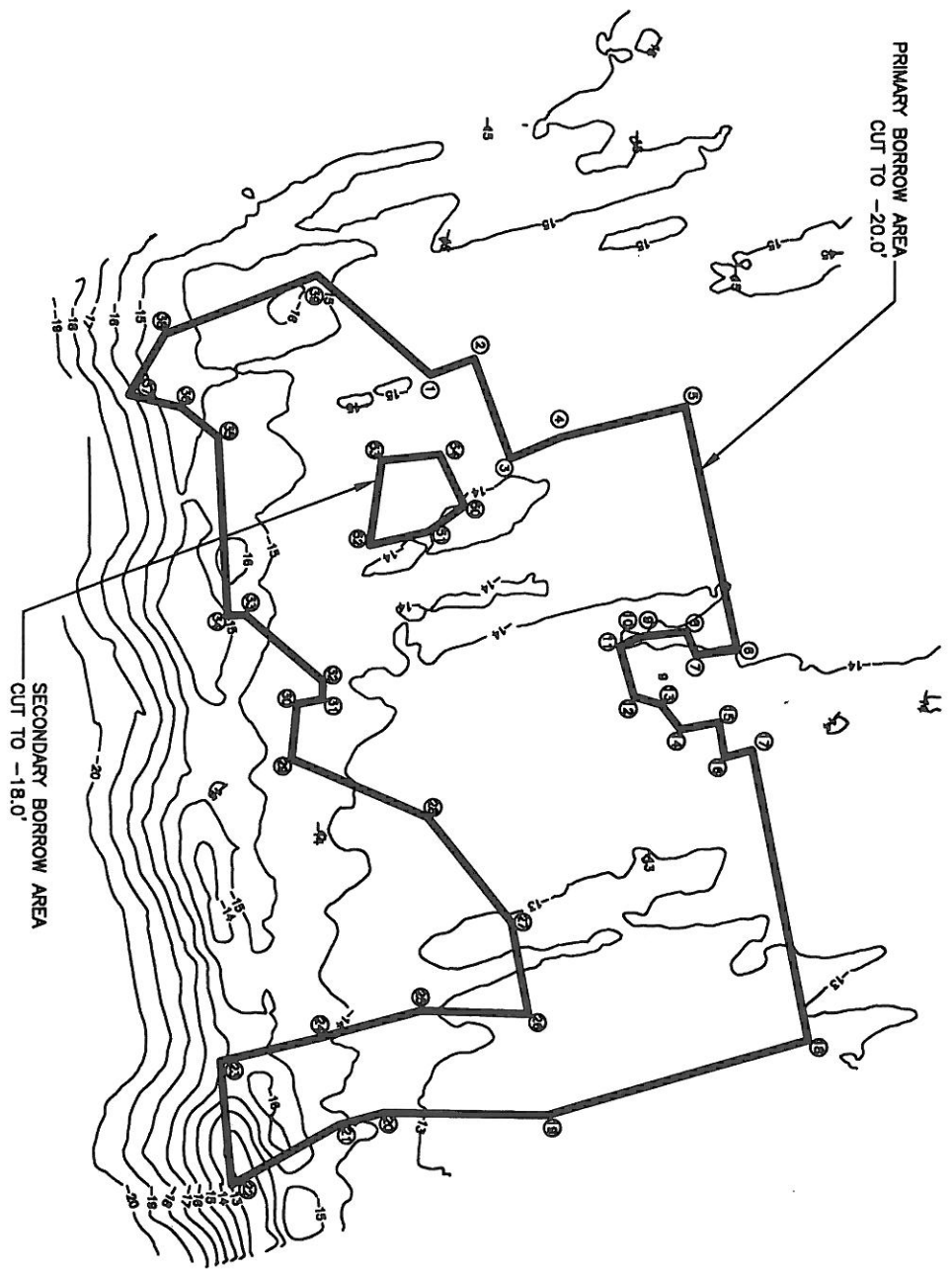
APPROVED BY: LUNE LE BAS, P.E.

