



**State of Louisiana  
Department of Natural Resources  
Coastal Restoration Division**

**2006 Annual Inspection Report**

**NAOMI OUTFALL  
MANAGEMENT**

State Project Number BA-3c  
Priority Project List 5

July 24, 2006  
Jefferson Parish

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## I. Introduction

The Naomi Outfall Management Project (State Project No. BA-03c) is located 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. More specifically, 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

In February, 1993, the Naomi Siphon, located on the west bank of the Mississippi River, went into operation 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. So, the two canals provide a natural 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 holds diverted water and nutrients in the project area, while restricting the high salinity waters from the Barataria Waterway. The weirs 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. Five (5) single pilings with warning signs
- k. Twenty-two buoys with stainless steel cable.

### 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 prepare a report detailing the condition of project features and recommended corrective actions needed. Should it be determined that corrective actions are needed, LDNR 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 completed since completion of the Naomi Outfall Management Project are outlined in Section II.

An inspection of the Naomi Outfall Management Project (BA-03c) was held on October 4, 2005 by George Boddie, Barry Richard, Tom Bernard, and Melissa Kaintz from LDNR; Quin Kinler of NRCS. There was a southeast wind at approximately 15 mph, and the tide gage, which is located approximately 0.8 miles north of C&M Marina on the east bank of the Barataria Bay Waterway, read +1.9-ft NAVD-88. Photographs of that inspection are included in Appendix B of this report.

## **IV. Inspection Results**

### **BAYOU DUPONT CANAL WEIR**

#### **Rock Riprap**

There were no notable changes in the rock rip rap during this inspection.

#### **Pilings**

The two pilings on either side of the boat bay which were damaged at last year's inspection are still damaged (Photo #1). They are currently under contract to be replaced with buoys.

#### **Warning Signs and Day Board Navigation Signs**

The two warning signs attached to the pilings mentioned above are missing (Photo #1). They are to be replaced by the buoys mentioned above.

#### **Navigation Aid Lights**

All three navigation lights are damaged (Photo #1). They are being repaired in the same contract as the other two at the Goose Bayou structure.

### **GOOSE BAYOU CANAL WEIR**

#### **Rock Riprap**

There were no notable changes in the rock rip rap during this inspection.

#### **Pilings**

All pilings visually appeared to be damage-free and in good condition (Photo #2).

#### **Warning Signs and Day Board Navigation Signs**

All signs appeared to be in satisfactory condition with no indication of significant damage (Photo #2).

### **Navigation Aid Lights**

Two of the four navigation lights were damaged due to Hurricanes Katrina and Rita (Photo #2). They are currently under contract to be repaired.

## **V. Conclusions**

Overall, the Naomi Outfall Management project is functioning properly and is in fair condition. The buoys are being put at the Bayou Dupont structure to try and solve the problem of the damaged pilings. The main problems that are occurring are the damages and vandalism to the navigational aids.

## **VI. Recommendations**

Follow up on the procurement of a contract for periodic maintenance of the navigation aid lights for both weirs.

