I. Applicant and Proposal Information Summary Sheet

Council Member: **State of Alabama**	Point of Contact: **Hank Burch** Phone: **(251) 625-0814** Email: **Hank.Burch@dcnr.alabama.gov**

Project Identification

Project Title: **Alabama Living Shorelines Restoration and Monitoring Project**

State(s): **AL** | County/City/Region: **Mobile and Baldwin Counties, Alabama**

General Location: *Projects must be located within the Gulf Coast Region as defined in RESTORE Act. (attach map or photos, if applicable)*

Mobile and Baldwin Counties, Alabama

Project Description

RESTORE Goals: *Identify all RESTORE Act goals this project supports. Place a **P** for Primary Goal, and **S** for secondary goals.*

- **P** Restore and Conserve Habitat
- S Restore Water Quality
- ___ Restore and Revitalize the Gulf Economy
- S Replenish and Protect Living Coastal and Marine Resources
- S Enhance Community Resilience

RESTORE Objectives: *Identify all RESTORE Act objectives this project supports. Place a **P** for Primary Objective, and **S** for secondary objectives.*

- **P** Restore, Enhance, and Protect Habitats
- S Restore, Improve, and Protect Water Resources
- S Protect and Restore Living Coastal and Marine Resources
- S Restore and Enhance Natural Processes and Shorelines
- S Promote Community Resilience
- S Promote Natural Resource Stewardship and Environmental Education
- S Improve Science-Based Decision-Making Processes

RESTORE Priorities: *Identify all RESTORE Act priorities that this project supports.*

- **√** Priority 1: Projects that are projected to make the greatest contribution …
- ___ Priority 2: Large-scale projects and programs that are projected to substantially contribute to restoring…
- **√** Priority 3: Projects contained in existing Gulf Coast State comprehensive plans for the restoration ….
- **√** Priority 4: Projects that restore long-term resiliency of the natural resources, ecosystems, fisheries …

RESTORE Commitments: *Identify all RESTORE Comprehensive Plan commitments that this project supports.*

- **√** Commitment to Science-based Decision Making
- **√** Commitment to Regional Ecosystem-based Approach to Restoration
- **√** Commitment to Engagement, Inclusion, and Transparency
- **√** Commitment to Leverage Resources and Partnerships
- **√** Commitment to Delivering Results and Measuring Impacts

RESTORE Proposal Type and Phases: *Please identify which type and phase best suits this proposal.*

X Project(s) **X** Planning **X** Technical Assistance **X** Implementation

___Program

Project Cost and Duration

Project Cost Estimate:		**Project Timing Estimate**:
Total :	**$10,250,000.00**	Date Anticipated to Start: Upon Award Time to Completion: 5 years Anticipated Project Lifespan: 5-7 years (monitoring); 5-7 years (implemented projects)

II. Executive Summary

Across the Gulf of Mexico, coastal shorelines are highly productive, dynamic, and fragile ecosystems. In particular, our estuarine interior waterways foster important coastal habitats such as oyster reefs, submerged grassbeds, and emergent marsh wetlands, that serve as important nursery habitat for several commercially and recreationally important finfish and shellfish. These coastal wetlands are also recognized for the natural protections they provide to adjacent uplands against shoreline erosion and flooding events.

But as coastal areas have developed over the last century, many of these natural shoreline protections, such as emergent marsh, submerged grassbeds, and offshore reef breakwaters, have deteriorated, giving way to significant shoreline erosion in certain areas. Given the high costs of coastal property, waterfront landowners will often take great measures to armor the shoreline using bulkheads, seawalls or rip-rap to prevent further erosion. The effects of hardened shoreline have been well documented (see US Army 1977; Douglas & Pickel, 1999) and include increased wave energy adjacent to the armoring, transfer of wave energy laterally along the coast where it impacts neighboring properties, scouring of bottom sediments in front of the armament, and loss of submerged and emergent aquatic vegetation in the nearshore environment. According to Jones et al. (2012), over 31% of Alabama's coastal shoreline is armored, with some waterbodies exceeding 60% of shoreline armored.

In the last 15 years, there has been a shift towards the "living shoreline" approach to protecting and restoring these fragile ecosystems. While there is not an industry-standard definition of a living shoreline, they are recognized as having common components that attempt to mimic natural geophysical formations and processes. This typically includes offshore placement of natural oyster reefs or permeable breakwater structures to reduce wave energy and create a natural harbor which can support and sustain submerged aquatic vegetation (SAV) and emergent marsh vegetation at the shoreline.

The living shorelines concept represents an emerging science whose techniques are as variable as the coastlines they strive to restore. In Alabama over the last 5 years, there have been at least 9 publicly funded living shorelines projects employing a range of techniques, with several recent efforts developed or suggested as part of the "100-1000: Restore Coastal Alabama" initiative. While each project has its own monitoring regimen, there has not been an effort to develop a comprehensive monitoring program for all of these projects through which the effectiveness and sustainability of different techniques can be compared.

The **Alabama Living Shorelines Restoration and Monitoring Project** would promote the use of Living Shorelines techniques to restore and protect eroding estuarine shorelines in coastal Alabama. This project is part of a larger effort being undertaken in Alabama and around the Gulf to promote living shorelines as an alternative to bulkheads and similar shoreline erosion abatement structures (Boyd and Pace, 2012). Similar projects are in development and/or being implemented in Louisiana, Florida, Texas and Mississippi. Further, these efforts are consistent with the goals and objectives of the Gulf of Mexico Alliance Habitat Conservation and Restoration Team (GOMA-HCRT) to promote Living Shorelines techniques across the five Gulf

States, as demonstrated in its efforts to produce a regional Living Shorelines Technical Manual. Living shoreline work furthers goal ERP-2 of the federally approved Comprehensive Conservation and Management Plan (CCMP) of the Mobile Bay National Estuary Program (MBNEP, 2014). This work is ***foundational*** in its scope and has applications throughout the Gulf of Mexico region.

Alabama seeks RESTORE Council funds to build upon existing living shoreline successes in the state while also advancing the science behind this type of work. Specifically, the project seeks to: 1) complete final design and install living shoreline techniques covered under the Alabama general permit at a highly publicly visible location (*Boggy Point Boat Ramp* in Orange Beach, Baldwin County, AL); 2) complete final design, engineering, permit modifications (if needed) and implementation of living shorelines techniques to augment existing work at *Point aux Pins* in Mississippi Sound (Mobile County, AL); 3) conduct living shoreline planning, design, and permitting work to augment existing permitted shoreline restoration efforts on *Coffee Island* in Mississippi Sound (Mobile County AL); and 4) implement a comprehensive *living shoreline monitoring program* that includes data collection and synthesis for at least nine existing projects in Alabama. Project partners will also engage in extensive public outreach about living shorelines and will make results available to landowners, regulatory agencies, and coastal decision makers to support adaptive management of shoreline restoration efforts. The timeframe for this suite of projects is 5 years.

This effort primarily supports the RESTORE Council's goal to restore and conserve habitat in the Gulf region, but also supports restoration of water quality (through reduced shoreline erosion/sedimentation), protects living coastal and marine resources (by providing habitat for oysters, finfish, shellfish, and shorebirds), and enhances community resilience (by increasing shoreline protection). This project would be implemented by the Alabama Department of Conservation and Natural Resources (ADCNR) in partnership with the Dauphin Island Sea Lab (DISL), Mobile Bay National Estuary Program (MBNEP), and The Nature Conservancy (TNC).

A successful program will result in the implementation of appropriately designed and sited living shorelines projects at the proposed locations. More importantly success will be measured by the contribution of comprehensive monitoring of all such projects in Alabama in order to gain insight on effectiveness of techniques. Successful monitoring will also provide a framework for adaptive management of these and future projects and inform future science based decision making.

Uncertainties and risks associated with the project or program

The ADCNR and its project partners have successfully implemented similar projects in coastal Alabama. Therefore, there are few uncertainties and risks associated with these types of projects. That said, certain issues beyond control, such as unforeseen site conditions, tropical storm events, higher than expected construction bids or similar circumstances may arise, which delay project implementation or require project scaling. Such risks are inherent in coastal restoration activities and can be appropriately mitigated through adaptive management practices.

III. Proposal Narrative

Introduction and Background

The **Coastal Alabama Shoreline Restoration and Monitoring Project** promotes the use of "Living Shoreline Techniques" to restore and protect eroding estuarine shorelines in coastal Alabama. This project is part of a larger effort being undertaken in Alabama and around the Gulf to promote living shorelines as an alternative to bulkheads and similar shoreline erosion abatement structures. Such efforts have been ongoing in Alabama for over 10 years, with numerous living shoreline topical workshops, classes and meetings taking place in that time frame. All of these efforts have resulted in an increased awareness of the intertidal habitat loss caused by bulkheads and similar types of shoreline armoring, awareness of living shoreline techniques and an increased desire by property owners, local governments and other local entities to construct effective, science-based living shoreline projects in place of bulkheads.

In response to the growing demand for living shoreline projects and the need for guidance on how to build these projects, the Alabama Department of Conservation and Natural Resources (ADCNR) and the Mobile Bay National Estuary Program (MBNEP) are currently partnered to draft a homeowner's guide to living shorelines. Additionally, the Gulf of Mexico Alliance Habitat Conservation and Restoration Team (GOMA-HCRT) has partnered with the Weeks Bay National Estuarine Research Reserve (NERR), the Baldwin County Soil and Water District and other partners to begin drafting a living shorelines construction technical manual. The proposed *Alabama Shoreline Restoration and Monitoring Project* would support these efforts by developing and implementing properly designed and sited projects as living shoreline exemplars while simultaneously providing monitoring data to demonstrate effectiveness of various techniques.

While a number of living shoreline projects have already been constructed in coastal Alabama, the ADCNR and its project partners have identified additional sites in need of shoreline restoration and protection efforts. This project addresses three priority project areas based on current conditions of shoreline erosion and loss. It also addresses the need to properly monitor these and other such projects in order to properly document the efficacy of living shoreline techniques. Such monitoring data is also needed to insure that future projects are properly sited, designed and constructed to best match the highly variable shoreline and hydrodynamic processes found in Alabama.

This project is part of the larger Gulf-wide movement to promote living shorelines as preferred alternatives to shoreline armoring with seawalls or bulkheads. Similar projects are in development and/or being implemented in Louisiana, Florida, Texas and Mississippi. Further, these efforts are consistent with the goals and objectives of the GOMA-HCRT, as noted above, as well as with the restoration goals set by the Mobile Bay NEP Comprehensive Conservation and Management Plan (2013).

The Alabama Living Shorelines Restoration and Monitoring Project proposes to use RESTORE

Council funds to accomplish the following:

1. **Implementation of the Boggy Point Living Shorelines Project**
   This project proposes the installation of living shoreline techniques adjacent to the ADCNR Boggy Point Boat Ramp Site in Orange Beach (Baldwin County) Alabama. Boggy Point is the site of a tremendously popular recreational boat ramp that is flanked by an area of tidal marsh. The marsh habitat sustained significant episodic losses with Hurricanes Ivan (2004) and Katrina (2005) and continues to face challenges from boat wakes. While the surrounding area has now been declared a No-Wake Zone, the tidal marsh along the shoreline has not recovered. This project proposes to place approximately 400' of permeable segmented breakwaters, a limited amount of sand fill and the planting of salt marsh vegetation over approximately 0.32 acres. Educational signage would also be placed at the adjacent boat ramp parking lot to take advantage of the outreach exposure provided at this popular site. Preliminary design is complete and the project qualifies for coverage under the existing US Army Corps of Engineers (USACE) Alabama General Permit for Living Shorelines Projects. A conceptual site plan is attached in Section III.

2. **Implementation of the Point Aux Pins Living Shorelines Project (Mobile County, AL)**
   This project would take place along Point aux Pins, in the western portion of Portersville Bay (Mississippi Sound- see map in Section III) and augments existing shoreline restoration efforts completed by the Dauphin Island Sea Lab (DISL). The eastern and southern shoreline of Point aux Pins, which is primarily in public ownership, has been experiencing long-term chronic shoreline erosion and salt marsh losses. The rate of loss is less severe along the northeastern shoreline and becomes increasingly severe as one moves south. Based on NOAA shoreline data and historical and current imagery, the shoreline losses along the southern point of Point aux Pins can be as severe as 12' per year.

   The first project component would consist of placing additional breakwater units at the existing Northeast Point aux Pins Living Shoreline Project. This project, which was constructed by the Dauphin Island Sea Lab with funds provided by the ADCNR and NOAA, currently consists of 4 experimental living shorelines breakwater units separated by long stretches of experimental control segments with no armoring. Because the treatments are so small relative to the distance between treatments, wave attenuation and shoreline protection has been minimal. The purpose of the proposed augmentation project is to construct additional breakwater units in the control segments in order to complete a more solid line of defense (see project concept in Section III). The DISL currently holds USACE permits for the site. The ADCNR would work closely with the DISL to implement this project.

   The second project component would construct living shorelines along the southeastern and southern tip of Point aux Pins. This project would use 2-3 different living shorelines breakwater techniques to address long-term severe erosion along this portion of Point

aux Pins, which is currently covered under a USACE Permit obtained by The Nature Conservancy (attached). Therefore, the ADCNR would work closely with TNC on this portion of the project.

Given the presence of existing, albeit eroding, salt marsh at these sites, the planting of additional salt marsh vegetation is not currently planned for the Point aux Pins projects.

3. **Coffee Island Living Shorelines Project Augmentation and Modification Planning, Engineering and Regulatory Compliance**
   As with the shoreline along Point aux Pins, Coffee Island (Mississippi Sound, Mobile County, AL; see map in Section III) is experiencing chronic long-term shoreline erosion and with recession rates as severe as 12' per year.

   This project would conduct planning, engineering, design and regulatory compliance associated with the proposed augmentation and modification of the existing living shorelines breakwaters on the southeastern side of Coffee Island, in the Portersville Bay portion of Mississippi Sound. This project was originally constructed by The Nature Conservancy, which holds USACE permits for shoreline restoration at this site (attached). While many of the breakwater segments are performing as expected, it appears that some areas need design modifications to achieve desired results. Therefore, the ADCNR and its partners are proposing to augment and/or modify the existing project to make it more effective. Potential augmentation and modification might include additional breakwater units, adding width or height to existing units, adding sediments landward of the breakwaters, planting vegetation and/or other techniques. While TNC has active permits for this site, it is anticipated that necessary modifications may be extensive enough to require individual permitting for this site. As such funds are only requested for engineering, design, and permitting with implementation funds to be pursued as a secondary phase of activity.

4. **Comprehensive Living Shorelines Project Monitoring Project**
   The purpose of this monitoring component is to monitor and assess the performance of the above noted proposed projects along with at least nine (9) existing coastal restoration projects in Alabama's coastal waters. These existing projects, all of which were publicly funded, incorporate some aspect of the "living shoreline" concept to stabilize eroding sandy shorelines and coastal marshes with the goal of regaining lost ecological and economic value. These restoration projects are mostly unique from one another, including methods ranging from intertidal breakwaters made of concrete reef units to subtidal breakwaters built from oyster shell, as well as commercial products. The following existing projects will be included in the monitoring project:
   - Alabama Port (30.344°N 88.124°W)
   - Bon Secour Bay (30.247°N 87.843°W)
   - Coffee Island (30.332°N 88.252°W)
   - Helen Wood Park (30.571°N 88.085°W)
   - Little Bay (30.383°N 88.284°W)

- Mon Louis Island (30.442°N 88.106°W)
- Pelican Point (30.377°N 87.840°W)
- Point aux Pins (30.387°N 88.296°W);
- Swift Tract (30.319°N 87.788°W).

Where feasible, other recent small scale living shoreline projects completed with public or private funds will be reviewed for possible inclusion in the monitoring program.

In cooperation with technical experts in coastal Alabama, the comprehensive monitoring effort will develop a standard set of parameters, including such parameters as shoreline position, breakwater aerial extent and height, cross-shore topographic and bathymetric profiles, vegetation density and species composition, encrusting organism counts and/or measurements of secondary productivity or other similar parameters.

While some aspects of these projects have been monitored for a number of years, none has a long-term monitoring plan in place which would allow for comparisons of the varied techniques that have been employed. Existing monitoring plans include a series of physical, hydrological, chemical and ecological metrics indicative of environmental health. The monitoring data that currently exists for these nine projects is fragmented, with numerous gaps due to funding inconsistency. Many of the monitoring efforts are now stalled and were only intended to cover a short time period pre- and post-implementation. Moreover, the existing monitoring efforts have been carried out by diverse agencies, often on a project-specific basis, and are not well integrated.

Accurate evaluation of project success and recovery of environmental value requires a consistent and unified, long-term monitoring and assessment program. Some of the metrics measured require several years to show statistical difference and most of the existing monitoring efforts are simply too short to show much change. Furthermore, an effort needs to be made to consistently measure a number of important metrics at all projects in order to determine effectiveness of various restoration techniques.

The goals of this proposed long-term monitoring project are twofold. First it will synthesize all monitoring information for the proposed projects as well as the nine existing projects. Second, after identifying the gaps and coming to an agreement with involved parties as to what the most important core processes and indicators of success are, project partners will work together to devise and carry out a long-term, comprehensive monitoring plan that will allow for a robust comparison across all projects, as well as an accurate evaluation of their success.

This comprehensive monitoring of existing and newly constructed projects will also provide critical data on living shorelines project performance and results, guiding the siting, design and construction of future living shorelines projects.

For purposes of this proposal, projects will be monitored for 5 years.

Implementation Methodology
The ADCNR will issue a request for qualifications (RFQ) for a Professional Services contractor to conduct field investigations, engineering, design and regulatory compliance for the Boggy Point, Point aux Pins and Coffee Island projects. Once a qualified RFQ respondent has been selected, a Scope of Service and Professional Services Contractual Agreement will be drafted and executed, in accordance with Alabama laws and regulations. The selected Professional Services Contractor will work closely with ADCNR and project partners to develop appropriate site plans and designs, construction drawings and bid documents. Additionally, existing project permits will be reviewed and extension and/or modifications requested if needed. Coverage under appropriate USACE Nationwide or General Permits will be acquired for the Boggy Point Site.

Upon completion of the design, engineering and regulatory compliance process, a request for construction bids for the Boggy Point and Point aux Pins projects will be issued in accordance with Alabama procurement laws and regulations. Once a valid qualified bid has been accepted, appropriate contractual agreements will be drafted and executed and construction will begin upon the issuance of a notice to proceed. During construction activities, the selected Professional Services Contractor will provide construction oversight services, insuring that the project is constructed in accordance construction drawings and plans and contractual requirements.

In regards to the Coffee Island Projects, once planning, engineering, design and regulatory compliance are completed, the ADCNR and its project partners will explore securing additional funding to implement the construction of the project.

Monitoring and adaptive management of the project or program (if applicable):
As noted above, monitoring will be conducted as detailed in the Comprehensive Living Shorelines Project Monitoring Project. The ADCNR intends to partner with the DISL to conduct the monitoring program.

The ADCNR and its project partners will utilize adaptive management in resolving any issues that arise in the course of the project. This could result in slight changes to specific project site plan, changes in monitoring parameters or other similar changes. Additionally, in developing the Coffee Island project plans and designs, multiple project design scenarios will be explored.

Measures of success for the proposed project or program:
Success will be measured by 1) the successful implementation of living shorelines projects at Boggy Point and Point aux Pins, 2) the completion of engineering, design and regulatory compliance for the Coffee Island site, 3) the successful implementation of the comprehensive monitoring project to provide critical efficacy and design verification data; and 4) creating areas of more resilient, productive and healthier coastal shoreline in Alabama.

Risks and uncertainties of the proposed activities:
As noted above, the ADCNR and its project partners have collectively and independently implemented similar projects in the past decade and there are few if any risks and uncertainties

associated with the overall implementation of this project. That said, certain issues beyond control, such as unforeseen site conditions, tropical storm events, higher than expected construction bids or similar circumstances may arise which delay or damage project implementation or necessitate project scaling. Such risks are inherent in coastal restoration activities and can be mitigated through adaptive management practices.

Proposal project/program benefits:
The successful implementation of this project will result in decreased shoreline erosion and the re-establishment and/or stabilization of salt marsh habitats. Additionally, public trust resources, including commercially and recreationally important finfish and shellfish species will benefit from these improved habitats, furthering Gulf-wide restoration efforts.

Further, this project will provide valuable living shorelines monitoring and efficacy data which will inform decision makers on the proper design and siting of living shoreline projects. This data may also help inform policy and regulatory decisions and frameworks, insuring that living shorelines are appropriately regulated.

Outreach and education opportunities:
ADCNR will leverage efforts by project partners, such as the nationally recognized Discovery Hall Program at the Dauphin Island Sea Lab, to promote the results of these efforts. The Discovery Hall Program provides education and outreach in marine sciences that targets K-12 students and teachers. Additionally, the ADCNR and project partners conduct project presentations at local, regional and national events, such as Bays & Bayous, Restore America's Estuaries, Weeks Bay NERR Coastal Training Program classes and similar venues.

Leveraging of resources and partnerships:
The ADCNR will actively partner with DISL, TNC, MBNEP and other resource agencies on the planning, design and implementation of this project. These partnerships will leverage the knowledge and technical expertise of their respective staffs.

IV. Location Information

Figure 1. Boggy Point Site Plan (Orange Beach, Baldwin County, AL):

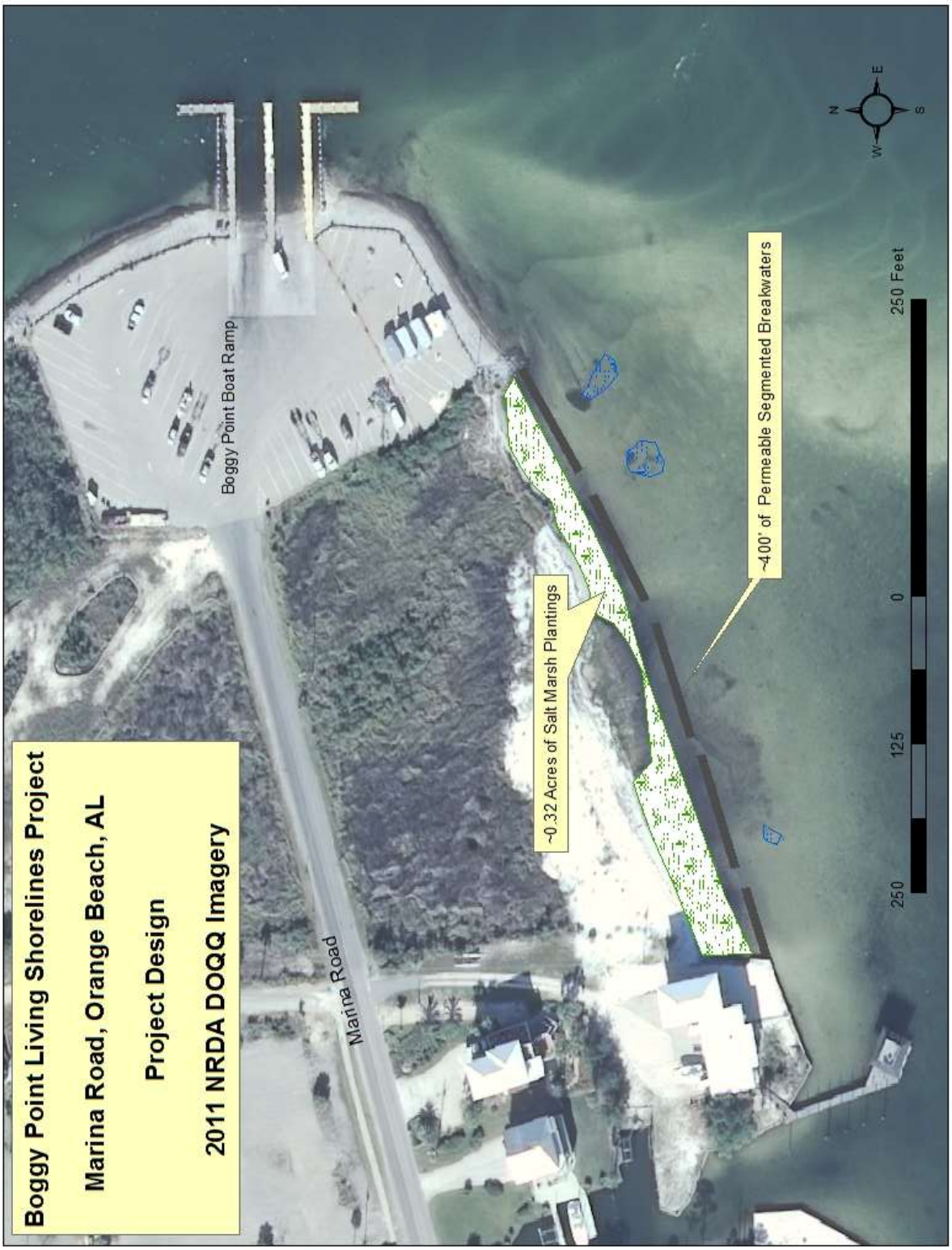


Figure 2a. Northeast Point aux Pins Site Plan

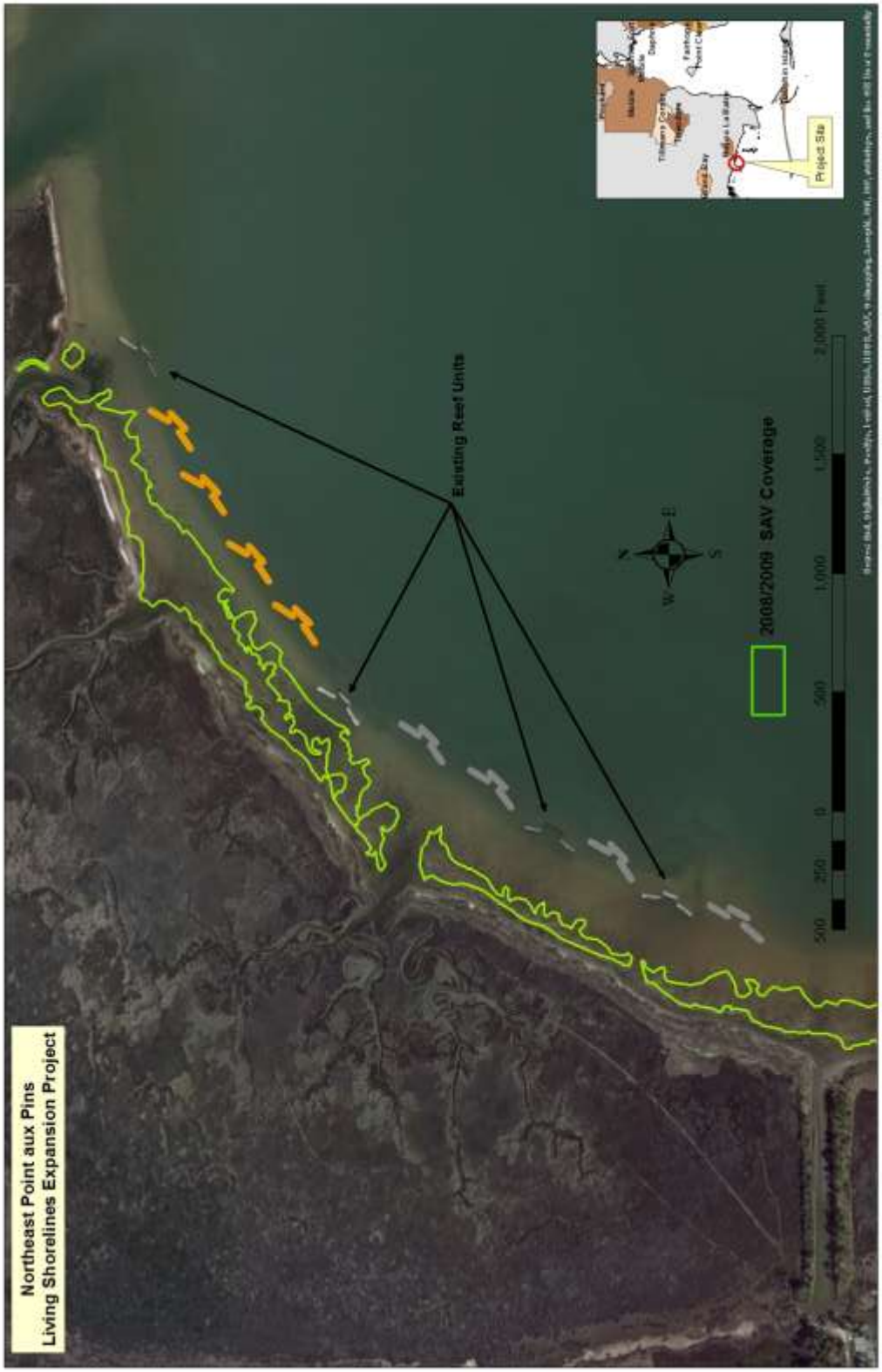


Figure 2b. Southern Point Aux Pins Conceptual Design.