FEDERAL PROJECT NUMBER: TE-37

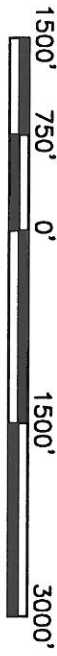
SHEET 3 OF 9



PRIMARY BORROW AREA
CUT TO -20.0'



- NOTES:
1. THE CUTTER HEAD SHALL BE CARRIED AT -20.0' NAVD 88 IN THE PRIMARY BORROW AREA.
 2. THE CUTTER HEAD SHALL BE CARRIED AT -18.0' NAVD 88 IN THE SECONDARY BORROW AREA.
 3. ALL COORDINATES SHOWN REFERENCE THE NORTH AMERICAN DATUM OF 1983 (NAVD 83) LOUISIANA SOUTH ZONE U. S. SURVEY FEET.
 4. THE PRIMARY BORROW AREA CONTAINS APPROXIMATELY 4,297,810 CU. YDS. OF MATERIAL.
 5. THE SECONDARY BORROW AREA CONTAINS APPROXIMATELY 51,217 CU. YDS. OF MATERIAL.
 6. RESULTS OF BORROW AREA SURVEY, GEOTECHNICAL AND GEOPHYSICAL INVESTIGATIONS FROM AUGUST 2005 CPE REPORT BY FINKE, ANDREWS, BEVEDEL AND CAMPBELL FOR TE-37.
 7. EAST ISLAND WILL REQUIRE APPROXIMATELY 1,000,000 CUBIC YARDS OF MATERIAL CUT FROM BORROW AREA.



APPLICATION BY:
DEPARTMENT OF NATURAL RESOURCES
617 NORTH 3RD STREET
BATON ROUGE, LA 70802

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

EAST ISLAND BREACH
RESTORATION PROJECT

BORROW AREA LAYOUT

DRAWN BY: RUDY SIMONEAU, E.L.

DESIGNED BY: RICKY BROUILLETTE, P.E.

APPROVED BY: LUKE LE BAS, P.E.

