Coastal Protection and Restoration Authority of Louisiana

Office of Coastal Protection and Restoration

2009 Annual Inspection Report

Barataria Bay Waterway West Bank Protection

State Project Number BA-23
Priority Project List 4

July 1, 2009
Jefferson Parish

Prepared by:

Barry Richard, E.I.
OCPR/Operations Division
New Orleans District Office
CERM, Suit 309
2045 Lakeshore Dr.
New Orleans, La  70122
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I. Introduction

The Barataria Bay Waterway West Bank Protection Project (BA-23) is located in Jefferson Parish, Louisiana approximately 4.5 mi (7.2 km) south of Lafitte on the west side of the Dupre Cut portion of the Barataria Bay Waterway (BBW). The project area is east of Bayou Rigolettes, north of the Lafitte Oil and Gas Field, and southwest of The Pen (Appendix A).

II. Project Description and History

Project area wetlands were formed in a protective curve of the natural ridge of Bayou Barataria. The east-west orientation of the ridge, which serves as the southern boundary of the project area, protected the wetlands from the direct influence of salinities and tidal action of the Gulf of Mexico through Barataria Bay. Construction of the Dupre Cut portion of BBW established a direct conduit linking project wetlands with Barataria Bay. Initially, Dupre Cut spoil banks protected the project area from salinity and tidal fluctuations in the waterway. The combination of subsidence and wave erosion from marine traffic, however, has caused a breaching of the spoil banks which has resulted in increased water exchange and salinity fluctuations.

Principal project components include:

1. Foreshore Rock Dike
   - 9,900 linear feet (2,865 m) of rock shoreline protection along the west bank of the BBW.

2. Water Control Structure
   - Two (2) 48 inch diameter culverts.
   - Four (4) 5 ft long stop log bays capable of holding 10 stop logs each.

The purpose of the foreshore rock dike is to protect the existing adjacent marsh from excessive water exchange, wave action, and subsequent erosion. The structure also protects newly created marsh which was constructed as a beneficial use project during the U.S. Army Corps of Engineers’ (USACE) maintenance dredging of the BBW. This marsh was created by beneficially placing approximately 750,000 cubic yards of dredge material from the Waterway in shallow open water areas adjacent to the BBW. Gaps in the spoil bank excluded from the USACE dredging operation were filled in, thereupon reinforcing and forming a continuous structure.

The purpose of the water control structure, which is located at the end of an abandoned oil well access canal, is to allow the water levels in the new and existing marsh to be managed. The structure remains open most of the year, allowing unimpeded ingress and egress of marine organisms. During waterfowl hunting season, which is also low water season, (November through January) the structure is adjusted to retain water within the
southern project area. Water levels are managed to a height not to exceed 6 inches (15 cm) below marsh elevation in the southern project area.

Project construction began on June 9, 2000, and was completed on November 7, 2000. Project life is estimated to be 20 years. Annual project inspections are planned.

In December, 2005, a contract to raise the foreshore rock dike was awarded and resulted in the placement of 5,143 tons of rock riprap on the settled sections of the structure. The work was completed on January 24, 2006.

In May, 2007, a contract for dredging the access channel which leads to the water control structure was awarded. Approximately 4,400 cubic yards of material was dredged and placed within the channel to be used beneficially. This work was completed on June 19, 2007.

III. Inspection Purpose and Procedures

The purpose of the annual inspection of the Barataria Bay Waterway West Bank Protection Project (BA-23) 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, the 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 March 18, 2002). The annual inspection report also contains a summary of maintenance projects 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. A summary of past operation and maintenance projects completed since completion of the project are outlined in Section II.

An inspection of the Barataria Bay Waterway West Bank Protection Project (BA-23) was held on September 30, 2008, by Barry Richard of OCPR and Quin Kinler of NRCS. This inspection was a result of Hurricanes Gustav and Ike making landfall in coastal Louisiana. There was a light wind and a clear sky. Photographs of that inspection are included in Appendix B of this report.
IV. Inspection Results

Rock Riprap

The rock structure appeared to be in good condition at the time of the inspection (Photo #1).

