OPERATION, MAINTENANCE AND REHABILITATION PLAN

FOR THE

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

November 14, 2017
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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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:


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)
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,

[Signature]

Allison Richard
Coastal Resource Program Specialist

Enclosure

c: Todd Folse, Project Manager
   Allison Richard, CPRA
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

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

Date: 10/19/16

Coastal Protection and Restoration Authority Board

[Signature]
Johnny Bradberry, Chairman
Louisiana Coastal Protection & Restoration Authority

Date: 10/3/2016
Appendix A

MOA Budget Spreadsheets
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<td>$6,300</td>
<td>$1,573</td>
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</table>

| 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.

<table>
<thead>
<tr>
<th>TF Approval Date</th>
<th>Monitoring Expenditures</th>
<th>O&amp;M, Inspection Expenditures</th>
<th>EPA S&amp;A, Inspection Expenditures</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 11, 2000 TF</td>
<td>$23,851</td>
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<td>January 10, 2001 TF</td>
<td>$18,150</td>
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<td>$500.000</td>
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<tr>
<td>October 14, 2006</td>
<td>$7,408</td>
<td>$4,782</td>
<td>October 14, 2006 TF meeting Monitoring incremental approval. According to USACE spreadsheet, this is a cost increase not incremental approval.</td>
<td></td>
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<tr>
<td>October 11, 2012</td>
<td>$4,782</td>
<td></td>
<td>October 11, 2012 TF meeting $4782 Federal S&amp;A</td>
<td></td>
</tr>
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**Current O&MM ceiling:** $120,218

**Monitoring**

<table>
<thead>
<tr>
<th>Performance Period Date(s)</th>
<th>Expenditures</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Monitoring Total Expenditures:** $0.00

**Available Monitoring Funding:** $120,218.00

**Total Remaining 20 Yr Budget:** $120,218.00

### O&M/Inspection

<table>
<thead>
<tr>
<th>Performance Period Date(s)</th>
<th>Expenditures</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**O&M/Inspection Total Expenditures:** $0.00

**Current O&M/Inspection Ceiling:** $300,000.00

**Available O&M/Inspection Funding:** $300,000.00

**Total Remaining 20 Yr Budget:** $391,160.40

**Total 20 Yr O&M/Inspection Budget:** $391,160.40

**Available O&M/Inspection Funding:** $300,000.00

**Total Remaining 20 Yr Budget:** $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

Table Of Contents

1. Project Managers/Contracting Officer ................................................ .. Page 1

2. Location and Description of Projects as Approved for
   Construction by Task Force ............................................................... Page 1

3. Final, As-Built Features, Boundaries and Resulting Acreage ............. Page 1

4. Key Project Cost Elements .................................................................. Page 2

5. Items of Work ..................................................................................... Page 3

6. Construction and Construction Oversight ........................................ Page 4

7. Major Equipment Used ......................................................................... Page 4

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
   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**

<table>
<thead>
<tr>
<th></th>
<th>CWPPRA Project Report Estimates Data</th>
<th>Cost Incurred as of July 29, 2007**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>$10,890,022.50</td>
<td>$10,006,753.28</td>
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<tr>
<td>E &amp; D</td>
<td>$1,759,477.00</td>
<td>$1,338,678.91</td>
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<td>Land rights</td>
<td>$29,329.52</td>
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<tr>
<td>Monitoring</td>
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<td>O &amp; M</td>
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<td><strong>Total</strong></td>
<td>$13,106,520.02</td>
<td>$11,396,407.88</td>
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**Cost Incurred does not include Federal Sponsor Administrative costs.
5. **Items of Work**