STATE PROJECT NUMBER: TE-37

FEDERAL PROJECT NUMBER: TE-37

DATE: JANUARY 2006

SHEET 4 OF 9

PRIMARY BORROW AREA COORDINATES

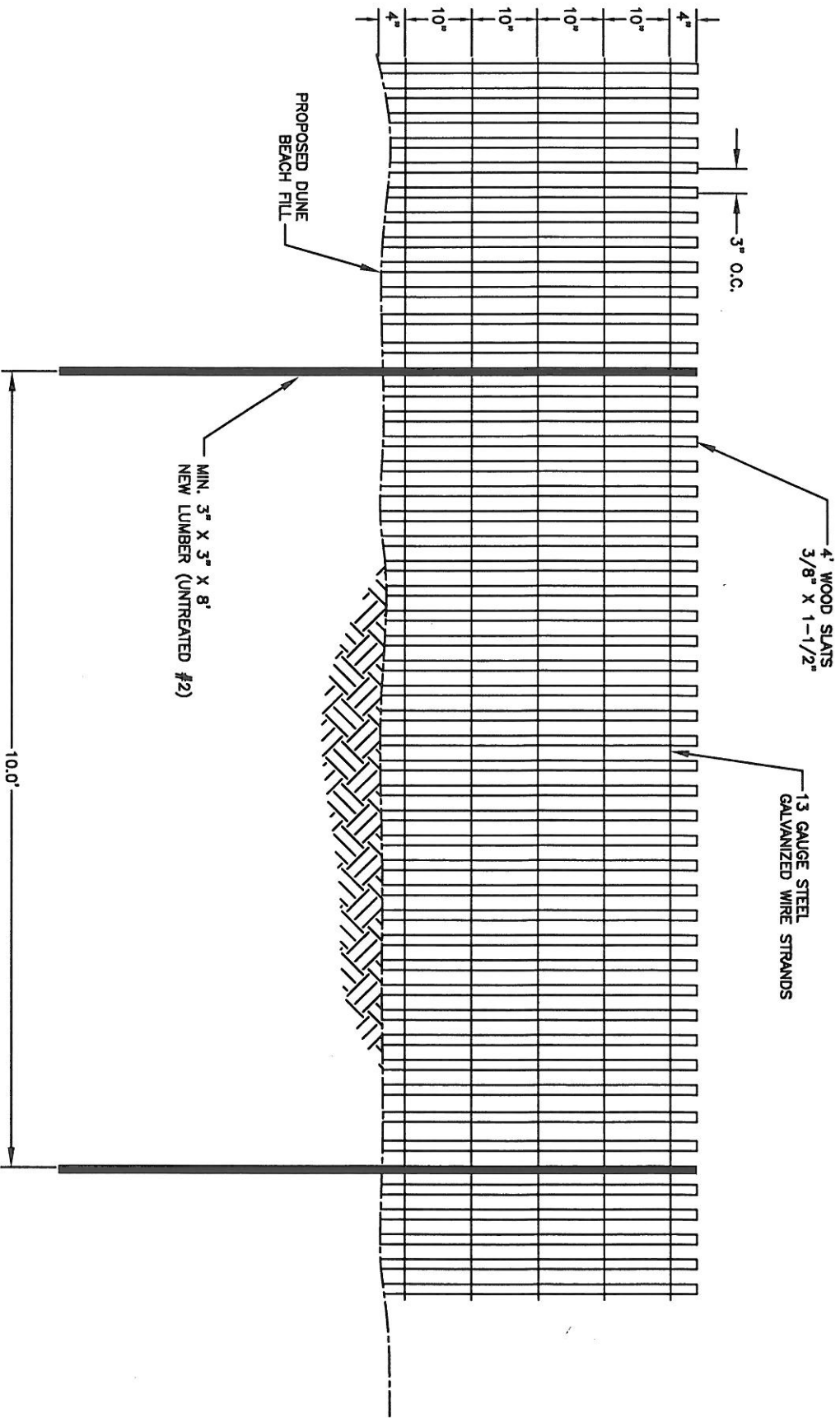
POINT	X NAVD 83 FT.	Y NAVD 83 FT.
1	3,510,280.67	198,366.01
2	3,510,148.93	198,708.29
3	3,510,936.83	198,998.67
4	3,510,770.80	198,398.22
5	3,510,524.13	200,382.91
6	3,512,437.95	200,795.76
7	3,512,479.98	200,474.30
8	3,512,297.96	200,396.32
9	3,512,332.65	200,066.07
10	3,512,356.54	199,982.31
11	3,512,414.83	199,876.84
12	3,512,808.55	199,985.23
13	3,512,870.20	200,198.44
14	3,513,064.64	200,350.64
15	3,513,008.55	200,653.68
16	3,513,283.35	200,700.09
17	3,513,221.44	200,915.69
18	3,515,489.62	201,358.90
19	3,516,085.89	199,309.02
20	3,516,081.97	198,017.16
21	3,516,177.86	197,667.45
22	3,516,651.66	196,821.94
23	3,515,681.49	196,731.69
24	3,515,495.36	197,315.16
25	3,515,281.02	198,304.83
26	3,514,581.93	199,157.15
27	3,513,761.07	198,353.26
28	3,513,306.82	197,283.09
29	3,512,876.18	197,323.09
30	3,512,837.98	197,523.94
31	3,512,692.15	197,525.50
32	3,512,174.94	196,915.77
33	3,512,180.36	196,780.36
34	3,510,777.33	196,700.84
35	3,510,546.11	196,415.72
36	3,510,957.43	197,985.62
37	3,509,966.34	196,283.53
38	3,509,499.34	197,472.32

SECONDARY BORROW AREA COORDINATES

POINT	X NAVD 83 FT.	Y NAVD 83 FT.
50	3,511,311.79	198,636.52
51	3,511,513.86	198,354.17
52	3,511,624.63	197,894.01
53	3,510,957.43	197,985.62
54	3,510,908.36	198,441.07

LEGEND

---14--- CONTOURS OF ELEVATION OF GULF FLOOR



NOTE:
 ACTUAL PLACEMENT OF SAND FENCING MAY BE ADJUSTED BY THE
 ENGINEER TO ACCOMMODATE THE EXISTING CONDITIONS UPON INITIATING
 CONSTRUCTION OF THE FENCE.

