State of Louisiana
Coastal Protection and Restoration Authority

2012 Annual Inspection Report

for

POINT AU FER ISLAND HYDROLOGIC RESTORATION

State Project Number TE-22
Priority Project List 2

June 15, 2012
Terrebonne Parish

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I. Introduction

The Point Au Fer Island Hydrologic Restoration Project encompasses 5,230 acres of intermediate and brackish marsh and open water on Point Au Fer Island located approximately 30 miles south of Morgan City, Louisiana, in Terrebonne Parish. Point Au Fer Island lies approximately 6 miles southeast of the mouth of the Atchafalaya River. The island is bordered by the Gulf of Mexico to the south, Atchafalaya Bay to the west, Four League Bay to the north and northeast, and Oyster Bayou tidal pass to the east (See Appendix A).

Construction of the Point Au Fer Island Hydrologic Restoration Project is co-sponsored by the National Marine Fisheries Service (NMFS) and the Coastal Protection and Restoration Authority (CPRA) of Louisiana. The 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. The Project was approved on the second Priority Project List.

The property associated with the Point Au Fer Island Hydrologic Restoration Project is owned by the Point au Fer LLC, and the Roman Catholic Church – Arch Diocese of New Orleans.

II. Inspection Purpose and Procedures

The purpose of the annual inspection of the Point Au Fer Island Hydrologic Restoration Project (TE-22) is to evaluate the constructed project features in order to identify any deficiencies. The inspection results are used to prepare a report detailing the condition of the project features and recommending any corrective actions considered necessary. Should it be determined that corrective actions are needed, CPRA shall provide, in the report, a detailed cost estimate for engineering, design, supervision, inspection, construction, and contingencies and an assessment of the urgency of such repairs (O&M Plan, 2002). The annual inspection report also contains a summary of maintenance projects 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. A summary of past operation and maintenance projects completed since construction of the Point Au Fer Island Hydrologic Restoration Project is outlined in Section IV.

The annual inspection of the Point Au Fer Island Hydrologic Restoration Project (TE-22) took place on two separate days. The first trip was held on April 11, 2012 to inspect the Phase II and Phase III rock shoreline protection along the Gulf of Mexico. In attendance were Shane Triche, Brian Babin, and Elaine Lear of CPRA. The second trip was held on May 3, 2012 to inspect the Phase I canal plugs located on the east side of the island. In attendance were Adam Ledet and Shane Triche of CPRA, and Richard Hartman from NOAA.

The field investigation included a visual inspection of the constructed project features. Photographs taken during the inspection are shown in Appendix B.

III. Project Description and History

Approximately 8% of Louisiana's coastal marshes have been converted to open water canals and their associated spoil banks (Neill and Turner 1987). In most cases, the construction of these canals alters wetland hydrology and contributes to wetland loss in coastal Louisiana (Turner et al. 1984). Similar alterations to the natural drainage pattern at Point au Fer Island have occurred from the dredging of oil and gas access canals through the interior of the island. Strong tidal flows occur between Locust Bayou in the southwest and Four League Bay in the northeast (NMFS n.d.). Point au Fer Island has experienced decreased salinities as sediments and fresh water from Atchafalaya Bay have circulated through the islands' interior marshes. Increased fresh water flow and sediment input have not been effectively utilized due to changes in hydrologic patterns and the presence of artificial levees (NMFS n.d.).

The marsh habitat on Point Au Fer Island is predominately brackish marsh with intermediate marsh in the interior of the island. In the years leading up to construction of the project, certain areas of Point Au Fer Island had become weakened with avenues for saltwater intrusion from the Gulf of Mexico threatening (Monitoring Plan, 1998). The Mobil Canal levee (Phase II area) had been breached during Hurricane Andrew, and the southern end of Transco Canal (Phase I area) had almost been breached by the Gulf of Mexico.

The project was designed and constructed in order to reduce marsh loss and the potential for saltwater intrusion from storm surges and high tides (Phase I), to restore hydrologic circulation close to conditions present before dredging of the pipeline canals (Phase I), and to reduce the chance of breaching of the shoreline between the Gulf of Mexico and Mobil Canal during overwash events (Phase II and III). The specific goals established to evaluate the effectiveness of the project were to (1) reduce the rate of marsh loss (Phase I), (2) reduce the rate of canal widening (Phase I), and (3) maintain or decrease local shoreline erosion rate within the project area (Phase II and III) (Comprehensive Monitoring Report No. 1, 2001).

The Point Au Fer Island Hydrologic Restoration Project was constructed in three (3) phases. Phase I consisted of seven (7) canal plugs located in two pipeline canals. Four (4) timber plugs, Plugs No. 1, 2, 7, and 8, were constructed in Hester Canal (east-west). One (1) timber plug, Plug No. 6, and two (2) reef shell plugs, Plugs No. 3A and 4, were constructed in Transco Canal (north-south). Construction of the Phase I canal plugs was completed in December 1995. Phase II consisted of approximately 3,600 linear feet of rock shoreline protection of Areas 1, 2, and 3 along the Gulf of Mexico adjacent to the Mobil Canal. Phase II construction was completed in May 1997. Phase III consisted of extending the rock shoreline protection 3,037 linear feet to the east (Area 4) and 625 linear feet to the west (Area 5). Prior to construction of Phase III, a change order added an additional lift of rock over 388 linear feet of the Phase II shoreline protection to repair a breach area located near the east end of Phase II. Additionally, Phase I Plug No. 4 was rebuilt with dredged material. Also, the existing Transco Canal steel bulkhead/rock plug (Plug No. 4A), located approximately 200 feet south of Plug No. 4, was reinforced by placing Petraflex mats (articulated concrete mats, 8' x 20' x 9") along the Gulf shoreline to the west and east of the existing Plug No. 4A. A total of 67 mats were placed on the west side and 58 mats were placed on the east side of Plug No. 4A. Phase III construction was completed in June 2000 (Phase III Final Report, 2000).

