State of Louisiana
Coastal Protection and Restoration Authority

2019 Annual Inspection Report

for

Barataria Bay Waterway West
Shoreline Protection

State Project Number BA-23
Priority Project List 4

May 7, 2019
Jefferson Parish

Prepared by:

Barry Richard, P.E.
Coastal Protection and Restoration Authority
New Orleans Regional Office
CERM, Suite 309
2045 Lakeshore Drive
New Orleans, LA 70122
# Table of Contents

I. Introduction ............................................................................................................... 1

II. Project Description and History ............................................................................. 1

III. Inspection Purpose and Procedures ...................................................................... 2

IV. Inspection Results .................................................................................................. 3

V. Conclusions .............................................................................................................. 3

VI. Recommendations .................................................................................................. 3

## Appendices

- Appendix A  Project Features Map
- Appendix B  Photographs
- Appendix C  Three Year Budget Projections
- Appendix D  Field Inspection Form
I. Introduction

The Barataria Bay Waterway West 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 (see 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. Over time, the combination of subsidence and wave erosion from marine traffic caused a breaching of the spoil banks which resulted in increased water exchange and salinity fluctuations within the project area.

Principal project components include:

1. Foreshore Rock Dike
   - 9,400 linear feet (2,865 m) of rock shoreline protection (68,283 tons) along the west bank of the BBW.
2. Water Control Structure (WCS)
   - Two (2) 48-inch diameter corrugated metal pipe (CMP) 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 that 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 BBW in shallow open water areas adjacent to the BBW. Gaps in the spoil bank excluded from the USACE dredging operation were filled in, thereby repairing the spoil bank to form a continuous line of protection.

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 water and marine organisms. During waterfowl hunting season, which is also low water season (November through January), the structure is managed to retain water levels...
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 have been performed throughout the project life and are planned to continue until the project is closed out.

Summary of Maintenance Projects

In December 2005, a contract to cap the rock shoreline protection structure 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.

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

A contract was awarded in November 2015 to repair the water control structure and earthen berm. Two 36-inch diameter HDPE liners were installed and grouted within the annular space of the deteriorated CMP culverts. Approximately 191 cubic yards of earthen fill was placed to repair erosional damage adjacent to the structure, and 284 square yards of geotextile fabric and 95 cubic yards of riprap were installed to help prevent further erosion on the marsh side of the structure. This work was completed on June 2, 2016.

III. Inspection Purpose and Procedures

The purpose of the BA-23 annual inspection is to evaluate the constructed project features, identify any deficiencies, and prepare a report that details the condition of project features and recommends any necessary corrective actions. The inspection procedure consists of a site visit by water with a visual inspection of the project features. If corrective actions are needed, the Coastal Protection and Restoration Authority (CPRA) provides in the report a detailed cost estimate for engineering, design, supervision, inspection, and construction contingencies, and an assessment of the urgency of such repairs. The annual inspection report also contains a summary of maintenance projects (Section II) and an estimated projected budget for the remaining one (1) year for operation, maintenance and rehabilitation as shown in Appendix C.

Barry Richard and Zachary Collier of CPRA, along with Quin Kinler of NRCS, held an inspection of the Naomi Outfall Management Project (BA-03c) on March 8, 2019. At the time of the inspection the weather was mostly sunny with slight wind. The water elevation was observed to be +1.0 feet NAVD88 on the BA01-10 staff gauge located in the Barataria Bay Waterway across from the entrance into Bayou Rigolettes. Photographs of that inspection are included in Appendix B of this report.
IV. Inspection Results

Rock Riprap

The rock structure was mostly visible above the water surface and in good condition at the time of the inspection (Photo #1). There are some sections that have experienced settlement but the overall structure is still functioning as designed.

Water Control Structure

The WCS shows little sign of damage. (Photos #2, #3, & #4). There is some minor to moderate corrosion of the steel members; however, the structure is still functioning as designed.

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 WCS will continue to regulate water exchange in accordance with permit conditions.

VI. Recommendations

Inspection of project features should continue on an annual basis.

Immediate Repairs

- None

Programmed Maintenance

- Continue to check the WCS during operational procedures.
- Continue to observe rock structure for settlement.
Appendix A

Project Features Map
Appendix B

Photographs
Photo #1 – Shoreline Protection (North End)

Photo #2 – Water Control Structure
Photo #3 – Water Control Structure (Culverts Submerged)

Photo #4 – Water Control Structure (Looking toward the BBW)
Appendix C

One Year Budget Projection
**Barataria Bay Waterway West Bank Protection (BA-23)**

