



**DEPARTMENT OF THE ARMY**  
**NEW ORLEANS DISTRICT, CORPS OF ENGINEERS**  
P.O. BOX 60267  
NEW ORLEANS, LOUISIANA 70160-0267

3 July 2010

Operations Division  
Eastern Evaluation Section

SUBJECT: (Emergency Permit) NOD-20  
BASE FILE: MVN-2010-1271-EOO

Ms. Marnie Winter  
Jefferson Parish, Department of Environmental Affairs  
4901 Jefferson Highway  
Jefferson, Louisiana 70121

Dear Ms. Winter:

This responds to your request dated June 7, 2010, subsequently amended June 24, 2010, seeking emergency authorization to construct rock dike structures in Pass Abel and Four Bayou Pass, in Jefferson and Plaquemines Parishes, Louisiana, for the purpose of reducing oil penetration into the Barataria Basin resulting from the Deepwater Horizon Oil Spill.

My effort to facilitate a decision that best serves the public interest required careful review of the supporting documentation you furnished and affording state and federal resource agencies and the scientific community an opportunity to provide meaningful input on the proposed action. Additionally, scientists and engineers of the New Orleans District, Mississippi Valley Division and Engineer Research and Development Center (ERDC) conducted a technical assessment of the effects these structures would likely have on coastal processes, the attendant consequences for the Barataria Bay estuarine system, and relative benefit derived from these structures in reducing the intrusion of oil into the estuary. The findings I have reached based on close examination of the project and comments received from agency coordination raise very serious concern with granting authorization to perform this work in accordance with our emergency permit provisions.

I recognize your effort to strategically locate the rock dikes so as to effectively manage oil inflow into the estuary while attempting to minimize impact to current dynamics and circulation patterns critical to ecological function and stability. However, modeling data you provided, and models developed by ERDC, indicate that installation of these structures will nevertheless have a substantial effect on the existing hydrologic regime in the estuary. Accelerated flow rates at the constricted passes and increased tidal retention with a concomitant reduction in tidal prism in the interior estuary are predicted to occur. Such effects will redirect water movement to other passes and result in the establishment of new avenues for tidal flow, especially during tropical storm events. A net effect of channel expansion and land erosion is anticipated as basin-wide equilibrium becomes adjusted to the constricted hydrologic regime.

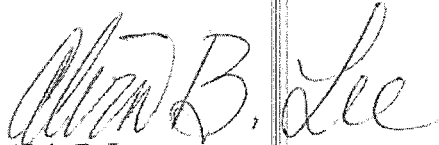
In addition to the potentially severe adverse impacts to the estuary, I am concerned that a defined plan of action to mitigate adverse environmental impacts has not been established. Specifically, no responsible party to ensure timely structure removal to minimize environmental harm has been identified; no restoration plan to mitigate environmental damages has been furnished; and insufficient baseline data from which to assess project-related damages has been provided. Without a detailed written plan of action that is agreed to by all parties having interest in this project, I have no confidence that remedial actions will be taken in a manner that assures protection of the environment.

Last, the numerous pipelines occurring in the passes are of major concern to me. Some of these pipelines are no longer buried and are exposed to strong tidal currents. Beyond the immediate direct threat from rock placement in proximity to these pipelines, there is the risk that increased current velocity will result in further scouring and cause greater exposure. In addition, the anticipated increase in channel scouring at all the passes has a high probability of exposing pipelines that are currently buried beneath the seafloor. The threats to existing critical energy transportation infrastructure and from further environmental contamination caused by accidental damage are clear and significant.

Having carefully reviewed the information you provided in light of the findings from my technical project assessment, I cannot conclude that anticipated benefits outweigh foreseeable detriments as is required in my public interest determination; therefore, I am required to deny your request for emergency authorization to construct the proposed rock dikes.

If you have any questions, please contact Mr. Pete Serio, Chief, Regulatory Branch, at (504) 862-2255 or by e-mail: [pete.j.serio@usace.army.mil](mailto:pete.j.serio@usace.army.mil).

Sincerely,

A handwritten signature in cursive script, reading "Alvin B. Lee". The signature is written in dark ink and is positioned above the printed name and title.

Alvin B. Lee  
Colonel, US Army  
District Commander

Department of the Army Permit Evaluation  
And Decision Document

Applicant: Jefferson Parish, Department of Environmental Affairs

Application No.: MVN-2010-1271-EOO

Emergency Authorization Request under NOD-20 (Deepwater Horizon Oil Discharge)

This document constitutes the Environmental Assessment, Statement of Findings, and, if applicable, review and compliance determination according to Section 404 of the Clean Water Act (86 Stat. 816; 33 USC 1344), Section 10 of the River and Harbors Act of 1899 (30 Stat. 1151; 33 USC 403), and their implementing regulations.

**Purpose and Need for the Project:**

The purpose of the proposed rock dike structures is to act as a temporary barrier that will reduce oil penetration into the Barataria Basin from the Deepwater Horizon Oil Discharge. The need for the project is to reduce the amount of area remediation crews/equipment must cover to recover the discharged oil.

**Existing Conditions:**

The Barataria Basin is an irregularly shaped area bounded on each side by a distributary ridge formed by the present and a former channel of the Mississippi River. Currently, five major passes exist between the barrier island chain that acts as the interface between the Gulf of Mexico and the Barataria Basin. The five passes (from east to west) are: Chenier Ronquille Pass, Four Bayou Pass, Pass Abel, Barataria Pass, and Caminada Pass. The barrier island chain surrounding these five passes is (from east to west): Chenier Ronquille, the Grand Terre Islands, Grand Isle, and Chenier Caminada (or Elmer's Island). Since April 20, 2010, the start of the Deepwater Horizon Oil Discharge, an unknown amount of crude oil has discharged from the Macondo prospect at Mississippi Canyon Block 252 in the Gulf of Mexico. The discharge has impacted emergent marsh and barrier islands across the Gulf Coast and Southeastern Louisiana, including the Barataria Basin. This prompted the Jefferson Parish, Department of Environmental Affairs to propose the rock dike structures as an additional tool to use in the oil response effort in tandem with skimming, booming, and barge barrier operations.

**Application Chronology:**

The Jefferson Parish, Department of Environmental Affairs submitted an application at 10:03 pm

on June 7, 2010, requesting Department of Army (DA) emergency authorization for five rock jetties to be installed in Caminada Pass, Barataria Pass, Pass Abel, Four Bayou Pass, and Chenier Ronquille Pass as a temporary effort to combat the Deepwater Horizon Oil Discharge. The US Army Corps of Engineers, New Orleans District (CEMVN) Regulatory Branch coordinated and solicited comments for the applicant's request with state and federal agencies on June 8, 2010. CEMVN requested that all comments be submitted by 12:00 pm on June 9, 2010. On June 10, 2010, CEMVN held a meeting with the applicant and Shaw Group to discuss the project and agency comments/concerns. The meeting prompted Shaw Group to incorporate bathymetric and hydrographic modeling by Coast and Harbor Engineering to provide more detailed information at the five passes. Two follow-up meetings were requested by Shaw Group, one with CEMVN Regulatory Branch, CEMVN Engineering Division, and the Engineer Research and Development Center (ERDC) to discuss hydrographic and bathymetric modeling techniques/results (held on June 18, 2010), and a second interagency meeting to discuss modeling results and their June 8-9, 2010 comments/concerns (held on June 23, 2010). In response to the interagency meeting, the scope of the project was reduced to placing rock structures within two passes, as opposed to five. On June 24, 2010, a final rock dike alignment for Pass Abel and Four Bayou Pass was submitted to CEMVN. This modification requested that the authorization focus on these two passes. On the same day, the final alignment was again forwarded to state and federal agencies for comment. CEMVN requested that all comments be submitted by 12:00 pm on June 25, 2010. On Friday June 25, 2010, CEMVN requested the applicant address all comments and provide additional drawings at the rock dike tie-in locations. On June 28, 2010, a response to comments and rock dike tie-in drawings were submitted to CEMVN by the applicant. The rock tie-in drawings were forwarded to Engineering Division for comment. An interagency teleconference was held on June 29, 2010, to discuss each Federal agencies position, potential special conditions, and monitoring requirements. Comments were solicited on the potential permit special conditions by the Federal agencies on June 30, 2010, with responses received on July 1, 2010. Additional information was requested by CEMVN on July 1, 2010, concerning the effectiveness of the rock dike structures as a standalone project and contingency plans associated with increased scouring impacting the existing oil and gas pipelines within the passes. On July 2, 2010, Shaw Group responded to this request.

#### **Proposed Project (Applicant's Proposed Alternative):**

The Jefferson Parish Department of Environmental Affairs proposed to construct a rock dike structure at Pass Abel and Four Bayou Pass in Jefferson and Plaquemines Parishes, Louisiana. Both structures would be constructed at +4.0 feet (NAVD88) with a 10 foot crown and a 1.5:1 slope. The rock dike width varies depending on water depth. Project implementation would result in a 1.74 mile rock structure at Pass Abel, with approximately 101,000 cubic yards of material extending from open water, eastward to Grand Terre Island and a 1.76 mile structure at Four Bayou Pass, with approximately 62,000 cubic yards of rock material placed from open water, eastward to Point Chenier Ronquille. The placement of material in these passes would reduce the current flow area in Pass Abel from approximately 6,390 feet to 2,070 feet and from 6,320 feet to 2,880 feet in Four Bayou Pass.



### **Alternative's Considered:**

Currently, Pass Abel and Four Bayou Pass have barge barrier and booming operations underway as previously authorized on June 18, 2010 (MVN-2010-1342-EOO). Alternative rock dike structure alignments were considered by the applicant. The original project proposed on June 7, 2010, suggested the rock be placed within the channels and extend to neighboring islands in shortest distance increments. After a magnetometer survey was requested and completed, it was determined the alignment needed to be altered. Pass Abel had 5 alternatives, listed as alternative 1, 2, 3a, 3b, and 3c; Four Bayou Pass had 7 alternatives, listed as 1, 2, 3a, 3b, 3c, 5a, and 5b. The applicant selected alternatives 3b and 5a. Their alternative criteria and selection were based on: an alignment that would not directly impact nearby oil and gas pipelines; result in a model run which minimized the change in max flood and max ebb velocities within the five passes, and; result in a model run which minimized energy differentials (at max flood and max ebb).

### **No Action:**

Selection of the "no action" alternative would result in the proposed rock dike structure not being constructed and the avoidance of short- and long-term beneficial and adverse impacts associated with the project. It is reasonable that protective measures taken thus far, such as barges staged for crude extraction, strategic boom placement, and skimming would continue.

### **Consultation with Concerned Federal/State Agencies, and Non-Governmental Organizations:**

On June 9, 2010 and June 23, 2010 CEMVN Regulatory Branch coordinated the proposed project with concerned agencies including: National Oceanic and Atmospheric Administration (NOAA), National Marine Fisheries Service (NMFS), U.S. Fish and Wildlife Service (FWS), U.S. Environmental Protection Agency (EPA), Louisiana Department of Wildlife and Fisheries (LDWF), Louisiana Department of Environmental Quality (DEQ), and Louisiana Department of Natural Resources (DNR). In addition, correspondence was submitted by the Horizon-Science and Engineering Review Team (H-SERT), Lake Pontchartrain Basin Foundation (LPBF), the Barataria-Terrebonne National Estuary Program (BTNEP), the Coalition to Restore Coastal Louisiana (CRCL), and the Gulf Restoration Network (GRN).

### **Federal Comments:**

By electronic mail dated June 8, 2010 and again on June 24, 2010, NOAA provided general comments addressing concerns associated with: increased velocities within the five passes; the absence of a wave refraction/diffraction analysis; the lacking commitment to remove the structures after the oil threat has diminished; the cumulative impacts to the barrier islands and the Barataria Basin as a result of the closures; the increased chance of new outlets/passes becoming present due to the restriction of water at these passes, and; the applicant's unwillingness to undertake mitigation actions for the consequences of project implementation. NOAA recommended that CEMVN not authorize this project under emergency procedures; however, submitted specific comments under NMFS authority of the Essential Fish Habitat provision of

the Magnuson-Stevens Fisheries Conservation and Management Act and the Fish and Wildlife Coordination Act to be added if it is determined that an emergency authorization is warranted. After further coordination, on July, 1, 2010, NOAA maintained its position requesting CEMVN not authorize this project under emergency procedures due to the potential impacts and lacking written commitments to fulfill potential special conditions.

On June 8, 2010 and June 24, 2010 FWS commented via e-mail stating the rocks could be effective in normal spring like conditions, but had concerns associated with high tide/tropical storm events which could result in the jetties being overtopped in the summer weather patterns and oil being trapped in the basin by the barriers during frontal events in the fall/winter. FWS also commented that the rock structures could present breaching and scouring problems due to tidal flow. Should the project be authorized, FWS submitted recommendations under the Endanger Species Act (ESA) to cover possible impacts to the Piping plover and it's critical habitat.