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Work</th>
<th>Est. Quan.*</th>
<th>Unit</th>
<th>Estimated Unit Price</th>
<th>Estimated Amount</th>
<th>Bid Quan.</th>
<th>Bid Unit Price</th>
<th>Bid Amount</th>
<th>As-Built Quantity</th>
<th>As-Built Amount</th>
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</thead>
<tbody>
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<td>1</td>
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<td>$1,700,000.00</td>
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<td>3</td>
<td>Access Channel</td>
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<td>LS</td>
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<td>1</td>
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<td>$275,000.00</td>
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<td>$275,000.00</td>
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<tr>
<td>4</td>
<td>Containment Dikes</td>
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<td>LF</td>
<td>$8.00</td>
<td>$59,744.00</td>
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<td>$353,056.00</td>
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<tr>
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<td>830,651</td>
<td>CY</td>
<td>$6.00</td>
<td>$4,983,906.00</td>
<td>830,650</td>
<td>$7.65</td>
<td>$6,354,472.50</td>
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<td>$6,460,732.50</td>
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<td>8</td>
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<td>-</td>
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<td>$600.00</td>
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<td>55</td>
<td>$33,000.00</td>
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|                | 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

<table>
<thead>
<tr>
<th>Prime Construction Contractor</th>
<th>Weeks Marine, Inc.</th>
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<tbody>
<tr>
<td>Subcontractor – Survey</td>
<td>Fenstermaker and Associates, Inc.</td>
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<tr>
<td>Subcontractor – Sand Fencing and Seeding</td>
<td>Erosion Control Services, Inc.</td>
</tr>
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<td>Original Construction Contract</td>
<td>$9,665,022.50</td>
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<td>Change Orders</td>
<td>$129,316.00</td>
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<tr>
<td>Final Construction Contract</td>
<td>$9,794,338.50</td>
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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. Ellefson” 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.


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.

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>ITEM</th>
<th>UNIT</th>
<th>ORIGINAL QUANTITY</th>
<th>UNIT COST</th>
<th>ORIGINAL BID AMOUNT</th>
<th>ADDITIONAL QUANTITY</th>
<th>ADDITIONAL AMOUNT</th>
<th>BID ITEM TOTAL $ AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Containment Dikes</td>
<td>LF</td>
<td>7,500</td>
<td>$44.00</td>
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<td>524</td>
<td>$23,056.00</td>
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<td><strong>TOTAL:</strong></td>
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<td></td>
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<td></td>
<td></td>
<td><strong>$23,056.00</strong></td>
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</table>

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.

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>ITEM</th>
<th>UNIT</th>
<th>ORIGINAL QUANTITY</th>
<th>UNIT COST</th>
<th>ORIGINAL BID AMOUNT</th>
<th>ADDITIONAL QUANTITY</th>
<th>ADDITIONAL AMOUNT</th>
<th>BID ITEM TOTAL $ AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Hydraulic Dredging</td>
<td>CY</td>
<td>830,650</td>
<td>$7.65</td>
<td>$6,354,472.50</td>
<td>13,890.196</td>
<td>$106,260.00</td>
<td>$6,460,732.50</td>
</tr>
</tbody>
</table>

**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 installation, 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.

<table>
<thead>
<tr>
<th>Structure</th>
<th>Owner</th>
<th>Rep. To Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Natural Gas Pipeline</td>
<td>Bois d’ Arc</td>
<td>Greg Martin</td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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.

<table>
<thead>
<tr>
<th>ACTION</th>
<th>Date</th>
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</thead>
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<td>Construction Contract</td>
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<tr>
<td>Preconstruction Conference</td>
<td>September 20, 2006</td>
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<td>Notice to Proceed</td>
<td>October 1, 2006</td>
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<td>Mobilization</td>
<td>January 17, 2007</td>
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<tr>
<td>Construction Start</td>
<td>January 17, 2007</td>
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<tr>
<td>Construction Completion</td>
<td>July 10, 2007</td>
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<tr>
<td>Final Acceptance</td>
<td>July 18, 2007</td>
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If different bids are taken, repeat this table to individually reflect each bid and attach tables.

