



**State of Louisiana
Coastal Protection and Restoration Authority**

2015 Annual Inspection Report

for

Naomi Outfall Management

State Project Number BA-03c
Priority Project List 5

August 24, 2015
Jefferson Parish

Prepared by:

Luke Prendergast, E.I.
Coastal Protection and Restoration Authority
New Orleans Regional Office
CERM, Suite 309
2045 Lakeshore Dr.
New Orleans, LA 70122

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I. Introduction

The Naomi Outfall Management Project (BA-03c) is located on the west bank of the Mississippi River, south of Lafitte, Louisiana. Although the project features are located entirely in Jefferson Parish, the project outfall area encompasses 27,135 acres in Jefferson and Plaquemines Parishes. Specific project features are located on two streams – Goose Bayou Canal and Bayou Dupont – which connect the Barataria Bay Waterway to the Pen (Appendix A).

II. Project Description and History

The Naomi Siphon went into operation in February, 1993 and has delivered an average of 997 cfs of fresh river water (when operating) into the marshes and streams east of the Pen. Much of this fresh water eventually exits the project area via Goose Bayou Canal and Bayou Dupont Canal which connect the Pen with the Barataria Waterway. During periods of high tide, reverse flow occurs and high-salinity water from the Barataria Waterway enters the Pen via the two subject canals. These two canals provide an avenue for loss of fresh river water from the project area and intrusion of high-salinity water into the project area.

The present project, which consists of fixed crest weirs with boat bays, restricts the hydrologic connections between the Pen and the Barataria Waterway. This restriction is intended to hold diverted water and nutrients in the project area, while restricting the high salinity waters from the Barataria Waterway. The weirs are designed to moderate or dampen the interchange of water into and out of the Pen through Goose Bayou Canal and Bayou Dupont Canal. Thus, retention of sediment-rich fresh siphon water in the outfall area is maximized, and intrusion of high-salinity water is minimized.

Project construction began on June 1, 2002, and was completed on July 15, 2002. Project life is estimated to be 20 years. Annual project inspections are planned.

The principal project features include:

1. One stone weir at **Goose Bayou Canal**
 - a. Total length of weir = 458 ft.
 - b. Bottom width of boat bay = 30 ft.
 - c. Boat bay bottom elevation = -5 ft. (NAVD 88)
 - d. Weir crest = +1 ft. (NAVD 88)
 - e. Rock placed directly on geotextile
 - f. Rock rip rap = 3,967 tons
 - g. Geotextile = 2,851 yards
 - h. Rock conforms to Rock Type 1 of Material Specification 523 with a gradation of:

Percent Lighter Than	Rock Unit Weight
100	700 lbs
50-100	300 lbs
15-50	150 lbs
0-15	45 lbs

- i. Four (4) - 4-piling clusters with navigation aid lights and warning signs
- j. Six (6) single pilings with warning signs
- k. Thirty-two buoys and associated stainless steel cable

2. One stone weir at **Bayou Dupont Canal**

- a. Total length of weir = 302 ft.
- b. Bottom width of boat bay = 30 ft.
- c. Boat bay bottom elevation = -5 ft. (NAVD 88)
- d. Weir crest +1 ft. (NAVD 88)
- e. Rock placed directly on geotextile
- f. Rock rip rap = 8,505 tons
- g. Geotextile = 3,374 yards
- h. Rock conforms to Rock Type 1 of Material Specification 523 with a graduation of:

Percent Lighter Than	Rock Unit Weight
100	700 lbs
50 -100	300 lbs
15-50	150 lbs
0-15	45 lbs

- i. Four (4) 4-pile clusters with day mark navigation signs and three (3) of the piling clusters have navigation aid lights.
- j. Three (3) single pilings with warning signs (reduced from five (5) in 2006 repair project)
- k. Twenty-two warning buoys with stainless steel cable
- l. Two (2) marker buoys with warning markings and internal radar reflectors (added during 2006 repair project in place of two (2) single pilings with warning signs).