EPA commented on June 9, 2010 and June 24, 2010. EPA requested the emergency authorization be denied based on the potential for significant near- and long-term impacts on sediment processes, erosion rates, and impacts to fisheries. EPA stated this oil response method would have long term effects that would be contrary to the goals of the project and is contrary to the goal of protecting Louisiana's coastal resources. They believe the previously approved barge barriers (MVN-2010-1342-EOO) are considered an effective measure in combating oil in Barataria Basin with less negative environmental consequences. EPA has maintained their objection and denial recommendation throughout the process. Through ongoing coordination, CEMVN received an additional comment from EPA on July 1, 2010 with continued concerns about the efficacy of this project and the severe potential environmental impacts. EPA has upheld their request for denial throughout the process.

#### State Comments:

On June 9, 2010, LDWF commented concerning erosion, sediment transport, and flanking. They suggested filter cloth be placed around the rock to prevent prolonged leaching from the rock dike structure. The Louisiana Natural Heritage Database indicated the presence of bird colonies within one mile of the project and recommended contacting the program ornithologist if work will take place within February 16<sup>th</sup> - September 15<sup>th</sup>.

DEQ commented on June 9, 2010 questioning the effectiveness of this measure as an oil response tool and the permanency of the rock dike structures.

On June 9, 2010, DNR's Coastal Management Division commented requesting a special condition to include for rock removal within six months of the end of the clean-up activities. DNR's Coastal Protection and Restoration Authority commented on June 24, 2010 recommending a monitoring plan and rock removal plan be developed as part of the permit special conditions.

CEMVN has received letters supporting this project from Lafourche, St. Charles, and

Plaquemines Parishes.

#### Internal Comments:

Comments, recommendations, and modeling by ERDC and Engineering Division (ED) were sought throughout the review. All memos and correspondence were made part of the file. On June 9, 2010, ERDC and the Engineering Division put a packet of questions together. ED questioned: the permeability of the structures; adjusting cubic yardage amounts to factor in settlement; the lack of bankline tie in drawings; cleaning and removal measures once the rock are contaminated; structure permanency; navigation concerns; the cost, and future maintenance; scour concerns; the potential for the usage of a separator layer; request of a geotechnical stability analysis; tidal flow concerns; the likelihood of stone loss at the end of extensions due to scour; the production rate, duration, and scheduling for the effort; impacts to tidal prisms; the potential for velocity change; an assessment of the beneficial impacts versus the detrimental impacts. ERDC's concerns are summarized as follows: significant erosion from the structure increasing velocities that may undermine the structure, or flank the structures by eroding barrier islands; increase vertical mixing and mixing oil throughout the water column; a potentially catastrophic loss of land in a hurricane event; restrictions in tidal flow impacting water quality; significant impacts to dissolved oxygen and salinity; the rocks being porous and having oil transport through them. The ERDC team also provided design modifications: reducing the height of the structure from 4 feet to the MHHW; placing additional rocks in cuts to anticipate high erosion; placement of jetties or booms perpendicular to the cuts to trap oil; reductions in the restriction size, and; significant modeling in the basin. On June 22, 2010, ERDC submitted their modeling results, including a water level comparison throughout the Barataria Basin and velocities through the passes. ED commented on June 24, 2010 stating that if a permit could be issued a substantial adaptive monitoring plan would need to be required as a project feature.

While the effort to address these concerns and strategically locate the rock dikes in a manner that would effectively manage oil inflow into the estuary while attempting to minimize impacts to current dynamics and circulation patterns critical to ecological function and stability were attempted by the applicant, they never fully addressed in the short time frame. The basic modeling data provided by the applicant, and models developed by ERDC, indicated these structures will have a substantial effect on the existing hydrologic regime in the estuary. Accelerated flow rates at the constricted passes and increased tidal retention with a concomitant reduction in tidal prism in the interior estuary are predicted to occur. Such effects will redirect water movement to other passes and result in the establishment of new avenues for tidal flow, especially during tropical storm events. A net effect of channel expansion and land erosion is anticipated as basin-wide equilibrium becomes adjusted to the constricted hydrologic regime.

The Operations Manager for the Barataria Waterway and Real Estate Division provided no objection to the project as it is proposed at Pass Abel and Four Bayou Pass.

#### Non-Governmental Organization (NGO) comments:

On June 24, 2010, H-SERT objected to the issuance of this permit. In summary H-SERT

objected due to the following: the modeling performed is inadequate to accurately represent the system being impacted; increased scouring on the seafloor; increased velocities resulting in the increase of subsurface oil due to the deepening of the passage; rock structures creating instability to nearby barrier islands and increased erosion; uncertainties as to how the rocks would have increased performance to the existing barge and boom system, and; the short time frame for review with such broad uncertainties. In addition, coastal scientists Denise Reed, Doug Meffert, and Ioannis Georgiou expressed similar comments/concerns.

LPBF objected to the project on June 15, 2010 citing the increase in tidal flow at the five passes and the potential damages if a tropical event were to impact the area.

On June 10, 2010, BTNEP objected stating the structures would increase the movement of oil inland and the implementation of rocks or sunken barges would increase erosional forces substantially.

CRCL submitted an objection on behalf of the scientific community dated June 24, 2010 questioning the amount of reliable information available to make an informed permit decision. Their specific concerns included: changes in the tidal prism; shifting and increasing water velocities within the passes; altered hydrology; cumulative impacts, with additional rock dike requests pending; disruptions in sediment exchange; storm surge, and; the permanency of the structure. On June 28, 2010 an addendum to the previous letter was submitted to highlight their concerns and to offer assistance in resolving them. In addition to the concerns listed in the June 24, 2010 correspondence, CRCL added scouring of the channels and questioned the ability of the rock structures as an oil response feature as concerns should the plan be implemented. CRCL's responses were submitted with the backing of sixteen local regional, national, and international scientists.

On July 2, 2010, GRN submitted an objection letter dated June 2, 2010 stating the applicant hasn't provided enough evidence to support the effectiveness of the rock dike barrier as an oil spill response mechanism that outweighs the impacts the project could have on the basin.

### **Evaluation:**

Having reviewed the information in the permit file; I have determined that it would be contrary to the overall public interest to grant a permit under the emergency guidelines of the NOD-20 and 33 CFR 325.2 (e) (4). After reviewing the stated views of the interested agencies and organizations, modeling results from the applicant and ERDC, and considered the possible direct and secondary consequences of the proposed work, I cannot conclude that anticipated benefits outweigh foreseeable detriments as required in my public interest determination; therefore, I am required to deny the request for emergency authorization to construct the proposed rock dikes. Further analysis under our standard processing procedures would be required to establish an understanding of the basinwide effects of the rock dike structures in Pass Abel and Four Bayou Pass.

As shown in the file, there is nearly a consensus on the detrimental effects to placing hard rock

structures within a sand barrier island system. As proposed, the rock dike structures would result in reducing the width of Pass Abel and Four Bayou Pass by approximately 4,320 feet and 3,440 feet respectively. Such restrictions will result in destabilizing the entire basin for an unknown time frame. The potential adverse impacts associated with this project are simply put as follows:

- Higher flows and velocities through the tidal passes, accelerating and increasing the amount of oil entering the bay
- Increased vertical scouring of the channels
- Overall changes in the tidal prism and water exchanges between gulf and bay
- Beach and barrier island erosion, widening of passes, and/or the creation of new passes
- Flanking at the rock/sand tie-ins
- Changes in circulation and effects on water quality
- Negative impacts on interior wetlands

#### Shortcomings:

The applicants modeling efforts have determined the effects to flow and energy during flood and ebb tides; however, other types of events that are likely to induce higher flows and velocities through the passes (i.e. tropical or frontal weather features) were not modeled or examined. These events can induce even higher velocities than those calculated in modeling. Furthermore, while every effort was made by the applicant to provide enough information for approval within a short time frame, the parameters of the modeling were not adequate in accurately replicating the potential adverse impacts.

Changes in water velocity within the system will have the potential to widen or create new passes. Placing structures within these passes will also increase the potential for barrier island erosion. The structures being placed are hard in nature and it is fair to assume erosion will take place along this sand barrier island chain. Although sediment transport was not addressed by the applicant's modeling, disruptions are also expected.

A magnetometer survey in these passes revealed numerous oil and gas pipelines that could be directly impacted by channel deepening and scouring. This is a national security, public safety, and environmental concern that has not been examined thoroughly. Within the five passes, seven pipelines were identified as exposed, with an additional four in areas of scour risk. Beyond the immediate direct threat from rock placement in proximity to these pipelines, there is the risk that increased current velocity will result in further scouring and cause greater exposure. In addition, the anticipated increase in channel scouring at all the passes has a high probability of exposing pipelines that are currently buried beneath the seafloor. The threats to existing critical energy transportation infrastructure and from further environmental contamination caused by accidental damage are clear and significant. Issuance of a permit knowing the severity of these risks would be considered irresponsible.

The applicant has maintained the rocks were being proposed in tandem with skimming, booming, and barging operations throughout the review process. The thought is to lessen the

area needed for manpower. CEMVN believes that increasing the velocities will result in this effort being conducted further in the basin which is contrary to the purpose and the public interest. Furthermore, the rocks are not considered useful when these other clean-up tools are not in use because the changes in the system could actually propagate more oil flowing into the basin.

Implementation under this level of uncertainty would require a substantial amount of monitoring and immediate removal should a significant adverse impact occur. Under this level of review, CEMVN does not believe the extensive modeling required can be done in the midst of this disaster and further questions the ability/financial assurances for timely removal, if required. Conditioning a permit with such requirements is considered unenforceable under these emergency circumstances. Implementation of the barge barriers have been considered a success and continued use of this method is suggested. Using the rock dike structures as a standalone method of reducing oil concentrations from entering the bay has not been demonstrated and is viewed to be unfounded.

I find that issuance of a Department of the Army permit, as prescribed by regulations published in 33 CFR 320 to 330 and 40 CFR 230, is contrary to the overall public interest.

July 3, 2010  
Date

Bryan Able  
Preparer

3 July 2010  
Date

Pete Seew  
Reviewer

3 JULY 2010  
Date

Allen B. Lee  
Approving Officer

## Laborde, Brad MVN

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**From:** Ortego, Tyler R [tyler.ortego@shawgrp.com]  
**Sent:** Friday, July 02, 2010 3:51 PM  
**To:** Laborde, Brad MVN; Serio, Pete J MVN; Mayer, Martin S MVN  
**Cc:** DBonano; MWinter; Malbrough, Oneil; Malbrough, Benjamin; Duffourc, Vickie; Thibodeaux, Hilary  
**Subject:** MVN-2010-1271-EOO, Response to comments  
**Attachments:** pipeline exposures energy overlay.pdf; pipeline protection plan 2010-07-02.pdf

**DATE:** July 2, 2010

**TO:** Mr. Pete Serio, Chief Regulatory Branch  
U. S. Army Corps of Engineers, New Orleans District

**FROM:** Tyler Ortego, P.E., Shaw Coastal, Inc. on behalf of  
Jefferson Parish Department of Environmental Affairs

**SUBJECT:** Emergency Authorization for Proposed  
Rock Dike Closures at Pass Abel and Four Bayou Pass  
Jefferson and Plaquemines Parish, LA

On July 1, 2010, your office submitted a request for additional information regarding oil ingress and provisions for preventing exposure of pipelines.

The first question regards the effects of the structures on the quantity of oil entering the passes during storm events. During such events, skimming, booming and barge operations would be demobilized for safety reasons. In response, Coast and Harbor Engineering, our subcontracted coastal hydraulics experts offer the following:

The proposed dikes significantly reduce the volume of water moving through Pass Abel and Four Bayou Pass into the Barataria Bay. Modeling results show that with the dikes the volume of flow that moves through Pass Abel to Barataria Bay is reduced by more than 60%, and the volume of water that moves through Four Bayou Pass is reduced by more than 35%. For the system as a whole, the volume of water entering the bay is reduced by approximately 10% with the dikes in place.

Please note that the volume of oil entering would likely be reduced by a larger proportion than the volume of water entering the bay. Dikes would capture surface water saturated with oil but allow for the passage of a significant amount of bottom flow because the opening is located at the deepest part of the pass. However, as a conservative estimate, we assume that volume of water flowing through the passes is directly proportional to the volume of oil. Therefore the dike construction would reduce the volume of oil passing through Pass Abel to Barataria Bay by more than 60% and the volume of oil passing through Four Bayou Pass by more than 35%.

The second question requested rigorous analysis of possible scour impacts to pipeline infrastructure. Jefferson Parish shares the NOD's concern about safety and potential environmental impacts due to damaged pipelines. The attached "Pipeline Protection and Remedial Action Plan" was developed to outline the Parish's stringent methods to anticipate, prevent, detect and remedy scour impacts to pipelines.

Please review the submitted information and advise immediately if you will require more information. Please understand that the pipelines have not all been verified, and the modeling of bottom velocity has not been finished for all passes. However, given the anticipated duration of construction, we believe that this information can be completed long before our rock dikes cause any significant hydrologic changes. In addition, our proposed monitoring will be implemented immediately upon authorization in order to identify and remedy pipeline scour should it occur.

Jefferson Parish, Shaw, BP, the USCG, TBS and the various contractors are all ready to begin implementing the rock structure immediately upon receipt of emergency authorization. 50,000 tons of rock are positioned between Lafitte and Grand Isle. We ask that you issue authorization this afternoon so that we do not lose 3 more days to the holiday weekend.