Figure 3. Coffee Island

Figure 4. Comprehensive Monitoring Program, Existing Sites:

V. High-Level Budget Narrative

Alabama Living Shorelines Restoration and Monitoring Project
Project Budget Summary:

Boggy Point Project *Include site investigation, engineering, design, regulatory compliance (if needed), construction document preparation, construction oversight and construction of approximately 400' of offshore breakwater and installation of sand fill and planting of salt marsh vegetation.*	**$750,000.00**
Point aux Pins *Include site investigation, engineering, design, regulatory compliance (if needed), construction document preparation, construction oversight and construction of multiple living shoreline techniques.*	**$5,000,000.00**
Coffee Island *Includes site investigation, engineering, design, regulatory compliance, and construction document preparation. Implementation to occur in subsequent phase.*	**$500,000.00**
Comprehensive Monitoring *Includes funding for personnel, materials and supplies, transportation, education & outreach and indirect costs.*	**$4,000,000.00**
Total:	**$10,250,000.00**

Budget Detail: Boggy Point Living Shorelines Enhancements

	Cost Estimate
Planning, Engineering, Design & Permitting	**$133,500.00**
Construction	**$511,500.00**
Monitoring	**$105,000.00**
TOTAL :	**$750,000.00**

Budget Detail: Point aux Pins Living Shorelines Enhancements

	Cost Estimate
Planning, Engineering, Design & Permitting	**$275,000.00**
Construction	**$4,450,000.00**
Monitoring	**$275,000.00**
TOTAL :	**$5,000,000.00**

VI. Environmental Compliance Checklist

Gulf Coast Ecosystem Restoration Council
Environmental Compliance Checklist

Please check all federal and state environmental compliance and permit requirements as appropriate to the proposed project/program

Environmental Compliance Type	Yes	No	Applied For	N/A
Federal				
National Marine Sanctuaries Act (NMSA)				X
Coastal Zone Management Act (CZMA)	X			
Fish and Wildlife Coordination Act				
Farmland Protection Policy Act (FPPA)				X
NEPA – Categorical Exclusion				
NEPA – Environmental Assessment				
NEPA – Environmental Impact Statement				
Clean Water Act – 404 – Individual Permit (USACOE)	X			
Clean Water Act – 404 – General Permit(USACOE)	X			
Clean Water Act – 404 – Letters of Permission(USACOE)				
Clean Water Act – 401 – WQ certification	X			
Clean Water Act – 402 – NPDES				
Rivers and Harbors Act – Section 10 (USACOE)				
Endangered Species Act – Section 7 – Informal and Formal Consultation (NMFS, USFWS)				
Endangered Species Act – Section 7 - Biological Assessment (BOEM,USACOE)				
Endangered Species Act – Section 7 – Biological Opinion (NMFS, USFWS)				
Endangered Species Act – Section 7 – Permit for Take (NMFS, USFWS)				X
Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat (EFH) – Consultation (NMFS)				
Marine Mammal Protection Act – Incidental Take Permit (106) (NMFS, USFWS)				
Migratory Bird Treaty Act (USFWS)				
Bald and Golden Eagle Protection Act – Consultation and Planning (USFWS)				
Marine Protection, Research and Sanctuaries Act – Section 103 permit (NMFS)				X
BOEM Outer Continental Shelf Lands Act – Section 8 OCS Lands Sand permit				X
NHPA Section 106 – Consultation and Planning ACHP, SHPO(s), and/or THPO(s)				
NHPA Section 106 – Memorandum of Agreement/Programmatic Agreement	X			
Tribal Consultation (Government to Government)				X
Coastal Barriers Resource Act – CBRS (Consultation)				X
State				
As Applicable per State	X			

VII. Data / Information sharing plan

Types of environmental data and information that will be created during the project
During this project, site specific geospatial environmental data concerning sediment resources, sediment management, habitat restoration and associated data will be gathered over a 5-year period at 11 locations in coastal Alabama.

Standards to be used for data/metadata format and content:
FGDC or the current federally mandated metadata format will be utilized.

Policies addressing data stewardship and preservation:
All data generated by this project will be made publicly available through existing partner resources (e.g., website, direct request).

Procedures for providing access, sharing, and security:
All data generated by this program will be made available through the DISL, ADCNR, TNC and other project partners. Data are available to the public upon request. Where feasible, data will be made available through existing online portals. All data generated by this program will be made available through the DISL, ADCNR, TNC and other project partners. Data are available to the public upon request. Where feasible, data will be made available through existing online portals. Updates on project status as well as data gathered will be posted on ADCNR's www.alabamacoastalrestoration.org website. Where feasible, data gathered will be made available through existing online portals at ADCNR or with partnering agencies and, even where not feasible, all data gathered will be available to the public upon request.

VIII. Reference list of literature cited in the proposal

Boyd, Chris A. and Niki L. Pace. 2012. Coastal Alabama Living Shorelines Policies, Rules, and Model Ordinance Manual. Mobile Bay National Estuary Program. 50p. http://www.mobilebaynep.com/images/uploads/library/Coastal-Alabama-Living-Shorelines-Policies-Manual.pdf

Douglass, S. L., and B. H. Pickel. "The Tide Doesn't Go Out Anymore: The Effect of Bulkheads on Urban Bay Shorelines." Shore & Beach 67, 2&3 (April-July 1999): 19-25. http://www.southalabama.edu/cesrp/Tide.htm

Jones, S. C., and D. K. Tidwell. 2012. Comprehensive Shoreline Mapping, Baldwin and Mobile Counties, Alabama: Phase III. Geological Survey of Alabama, Tuscaloosa, Alabama. http://www.mobilebaynep.com/images/uploads/library/Shoreline_Mapping-Baldwin_amp_Mobile_Counties%2C_AL-PhaseIII-JonesampTidwell2012.pdf

Mobile Bay National Estuary Program. 2013. Respect the Connect. Comprehensive Conservation and Management Plan for Alabama's Estuaries and Coast. 144p. http://www.mobilebaynep.com/images/uploads/library/CCMP_Handout_9-25.pdf

US Army. 1977. Shore Protection Manual. 3rd ed. U.S. Army Engineer Waterways Experiment Station, Coastal Engineering Research Center, U.S. Government Printing Office, Washington D.C.

IX. Other Documents (if applicable)

The following items are attached to this proposal, as requested by the guidance document:

1. US Army Corps of Engineers Permit SAM-2011-0493-DEM issued to The Nature Conservancy in 2011 and authorizing living shorelines projects in 15 areas in Coastal Alabama. Includes authorization for projects at Coffee Island. 49 pages.

2. US Army Corps of Engineers Permit SAM-2009-1127-SBC issued to the Dauphin Island Sea Lab in 2009 and authorizing living shorelines work on Point aux Pins. 26 pages.

DEPARTMENT OF THE ARMY
MOBILE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 2288
MOBILE, AL 36628-0001

REPLY TO
ATTENTION OF

April 16, 2011

Coastal Branch
Regulatory Division

SUBJECT: Department of the Army Final Permit Number SAM-2011-0493-DEM, The Nature Conservancy, Various Shorelines of Mobile Bay, Portersville Bay, Bon Secour Bay, Weeks Bay, and the Mississippi Sound

The Nature Conservancy
Attention: Ms. Judy Haner
56 St. Joseph Street
Mobile, Alabama 36602

Dear Ms. Haner:

PLEASE READ THIS LETTER CAREFULLY AND COMPLY WITH ITS PROVISIONS

There is enclosed a Department of the Army permit authorizing you to perform the work specified therein in accordance with the plans shown on the drawings attached thereto. This permit is issued under provision of the Federal laws for the protection and preservation of the navigable waters of the United States. These laws provide that after the proposed work has been approved by issuance of a Department of the Army permit,

IT SHALL NOT BE LAWFUL TO DEVIATE FROM SUCH PLANS EITHER BEFORE OR AFTER COMPLETION OF THE WORK,

unless modification of said plans has previously been submitted to and received the approval of the Department of the Army.

You should study and carefully adhere to all the terms and conditions of the permit. The District must be notified of the commencement and completion of the permitted work. The enclosed cards may be used for that purpose. Also enclosed is a "NOTICE OF AUTHORIZATION" which must be conspicuously displayed at the site during construction of the permitted work. Any inquiries relating to this permit should be directed to the Regulatory Division at phone number (251) 690-2658.

If for any reason it becomes necessary to make a material change in location or plans for this work, revised plans should be submitted promptly to the District Commander in order that the revised plans may receive the approval required by law before work is begun.

Compliance with this and other conditions of the permit is essential. Failure to submit the notices requested may result in its revocation.

For additional information about our Regulatory Program, please visit our web site at: www.sam.usace.army.mil/rd/reg and please take a moment to complete our customer satisfaction survey while you're there. Your responses are appreciated and will allow us to improve our services.

Sincerely,

Joy B. Earp
Team Leader, Coastal Branch
Regulatory Division

Enclosures

Copy Furnished:

Alabama Department of
Environmental Management
Coastal Facilities
Attention: Mr. Scott Brown
Coastal Area Division
4171 Commanders Drive
Mobile, Alabama 36615

DEPARTMENT OF THE ARMY PERMIT

Permittee: **THE NATURE CONSERVANCY**

Permit No: **SAM-2011-0493-DEM**

Issuing Office: **MOBILE DISTRICT**

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the U. S. Army Corps of Engineers (Corps) having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: The applicant proposes to build approximately 11 miles of oyster reef/living shoreline breakwaters along approximately 15 miles of shoreline. Depending on the conditions of the site location, bagged oyster shell, ReefBalls, ReefBlks, and other technologies to provide a settlement substrate for the oysters will be used. The reef / living shoreline breakwaters will be placed between 20m and 100m from the shoreline to provide adequate shoreline protection. Breakwater lengths will range from 15m to 125m based on the site shoreline length and will be spaced to allow for tidal flushing. For navigational purposes, "*Submerged Reef*" signs will be placed along the breakwaters, with osprey platforms marking mile increments (maximum distance). For educational purposes, interpretive signage discussing the project's benefits will be placed at public locations near the reef/living shoreline breakwater site, given permission and accessibility.

ATTACHED:
1. **Project Plans (37)**
2. **Alabama Department of Environmental Management Water Quality/Coastal Zone Management Certification, dated March 9, 2012 (3 pages)**
3. **Alabama Standard Manatee Construction Conditions**

Project Location: Various shorelines of Mobile and Baldwin counties to include waters of Mobile Bay, Portersville Bay, Weeks Bay, Mississippi Sound, and Bon Secour Bay. *See project site location data for details.*

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on **March 9, 2017**. If you find that you need more time to complete the authorized activity; submit your request for a time extension to this office for consideration at least 1 month before the above date is reached.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and State coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6 You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions: a. Compliance with all terms and general and special conditions of this Permit is mandatory.

b. It is the permittee's responsibility to ensure that the contractors working on this project are aware of all general and special permit conditions.

c. The permittee will maintain CWA Section 401(a) Water Quality Certification and Coastal Consistency as required by the ADEM certification letter dated March 9, 2012.

d. Should cultural resources be encountered during project activities, work shall cease and the U.S. Army Corps of Engineers Mobile District, Alabama State Historical Preservation Officer (SHPO) and the Alabama-Coushatta Tribe of Texas shall be consulted immediately. This stipulation shall be placed on the construction plans, and it is the permittee's responsibility to ensure that contractors are aware of this requirement. SHPO contact information: Alabama Historical Commission, Attention: Mr. Greg Rhinehart, 468 South Perry Street, Montgomery, Alabama 36130-0900, or telephone (334) 242-3184. The ACH tracking number is 11-1168; Alabama-Coushatta Tribe of Texas, Attention: Mr. Bryant J. Celestine, 571 State Park Road 56, Livingston, Texas 77351.

e. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structures or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

f. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

g. This permit does not authorize impacts to wetlands, natural shellfish beds, or submerged aquatic vegetation.

h. It is the responsibility of the permittee to coordinate this activity with the State Lands Division, Alabama Department of Conservation and Natural Resources (ADCNR), for any riparian rights issues or leases that may be required for impacting State water bottoms. ADCNR, State Lands Division, 31115 Five Rivers Boulevard, Spanish Fort, Alabama 36527, phone number (251) 621-1238.

i. All structures will be marked in accordance with the rules and regulations of the United States Coast Guard and the Alabama Marine Police.

j. The permittee will provide the Mobile District and the U.S. Coast Guard a work schedule for offshore work, at least 60 days in advance, so that a "Notice to Mariners" can be issued.

k. Construction activities shall not infringe upon navigation on the waterway. These activities shall be in compliance with 33 CFR 163, which states in part: "A clear channel shall at all times be left open to permit free and unobstructed navigation by all types of vessels and tows normally using the various waterways."

l. The permittee will promptly notify the District Engineer of any discharge in violation of this permit.

m. An as-built survey the entire shoreline breakwater project shall be conducted and furnished to the Corps after construction completion.

n. The applicant shall implement appropriate Best Management Practices as required by the FWS and ADEM 401/CZM certifications as well as the FWS "Standard Manatee Construction Conditions".

Any observation of a Florida Manatee or Gulf Sturgeon within the area during project operations shall be reported to this office immediately.

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

(X) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
(X) Section 404 of the Clean Water Act (33 U.S.C. 1344).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, State, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit, SAM-2011-0493-DEM.

Judy Haner _____ 4/13/2012

(PERMITTEE) MS. JUDY HANER (DATE)
THE NATURE CONSERVANCY
56 ST. JOSEPH STREET
MOBILE, ALABAMA 36602

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

STEVEN J. ROEMHILDT, P.E.
COLONEL, CORPS OF ENGINEERS
(DISTRICT COMMANDER)

BY: Joy B Earp _____ April 16, 2012
JOY B. EARP (DATE)
TEAM LEADER, COASTAL ALABAMA
REGULATORY DIVISION

When the structures or work authorized by this permit (SAM-2011-0493-DEM) are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

_____ _____

(TRANSFEREE) DATE)

Appendix A:

Revised Summary Table

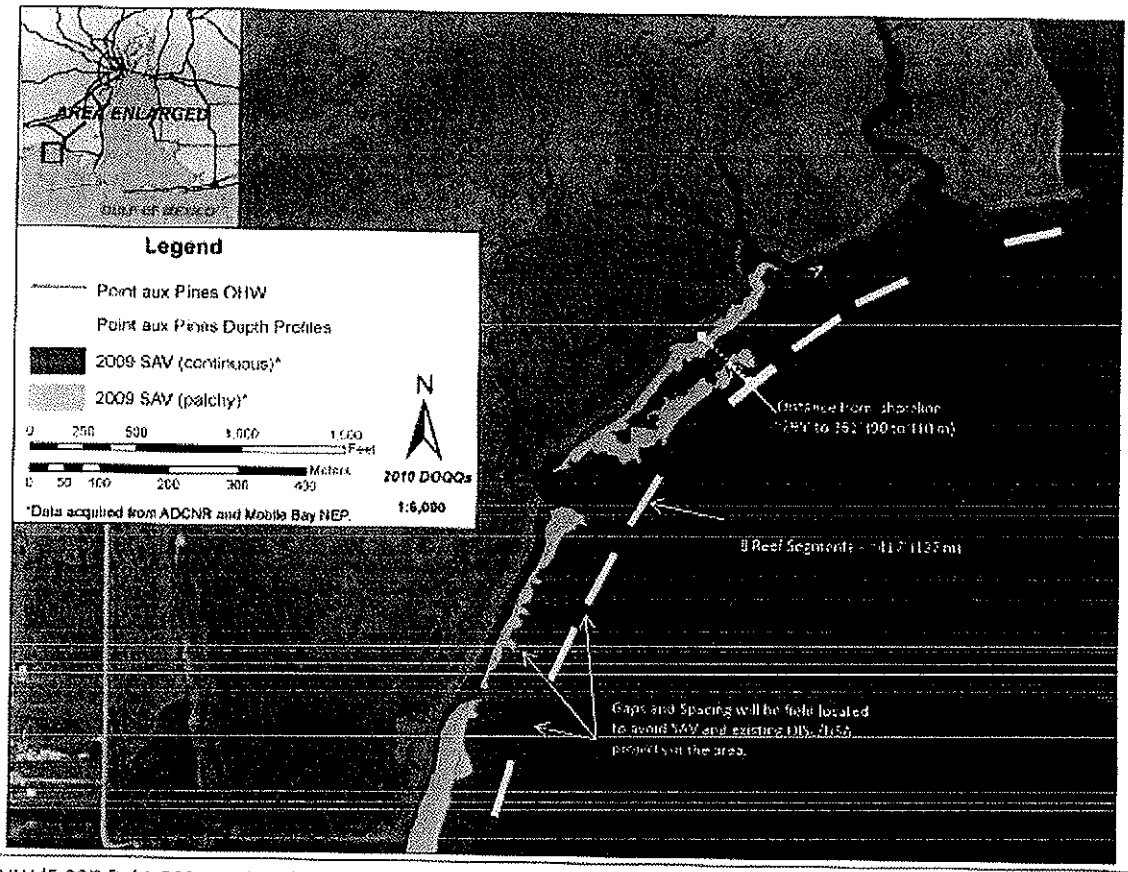
Attachment # A) Plan View B) Cross-Section Profile	Site Name	General Location (S/T/R)	Latitude / Longitude	Ownership	Proposed Project Length		Reef Footprint (ft^2), (m^2), (ac)
					Reef (ft), (m)	Shoreline (ft), (m)	
#1	Point aux Pines North	Portersville Bay, MS Sound (5,7,8/7S/3W)	30°22'24.85"N 88°18'11.37"W	Federal	3,336 ft 1,016 m	5,227 ft 1,593 m	66,720 ft^2 6,198 m^2 1.53 ac
#2	Point aux Pines South	Portersville Bay, MS Sound (5,7,8/7S/3W)	30°22'24.85"N 88°18'11.37"W	Federal	5,168 ft 1,576 m	7,087 ft 2,161 m	103,360 ft^2 9,602 m^2 2.37 ac
#3	City of Fairhope Pier	E Mobile Bay (37/5S/2E)	30°31'23.13"N 87°54'46.13"W	City	460 ft 140 m	976 ft 297 m	9,200 ft^2 855 m^2 0.21 ac
#4	Coffee Island North	Portersville Bay, MS Sound (1/7S/3W)	30°20'39.20"N 88°15'25.73"W	State	12,710 ft 3,875 m	18,322 ft 5,585 m	254,200 ft^2 23,616 m^2 5.84 ac
#5	Coffee Island South	Portersville Bay, MS Sound (1/7S/3W)	30°20'39.20"N 88°15'25.73"W	State	5,159 ft 1,573 m	7,090 ft 2,161 m	103,180 ft^2 9,586 m^2 2.37 ac
#6	Swift Tract North	Bon Secour Bay, E Mobile Bay (13/7S/2E; 18/7S/3E; 19, 20, 29/8S/3E)	30°20'22.12"N 87°48'53.28"W	State	4,920 ft 1500 m	6,925 ft 2,111 m	98,400 ft^2 9,142 m^2 2.26 ac
#7	Swift Tract Central	Bon Secour Bay, E Mobile Bay (13/7S/2E; 18/7S/3E; 19, 20, 29/8S/3E)	30°20'22.12"N 87°48'53.28"W	State	4,920 ft 1500 m	6,925 ft 2,111 m	98,400 ft^2 9,142 m^2 2.26 ac
#8	Swift Tract South	Bon Secour Bay, E Mobile Bay (13/7S/2E; 18/7S/3E; 19, 20, 29/8S/3E)	30°20'22.12"N 87°48'53.28"W	State	4,920 ft 1500 m	6,925 ft 2,111 m	98,400 ft^2 9,142 m^2 2.26 ac
#9	Marsh Island	MS Sound (30/8S/2W)	30°19'14.39"N 88°13'23.41"W	State	2,195 ft 669 m	3,007 ft 917 m	43,900 ft^2 4,078 m^2 1.01 ac
#10	Arlington Cove - Brookley Center	NW Mobile Bay (3, 10/4S/1W)	30°37'51.58"N 88°03'26.02"W	State / University	6,150 ft 1,875 m	8,336 ft 2,541 m	123,000 ft^2 11,427 m^2 2.82 ac
#11	Pelican Point	Weeks Bay, E Mobile Bay (4/7S/12E)	30°22'37.69"N 87°50'22.36"W	State	265 ft 81 m	420 ft 128 m	5,120 ft^2 476 m^2 0.12 ac
#12	Point Clear	E Mobile Bay (36/7S/1E)	30°28'57.31"N 87°56'08.98"W	Private (The Grand Hotel)	582 ft 177 m	925 ft 282 m	11,640 ft^2 1,081 m^2 0.27 ac
#13	Private Living Shoreline #1	Bon Secour Bay, Gulf Shores, SE Mobile Bay (23/9S/2E)	30°14'58.68"N 87°50'12.39"W	Private (Bridges, Callaway, Calhoun)	230 ft 70 m	365 ft 111 m	4,600 ft^2 427 m^2 0.11 ac
#14	Private Living Shoreline #2	Bon Secour Bay, Gulf Shores, SE Mobile Bay (23/9S/2E)	30°14'47.47"N 87°50'30.07"W	Private (Bridges, Callaway, Calhoun)	576 ft 175 m	912 ft 278 m	11,520 ft^2 1,070 m^2 0.26ac
#15	**Private Living Shoreline #3**	**Bon Secour Bay,SE Mobile Bay (5/9S/3E)**	**30°15'35.67"N 87°46'21.31"W**	**Private (Peninsula Golf Club)**	**4,680 ft 1,427 m**	**6,340 ft 1,933 m**	**93,600 ft^2 8,696 m^2 2.15 ac**
PROPOSED PROJECT TOTAL					**56,271 ft. (10.6 mi.)**	**79, 782 ft. (15 mi.)**	**1,112,420 ft^2 104, 555 m^2 25.8 ac**

Appendix B:

Plan View Maps & Cross-Section Profiles

The Nature Conservancy

Attachment 1A: Point aux Pines North
Permit Application # SAM-2011-00493-DEM

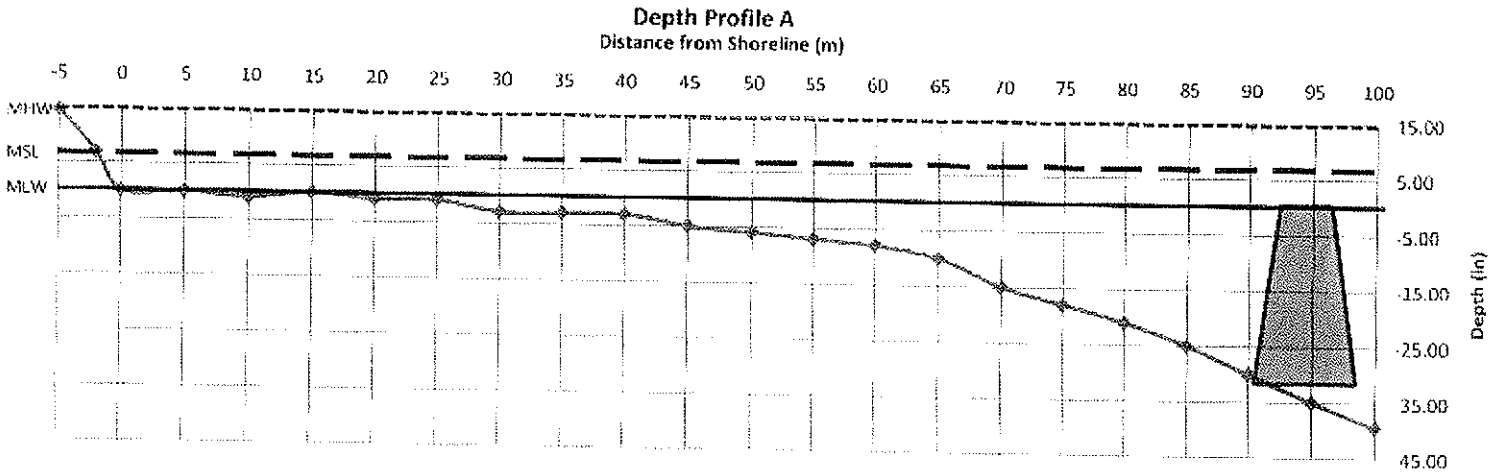


- Plan view with OHW (5,227 ft / 1,593 m– shoreline length) (3,336 ft / 1,016 m – reef length)
- Footprint: 66,720 ft² - Segment lengths may vary with method used, however, the width of the breakwater will not exceed 20 feet.
- Submerged aquatic vegetation was observed; MLW will be depicted on depth profile on next page.