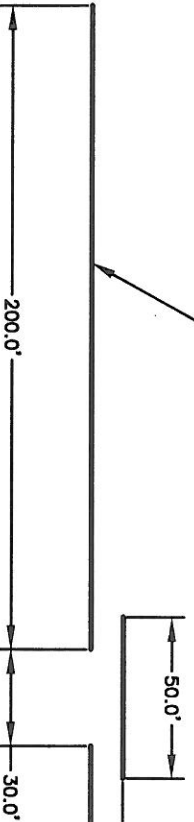
APPLICATION BY: DEPARTMENT OF NATURAL RESOURCES 617 NORTH 3RD STREET BATON ROUGE, LA 70802	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802		EAST ISLAND BREACH RESTORATION PROJECT SAND FENCE DETAILS	
DRAWN BY: SHANE FAUST	DESIGNED BY: RICKY BROUILLETTE, P.E.	APPROVED BY: LUKE LE BAS, P.E.	STATE PROJECT NUMBER: TE-37 FEDERAL PROJECT NUMBER: TE-37	DATE: JANUARY 2006 SHEET 5 OF 9

BAY SIDE

EDGE OF DUNE PLATFORM

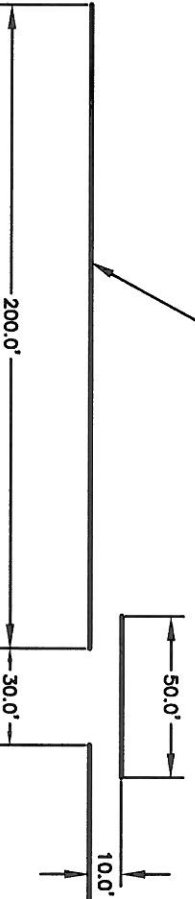
150.0'

SAND FENCE



50.0'

SAND FENCE



50.0'

EDGE OF DUNE PLATFORM

GULF SIDE



APPLICATION BY:

DEPARTMENT OF NATURAL RESOURCES
617 NORTH 3RD STREET
BATON ROUGE, LA 70802

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

EAST ISLAND BREACH
RESTORATION PROJECT

SAND FENCE
DETAILS

DRAWN BY: SHANE FAUST

DESIGNED BY: RICKY BROUILLETTE, P.E.

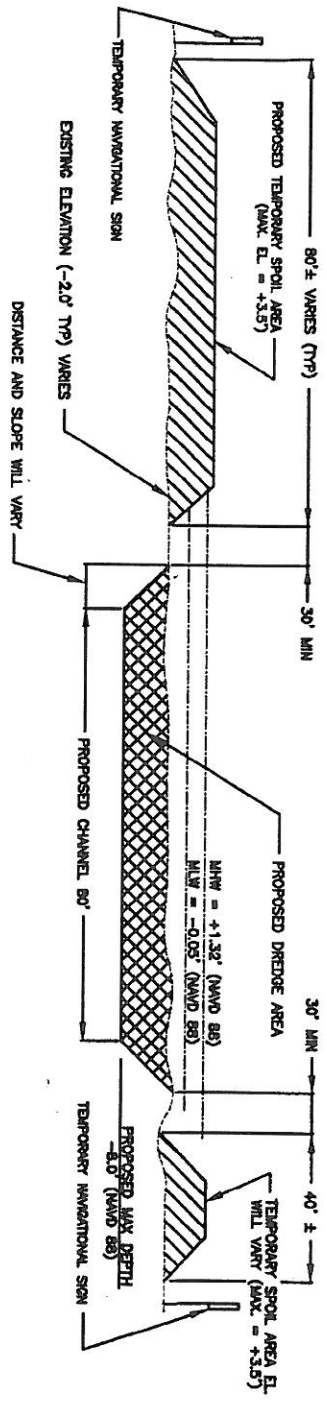
APPROVED BY: LUCIE LE BAS, P.E.