Tyler Ortego, MS, PE

Engineer 3

Shaw Coastal, Inc.

Shaw Environmental and Infrastructure Group

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Houma, LA 70363

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Jefferson Parish Rock Plan – MVN-2010-1271-EOO  
Pipeline Monitoring and Remedial Action Plan  
Shaw Project No. 139372  
Submitted July 2, 2010

## Introduction

This plan outlines Jefferson Parish's procedures for identifying potential scour over pipelines, preventing scour over pipelines, identifying scour as it occurs and remedying the scour.

## Key Personnel

Jefferson Parish has contracted Shaw Coastal, Inc. (Shaw) to represent the Parish in permitting and implementation. O'Neil Malbrough, REM is Shaw's program manager for this project. Ben Malbrough, PE is Shaw's designated project engineer and operations manager this project. Ben's responsibilities include coordinating with BP and the USCG, coordinating activities with pipeline operators, and coordinating with BP's contractors. Tyler Ortego, PE is Shaw's designated regulatory manager for this project. Tyler's responsibilities are permitting the structures, ensuring compliance with permit conditions, ensuring that required monitoring activities are conducted, and coordinating with Shaw's modeling subcontractor. Tyler and Ben are supported by Shaw's field engineers and drafting department.

Coast and Harbor Engineering (CHE) is Shaw's survey subcontractor. CHE is providing hydraulic modeling and coastal engineering expertise in support of permitting and operations. CHE's efforts are led by Vladimir Shepsis, PE PhD and Josh Carter, PE.

**Note: Shaw is communicating daily with BP and the USCG to ensure that response activities are properly coordinated. However, only BP and the USCG have authority to direct the activities of BP's contractors.**

## Existing pipelines & contacts

The following pipelines are in place near the passes:

1. Chevron 20" pipeline
  - a. Gerald Gross, [GERALDGROS@chevron.com](mailto:GERALDGROS@chevron.com)
2. Crosstex Energy 12" pipeline
  - a. Chris Greneaux, [Chris.Greneaux@CrosstexEnergy.com](mailto:Chris.Greneaux@CrosstexEnergy.com)
3. Gulf South 36" pipeline
  - a.
4. Columbia Gulf 24" pipeline
  - a. Nelson Kramer, [nkramer@nisource.com](mailto:nkramer@nisource.com)
5. LIG pipeline
6. Plains 12" pipeline BOA Main and Loop
  - a. Todd Hunter, [tmhunter@paalp.com](mailto:tmhunter@paalp.com)
7. LP BOA Main and Loop
8. Chevron abandoned pipeline

Jefferson Parish Rock Plan – MVN-2010-1271-EOO  
Pipeline Monitoring and Remedial Action Plan  
Shaw Project No. 139372  
Submitted July 2, 2010

9. Tennessee Gas 24" 500-1 gas pipeline
10. Entergy Louisiana, LLC

Specific details including size, fluid and contact persons are being compiled and will be submitted as soon as available.

### Pre-construction activities

#### Locate and Identify Pipelines

BP's survey contractor, T Baker Smith (TBS), has surveyed this area extensively in the past and is working diligently to probe and locate pipelines in the project area. The attached maps show the locations of known pipelines in the area. Pipelines in 4 Bayou Pass and Pass Abel have been located and verified.

As of June 2, 2010, TBS has provided the following status report:

*TBS has been in the field performing one call, hydro, hazard, and pipeline depth of cover surveying at all five of these passes for the past 4 weeks at the request of BP to aid Shaw in the ongoing oil containment activities and attempt to insure that most parties are aware of known hazards.*

*To date, the data we have collected at Pass Abel and Four Bayou Pass has been processed and forwarded to Ben. Eric is presently processing yesterdays Four Bayou Pass data and will forwarding to him shortly. This includes hydro, hazard and conventional pipeline probing / depth of cover work.*

*In summary -*

- 1 - Pass Abel - pipeline / hazard / hydro survey completed*
- 2 - Four Bayou Pass -*
  - a. initial hydro / hazard survey - completed*
    - \* we have expanded the limits of the survey area for this survey to include the rear bay area wrapping around to the rear section of Pass Abel*
  - b. conventional pipe probing / depth of cover survey - 95% complete - one line left - 2-3 crew working days required*
- 3 - Pass Ronquille -*
  - a. initial hydro / hazard survey has been completed*
    - \* we have expanded the limits of the survey area to go south into the gulf and north as water depths allow - 3 crew working days required*
  - b. conventional pipe probing / depth of cover survey - at least 6 lines have been identified - estimated 14 crew working days*
- 4- Barataria Pass*
  - a. initial hydro / hazard survey - completed - should be expanded to meet requirements of the letter - 2 crew working days required*

Jefferson Parish Rock Plan – MVN-2010-1271-EOO  
Pipeline Monitoring and Remedial Action Plan

Shaw Project No. 139372

Submitted July 2, 2010

*b. conventional pipe probing / depth of cover survey - not feasible due to water depths and current*

*5- Caminada Pass*

*a. We have performed a limited hydro / hazard survey in the pass for the boom area (north western section). This will need to be expanded. 4 crew working days required*

*b. conventional pipe probing / depth of cover survey - we have a data base of pipelines in this area with record depth of cover where feasible. As discussed above there is limited work that can be done at this area due to depths and currents.*

**Identify potential scour locations**

**Preliminary identification**

In support of this permit, CHE modeled numerous alternatives in order to identify the most effective and least damaging alternatives. As part of this analysis, CHE created maps illustrating the difference in kinetic energy between existing and with-project conditions. Areas of increased kinetic energy (positive values) indicate increased scour risk. Areas of decreased kinetic energy (negative values) indicate probable areas of deposition. It should be noted that these energy values are computed for currents only, and do not include wave energy. Engineering judgment is used to qualitatively predict where wave energy will be expected to increase or decrease.

It should be noted that Analysis of scour has been done for maximum velocities during spring time. In reality this velocity exists less than 1 hour per two weeks per months. However, the analysis assumes that these (maximum) velocities are constant with unlimited time until maximum scour occurs. It is a conservative approach for a temporary structure with a project life 1-2 years and probably re-presents a worst case scenario from possible range of hydrologic conditions that may occur during 1-2 coming years.

The attached maps show known existing pipeline exposures and areas with a higher risk of scour.

**Bottom velocity vs. scour threshold modeling**

The "Energy Difference" maps provide a quick method of identifying areas higher scour risk. In order to precisely locate expected scour, CHE is undertaking modeling to determine maximum bottom velocities along each pipeline in each pass. The modeling will not be completed in time for this submittal, therefore only the methodology is presented below. Bottom velocity model results at the pipelines will be provided to the NOD as soon as complete.

Potential of pipeline failure is preliminary assumed to occur where kinetic energy in the water column for post project conditions exceed kinetic energy for existing conditions.

## Jefferson Parish Rock Plan – MVN-2010-1271-EOO Pipeline Monitoring and Remedial Action Plan

Shaw Project No. 139372

Submitted July 2, 2010

These potential failure locations of pipelines due construction of rock dikes was determined based on results of numerical modeling for existing and post-project conditions. Maximum bottom velocities that occurred during the modeling time period along the pipelines in all passes will be extracted and compared to the threshold velocities of the bottom sediments.

For all cases where failure potential exists, post-project bottom velocities will be compared to the threshold velocity of surface sediment movement at the bottom in appropriate passes. Threshold velocities will be computed using recommendations from Coastal Engineering Manual (USACE, 2002).

Information on bottom sediment in Caminada Pass and Barataria Pass is available from previous Louisiana DNR studies for Grand Isle. Information on bottom sediment for Pass Abel is available from LDNR West and East Grand Terre projects. Bottom sediment characteristics in Four Bayou Pass and Pass Ronquille are assumed similar to that in Pass Abel. All sediment is assumed to be fine sandy material.

Types and sizes of material that is resistant to bottom scour from maximum velocities will be determined for each of the cases of true pipeline failure, using recommendations from USACE. This material will be placed to cap the pipelines where analysis indicates true potential scour if scour indeed occurs.

### Scour prevention at areas of higher scour risk

Due to the presence of numerous pipelines, vessel ingress and egress to the project areas are strictly limited to access routes staked by TBS and approved by the pipeline representatives. These routes will be periodically reviewed to ensure that pipeline scour prevention goals are being met. At this time, based on the location of exposed pipelines and areas of higher scour risk, no impacts due to vessel traffic are anticipated.

Only one area of higher scour risk has been identified at 4 Bayou Pass, none at Pass Abel. The Crosstex, Gulf South, Columbia Gulf and LIG pipelines cross the area of higher risk. Currently, none of these pipelines are known to be exposed at the areas of higher scour risk. The surveyed water depths at these pipelines are as deep as 25 feet. Shaw will initiate coordination immediately with the pipeline representatives to develop and implement scour protection measures.

No pipelines are known to be exposed at Barataria pass. There is an unverified Entergy line that crosses Barataria Pass including the area of higher scour risk. Shaw is coordinating with Entergy to determine the exact location of this line and depth of cover.

No pipelines are known to be exposed at Caminada pass. No known pipelines pass through areas that would be considered areas of higher risk.

No pipelines are known to be exposed at Pass Ronquille. The 12" Plains line and the LP BOA Main & Loop lines cross an area of higher scour potential. Shaw will initiate coordination immediately with the pipeline representatives to develop and implement scour protection measures.

**Jefferson Parish Rock Plan – MVN-2010-1271-EOO**  
**Pipeline Monitoring and Remedial Action Plan**

Shaw Project No. 139372

Submitted July 2, 2010

**Identify scour during and post-construction**

Shaw is working with the NOD to develop a monitoring plan capable of identifying changing morphology at the passes. As part of this monitoring plan, Shaw is proposing to take bathymetric surveys of the passes on a monthly basis. Shaw will also work with BP's survey contractors to take soundings at the areas of higher scour risk once per week during and after construction. If the soundings indicate that problematic scour is occurring, Shaw will perform detailed bathymetric surveys and initiate remedial actions. In addition, current velocity will be measured during peak flow periods to compare to model results. If velocities deviate significantly from model results, additional investigation will be undertaken to determine the cause and if remedial actions are warranted.

Monitoring results will be compiled and submitted with the monthly monitoring report. If monitoring observations indicate a need for concern, Shaw will communicate the results immediately to the NOD along with a plan of action.

**Remedial actions**

Should problematic scour be observed, Shaw will begin implementing remedial activities immediately. Such activities may include:

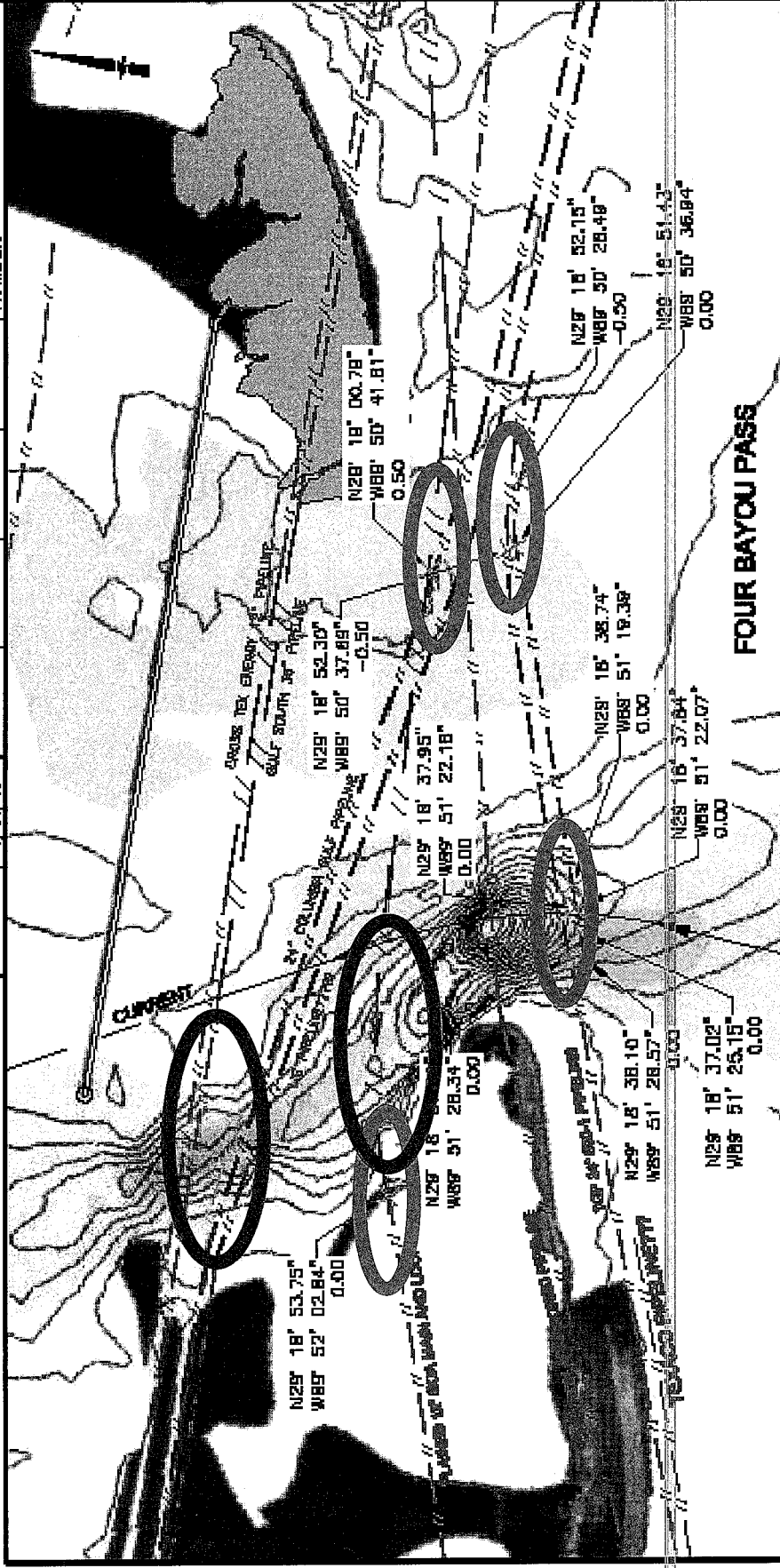
1. Degrading the rock dike to allow a return to pre-project tidal hydraulics.
2. Coordinating with the pipeline contractors to place stone on the scouring area.