Other significant Project Dates

<table>
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<th>Event</th>
<th>Date</th>
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</thead>
<tbody>
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<td>Project Implementation closeout**</td>
<td></td>
</tr>
<tr>
<td>Start of Preconstruction Monitoring***</td>
<td></td>
</tr>
<tr>
<td>Preconstruction Aerial Photography Acquisition***</td>
<td></td>
</tr>
<tr>
<td>Monitoring Plan Completion***</td>
<td></td>
</tr>
</tbody>
</table>

** 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
### 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 B of the drawings. The location of all features and land vegetative areas 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 B without prior written authorization from the Engineer.

3. The Contractor shall be responsible for certifying safe access to the project area and for navigating within the area throughout 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 visually marked with buoys by the Contractor. The Contractor shall maintain buoys during construction and shall have adequate navigational equipment on the vessel 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**
- **BOG CARG** CONTACT: DUNCAN MARTIN
  - PHONE: (713) 228-0186
  - FAX: (713) 228-1700
  - PIPE SIZE: 8"

**TEXAS GAS TRANSMISSION LLC**
- **MIKE JONES** CONTACT: WATSON JOHNSON
  - PHONE: (713) 228-0186
  - FAX: (713) 228-1700
  - PIPE SIZE: 12"

**STONE ENERG**
- **TC RUSSELL** CONTACT: TC RUSSELL
  - PHONE: (337) 521-2089
  - FAX: (337) 521-2278
  - PIPE SIZE: 8"

5. Oyster leases are in the vicinity of the work. The contractor shall not dredge or disturb bottom within the limits of oyster leases shown on the drawings. Known leases are listed below:

   **LAKENOO SEAFOOD**
   - PHONE: (337) 571-3747
   - FAX: (337) 571-3823
   - PIPE SIZE: FLOW LINES

6. Volumes shown are for bidding purposes only and were calculated according to conditions surveyed from April 2000 to July 2000, for the project area (base bid) before and after digging, cross sections of the fill area shall be surveyed by the Contractor for measurement and payment purposes. The contractor shall also survey the borrow area after final acceptance of the base bid. For the project area (additive alternate), 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 and after completing the breach fill work. Cross sections of the borrow areas used to construct the breach fill shall be surveyed by the Contractor for measurement and payment purposes after acceptance of the breach fill area by the Contractor. The breach fill shall be measured and surveyed breached fill foot 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 alignment for completeness and accuracy.

7. Horizontal and Vertical Datum Information is based on point, "TRINITI", X = 3,476,498.85; Y = 200,955.57; Elevation = 4.67 (NAVD 88).

8. Mean Low Water Equals ~5.05 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.

### SUMMARY OF ESTIMATED QUANTITIES

<table>
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<tr>
<th>Item No.</th>
<th>Description</th>
<th>Unit</th>
<th>Estimated Quantity</th>
<th>As-Built Quantity</th>
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<td>Access Channel</td>
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| 5        | Hydraulic Dredging (Placed) | CUBIC YARDS | 830,650 | 844,540.24*
| 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 1,001,376 c.f. based on as-built survey.

### ADDITIVE ALTERNATE BID

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**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 bidding purposes only and were calculated according to conditions surveyed from April 2000 to July 2000. The owner reserves the right to adjust quantities higher or lower without amendment of the unit price.
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### 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.
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</table>
NOTE: TYPICAL SECTION B-B NOT USED PER FIELD ORDER NO. 1

Legend:
- Fill
- Containment Borrow Source
- Existing Ground
- Design Template

AS-BUILT

Horizontal Graphic Scale

Vertical Graphic Scale

Note: Typical Sections A-A' and B-B' are based on Reference Surveys in M.P. Hebert Survey Report dated August 2003. Actual conditions may vary.
AS-BUILT
NOTE:
DGPS points were taken at the beginning and ending of the plant rows and along each plant row every 1000 feet and at significant changes in direction.
## Plant Rows