August 15, 2011

The Nature Conservancy

Attachment 1B: Point aux Pines North
Permit Application # SAM-2011-00493-DEM

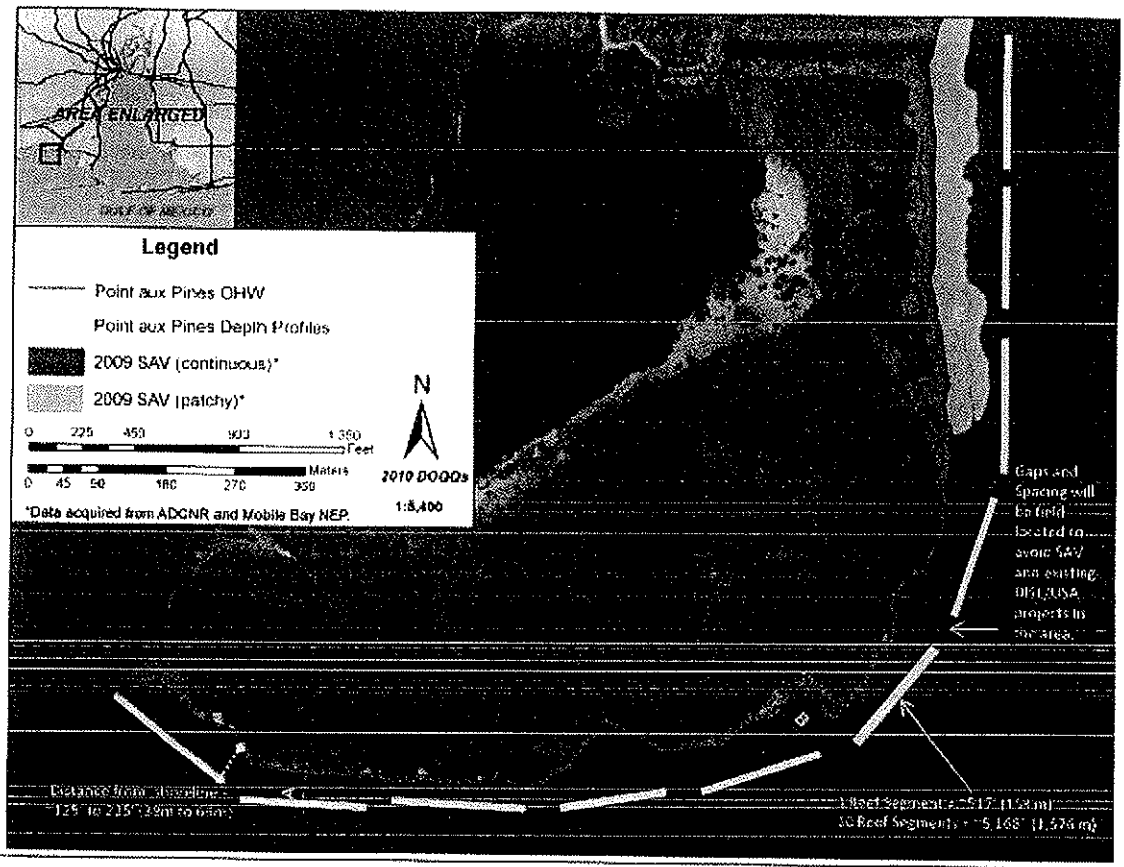


- Cross-section view with MHW, MLW and location of reef structures. (5,227 ft / 1,593 m– shoreline length) (3,336 ft / 1,016 m – reef length)
- Footprint: 66,720 ft² - Segment lengths may vary with method used, however, the width of the breakwater will not exceed 20 feet.
- Approximate height of breakwater **32" or 0.81 m** (structure will be submerged except at mean low tides.)

August 19, 2011

The Nature Conservancy

Attachment 2A: Point aux Pines South
Permit Application # SAM-2011-00493-DEM



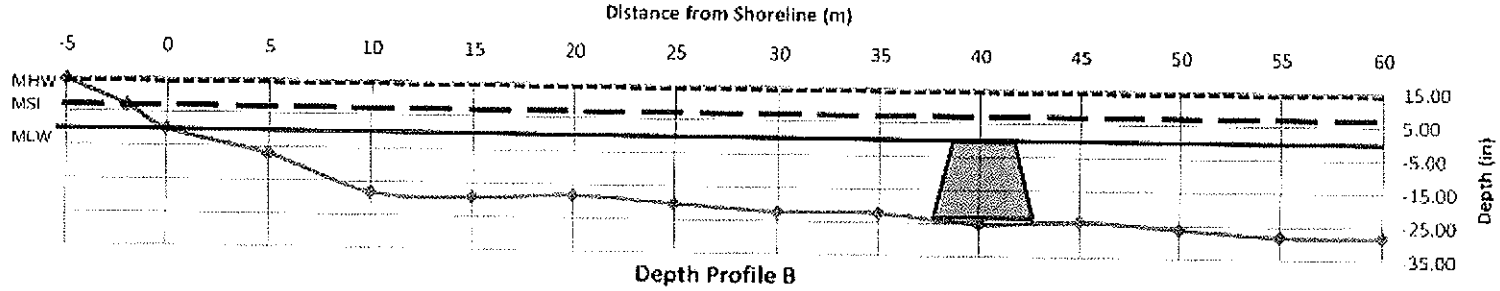
- Plan view with OHW (7,087 ft / 2,161 m– shoreline length) (5,168 ft / 1,576 m – reef length)
- Footprint: 103,360 ft² - Segment lengths may vary with method used, however, the width of the breakwater will not exceed 20 feet.
- Submerged aquatic vegetation was observed; MLW will be depicted on depth profile on next page.

August 19, 2011

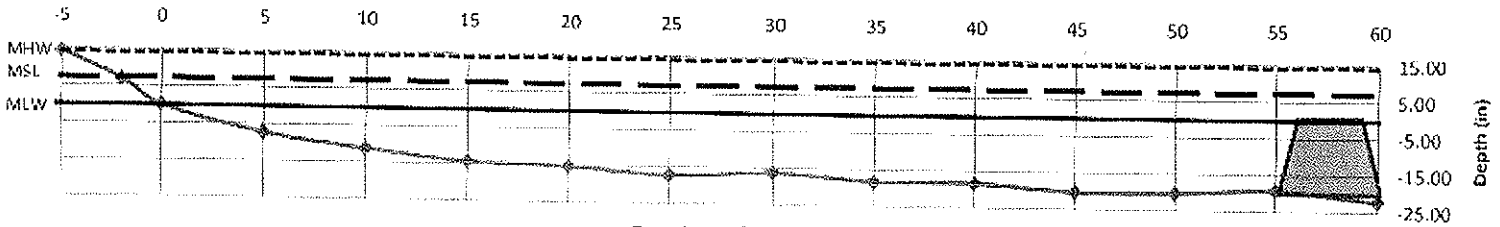
The Nature Conservancy

Attachment 2B: Point aux Pines South
Permit Application # SAM-2011-00493-DEM

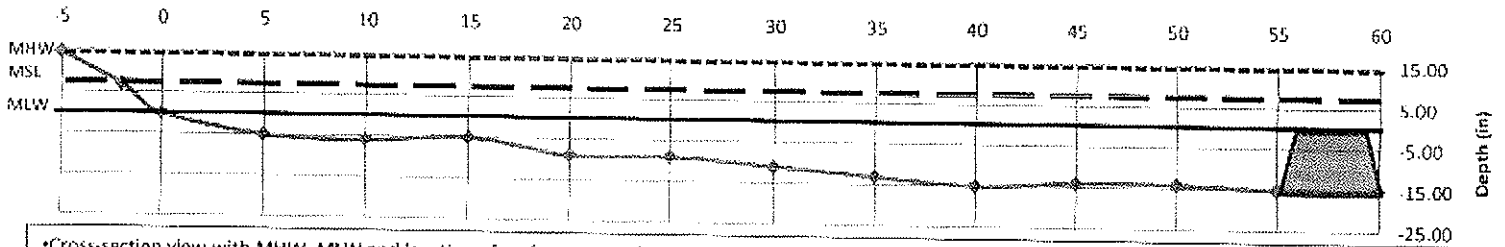
Depth Profile A



Depth Profile B



Depth Profile C

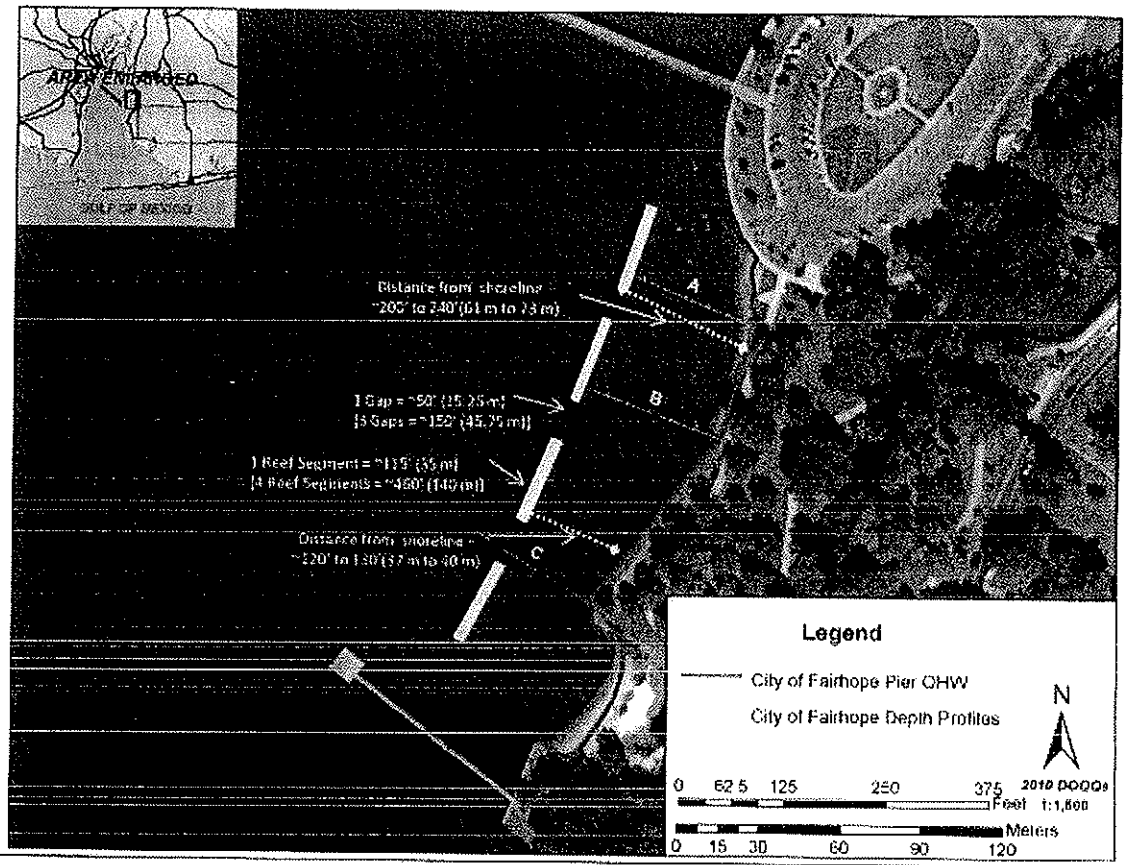


•Cross-section view with MHW, MLW and location of reef structures. (7,087 ft / 2,161 m– shoreline length) (5,168 ft / 1,576 m – reef length)
•Footprint 103,360 ft² - Segment lengths may vary with method used, however, the width of the breakwater will not exceed 20 feet.
•Approximate height of breakwater between 15" and 25" (or 0.38m and 0.64m) (structure will be submerged except at mean low tides.)

August 19, 2011

The Nature Conservancy

Attachment 3A: City of Fairhope Pier
Permit Application # SAM-2011-00493-DEM



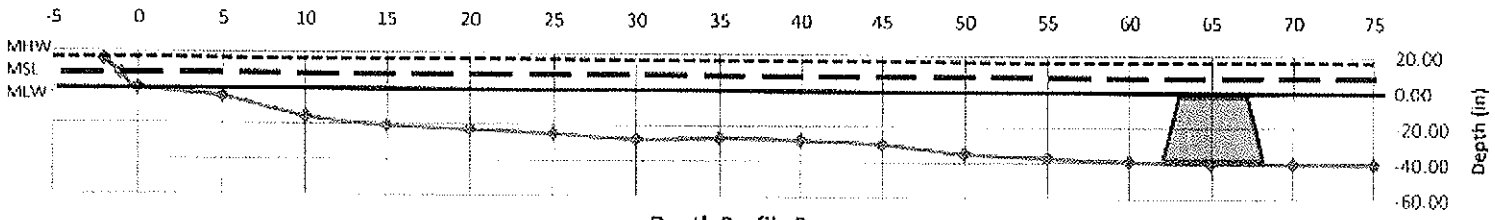
•Plan view with OHW (976 ft / 297 m - shoreline length) (460 ft / 140 m -- reef length)
•Footprint: 9,200 ft² - Segment lengths may vary with method used, however, the width of the breakwater will not exceed 20 feet.
•No submerged aquatic vegetation was observed; MLW will be depicted on depth profile on next page.

August 19, 2011

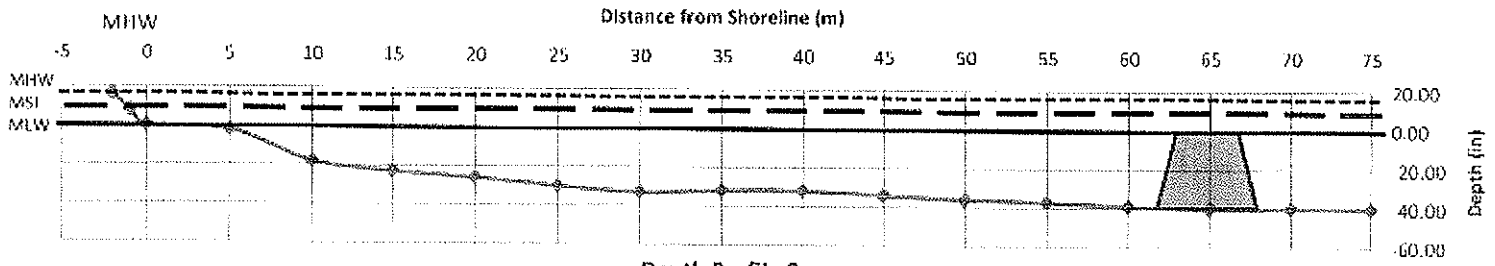
The Nature Conservancy

Attachment 3B: City of Fairhope Pier
Permit Application # SAM-2011-00493-DEM

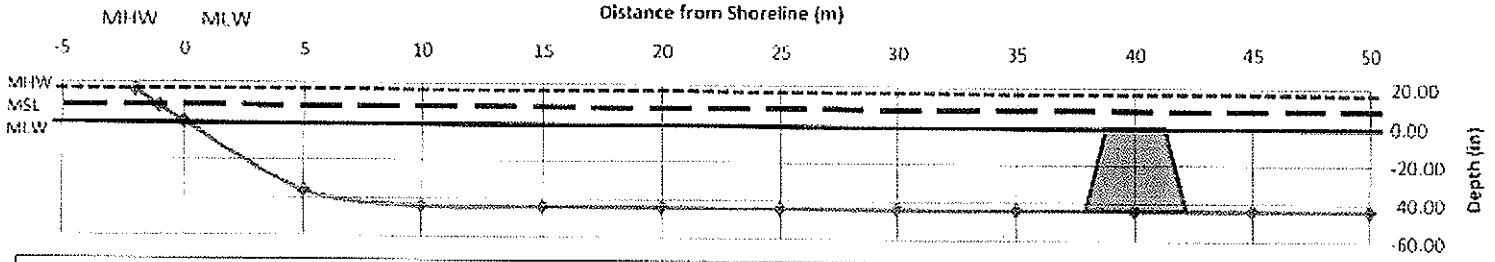
Depth Profile A



Depth Profile B



Depth Profile C

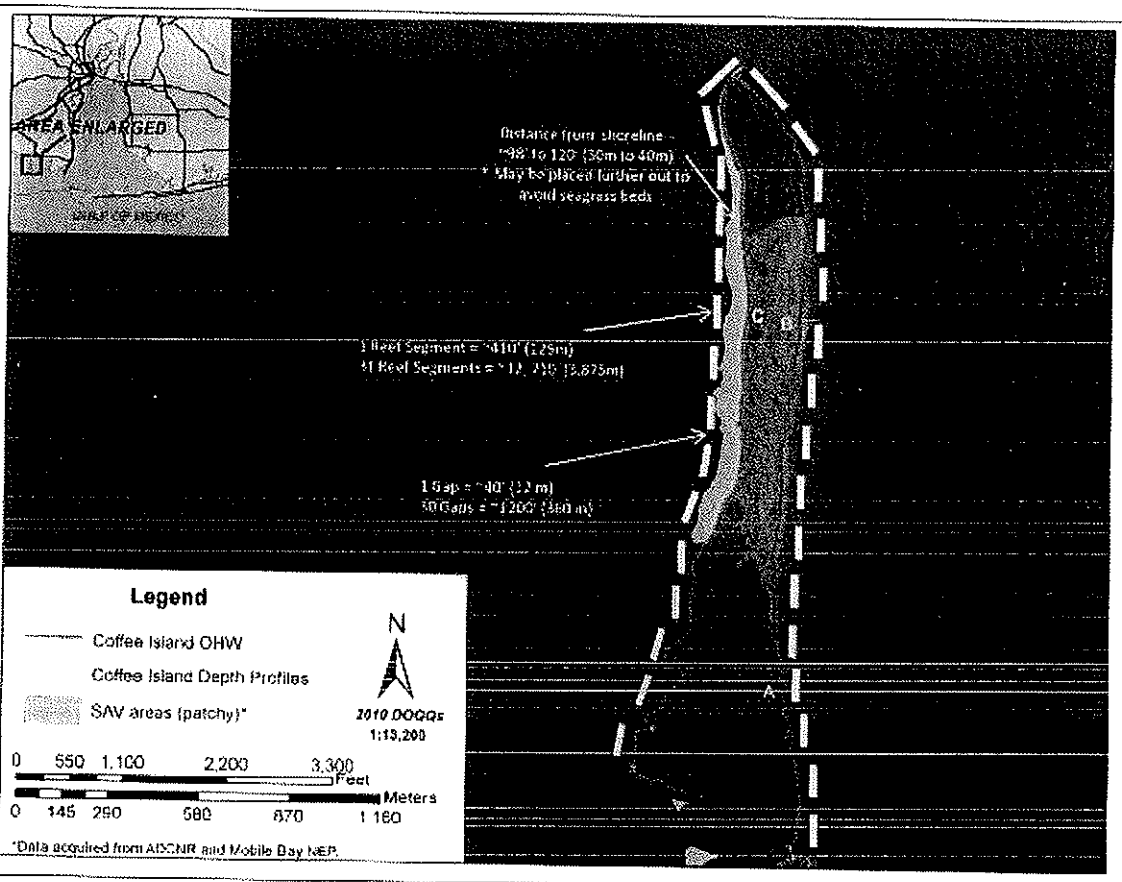


- Cross-section view with MHW, MLW and location of reef structures. (976 ft / 297 m - shoreline length) (460 ft / 140 m – reef length)
- Footprint: 9,200 ft² - Segment lengths may vary with method used, however, the width of the breakwater will not exceed 20 feet.
- Approximate height of breakwater 45" or 1.14 m (structure will be submerged except at mean low tides.)

August 19, 2011

The Nature Conservancy

Attachment 4A: Coffee Island North
Permit Application # SAM-2011-00493-DEM



•Plan view with OHW (18,322 ft / 5,585 m - shoreline length) (12,710 ft / 3,875 m – reef length)
•Footprint: 254,200 ft^2 - Segment lengths may vary with method used, however, the width of the breakwater will not exceed 20 feet.
•Submerged aquatic vegetation was observed nearby; MLW will be depicted on depth profile on next page.

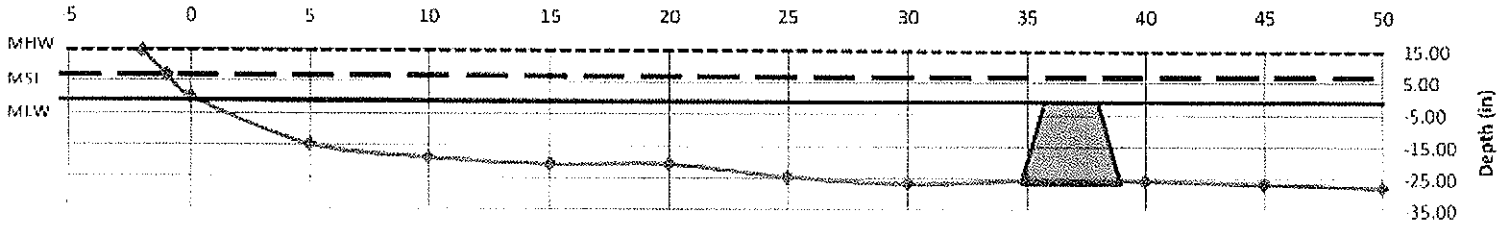
August 19, 2011

The Nature Conservancy

Attachment 4B: Coffee Island North
Permit Application # SAM-2011-00493-DEM

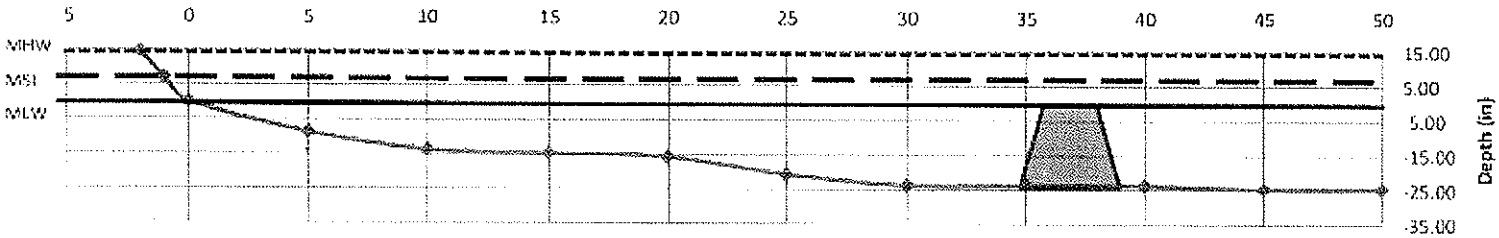
Depth Profile A

Distance from Shoreline (m)



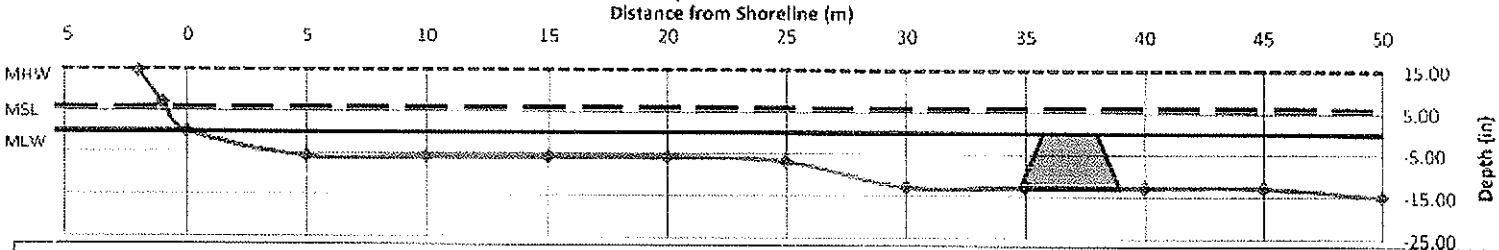
Depth Profile B

Distance from Shoreline (m)



Depth Profile C

Distance from Shoreline (m)

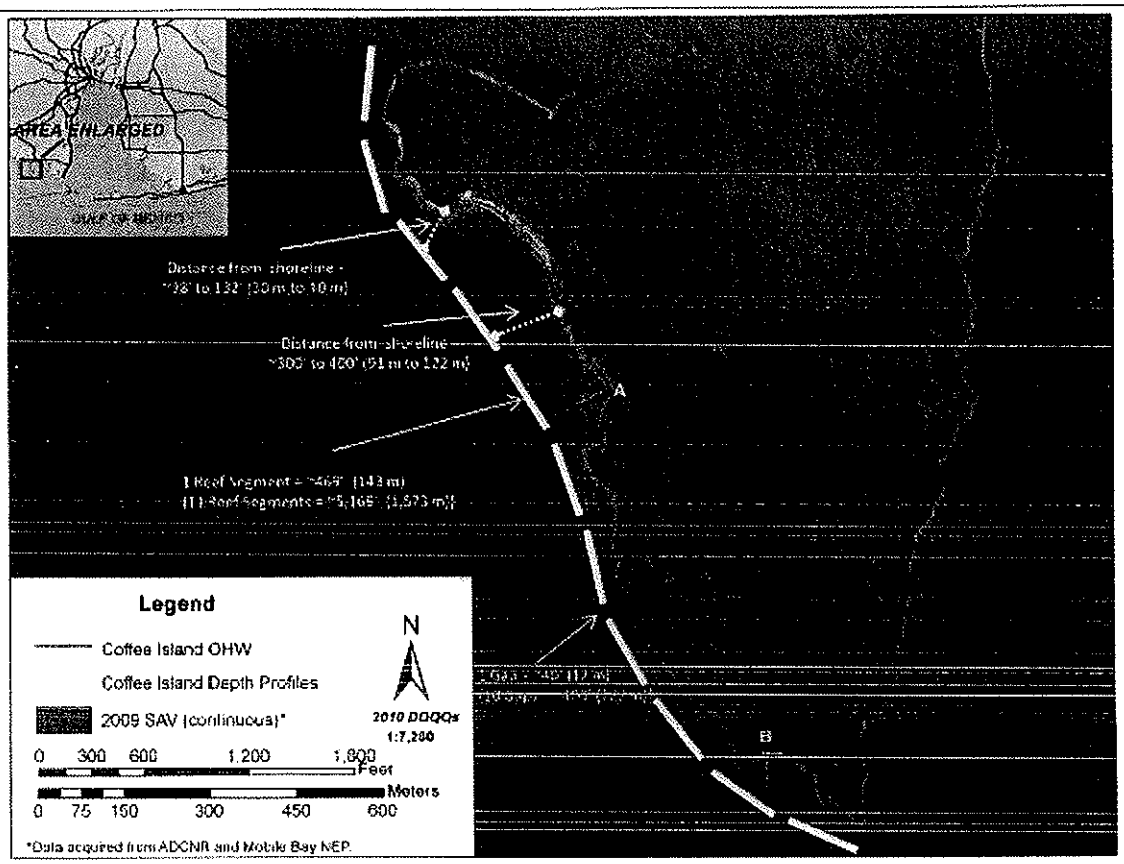


- Cross-section view with MHW, MLW and location of reef structures. (18,322 ft / 5,585 m - shoreline length) (12,710 ft / 3,875 m - reef length)
- Footprint: 254,200 ft² - Segment lengths may vary with method used, however, the width of the breakwater will not exceed 20 feet.
- Approximate height of breakwater will be between 15" or 0.41 m and 30" or 0.76m (structure will be submerged except at mean low tides.)