Once scour has been addressed, Shaw will coordinate with the NOD to determine whether it is feasible to continue with the rock dikes.

Shaw will continue to work closely with the pipeline operators to ensure safe operations. In the event that a pipeline ruptures, Shaw will immediately contact the designated pipeline representative to have the pipeline shut down; and notify Unified Command.

# 4 Bayou Pass

DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
WJC	7/31/10	WJC	1



Energy (ft<sup>2</sup>/s<sup>2</sup>)

600
375
250
125
0
-250
-375
-500

N29° 18' 37.02"  
W89° 51' 25.15" = LOCATION  
0.00 = PIPELINE COVER

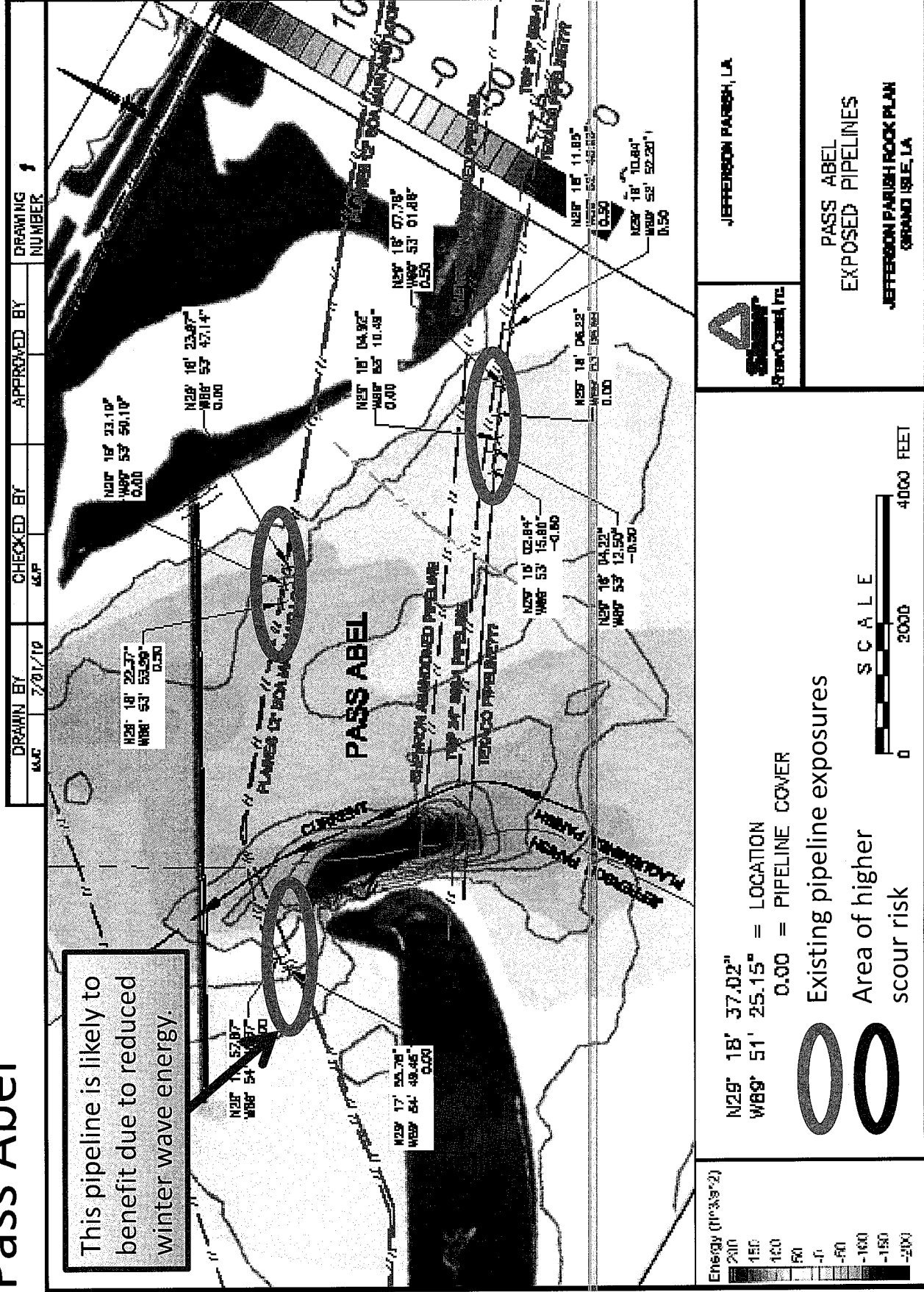
Existing pipeline exposures  
Area of higher scour risk

SCALE  
0 1800 3600 FEET

JEFFERSON PARISH, LA

QUATRE BAYOU PASS  
EXPOSED PIPELINES  
JEFFERSON PARISH ROCK PLAN  
GROUND ISSUE, LA

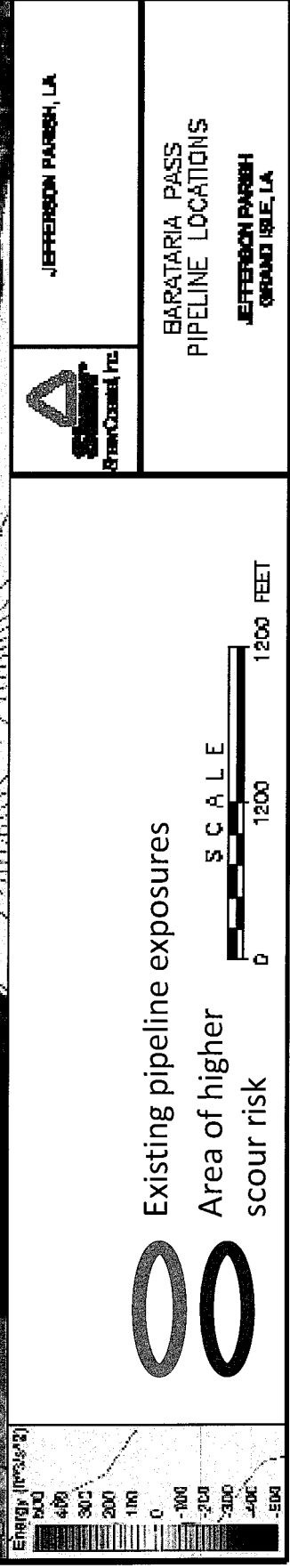
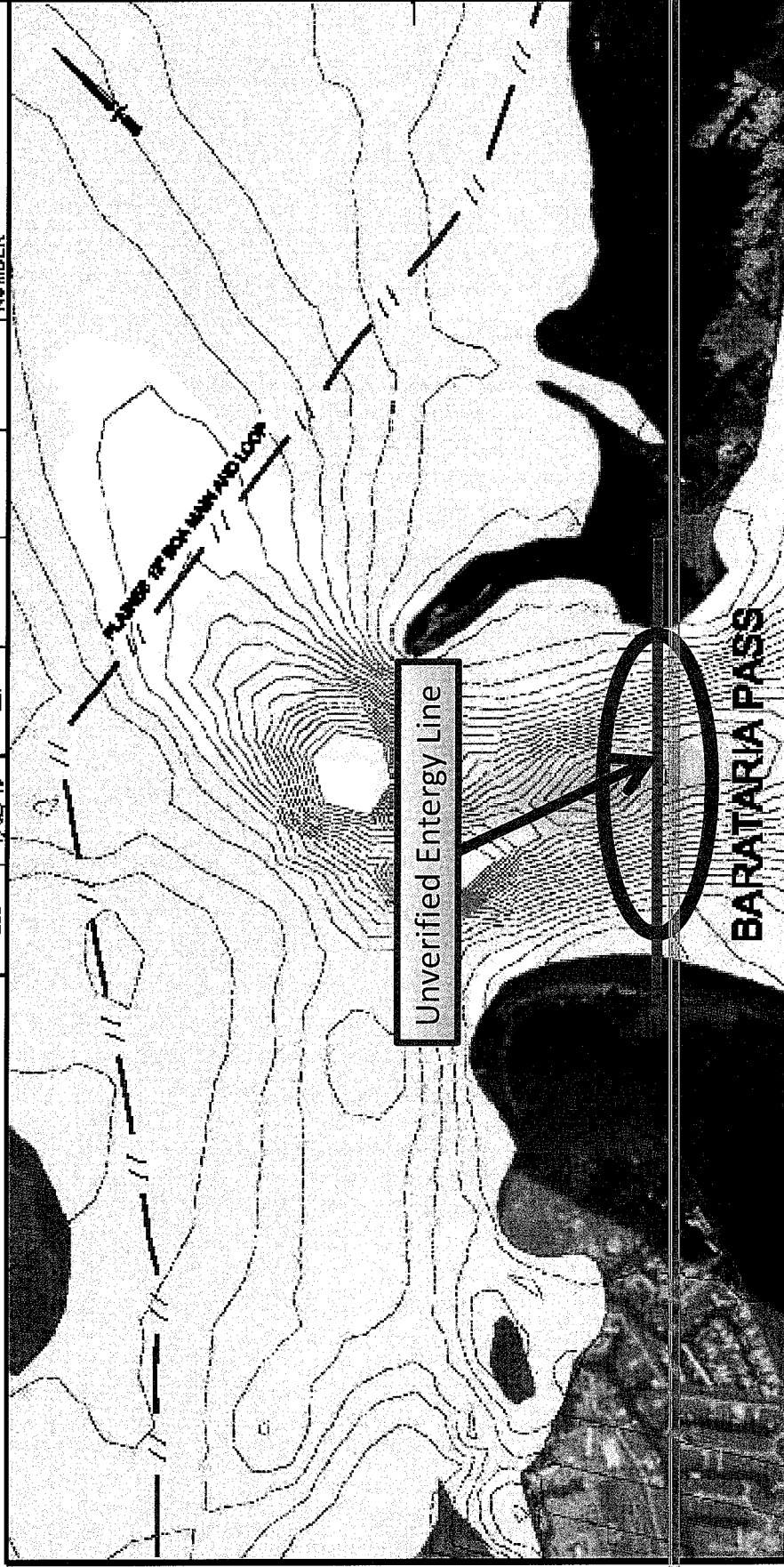
# Pass Abel





