ATTACHMENT III

GIWW TO CLOVELLY HYDROLOGIC RESTORATION

PROJECT COMPLETION REPORT

NRCS Natural Resources Conservation Service
United States Department of Agriculture

Natural Resources Conservation Service

3737 Government Street
Alexandria, Louisiana
71302

July 26, 2002

Mr. George Boddie
Project Manager
Coastal Restoration Division
UNO Box 1102
New Orleans, LA 70148

Mr. Tom Podany
Chief, CWPPRA Program Manager
US Army Engineer District, New Orleans
P.O. Box 60267
New Orleans, Louisiana 70506

Gentlemen:

Re: PL-646 – BA-2
GIWW to Clovelly Hydrologic Restoration Project

The referenced project has been completed. Enclosed are a Project Completion Report and a copy of the As-Built drawings for the project.

Please direct any questions concerning this Project Completion Report to my attention at (318) 473-7791.

Sincerely,

/s/

Bradley A. Sticker, P.E.
Civil Engineer

Enclosure

cc: Bruce Lehto, ASTC/Water Resources, NRCS, Alexandria, LA (electronic distribution)
Britt Paul, Water Resources Planning Staff Leader, NRCS, Alexandria, LA (electronic distribution)
Dr. Bill Good, LDNR – CRD, Baton Rouge, LA (electronic distribution)
Garrett Broussard, LDNR – CRD, Baton Rouge, LA (electronic distribution)
Ed Giering, State Conservation Engineer, NRCS, Alexandria, LA (electronic distribution)
Gene Loupe, District Conservationist, Thibodaux, LA (electronic distribution)
Charles Phillips, Contracting Officer, NRCS, Alexandria, LA (electronic distribution)
Dale Garber, COTR, NRCS, Thibodaux, LA (electronic distribution)
Cherie LaFleur, Design Engineer, NRCS, Alexandria, LA (electronic distribution)
Ronnie Faulkner, Design Engineer, NRCS, Alexandria, LA (electronic distribution)

The Natural Resources Conservation Service, ·nerly the Soil Conservation Service, is an ·ency of the United States Department of Agriculture

AN EQUAL OPPORTUNITY EMPLOYER

PROJECT COMPLETION REPORT[1]

PROJECT NAME **GIWW to Clovelly Hydrologic Restoration**

CWPPRA/STATE PROJECT NO. **BA 2**

Report Date: **July 26, 2002** **BY:** **Natural Resources Conservation Service**

1. **Project Managers/Contracting Officer:**

DNR Project Manager	**George Boddie**	**Telephone**	**(504) 288-7153**
DNR Construction Project Manager	**Brian Babin**	**Telephone**	**(985) 447-0956**
DNR Monitoring Manager	**John Rapp**	**Telephone**	**(985) 447-0993**
Federal Agency Project Manager	**Britt Paul**	**Telephone**	**(318) 473-7816**
Federal Agency Contracting Officer	**Charles Phillips**	**Telephone**	**(318) 473-7796**

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

West Fork Bayou L'Ours Watershed (BA-2 Portion) is a wetland protection and enhancement project that encompasses the marshes of Lafourche Parish southeast of the Gulf Intracoastal Waterway (GIWW), east of Bayou Lafourche, and north of the Superior Canal. The project area contains approximately 60,000 acres of fresh and low-salinity wetlands. The project is in the West Fork Bayou L'Ours watershed which comprises 133,900 acres in the southeastern portion of Lafourche Parish, Louisiana, and is bounded on the west and south by West Fork Bayou L'Ours; on the east by Bayou Perot, Little Lake and Bay L'Ours; and on the north by the GIWW.

This project has several purposes: reduce marsh erosion; reduce saltwater intrusion and subsequent land loss; increase economic returns from trapping, recreational opportunities, and commercial fisheries; sustain marsh habitat for the continued existence of territorial, migratory, and threatened or endangered wildlife; improve water quality; and to achieve marsh reclamation.

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

Construction Unit #1 consisted of the installation of 8 structures to the west of Little Lake and Bay Lours. The installation consisted of 3 rock plugs, 4 rock weirs, and a 36" diameter corrugated aluminum pipe with a flap gate supported by pilings. The previously submitted "As Built" plans identify the locations and features as installed.