STATE PROJECT NUMBER: TE-37

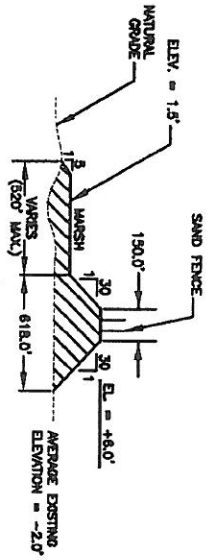
FEDERAL PROJECT NUMBER: TE-37

DATE: JANUARY 2008

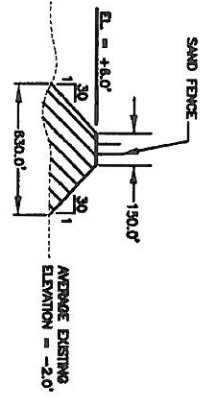
SHEET 8 OF 8



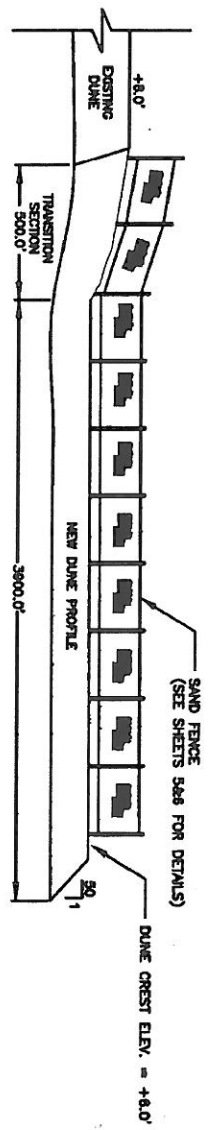
CROSS SECTION A-A'
PRIMARY ACCESS CHANNEL LOOKING SOUTH
NOT TO SCALE
(SEE SHEET 2)



CROSS SECTION B-B'
NOT TO SCALE
(SEE SHEET 2)



CROSS SECTION C-C'
NOT TO SCALE
(SEE SHEET 2)



CROSS SECTION D-D'
NOT TO SCALE
(SEE SHEET 2)

- NOTES:
1. APPROXIMATELY 11,600 YDS³ WILL BE DREDGED FOR THE ACCESS CHANNEL.
 2. ACCESS CHANNEL SHALL BE PARTIALLY FILLED IN WITH THE SPOIL MATERIAL TO ALLOW ACCESS FOR FUTURE WORK AND O&M OPERATIONS.

APPLICATION BY:
DEPARTMENT OF NATURAL RESOURCES
617 NORTH 3RD STREET
BATON ROUGE, LA 70802

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COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