On June 20, 2006, a contract was awarded to place two warning buoys in places where warning signs were damaged and to replace 5 navigation lights. This project was completed on October 4, 2006.

A second maintenance contract was awarded May 27, 2015 for the replacement of the barrier float buoys and navigation signs at the Goose Bayou weir. Construction is anticipated to take place June - August, 2015.

III. Inspection Purpose and Procedures

The purpose of the annual inspection of the Naomi Outfall Management Project (BA-03c) is to evaluate the constructed project features, to identify any deficiencies, and to prepare a report detailing the condition of project features and providing recommended corrective actions if needed. If corrective actions are required, CPRA 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, December 24, 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 performed since construction of the Naomi Outfall Management Project is provided in Section II.

An inspection of the Naomi Outfall Management Project (BA-03c) was held on June 17, 2015, by Luke Prendergast and Melissa Hymel of CPRA, along with Quin Kinler of NRCS. Photographs of that inspection are included in Appendix B of this report.

IV. Inspection Results

BAYOU DUPONT CANAL WEIR

Rock Riprap

The structure was altered to facilitate construction of the South Shore of the Pen (BA-41) Project, and remains in this temporary condition to allow access for the Long Distance Sediment Pipeline (BA-43 EB) Project and Bayou Dupont Marsh and Ridge Creation (BA-48) Project, both of which are currently in construction. Rock has been temporarily removed from the weir and stored within the footprint of the structure (Photo #1). The structure will be replaced as designed at a later date.

Pilings

Two pile clusters were removed to enable construction of the BA-41, BA-43, and BA-48 projects. The remaining pilings appeared to be in good condition.

Warning Signs and Day Board Navigation Signs

Remaining signs (unaffected by construction) are in good condition.

Navigation Aid Lights

Two of the navigation aids have been removed to facilitate construction of the BA-41, BA-43, and BA-48 projects; these will be replaced at a later date. Routine navigation light maintenance is performed under a state-wide contract.

Regulatory Marker Buoys

Buoys have been temporarily relocated to enhance access for the BA-41, BA-43, and BA-48 projects.

GOOSE BAYOU CANAL WEIR

Rock Riprap

The structure has settled an average of 2 feet since construction, resulting in most of the rock being submerged below the water surface. As the weir lies within the footprint of the planned Lafitte Ring Levee, no rock maintenance is anticipated at this time.

Pilings

Timber pilings appeared to be in good condition. Some reflective tape is missing or deteriorated and will be replaced as part of the 2015 maintenance event (Photo #2).

Warning Signs and Day Board Navigation Signs

The navigation signs exhibited weathering and fading, and are scheduled for replacement (Photo #2). Several barrier float cables were damaged and will be replaced under the 2015 maintenance contract (Photo #2, #3, #4). Warning signs were in good condition (Photo #2).

Navigation Aid Lights

No defects were observed with the navigation aid lights. Maintenance of these lights is covered under a separate State-wide contract.

V. Conclusions

Overall, the Naomi Outfall Management project is functioning properly and is in fair condition. Maintenance to correct known defects at the Goose Bayou site will be performed this year under a contract with Professional Construction Services, Inc. The Bayou Dupont structure remains in an altered condition to allow construction and maintenance access for three nearby CWPPRA projects.

VI. Recommendations

The project team recommends proceeding with repairs to the Goose Bayou navigation aids and barrier float buoys. Inspection and assessment of project features should continue on an annual basis.