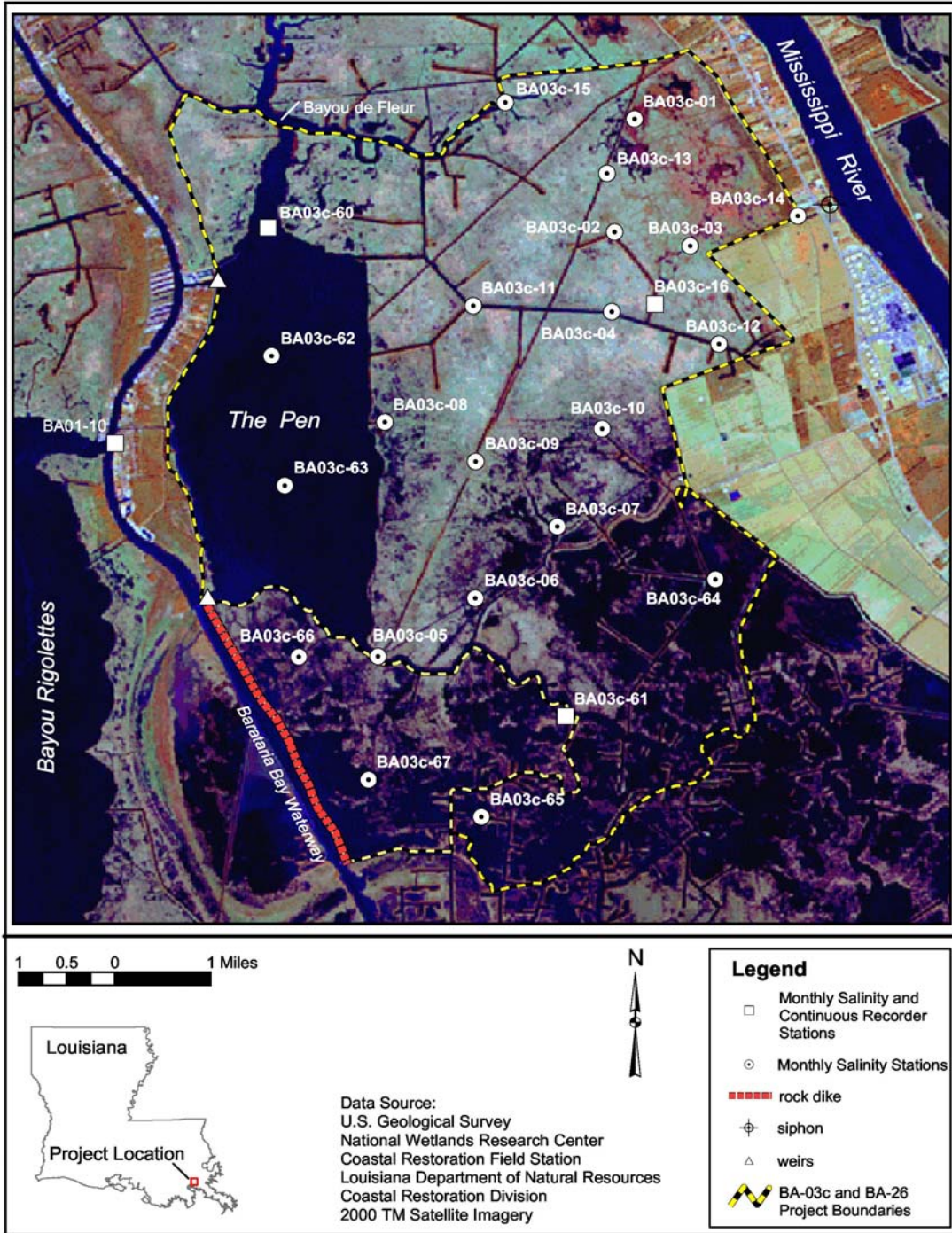
### **Immediate Repairs**

- All necessary repairs are currently under contract..

### **Programmed Maintenance**

- A contract was awarded on June 29, 2006, to address the repair issues with the navigation lights, pilings, and warning signs.
- The lights should be checked periodically for functionality.

**Appendix A**  
**Project Features Map**





## **Appendix B**

### **Photographs**



**Photo #1 – Bayou Dupont Canal Weir.** Approaching the Bayou Dupont weir from the Barataria Waterway, looking across the weir boat bay toward the Pen. Warning signs and navigation aids, or lack thereof, are shown on either side of channel through the boat bay. Note the damaged lights.



**Photo #2 – Goose Bayou Canal Weir.** Approaching the Goose Bayou weir from the Barataria Waterway side, looking across the weir boat bay toward the Pen. Warning signs and navigation aids are shown on either side of channel through the boat bay. Note the damaged lights.

