Coastal Protection and Restoration Authority of Louisiana

Office of Coastal Protection and Restoration

2009/2010 Annual Inspection Report

for

HOLLY BEACH SAND MANAGEMENT PROJECT (CS-31)

State Project Number CS-31
Priority Project List 11

October 20, 2009
Cameron Parish

Prepared by:

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I. Introduction

The Holly Beach Sand Management Project (CS-31) consists of approximately 10,849 acres of brackish marsh, intermediate marsh and sand dune in Cameron Parish Louisiana. The project is located between the communities of Holly Beach and Constance Beach on the Gulf of Mexico shoreline in southwest LA and is divided into two areas separated by LA Hwy. 82 (See Appendix A).

The Holly Beach Sand Management Project was 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 and approved on the eleventh Priority Project List. Funding consisted of fifty percent NRCS funds, twenty-five percent CIAP (Coastal Impact Assistance Program of NOAA) funds, and twenty-five percent from the State of Louisiana. The Holly Beach Project has a twenty –year (20 year) economic life, which began in April 2003.

II. Inspection Purpose and Procedures

The purpose of the annual inspection of the Holly Beach Sand Management Project (CS-31) is to evaluate the constructed project features to identify any deficiencies and prepare a report detailing the condition of project features and recommended corrective actions needed. Should it be determined that corrective actions are needed, OCPR shall provide, in the report, a detailed cost estimate for engineering, design, supervision, inspection, and construction contingencies, and an assessment of the urgency of such repairs (O&M Plan, 2003). The annual inspection report also contains a summary of maintenance projects, if any, which were completed since completion of constructed project features and an estimated projected budget for the upcoming three (3) years for operation, maintenance and rehabilitation. The three (3) year projected operation and maintenance budget is shown in Appendix C.

An inspection of the Holly Beach Sand Management Project (CS-31) was held on October 20, 2009 under sunny skies and cool temperatures. In attendance were Darrell Pontiff and Dewey Billodeau from OCPR LFO, and Donald Taffi from NRCS. The annual inspection began at approximately 10:25 a.m. on the western boundary of the project area.

The field inspection included a complete visual inspection of all features. Staff gauge readings where available were used to determine approximate elevations of water, sand dunes, and sand fencing. Photographs were taken at each project feature (see Appendix B) and Field Inspection notes were completed in the field to record measurements and deficiencies (see Appendix D).

III. Project Description and History

Between 1991 and 1995, the Louisiana Department of Natural Resources partnered with the Louisiana Department of Transportation and Development, constructed 85 breakwaters along

the Gulf of Mexico shoreline in southwest LA. In conjunction with the CS-31 project, funded separately, some maintenance/modifications were performed on several of these breakwaters.

The Holly Beach Sand Management Project (CS-31) was constructed between breakwaters 10 and 72 and was completed in April 2003. It involved the construction of a 5.3 mile long, 1.75 million cubic yard beach nourishment beginning approximately 3 miles west of the community of Holly beach and ending approximately 8.3 miles west of Holly Beach. Sand was being blown across La. Hwy. 82 so fencing, as a result of a contract change order, was installed along the first 18,730 linear feet of beach. Another 11,000 linear feet was installed under separate contract with the La. Department of Agriculture and Forestry through their subsidiary, Gulf Coast Soil and Water Conservation District of Lake Charles. Both sides of this sand fence were planted with bitter panicum under a DNR contract. Also involved was the removal of six experimental breakwaters. Construction of the project will help to protect LA Hwy. 82 and the vast marsh area north of same. The principle project features of the Holly Beach Sand Management Project include the following:

A. **Beach Nourishment:** 5.3 miles of newly constructed beach beginning at approximately breakwater 72 and extending westward to approximately breakwater 10.