EAST ISLAND BREACH
RESTORATION PROJECT

CROSS SECTIONS

Rev. 5/4/06

STATE PROJECT NUMBER: TE-37

DATE: JANUARY 2008

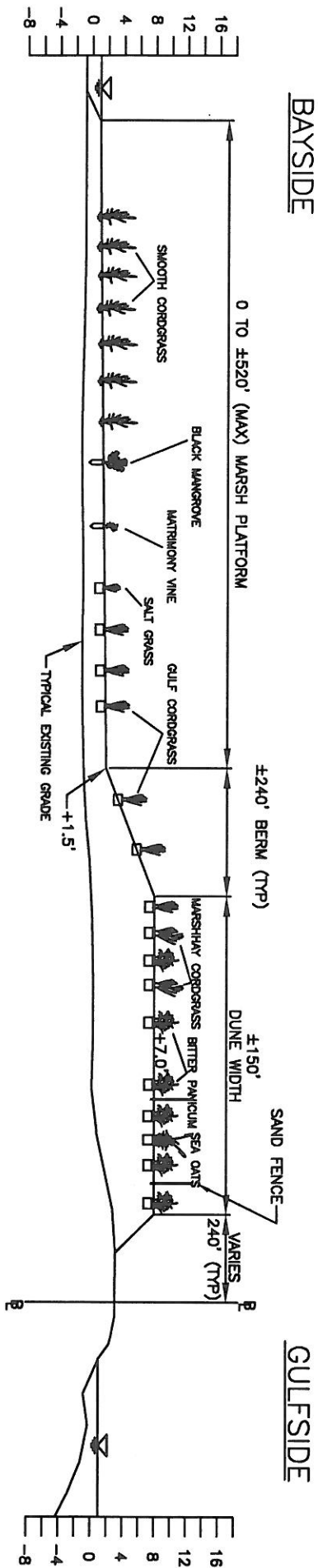
DRAWN BY: SHANE FAUST

DESIGNED BY: RICKY BROUILLETTE, P.E.

APPROVED BY: LUNE LE BAS, P.E.

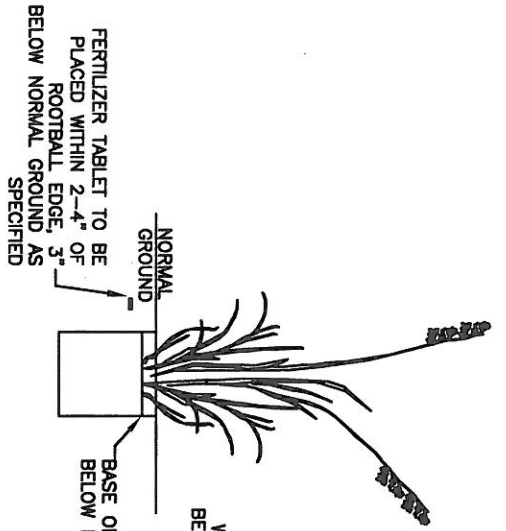
FEDERAL PROJECT NUMBER: TE-37

SHEET 7 OF 9

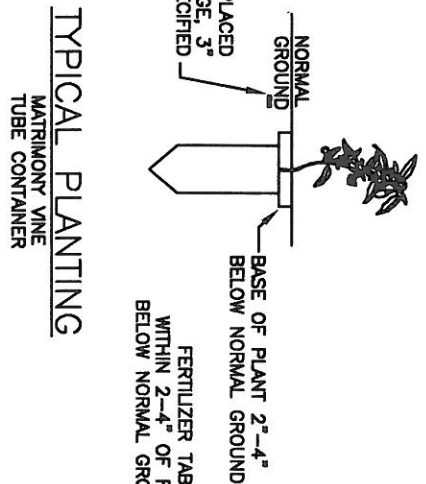


NOTE:
EXACT LOCATION OF PLANT ROWS TO BE
DETERMINED ON SITE DURING PROJECT LAYOUT
BY DNR/CED AND ITS INSPECTOR.

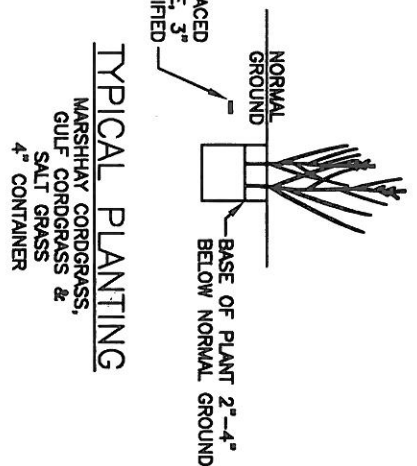
APPLICATION BY: DEPARTMENT OF NATURAL RESOURCES 617 NORTH 3RD STREET BATON ROUGE, LA 70802		LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802		EAST ISLAND RESTORATION PROJECT		VEGETATIVE SECTION LAYOUT	
DRAWN BY: SHANE FAUST	DESIGNED BY: KENNETH BAHLINGER	APPROVED BY: LUKE LE BAS, P.E.		STATE PROJECT NUMBER: TE-57		DATE: JANUARY 2006	
				FEDERAL PROJECT NUMBER: TE-57		SHEET 8 OF 9	