The principle project features include:

Phase I: Construction of timber and shell plugs in Hester and Transco Canals.

- Plug No. 1 – 200 linear feet (LF), Timber bulkhead plug in the Hester Canal located near Mosquito Bay.
- Plug No. 2 – 270 LF, Timber bulkhead plug in Hester Canal just west of Transco Canal.
- Plug No. 3A – 240 LF, Reef shell construction located in the Transco Canal north of Hester Canal.
- Plug No. 4 – 225 LF, Reef shell construction located in Transco Canal near the Gulf of Mexico.
- Plug No. 6 – 180 LF, Timber bulkhead plug located in Transco Canal just south of Hester Canal.
- Plug No. 7 – 200 LF, Timber bulkhead plug located in Hester Canal just east of Transco Canal.
- Plug No. 8 – 180 LF, Timber bulkhead plug located at the east end of Hester Canal near Bay Castagnier.

Phase II: 3,600 linear feet of rock shoreline protection of the beach separating the Gulf of Mexico from the Mobile Canal.

- Area 1 – 1,800 linear feet of rock dike protecting the beach along the Gulf of Mexico separating Mobil Canal and the Gulf.

- Area 2 – 400 linear feet of rock dike protecting the beach along the Gulf of Mexico near the west end of Mobil Canal.

- Area 3 – 1,400 linear feet of rock dike along the shoreline of the Gulf between Area 1 and Area 2, constructed with funds provided by Mobil Oil Company.

Phase III: Modifications/additions to the rock shoreline protection of the beach separating the Gulf of Mexico from the Mobil Canal.

- Area 4 – 3,037 linear feet extension of the Phase II rock structure on the east end.

- Area 5 – 625 linear feet extension of the Phase II rock structure on the west end.

- Additional 16 inch lift of rock placed over 388 feet of the Phase II rock structure near the east end of Phase II.

- Plug No. 4A (Transco Canal steel bulkhead/rock plug) – Petraflex mats (articulated concrete mats, 8’ x 20’ x 9”) placed along the Gulf shoreline to the west (67 mats) and east (58 mats) of the existing steel sheet pile bulkhead (Plug No. 4A).

The Point Au Fer Island Hydrologic Restoration Project (TE-22) has a twenty-year (20 year) project life which began in December 1995 (Phase I), May 1997 (Phase II), and June 2000 (Phase III).

IV. Summary of Past Operation and Maintenance Projects

Below is a summary of completed maintenance projects and operation tasks performed since completion of the Point Au Fer Island Hydrologic Restoration Project (TE-22).

June 2000 – Phase I Plug No. 4 was rebuilt with dredged material, and Petraflex mats (articulated concrete mats, 8' x 20' x 9") were placed along the shoreline to the west and east of the existing Transco Canal steel bulkhead/rock plug (Plug No. 4A) at the Gulf. A total of 67 mats were placed on the west side and 58 mats were placed on the east side of Plug No. 4A. This work was performed by Johnny F. Smith Truck & Dragline Service, Inc. of Slidell, LA as part of the Phase III construction contract and funded out of the project O&M budget. The total construction cost for this maintenance event was $237,874.

August 2005 – The east end of Phase III (Area 4) rock dike was extended approximately 300 linear feet to the shoreline using LaDOTD Class 250 lbs. riprap on geotextile fabric. At Plug No. 4A (Transco Canal steel bulkhead/rock plug) the east mats were capped with LaDOTD Class 250 lbs. riprap. Also, a rock dike (approximately 200 linear feet of 250 lbs riprap on geotextile fabric) was constructed from the east end of the mats to the shoreline. At Plug No. 8 (Phase I) in Hester Canal, in order to close a breach around the south end, the bulkhead was extended approximately 60 linear feet to the south using vinyl sheet pile bulkhead. Also, three Submar mats (articulated concrete mats, 8' x 20' x 4.5") were placed at the end to prevent scour. It should be noted that a small breach repair to Weir No. 3 of the TE-26 Lake Chapeau project, extending the rock to the south bank, was also included in this maintenance activity. This project was surveyed, designed, and inspected by Picciola & Associates, Inc. of Cutoff, Louisiana. The project was constructed by Luhr Bros., Inc. of Alexandria, LA. The total construction cost for this maintenance event was $391,382.

V. Inspection Results

Plug No. 1 – Timber Bulkhead Plug

The timber bulkhead Plug No. 1 located on the west end of Hester Canal near Mosquito Bay appears to be in good overall condition. The embankment tie-ins have no signs of breaching or erosion. All structural components are intact with no visible signs of damage. The warning signs and supports are also in good condition. There are no recommendations for corrective actions at this time.

Plug No. 2 – Timber Bulkhead Plug

The timber bulkhead Plug No. 2 located just east of Plug No. 1 in Hester Canal appeared to be in good overall condition. All structural components are intact with no visible signs of damage. The embankment tie-ins have no signs of erosion or breaching. The warning signs and supports are also in good condition. Although the timber bulkhead and its tie-ins have no defects, the structure is considered ineffective due to a large breach (approximately 50 feet) on

the south side of the structure which allows tidal flow around Plug No. 2. There are no recommendations for corrective action at this time due to construction access constraints.