Construction Unit #2 consisted of the installation of 2 rock plugs, 2 rock weirs, 1 variable crested sheet pile weir, approximately 5665 linear feet of shore protection on the southwest shore of Bay Lours, and approximately 1171' linear feet of earthen bank stabilization and 5023 linear feet of rock bank stabilization. The locations and constructed dimensions of the features of Construction Unit #2 can be seen in the attached "As Built" plans

Actual Benefited Acres **2,052**

4. **Key project cost elements**

	CWPPRA Project Cost Estimates** (TOTAL PROJECT)	Cost Incurred as of Construction Completion (TOTAL PROJECT)
Construction	$ 4,870,000.00	$ 5,453,607.52
E & D	$ 602,020.00	$ 612,705.00
Landrights	$ 384,880.00	$ 373,064.00
Monitoring	$ 1,236,624.00	$ 277,073.00
O & M	$ 1,235,079.00	$ 6,977.43
Total	$ 8,328,603.00	$ 6,723,426.95

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

5. Items of Work (Construction Unit #2 Only)

BASE BID

CLIN.	Work	Est. Quan.	Unit	Estimated Unit Price	Estimated Amount	Final Quan.	Bid Unit Price	Final Amount	% Over or -under
1	Mobil & Demobil	1	Job	$75,000.00	$ 75,000.00	1	$ 195,000.00	$ 190,000.00 *	0%
2	Pollution Ctrl	1	Job	$ 10,000.00	$ 10,000.00	1	$ 2,000.00	$ 2,000.00	0%
3	Steel Sheet Piling	1890	S.F.	$ 22.00	$ 41,580.00	1899	$ 30.00	$ 56,961.00	0.5%
4	Rnd Tim Pile 60 Ft	32	EA	$ 870.00	$ 27,840.00	33	$ 1,100.00	$ 36,300.00	3.1%
5	Rnd Tim Pile 50 Ft	36	EA	$ 725.00	$ 26,100.00	35	$ 900.00	$ 31,500.00	2.8%
6	Earthfill	2995	CY	$ 20.00	$ 59,900.00	8823	$ 6.00	$ 52,936.74	194.6%
7	Rockfill	16865	Tons	$ 35.00	$ 590,275.00	23369	$ 42.50	$ 993,182.50	38.6%
8	Rockriprap 650#	47865	Tons	$ 36.00	$ 1,723,140.00	34991	$ 36.50	$ 1,277,171.50	26.9%
9	Rockriprap 200#	15380	Tons	$ 36.00	$ 553,680.00	18593	$ 35.50	$ 660,051.50	20.9%
10	Metal Fab Warning Sign Support	30	EA	$ 500.00	$ 15,000.00	30	$ 1,000.00	$ 30,000.00	0%
11	Metal Fab Site 35	1	Job	$20,400.00	$ 20,400.00	1	$ 15,000.00	$ 15,904.60 **	0%
12	Metal Fab Settlement Plates	8	EA	$ 500.00	$ 4,000.00	8	$ 1,000.00	$ 8,000.00	0%
13	Geotextile	56950	S.Y.	$ 2.70	$ 153,765.00	65466	$ 6.00	$ 392,794.68	15%
14	Construction Surveys	1	Job	$20,000.00	$ 20,000.00	1	$ 25,000.00	$ 25,000.00	0%

ADDITIVE A

15	Earthfill	4,290	CY	$ 22.00	$ 94,380.00	6088	$ 6.00	$	
16	Rockfill	550	Tons	$ 36.00	$ 19,800.00	0	$ 45.00	$ - ***	
17	Rnd. Timber Piling, 50 ft	3	EA	$ 725.00	$ 2,175.00	3	$ 1,100.00	$ 3,300.00	0%
18	Rock Riprap, 650#	1,970	Tons	$ 38.00	$ 74,860.00	2597	$ 39.00	$ 101,283.00	31.8%
19	Metal Fabrication, Warning Sign Supports	3	EA	$ 500.00	$ 1,500.00	3	$ 1,000.00	$ 3,000.00	0%
20	Metal Fabrication, Settlement Plates	1	EA	$ 500.00	$ 500.00	1	$ 1,000.00	$ 1,000.00	0%
21	Geotextile	11170	S.Y.	$ 3.00	$ 33,510.00	6778	$ 6.00	$ 40,666.74	39.3%
22		1	Job	$ 3,000.00	$ 3,000.00		$ 5,000.00		0%