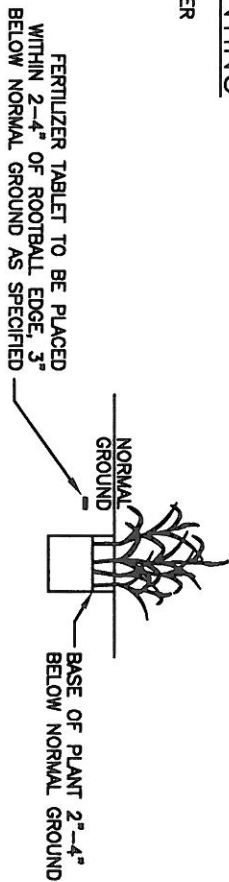
TYPICAL PLANTING
SEA OATS
GALLON CONTAINER



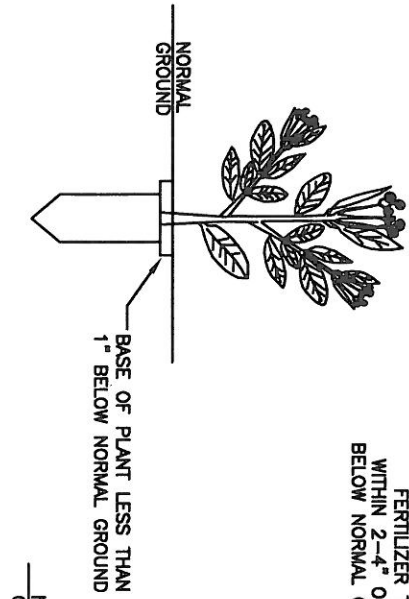
TYPICAL PLANTING
MATRIMONY VINE
TUBE CONTAINER



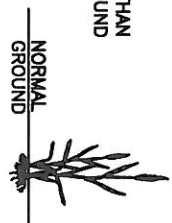
TYPICAL PLANTING
MARSHHAY CORDGRASS,
GULF CORDGRASS &
SALT GRASS
4" CONTAINER



TYPICAL PLANTING
BITTER PANICUM
4" CONTAINER



TYPICAL PLANTING
BLACK MANGROVE
TUBE CONTAINER



TYPICAL PLANTING
SMOOTH CORDGRASS
PLUG

- NOTES:**
1. EXACT LOCATION OF ALL PLANTS SHALL BE DETERMINED ON SITE BY DNR/CED DURING PRE-CONSTRUCTION LAYOUT.
 2. THE TOP OF THE BLACK MANGROVE AND SMOOTH CORDGRASS ROOT MEDIA SHALL BE PLACED ONE INCH BELOW NORMAL GROUND. THE SEA OATS, MATRIMONY VINE, MARSHHAY CORDGRASS, GULF CORDGRASS AND BITTER PANICUM ROOT MEDIA SHALL BE PLANTED A MINIMUM OF 4" BELOW NORMAL GROUND.
 3. ONE FERTILIZER TABLET SHALL BE PLACED WITHIN TWO (2) TO FOUR (4) INCHES OF THE SIDE OF EACH PLANT SPECIFIED.
 4. ALL DISTANCE MEASUREMENTS SHOWN ON THE PLANS ARE APPROXIMATE.
 5. NO EQUIPMENT MAY ALTER THE EXISTING CONDITIONS OF THE ISLAND OR DISTURB EXISTING VEGETATION.
 6. CONTAINMENT DIKE NOT MAINTAINED AND IS SUBJECT TO DEGRADATION.

APPLICATION BY:
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BATON ROUGE, LA 70802

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

NEW CUT DUNE/MARSH
RESTORATION PROJECT

VEGETATIVE GENERAL
NOTES

DRAWN BY: SHANE FAUST

DESIGNED BY: KENNETH BAYLINGER

APPROVED BY: LUNE LE BAS, P.E.