Plug No. 3A – Shell Plug

The shell Plug No. 3A located in Transco Canal just north of Hester Canal is in poor condition. As previously reported, the shell plug has eroded in the center of the structure leaving the plug crest below the water line at the time of the inspection. According to the as-built drawings and construction plans, the shell plug was constructed to elevation +4.0 NGVD. The embankment tie-ins are still intact and have no signs of erosion or breaching around the ends. The western warning sign and support is in good condition, but the eastern sign and support is missing. At this time repairing the shell plug is not recommended due to construction access constraints; however, this plug should continue to be monitored on future site visits.

Plug No. 4 – Shell Plug

The shell Plug No. 4 is also in poor condition. As previously reported, the structure has been eroded below the waterline for several years. There is no recommended maintenance for this structure as all maintenance efforts have been focused on Plug No. 4A (Transco Canal Bulkhead) located approximately 200 feet south of Plug No. 4 at the Gulf of Mexico.

Plug No. 4A – Transco Canal Gulf bulkhead

Shoreline erosion continues to be observed at the east embankment tie-in. The erosion directly behind the mats on the east side of the structure has been slowed or halted since the maintenance rock lift in 2005. Material has been accumulated behind the rock lift and that deposited material is now vegetated. On the other end of the structure, the west mats have settled and are over washed during normal tidal events. In addition, due to erosion around the embankment tie-in, the mats no longer connect to the shoreline. This allows tidal exchange behind the mats similar to the east end before the 2005 maintenance. At the existing Transco bulkhead, tidal exchange occurs between the Gulf and Transco Canal where water passes behind the bulkhead and over the rocks into the canal. This has been observed in previous inspections but seems to be increasing. The steel sheetpile and tie-rods are heavily corroded and should continue to be monitored.

In 2010 it was recommended to survey the area for comparison to the as-built construction drawings to determine the best course of action to prevent breaching of the Gulf into the Canal. The survey was completed in August 2011 and it was determined the rock dike is in need of refurbishment. As of July 2012, the refurbishment project is in design and is expected to be bid in the Fall of 2012 and constructed in the Spring of 2013.

Plug No. 6 – Timber Bulkhead Plug

The Plug No. 6 timber bulkhead showed signs of deflection (wavy pattern across canal) shortly after construction. The deflection is now more apparent during the annual inspection than what was observed during construction. Also, there is a separation of the bulkhead (or missing board) near the embankment tie-in on the east side of the structure. This separation is allowing small amounts of water to pass through the bulkhead. The warning signs and supports appear to be in overall good condition. There are no recommendations for corrective

actions at this time, but the condition of the structure should continue to be monitored on future site visits.

Plug No. 7 – Timber Bulkhead Plug

The timber bulkhead Plug No. 7 located on the east end of Hester Canal just west of Plug No. 8 appeared to be in good overall condition. All structural components are intact with no visible signs of damage. The embankment tie-ins have no signs of erosion or breaching. The warning signs and supports are also in good condition. There are no recommendations for corrective action at this time.

Plug No. 8 – Timber Bulkhead Plug

The timber bulkhead and vinyl sheet pile extension are in good condition. There is an existing breach around the southern end of the structure that occurs adjacent to the sheetpile. In addition the Submar scour mats placed on the southern end of the structure are no longer effective. It is assumed that these sections were undermined from the water rushing through the breach. The embankment tie-in on the north side of the structure has no signs of erosion or breaching. The warning signs and supports were in good overall condition. There are no recommendations for corrective action at this time, but the structure and breach should be monitored during future inspections for further deterioration.

Phase II – Areas 1, 2 & 3, Rock Dike

As previously reported, several areas of the rock dike appear to be low as well as narrow along the south bank of Mobil Canal. In 2010 it was recommended to survey the area for comparison to the as-built construction drawings to determine the best course of action to prevent breaching of the Gulf into the Canal. The survey was completed in August 2011 and it was determined the dike is in need of refurbishment. As of July 2012, the refurbishment project is in design and is expected to be bid in the Fall of 2012 and constructed in the Spring of 2013.

Phase III – Area 4, Rock Dike

The rock dike along Area 4 of Phase III appeared to be in good condition with no noticeable settlement of the structure. Beyond the east end of the dike, erosion of the beach has increased and the shoreline has moved further north. As a result, there is some erosion at the end of the dike and now tidal exchange can occur behind the dike. In 2010 it was recommended to survey the area for comparison to the as-built construction drawings to determine the best course of action to prevent breaching of the Gulf into the Canal. The survey was completed in August 2011 and it was determined the dike is in need of refurbishment. As of July 2012, the refurbishment project is in design and is expected to be bid in the Fall of 2012 and constructed in the Spring of 2013.

Phase III – Area 5, Rock Dike

The rock dike along Area 5 of Phase III appeared to be in good condition with no noticeable settlement of the structure. Beyond the west end of the dike, erosion of the beach face has increased and the shoreline has moved inland. Consequently tidal exchange is now occurring behind the mats, and erosion of the shoreline behind the mats was observed. In 2010 it was recommended to survey the area for comparison to the as-built construction drawings to determine the best course of action to prevent breaching of the Gulf into the Canal. The

survey was completed in August 2011 and it was determined the dike is in need of refurbishment. As of July 2012, the refurbishment project is in design and is expected to be bid in the Fall of 2012 and constructed in the Spring of 2013.