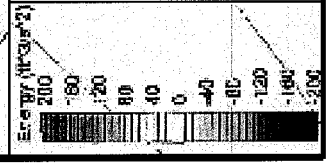
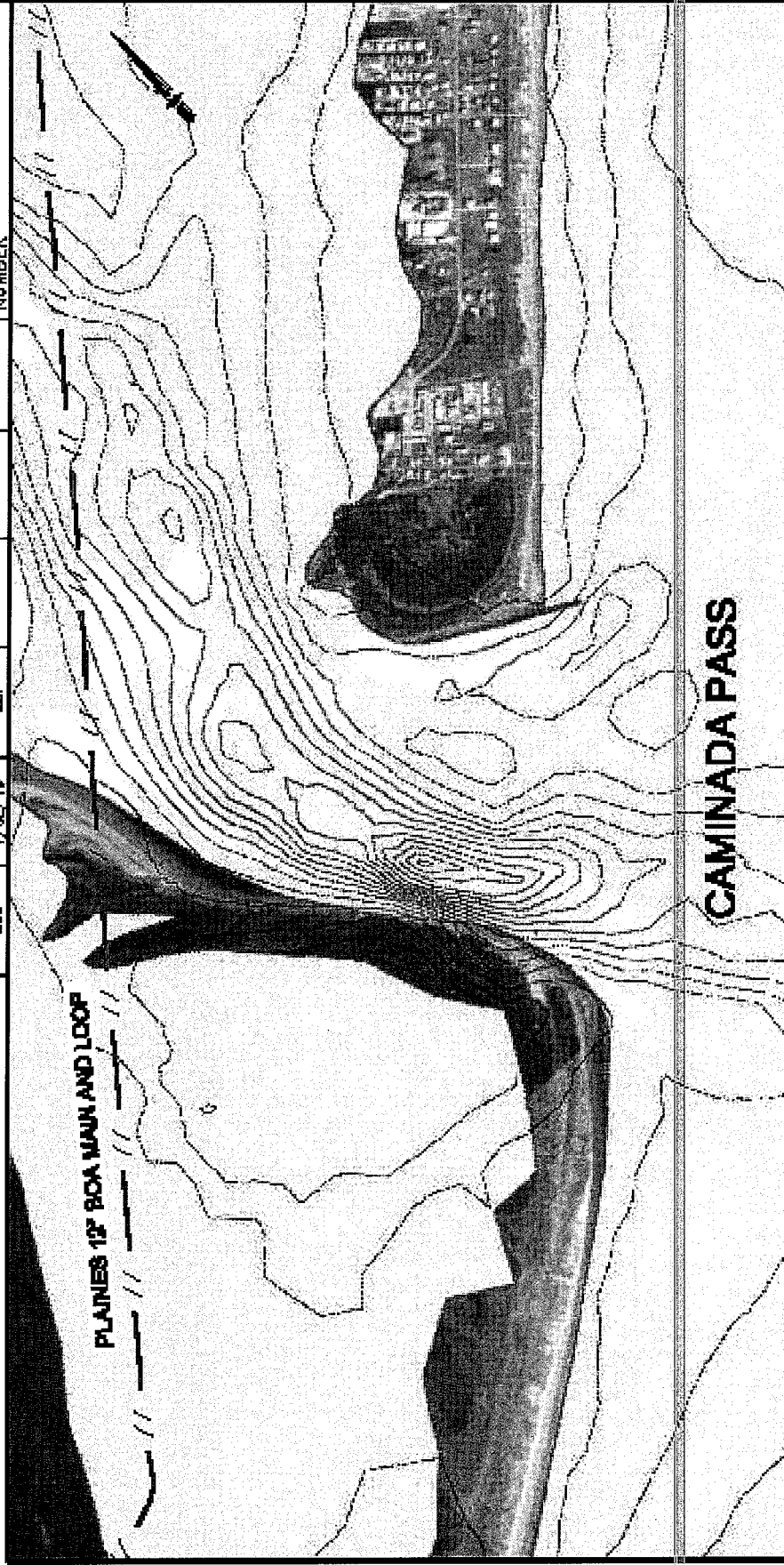
# Barataria Pass

DRAWN BY GAC	CHECKED BY GAC	APPROVED BY GAC	DRAWING NUMBER 1
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# Caminada Pass

DRAWN BY WJC	CHECKED BY LSP	APPROVED BY	DRAWING NUMBER 1
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Existing pipeline exposures  
Area of higher  
scour risk



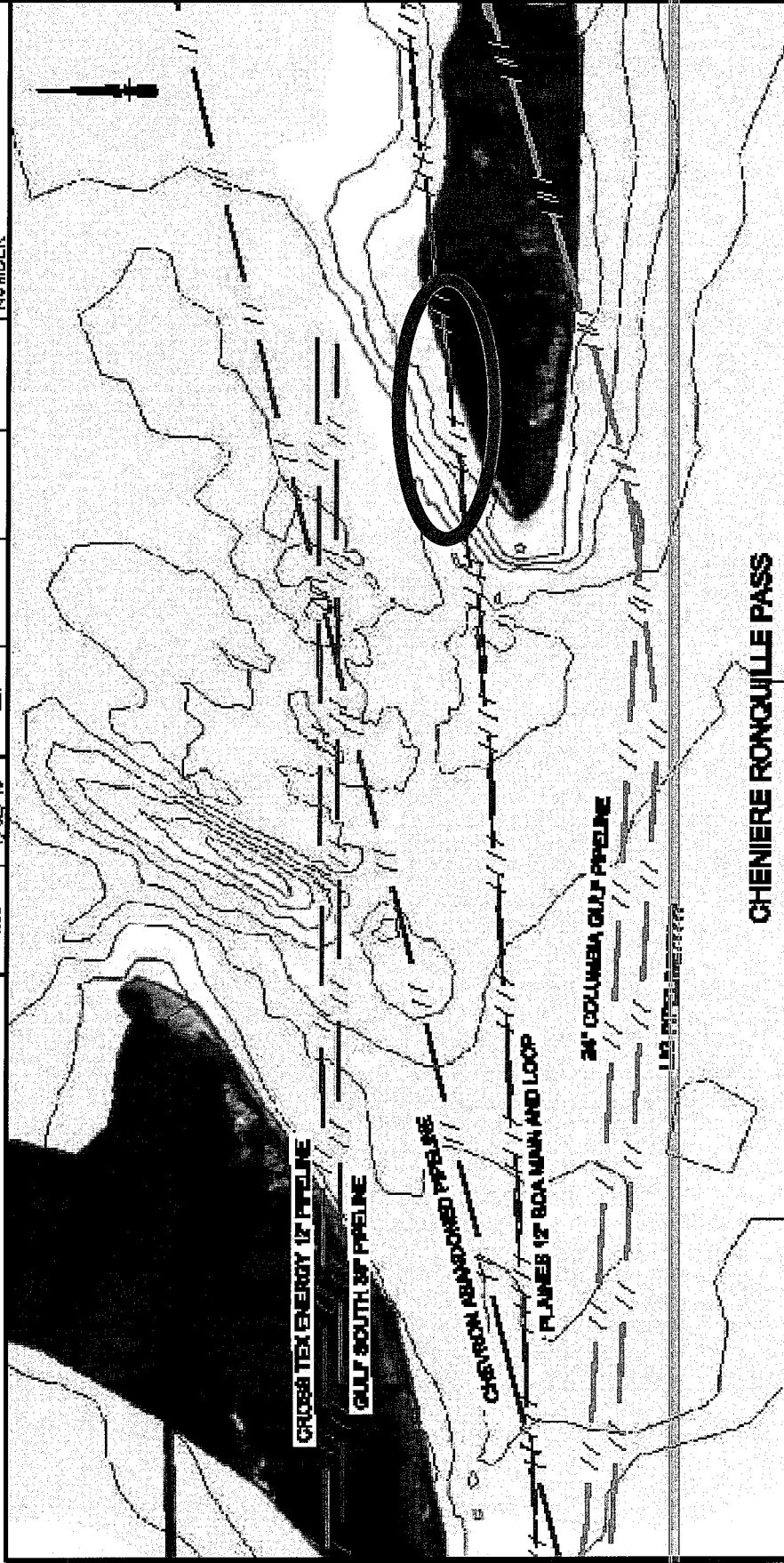
JEFFERSON PARISH, LA

CAMINADA PASS  
PIPELINE LOCATIONS

JEFFERSON PARISH  
GRAND ISLE, LA

# Pass Ronquille

DRAWN BY GAC	CHECKED BY GAC	APPROVED BY	DRAWING NUMBER 1
-----------------	-------------------	-------------	------------------------



JEFFERSON PARISH, LA

CHENIERE RONQUILLE PASS  
PIPELINE LOCATIONS

JEFFERSON PARISH  
GRAND ISLE, LA

Existing pipeline exposures

Area of higher scour risk

SCALE

0 1200 1200 FEET

Energy (ft<sup>3</sup>/hr<sup>2</sup>)

200 180 160 140 120 100 80 60 40 20 0 -20 -40 -60 -80 -100 -120 -140 -160 -180 -200

## Laborde, Brad MVN

---

**From:** Ortego, Tyler R [tyler.ortego@shawgrp.com]  
**Sent:** Monday, June 28, 2010 6:01 AM  
**To:** Serio, Pete J MVN; Laborde, Brad MVN  
**Cc:** DBonano; MWinter; Malbrough, Oneil; Duffourc, Vickie; Malbrough, Benjamin; Thibodeaux, Hilary  
**Subject:** Jefferson Parish Rock Plan - Emergency Authorization informational submittal  
**Attachments:** Comments Matrix\_final\_2010-06-28.pdf; Condensed comments and response final submittal 2010-06-28.pdf; Jefferson Rock Plan tie in details.pdf

DATE: June 28, 2010

TO: Mr. Pete Serio, Chief Regulatory ,Branch  
U. S. Army Corps of Engineers, New Orleans District

FROM: Tyler Ortego, P.E., Shaw Coastal, Inc. on behalf of  
Jefferson Parish Department of Environmental Affairs

SUBJECT: Emergency Authorization for Proposed  
Rock Dike Closures at Pass Abel and Four Bayou Pass  
Jefferson and Plaquemines Parish, LA

On June 23, 2010, Jefferson Parish and its consultants presented the numerical modeling results supporting its selection of the Pass Abel and Four Bayou Pass alternatives. Shortly after, on June 24, 2010, revised drawings reflecting the selected alternatives were submitted. On Friday June 25, 2010, agency comments developed in response to the modeling presentation were forwarded by your office to Jefferson Parish. Telephone conversations with yourself and the permit analyst indicated that additional information would be needed to proceed with the emergency authorization.

In response, we have developed this submittal to address all requested information. Attached are 1) drawings of tie in details for Pass Abel and Four Bayou Pass; 2) an overall response to agency concerns; and 3) a spreadsheet addressing comments individually. As discussed in our overall response to comments, we believe that our modeling efforts to date are sufficient to predict expected changes in hydrology. We will work with you to immediately implement a monitoring plan design to detect and correct adverse impacts. Between this submittal and the modeling presentation given last week, we believe that you have all necessary information to issue the emergency authorization.

Reports from the field, supported by NOAA's 24 hour projection map, indicate that a large quantity of oil is moving onshore as we speak. Our contractors were ready to begin placing rock this weekend. They are ready to begin immediately upon receipt of the emergency authorization. While it is impossible to have our structures in place for this mass of oil, we have no choice but to expect more and more oil in the near future. Therefore, we ask that your office grant emergency authorization immediately so that we can begin work. Requests for minor details or additional analyses can be handled after issuance.

Thank you,

Tyler Ortego, MS, PE

Engineer 3

Shaw Coastal, Inc.

Shaw Environmental and Infrastructure Group

197 Elysian Drive

Houma, LA 70363

[tyler.ortego@shawgrp.com](mailto:tyler.ortego@shawgrp.com)

Direct: [REDACTED]

Main: [REDACTED]

Fax: [REDACTED]

Mobile: [REDACTED]

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The Shaw Group Inc. <http://www.shawgrp.com>

## Laborde, Brad MVN

---

**From:** Ortego, Tyler R [tyler.ortego@shawgrp.com]  
**Sent:** Thursday, June 24, 2010 6:42 AM  
**To:** Serio, Pete J MVN; Karl Morgan  
**Cc:** Laborde, Brad MVN; MWinter; DBonano; Malbrough, Oneil; Duffourc, Vickie; Malbrough, Benjamin  
**Subject:** Jefferson Parish Rock plan request for emergency authorization - Pass Abel and Quatro Bayou Pass  
**Attachments:** Four Bayou Rock Permit-P&P - (3).pdf; Four Bayou Rock Permit-P&P - (4).pdf; Four Bayou Rock Permit-Plan.pdf; Typ. rock cross section - permit.pdf; 12 Typ rock cross section.pdf; Pass Abel Rock Alignment\_Alt 3\_Permit-P&P - (1).pdf; Pass Abel Rock Alignment\_Alt 3\_Permit-P&P - (2).pdf; Pass Abel Rock Alignment\_Alt 3\_Permit-P&P - (3).pdf; Pass Abel Rock Alignment\_Alt 3\_Permit-P&P - (4).pdf; Pass Abel Rock Alignment\_Alt 3\_Permit-Rock Alignment.pdf; Four Bayou Rock Permit-P&P - (1).pdf; Four Bayou Rock Permit-P&P - (2).pdf

**DATE:** June 24, 2010

**TO:** Mr. Pete Serio, Chief Regulatory ,Branch  
U. S. Army Corps of Engineers, New Orleans District  
  
Mr. Karl Morgan, Acting Administrator  
LA Department of Natural Resources, Coastal Management Division