August 19, 2011

The Nature Conservancy

Attachment 5A: Coffee Island South
Permit Application # SAM-2011-00493-DEM



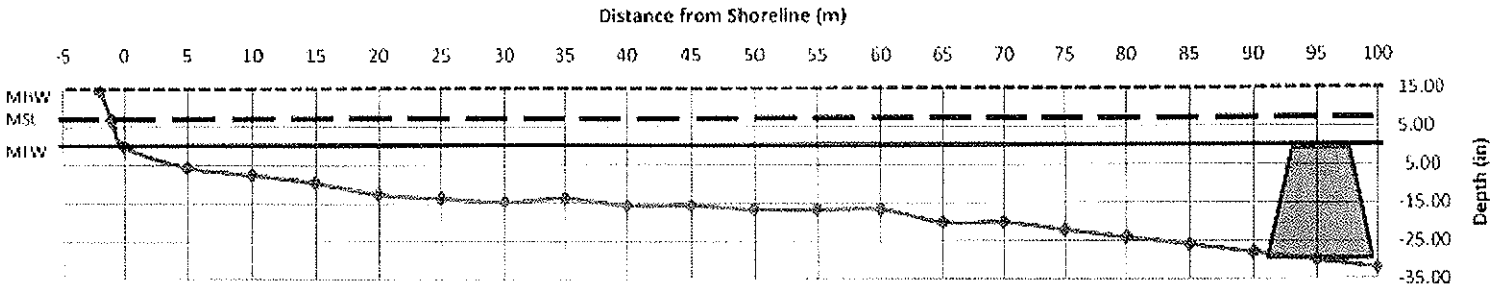
- Plan view with OHW (7,090 ft / 2,161 m - shoreline length) (5,159 ft / 1,573 m – reef length)
- Footprint: 103,180 ft² - Segment lengths may vary with method used, however, the width of the breakwater will not exceed 20 feet.
- Submerged aquatic vegetation was observed nearby; MLW will be depicted on depth profile on next page.

August 10, 2011

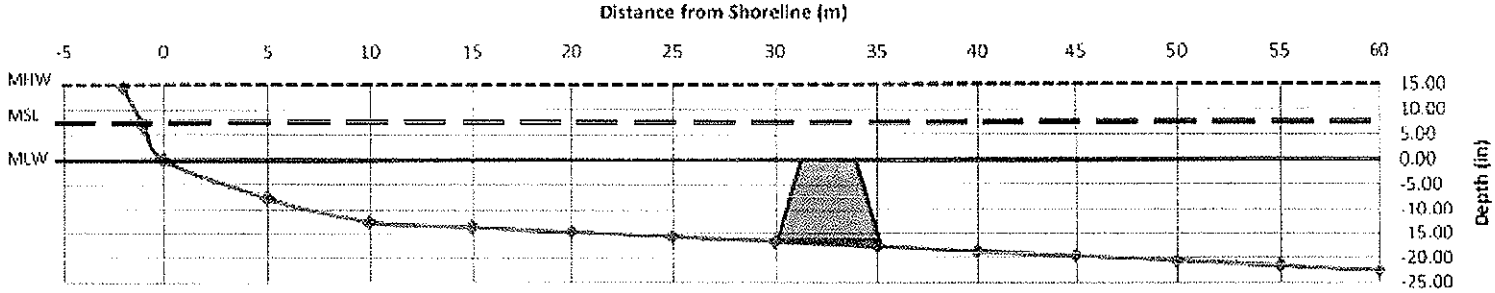
The Nature Conservancy

Attachment 5B: Coffee Island North
Permit Application # SAM-2011-00493-DEM

Depth Profile A



Depth Profile B

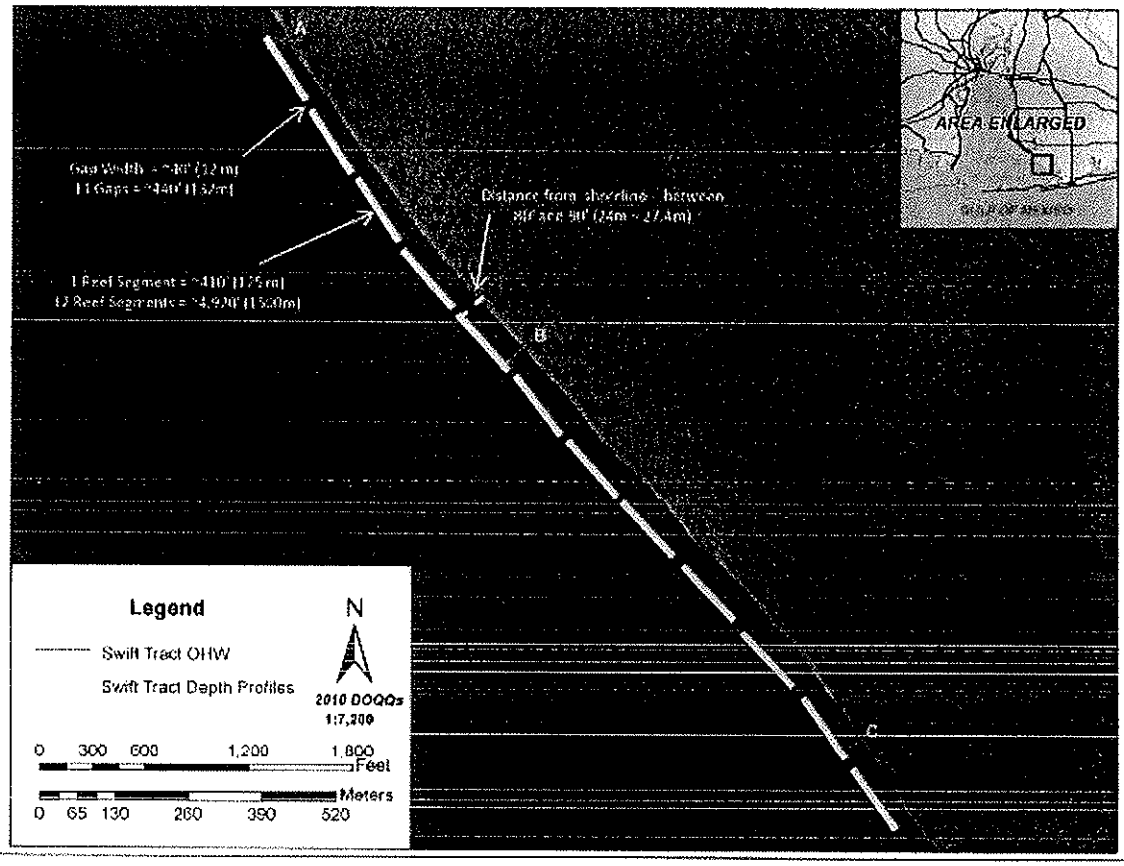


- Cross-section view with MHW, MLW and location of reef structures. (7,090 ft / 2,161 m - shoreline length) (5,159 ft / 1,573 m – reef length)
- Footprint: 103,180 ft^2 - Segment lengths may vary with method used, however, the width of the breakwater will not exceed 20 feet
- Approximate height of breakwater will be between 16" or 0.41 m and 30" or 0.76m (structure will be submerged except at mean low tides.)

August 19, 2011

The Nature Conservancy

Attachment 6A: Swift Tract North
Permit Application # SAM-2011-00493-DEM



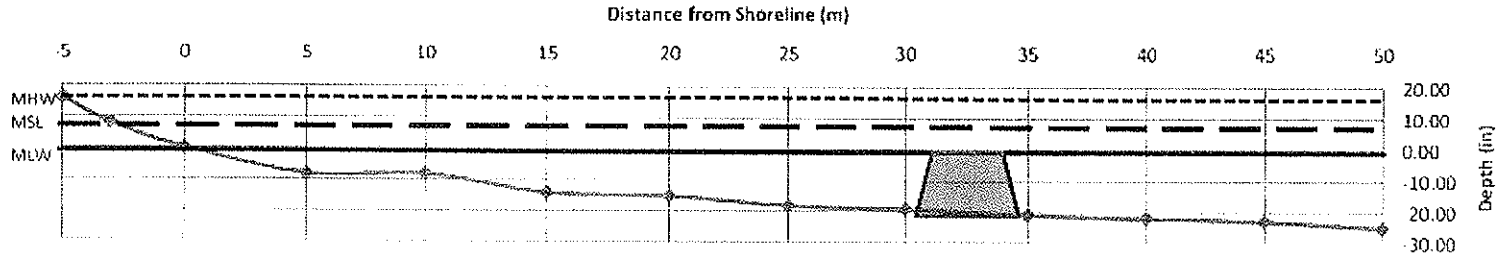
•Plan view with OHW (6,925 ft / 2,111 m – shoreline length) (4,920 ft / 1500 m – breakwater length)
•Approximate Breakwater Footprint: 98,400 ft². Segment lengths may vary with method used, however, the width of the breakwater will not exceed 20".
•No submerged aquatic vegetation was observed; MLW will be depicted on depth profile on next page.

August 19, 2011

The Nature Conservancy

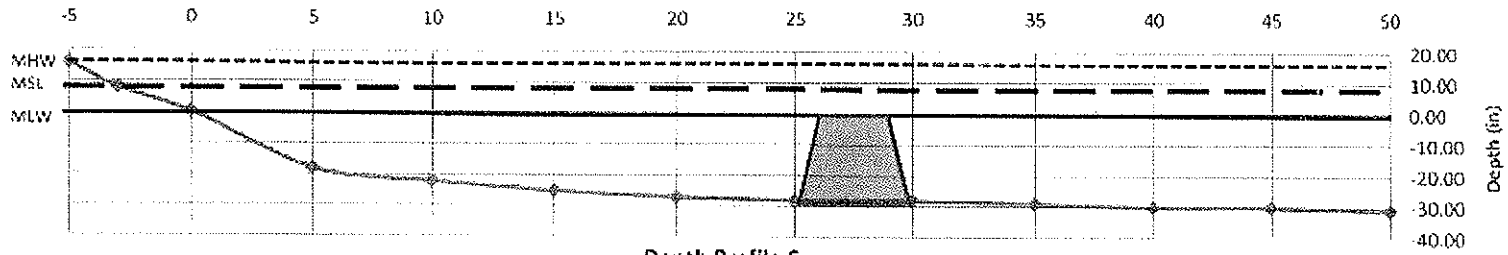
Attachment 6B: Swift Tract North
Permit Application # SAM-2011-00493-DEM

Depth Profile A



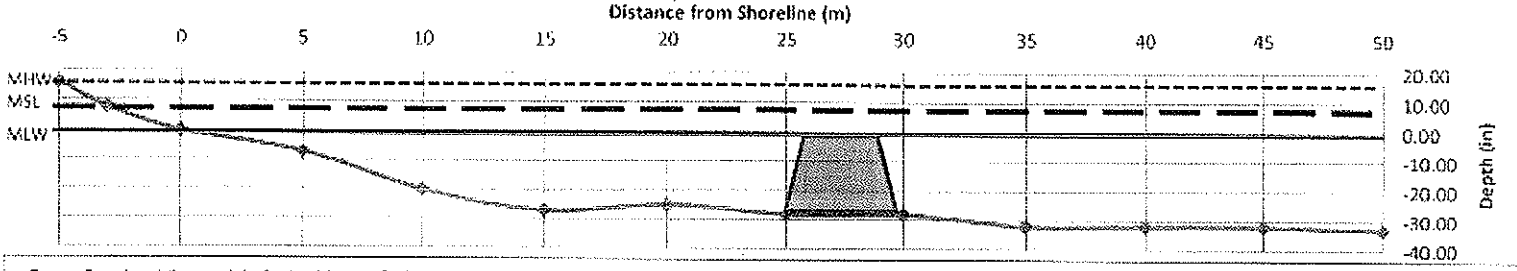
Depth Profile B

Distance from Shoreline (m)



Depth Profile C

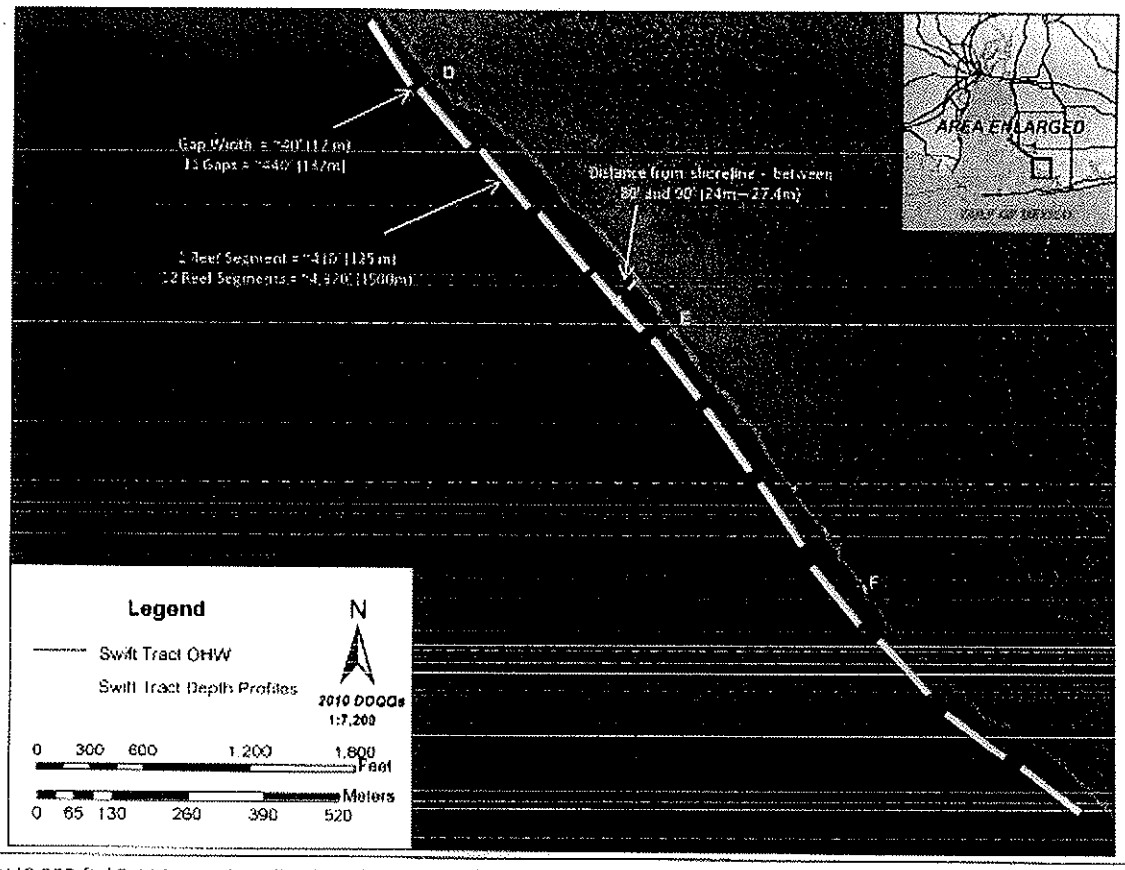
Distance from Shoreline (m)



- Cross Section View with OHW (6,925 ft / 2,111 m. – shoreline length) (4,920 ft / 1500m – breakwater length)
- Approximate Breakwater Footprint: 98,400 ft². Segment lengths may vary with method used, however, the width of the breakwater will not exceed 20".
- No submerged aquatic vegetation was observed.

The Nature Conservancy

Attachment 7A: Swift Tract Central
Permit Application # SAM-2011-00493-DEM

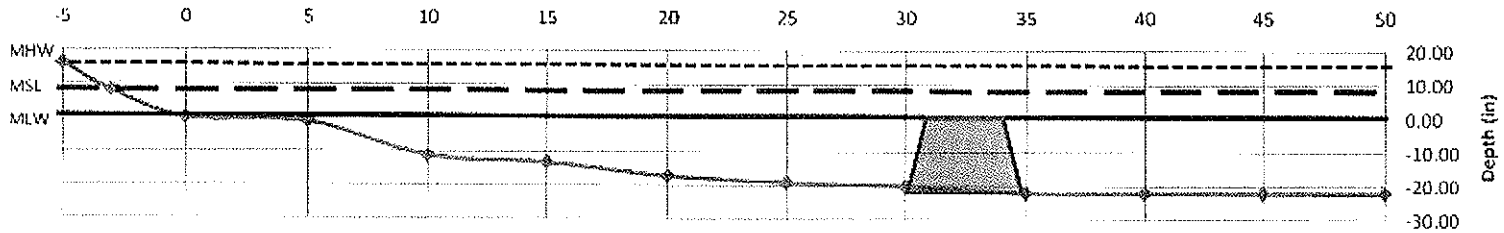


- Plan view with OHW (6,925 ft / 2,111 m – shoreline length) (4,920 ft / 1500 m – breakwater length)
- Approximate Breakwater Footprint: 98,400 ft². Segment lengths may vary with method used, however, the width of the breakwater will not exceed 20'
- No submerged aquatic vegetation was observed; MLW will be depicted on depth profile on next page.

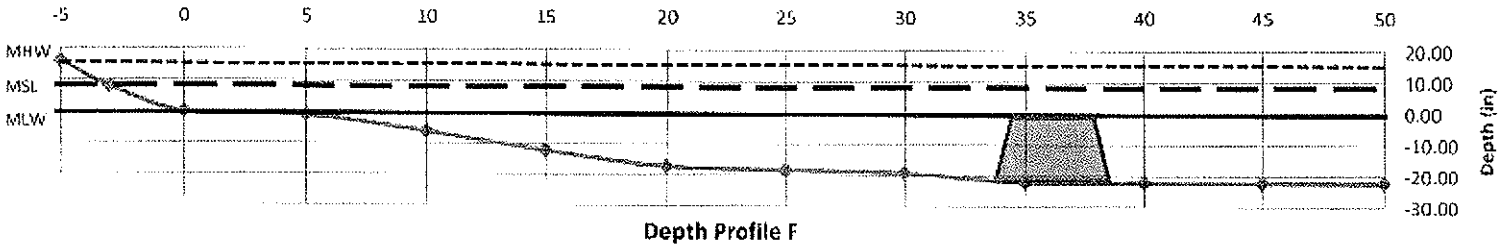
The Nature Conservancy

Attachment 7B: Swift Tract Central
Permit Application # SAM-2011-00493-DEM

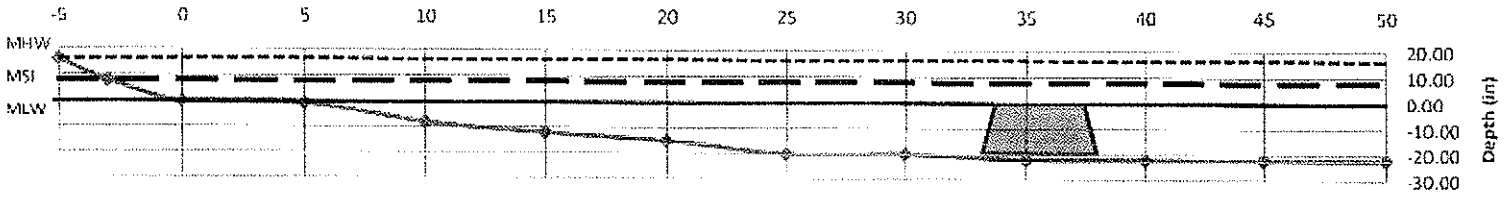
Depth Profile D



Depth Profile E



Depth Profile F



- Cross Section View with OHW (6,925 ft / 2,111 m. – shoreline length) (4,920 ft / 1500m – breakwater length)
- Approximate Breakwater Footprint: 98,400 ft². Segment lengths may vary with method used, however, the width of the breakwater will not exceed 20'.
- No submerged aquatic vegetation was observed.

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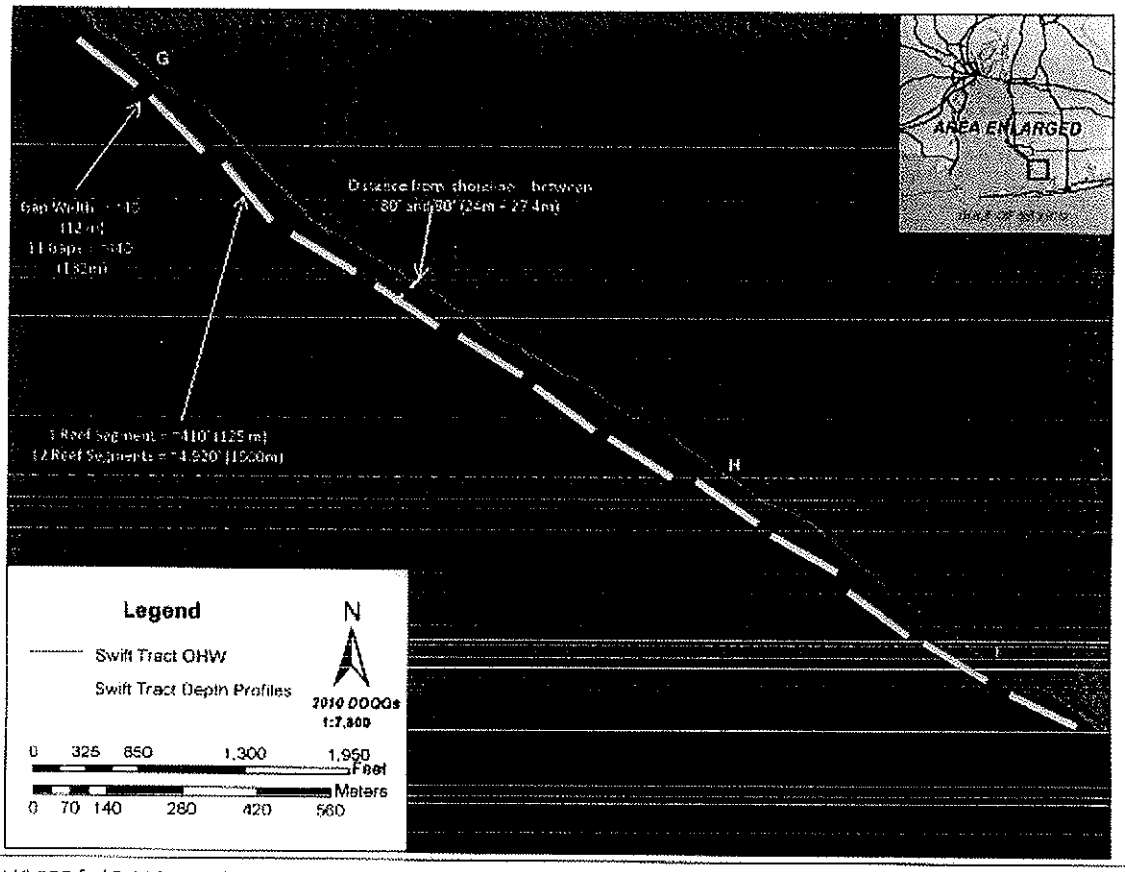
The Nature Conservancy

Attachment 8A: Swift Tract South
Permit Application # SAM-2011-00493-DEM



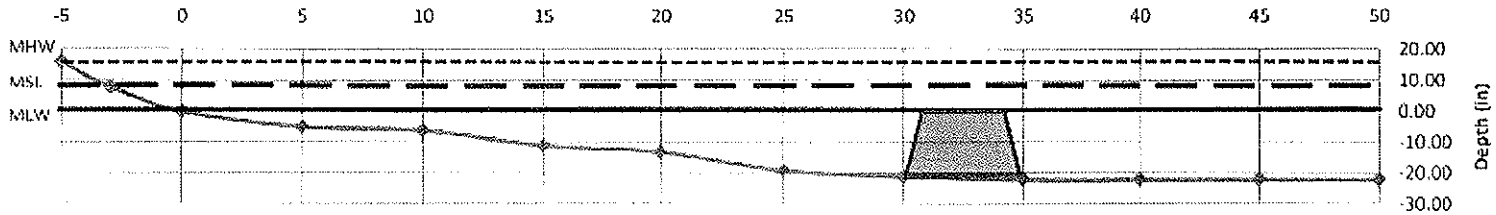
- Plan view with OHW (6,925 ft / 2,111 m – shoreline length) (4,920 ft / 1500 m – breakwater length)
- Approximate Breakwater Footprint: 98,400 ft². Segment lengths may vary with method used, however, the width of the breakwater will not exceed 20'.
- No submerged aquatic vegetation was observed; MLW will be depicted on depth profile on next page.

August 19, 2011

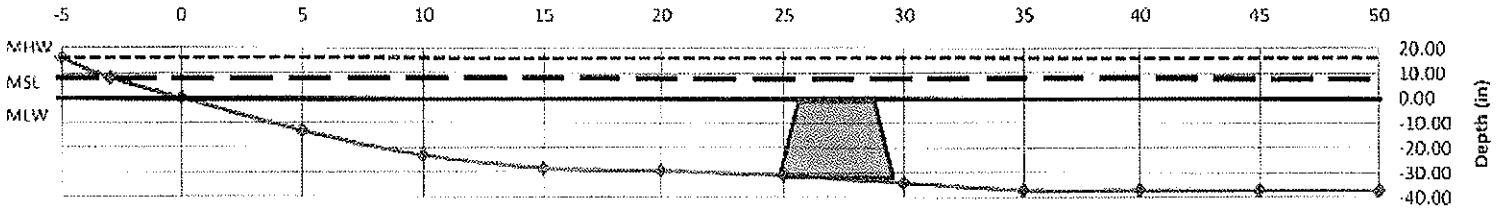
The Nature Conservancy

Attachment 8B: Swift Tract South
Permit Application # SAM-2011-00493-DEM

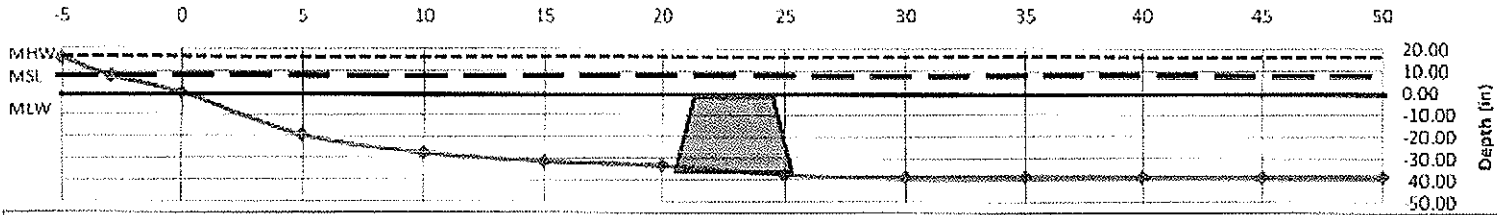
Depth Profile G



Depth Profile H



Depth Profile I

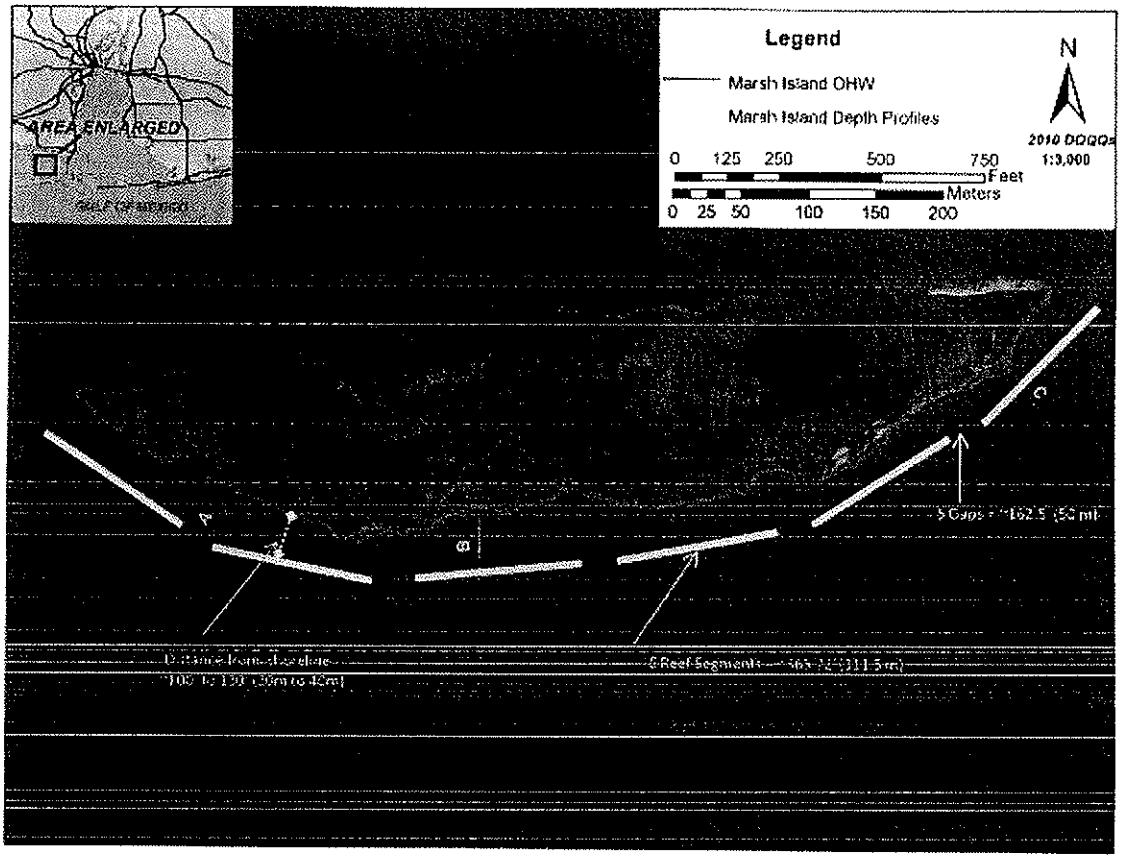


- Cross Section View with OHW (6,925 ft / 2,111 m. – shoreline length) (4,920 ft / 1500m – breakwater length)
- Approximate Breakwater Footprint: 98,400 ft². Segment lengths may vary with method used, however, the width of the breakwater will not exceed 20'.
- No submerged aquatic vegetation was observed.