## **Appendix C**

### **Three Year Budget Projection**

Annual Inspection Report  
 NAOMI OUTFALL MANAGEMENT  
 State Project No. BA-073c

Three-Year Operations & Maintenance Budgets 07/01/2006 - 06/30/2009				
<u>Project Manager</u>	<u>O &amp; M Manager</u>		<u>Federal Sponsor</u>	<u>Prepared By</u>
<i>Barry Richard</i>	<i>Barry Richard</i>		NRCS	<i>Barry Richard</i>
	<b>2006/2007</b>		<b>2007/2008</b>	<b>2008/2009</b>
<b>Maintenance Inspection</b>	\$3,257.00		\$3,341.00	\$3,428.00
<b>Structure Operation</b>	\$-		\$-	\$-
<b>Administration</b>	\$6,792.00		\$-	\$-
<b>Maintenance/Rehabilitation</b>				
06/07 Description: Warning Sign/Nav Light Maint.				
<i>E&amp;D</i>	\$5,090.98			
<i>Construction</i>	\$59,600.00			
<i>Construction Oversight</i>	\$3,396.00			
<i>Sub Total - Maint. And Rehab.</i>	\$68,086.98			
07/08 Description: Nav Light Maint.				
<i>E&amp;D</i>		\$-		
<i>Construction</i>		\$3,000.00		
<i>Construction Oversight</i>		\$-		
<i>Sub Total - Maint. And Rehab.</i>		\$3,000.00		
08/09 Description: Nav Light Maint.				
<i>E&amp;D</i>				\$-
<i>Construction</i>				\$3,000.00
<i>Construction Oversight</i>				\$-
<i>Sub Total - Maint. And Rehab.</i>				\$3,000.00
	<b>2006/2007</b>		<b>2007/2008</b>	<b>2008/2009</b>
<b><u>Annual O&amp;M Budgets</u></b>	<b>\$78,135.98</b>		<b>\$6,341.00</b>	<b>\$6,428.00</b>
<b><u>O &amp; M Budget (3 yr Total)</u></b>				<b>\$90,904.98</b>
<b><u>Existing O &amp; M Budget</u></b>				<b>\$398,442.38</b>
<b><u>Remaining O &amp; M Budget (Projected)</u></b>				<b>\$307,537.40</b>

Annual Inspection Report  
 NAOMI OUTFALL MANAGEMENT  
 State Project No. BA-083c

**OPERATION AND MAINTENANCE BUDGET WORKSHEET 2006/2007**  
 Naomi Outfall Management / BA-03c / PPL 5

DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	ESTIMATED TOTAL
O&M Inspection and Report	EACH	1	\$3,257.00	\$3,257.00
General Structure Maintenance	LUMP	1	\$3,000.00	\$3,000.00
Engineering and Design	LUMP	1	\$5,090.98	\$5,090.98
Operations Contract	LUMP	0	\$0.00	\$0.00
Construction Oversight	LUMP	1	\$3,396.00	\$3,396.00

**ADMINISTRATION**

LDNR / CRD Admin.	LUMP	1	\$3,396.00	\$3,396.00
FEDERAL SPONSER Admin.	LUMP	1	\$3,396.00	\$3,396.00
SURVEY Admin.	LUMP	0	\$0.00	\$0.00
OTHER				\$0.00
<b>TOTAL ADMINISTRATION COSTS:</b>				<b>\$6,792.00</b>

**MAINTENANCE / CONSTRUCTION**

**SURVEY**

SURVEY DESCRIPTION:	DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	ESTIMATED TOTAL
	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
	OTHER				\$0.00
<b>TOTAL SURVEY COSTS:</b>					<b>\$0.00</b>

**GEOTECHNICAL**

GEOTECH DESCRIPTION:	DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	ESTIMATED TOTAL
	Borings	EACH	0	\$0.00	\$0.00
	OTHER				\$0.00
<b>TOTAL GEOTECHNICAL COSTS:</b>					<b>\$0.00</b>