VI. Conclusions and Recommendations

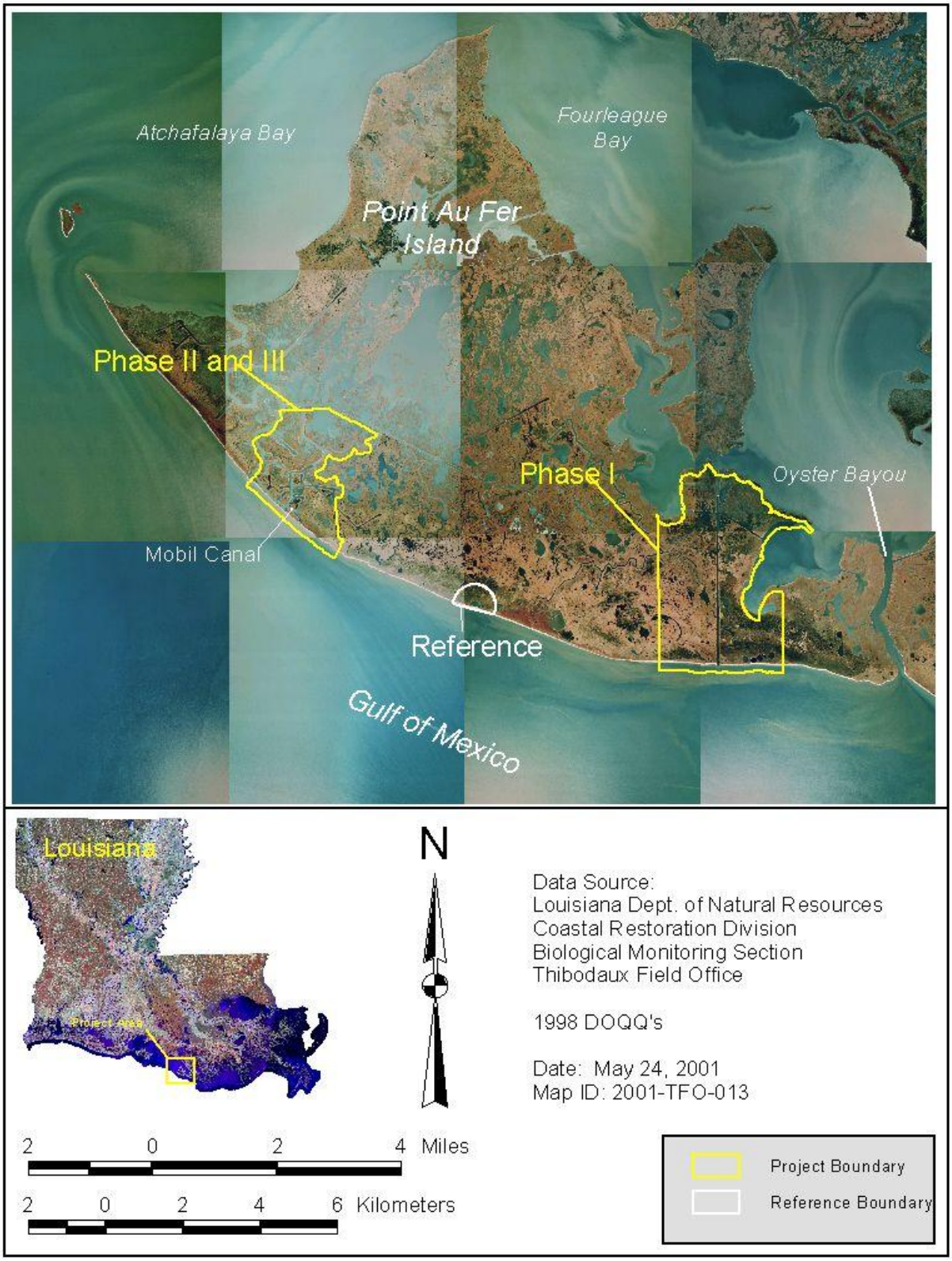
The Phase I canal plugs are in decent condition with the previously mentioned deficiencies. Shell Plugs No.3A and No. 4 have been eroding in the center of the plugs since the time of construction. No maintenance is recommended for Plug No. 3A due to construction access constraints and no maintenance is recommended for Plug No. 4 due to maintenance efforts being focused on Plug No. 4A. The timber bulkhead on Plug No. 6 has shown signs of deflection since the time of construction and this deflection appears to be increasing. In addition, there is a separation in the bulkhead of Plug No. 6 which allows for tidal transfer through the structure. No maintenance is recommended for Plug No. 6 due to access constraints and the structure being intact. Plug No. 8 timber bulkhead has been breached along its southern tie-in. The breach should continue to be monitored for any deepening or widening.

At Plug No. 4A (Transco at Gulf) in order to address the continued erosion at the west shoreline tie-in, behind the west mats, and at the east shoreline tie-in, a survey was recommended in the 2010 Annual Inspection Report. At the time of the 2012 inspection and report, this survey has been completed and the maintenance project is currently in design. Maintenance recommendations will include constructing a rock lift on the west mats, closing off the connection behind those mats with a rock dike extension back to the shoreline, and for the east extending and constructing a rock lift on the 2005 extension dike (See Appendix D). This maintenance event is expected to go through the bidding process in Fall 2012 and into construction by Spring 2013.

For the Phase II and III rock dikes, several areas appear to be low. Also, the Gulf shoreline continues to erode where the project rock terminates. This is true of the Phase III Area 4 and Area 5 rock dike. A survey was recommended in the 2010 Annual Inspection Report. At the time of the 2012 inspection and report, this survey has been completed and the maintenance project is currently in design. Maintenance recommendations will include a rock lift along low areas of the dike and extension of the ends back to the shoreline (See Appendix D). This maintenance event is expected to go through the bidding process in Fall 2012 and into construction by Spring 2013.