Water Control Structure

On March 18, 2009, Barry Richard of OCPR removed the stop logs and the structure was in good condition at that time. The water control structure is accessed through an abandoned oil well canal. After Hurricanes Gustav and Ike passed it was noted that some logs and stumps had been deposited in front of the access canal for the water control structure (Photo #2). This canal was dredged recently to improve flow and access to the water control structure. The dredge spoil was placed inside the canal to be used beneficially. This spoil material is showing no sign of sliding back into the dredged channel and is heavily vegetated.

V. Conclusions

The Barataria Bay Waterway West Bank Protection Project (BA-23) is performing as intended. The rock dike is protecting the existing marsh as designed, and the dredge material which the USACE placed inside of the project area has set up and vegetated nicely. The last maintenance lift raised the elevation of the settled sections of foreshore rock dike back to the original designed elevation. This should ensure that the structure performs adequately through the next programmed maintenance lift.

VI. Recommendations

There are no recommendations at this time.

Immediate Repairs

- There are no immediate repairs scheduled at this time.

Programmed Maintenance

- In Appendix C there is a programmed maintenance lift of the foreshore rock dike scheduled for fiscal year 2010/2011. This maintenance lift is represented in this report because it is found in the O&M Budget (O&M Plan March 18, 2002). However, the necessity of this lift will be determined in future inspections and site visits.
Appendix A

Project Features Map
Appendix B

Photographs
Annual Inspection Report
Barataria Bay Waterway West Bank Protection
State Project No. BA-23

Photo #1 – Shoreline Protection Looking North.

Photo #2 – Access Canal Gate to Water Control Structure.
Appendix C

Three Year Budget Projection
### Annual Inspection Report

**Barataria Bay Waterway West Bank Protection**

State Project No. BA-23

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**Three-Year Operations & Maintenance Budgets**  07/01/2009 - 06/30/2012

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Maintenance Inspection</td>
<td>$3,428.00</td>
<td>$3,517.00</td>
<td>$3,608.00</td>
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<tr>
<td>General Maintenance</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Structure Operation</td>
<td>$7,459.00</td>
<td>$7,653.00</td>
<td>$7,852.00</td>
</tr>
<tr>
<td>Administration</td>
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<td>$19,849.44</td>
<td>$0.00</td>
</tr>
<tr>
<td><strong>Maintenance/Rehabilitation</strong></td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
</tbody>
</table>

#### 09/10 Description:

- **E&D**
  - $0.00
- **Construction**
  - $0.00
- **Construction Oversight**
  - $0.00

Sub Total - Maint. And Rehab. $ 0.00

#### 10/11 Description: Cap Rock and Weir Structure Repair

- **E&D**
  - $30,324.00
- **Construction**
  - $223,118.00
- **Construction Oversight**
  - $4,944.00

Sub Total - Maint. And Rehab. $ 258,386.00

#### 11/12 Description:

- **E&D**
  - $0.00
- **Construction**
  - $0.00
- **Construction Oversight**
  - $0.00

Sub Total - Maint. And Rehab. $ 0.00

---

<table>
<thead>
<tr>
<th>Year</th>
<th>Total O&amp;M Budgets</th>
<th>O &amp; M Budget (3 yr Total)</th>
<th>Unexpended O &amp; M Budget</th>
<th>Remaining O &amp; M Budget (Projected)</th>
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<td>2009/2010</td>
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<td>$311,752.44</td>
<td>$611,619.18</td>
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<td>2011/2012</td>
<td>$11,460.00</td>
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**Prepared By**

Barry Richard
### O&M Inspection and Report
- **Description:** O&M Inspection and Report
- **Unit:** EACH
- **Est. Qty.:** 1
- **Unit Price:** $3,428.00
- **Estimated Total:** $3,428.00

### General Structure Maintenance
- **Description:** General Structure Maintenance
- **Unit:** LUMP
- **Est. Qty.:** 1
- **Unit Price:** $0.00
- **Estimated Total:** $0.00

### Engineering and Design
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- **Unit:** LUMP
- **Est. Qty.:** 1
- **Unit Price:** $0.00
- **Estimated Total:** $0.00

### Operations
- **Description:** Operations
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- **Est. Qty.:** 1
- **Unit Price:** $7,459.00
- **Estimated Total:** $7,459.00

### Construction Oversight
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- **Est. Qty.:** 1
- **Unit Price:** $0.00
- **Estimated Total:** $0.00

### Administration
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- **Est. Qty.:** 0
- **Unit Price:** $0.00
- **Estimated Total:** $0.00