ORIGINAL ESTIMATED AMOUNT $3,550,405 ORIG. BID AMOUNT $3,975,435.00

MODIFICATION #13

23	Rock Rip rap 650# Site 14 A Ext	300	Tons	$ 36.50	$ 10,950.00	300	$ 36.50	$ 10,950.00	0%
24	Geotextile	178	S.Y.	$ 6.00	$ 1,068.00	178	$ 6.00	$ 1,068.00	0%

MODIFICATION #14

25	650# Rock Site 4 B	120	Tons	$ 39.00	$ 4,680.00	403	$ 39.00	$ 15,717.00	-70%
26	650 # Rock Lake Rim	1230	Tons	$ 36.50	$ 44,895.00	1,478	$ 36.50	$ 53,947.00	-17%
27	Rock Riprap 200#	3375	Tons	$ 35.50	$ 119,812.50	2,354	$ 35.50	$ 83,567.00	43%
28	Rockfill	1400	Tons	$ 42.50	$ 59,500.00	1,010	$ 42.50	$ 42,925.00	39%

MODIFICATION #15

29	Negotiated Equitable Adjustment							$ 665,753.00	-70%

TOTAL FINAL AMOUNT $ 4,836,504.62

*Modification #5 – reduced item by $5000

**Modification #6 – increased item by 904.60

***Modification # 11 – Removed bid CLIN 16 reduced by $24,750, increased CLIN 18 by $21,450

6. **Construction and construction oversight**

ITEM	Constr. Unit #1	Constr. Unit #2
Prime construction contractor	All South General Contractor	Regency Construction
Subcontractor	N/A	Bertucci Contracting Corp.
Subcontractor	N/A	Jag Construction
Original construction contract	$394,788.00	$ 3,975,435.00
Change orders	$17,760.00	$879,831.60
Over/Under Runs	$32,974.60	- $18,761.98
Damages	-$821.72	$0.00
Total Construction Contract Cost	$444,700.88	$4,836,504.62*

*With navigation lights small purchase added to CU#2, the total cost is $4,850,980.64

Const. oversight contractor	**N/A**	**Const. amt.**	**$ -----**
Cons. O.S./Admin. agency	USDA NRCS	Est. amt.	$ -----

7. **Major equipment used (Construction Unit #2 Only).**

AB-3 Spud Barge with Bucyrus Erie 88-B Crane
AB-4 Spud Barge with Bucyrus Erie 88-B Crane
AB-11 Spud Barge with Bucyrus Erie 88-B Crane
BB-105 Spud Barge with Linkbelt CS2800 Long Reach Excavator
FS-117 Spud Barge with Linkbelt 3400 Long Reach Excavator
Marsh buggy Excavator
Front End Loader
3 – Tug Boats
Spud Barge with Link – Belt Crane (subcontractor)
Rock Barges

Discuss construction sequences and activities, problems encountered, solutions to problems, etc. (CU #2 Only)

1. The Contractor started placing geotextile and rockfill at Sites 14-A, 1, and 90 to allow for the 40 day waiting period.
2. Started placing earthfill material along the embankment stabilization.
3. Started placing geotextile and rockfill along the bank stabilization which had a 40 day waiting period.
4. Once the rockfill was placed they began placing riprap along the bank stabilization starting at the mouth of the Briton Canal. Also, placed riprap on the structures and along the lake rim stabilization.
5. Began driving sheet piles for Site 35 variable crest weir.
6. Completed placing rock at sites 1 and 90 and began placing riprap at site 4-B.
7. Completed placing riprap at the lake rim restoration and the bank stabilization.
8. Completed site 35 and installed the stoplogs.
9. Completed site 14-A and 4-B.
10. Completed placing earthen material along the bank stabilization.
11. Installed the warning signs and supports.
12. Cleaned up the sites and removed all equipment.