Appendix A

Project Features Map


Atchafalaya Bay
Fourleague Bay
Point Au Fer Island
Phase II and III
Phase I
Oyster Bayou
Mobil Canal
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Louisiana
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Coastal Restoration Division
Biological Monitoring Section
Thibodaux Field Office
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Map ID: 2001-TFO-013
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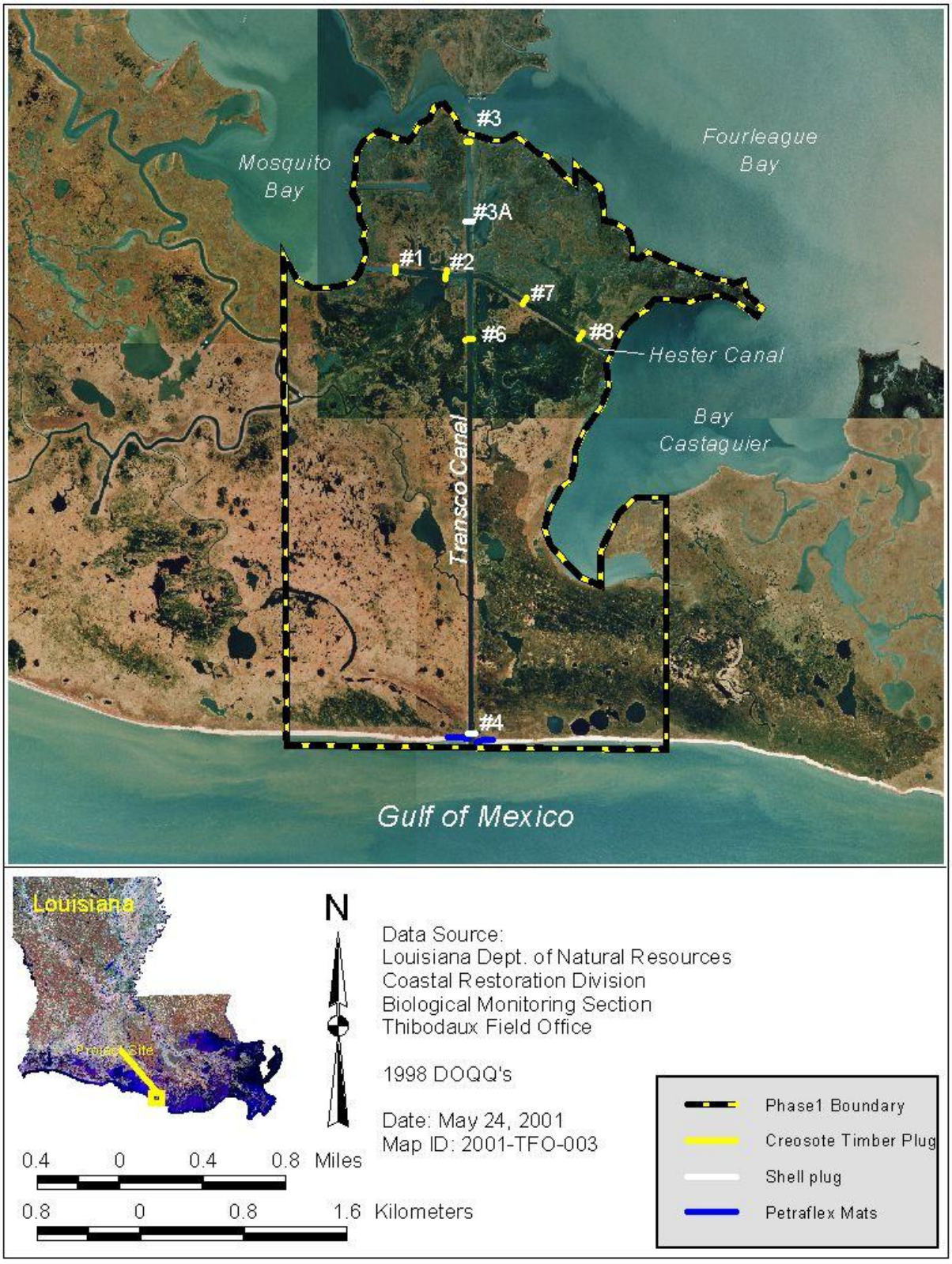
Project Boundary
Reference Boundary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Fourleague Bay
Mosquito Bay
#3A
#1
#2
#7
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Data Source:
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Coastal Restoration Division
Biological Monitoring Section
Thibodaux Field Office
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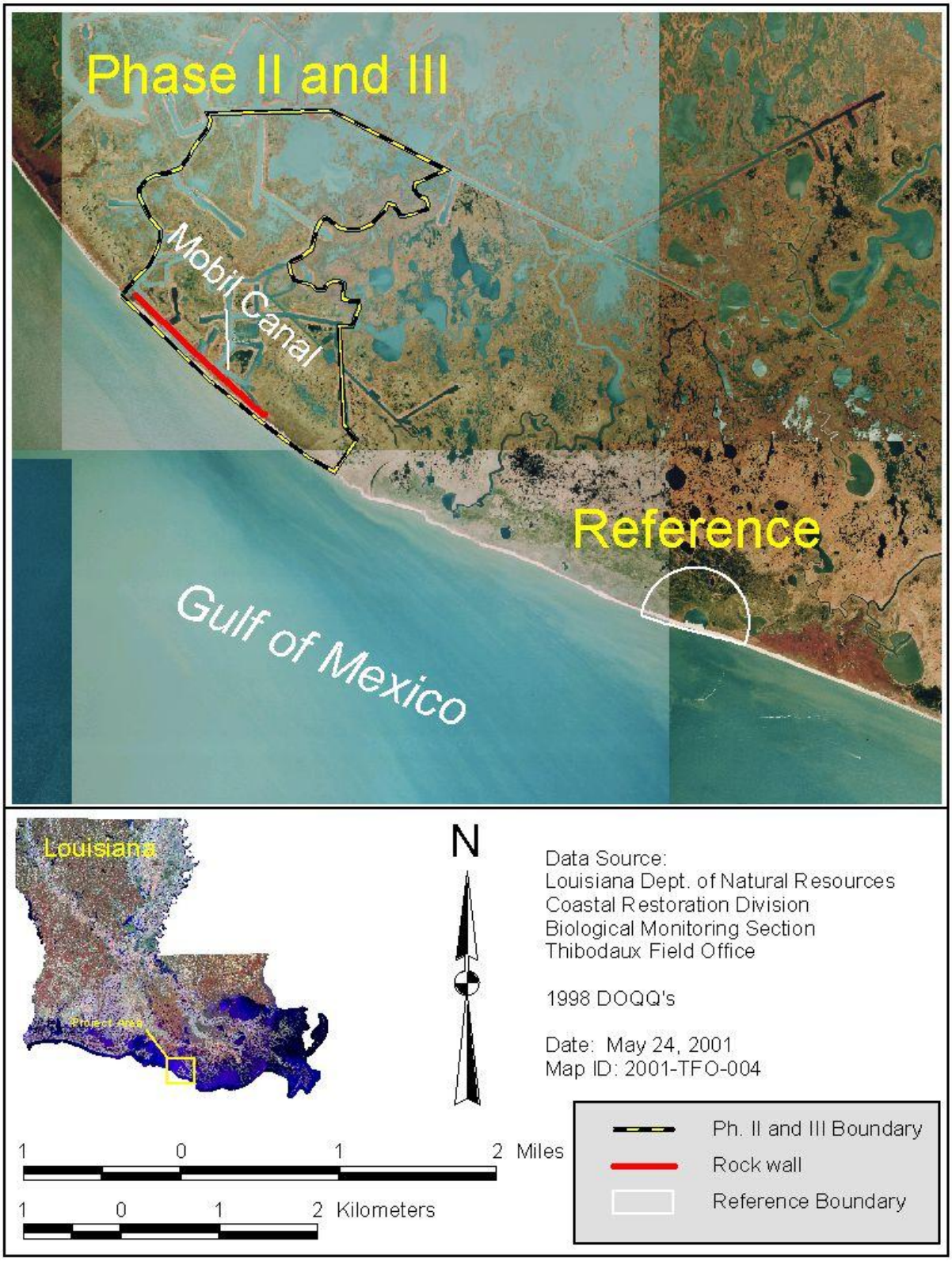
Phase1 Boundary
Creosote Timber Plug
Shell plug
Petraflex Mats