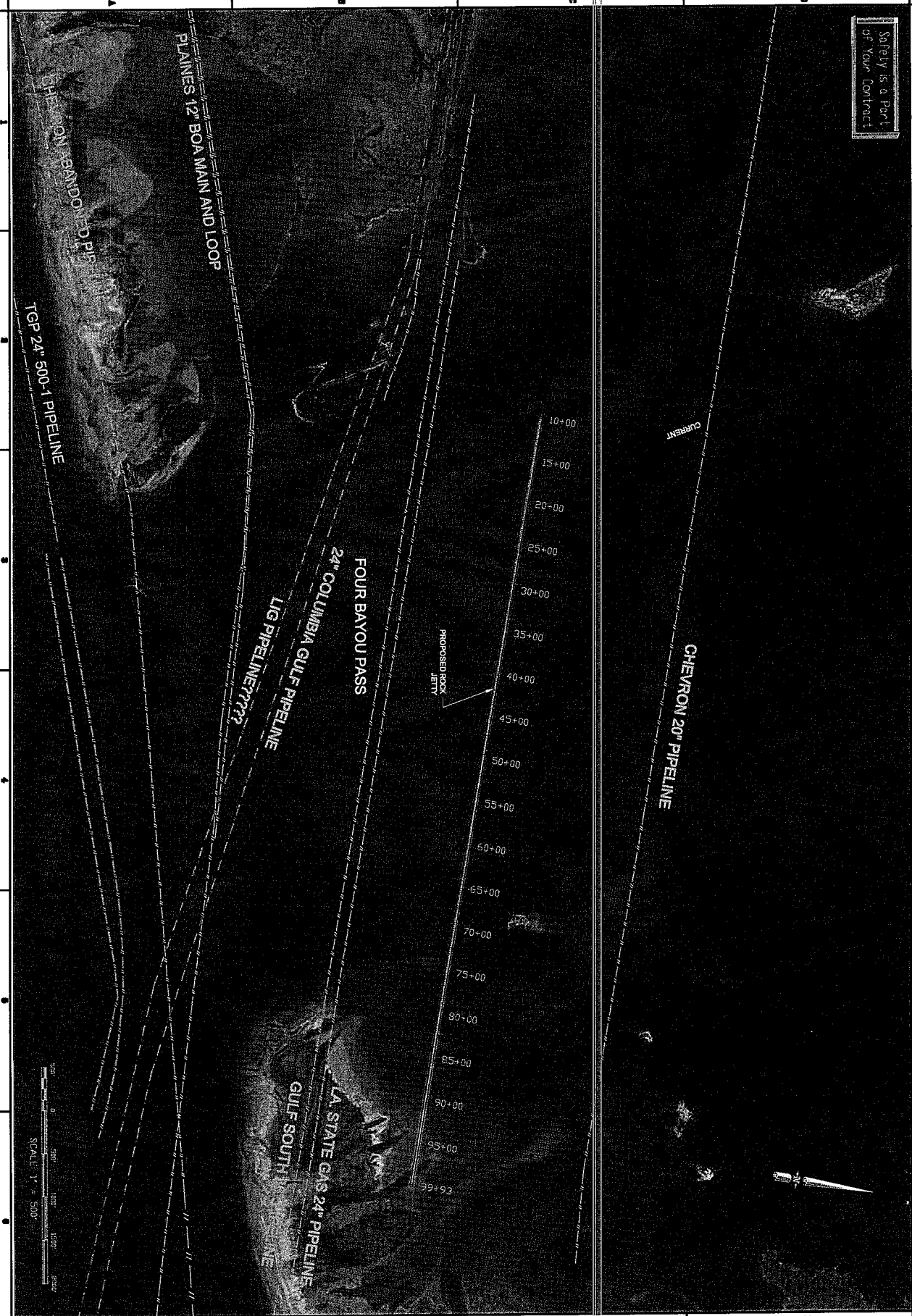
**FROM:** Tyler Ortego, P.E., Shaw Coastal, Inc. on behalf of  
Jefferson Parish Department of Environmental Affairs

**SUBJECT:** Emergency Authorization for Proposed  
Rock Dike Closures at Pass Abel and Four Bayou Pass  
Jefferson and Plaquemines Parish, LA

By letter dated June 7, 2010, Jefferson Parish requested emergency authorization to install rock jetties in five passes along the Jefferson Parish/Plaquemines Parish barrier islands to reduce inland movement of oil from the BP Deepwater Horizon Oil Spill disaster. As stated in that letter, BP and the U.S. Coast Guard have approved the rock jetties at Pass Abel and Four Bayou Pass. Therefore, on behalf of Jefferson Parish, we are requesting a permit to move forward with construction at the two passes that have been approved for funding.

As you are aware, extensive modeling has been conducted to determine an alignment that would reduce negative impacts from construction of the rock dikes and meet the project purpose of reducing inland movement of oil. A preferred alternative for Pass Abel and Four Bayou Pass has been selected and revised permit drawings for these two passes are attached.

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SHEET NUMBER  
1

JEFFERSON PARISH  
GRAND ISLE PASSAGE  
FOUR BAYOU PASS  
ROCK JETTY PLAN

OFFICE LOCATIONS:  
197 ELYSIAN DRIVE  
HOUMA, LA 70363  
PHONE: 855.868.3434  
NEW ORLEANS, LA 70139  
PHONE: 504.595.2534  
4171 ESSEN LANE  
BATON ROUGE, LA 70806  
PHONE: 225.632.2758  
FILE: W:\JMS\UNITS GRAND ISLE PASSAGE\Four Bayou Pass - ACI\Four Bayou Pass Rock Jetty.dwg  
DESIGNED BY: X  
CHECKED BY: X  
DRAWN BY: MJC  
PLOT DATE: 8/23/10  
PLOT SCALE: X  
JOB NO.: X  
DATE: X

  
**Shaw** Shaw Coastal, Inc.

MARK	DESCRIPTION	DATE	APPROVED

6-28-2010

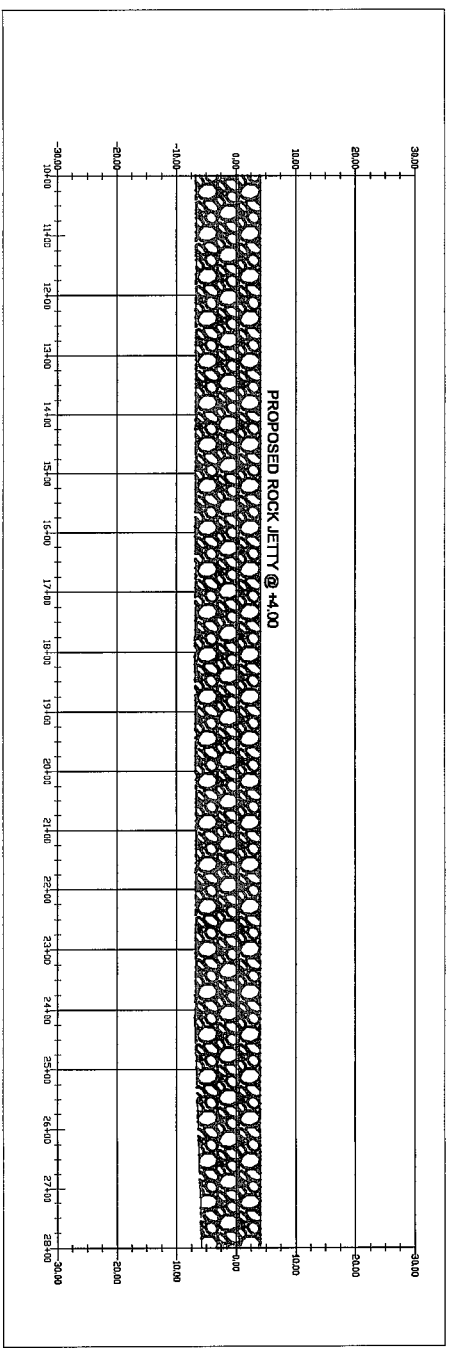
①

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PROPOSED ROCK JETTY

CURRENT

QUATRE BAYOU PASS PLAN & PROFILES



SHEET NUMBER  
X

X  
X  
X  
X  
X  
X

OFFICE LOCATIONS:  
197 ELYSIAN DRIVE 701 PONDAS STREET 4171 ESSEN LANE  
HOUMA, LA. 70363 NEW ORLEANS, LA. 70139 BATON ROUGE, LA. 70809  
PHONE: 855.858.3434 PHONE: 504.595.2534 PHONE: 225.932.2758  
FILE: W:\SHAW\130722 GRAND ISLE PARKS\Shaw\130722 Grand Isle Parks\Rock Jetty\Rock Jetty.dwg  
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DRAWN BY: X CHECKED BY: X PLOT SCALE: X DATE: X

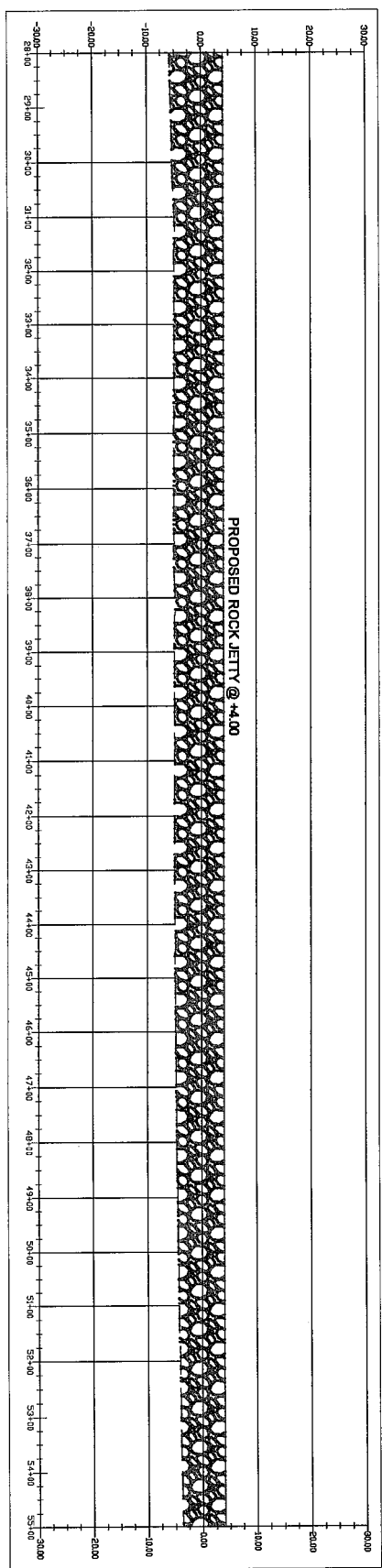
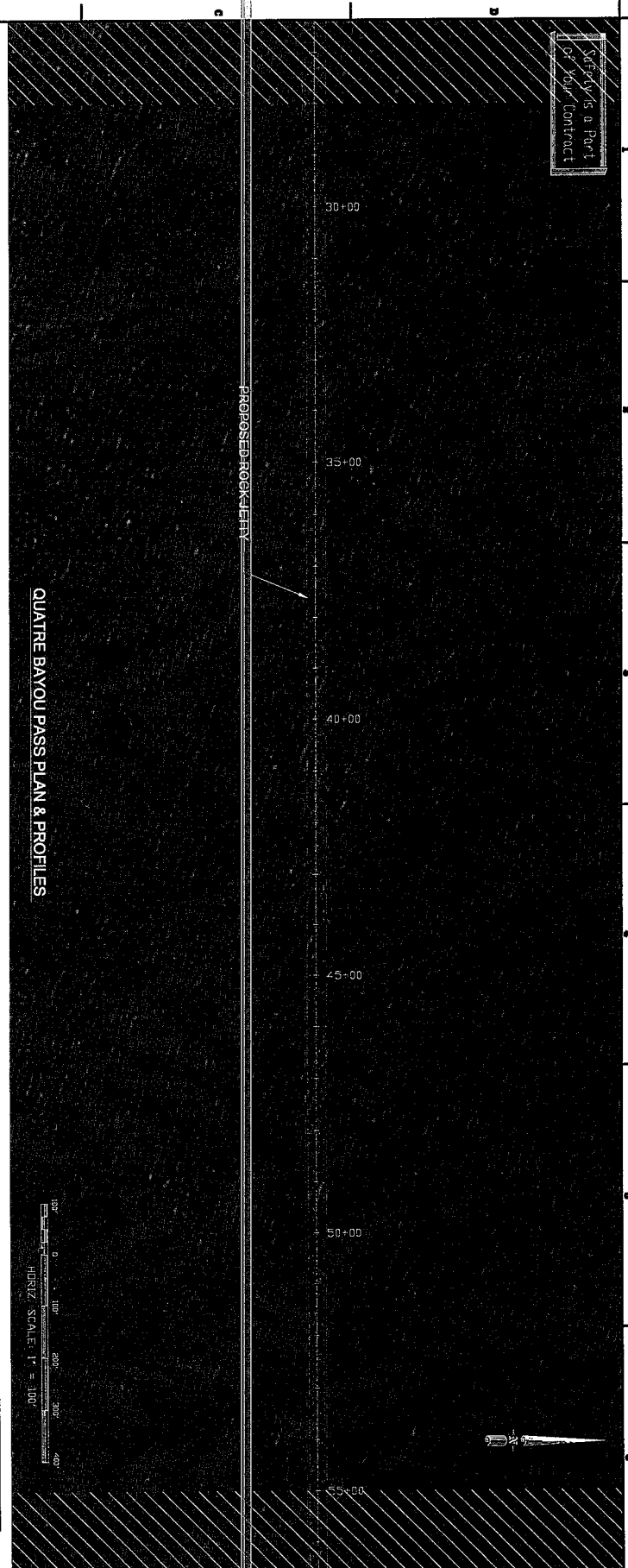


MARK	DESCRIPTION	DATE	APPV

6-28-2010 (2)



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HORIZ. SCALE: 1" = 100'

VERT. SCALE: 1" = 10'