August 19, 2011

The Nature Conservancy

Attachment 9A: Marsh Island
Permit Application # SAM-2011-00493-DEM



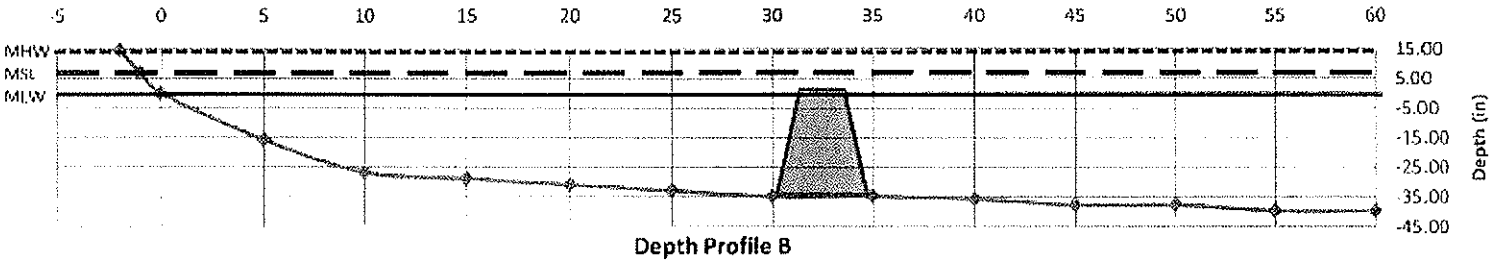
•Plan view with OHW (3,007 ft / 917 m) (2,195 ft / 669 m -- reef length)
•Footprint: 43,900 ft² - Segment lengths may vary with method used, however, the width of the breakwater will not exceed 20 feet.
•No submerged aquatic vegetation was observed; MLW will be depicted on depth profile on next page.

August 19, 2011

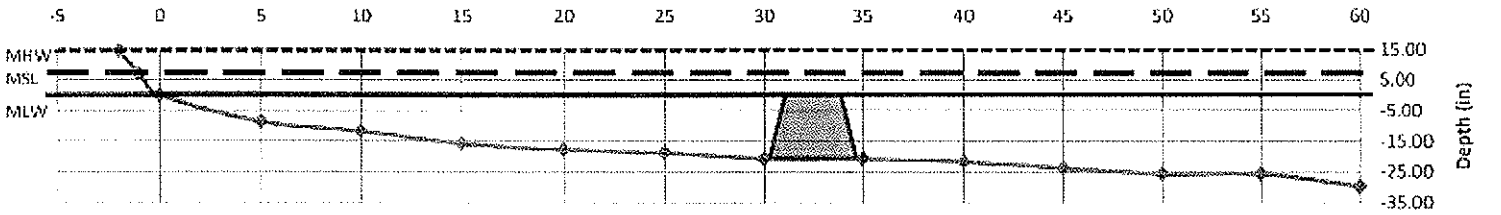
The Nature Conservancy

Attachment 9B: Marsh Island
Permit Application # SAM-2011-00493-DEM

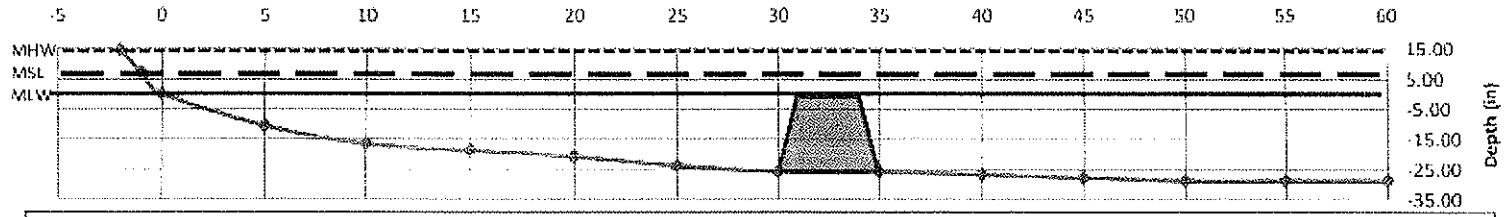
Depth Profile A



Depth Profile B



Depth Profile C



- Cross-section view with MHW, MLW and location of reef structures (3,007 ft / 917 m -- shoreline length) (2,195 ft / 669 m -- reef length)
- Footprint: 43,900 ft² - Segment lengths may vary with method used, however, the width of the breakwater will not exceed 20 feet.
- Approximate height of breakwater - between 25" or 0.64 m and 35" or 0.86 m (structure will be submerged except at mean low tides.)

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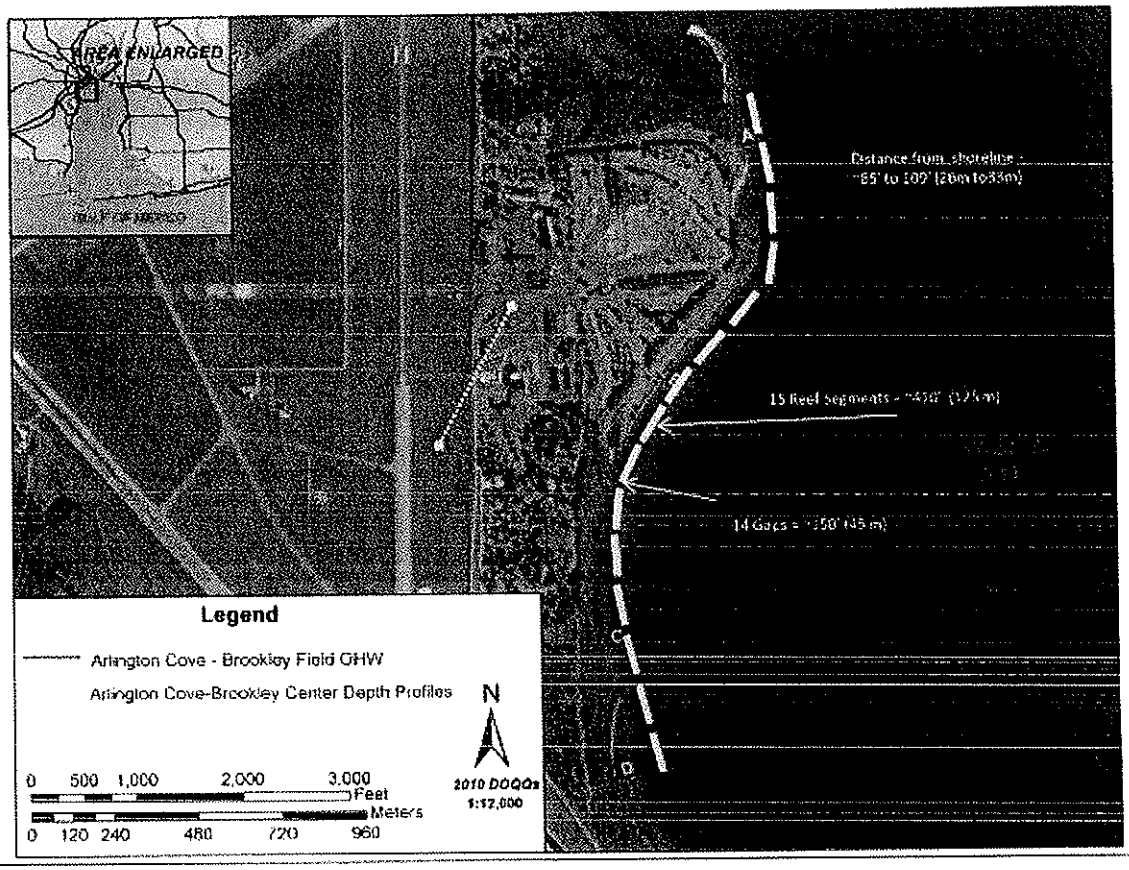
The Nature Conservancy

Attachment 10A: Arlington Cove – Brookley Field
Permit Application # SAM-2011-00493-DEM



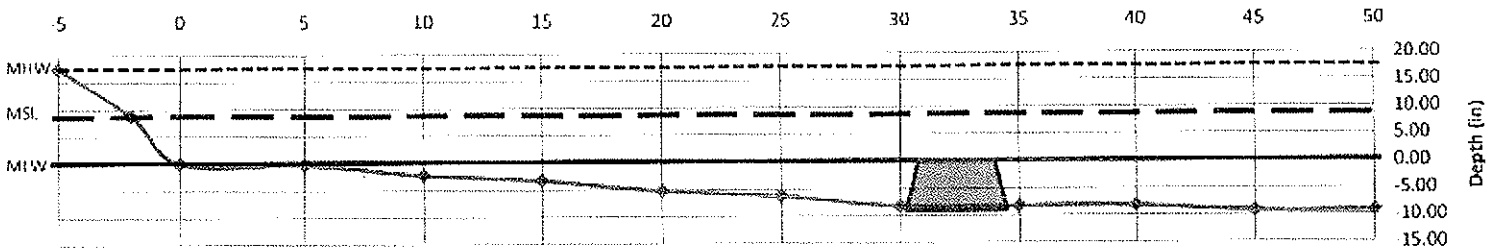
- Plan view with OHW (8,336 ft / 2,541 m - shoreline length) (6,150 ft / 1,875 m – reef length)
- Footprint: 123,000 ft² - Segment lengths may vary with method used, however, the width of the breakwater will not exceed 20 feet.
- No submerged aquatic vegetation was observed; MLW will be depicted on depth profile on next page.

August 19, 2011

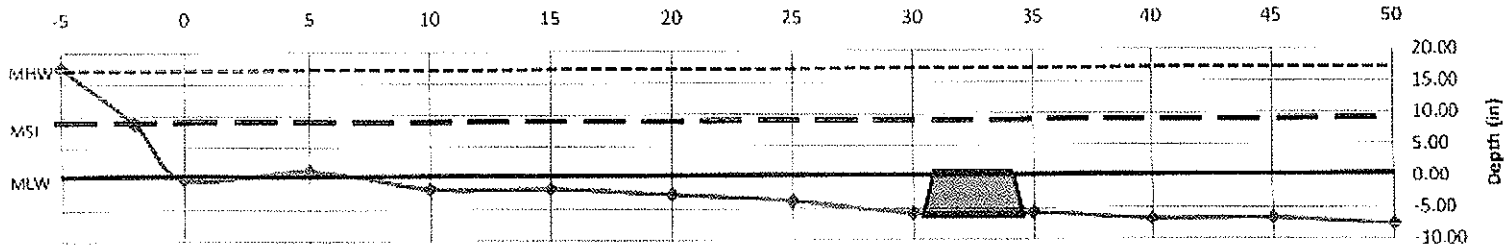
The Nature Conservancy

Attachment 10B, part 1: Arlington Cove – Brookley Field
Permit Application # SAM-2011-00493-DEM

Depth Profile A



Depth Profile B



•Cross-section view with MHW, MLW and location of reef structures. (8,336 ft / 2,541 m - shoreline length) (6,150 ft / 1,875 m – reef length)
•Footprint: 123,000 ft² - Segment lengths may vary with method used, however, the width of the breakwater will not exceed 20 feet.
•Approximate height of breakwater between 10" or 0.25 m and 25" or 0.64 (structure will be submerged except at mean low tides.)

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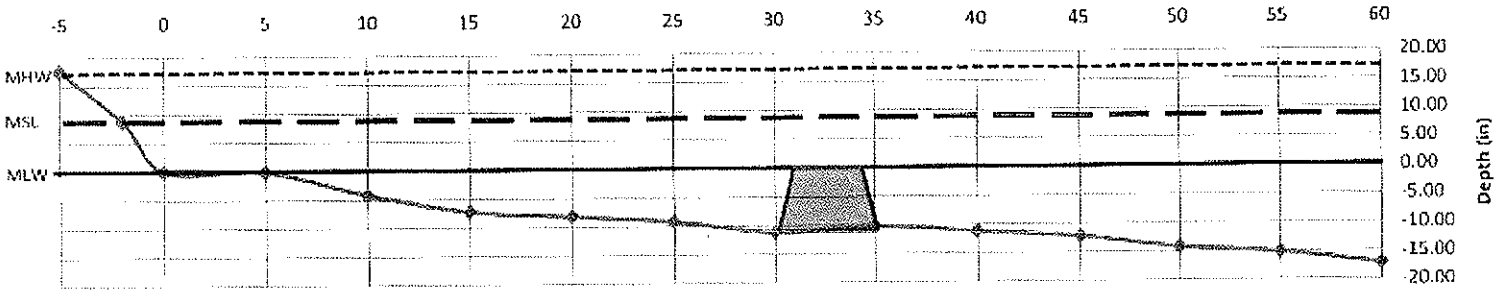
The Nature Conservancy

Attachment 10B, part 2: Arlington Cove – Brookley Field
Permit Application # SAM-2011-00493-DEM

Depth Profile C

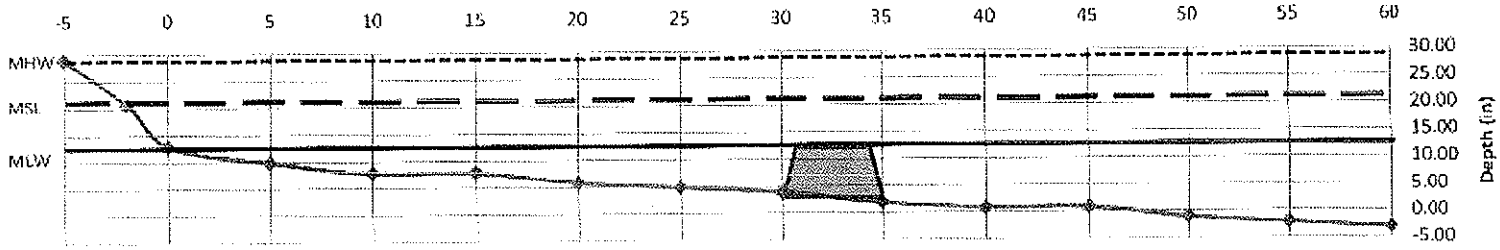
Distance from Shoreline (m)



Depth Profile D

*Site was very shallow at time of field investigation

Distance from Shoreline (m)



- Cross-section view with MHW, MLW and location of reef structures. (8,336 ft / 2,541 m - shoreline length) (6,150 ft / 1,875 m – reef length)
- Footprint: 123,000 ft² - Segment lengths may vary with method used, however, the width of the breakwater will not exceed 20 feet.
- Approximate height of breakwater between 10" or 0.25 m and 25" or 0.64 (structure will be submerged except at mean low tides.)

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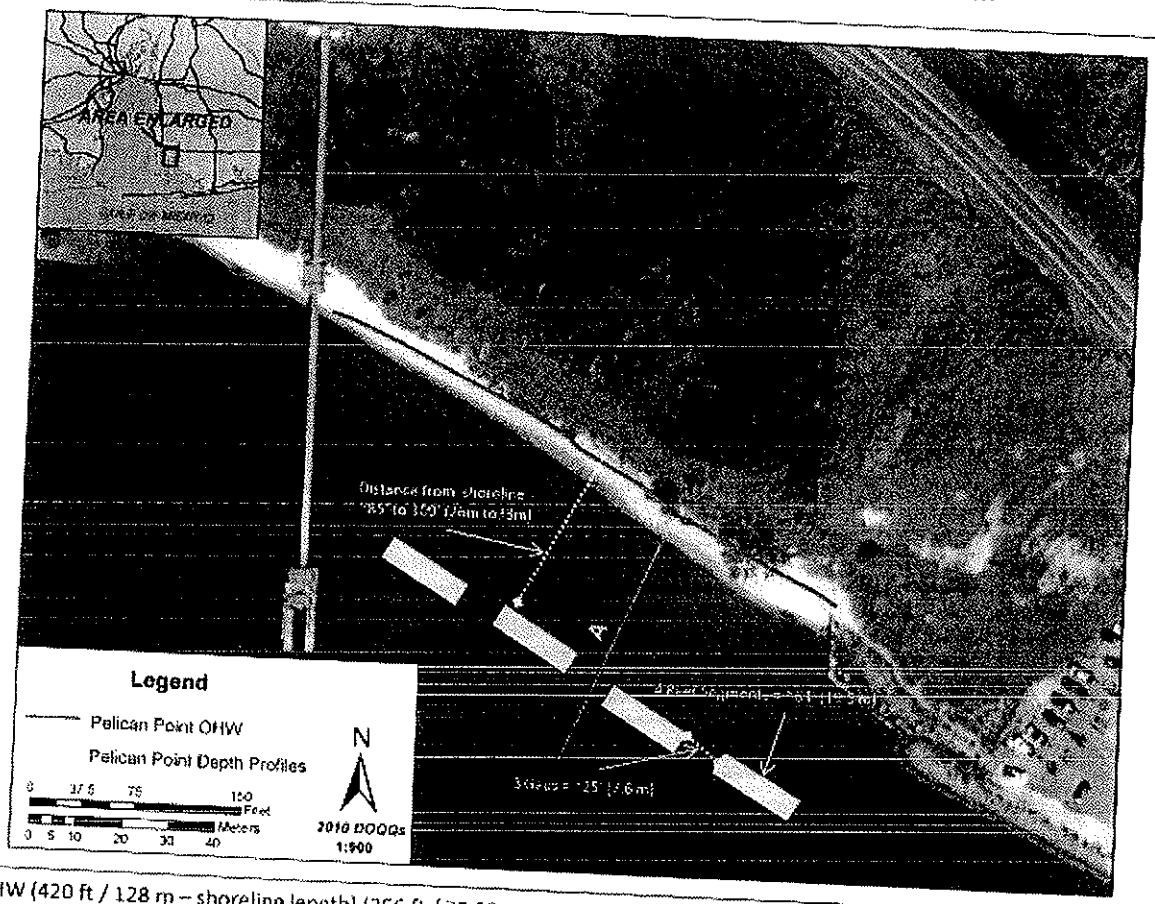
Attachment 11A: Pelican Point
Permit Application # SAM-2011-00493-DEM



Plan view with OHW (420 ft / 128 m – shoreline length) (256 ft / 78.05 m – reef length)
Footprint: 5,120 ft² - Segment lengths may vary with method used, however, the width of the breakwater will not exceed 20 feet.
No submerged aquatic vegetation was observed; MLW will be depicted on depth profile on next page.

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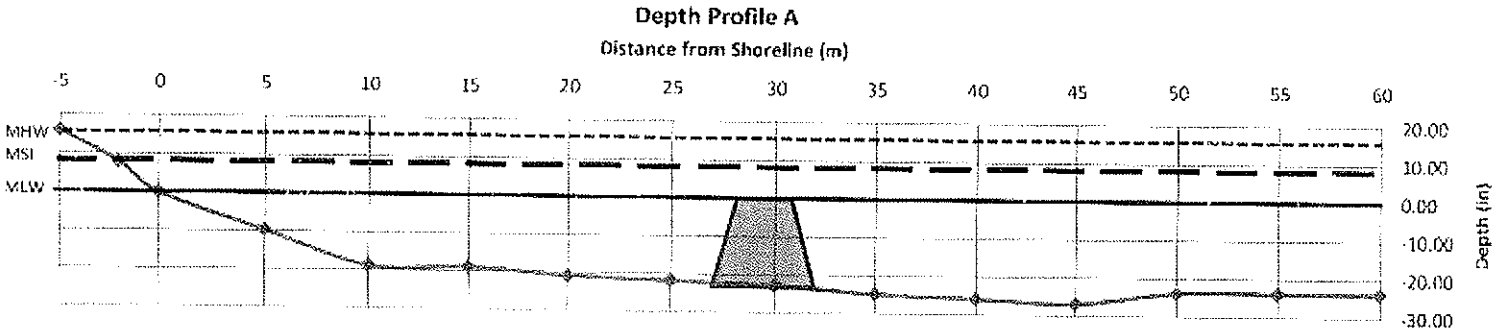
The Nature Conservancy

Attachment 11B: Pelican Point
Permit Application # SAM-2011-00493-DEM

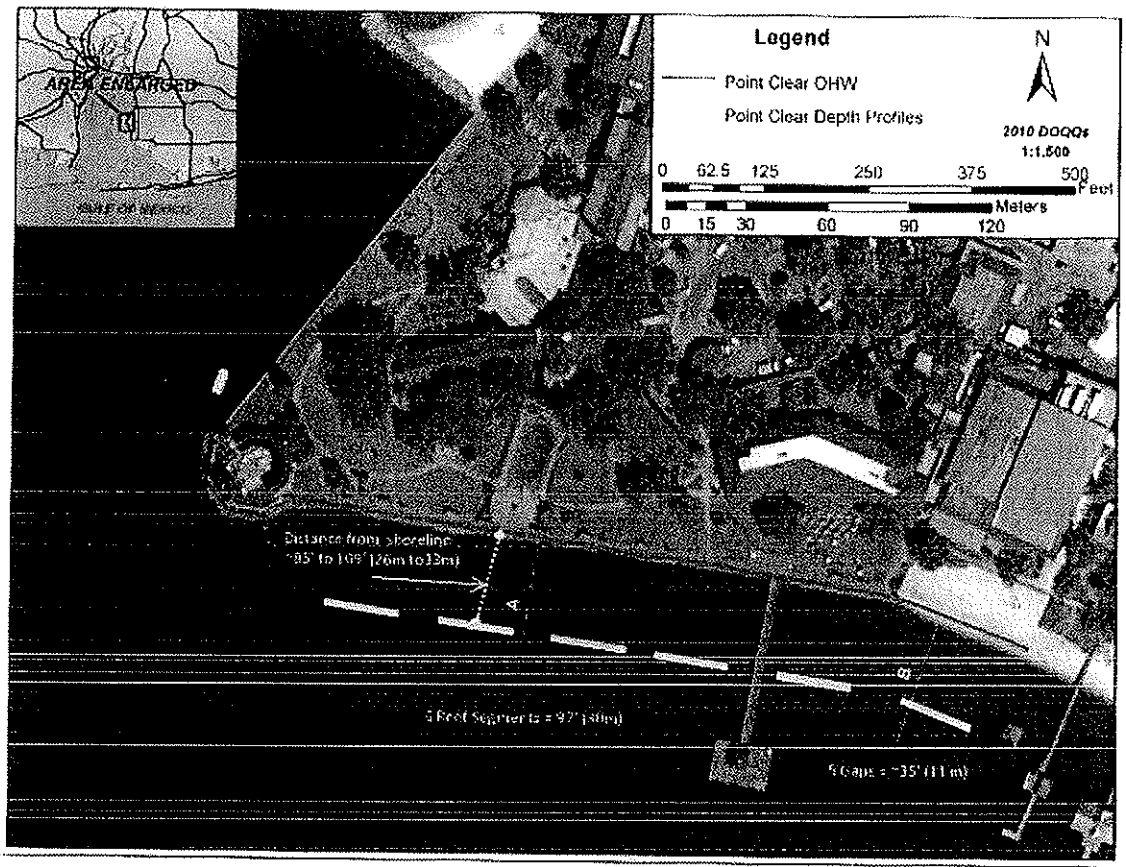


- Plan view with OHW (420 ft / 128 m – shoreline length) (256 ft / 78.05 m - reef length)
- Footprint: 5,120 ft² - Segment lengths may vary with method used, however, the width of the breakwater will not exceed 20 feet.
- Approximate height of breakwater 25" or 0.64 m (structure will be submerged except at mean low tides.)

August 19, 2021

The Nature Conservancy

Attachment 12A: Point Clear
Permit Application # SAM-2011-00493-DEM



- Plan view with OHW (925 ft / 282 m ~ shoreline length) (582 ft/ 177 m – reef length)
- Footprint: 11,640 ft² - Segment lengths may vary with method used, however, the width of the breakwater will not exceed 20 feet.
- No submerged aquatic vegetation was observed; MLW will be depicted on depth profile on next page.