### Survey
- **Description:** Survey
- **Unit:** EACH
- **Est. Qty.:** 0
- **Unit Price:** $0.00
- **Estimated Total:** $0.00

### Geotechnical
- **Description:** Geotechnical
- **Unit:** EACH
- **Est. Qty.:** 0
- **Unit Price:** $0.00
- **Estimated Total:** $0.00

### Construction
- **Description:** Construction
- **Unit:** LIN FT, TON / FT, TONS
- **Est. Qty.:** 0, 0, 0
- **Unit Price:** $0.00, $0.00
- **Estimated Total:** $0.00

---

**Total Operations and Maintenance Budget:** $10,887.00
### OPERATION AND MAINTENANCE BUDGET WORKSHEET 2010/2011

**Barataria Bay Waterway West Bank Protection / BA-23 / PPL NO. 4**

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>UNIT</th>
<th>EST. QTY</th>
<th>UNIT PRICE</th>
<th>ESTIMATED TOTAL</th>
</tr>
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<tbody>
<tr>
<td>O&amp;M Inspection and Report</td>
<td>EACH</td>
<td>1</td>
<td>$3,517.00</td>
<td>$3,517.00</td>
</tr>
<tr>
<td>General Structure Maintenance</td>
<td>LUMP</td>
<td>1</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Engineering and Design</td>
<td>LUMP</td>
<td>1</td>
<td>$25,477.00</td>
<td>$25,477.00</td>
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<tr>
<td>Operations</td>
<td>LUMP</td>
<td>1</td>
<td>$7,653.00</td>
<td>$7,653.00</td>
</tr>
<tr>
<td>Construction Oversight</td>
<td>LUMP</td>
<td>1</td>
<td>$4,944.00</td>
<td>$4,944.00</td>
</tr>
</tbody>
</table>

**ADMINISTRATION**

- LDNR / CRD Admin. LUMP 1 $8,924.72 $8,924.72
- FEDERAL SPONSOR Admin. LUMP 1 $8,924.72 $8,924.72
- SURVEY Admin. LUMP 1 $2,000.00 $2,000.00
- OTHER

**TOTAL ADMINISTRATION COSTS:** $19,849.44

### SURVEY

**SURVEY DESCRIPTION:**

- Secondary Monument EACH 0 $0.00 $0.00
- Staff Gauge / Recorders EACH 0 $0.00 $0.00
- Marsh Elevation / Topography LUMP 0 $0.00 $0.00
- TBM Installation EACH 0 $0.00 $0.00
- Structure survey LUMP 1 $4,847.00 $4,847.00

**TOTAL SURVEY COSTS:** $4,847.00

### GEOTECHNICAL

**GEOTECH DESCRIPTION:**

- Borings EACH 0 $0.00 $0.00
- OTHER

**TOTAL GEOTECHNICAL COSTS:** $0.00

### CONSTRUCTION

**CONSTRUCTION DESCRIPTION:**

- Rip Rap LIN FT TON / FT TONS UNIT PRICE
  - 0 0.0 0 $0.00 $0.00
  - 0 0.0 0 $0.00 $0.00
  - 0 0.0 0 $0.00 $0.00
- Filter Cloth / Geogrid Fabric SQ YD 0 $0.00 $0.00
- Navigation Aid EACH 0 $0.00 $0.00
- Signage EACH 0 $0.00 $0.00
- General Excavation / Fill CU YD 0 $0.00 $0.00
- Dredging CU YD 0 $0.00 $0.00
- Sheet Piles (Lin Ft or Sq Yds) 0 $0.00 $0.00
- Timber Piles (each or lump sum) 0 $0.00 $0.00
- Timber Members (each or lump sum) 0 $0.00 $0.00
- Hardware LUMP 1 $0.00 $0.00
- Materials LUMP 1 $0.00 $0.00
- Mob / Demob LUMP 1 $71,093.00 $71,093.00
- Contingency LUMP 1 $0.00 $0.00
- General Structure Maintenance(cap 20%) LUMP 1 $152,025.00 $152,025.00
- Variable Crest Weir Structure Repair LUMP 1 $0.00 $0.00
- OTHER
- OTHER