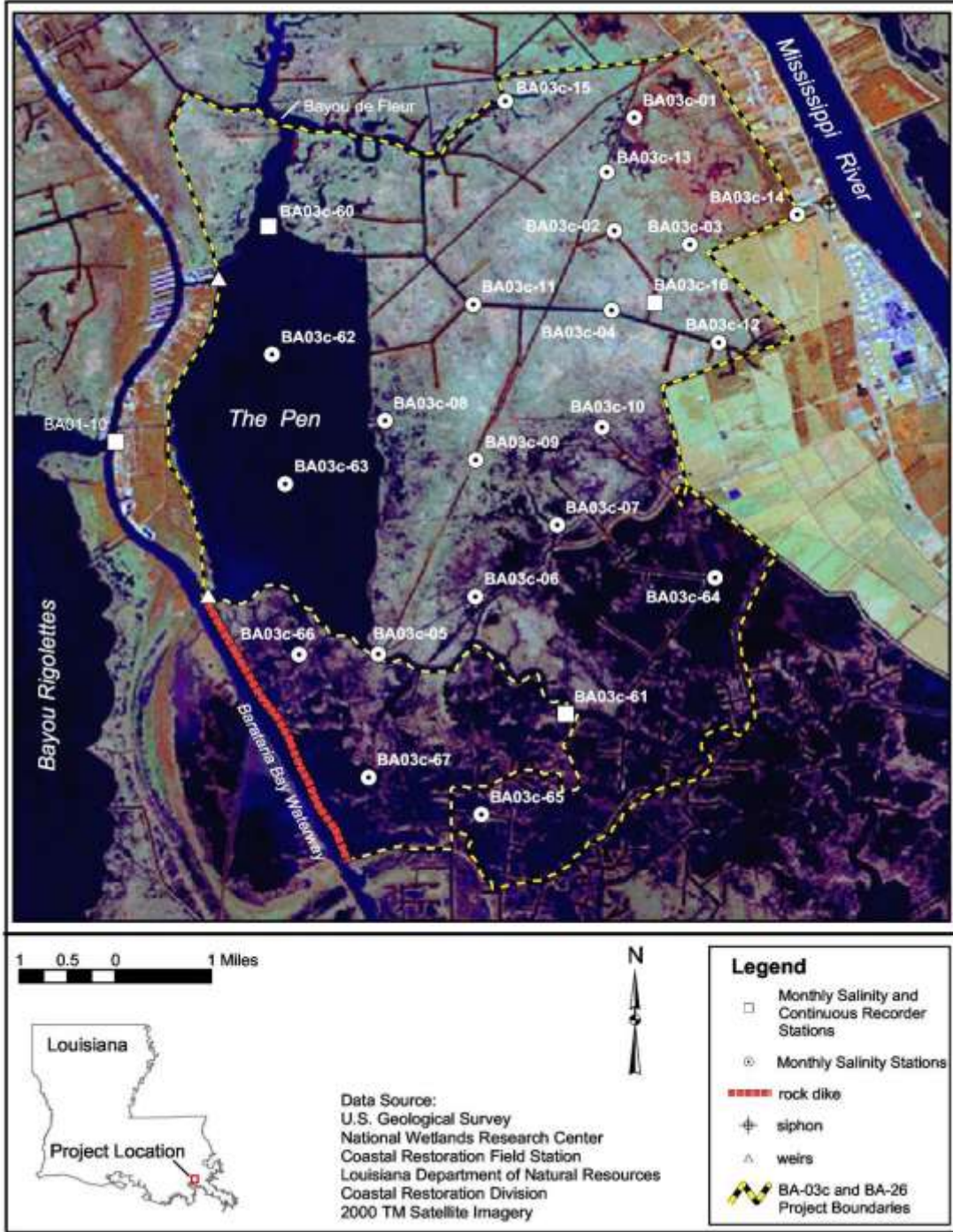
Immediate Repairs

- Replacement of navigational aids and buoys at Goose Bayou.

Programmed Maintenance

- Navigation lights are inspected and maintained under State-wide contract.