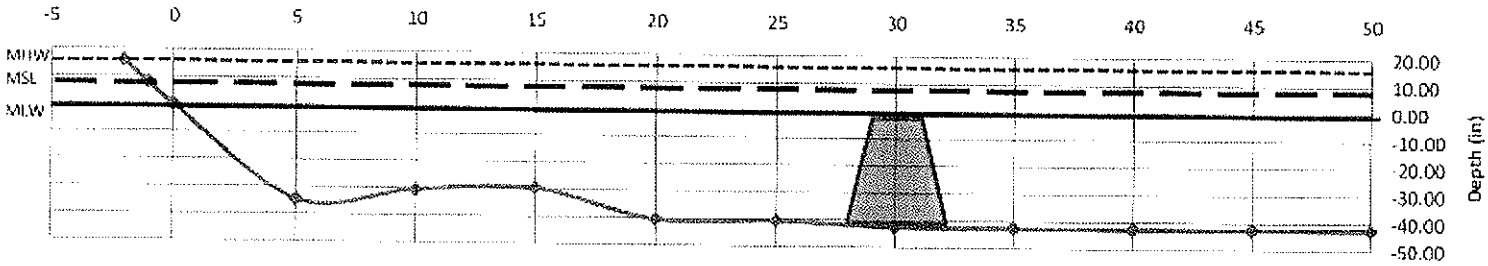
August 19, 2011

The Nature Conservancy

Attachment 12B: Point Clear
Permit Application # SAM-2011-00493-DEM

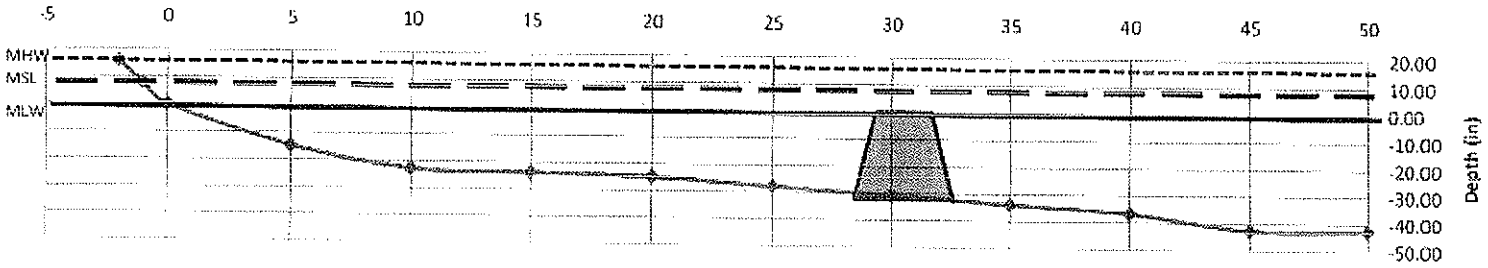
Depth Profile A

Distance from Shoreline (m)



Depth Profile B

Distance from Shoreline (m)



- Cross-Section view with MHW, MLW and location of reef structure. (925 ft / 282 m – shoreline length) (582 ft/ 177 m – reef length)
- Footprint: 11,640 ft² - Segment lengths may vary with method used, however, the width of the breakwater will not exceed 20 feet.
- Approximate height of breakwater 30" or 0.76 m (structure will be submerged except at mean low tides.)

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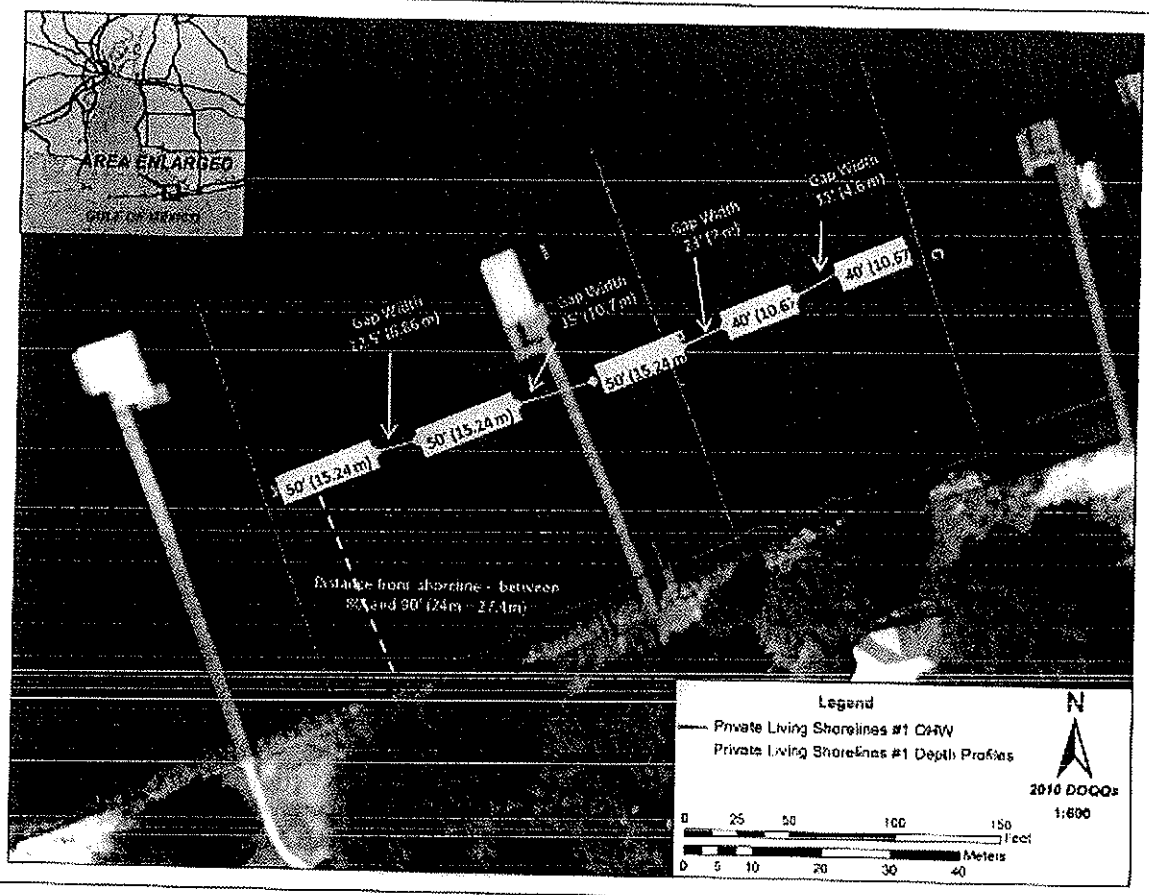
The Nature Conservancy

Attachment 13A: Private Living Shoreline #1
Permit Application # SAM-2011-00493-DEM

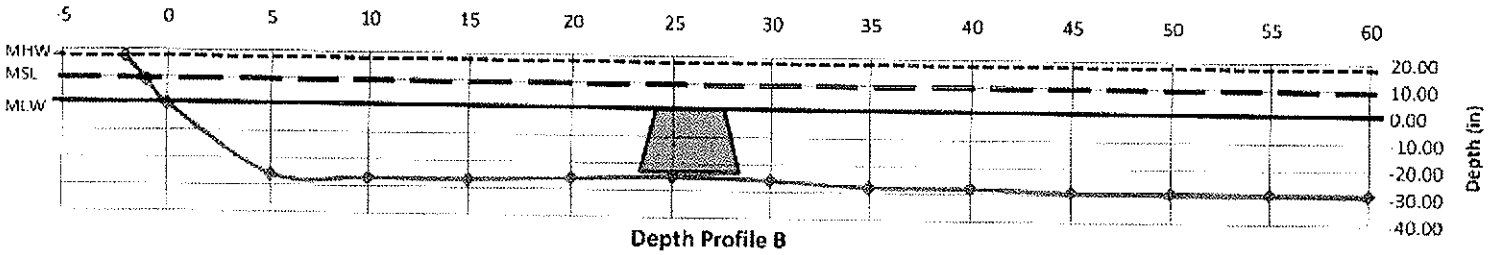


- Plan view with OHW (365 ft / 111 m. – shoreline length) (230 ft / 70.12 m – breakwater length)
- Approximate Breakwater Footprint: 4,600 ft². Segment lengths may vary with method used, however, the width of the breakwater will not exceed 20'.
- No submerged aquatic vegetation was observed; MLW will be depicted on depth profile on next page.

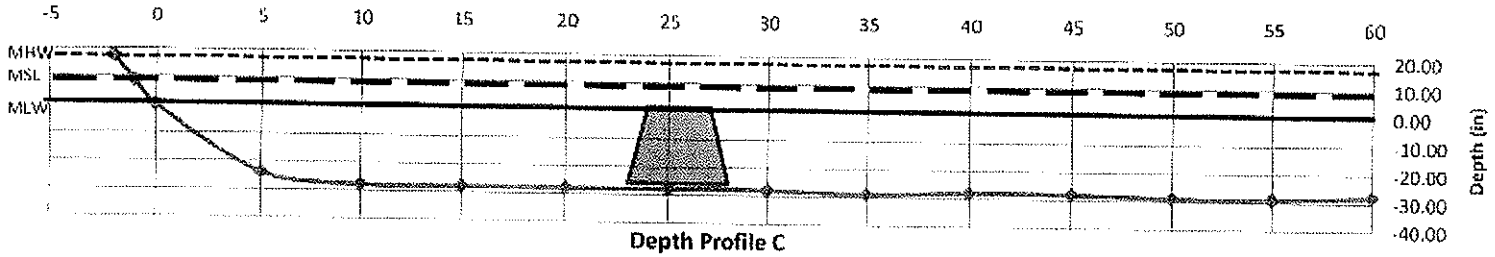
The Nature Conservancy

Attachment 13B: Private Living Shoreline #1
Permit Application # SAM-2011-00493-DEM

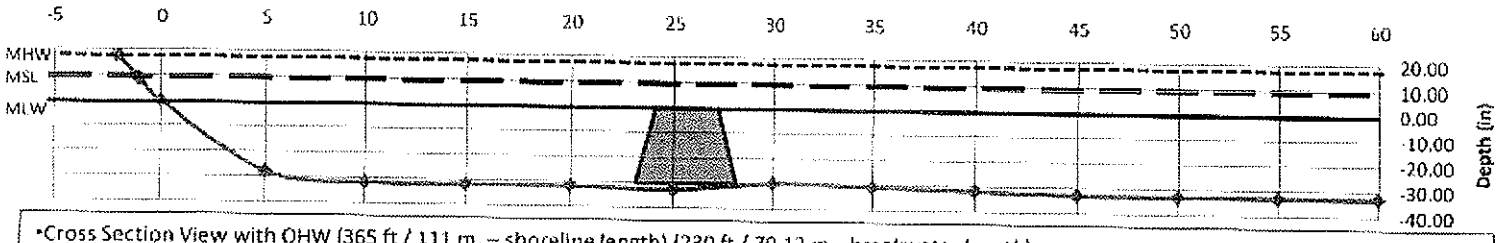
Depth Profile A



Depth Profile B



Depth Profile C



- Cross Section View with OHW (365 ft / 111 m. ~ shoreline length) (230 ft / 70.12 m – breakwater length)
- Approximate Breakwater Footprint: 4,600 ft². Segment lengths may vary with method used, however, the width of the breakwater will not exceed 20".
- No submerged aquatic vegetation was observed.

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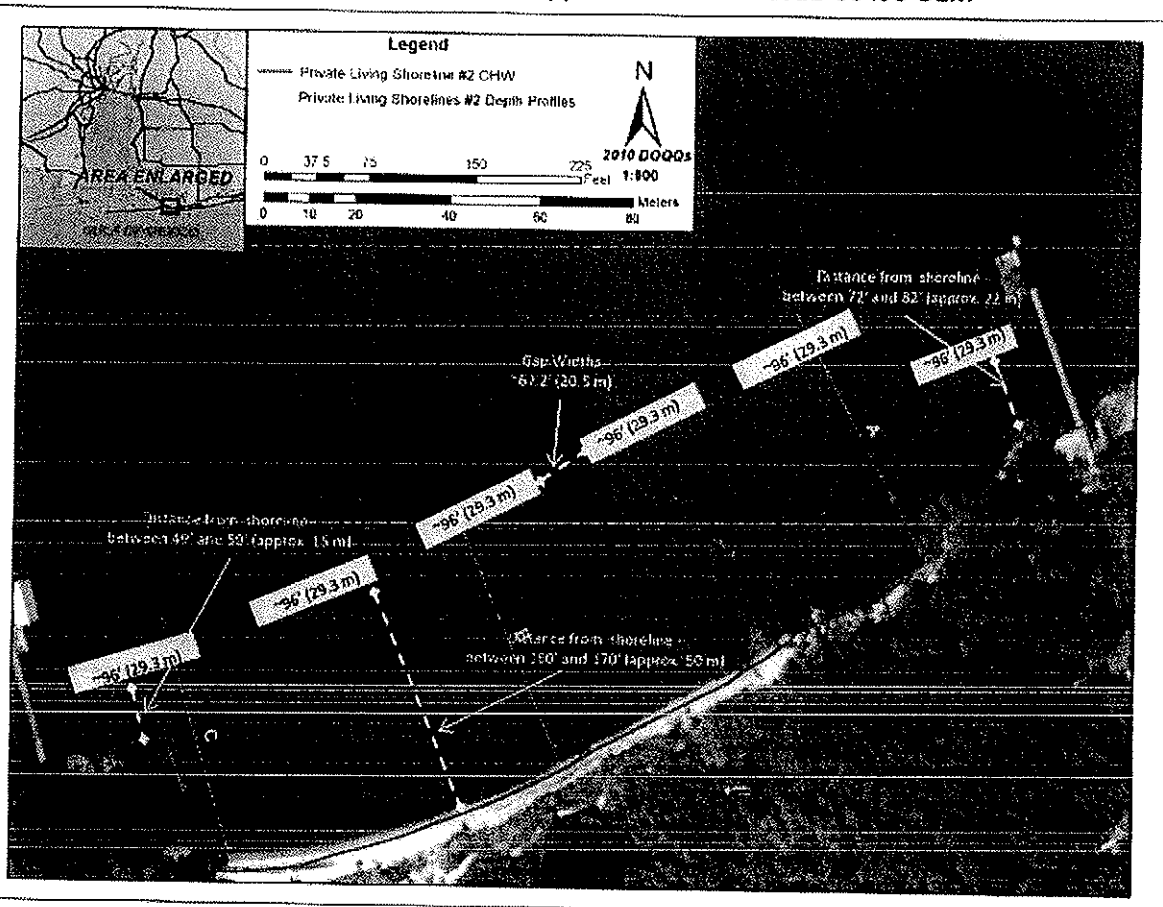
Attachment 14A: Private Living Shoreline #2
Permit Application # SAM-2011-00493-DEM



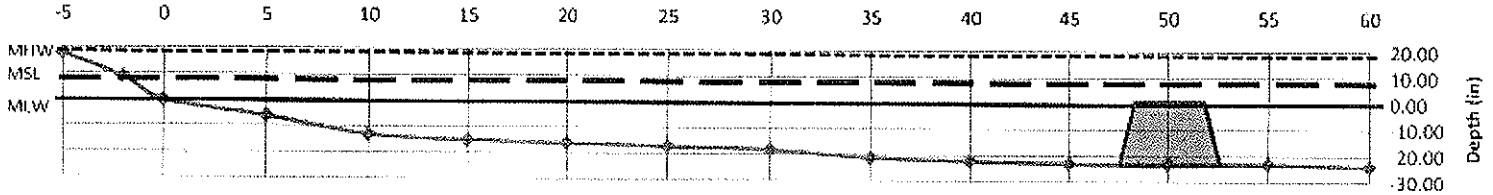
•Plan view with OHW (912 ft / 278 m shoreline length) (576 ft / 175 m – reef length).
•Footprint: 11,520 ft² - Segment lengths may vary with method used, however, the width of the breakwater will not exceed 20 feet.
•No submerged aquatic vegetation was observed; MLW will be depicted on depth profile on next page.

The Nature Conservancy

Attachment 14B: Private Living Shoreline #2
Permit Application # SAM-2011-00493-DEM

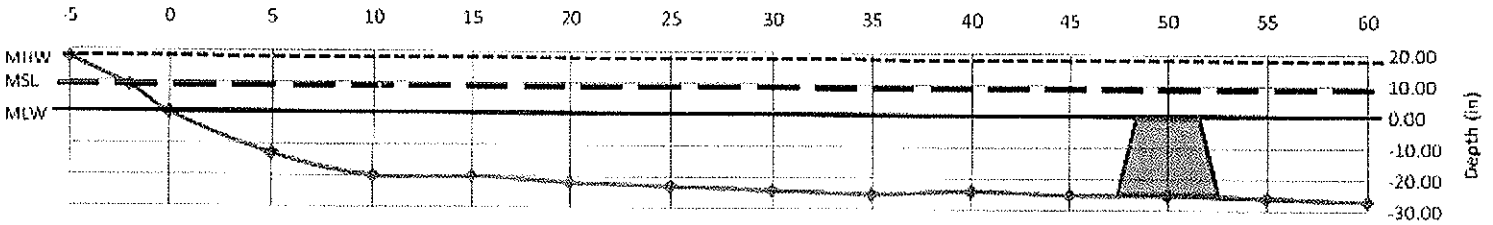
Depth Profile A

Distance from Shoreline (m)



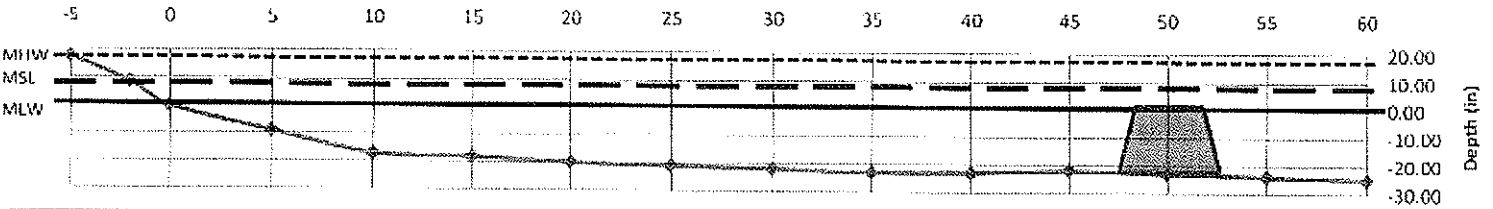
Depth Profile B

Distance from Shoreline (m)



Depth Profile C

Distance from Shoreline (m)



- Cross Section View with MHW and MLW (912 ft / 278 m shoreline length) (575 ft / 175 m – reef length).
- Footprint: 11,520 ft² . Segment lengths may vary with method used, however, the width of the breakwater will not exceed 20 feet.
- No submerged aquatic vegetation was observed; MLW will be depicted on depth profile below.

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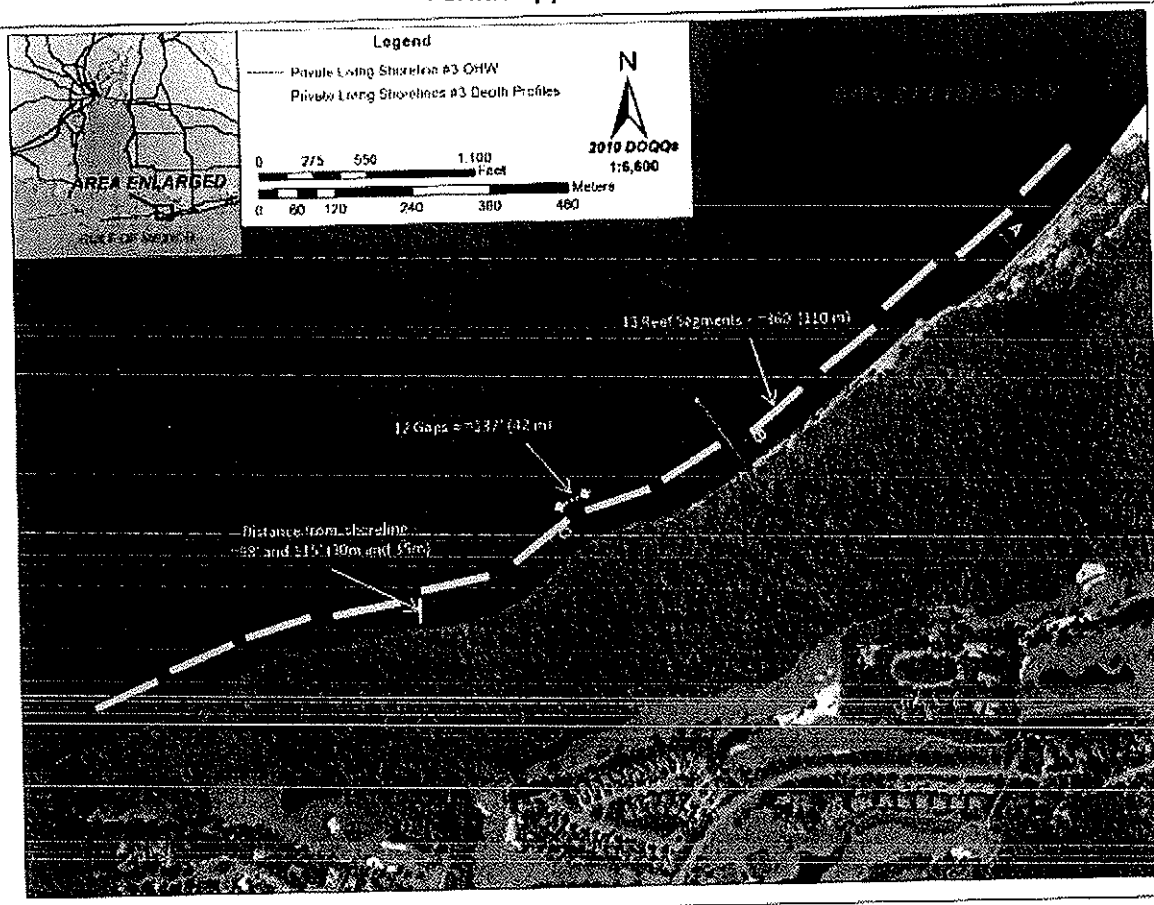
Attachment 15A: Private Living Shoreline #3
Permit Application # SAM-2011-00493-DEM



- Plan view with OHW (6,340 ft / 1,932 m – shoreline length) (4,680 ft / 1,426.8 m – reef length)
- Footprint: 93,600 ft² - Segment lengths may vary with method used, however, the width of the breakwater will not exceed 20 feet.
- No submerged aquatic vegetation was observed; MLW will be depicted on depth profile on next page.

August 19, 2011

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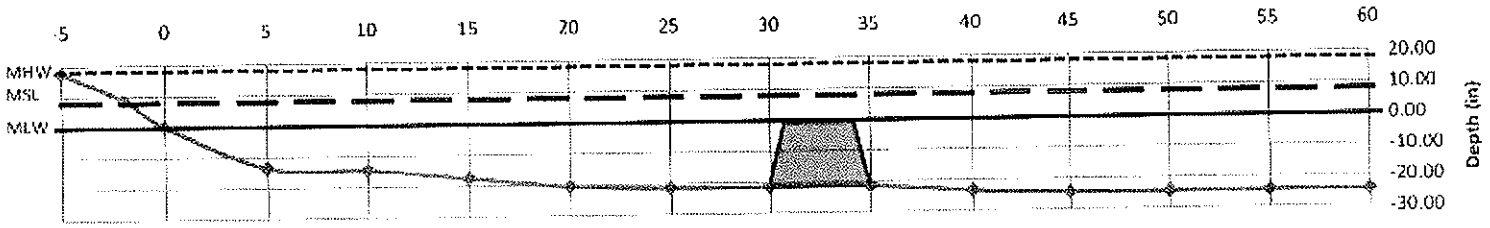
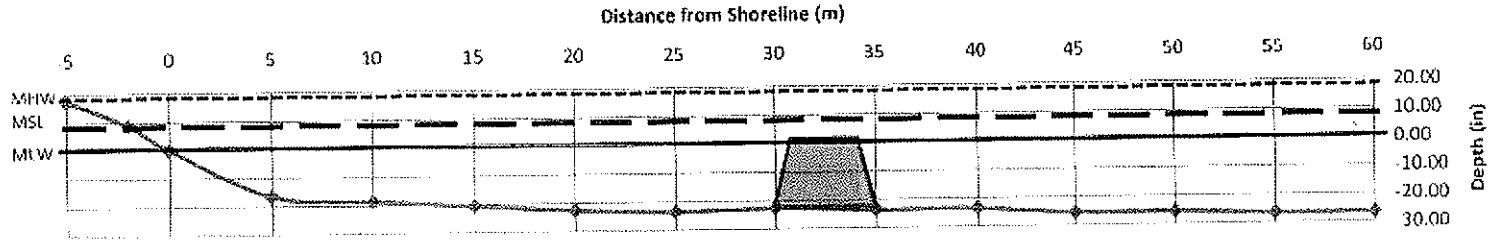
Attachment 15B: Private Living Shoreline #3
Permit Application # SAM-2011-00493-DEM

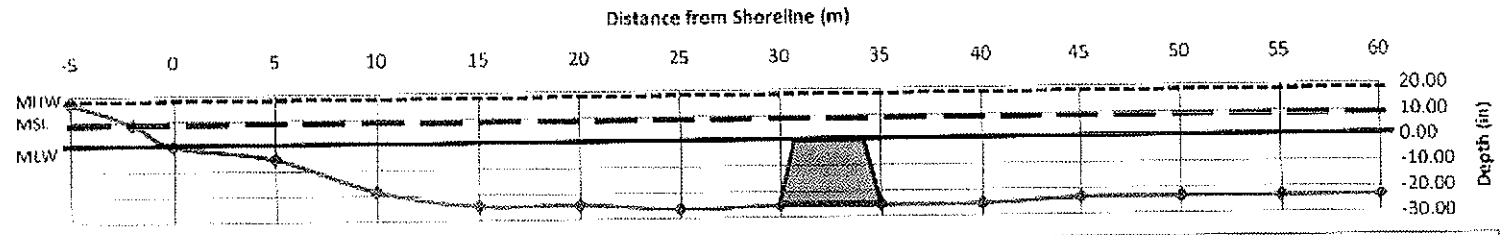
Depth Profile A



Depth Profile B



Depth Profile C



- Cross Section View with MHW and MLW (6,340 ft / 1,932 m – shoreline length) (4,680 ft / 1,426.8 m – reef length)
- Footprint: 93,600 ft² - Segment lengths may vary with method used, however, the width of the breakwater will not exceed 20 feet.
- Approximate Height of breakwater is between 24" and 27" (structure will be submerged except at mean low tides.).

Appendix C:

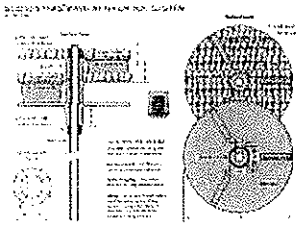
Design Criteria

The Nature Conservancy

Appendix C – Design Criteria
Examples of different types of potential breakwaters

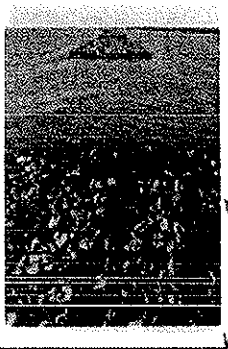
ReefBLK™

Oyster Rings™

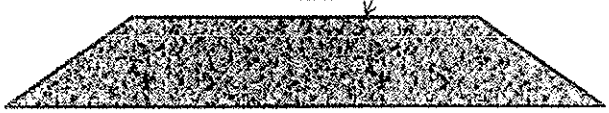


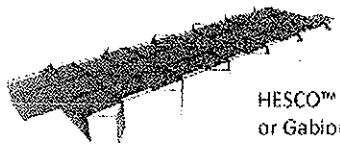
Ecosystems™ Wave Attenuation Systems

Reef Balls™

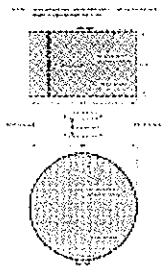


Bagged Oyster Shell with rock as base.