**TOTAL CONSTRUCTION COSTS:** $223,118.00

**TOTAL OPERATIONS AND MAINTENANCE BUDGET:** $289,405.44
## OPERATION AND MAINTENANCE BUDGET WORKSHEET 2011/2012

**Barataria Bay Waterway West Bank Protection / BA-23 / PPL NO. 4**

### O&M Inspection and Report
- **Description:** O&M Inspection and Report
- **Unit:** EACH
- **Est. Qty.:** 1
- **Unit Price:** $3,608.00
- **Estimated Total:** $3,608.00

### General Structure Maintenance
- **Description:** Engineering and Design
- **Unit:** LUMP
- **Est. Qty.:** 1
- **Unit Price:** $0.00
- **Estimated Total:** $0.00

### Operations
- **Description:** Operations
- **Unit:** LUMP
- **Est. Qty.:** 1
- **Unit Price:** $7,852.00
- **Estimated Total:** $7,852.00

### Construction Oversight
- **Description:** Construction Oversight
- **Unit:** LUMP
- **Est. Qty.:** 1
- **Unit Price:** $0.00
- **Estimated Total:** $0.00

### ADMINISTRATION
- **Description:** LUMP, LDNR / CRD Admin.
- **Unit:** LUMP
- **Est. Qty.:** 1
- **Unit Price:** $0.00
- **Estimated Total:** $0.00

### SURVEY DESCRIPTION:
- **Description:** Secondary Monument
- **Unit:** EACH
- **Est. Qty.:** 0
- **Unit Price:** $0.00
- **Estimated Total:** $0.00

### MAINTENANCE / CONSTRUCTION DESCRIPTION:
- **Description:** General Structure Maintenance
- **Unit:** EACH
- **Est. Qty.:** 0
- **Unit Price:** $0.00
- **Estimated Total:** $0.00

### CONSTRUCTION DESCRIPTION:
- **Description:** Rip Rap
- **Unit:** LIN FT, TON / FT, TONS
- **Est. Qty.:** 0
- **Unit Price:** $0.00
- **Estimated Total:** $0.00

### OTHER DESCRIPTION:
- **Description:** Other
- **Unit:** EACH
- **Est. Qty.:** 0
- **Unit Price:** $0.00
- **Estimated Total:** $0.00

### TOTAL SURVEY COSTS:
- **Estimated Total:** $0.00

### TOTAL GEOTECHNICAL COSTS:
- **Estimated Total:** $0.00

### TOTAL CONSTRUCTION COSTS:
- **Estimated Total:** $0.00

### TOTAL OPERATIONS AND MAINTENANCE BUDGET:
- **Estimated Total:** $11,460.00
Appendix D

Field Inspection Form
Annual Inspection Report  
Barataria Bay Waterway West Bank Protection 
State Project No. BA-23

MAINTENANCE INSPECTION REPORT CHECK SHEET

<table>
<thead>
<tr>
<th>Item</th>
<th>Condition</th>
<th>Physical Damage</th>
<th>Corrosion</th>
<th>Photo #</th>
<th>Observations and Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMP culverts</td>
<td>Good</td>
<td>None</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weir Bays - logs, hoist, supports</td>
<td>Good</td>
<td>None</td>
<td>Some</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Handrails, Grating, Hardware etc.</td>
<td>Good</td>
<td>None</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timber Piles</td>
<td>Good</td>
<td>None</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timber Wales</td>
<td>Good</td>
<td>None</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Galv. Pile Caps</td>
<td>Good</td>
<td>None</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Signage /Supports</td>
<td>Good</td>
<td>None</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Riprap</td>
<td>Good</td>
<td>None</td>
<td>None</td>
<td>Photo #1</td>
<td></td>
</tr>
<tr>
<td>Silt/Fill</td>
<td>Fair</td>
<td>None</td>
<td>None</td>
<td></td>
<td>The area in front of the Water Control Structure access canal is silting in.</td>
</tr>
<tr>
<td>Foreshore Rock Dike</td>
<td>Good</td>
<td>None</td>
<td>None</td>
<td>Photo #1</td>
<td></td>
</tr>
</tbody>
</table>

Position of stoplogs at the time of the inspection? Out of Structure  
Are there any signs of vandalism? No  
Conditions of existing levees? Good  
Settlement of rock plugs and weirs? None  
Noticable breaches? None  

Date of Inspection: 9/30/2008  
Time: 9:30 am  
Inspection(s): Richard, Kinler  
Water Level: Inside: N/A, Outside: N/A  
Weather Conditions: Clear Skies, Light Wind