B. **Sand Fence:** Approximately 29,730 linear feet of sand fencing with associated pedestrian and vehicle gaps.

Stabilization of this area is critical since this ridge is the only hydrological barrier separating thousands of acres of low energy, intermediate and brackish marsh along the southern boundary of the Sabine National Wildlife Refuge from the high energy, saline waters of the Gulf of Mexico. The highway revetment has already been undermined in some sections, and the underlying Chenier is in danger of being breached. A breach of this ridge would lead to direct wave erosion and saltwater intrusion into fragile wetlands to the north.

Re-establishing the beach profile using sediment dredged from an old deposited sand bar area approximately 5 miles offshore from what was once the Sabine River, will (1) maintain the integrity and functionality of the Chenier/beach ridge; (2) reduce over-wash occurrences of the Chenier/beach ridge during episodic higher wave energy events in the Gulf of Mexico; (3) provide storm protection to intermediate and brackish marsh habitats north of the Chenier/beach ridge; (4) restore the littoral drift system, thereby reducing down drift erosion rates; and (5) allow for monitoring and quantification of beach profile changes and beach shape development.

The specific goals of the project are:

1. Protect approximately 8,600 acres of existing intermediate and brackish wetlands north of La. Hwy. 82 between Holly and Constance Beaches.

2. Protect approximately 300 acres of beach dune and coastal Chenier habitat along the shoreline of the Gulf of Mexico from erosion and degradation due to wave energies.

IV. Summary of Past Operation and Maintenance Projects

General Maintenance: Below is a summary of completed maintenance projects and operation tasks performed since April 2003, the construction completion date of the Holly Beach Sand Management Project (CS-31).

April 2005 - The LA Dept. of Agriculture along with the Cameron Parish Police Jury installed approximately an additional 10,000 linear feet of sand fencing along with approximately 4,000 plants in April 2005.

July 2006 – The LA Dept. of Agriculture installed approximately 5,550 plants along the entire length of the beach project.

October 2006 – Sand Fence Replacement (FEMA Project) – A maintenance event was performed to replace 46,000 linear feet of sand fence destroyed by Hurricane RITA. The contractor was Landscape Management Services from Lake Charles, LA. Work began on October 9, 2006 and the contract was completed on November 27, 2006. The cost associated with the engineering, design and construction of the Holly Beach Sand Fence Maintenance Project is as follows:

Construction:	$ 218,473.50
Engineering & Design:	$ 10,000.00
Construction Admin./Oversight	$ 10,000.00
As builts:	$ 8,797.50
TOTAL CONSTRUCTION COST:	**$ 247,271.00**

(Note: FEMA reimbursed $222,843)

Structure Operations: There are no structural components of the project therefore no operations are required.

V. Inspection Results

Beach Nourishment

The sand beach nourishment area was fairly clean with some litter and debris from high tides. The sand plateau has suffered erosion from Hurricanes Rita and Ike over the last several years. Also, there are several areas where the receding storm surge waters created cuts into the

sand beach pushing the sand out into the Gulf towards the segmented rock breakwaters. Some of the sand from the beach has been pushed inland around the camps. Strong southeasterly winds were pushing the sand in a northwestern direction across Hwy 82 as well as across the beach plateau. (Photos: Appendix B, Photos 1 – 4).

Sand Fence

The sand fence has been completely destroyed with no visible signs of the sand fence material. There are some remaining 4x4 posts left standing, however the majority are broken off near the sand or leaning. There are no signs of any vegetation left that was planted along and adjacent to the sand fence alignment. (Photos: Appendix B, Photos 1 - 4).

VI. Conclusions and Recommendations

Overall, the Holly Beach Sand Management Project is in fair condition and functioning as designed with problems as noted above. The existing remnants of the sand fencing will need to be removed and disposed of and new sand fencing will need to be installed. Vegetative plantings will need to be placed along the new sand fence alignment. A post Hurricane Ike survey was conducted in January 2009 to compare to post Hurricane Rita survey performed in 2005 to determine any sand quantities lost that can be attributed to Hurricane Ike which will made part of a FEMA claim. The initial response from FEMA was to deny the claim. An appeal has been submitted by the State objecting to the denial of the claim. Replacement of the displaced sand is considered a priority by residents in Cameron Parish. A maintenance event is planned for FY 2010 to address the following:

- Replace 46,000 linear feet of sand fence.
- Replace 28,000 vegetative plantings.