HESCO™ barriers or Gabions



Tensar cylinders filled with rock or shell

*Please note that these techniques are examples of types of breakwaters that will be installed, and that the actual techniques will be chosen based on site-specific conditions and applicability.

LANCE R. LEFLEUR
DIRECTOR

ROBERT J. BENTLEY
GOVERNOR

Alabama Department of Environmental Management
adem.alabama.gov
1400 Coliseum Blvd. 36110-2400 ▪ Post Office Box 301463
Montgomery, Alabama 36130-1463
(334) 271-7700 ▪ FAX (334) 271-7950

March 9, 2012

The Nature Conservancy
Attn: Ms. Judy Haner
56 St. Joseph Street
Mobile, Alabama 36602

RE: State of Alabama: Coastal Consistency and CWA Section 401(a) Water Quality Certification
The Nature Conservancy
Various Shorelines of Mobile Bay, Portersville Bay, Bon Secour Bay, Weeks Bay, and the Mississippi Sound
U.S. Army Corps of Engineers Joint Public Notice and Permit: SAM-2011-00493-DEM
ADEM Tracking Code: 2011-191-COE

Dear Ms. Haner:

This office has completed its review of the above referenced joint public notice and all associated materials submitted to the Alabama Department of Environmental Management (ADEM) related to your proposal to conduct activities within the Alabama Coastal Zone. The project includes the creation of 11 miles of oyster reef/living shoreline breakwaters along approximately 15 miles of shoreline in Mobile Bay, Portersville Bay, Bon Secour Bay, Weeks Bay, and the Mississippi Sound. Depending on the conditions of the site, bagged oyster shell, Reef-Balls, Reef-blocks, and other technologies will be used to provide a settlement substrate for the oysters. The shoreline breakwaters will be placed between 20-meters and 100-meters from the shoreline to provide adequate shoreline protection. Breakwater lengths will range from 15-meters to 125-meters based on the site shoreline length and will be spaced to allow for tidal flushing. For navigational purposes, "Submerged Reef" signs will be placed along the breakwaters. No impacts to coastal wetlands, existing natural oyster reefs, or submerged grassbeds are authorized for this project.

Action pertinent to water quality certification is required by Section 401(a)(1) of the Clean Water Act, 33 U.S.C. §1251, et, seq. If conducted in accordance with the conditions prescribed herein, ADEM hereby **grants** official certification that there is reasonable assurance that the discharge resulting from the proposed activities as submitted will not violate applicable water quality standards established under Section 303 of the Clean Water Act and §22-22-9(g), Code of Alabama (1975). This certification terminates coincidentally with the expiration of SAM-2011-00493-DEM but in no case shall this ADEM certification exceed a maximum of five (5) years from the date the U.S. Army Corps of Engineers officially extends permit SAM-2011-00493-DEM unless specifically authorized in response to a written request for same.

Furthermore, ADEM hereby **concurs** with the applicant's coastal consistency certification conditional upon continued compliance with the management program.

ADEM certifies that there are no applicable effluent limitations under Sections 301 and 302 nor applicable standards under Sections 306 and 307 of the Clean Water Act in regard to the activities specified. However, regulations promulgated by the EPA requiring discharge permits for storm water runoff from individual and commercial facilities may be applicable. This certification does not address the requirements of those regulations.

To protect water quality, the following conditions must be incorporated as part of **SAM-2011-00493-DEM.**

1. The Nature Conservancy and/or its assigns shall provide to the ADEM written notice of the start and expected completion date, including any project phasing utilized.

2. The Nature Conservancy and/or its assigns shall allow any duly authorized employee of the ADEM or its contractors, or Attorney General or District Attorney to enter upon the premises associated with the project authorized by this certification for the purposes of ascertaining compliance with the terms and conditions of the certification and with the rules and regulations of the ADEM.

3. No bagged or loose shell shall be used in the construction of shoreline stabilization structures in shellfish growing areas that are classified as restricted, conditionally restricted, or prohibited by the Alabama Department of Public Health.

4. Prior to construction in shellfish growing that are classified as restricted, conditionally restricted, or prohibited by the Alabama Department of Public Health, the Nature Conservancy and/or its assigns shall obtain concurrence from the Alabama Department of Conservation and Natural Resources -Marine Resources Division that the materials to be used as shoreline stabilization structures are acceptable.

5. Site-specific SAV surveys shall be conducted for each phase of the project. A copy of these surveys shall be submitted to the ADEM Coastal/Facility Section prior to project implementation.

6. Breakwaters will be located a minimum of ten-feet away from any visible sea grass bed and/or sea grass habitat.

7. Upon completion of each phase of the project, an as built survey(s) shall be submitted to the ADEM Coastal/Facility Section.

8. If turbidity generated from the activities conducted within or close proximity to State waters causes or results an increase of more than fifty (50) Nephelometric Turbidity Units (NTU) above background turbidity levels within the affected surface water or its tributaries or any other State water, The Nature Conservancy and/or its assigns must cease all construction activities at the site, except those related to BMP implementation or maintenance, until turbidity is restored to acceptable levels. The ADEM Coastal Section shall be notified by phone of the resultant work stoppage immediately, with a follow-up written notification no later than seventy-two (72) hours from the beginning of the work stoppage.

9. All materials used as fill shall be non-toxic, non-leaching, non-acid forming, and free of solid waste or other debris.

10. Effective solid waste management practices shall be implemented at the site. All construction debris must be contained while on-site and regularly removed and disposed of in an approved manner. There shall be regular monitoring and removal of any construction debris or wastes from wetland areas, State waters, or adjacent offsite areas.

11. The Nature Conservancy and/or its assigns shall provide written notice to the ADEM Coastal Section of any proposed modifications to the approved site plans. Upon such notice, the ADEM Director may require the submission of additional information and/or a new permit application; and additional fees may be required. Modifications may not be implemented without prior approval from the ADEM.

12. This certification is not transferable without prior written notice and approval of the ADEM. Upon such notice, the Director may require submission of additional information and/or a new permit application, and additional fees may be required.

13. Time extension requests must be submitted to the ADEM in writing **60 days prior** to the expiration of this CWA 401 (a) water quality certification.

Failure to comply with any of the above-referenced conditions, unauthorized deviations from the approved development plan, or implementation of additional impacts (whether temporary or permanent) exceeding the scope of the project authorized herein may constitute a violation of this certification and result in enforcement action.

In recognition that projects are site specific in nature and conditions can change during project implementation, the ADEM reserves the right to require the submission of additional information or require additional management measures to be implemented, as necessary on a case-by-case basis, in order to ensure the protection of water quality and coastal resources.

Liability and responsibility for compliance with this certification are not delegable by contract or otherwise. The Nature Conservancy and/or its assigns shall ensure that any agent, contractor, subcontractor, or other person employed by, under contract, or paid a salary by The Nature Conservancy complies with this certification. Any violations resulting from the actions of such person shall be considered violations of this certification and may result in an enforcement action.

This certification does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to persons or property or invasion of other private rights, trespass, or any infringement of Federal, State, or local laws or regulations, and in no way purports to vest in The Nature Conservancy the title to lands now owned by the State of Alabama nor shall it be construed as acquiescence by the State of Alabama of lands owned by the State that may be in the possession of The Nature Conservancy.

All project correspondence, time extension requests, modification requests, and notifications should be mailed to the ADEM Coastal Section, 4171 Commanders Drive, Mobile, AL 36615. Please include ADEM Tracking Code: **2011-191-COE** on all written correspondence on this matter.

Sincerely,

Steven O. Jenkins, Chief
Field Operations Division

SOJ/jsb/sed File: CZCERT/41227

Enclosures (37 Pages)

ecopy: Don Mroczko [USACE - Mobile District]
Rosemary Hall [EPA-Region 4]
Phillip Hinesley [ADCNR-Coastal]
Christopher Blankenship [ADCNR-MRD]
McCool, Jeff [ADPH]

DEPARTMENT OF THE ARMY
MOBILE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 2288
MOBILE, AL 36628-0001

REPLY TO
ATTENTION OF

April 2, 2012

Coastal Branch
Regulatory Division

SUBJECT: Department of the Army Draft Permit Number SAM-2011-0493-DEM, The Nature Conservancy, Various Shorelines of Mobile Bay, Portersville Bay, Bon Secour Bay, Weeks Bay, and the Mississippi Sound

The Nature Conservancy
Attention: Ms. Judy Haner
56 St. Joseph Street
Mobile, Alabama 36602

Dear Ms. Haner:

Enclosed are two copies of a Department of the Army draft permit for work specified in accordance with the enclosed plans, drawings, and specifications. If the permit is acceptable as drafted, you are requested to sign both copies in the space indicated and return both signed copies to me for final action. The original will be signed by me and returned to you with a placard to be posted at all times that construction is performed at the site.

A fee of $100 is required before final action can be taken on your permit request. Please make your check payable to the Finance and Accounting Officer, Mobile District, U.S. Army Corps of Engineers and mail along with the both signed copies of the draft permit to the attention of the Coastal Branch, Regulatory Division. This permit is not valid until it is properly signed by both the applicant and me; therefore, work must not commence on the project until a fully-executed copy has been returned to you.

Your attention is directed to all conditions under which this permit will be issued. Failure to comply with any condition of the approved permit may result in its suspension, cancellation, or revocation. If you object to certain terms and conditions contained within the permit, you may request that the permit be modified. Enclosed you will find a Notification of Administrative Appeal Options and Process fact sheet and Request for Appeal (RFA) form. If you choose to object to certain terms and conditions of the permit, you must follow the directions provided in Section 1, Part A and submit the completed RFA form to the letterhead address.

In order for an RFA to be accepted by the U.S. Army Corps of Engineers (Corps), the Corps must determine that it is complete, that it meets the criteria under 33 CFR Part 331.5, and that it has been received by the Mobile District office within 60 days of the date of the RFA. Should you decide to submit an RFA form, it must be received at the letterhead address by within 60 days of the date of this letter.

ALABAMA
STANDARD MANATEE CONSTRUCTION CONDITIONS

a. The lessee/grantee shall instruct all personnel associated with the project of the potential presence of manatees and the need to avoid collisions with manatees. All construction personnel are responsible for observing water-related activities for the presence of manatees.

b. The lessee/grantee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act of 1972 and the Endangered Species Act of 1973.

c. Siltation barriers shall be made of material in which manatees cannot become entangled, are properly secured, and are regularly monitored to avoid manatee entrapment. Barriers must not block manatee entry to, or exit from, essential habitat.

d. All vessels associated with the construction project shall operate at "no wake/idle" speeds at all times while in the construction area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.

e. If manatees are seen within 100 yards of the active daily construction/dredging operation or vessel movement, all appropriate precautions shall be implemented to ensure their protection. These precautions shall include the operation of all moving equipment no closer than 50 feet of a manatee. Operation of any equipment closer than 50 feet to a manatee shall necessitate immediate shutdown of that equipment. Activities will not resume until the manatee(s) has departed the project area of its own volition.

f. Any collision with and/or injury to a manatee shall be reported immediately to the U.S. Fish and Wildlife Service in Daphne (251-441-5181).

g. Temporary signs concerning the manatees shall be posted prior to and during all construction/dredging activities. All signs are to be removed by the lessee/grantee upon completion of the project. A sign measuring at least 3 ft. by 4 ft. which reads *Caution: Manatee Area* will be posted in a location prominently visible to water related construction crews. A second sign should be posted if vessels are associated with the construction, and should be placed visible to the vessel operator. The second sign should be at least 8½" by 11" which reads *Caution: Manatee Habitat. Idle speed is required if operating a vessel in the construction area. All equipment must be shutdown if a manatee comes within 50 feet of operation. Any collision with and/or injury to a manatee shall be reported immediately to the U.S. Fish and Wildlife Service in Daphne (251-441-5181).*

TEMPORARY MANATEE SIGNS

for standard manatee construction conditions

The *Caution: Manatee Area* signs are available through the companies listed below and may also be available from other local suppliers. Permit/lease holders, should contact sign companies directly to arrange for shipping and billing.

Cape Coral Signs & Designs Inc.

1311 Del Prado Boulevard
Cape Coral, Florida 33990
1-800-813-9992
FAX 813-772-9992

Municipal Supply and Sign Company
P.O. Box 17
Naples, Florida 33939-1765
1-800-329-5366
813-262-4639
FAX 813-262-4645

JADCO Signing Inc.

708 Commerce Way
P.O. Box 911
Jupiter, Florida 33458
1-800-432-3404
407-747-1065
FAX 407-744-2985

The second sign should be at least 8½ inches by 11 inches, and should read:

Caution: Manatee Habitat. Idle speed is required if operating a vessel in the construction area. All equipment must be shutdown if a manatee comes within 50 feet of operation. Any collision with and/or injury to a manatee shall be reported immediately to the U.S. Fish and Wildlife Service in Daphne (251-441-5181).

An example is enclosed, and this example can be copied and used during construction activities.

CAUTION

MANATEE HABITAT

IDLE SPEED IS REQUIRED IF OPERATING A VESSEL IN THE CONSTRUCTION AREA.

ALL EQUIPMENT MUST BE SHUTDOWN IF A MANATEE COMES WITHIN 50 FEET OF OPERATION.

ANY COLLISION WITH AND/OR INJURY TO A MANATEE SHALL BE REPORTED IMMEDIATELY TO THE U.S. FISH AND WILDLIFE SERVICE IN DAPHNE AT

251-441-5181

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, MOBILE DISTRICT
CORPS OF ENGINEERS
P.O. BOX 2288
MOBILE, ALABAMA 36628-0001

REPLY TO
ATTENTION OF:

September 3, 2009

Inland Branch South
Regulatory Division

SUBJECT: Nationwide Permit Authorization - Project Number SAM-2009-1127-SBC, Dauphin Island Sea Lab, Breakwater Reefs in Portersville Bay, Mobile County, Alabama.

Dauphin Island Sea Lab
Attention: Dr. Just Cebrian
101 Bienville Boulevard
Dauphin Island, Alabama 36528

Dear Dr. Cebrian:

This letter is in response to your application received on July 27, 2009, for a Department of the Army (DA) permit to construct four sub-tidal oyster reef complexes for the purposes of protection and restoration of a shoreline located on Portersville Bay, on the eastern shore of Point aux Pins, near Bayou La Batre, Mobile County, Alabama. Specifically, the site is located in Section 5 of Township 8 South, Range 3 West. It has been assigned file number SAM-2009-1127-SBC, which should be referenced in all future correspondence with this office.

DA permit authorization is necessary because your project would involve the placement of fill material into waters of the United States under our regulatory jurisdiction. Specifically, the activity would consist of the construction of 4 sets of breakwater complexes, each made up of 3 oyster shell reef units placed on geo-grid mats. The base dimensions of each reef unit would be approximately 84 feet in length and 16 feet in width, with a crest width of 3 feet. Two of the reef units would be situated in an arc pattern at 45-degree angles to the shoreline and separated by a 49 foot gap. A third reef unit would be located approximately 4 foot to seaward and be centered across the gap. Each reef unit would be contained by a fence along the sides and the shoreward facing edge. All four breakwater complexes would be located approximately 360 feet from the shoreline, and each complex would be clearly marked by warning signs placed at the seaward side and at each end of the complex. No mitigation is required for this activity.

Based upon the information and plans you provided, **we hereby verify that the work described above, which would be performed in accordance with the enclosed plan, is authorized by Nationwide Permit (NWP) 27, Aquatic Habitat Restoration, Establishment, and Enhancement Activities.** This letter verifies that the proposed activity is authorized by Nationwide Permit 27 in accordance with 33 CFR Part 330 of our regulations. This NWP and its associated Regional and General Conditions can be viewed at our website at www.sam.usace.army.mil/RD/reg.

This **verification is valid for two years from the date of this document**. In the event you have not completed construction of your project within the specified time limit, a separate application or re-verification may be required.

You must comply with all terms and conditions associated with NWP 27, as well as with the following special conditions:

a. Fill material shall not be placed over submerged aquatic vegetation.

b. Prior to beginning construction, the permittee must coordinate this project with the Alabama Department of Conservation and Natural Resources, Marine Police Division (MPD), 64 North Union Street, Montgomery, Alabama 36130. All structures and signage must meet their approval. The Permittee is required to comply with all requirements of the ADCNR-MPD.

c. The permittee understands and agrees that, if future operations by the U.S. require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the U. S. Army Corps of Engineers (Corps), to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the U.S.. No claim shall be made against the U.S. on account of any such removal or alteration.

d. Only suitable material free of red clay, waste, metal and organic trash, unsightly debris, etc., may be used as fill and material discharged must be free from toxic pollutants in toxic amounts.

e. The permittee shall comply with all the terms and conditions of the Alabama Department of Environmental Management (ADEM), Section 401 Water Quality Certification for the Nationwide Permits.

f. No building materials, tools or other equipment shall be stockpiled in wetlands or other waters of the United States. All excess materials, tools and equipment shall be removed immediately upon completion of the activity.

g. It is the permittee's responsibility to ensure that all persons/contractors working on this project are aware of all general and special permit conditions. All persons/contractors involved in this permitted activity shall be provided copies of this permit in its entirety as well as copies of all regional and general conditions for NWP 27. A copy shall remain on site at all times during construction.

The statements contained herein do not convey any property rights, or any exclusive privileges and does not authorize any injury to property or obviate the requirements to obtain other local, State or Federal assent required by law. Nothing in this letter shall be construed as excusing you from compliance with other Federal, State, or local statutes, ordinances, or regulations which may affect this work.

Attached to this verification that your project is authorized under a NWP is an approved jurisdictional determination (JD). If you are not in agreement with that approved JD, you can make an administrative appeal under 33 CFR Part 331. Enclosed you will find a Notification of Administrative Appeal Options and Process fact sheet and Request for Appeal (RFA) form. If you choose to object to certain terms and conditions of the permit, you must follow the directions provided in Section 1, Part D and submit the completed RFA form to the letterhead address.

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria under 33 CFR Part 331.5, and that it has been received by the District office within 60 days of the date of the RFA. Should you decide to submit an RFA form, it must be received at the letterhead address by within 60 days of the date of this letter. It is not necessary to submit an RFA form to the District office, if you do not object to the determination attached to this letter.

Please note that NWP General Condition 26 (Compliance Certification) requires that every permittee who has received NWP verification must submit signed certifications regarding the completion of authorized work as well as any required mitigation. In addition, the Mobile District also requires that every permittee submit a notification of commencement of the authorized work. **The permittee shall provide notifications to the U.S. Army Corps of Engineers, Regulatory Division, Post Office Box 2288, Mobile, Alabama 36628-0001 within 5 days of initiation and completion of the authorized work.** Enclosed are the forms you must complete and return to us in order to satisfy this requirement.

Please contact me at (251) 694-3664, or by e-mail at steven.b.crosson@usace.army.mil if you have any questions. For additional information about our Regulatory Program, visit our web site at www.sam.usace.army.mil/RD/reg, and please take a moment to complete our customer satisfaction survey while you're there. Your responses are appreciated and will allow us to improve our services.

Sincerely,

S. Brad Crosson
Regulatory Specialist,
Inland Branch South
Regulatory Division

Enclosures

Copy Furnished (Letter and Plans Only):

Alabama Department of
Environmental Management
Mobile Branch Office
Attention: Mr. Scott Brown
4171 Commanders Drive
Mobile, Alabama 36615-1421.

U.S. Fish and Wildlife Service
Attention: Mr. Patric Harper
1208-B Main Street
Daphne, Alabama 36526

Alabama Department of
Conservation and Natural Resources
State Lands Division
Attention: Mr. Carl Ferraro
31115 Five Rivers Boulevard
Spanish Fort, Alabama 36527

NOTICE OF COMPLETION OF WORK
AUTHORIZED BY PERMITS

Sept. 18. 2009 ~~2008~~
DATE

SAM-2009-01127-SBC

WORK AUTHORIZED UNDER DEPARTMENT OF THE ARMY PERMIT _____

DATED September 3, 2009

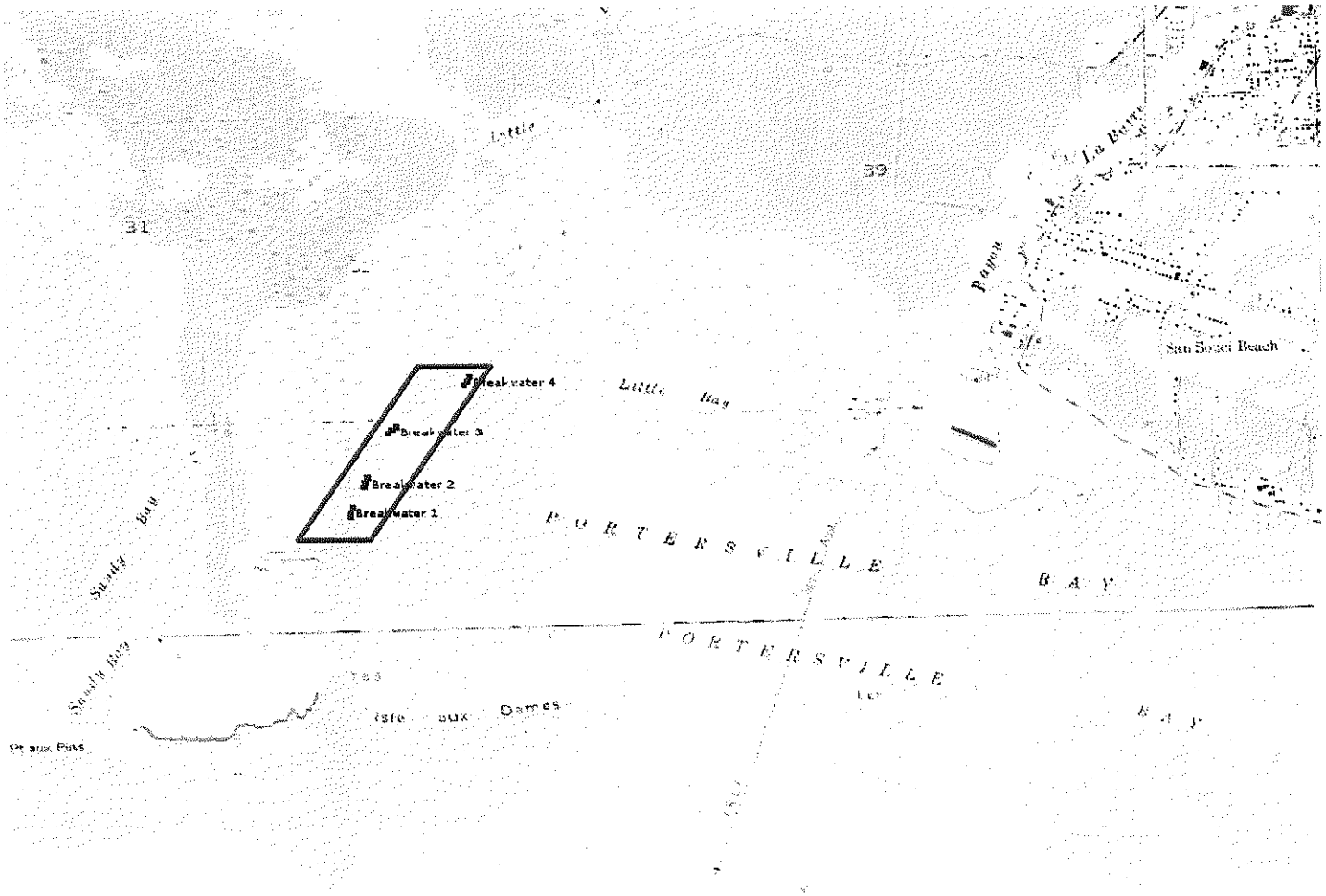
TO PERFORM WORK IN Section 5 of Township 8 South, Range 3 West Mobile County, Alabama

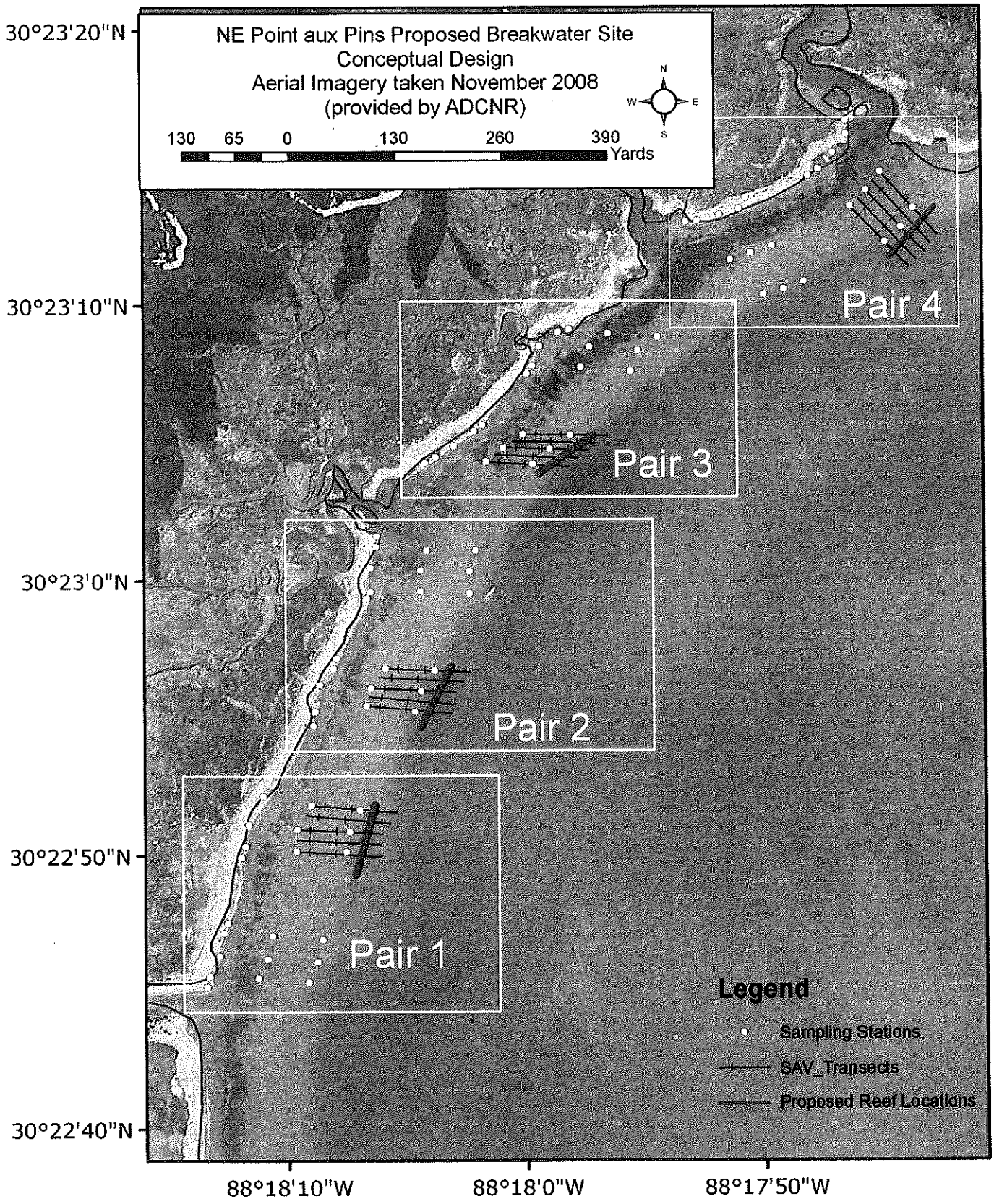
WAS COMPLETED ON 18 SEPTEMBER 2009

BY: _____
SIGNATURE

CESAM FORM 851
JUN 87

Figure 1. Chart displaying the site at the State owned shoreline along the eastern portion of Point aux Pins between the man made channel (ie. the old Sea Lab access channel; located at 30° 22' 44.65"N; 88° 18' 13.93"W) and Little River. Proposed area is within the red box




NE Point aux Pins Proposed Breakwater Site
Conceptual Design
Aerial Imagery taken November 2008
(provided by ADCNR)
N
W
E
S
130 65 0 130 260 390
Yards
30°23'20"N
30°23'10"N
30°23'0"N
30°22'50"N
30°22'40"N
88°18'10"W
88°18'0"W
88°17'50"W
Pair 4
Pair 3
Pair 2
Pair 1
Legend
Sampling Stations
SAV_Transects
Proposed Reef Locations

AUG 25 2009

Figure 3a. Conceptual design of breakwater complexes at the Point aux Pins sites for experimental reef sites.