SHEET NUMBER  
X

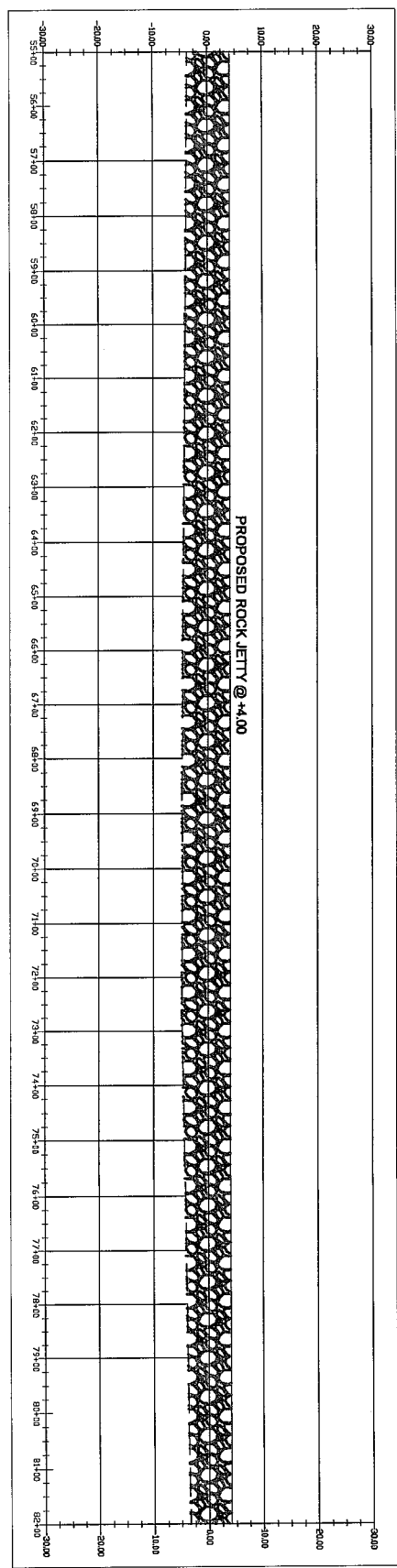
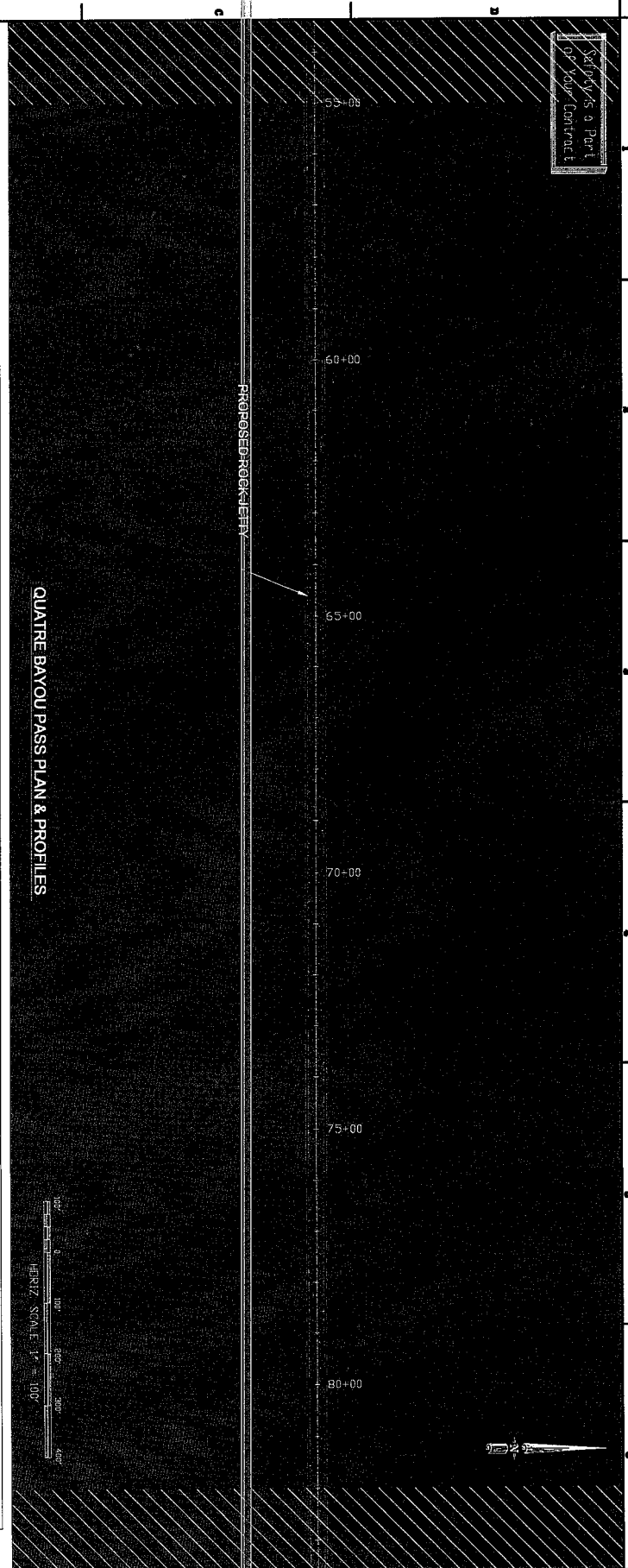
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197 ELYSIAN DRIVE 701 PONTIAC STREET 4171 ESSEN LANE  
HOUMA, LA 70363 NEW ORLEANS, LA 70139 BATON ROUGE, LA 70809  
PHONE: 853.868.3434 PHONE: 504.593.2534 PHONE: 225.332.2768  
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DESIGNED BY: X CHECKED BY: X PLOT DATE: 8/23/10 JOB NO.: X  
DRAWN BY: X CHECKED BY: X PLOT SCALE: X DATE: X

**Shaw** Shaw Coastal, Inc.

DATE	DESCRIPTION	DATE APPR

60-28-10 (3)

Sheet 5 of Part  
of Volume Contract 1



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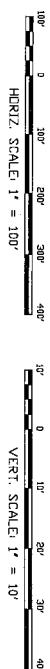
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HOUMA, LA 70365 NEW ORLEANS, LA 70139 BATON ROUGE, LA 70809  
PHONE: 853.668.3434 PHONE: 504.595.2534 PHONE: 225.532.2758  
FILE: W:\SAC\130722 GRABO ELEC PASSES\Draw\Four Bayou Pass - 400' Four Bayou Rock Perimeter.dwg  
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DRAWN BY: X CHECKED BY: X PLOT SCALE: X DATE: X

**Shaw** Shaw Coastal, Inc.

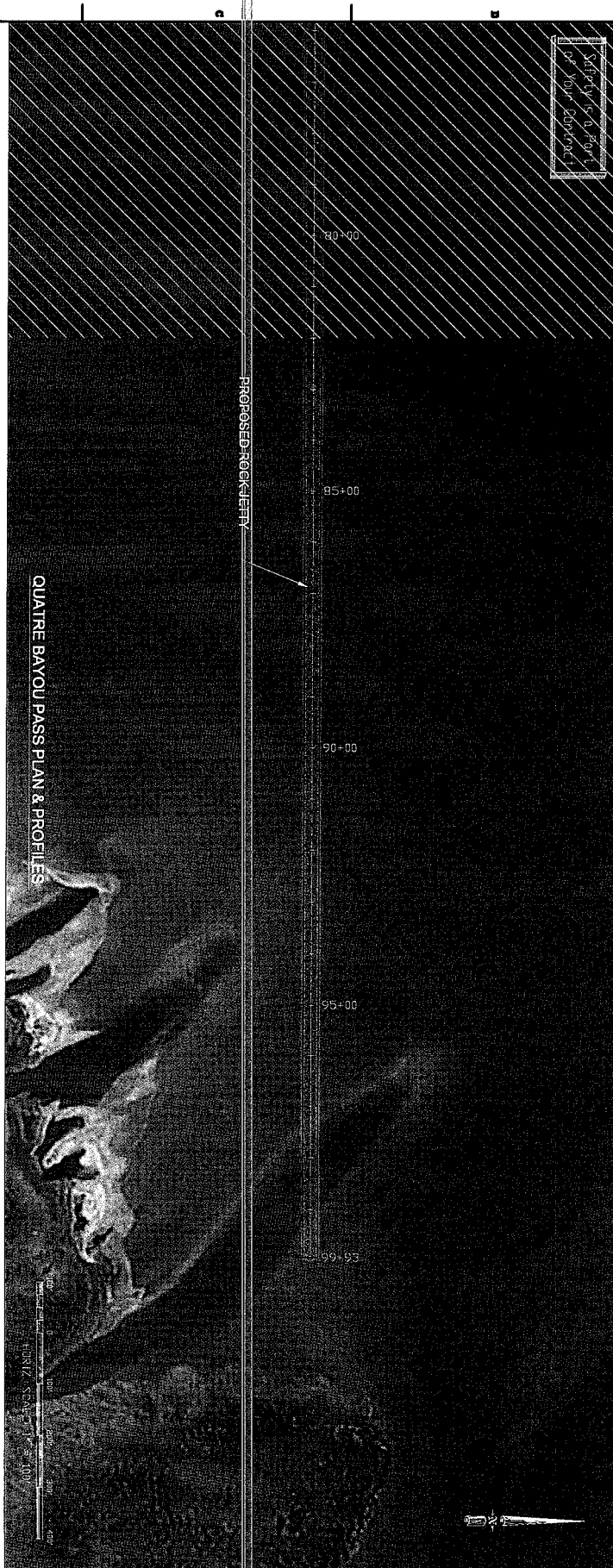
MARK	DESCRIPTION	DATE (MM/YY)

6-28-2010

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## QUATRE BAYOU PASS PLAN & PROFILES



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SHEET NUMBER

X  
X  
X  
X  
X  
X  
X

OFFICE LOCATIONS:			
197 ELYSIAN DRIVE HOUMA, LA 70363 PHONE: 985.668.3434	701 POYDRAS STREET NEW ORLEANS, LA 70139 PHONE: 504.595.2534	4171 ESSEN LANE BATON ROUGE, LA 70809 PHONE: 225.532.2758	
FILE WORK/LIBRARY GRAND JURY PASSKEY/Only Four Signos Pass - ADD/Two Signos Back Permitted			
DESIGNED BY: X	CHECKED BY: X	PLAT DATE: 5/23/10	JOB NO.: X
DRAWN: LHM	INTERVIEWED BY: X	PLANT: HOUMA, LA	DATE: X



**Shaw®** Shaw Coastal, Inc.

[illegible]

6-28-2010

(5)

Shaw Contract  
 11/10/2010

**LEGEND**

PROPOSED ROCK JETTY  
 EXISTING ROCK JETTY  
 EXISTING MARINE DREDGE SAND PIPELINE  
 EXISTING PASS ABEL

SCALE  
 1" = 100' HORIZONTAL  
 1" = 10' VERTICAL

PRELIMINARY  
 NOT FOR  
 CONSTRUCTION

PROPOSED ROCK JETTY  
 1.80 MILES  
 APPROX. 90,000 CU. YDS.

10+00  
 15+00  
 20+00  
 25+00  
 30+00  
 35+00  
 40+00  
 45+00  
 50+00  
 55+00  
 60+00  
 65+00  
 70+00  
 75+00  
 80+00  
 85+00  
 90+00  
 95+00  
 100+00  
 104+98

CURRENT

CURRENT

JEFFERSON PARISH  
 PLAQUEMINES PARISH

PASS ABEL

WEEKS MARINE  
 DREDGE SAND  
 PIPELINE

SHAW CONTRACT  
 11/10/2010

PROPOSED ROCK JETTY  
 EXISTING ROCK JETTY  
 EXISTING MARINE DREDGE SAND PIPELINE  
 EXISTING PASS ABEL

PROPOSED ROCK JETTY  
 EXISTING ROCK JETTY  
 EXISTING MARINE DREDGE SAND PIPELINE  
 EXISTING PASS ABEL

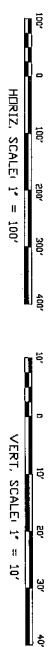
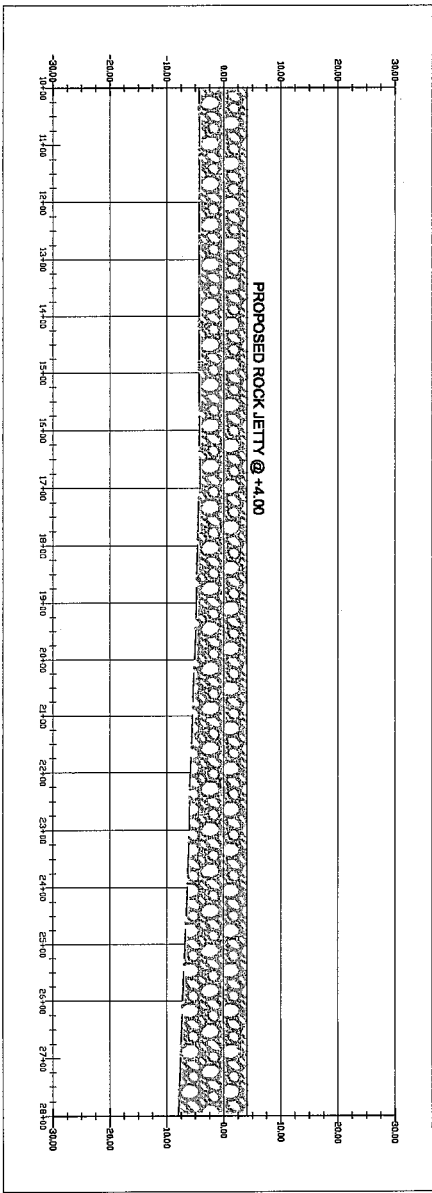
**Shaw** Shaw Contract, Inc.