Phase II and III
Mobil Canal
Reference
Gulf of Mexico
Louisiana
Project Area
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Data Source:
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Coastal Restoration Division
Biological Monitoring Section
Thibodaux Field Office
1998 DOQQ's
Date: May 24, 2001
Map ID: 2001-TFO-004
1 0 1 2 Miles
1 0 1 2 Kilometers
Ph. II and III Boundary
Rock wall
Reference Boundary

Appendix B

Photographs

Photo No. 1: View from behind the rock dike separating Mobil Canal from the Gulf of Mexico, looking east

Photo No. 2: View from behind the western end of the rock dike separating Mobil Canal from the Gulf of Mexico, looking west

Photo No. 3: View from behind the western end of the rock dike separating Mobil Canal from the Gulf of Mexico, looking east

Photo No. 4: View of the westernmost end of the rock dike separating Mobil Canal from the Gulf of Mexico, looking west

Photo No. 5: View of erosional shadowing behind the westernmost end of the rock dike separating Mobil Canal from the Gulf of Mexico, looking west

Photo No. 6: View from behind the rock dike separating Mobil Canal from the Gulf of Mexico, looking east

Photo No. 7: Overall view of Plug No. 8 with vinyl sheet pile extension on the southern end of the structure, looking west

Photo No. 8: View of the breach around the southern end of Plug No. 8 from the eastern side of the structure, looking south

Photo No. 9: View of the Submar scour mats placed on the southern end of Plug No. 8 from on top of the structure, looking south

Photo No. 10: View of the breach located around the southern end of Plug No. 8 from on top of the structure, looking south

Photo No. 11: View of the breach around the southern end of Plug No. 8 from on top of the structure, looking east

Photo No. 12: View of the breach around the southern end of Plug No. 8 from the western side of the structure, looking north

Photo No. 13: View of the southern embankment tie-in of Plug No. 2 from Hester Canal, looking east

Photo No. 14: View of the northern embankment tie-in of Plug No. 2 from Hester Canal, looking east

Photo No. 15: Overall view of Plug No. 2 with its warning signs and supports from Hester Canal, looking east

Photo No. 16: Overall view of Plug No. 3A from Transco Canal, looking north

Photo No. 17: Close view of Plug No. 3A from Transco Canal, looking north. The warning sign and support on the eastern side of the structure is missing.