9. **Construction change orders and field changes (Construction Unit #2 Only).**

- Modification #1 – Increased performance time from 256 to 289 calendar days due to Additive A being awarded.
- Modification #2 – Corrected "Type C" sign details on sheet 23 of the drawings. (No cost or time change)
- Modification #3 – Required contractor to measure partial barges where materials were being placed on multiple CLIN's. (No cost or time change)

Modifications #4 – Allowed use of originally specified epoxy coated cable or stainless steel cable for the navigation pile clusters. (No cost or time change)

Modification #5 – Allowed prime contractor to reduce his required workforce from 50% to 25%. CLIN 1 Mobilization was reduced from $195,000 to $190,000 for a total of $5,000 reduction in the contract amount. (No time change)

Modification #6 – Strengthened the crane base plate and supports at site 35. CLIN 11 was increased from $15,000 to $15,904.60 for an increase of $904.60 in the contract amount. (No time change)

Modification #7 – Not issued

Modification #8 – Unilateral modification requiring the contractor to place the rockfill for the lake rim restoration portion of the work to the lines as shown in the revised sheet 22 and revised specification page 25-5 and 25-6. This was done to correct an error in the original specification that required the contractor to place more rockfill in the lake rim restoration section than was intended. (No cost or time change at the time of issuance)

Modification #9 – Unilateral modification that limited the contractor to ordering no more than 23,253 tons of rockfill for CLIN 7. (No cost or time change at the time of issuance)

Modification #10- Unilateral modification that removed geotextile from beneath the earthen embankment with the exception where the fill height exceeded 3'. The quantities for CLIN 13 and 21 were reduced by 7,675 s.y. and 4,705 s.y. respectively. (No cost or time change at the time of issuance)

Modification #11- Changed requirement for a rockfill core at site 4b and utilized all rock riprap for the structure construction. CLIN 16 was removed from the contract for a $24,750 reduction. Increased CLIN 18 by 550 tons at $39.00 per ton for an increase of $21,450.

Modification #12- Changed the location of the warning sign placement along the lake rim restoration to align with the center of the fish dips in the area. (No cost or time change)

Modification #13- Added CLIN's 23 (Rock riprap 650# site 14A extension) and 24 (Geotextile site 14A extension) in order to extend the length of site 14A. The total dollar value of the contract was increased by $12,018 and one additional day was added to the performance time.

Modification #14- Added four CLIN's (25, 26, 27, & 28) to add additional rockfill and riprap to various locations to bring the structures to required grades. The total dollar value of the contract was increased by $228,887.50 and the performance time was increased by 10 days.

Modification #15- Added CLIN 29 which was a negotiated equitable adjustment to the contract for change orders 8, 9, and 10, and other negotiated changes to the contract. The total dollar value of the contract was increased by $665,753 and the performance time was increased by 42 days.

10. Pipeline and other utility crossings.

Structure	Owner	Rep. To Contact
Oyster Leases in Project Access Route	Whitney Lombas	Whitney Lombas (504)572-2897 (Pager)
Lake Rim and Bank Stabilization	Entergy	Claude Maralda (504)670-3780
14-A	Exxon Pipeline	Benton Arcement (504)537-4805
Bank Stabilization	Stone Energy	Phillip Lalande (318)237-0410
Bank Stabilization	Ridgelake Energy, Inc	John Rubin (504)837-0444

11. Safety and Accidents (Construction Unit #2 Only).

Excellent Safety Record with no Accidents Reported.

Two Tug Boats pumped their bilge and created an oil spill that was cleaned up promptly and reported to Coast Guard.

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

Lafourche Parish expressed their concern that navigation lights were not installed at site 14-A. A small purchase contract was awarded to install four navigation lights on the existing pile clusters. Also, conspicuity tape was installed on all piles for additional safety to keep boaters from running into the structures. The cost for this additional work was $14,476.02.

13. Significant Construction Dates:

ACTION	Construction Unit #1 Date	Construction Unit #2 Date
Bid I.D. (Construction, Vegetation, etc.)	Construction	Construction
Bid Opening	3/6/1997	12/15/1999
Construction Contract Award	3/12/1997	1/18/2000
Preconstruction Conference	3/19/1997	2/15/2000
Notice to Proceed	4/1/1997	2/22/2000
Mobilization	4/21/1997	4/13/2000
Construction Start	4/21/1997	4/14/2000
Construction Completion	10/6/1997	10/13/2000
Final Acceptance	10/9/1997	11/8/2000

Other significant Project Dates

	Date
Project Implementation closeout**	
Start of Preconstruction Monitoring***	
Preconstruction Aerial Photography	
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.