**CONSTRUCTION**

CONSTRUCTION DESCRIPTION:	DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	ESTIMATED TOTAL	
	Rip Rap	LIN FT	TON / FT	TONS	UNIT PRICE	ESTIMATED TOTAL
		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	0	\$0.00	\$0.00	
	Materials	LUMP	0	\$0.00	\$0.00	
	Mob / Demob	LUMP	0	\$0.00	\$0.00	
	Contingency	LUMP	0	\$0.00	\$0.00	
	General Structure Maintenance	LUMP	1	\$56,600.00	\$56,600.00	
	OTHER			\$0.00	\$0.00	
	OTHER			\$0.00	\$0.00	
	OTHER			\$0.00	\$0.00	
<b>TOTAL CONSTRUCTION COSTS:</b>					<b>\$56,600.00</b>	

**TOTAL OPERATIONS AND MAINTENANCE BUDGET:** \$78,135.98

**OPERATION AND MAINTENANCE BUDGET WORKSHEET 2007/2008**  
 Naomi Outfall Management / BA-03c / PPL 5

DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	ESTIMATED TOTAL
O&M Inspection and Report	EACH	1	\$3,341.00	\$3,341.00
General Structure Maintenance	LUMP	1	\$3,000.00	\$3,000.00
Engineering and Design	LUMP	0	\$0.00	\$0.00
Operations Contract	LUMP	0	\$0.00	\$0.00
Construction Oversight	LUMP	0	\$0.00	\$0.00

**ADMINISTRATION**

LDNR / CRD Admin.	LUMP	0	\$0.00	\$0.00
FEDERAL SPONSER Admin.	LUMP	0	\$0.00	\$0.00
SURVEY Admin.	LUMP	0	\$0.00	\$0.00
OTHER				\$0.00
<b>TOTAL ADMINISTRATION COSTS:</b>				<b>\$0.00</b>

**MAINTENANCE / CONSTRUCTION**

**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
OTHER				\$0.00
<b>TOTAL SURVEY COSTS:</b>				<b>\$0.00</b>

**GEOTECHNICAL**

GEOTECH DESCRIPTION:				
Borings	EACH	0	\$0.00	\$0.00
OTHER				\$0.00
<b>TOTAL GEOTECHNICAL COSTS:</b>				<b>\$0.00</b>

**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		0	\$0.00	\$0.00
Materials	LUMP		0	\$0.00	\$0.00
Mob / Demob	LUMP		0	\$0.00	\$0.00
Contingency	LUMP		0	\$0.00	\$0.00
General Structure Maintenance	LUMP		0	\$0.00	\$0.00
OTHER				\$0.00	\$0.00
OTHER				\$0.00	\$0.00
OTHER				\$0.00	\$0.00
<b>TOTAL CONSTRUCTION COSTS:</b>					<b>\$0.00</b>

**TOTAL OPERATIONS AND MAINTENANCE BUDGET:** **\$6,341.00**

Annual Inspection Report  
 NAOMI OUTFALL MANAGEMENT  
 State Project No. BA-0103c

**OPERATION AND MAINTENANCE BUDGET WORKSHEET 2008/2009**  
 Naomi Outfall Management / BA-03c / PPL 5

DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	ESTIMATED TOTAL
O&M Inspection and Report	EACH	1	\$3,428.00	\$3,428.00
General Structure Maintenance	LUMP	1	\$3,000.00	\$3,000.00
Engineering and Design	LUMP	0	\$0.00	\$0.00
Operations Contract	LUMP	0	\$0.00	\$0.00
Construction Oversight	LUMP	0	\$0.00	\$0.00

**ADMINISTRATION**

LDNR / CRD Admin.	LUMP	0	\$0.00	\$0.00
FEDERAL SPONSER Admin.	LUMP	0	\$0.00	\$0.00
SURVEY Admin.	LUMP	0	\$0.00	\$0.00
OTHER				\$0.00
<b>TOTAL ADMINISTRATION COSTS:</b>				<b>\$0.00</b>

**MAINTENANCE / CONSTRUCTION**

**SURVEY**

SURVEY DESCRIPTION:	DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	ESTIMATED TOTAL
	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
	OTHER				\$0.00
<b>TOTAL SURVEY COSTS:</b>					<b>\$0.00</b>