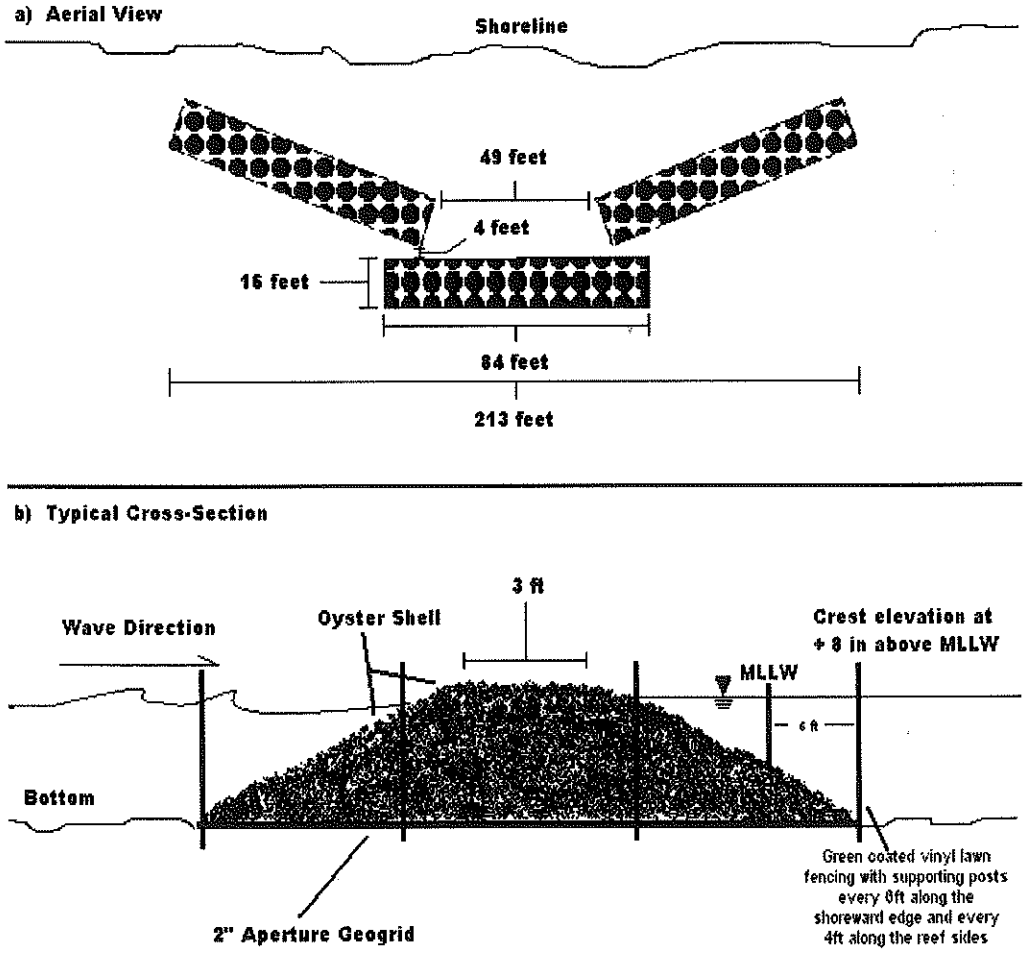


Figure 3b. Example of fencing and supporting posts that will be used to secure the reefs from moving shoreward. This mini breakwater was constructed to verify the retention strength of the fencing and supporting posts against a 1 meter high oyster reef.

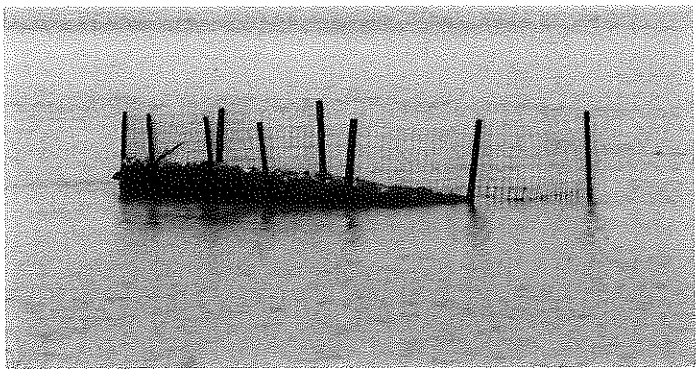
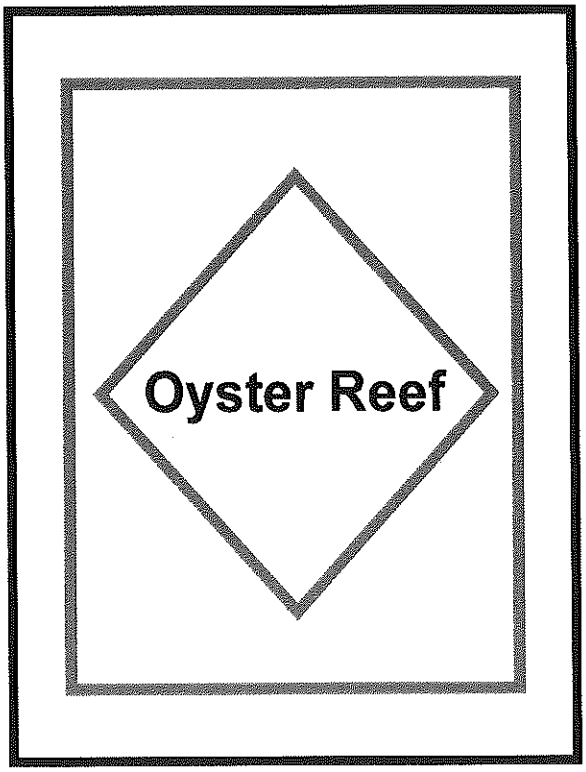


Figure 4: Example of warning sign that will be installed in front of as well as to the sides of each breakwater reef complex



NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Dauphin Island Sea Lab	File NO.:**SAM-2009-1127-SBC**	Date:
Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL	C
XX	APPROVED JURISDICTIONAL DETERMINATION	D
	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://usace.army.mil/inet/functions/cw/cecwo/reg or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:

S. Brad Crosson
CESAM-RD-I-S
REGULATORY DIVISION
POST OFFICE BOX 2288
MOBILE, ALABAMA 36628-0001
(251) 694-3664

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

	Date:	Telephone number:
_____ Signature of appellant or agent.		

This notice of authorization must be conspicuously displayed at the site of work.

United States Army Corps of Engineers

A permit to perform work authorized by statutes and regulations of the Department of the Army

at PORTERSVILLE BAY, SOUTHWEST OF BAYOU LA BATRE, MOBILE COUNTY, ALABAMA

has been issued to ~~DAUPHIN ISLAND SEA LAB~~ on ~~SEPTEMBER 3, 2009~~

Address of Permittee ~~101 BIENVILLE BOULEVARD, DAUPHIN ISLAND, ALABAMA 36528~~

Permit Number

SAM-2009-1127-SBC

For the District Commander

S. BRAD CROSSON
REGULATORY SPECIALIST (ACTING) CECW-0)
REGULATORY DIVISION, RD-C-M

ENG FORM 4336, Jul 81 (33 CFR 320-330) EDITION OF JUL 70 MAY BE USED

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): August 5, 2009

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: MOBILE DISTRICT, Dauphin Island Sea Lab, SAM-2009-1127-SPG

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State:Alabama County/parish/borough: Mobile County City: Bayou La Batre
Center coordinates of site (lat/long in degree decimal format): Lat. 30.38082° N. Long. -88.302083° W.
Universal Transverse Mercator:
Name of nearest waterbody: Portersville Bay (Gulf of Mexico)
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Portersville Bay (Gulf of Mexico)
Name of watershed or Hydrologic Unit Code (HUC): 3170009
☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
☒ Office (Desk) Determination. Date: August 5, 2009
☐ Field Determination. Date(s): July 29, 2009

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There Are *"navigable waters of the U.S."* within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]
☒ Waters subject to the ebb and flow of the tide.
☒ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There Are *"waters of the U.S."* within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☒ TNWs, including territorial seas
      ☐ Wetlands adjacent to TNWs
      ☐ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
      ☐ Non-RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
      Non-wetland waters: linear feet: width (ft) and/or 0.37 acres.
      Wetlands: acres.

   c. **Limits (boundaries) of jurisdiction** based on: **1987 Delineation Manual**
      Elevation of established OHWM (if known): .

2. **Non-regulated waters/wetlands (check if applicable):**[3]
   ☐ . Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
   Explain: .

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[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. **TNW**
   Identify TNW: **Portersville Bay.**

   Summarize rationale supporting determination: The Corp of Engineers has listed all tidal waters of Alabama and Mississippi, including all bays, rivers, bayous and streams as navigable waters and under Corps jurisdiction.

2. **Wetland adjacent to TNW**
   Summarize rationale supporting conclusion that wetland is "adjacent": .

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. **Characteristics of non-TNWs that flow directly or indirectly into TNW**

   (i) General Area Conditions:
   Watershed size: **acres**
   Drainage area: **acres**
   Average annual rainfall: inches
   Average annual snowfall: inches

   (ii) Physical Characteristics:
   (a) Relationship with TNW:
   ☐ Tributary flows directly into TNW.
   ☐ Tributary flows through **Pick List** tributaries before entering TNW.

   Project waters are **Pick List** river miles from TNW.
   Project waters are **Pick List** river miles from RPW.
   Project waters are **Pick List** aerial (straight) miles from TNW.
   Project waters are **Pick List** aerial (straight) miles from RPW.
   Project waters cross or serve as state boundaries. Explain: .

   Identify flow route to TNW[5]: Flows from headwaters within abutting wetland system, southeasterly to East Fowl River. .

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[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.
[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

Tributary stream order, if known: First order.

(b) General Tributary Characteristics (check all that apply):
Tributary is: ☐ Natural
☐ Artificial (man-made). Explain: .
☐ Manipulated (man-altered). Explain: .

Tributary properties with respect to top of bank (estimate):
Average width: feet
Average depth: feet
Average side slopes: **Pick List**.

Primary tributary substrate composition (check all that apply):
☐ Silts ☐ Sands ☐ Concrete
☐ Cobbles ☐ Gravel ☐ Muck
☐ Bedrock ☐ Vegetation. Type/% cover:
☐ Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: .
Presence of run/riffle/pool complexes. Explain: .
Tributary geometry: **Pick List**
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: **Pick List**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime: .
Other information on duration and volume: .

Surface flow is: **Pick List**. Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .
☐ Dye (or other) test performed: .

Tributary has (check all that apply):
☐ Bed and banks
☐ OHWM[6] (check all indicators that apply):
☐ clear, natural line impressed on the bank ☐ the presence of litter and debris
☐ changes in the character of soil ☐ destruction of terrestrial vegetation
☐ shelving ☐ the presence of wrack line
☐ vegetation matted down, bent, or absent ☐ sediment sorting
☐ leaf litter disturbed or washed away ☐ scour
☐ sediment deposition ☐ multiple observed or predicted flow events
☐ water staining ☐ abrupt change in plant community
☐ other (list):
☐ Discontinuous OHWM.[7] Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):
☒ High Tide Line indicated by: ☒ Mean High Water Mark indicated by:
☐ oil or scum line along shore objects ☐ survey to available datum;
☐ fine shell or debris deposits (foreshore) ☐ physical markings;
☐ physical markings/characteristics ☐ vegetation lines/changes in vegetation types.
☐ tidal gauges
☐ other (list):

(iii) Chemical Characteristics:
Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain: .
Identify specific pollutants, if known: .

[6]A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
[7]Ibid.

(iv) Biological Characteristics. Channel supports (check all that apply):

- ☐ Riparian corridor. Characteristics (type, average width): .
- ☐ Wetland fringe. Characteristics: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: Pick List. Explain: .

Surface flow is: Pick List

Characteristics: .

Subsurface flow: Pick List. Explain findings: .

- ☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

- ☐ Directly abutting
- ☐ Not directly abutting
  - ☐ Discrete wetland hydrologic connection. Explain: .
  - ☐ Ecological connection. Explain: .
  - ☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are Pick List river miles from TNW.

Project waters are Pick List aerial (straight) miles from TNW.

Flow is from: Pick List.

Estimate approximate location of wetland as within the Pick List floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .

Identify specific pollutants, if known: .

(iii) Biological Characteristics. Wetland supports (check all that apply):

- ☐ Riparian buffer. Characteristics (type, average width): .
- ☐ Vegetation type/percent cover. Explain: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis: Pick List

Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

Summarize overall biological, chemical and physical functions being performed: .

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☒ TNWs: linear feet width (ft), Or, 0.37 acres.
   - ☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
- ☐ Tributary waters: linear feet width (ft).
- ☐ Other non-wetland waters: acres.
  Identify type(s) of waters: .

3. **Non-RPWs[8] that flow directly or indirectly into TNWs.**
   ☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

   Provide estimates for jurisdictional waters within the review area (check all that apply):
   - ☐ Tributary waters: linear feet width (ft).
   - ☐ Other non-wetland waters: acres.
     Identify type(s) of waters: .

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
   ☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
   - ☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

   - ☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

   Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**
   ☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

   Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**
   ☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

   Provide estimates for jurisdictional wetlands in the review area: acres.

7. **Impoundments of jurisdictional waters.[9]**
   As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
   - ☐ Demonstrate that impoundment was created from "waters of the U.S.," or
   - ☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
   - ☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]
- ☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
- ☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- ☐ which are or could be used for industrial purposes by industries in interstate commerce.
- ☐ Interstate isolated waters. Explain: .
- ☐ Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

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[8] See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
[10] **Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.***

Provide estimates for jurisdictional waters in the review area (check all that apply):
- ☐ Tributary waters: linear feet width (ft).
- ☐ Other non-wetland waters: acres.
  - Identify type(s) of waters: .
- ☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):
- ☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- ☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - ☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- ☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
- ☐ Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
- ☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- ☐ Lakes/ponds: acres.
- ☐ Other non-wetland waters: acres. List type of aquatic resource: .
- ☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
- ☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
- ☐ Lakes/ponds: acres.
- ☐ Other non-wetland waters: acres. List type of aquatic resource: .
- ☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
- ☐ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☐ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps: .
- ☒ Corps navigable waters' study: .
- ☒ U.S. Geological Survey Hydrologic Atlas: .
  - ☐ USGS NHD data.
  - ☒ USGS 8 and 12 digit HUC maps.
- ☒ U.S. Geological Survey map(s). Cite scale & quad name:USGS 1:24K AL-Grand Bay.
- ☐ USDA Natural Resources Conservation Service Soil Survey. Citation: .
- ☐ National wetlands inventory map(s). Cite name: .
- ☐ State/Local wetland inventory map(s): .
- ☐ FEMA/FIRM maps: .
- ☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
- ☒ Photographs: ☐ Aerial (Name & Date): .
  - or ☒ Other (Name & Date):Site Inspection July 29, 2009.
- ☐ Previous determination(s). File no. and date of response letter: .
- ☐ Applicable/supporting case law: .
- ☐ Applicable/supporting scientific literature: .
- ☒ Other information (please specify):Google Earth Pro Software.

B. ADDITIONAL COMMENTS TO SUPPORT JD: .

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): August 5, 2009

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: MOBILE DISTRICT, Dauphin Island Sea Lab, SAM-2009-1127-SPG

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State:Alabama County/parish/borough: Mobile County City: Bayou La Batre
Center coordinates of site (lat/long in degree decimal format): Lat. 30.38082° N, Long. -88.302083° W.
Universal Transverse Mercator:
Name of nearest waterbody: Portersville Bay (Gulf of Mexico)
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Portersville Bay (Gulf of Mexico)
Name of watershed or Hydrologic Unit Code (HUC): 3170009

☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☒ Office (Desk) Determination. Date: August 5, 2009
☐ Field Determination. Date(s): July 29, 2009

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There Are "*navigable waters of the U.S.*" within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]

☒ Waters subject to the ebb and flow of the tide.
☒ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There Are "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☒ TNWs, including territorial seas
      ☐ Wetlands adjacent to TNWs
      ☐ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
      ☐ Non-RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
      Non-wetland waters: linear feet: width (ft) and/or 0.37 acres.
      Wetlands: acres.

   c. **Limits (boundaries) of jurisdiction** based on: **1987 Delineation Manual**
      Elevation of established OHWM (if known): .

2. **Non-regulated waters/wetlands (check if applicable):**[3]
   ☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
   Explain: .

---

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. **TNW**
   Identify TNW: **Portersville Bay.**

   Summarize rationale supporting determination: The Corp of Engineers has listed all tidal waters of Alabama and Mississippi, including all bays, rivers, bayous and streams as navigable waters and under Corps jurisdiction.

2. **Wetland adjacent to TNW**
   Summarize rationale supporting conclusion that wetland is "adjacent":

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. **Characteristics of non-TNWs that flow directly or indirectly into TNW**

   (i) General Area Conditions:
   Watershed size: **acres**
   Drainage area: **acres**
   Average annual rainfall: inches
   Average annual snowfall: inches

   (ii) Physical Characteristics:
   (a) Relationship with TNW:
   ☐ Tributary flows directly into TNW.
   ☐ Tributary flows through **Pick List** tributaries before entering TNW.

   Project waters are **Pick List** river miles from TNW.
   Project waters are **Pick List** river miles from RPW.
   Project waters are **Pick List** aerial (straight) miles from TNW.
   Project waters are **Pick List** aerial (straight) miles from RPW.
   Project waters cross or serve as state boundaries. Explain:

   Identify flow route to TNW[5]: Flows from headwaters within abutting wetland system, southeasterly to East Fowl River. .

---

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

Tributary stream order, if known: First order.

(b) General Tributary Characteristics (check all that apply):
Tributary is: ☐ Natural
☐ Artificial (man-made). Explain: .
☐ Manipulated (man-altered). Explain: .

Tributary properties with respect to top of bank (estimate):
Average width: feet
Average depth: feet
Average side slopes: Pick List.

Primary tributary substrate composition (check all that apply):
☐ Silts ☐ Sands ☐ Concrete
☐ Cobbles ☐ Gravel ☐ Muck
☐ Bedrock ☐ Vegetation. Type/% cover:
☐ Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: .
Presence of run/riffle/pool complexes. Explain: .
Tributary geometry: Pick List
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: Pick List
Estimate average number of flow events in review area/year: Pick List
Describe flow regime: .
Other information on duration and volume: .

Surface flow is: Pick List. Characteristics: .

Subsurface flow: Pick List. Explain findings: .
☐ Dye (or other) test performed: .

Tributary has (check all that apply):
☐ Bed and banks
☐ OHWM[6] (check all indicators that apply):
☐ clear, natural line impressed on the bank ☐ the presence of litter and debris
☐ changes in the character of soil ☐ destruction of terrestrial vegetation
☐ shelving ☐ the presence of wrack line
☐ vegetation matted down, bent, or absent ☐ sediment sorting
☐ leaf litter disturbed or washed away ☐ scour
☐ sediment deposition ☐ multiple observed or predicted flow events
☐ water staining ☐ abrupt change in plant community
☐ other (list):
☐ Discontinuous OHWM.[7] Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):
☒ High Tide Line indicated by: ☒ Mean High Water Mark indicated by:
☐ oil or scum line along shore objects ☐ survey to available datum;
☐ fine shell or debris deposits (foreshore) ☐ physical markings;
☐ physical markings/characteristics ☐ vegetation lines/changes in vegetation types.
☐ tidal gauges
☐ other (list):

(iii) Chemical Characteristics:
Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain: .
Identify specific pollutants, if known: .

[6]A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
[7]Ibid.

(iv) **Biological Characteristics. Channel supports (check all that apply):**
- ☐ Riparian corridor. Characteristics (type, average width): .
- ☐ Wetland fringe. Characteristics: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

2. **Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:
Properties:
Wetland size: acres
Wetland type. Explain: .
Wetland quality. Explain: .
Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:
Flow is: Pick List. Explain: .

Surface flow is: Pick List
Characteristics: .

Subsurface flow: Pick List. Explain findings: .
- ☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:
- ☐ Directly abutting
- ☐ Not directly abutting
  - ☐ Discrete wetland hydrologic connection. Explain: .
  - ☐ Ecological connection. Explain: .
  - ☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW
Project wetlands are Pick List river miles from TNW.
Project waters are Pick List aerial (straight) miles from TNW.
Flow is from: Pick List.
Estimate approximate location of wetland as within the Pick List floodplain.

(ii) **Chemical Characteristics:**
Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .
Identify specific pollutants, if known: .

(iii) **Biological Characteristics. Wetland supports (check all that apply):**
- ☐ Riparian buffer. Characteristics (type, average width): .
- ☐ Vegetation type/percent cover. Explain: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

3. **Characteristics of all wetlands adjacent to the tributary (if any)**
All wetland(s) being considered in the cumulative analysis: Pick List
Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

Summarize overall biological, chemical and physical functions being performed: .

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☒ TNWs: linear feet width (ft), Or, 0.37 acres.
   - ☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
- ☐ Tributary waters: linear feet width (ft).
- ☐ Other non-wetland waters: acres.
  - Identify type(s) of waters: .

3. **Non-RPWs[8] that flow directly or indirectly into TNWs.**
   - ☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

   Provide estimates for jurisdictional waters within the review area (check all that apply):
   - ☐ Tributary waters: linear feet width (ft).
   - ☐ Other non-wetland waters: acres.
     - Identify type(s) of waters: .

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
   - ☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
     - ☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .
     - ☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

   Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**
   - ☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

   Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**
   - ☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

   Provide estimates for jurisdictional wetlands in the review area: acres.

7. **Impoundments of jurisdictional waters.[9]**
   As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
   - ☐ Demonstrate that impoundment was created from "waters of the U.S.," or
   - ☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
   - ☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]
- ☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
- ☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- ☐ which are or could be used for industrial purposes by industries in interstate commerce.
- ☐ Interstate isolated waters. Explain: .
- ☐ Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

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[8] See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
[10] **Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.***

Provide estimates for jurisdictional waters in the review area (check all that apply):
- ☐ Tributary waters: linear feet width (ft).
- ☐ Other non-wetland waters: acres.
  - Identify type(s) of waters: .
- ☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):
- ☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- ☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - ☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- ☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
- ☐ Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
- ☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- ☐ Lakes/ponds: acres.
- ☐ Other non-wetland waters: acres. List type of aquatic resource: .
- ☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
- ☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
- ☐ Lakes/ponds: acres.
- ☐ Other non-wetland waters: acres. List type of aquatic resource: .
- ☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
- ☐ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☐ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps: .
- ☒ Corps navigable waters' study: .
- ☒ U.S. Geological Survey Hydrologic Atlas: .
  - ☐ USGS NHD data.
  - ☒ USGS 8 and 12 digit HUC maps.
- ☒ U.S. Geological Survey map(s). Cite scale & quad name:USGS 1:24K AL-Grand Bay.
- ☐ USDA Natural Resources Conservation Service Soil Survey. Citation: .
- ☐ National wetlands inventory map(s). Cite name: .
- ☐ State/Local wetland inventory map(s): .
- ☐ FEMA/FIRM maps: .
- ☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
- ☒ Photographs: ☐ Aerial (Name & Date): .
  - or ☒ Other (Name & Date):Site Inspection July 29, 2009.
- ☐ Previous determination(s). File no. and date of response letter: .
- ☐ Applicable/supporting case law: .
- ☐ Applicable/supporting scientific literature: .
- ☒ Other information (please specify):Google Earth Pro Software.

B. ADDITIONAL COMMENTS TO SUPPORT JD: .

ELIGIBILITY REVIEW

Bucket 2 – Council Selected Restoration Component

PROPOSAL TITLE

Alabama Living Shorelines Restoration and Monitoring Project

PROPOSAL NUMBER

AL-4

LOCATION

Mobile and Baldwin Counties, Alabama

SPONSOR(S)

Alabama

TYPE OF FUNDING REQUESTED (Planning, Technical Assistance, Implementation)

Planning, Technical Assistance, Implementation

REVIEWED BY:

Bethany Carl Kraft/ Ben Scaggs

DATE:

11-18-14

1. Does the project aim to restore and/or protect natural resources, ecosystems, fisheries, marine and wildlife habitat, beaches, coastal wetlands and economy of the Gulf Coast Region?

◉ YES ○ NO

Notes:

Proposal seeks funding to build upon existing living shoreline success in the state while also advancing the science behind this type of work.

2. Is the proposal a project?

◉ YES ○ NO

If yes, is the proposed activity a discrete project or group of projects where the full scope of the restoration or protection activity has been defined?

◉ YES ○ NO

Notes:

3. Is the proposal a program?

◯ YES ◉ NO

If yes, does the proposed activity establish a program where the program manager will solicit, evaluate, select, and carry out discrete projects that best meet the program's restoration objectives and evaluation criteria?

◯ YES ◯ NO

Notes:

4. Is the project within the Gulf Coast Region of the respective Gulf States?

◉ YES ◯ NO

If no, do project benefits accrue in the Gulf Coast Region?

◯ YES ◯ NO

Notes:

Eligibility Determination

ELIGIBLE

Additional Information

Proposal Submission Requirements

1. Is the project submission overall layout complete? ***Check if included and formatted correctly.***

A. Summary sheet	☑	F. Environmental compliance checklist	☑
B. Executive summary	☑	G. Data/Information sharing plan	☑
C. Proposal narrative	☑	H. Reference list	☑
D. Location information	☑	I. Other	☑
E. High level budget narrative	☑		

If any items are NOT included - please list and provide details

2. Are all proposal components presented within the specified page limits (if applicable)?

◉ YES ○ NO

Notes: