

PROJECT COMPLETION REPORT¹

PROJECT NAME West Lake Boudreaux Shoreline Protection and Marsh Creation

CWPPRA/STATE PROJECT NO. TE-46

Report Date: May 3, 2012

BY: Charles Slocum

1. Project Managers/Contracting Officer:

| | | | |
|---|--|------------------|--|
| CPRA Project Manager | Andrew Beall | Telephone | (225) 342-1952 |
| CPRA Construction Project Manager | Brian Babin | Telephone | (985) 447-0956 |
| CPRA Monitoring Manager | Todd Hubbell | Telephone | (985) 447-0985 |
| Federal Agency Project Manager | Robert Dubois - USFWS John Jurgensen - NRCS | Telephone | (337) 291-3127 (318) 473-7694 |
| Federal Agency Contracting Officer | Ralph Broome | Telephone | (318) 473-7781 |

2. Location and description of projects as approved for construction by Task Force.

The West Lake Boudreaux Shoreline Protection and Marsh Creation (TE-46) project is located in Terrebonne Parish along the western side of Lake Boudreaux, south of Bayou Butler and east of Bayou Grand Caillou.

The project's objectives include: reducing erosion of the west Lake Boudreaux shoreline to protect 80 acres of emergent marsh and submerged aquatic vegetation (SAV); maintaining the shallow, open water habitat, including its SAV, located west of the lake rim; and creating 284 acres of marsh along the southwestern shoreline of Lake Boudreaux and at interior marsh sites through the deposition of dredged material. Containment dikes will be used to hold the dredged material in the marsh creation areas. The borrow site, from where the dredged material will be extracted, will be located in Lake Boudreaux east of the project site. In an effort to lessen or halt shoreline erosion, 13,000 linear feet of rock dike will be constructed in three sections along the western shoreline of Lake Boudreaux, from Hog Point south to Hog Point Canal. This will include "fish dips" for the exchange of material, nutrients, and organisms between the interior marsh and the lake's main body. Elsewhere, an earthen plug will be constructed to prevent unwanted water exchange. The project also calls for construction of 4,000 linear feet of earthen dike. In addition, existing openings will be enlarged and/or new openings created in the pumping station spoil bank to facilitate the exchange of water and organisms between the project area's north and south ponds.

3. Final, as-built features, boundaries and resulting acreage (use attachments if necessary).

Project features consist of the following:

- 1) 11,644 linear feet of shoreline protection in two sections along the western shoreline of Lake Boudreaux. The structure was built in 2 to 3.5 feet of water and between 0 to 100 feet from shore. A gap, approximately 100 feet wide, was left open for fish access.
- 2) Lake-bottom sediments were hydraulically dredged to create 124 acres of marsh.
- 3) Created marsh was planted with marshhay cordgrass and seashore paspalum within the first year.
- 4) One earthen plug to reduce water exchange between Lake Boudreaux and marsh located in the northern portion of the project area.
- 5) Enlarge existing openings and create new openings in the pumping station canal spoil bank to facilitate water exchange between the north and south ponds.

The exact location and construction dimensions of the project can be seen in the attached "As Built" drawings.

¹To be filled out at construction completion by either the CPRA Construction Project Manager or the Federal Agency Contracting Officer depending on which organization had lead role for construction of project.

Actual Benefitted Acres: 277 Acres

4. Key project cost elements

| | CWPPRA Project Cost Estimates** | Cost Incurred as of Construction Completion |
|---------------------|--|--|
| Construction | \$ 14,413,543.00 | \$ 14,353,786.32 |
| E & D | \$ 1,604,682.00 | \$ 1,119,905.13 |
| Landrights | \$ 191,651.00 | \$ 191,137.80 |
| Monitoring | \$ 22,572.00 | \$ 14,255.31 |
| O & M | \$ 1,664,815.00 | \$ 92.96 |
| Total | \$ 17,897,263.00 | \$ 15,684,127.52 |

**** Most recent estimate from CWPPRA Project estimates Report produced by USA COE.**

5. Items of work

| Item No. | Work | Estimated Quantity | Unit | Estimated Unit Price | Estimated Amount | Unit Bid Price | Bid Amount | Final Quantity | Final Amount | % Over/Under |
|----------|---|--------------------|------|----------------------|-----------------------|-----------------------|------------------|------------------------|------------------------|--------------|
| 1 | Mobilization and Demobilization | 1 | Job | \$300,000.00 | \$300,000.00 | \$2,220,000.00 | \$2,220,000.00 | 1 | \$2,220,000.00 | 100.00% |
| 2 | Pollution Control | 1 | Job | \$30,000.00 | \$30,000.00 | \$75,000.00 | \$75,000.00 | 1 | \$75,000.00 | 100.00% |
| 3 | Construction Surveys | 1 | Job | \$60,000.00 | \$60,000.00 | \$310,000.00 | \$310,000.00 | 1 | \$310,000.00 | 100.00% |
| 4 | Contractor Quality Control | 1 | Job | \$60,000.00 | \$60,000.00 | \$280,000.00 | \$280,000.00 | 1 | \$280,000.00 | 100.00% |
| 5 | Excavation, Marsh Creation Dredging | 975,000 | CY | \$3.23 | \$3,149,250.00 | \$3.50 | \$3,412,500.00 | 975,000 | \$3,412,500.00 | 100.00% |
| 6 | Rock Riprap | 66,000 | Ton | \$45.00 | \$2,970,000.00 | \$67.50 | \$4,455,000.00 | 66000 | \$4,455,000.00 | 100.00% |
| 7 | Geotextile | 45,900 | SY | \$7.00 | \$321,300.00 | \$8.80 | \$403,920.00 | 45,900 | \$403,920.00 | 100.00% |
| 8 | Excavation, Flotation Access | 1 | Job | \$487,250.00 | \$487,250.00 | \$935,000.00 | \$935,000.00 | 1 | \$935,000.00 | 100.00% |
| 9 | Metal Fabrication, Settlement Plates | 18 | EA | \$1,000.00 | \$18,000.00 | \$3,000.00 | \$54,000.00 | 18 | \$54,000.00 | 100.00% |
| 10 | Earthfill, Earthen Plug | 1 | Job | \$10,000.00 | \$10,000.00 | \$29,580.00 | \$29,580.00 | 1 | \$29,580.00 | 100.00% |
| 11 | Earthfill, Containment Dike, Open Marsh Area | 1 | Job | \$384,750.00 | \$384,750.00 | \$975,000.00 | \$975,000.00 | 1 | \$975,000.00 | 100.00% |
| 12 | Identification Markers and Plaques, Permanent Warning Signs | 4 | EA | \$2,500.00 | \$10,000.00 | \$4,250.00 | \$17,000.00 | 4 | \$17,000.00 | 100.00% |
| | | | | | Total Estimate | \$7,800,550.00 | Total Bid | \$13,167,000.00 | \$13,167,000.00 | |

Modifications

| | | | | | | | | | | |
|-----|--|-------|-----|--|--|--------------|------------------------------|--------------------|--------------|---------|
| M1 | This mod is to remove drawing sheet 4of 65 and replace with drawing sheet 4M1 of 65 | | | | | | | | | |
| | | | | | | | Total Modification #1 | \$0.00 | | |
| M2 | This mod is to Increase CLIN 12 from 4 to 5 and dollar value from \$17,000.00 to \$21,250.00 - Revise Construction Specification 7 - Remove and replace drawing sheets | | | | | | | | | |
| 12A | Identification Markers and Plaques, Permanent Warning Signs | 1 | EA | | | \$4,250.00 | \$4,250.00 | 1 | \$4,250.00 | 100.00% |
| | | | | | | | Total modification #2 | \$4,250.00 | | |
| M3 | Adds CLIN 13 | | | | | | | | | |
| 13 | Excavation, Borrow South Containment Dike (Rock Dike) | 1 | Job | | | \$12,650.00 | \$12,650.00 | 1 | \$12,650.00 | 100.00% |
| | | | | | | | Total Modification #3 | \$12,650.00 | | |
| M4 | Increase the quantity of geotextile by 6,150 SY | | | | | | | | | |
| 7A | Geotextile | 6,150 | SY | | | \$8.80 | \$54,120.00 | 6,150 | \$54,120.00 | 100.00% |
| | | | | | | | Total Modification #4 | \$54,120.00 | | |
| M5 | This mod removes the requirement to use nuclear meter from the contract | | | | | | | | | |
| 1A | Mobilization and Demobilization | 1 | LS | | | -\$21,403.00 | -\$21,403.00 | 1 | -\$21,403.00 | 100.00% |

| | | | | | | | | | | |
|-----|---|---------|-----|--|--|--------------|-------------------------------|------------------------|--------------|---------|
| | | | | | | | Total Modification #5 | -\$21,403.00 | | |
| M6 | This mod add CLIN 14 to the contract | | | | | | | | | |
| 14 | Excavation South Floation Channel | 1 | Job | | | \$180,500.00 | \$180,500.00 | 1 | \$180,500.00 | 100.00% |
| | | | | | | | Total Modification #6 | \$180,500.00 | | |
| M7 | This is a no cost mod to eliminate crossing of the pipeline | | | | | | | | | |
| | | | | | | | Total Modification #7 | \$0.00 | | |
| M8 | | | | | | | | | | |
| 5A | Excavation, Marsh Creation Dredging | 195,387 | CY | | | \$3.50 | \$683,854.50 | 195387 | \$683,854.50 | 100.00% |
| | | | | | | | Total Modification #8 | \$683,854.50 | | |
| M9 | Administrative mod to correct the dollar amount of the contract | | | | | | | | | |
| 5B | Excavation, Marsh Creation Dredging | 1 | | | | -\$0.50 | -\$0.50 | 1 | -\$0.50 | 100.00% |
| | | | | | | | Total Modification #9 | -\$0.50 | | |
| M10 | This mod is to add CLIN 15 to the contract - purpose is for NRCS portion of mitigation work performed by contractor | | | | | | | | | |
| 15 | Marsh Repairs | 1 | Job | | | \$80,000.00 | \$80,000.00 | 1 | \$80,000.00 | 100.00% |
| | | | | | | | Total Modification #10 | \$80,000.00 | | |
| M11 | To deobligate and close out contract | | | | | | | | | |
| | | | | | | | Total Modification #11 | -\$261,926.80 | | |
| | | | | | | | Total Cost of Contract | \$13,899,044.20 | | |

6. Construction and construction oversight

| | |
|---------------------------------------|--|
| Prime construction contractor | Inland Dredging Co., LLC |
| Subcontractor | Choctaw Transportation Company |
| Subcontractor | Bertucci Contracting Company, LLC |
| Subcontractor | Manson Gulf |
| Subcontractor | Wilco Marsh Buggies |
| Original construction contract | \$ 13,167,000.00 |
| Change orders | \$ 732044.20 |
| Final construction contract | \$ 13,899,044.20 |

| | | | |
|------------------------------------|-------------|--------------------|-----------|
| Const. oversight contractor | | Const. amt. | \$ |
| Cons. O.S./Admin. agency | NRCS | Est. amt. | \$ |

7. Major equipment used.

| | | |
|--------------------------|---------------------------------------|---------------------|
| 4600 Manitowoc Crane | 330 Excavator Marsh Buggy (3) | AB-4 Spud Barge |
| 71-B Bucyrus Erie Crane | 330 LK Excavator | AB-5 Spud Barge |
| 330-B Bucyrus Erie Crane | 24-inch Suction dredge Boat Ingenuity | Various rock barges |
| 88-B Bucyrus Crane | Tug Julie Marie | |

8. Discuss construction sequences and activities, problems encountered, solutions to problems, etc.

The subcontractor Wilco arrived with two marsh buggies and proceeded to build the containment dike starting with the north containment site and then to the central and south sites. Next the subcontractor Manson Gulf brought in a dredge and dug the access channels. Next the subcontractors Choctaw Transportation and Bertucci began to build the rock dike along the west bank of Lake Boudreaux starting at sta. 0+00 and continued up station. After building the containment dike and waiting the required 60 days for dewatering, the contractor brought in the 24 in suction dredge Ingenuity and

began filling the containment sites starting with the northern site and working south. After finishing the subcontractor Manson Gulf moved in and backfilled all access channels.