<table>
<thead>
<tr>
<th>Common Name</th>
<th>GPS Points</th>
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<tbody>
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<tr>
<td>Gulf Cordgrass</td>
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<tr>
<td>Drop Seed</td>
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<tr>
<td>Blue Stem</td>
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<tr>
<td>Roseau</td>
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<tr>
<td>Bitter Panicum</td>
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<td>GPS Points</td>
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</table>

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

Common Name
- Smooth Cordgrass
- Matrimony Vine
- Gulf Cordgrass
- Drop Seed
- Marshhay Cordgrass
- Sea Oats
- Blue Stem
- Roseau
- Bitter Panicum

GPS Points

NOTE:
DGPS points were taken at the beginning and ending of the plant rows and along each plant row every 1000 feet and at significant changes in direction.
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Plant Rows
Common Name
- Smooth Cordgrass
- Matrimony Vine
- Gulf Cordgrass
- Drop Seed
- Marsh Hay Cordgrass
- Sea Oats
- Blue Stem
- Roseau
- Bitter Panicum
- GPS Points

NOTE:
GPS points were taken at the beginning and ending of the plant rows and along each plant row every 1000 feet and at significant changes in direction.
ATTACHMENT V

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

PROJECT PERMITS

&

PERMIT AMENDMENTS
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 southerly 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.

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(33 CFR 325 (Appendix A))
4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions: Page 4.

Further Information:

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

   (X) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
   (X) Section 404 of the Clean Water Act (33 U.S.C. 1344).

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 208.170) 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.

[Signature]
(PERMITTEE)

[Signature] 5/30/2006
(DATE)

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

[Signature]
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.

[Signature]
(TRANSFERTEE)

[Signature] (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.
Terrebonne Parish, LA

Dune/Marsh Restoration Project
East Island Beach

Coastal Engineering Division
Department of Natural Resources
State of Louisiana
Details

Restoration Project
East Island Breach

Coastal Engineering Division
Louisiana Department of Natural Resources

Construction of the fence

According to the conditions upon

Actual placement of sand fencing may be adjusted by the

Note:

New lumber (Untreated) #2)

MIN. 3/4 x 6"

Proposed dune

Beach Fill

12 Gauge Steel

1/2" x 1/2"

Wood Stakes
COASTAL ENGINEERING DIVISION
LOUISIANA DEPARTMENT OF NATURAL RESOURCES

NOTE:

BY DMR/LED AND ITS INSPECTOR
DETERMINED ON SITE DURING PROJECT LAYOUT
EXACT LOCATION OF PLANT ROWS TO BE
GULF SIDE

BAY SIDE

GULF SIDE

BAY SIDE

NOT TO SCALE

TYPICAL SECTION

Vegetative Section

Restoration Project

East Island

DATE: JANUARY 2006

PROJECT NUMBER: TE-07

STATE PROJECT NUMBER: TE-057
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  
(40 Acres @ $1,000 acre)

C. PREVENTATIVE MAINTENANCE  
(No preventative maintenance planned)

D. COST FOR DUNE FERTILIZATION: YEAR 2019  $104,560

   1. Fertilization cost: $ 80,000  
      (80 Acres @ $1,000 acre)
      Contingency (10%): $ 8,000  
      Total Construction Cost: $ 88,000

   2. Plans & Specification Preparation: $10,560  
      (Construction Cost x 12%)

   3. CPRA Administration: $ 6,000

   4. Total Cost for Dune Fertilization: $104,560

E. COST FOR DUNE PLANTINGS: YEAR 2019  $121,199

   1. Mobilization/Demobilization $ 10,000
   
   Plantings $ 80,000  
      (10,000 plants @ $8.00/plant)
      Total Construction Cost: $ 90,000
      Construction plus Contingency (10%): $ 9,000
      Total Planting Cost: $ 99,000

   2. Plans & Specification Preparation: $11,880
      (Construction Cost x 12%)

   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 MONITORING BUDGET: $557,857