**GEOTECHNICAL**

GEOTECH DESCRIPTION:	DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	ESTIMATED TOTAL
	Borings	EACH	0	\$0.00	\$0.00
	OTHER				\$0.00
<b>TOTAL GEOTECHNICAL COSTS:</b>					<b>\$0.00</b>

**CONSTRUCTION**

CONSTRUCTION DESCRIPTION:	DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	ESTIMATED TOTAL
	Rip Rap	LIN FT	0	\$0.00	\$0.00
		TON / FT	0.0	\$0.00	\$0.00
		TONS	0	\$0.00	\$0.00
			0	\$0.00	\$0.00
	Filter Cloth / Geogrid Fabric	SQ YD	0	\$0.00	\$0.00
	Navagation 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	0	\$0.00	\$0.00
	Materials	LUMP	0	\$0.00	\$0.00
	Mob / Demob	LUMP	0	\$0.00	\$0.00
	Contingency	LUMP	0	\$0.00	\$0.00
	General Structure Maintenance	LUMP	0	\$0.00	\$0.00
	OTHER			\$0.00	\$0.00
	OTHER			\$0.00	\$0.00
	OTHER			\$0.00	\$0.00
<b>TOTAL CONSTRUCTION COSTS:</b>					<b>\$0.00</b>

**TOTAL OPERATIONS AND MAINTENANCE BUDGET: \$6,428.00**



## **Appendix D**

### **Field Inspection Form**

Annual Inspection Report  
 NAOMI OUTFALL MANAGEMENT  
 State Project No. BA-0123c

FIELD INSPECTION CHECK SHEET										
Project No. / Name:	Naomi Outfall Management	Date of Inspection:	10/4/2005	Inspector(s):	Richard, Boddie, Bernard, Kaintz, Kinler	Time:	8:30			
Structure No.	<b>Bayou Dupont Canal</b>	Water Level:	N/A	Inside:		Outside:	Approx. 1.9 ft			
Structure Description:	Stone Weir	Weather Conditions:					Clear skies, Windy			
Type of Inspection:	Post Storm Event									
Item	Condition	Physical Damage	Corrosion	Photo #	Observations and Remarks					
Rock Riprap	Good	None	N/A	#1	Rock appears to be holding up well.					
Creosote Piling	Fair	See Observations	None	#1	Two were missing.					
Warning Signs and Day Board	Poor	See Observations	None	#1	The two warning signs in the boat bay have been knocked down by some water vessel.					
Navigation Signs	Fair	See Observations	None	#1	aving trouble with vandalism of lights. Two broke off and another open with battery gone.					
Warning Buoys	Good	See observations	None	#1	They are no longer attached to pilings since those are gone; but they are holding position well.					
Vandalism	-	See observations	-	#1	The lights are constantly being broken into and the batteries are always missing.					

FIELD INSPECTION CHECK SHEET									
Project No. / Name:	Naomi Outfall Management	Date of Inspection:	10/4/2005	Time:	8:30				
Structure No.	<b>Goose Bayou Canal</b>	Inspector(s):	Richard, Boddie, Bernard, Kaintz, Kinler						
Structure Description:	Stone Weir	Water Level:	N/A	Inside:	Outside:	Approx. 1.9 ft			
Type of Inspection:	Post Storm Event	Weather Conditions:	Clear skies, Windy						
Item	Condition	Physical Damage	Corrosion	Photo #	Observations and Remarks				
Rock Riprap	Good	None	N/A	#2					
Creosote Piling	Excellent	None	None	#2					
Warning Signs and Day Board	Excellent	None	None	#2					
Navigation Signs									
Navigation Aid Lights	Good	None	None	#2	Two Damaged in Hurricanes.				
Warning Buoys	Good	None	None	#2					
Vandalism	-	None	-	-	There appeared to be no signs of vandalism either on the lights or the structure.				