Appendix A
Project Features Map



Appendix B
Photographs



Photo #1 – Bayou Dupont Canal Weir



Photo #2 – Goose Bayou Pile Cluster



Photo #3 – Buoy Damage at Goose Bayou (North Side)



Photo #4 – Buoy Damage at Goose Bayou (South Side)

Appendix C

Three Year Budget Projection

Annual Inspection Report
 NAOMI OUTFALL MANAGEMENT
 State Project No. BA-003c

Naomi Outfall Management Project (BA-03c)

Federal Sponsor: NRCS
 Construction Completed : 8/2002
 PPL 5

Current Approved O&M Budget	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	
June 2009	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	Budget	
State O&M																						\$488,980
Corps Admin																						\$0
Federal S&A																						\$0
Total																						\$488,980

Projected O&M Expenditures											Remaining Project Life							
Maintenance Inspection											\$3,800	\$3,899	\$4,000	\$4,104	\$4,211	\$4,320	\$4,432	\$28,765
General Maintenance																		\$0
Surveys																		\$0
Navigation Aid Maintenance											\$16,313	\$16,738	\$17,173	\$17,619	\$18,077	\$18,547	\$19,030	\$123,497
Federal S&A																		\$0
Maintenance/Rehabilitation																		\$0
E&D																		\$0
Construction											\$43,210							\$43,210
Construction Oversight											\$7,500							\$7,500
Total											\$70,823	\$20,636	\$21,173	\$21,723	\$22,288	\$22,867	\$23,462	\$202,972

O&M Expenditures from COE Lana Report	\$264,026
State O&M Expenditures not submitted for in-kind credit	\$0
Federal Sponsor MIPRs (if applicable)	\$23,491
Total Estimated O&M Expenditures (as of June 2015)	\$287,517

Current O&M Budget	\$488,980
Less Expenditures	\$287,517
Remaining Available O&M Budget	\$201,463

Current Project Life Budget	\$488,980
Total Projected Project Life Budget	\$490,489
Project Life Budget Request Amount	\$1,509

Appendix D
Field Inspection Form

FIELD INSPECTION CHECK SHEET

Project No. / Name: Naomi Outfall Management

Date of Inspection: 6/17/2015 Time: 11:00 AM

Structure No. Bayou Dupont Canal

Inspector(s): Prendergast, Kinler, Hymel

Structure Description: Stone Weir

Water Level: Inside: N/A Outside: 1.30'

Type of Inspection: Annual

Weather Conditions: Mostly sunny, light wind

Item	Condition	Physical Damage	Corrosion	Photo #	Observations and Remarks
Rock Riprap	See Remarks	See Remarks	N/A	#1	Structure altered for construction of BA-41
Creosote Piling	See Remarks	See Remarks	None	#1	Structure altered for construction of BA-41
Warning Signs and Day Board Navigation Signs	See Remarks	See Remarks	None	#1	Structure altered for construction of BA-41
Navigation Aid Lights	See Remarks	See Remarks	None	#1	Structure altered for construction of BA-41
Warning Buoys	See Remarks	See Remarks	None	#1	Structure altered for construction of BA-41

FIELD INSPECTION CHECK SHEET

Project No. / Name: Naomi Outfall Management

Date of Inspection: 6/17/2015 Time: 10:30 AM

Structure No. Goose Bayou Canal

Inspector(s): Prendergast, Kinler, Hymel

Structure Description: Stone Weir

Water Level: Inside: N/A Outside: 1.30'

Type of Inspection: Annual

Weather Conditions: Mostly sunny, light wind

Item	Condition	Physical Damage	Corrosion	Photo #	Observations and Remarks
Rock Riprap	Good	None	N/A		Most of rock structure was below water surface elevation.
Creosote Piling	Good	None	None	#2, 3, 4	Reflective tape needs repair. Will be addressed during maintenance event this summer.
Warning Signs and Day Board Navigation Signs	Fair	None	None	#2	Weathering of lettering, some reflective tape missing. Replacement of navigation signs planned for July-August 2015.
Navigation Aid Lights	Good	None	None	#2	No defects noted. Maintenance of navigation lights is covered under state-wide contract.
Warning Buoys	Poor	See remarks	None	#3, 4	1 of 4 barrier float cables remains intact, remaining cables have been damaged or vandalised. Replacement of barrier floats and cables planned for July-August 2015.