Appendix A

Project Features Map


Holly Beach Sand Management (CS-31)
Project Boundary
Gulf of Mexico
Constance Beach
Holly Beach
Louisiana
Project Location
N
1 0 1 Miles
1 0 1 Kilometers
USGS
science for a changing world
Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station
Background Imagery:
2001 Digital Orthophoto Quarter Quadrangle
Map Date: December 23, 2003
Map ID: USGS-NWRC 2004-11-0012
Data accurate as of: December 22, 2003

Appendix B

Photographs

Photo No. 1, Typical view of destroyed sand fence and erosion to beach

Photo No. 2, Close up view of beach

Photo No. 3, View of beach near Hwy 82

Photo No. 4, View of western end of project looking eastward

Appendix C

Three Year Budget Projection

HOLLY BEACH SAND MANAGEMENT/ CS-31 / PPL 11

Three-Year Operations & Maintenance Budgets 07/01/2010 - 06/30/2013

Project Manager	O & M Manager	Federal Sponsor	Prepared By
Pat Landry	*Darrell Pontiff*	*NRCS*	*Darrell Pontiff*

	2010/2011	2011/2012	2012/2013
Maintenance Inspection	$ 5,909.00	$ 6,086.00	$ 6,269.00
Structure Operation			
Administration	$6,000.00		$ -
Maintenance/Rehabilitation			

10/11 Description: Replace sand fence and vegetative plantings.

E&D	$30,000.00
Construction	$508,200.00
Construction Oversight	$20,000.00
Sub Total - Maint. And Rehab.	$ 558,200.00

11/12 Description:

E&D		
Construction		
Construction Oversight		
	Sub Total - Maint. And Rehab.	$ -

12/13 Description:

E&D			$ -
Construction			$ -
Construction Oversight			$ -
		Sub Total - Maint. And Rehab.	$ -

	2010/2011	2011/2012	2012/2013
Total O&M Budgets	**$ 570,109.00**	**$ 6,086.00**	**$ 6,269.00**

O &M Budget (3 yr Total)	**$ 582,464.00**
Unexpended O & M Budget	**$ 191,320.00**
Remaining O & M Budget (Projected)	**$ (391,144.00)**

Note: CPRA has obligated State Surplus money ($564,200) while awaiting FEMA Appeal.

Appendix D

Field Inspection Form

Annual Inspection Report
HOLLY BEACH SAND MANAGEMENT PROJECT
State Project No. CS-31

MAINTENANCE INSPECTION REPORT CHECK SHEET

Project No. / Name: CS-31 Holly Beach

Date of Inspection: October 20, 2009 Time: 10:25 am

Structure No.

Inspector(s): Darrell Pontiff, Dewey Billodeau (OCPR)
Donald Taffi (NRCS)

Structure Description: Sand fencing and beach fill.

Type of Inspection: Annual

Weather Conditions:sunny & cool

Item	Condition	Physical Damage	Corrosion	Photo #	Observations and Remarks
Steel Bulkhead / Caps	N/A				
Steel Grating	N/A				
Stop Logs	N/A				
Hardware	N/A				
Timber Piles	N/A				
Timber Wales	N/A				
Galv. Pile Caps	N/A				
Sand Fencing	Poor			1-4	Sand fence completely destroyed, no signs of any vegetation.
Signage /Supports	N/A				
Sand (fill)	Fair			1-4	Beach fill in fair condition, minimal trash and debris from high tides.
Earthen Embankment	N/A				

What are the conditions of the existing levees?
Are there any noticeable breaches?
Settlement of rock plugs and rock weirs?
Position of stoplogs at the time of the inspection?
Are there any signs of vandalism?

Appendix E

Locations to be Monitored