The only major problem encountered was the damage done by Wilco Marsh Buggies. Upon arrival at the site, Wilco tracked through open marsh to get to the northern containment dike. At the end of construction the tracks were filled in with dredge material to the satisfaction of the landowner.

Marsh Creation:

1. Excavate and place spoils as required for containment dike.
2. Place spoil from access flotation.
3. Pump in spoil from borrow area.

Construction of rock riprap dike

1. Excavate and place spoil as required for access flotation.
2. Place geotextile that will be underneath the rock riprap.

Place rock riprap

9. Construction change orders and field changes.

Modification #1: This modification is to the replacement of drawing sheet 4 of 65 with drawing sheet 4M1 of 65. This is a no cost modification result is no net increase to the contract.

Modification #2: This modification allowed adjustment of the containment dike and south marsh creation area as proposed by contractor and increases bid item 12, ID Markers. This modification result in a net increase to the contract of \$4,250.00.

Modification #3: This modification allowed for excavation from the interior marsh area to provide material for construction of the earthen containment dikes running parallel to the rock dikes from station 412+50 to 414+25. This modification results in a net increase to the contract of \$12,650.00.

Modification #4: This modification allows the quantity of geotextile to be increased by 6,150 SY. This modification results in a net increase to the contract of \$54,120.00.

Modification #5: This modification allows by mutual agreement to remove the use of nuclear meter from construction specification 21. This modification results in a net decrease to the contract of (\$21,403.00).

Modification #6: This modification allowed 3,000 feet of dredging excavation for floatation access to the remaining 600 feet of the unconstructed rock dike. This modification results in a net increase to the contract of \$180,500.00.

Modification #7: This modification is to eliminate the crossing of the pipeline. This is a no cost modification results in no increase to the contract.

Modification #8: This modification was needed to increase line item quantity from 975,000 cy to 1,170,387 cy. This modification results in a net increase to the contract of \$683,854.50.

Modification #9: This is an administrative mod to correct the contract dollar amount. This modification results in a net decrease to the contract of (\$0.50).

Modification #10: This modification was for mitigation work performed by the contractor as a result of contractor tracking equipment in the marsh area outside the work area. This modification results in a net increase to the contract of \$80,000.00.

Modification #11: This mod is to de-obligate remaining balance from contract and close the contract. This modification results in a net decrease to the contract of (\$261,926.80).

10. Pipeline and other utility crossings.

| <u>Structure</u> | <u>Owner</u> | <u>Rep. To Contact</u> |
|------------------|--------------|---|
| Pipeline | Crosstex | Mr. Mike Girard 311 Paterson Street Lafayette, La 70501 (985) 804-3721 |
| Pipeline | Gulf South | Mr. Joe Breaux 110 Park Place Suite 100 Covington, LA 70433 (985) 804-3680 |

11. Safety and Accidents.

NONE

12. Additional comments pertaining to construction, completed project, etc.

Construction of all project features is complete and all disputes between NRCS and the contractor have been resolved. Mitigation for damage to adjacent marsh (approximately 1 acre) by marsh buggy has also been resolved by restoring approximately 1 acre of marsh and nourishing nearly 5 acres of marsh with small hydraulic dredge. Last remaining issue is degrading containment dikes, which should be completed in early 2011.

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

| | <u>Date</u> | <u>Bid I.D.</u> |
|--|-------------------|--------------------------|
| Bid I.D. (Construction, Vegetation, etc.) | | AG-7217-S-07-0060 |
| Bid Opening | 4-24-2007 | |
| Construction Contract Award | 7-20-2007 | AG-7217-C-07-0110 |
| Preconstruction Conference | 7-24-2007 | |
| Notice to Proceed | 7-1-2007 | |
| Mobilization | 8-1-2007 | |
| Construction Start | 7-24-2007 | |
| Construction Completion | 10/30/2009 | |
| Final Acceptance | 10/30/2009 | |

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 CPRA Project Manager or the Federal Agency

Contracting Officer depending on which organization had lead role for construction of project.
***** To be completed by CPRA Project Manager.**