Photo No. 18: View of the embankment tie-in on the northern side of Plug No. 7 from Hester Canal, looking east

Photo No. 19: View of the embankment tie-in on the southern side of Plug No. 7 from Hester Canal, looking east

Photo No. 20: View of deteriorated timber boards along the waterline on Plug No. 7, looking east

Photo No. 21: View of batter piles on the western side of Plug No. 7, looking north

Photo No. 22: View of batter piles on the western side of Plug No. 7, looking south

Photo No. 23: Overall view of Plug No. 6 from Transco Canal, looking south

Photo No. 24: View of a separation in the timber bulkhead of Plug No. 6 from Transco Canal, looking south

Photo No. 25: View of the timber bulkhead deflection on Plug No. 6 from on top of the structure, looking east

Photo No. 26: View of the embankment tie-in on the southern end of Plug No. 1 from Hester Canal, looking east

Photo No. 27: View of the embankment tie-in on the northern end of Plug No. 1 from Hester Canal, looking east

Photo No. 28: Overall view of Plug No. 1 with its warning signs and supports from Hester Canal, looking east

Photo No. 29: Overall view of Plug No. 1 with its warning signs and supports from Hester Canal, looking east

Photo No. 30: View from behind the Transco Canal bulkhead Plug No. 4A, looking south

Photo No. 31: View of the Transco Canal rock dike from on top of the bulkhead, looking east

Photo No. 32: View of the Transco Canal rock dike from on top of the bulkhead, looking west

Photo No. 33: View of the Transco Canal rock dike from on top of the structure, looking east

Photo No. 34: View of the articulated concrete mats on the western end of the Transco Canal rock dike, looking east

Photo No. 35: View of erosional shadowing behind the end of the articulated concrete mats on the western end of the Transco Canal rock dike, looking east

Photo No. 36: View of water wrapping around the articulated concrete mats, looking east. The water has no progressed far enough to reach Transco Canal.

Photo No. 37: View of erosional shadowing behind the easternmost end of the Transco Canal rock dike, looking east

Photo No. 38: View of the easternmost end of the Transco Canal rock dike from on top of the structure, looking east

Appendix C

Three Year Budget Projection

POINT AU FER ISLAND HYDROLOGIC RESTORATION / TE22 / PPL2

Three-Year Operations & Maintenance Budgets 07/01/2012 - 06/30/2015

Project Manager	O & M Manager	Federal Sponsor	Prepared By
	Ledet	*NMFS*	*Ledet*

	2012/2013	2013/2014	2014/2015
Maintenance Inspection	$ 6,512.00	$ 6,707.00	$ 6,908.00
Structure Operation	$ -	$ -	$ -
Administration	$ 10,000.00		$ -
NMFS Administration	$ 7,000.00	$ 2,277.00	$ 2,345.00
Maintenance/Rehabilitation			

12/13 Description: Conduct Rock Lift for Mobil Canal and Transco Canal Bulkhead

E&D	$ 60,000.00
Construction	$ 2,150,390.00
Construction Oversight	$ 80,000.00
Sub Total - Maint. And Rehab.	$ 2,290,390.00

13/14 Description

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

14/15 Description:

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

	2012/2013	2013/2014	2014/2015
Total O&M Budgets	$ 2,313,902.00	$ 8,984.00	$ 9,253.00

O&M Budget (3 yr Total)	**$ 2,332,139.00**
Unexpended O&M Funds	**$ 2,327,049.68**
Remaining O&M Budget (Projected)	**$ (5,089.32)**

OPERATIONS & MAINTENANCE BUDGET WORKSHEET

Project: **TE-22 Point Au Fer Island Canal Plugs**

FY 12/13 –

Administration (NMFS)	$ 7,000
O&M Inspection & Report	$ 6,512
Surveys – Marsh Creation & Rock Settlement Plates	$ 0
Operation:	$ 0
Maintenance:	$ 2,300,390

Operation and Maintenance Assumptions:
Includes an unplanned maintenance event to cap 7,500 linear feet of rock shoreline protection along the gulf near Mobil Canal, and to cap 450 linear feet of petroflex mats on the western side of the Transco Canal Bulkhead (Structure 4A). Method of construction includes placing a single lift of 440 class DOTD stone on top of the existing rock and petroflex mats.

Construction Cost:	Mobilization and Demobilization:	$ 200,000
	Rock Rip Rap (25,000 Tons @ $70/ton)	$ 1,750,000
	Geotextile Fabric (700 Yards @ $7.00/ yd)	$ 4,900
	Sub-Total Construction:	$ 1,954,900
	10% contingency:	$ 195,490
	Total Estimated Construction Cost:	**$ 2,150,390**

Engineering and Design:	$ 50,000
Surveying	$ 10,000
Construction Oversight:	$ 80,000
LDNR Construction Administration:	$ 10,000

Overall Project Budget for Rock Shoreline Refurbishment: **$ 2,300,390**

O&M Inspection and Report – Annual Inspection Field Trip Rate for 1-day trip with NMFS of $4,691 (2002 price level) and annual inflation rate of 2.7% through 2007 and 3.3% for 2008 and beyond taken from PPL12 Project Cost Summary compiled by NRCS dated 8/6/2002.

FY 13/14 –

Administration (NMFS)	$ 2,277
O&M Inspection & Report	$ 6,707
Surveys – Marsh Creation & Rock Settlement Plates	$ 0
Operation:	$ 0
Maintenance:	$ 0

Operation and Maintenance Assumptions:
O&M Inspection and Report – Annual Inspection Field Trip Rate for 1-day trip with NMFS of $4,691 (2002 price level) and annual inflation rate of 2.7% through 2007 and 3.3% for 2008 and beyond taken from PPL12 Project Cost Summary compiled by NRCS dated 8/6/2002.

FY 14/15 –

Administration (NMFS)	$	2,345
O&M Inspection & Report	$	6,908
Surveys – Marsh Creation & Rock Settlement Plates	$	0
Operation:	$	0
Maintenance:	$	0

Operation and Maintenance Assumptions:
O&M Inspection and Report – Annual Inspection Field Trip Rate for 1-day trip with NMFS of $4,691 (2002 price level) and annual inflation rate of 2.7% through 2007 and 3.3% for 2008 and beyond taken from PPL12 Project Cost Summary compiled by NRCS dated 8/6/2002.