NRCS SUPPLEMENT TO COMPLETION REPORT

CONTRACT ADMINISTRATION

List any significant problems encountered in the administration of the construction contract and recommended solution for future contract of like nature.

DESCRIPTION OF PROBLEM ENCOUNTERED	RECOMMENDATIONS FOR FUTURE CONTRACTS
1.Unilateral modifications were issued (change orders) and no equitable adjustment was made at the time the order was given.	In the event unilateral modifications are required, an equitable adjustment of time and dollars should be included in the modification if appropriate.

CONSTRUCTION PLANS

List any items pertinent to the plans that caused problems, need clarification or changes for future contracts of this nature.

DESCRIPTION OF ITEM IN PLANS	RECOMMENDATIONS FOR FUTURE CONTRACTS
1. Navigation Aids	1. Recommend using ¾" Stainless Steel cable to wrap pilings and using two - 1" diameter Stainless Steel rods to bolt the pilings together. The rods shall be spaced approximately 8" apart so the cable can be wrapped between the rods and thus held in place. 2. Install warning lights on Navigation Aids for safety purposes.
2. Directional Signs and Temporary Warning Signs	1. Recommend using 6" diameter pipe for support of directional signs at boat or barge bays. 2. Require contractor to install temporary sign supports of sufficient strength and height. Require contractor to maintain these according to planned height and location during construction.
3. Settlement Pipes	1. Install a minimum 3" diameter pipe for settlement plates. 2. If a threaded cap is used, require the contractor to cold galvanize the threads prior to final inspection.
4. Paint Schedule	Recommend having a paint schedule on plans for steel work to clarify the requirements.
5. Fish Dips	Where fish access dips are required, the warning signs need to be shown on the plans to be located at the center of each dip in order to protect boaters from the underwater obstructions.
6. Typical Sections	Ensure that the typical sections in the plans and placement methods described in the specifications are consistent with the sections and methods used to estimate quantities.

CONSTRUCTION SPECIFICATIONS

List any significant items in the construction specifications which caused problems, need clarification or changes for future contracts of this nature.

DESCRIPTION OF ITEM IN SPECIFICATIONS	RECOMMENDATIONS FOR FUTURE CONTRACTS
Rockfill	1. For structures with rockfill cores for reduced permeability, it is recommended not to overbuilding the rockfill portion above the final lines and grades for the rockfill. This is because the amount of anticipated settlement that may not occur leaving excess rockfill. If the rockfill settles, it is recommended the difference by made up in additional riprap to avoid having to remobilize more rockfill to the site. 2. If possible, recommend only building rock section with one size riprap and not using rockfill and riprap. 3. If permeability is a concern, consider using alternative methods such as a vinyl sheet pile cutoff wall or lightweight bagged materials in the center of the rock riprap structure to reduce permeability.
2. Rip-Rap	The specification should require that rip-rap should be built to grade plus a specified vertical tolerance and the final grade shall meet the planned grade at time of final inspection, therefore if settlement does occur the contractor may have to come back and place more rip-rap prior to final inspection. The exception to this would be where staged construction is required for foundation stability.
2. Earth Embankment	1. Do not recommend using geotextile under earthfill sections when the fill height is 3 feet or less. 2. Recommend bidding this work by the linear feet and specifying the contractor to place multiple lifts to meet final planned grade. 3. Recommend seeding any earthfill areas placed.

GENERAL COMMENTS

List any significant items which worked well and should be repeated or which caused problems, need clarification or changes for future contracts of this nature.

DESCRIPTION OF ITEM	RECOMMENDATIONS FOR FUTURE CONTRACTS
1. Geotextile	In estimating the quantity of geotextile required for linear features (foreshore dikes, etc.), the length of the geotextile needs to be determined by measuring the outside lengths of curves and PI's. Also if soft foundation soils are present, the length of the geotextile required needs to be increased due to the differential settlement that will occur by approximately 10%. This will be site specific.
2. Excavation for Floatation	1. If possible in future contracts consideration to increasing floatation access channel widths to 80' to allow larger equipment access and possibly increase competition.