STATE PROJECT NUMBER: TE-37

DATE: JANUARY 2006

FEDERAL PROJECT NUMBER: TE-37

SHEET 9 OF 9

ATTACHMENT VI

NEW CUT DUNE AND MARSH RESTORATION PROJECT (TE-37)

**OPERATION, MAINTENANCE, REHABILITATION AND
MONITORING BUDGET**

ATTACHMENT VI

OPERATION, MAINTENANCE AND MONITORING BUDGET

NEW CUT DUNE AND MARSH CREATION (TE-37) PROJECT

FEDERAL SPONSOR: United States Environmental Protection Agency

PROJECT FEATURES

- 248 acres marsh creation
- 8,300 linear feet dune
- 13,000 linear feet sand fence

OPERATION AND MAINTENANCE / REHABILITATION ASSUMPTIONS

The operation, maintenance, and rehabilitation budget for the New Cut Dune and Marsh Creation (TE-37) project was based on the following assumptions:

Project Inspections every three (3) years: 2018, 2021, 2024 and 2028, 2031 and 2034

Dune Fertilization every two (2) years: 2019, 2021

Plantings: 2019

OPERATION AND MAINTENANCE COST CONSIDERATIONS

(Based on 20 year project life; cost includes inflation)

A. ANNUAL INSPECTIONS **\$ 37,526**
(1 Field day with 3 team members including federal participant, boat
And report)

Annual Inspections: (Beginning in 2013 including inflation)

Annual Inspection Field Trip Rate: \$4,700

Year 2013 (\$4,700 x 1.15924)	\$5,448
Year 2016 (\$4,700 x 1.22298)	\$5,748
Year 2019 (\$4,700 x 1.29021)	\$6,064
Year 2022 (\$4,700 x 1.36115)	\$6,397
Year 2025 (\$4,700 x 1.43598)	\$6,749
Year 2029 (\$4,700 x 1.51493)	\$7,120

B.	ANNUAL COST OF OPERATIONS (Project does not include features that require operations)	\$ 0
C.	PREVENTATIVE MAINTENANCE (No preventative maintenance planned)	\$ 0
D.	COST FOR DUNE FERTILIZATION: YEAR 2019	\$ 104,560
	1. Fertilization cost: (80 Acres @ \$1,000 acre)	\$ 80,000
	Contingency (10%):	<u>\$ 8,000</u>
	Total Construction Cost:	\$ 88,000
	2. Plans & Specification Preparation: (Construction Cost x 12%)	\$ 10,560
	3. CPRA Administration:	<u>\$ 6,000</u>
	4. Total Cost for Dune Fertilization:	\$104,560
E.	COST FOR DUNE PLANTINGS: YEAR 2019	\$ 121,199
	1. Mobilization/Demobilization	\$ 10,000
	Plantings (10,000 plants @ \$8.00/plant)	\$ 80,000
	Total Construction Cost:	\$ 90,000
	Construction plus Contingency (10%)	<u>\$ 9,000</u>
	Total Planting Cost:	\$ 99,000
	2. Plans & Specification Preparation: (Construction Cost x 12%)	\$ 11,880
	3. CPRA Administration:	\$ 10,319
	4. Total Cost for Plantings:	\$117,880
F.	COST FOR DUNE FERTILIZATION: YEAR 2021	\$ 127,875
	1. Dune Fertilization (from Section D):	\$104,560
	Fertilization x 2019 Inflation factor 1.22298:	\$127,875

G. EPA Administration Cost: 20 years \$ 23,374

H. COE Administration Cost: 20 Years \$ 23,105

OPERATION AND MAINTENANCE (O&M) BUDGET SUMMARY
NEW CUT DUNE AND MARSH CREATION (TE-37) PROJECT

O&M Budget: \$ 437,639

Monitoring Budget: \$ 120,218

TOTAL O&M AND MONIOTING BUDGET: \$ 557,857