Federal Sponsor: NRCS

Construction Completed: 11/7/2000

### Current Approved O&M Budget

| June 2009 | Year 0 | Year -1 | Year -2 | Year -3 | Year -4 | Year -5 | Year -6 | Year -7 | Year -8 | Year -9 | Year -10 | Year -11 | Year -12 | Year -13 | Year -14 | Year -15 | Year -16 | Year -17 | Year -18 | Year -19 | Project Life Budget |
|-----------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-----------|
| State O&M |        |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         | $1,101,899 |
| Corps Admin |      |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         | $0         |
| Federal S&A |     |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         | $0         |
| Total     |        |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         | $1,101,899 |

### Projected O&M Expenditures

- **Maintenance Inspection**
  - Year 0: $4,216
  - Year -1: $4,325
  - Year -2: $4,438
  - Year -3: $4,438
- **General Maintenance**
  - Year 0: $0
  - Year -1: $0
  - Year -2: $0
  - Year -3: $0
- **Operations**
  - Year 0: $2,000
  - Year -1: $2,000
  - Year -2: $2,000
  - Year -3: $2,000
- **Surveys**
  - Year 0: $0
  - Year -1: $0
  - Year -2: $0
  - Year -3: $0
- **Sign Replacement**
  - Year 0: $0
  - Year -1: $0
  - Year -2: $0
  - Year -3: $0
- **Maintenance/Rehabilitation**
  - Year 0: $0
  - Year -1: $0
  - Year -2: $0
  - Year -3: $0
- **E&D**
  - Year 0: $0
  - Year -1: $0
  - Year -2: $0
  - Year -3: $0
- **Construction**
  - Year 0: $0
  - Year -1: $0
  - Year -2: $0
  - Year -3: $0
- **Construction Oversight**
  - Year 0: $0
  - Year -1: $0
  - Year -2: $0
  - Year -3: $0

**Total**

- Year 0: $6,216
- Year -1: $6,325
- Year -2: $6,438
- Year -3: $6,438

### O&M Expenditures from COE Report

- $1,005,597

### Current Funded O&M Budget

- $1,101,899

### Current Project Life Budget (per CSA)

- $1,101,899

### State O&M Expenditures not submitted for in-kind credit

- $4,608 estimated

### Est. O&M Expenditures

- $1,020,075

### Total Projected Expenditures

- $1,026,512

### Total Estimated O&M Expenditures (as of February 2019)

- $1,020,075

### Remaining Available O&M Budget

- $81,824

### Project Life Budget Surplus (Shortfall)

- $75,387
Appendix D

Field Inspection Form
# MAINTENANCE INSPECTION REPORT CHECK SHEET

**Project No. / Name:** BA-23 Barataria Waterway (West) Shoreline Protection

**Structure No.:** n/a

**Structure Description:** Rock dike and water control weir structure

**Type of Inspection:** Annual

**Date of Inspection:** 3/8/2019  
**Time:** 10:00 am

**Inspector(s):** Richard, Collier, Kinler

**Water Level Inside:** N/A  
**Outside:** '+1.0' NAVD

**Weather Conditions:** Mostly sunny, light wind

<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>Very Good</td>
<td>None</td>
<td>N/A</td>
<td></td>
<td>No significant defects noted.</td>
</tr>
<tr>
<td>Weir Bays - logs, hoist, supports</td>
<td>Good</td>
<td>None</td>
<td>Minor</td>
<td>#2, 3, 4</td>
<td>No significant defects noted.</td>
</tr>
<tr>
<td>Handrails, Grating, Hardware etc.</td>
<td>Good</td>
<td>None</td>
<td>Minor</td>
<td>#3</td>
<td>No significant defects noted.</td>
</tr>
<tr>
<td>Timber Piles</td>
<td>Good</td>
<td>None</td>
<td>N/A</td>
<td>#2, 3, 4</td>
<td>No significant defects noted.</td>
</tr>
<tr>
<td>Timber Wales</td>
<td>Good</td>
<td>None</td>
<td>N/A</td>
<td></td>
<td>No significant defects noted.</td>
</tr>
<tr>
<td>Galv. Pile Caps</td>
<td>Fair</td>
<td>None</td>
<td>Moderate</td>
<td>#3</td>
<td>Galvanized caps exhibited some weathering.</td>
</tr>
<tr>
<td>Signage /Supports</td>
<td>Good</td>
<td>None</td>
<td>None</td>
<td></td>
<td>No significant defects noted.</td>
</tr>
<tr>
<td>Riprap</td>
<td>Good</td>
<td>None</td>
<td>N/A</td>
<td>#3, #4</td>
<td>No significant defects noted.</td>
</tr>
<tr>
<td>Earthen Berm</td>
<td>Very Good</td>
<td>None</td>
<td>N/A</td>
<td>#2, #4</td>
<td>No significant defects noted.</td>
</tr>
<tr>
<td>Fooshore Rock Dike</td>
<td>Fair</td>
<td>None</td>
<td>N/A</td>
<td>#1</td>
<td>Fair condition overall; some minor settlement was observed.</td>
</tr>
</tbody>
</table>