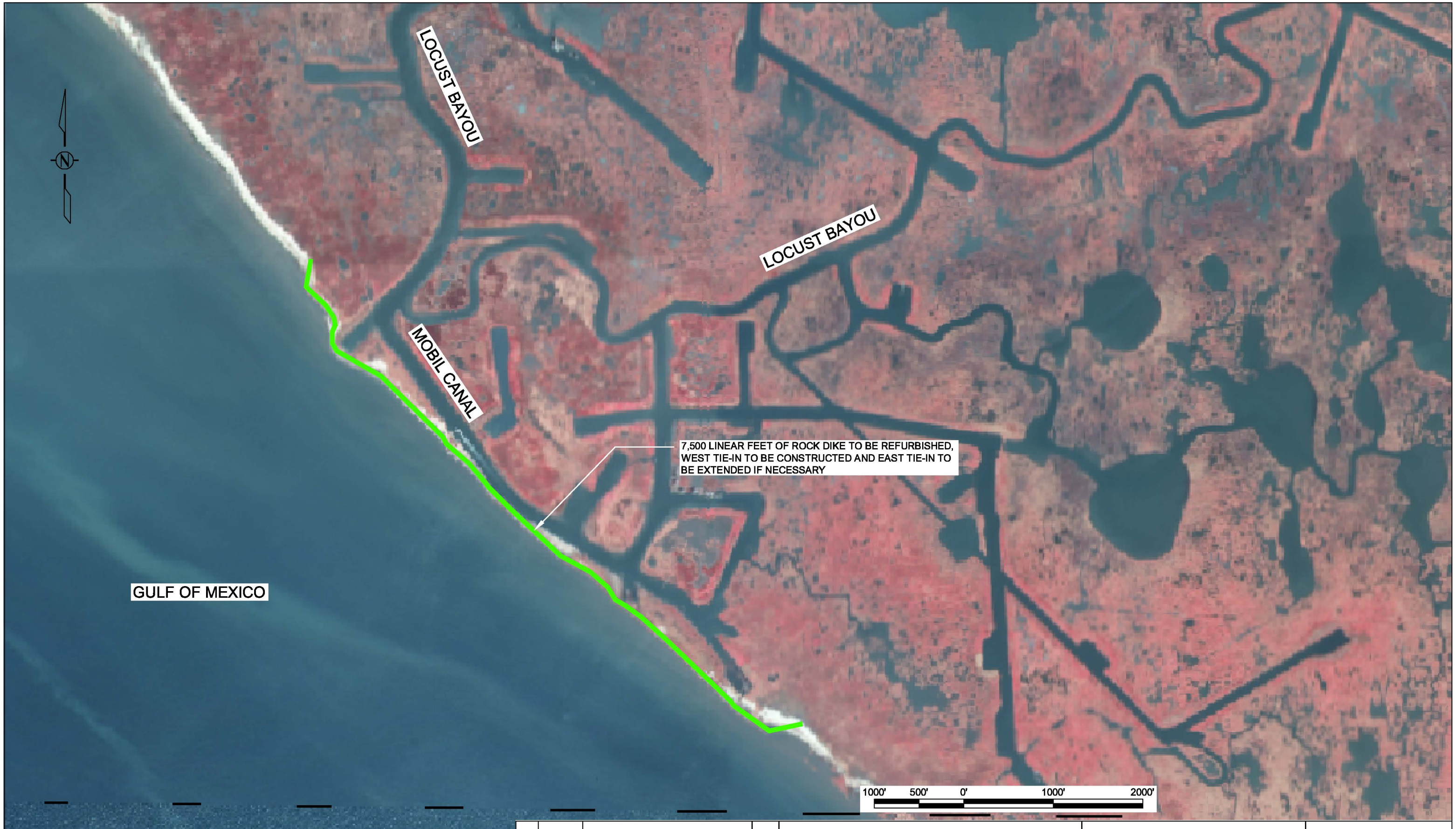
2013-2015 Accounting

Unexpended O&M Funds (Lana Report)	$2,359,141.62
OCPR Expenditures (6/2008 to Present)	$ 32,091.94
Unexpended O&M Funds:	$2,327,049.68

Unexpended O&M Funds: $2,327,049.68

Appendix D

Work Plan Maps



REV.	DATE	DESCRIPTION	BY

OFFICE OF COASTAL PROTECTION & RESTORATION
ENGINEERING BRANCH
450 FLORIDA STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: SJT | DESIGNED BY: BJB

POINT AU FER ISLAND
CANAL PLUGS

STATE PROJECT NUMBER: TE-22

FEDERAL PROJECT NUMBER: PTE-22/24

APPROVED BY: DMB

2011/2014
WORK PLAN MAP

DATE: JUNE 2009

SHEET 1 OF 2

STRUCTURE NO. 1
NO MAINTENANCE REQUIRED

STRUCTURE NO. 2
NO MAINTENANCE REQUIRED

STRUCTURE NO. 7
NO MAINTENANCE REQUIRED

STRUCTURE NO. 8
NO MAINTENANCE REQUIRED

STRUCTURE NO. 6
NO MAINTENANCE REQUIRED

STRUCTURE NO. 4A
CAP WEST PETRO-FLEX MATS WITH ROCK,
CREATE WESTERN TIE-IN AND CAP AND
EXTEND EASTERN TIE IN IF NECESSARY

FOUR LEAGUE BAY

BAY CASTANIER

TRANSCO CANAL

OYSTER BAYOU

GULF OF MEXICO

N

2000' 1000' 0' 2000' 4000'

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