NO.	DESCRIPTION	DATE
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3	EXISTING MARINE DREDGE SAND PIPELINE	11/10/2010
4	EXISTING PASS ABEL	11/10/2010

60-28-10

10

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PASSABEL PLAN & PROFILES



PROPOSED ROCK JETTY

10+00

15+00

20+00

25+00

30+00

SHEET NUMBER  
X

DESIGN LOCATIONS:  
167 ELYSIAN BLVD. 701 PONDIA STREET  
HOUMA, LA 70363 NEW ORLEANS, LA 70139  
PHONE: 985.868.3434 PHONE: 504.595.7534  
THE WILSON/SHAW GROUP HAS MAINTAINED A COMMITMENT TO EXCELLENCE SINCE 1964.  
DESIGNED BY: X CHECKED BY: X PLT DATE: 6/22/10 200 MBL: X  
DRAWN BY: X CHECKED BY: X PLT SCALE: X DATE: X

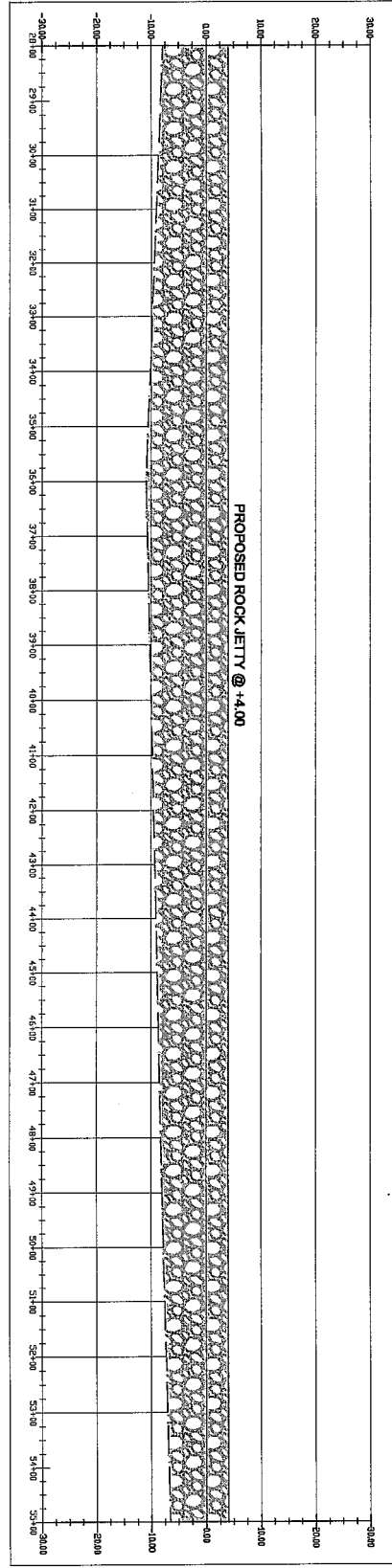
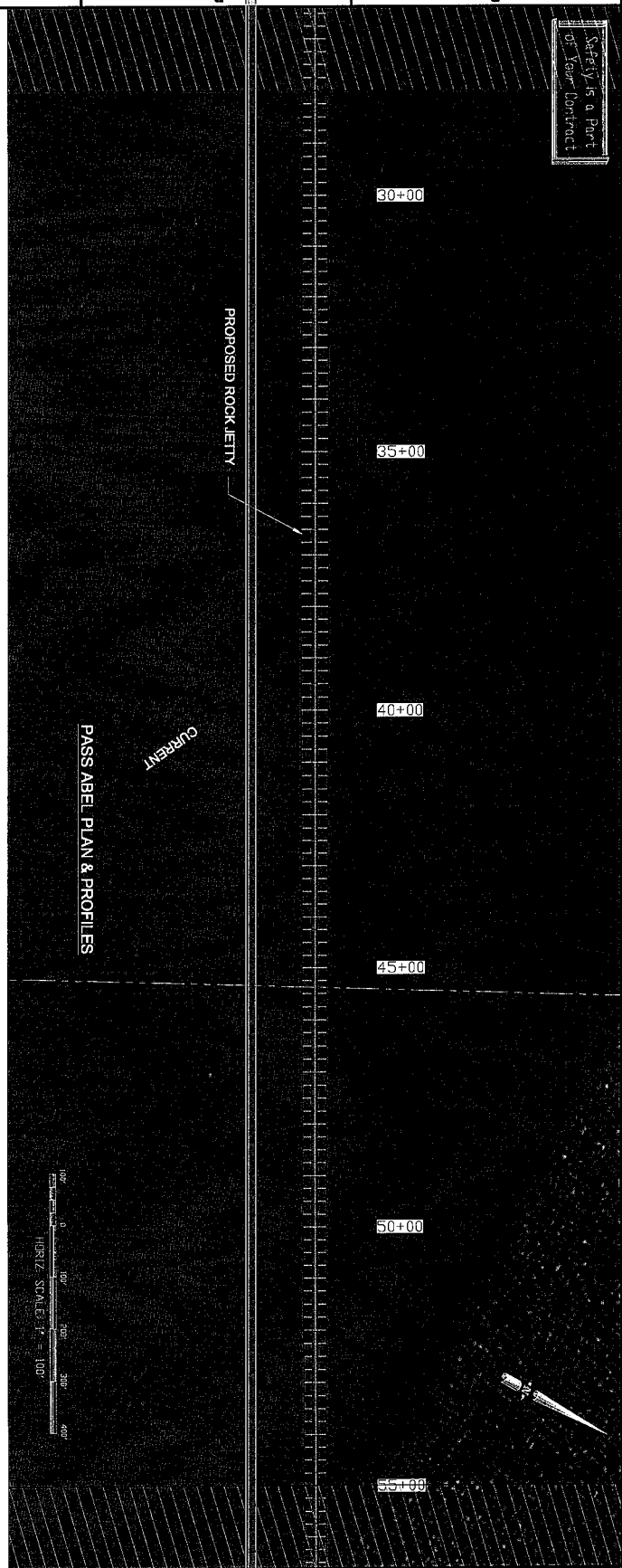
**Shaw** Shaw Coastal, Inc.

MARK	DESCRIPTION	DATE	APP'D

6-28-10

(7)

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SHEET NUMBER  
X

OFFICE LOCATIONS:  
157 ELYSIAN DRIVE HOUMA, LA. 70363  
701 PONDAS STREET NEW ORLEANS, LA. 70139  
4171 ESSEN LANE BATON ROUGE, LA. 70809  
PHONE: 985.088.3434 PHONE: 504.585.6324 PHONE: 225.337.2758  
FAC: 985.088.3434 FAX: 985.088.3434  
DESIGNED BY: X CHECKED BY: X PLT DATE: 6/22/10 APP: X  
DRAWN BY: X CHECKED BY: X PLT SCALE: X DATE: X

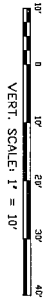
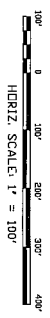
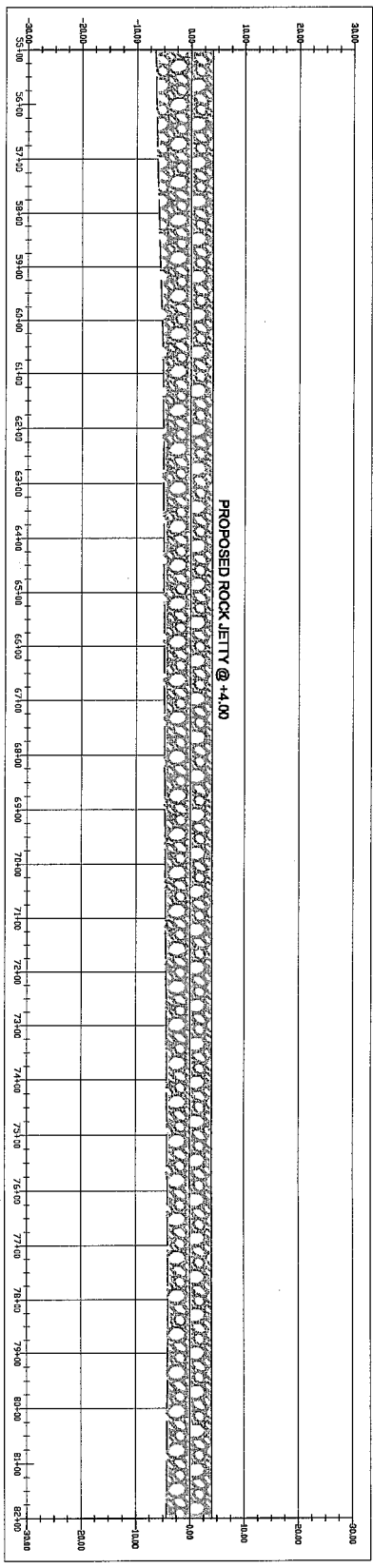
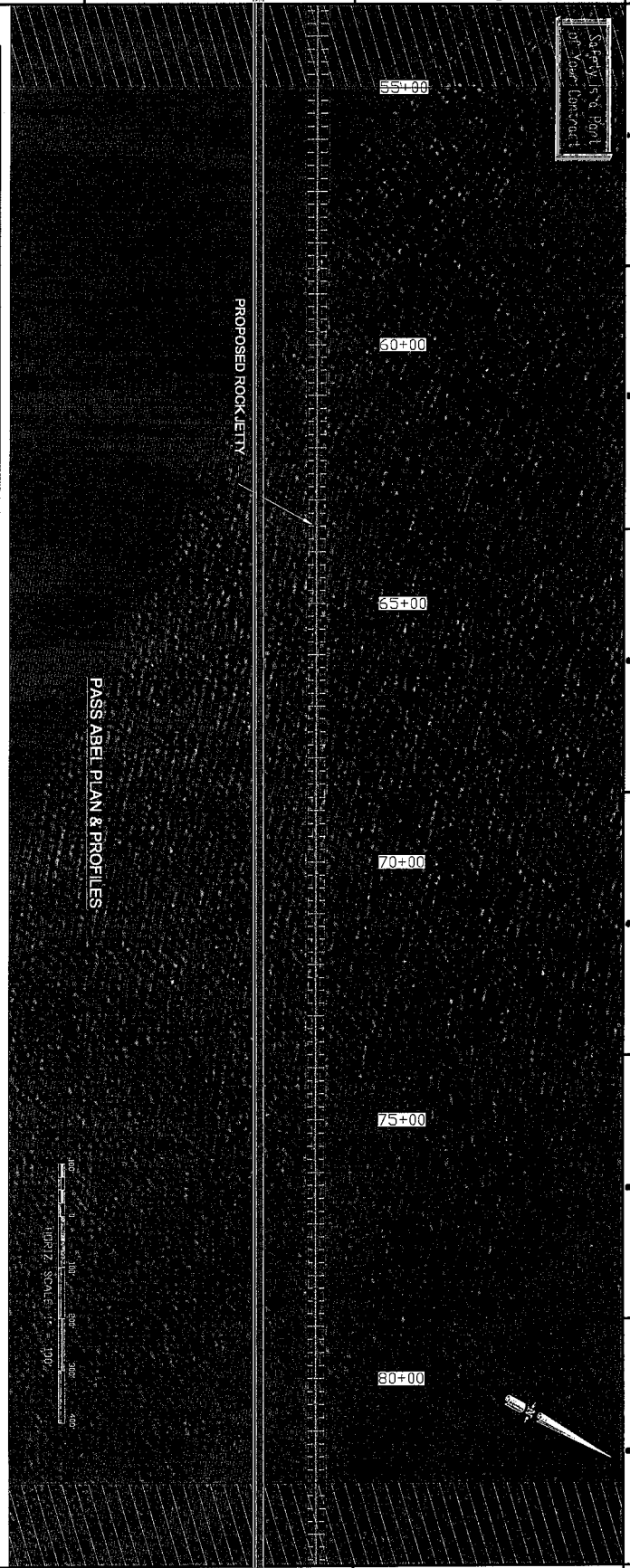
**Shaw** Shaw Coastal, Inc.

DATE	DESCRIPTION	DATE	APPROV.

10-28-2010

8

Shaw's is a part  
of Shaw Contract



SHEET NUMBER  
X

XXXXXX

OFFICE LOCATIONS:  
187 ELYSIAN DRIVE 701 POWERS STREET 4177 ELSER LANE  
HOUMA, LA 70331 NEW ORLEANS, LA 70136 BATON ROUGE, LA 70809  
PHONE: 855.568.1434 PHONE: 504.585.2534 PHONE: 225.937.2758  
FILE: HLCAT\180121\_0000\_GLE\_PASSABEL\Plan Abel - 100' from Red Rock Alignment.dwg  
DESIGNED BY: X CHECKED BY: X PLOT DATE: 6/22/10 JOB NO.: X  
DRAWN BY: X CHECKED BY: X PLOT SCALE: X DATE: X



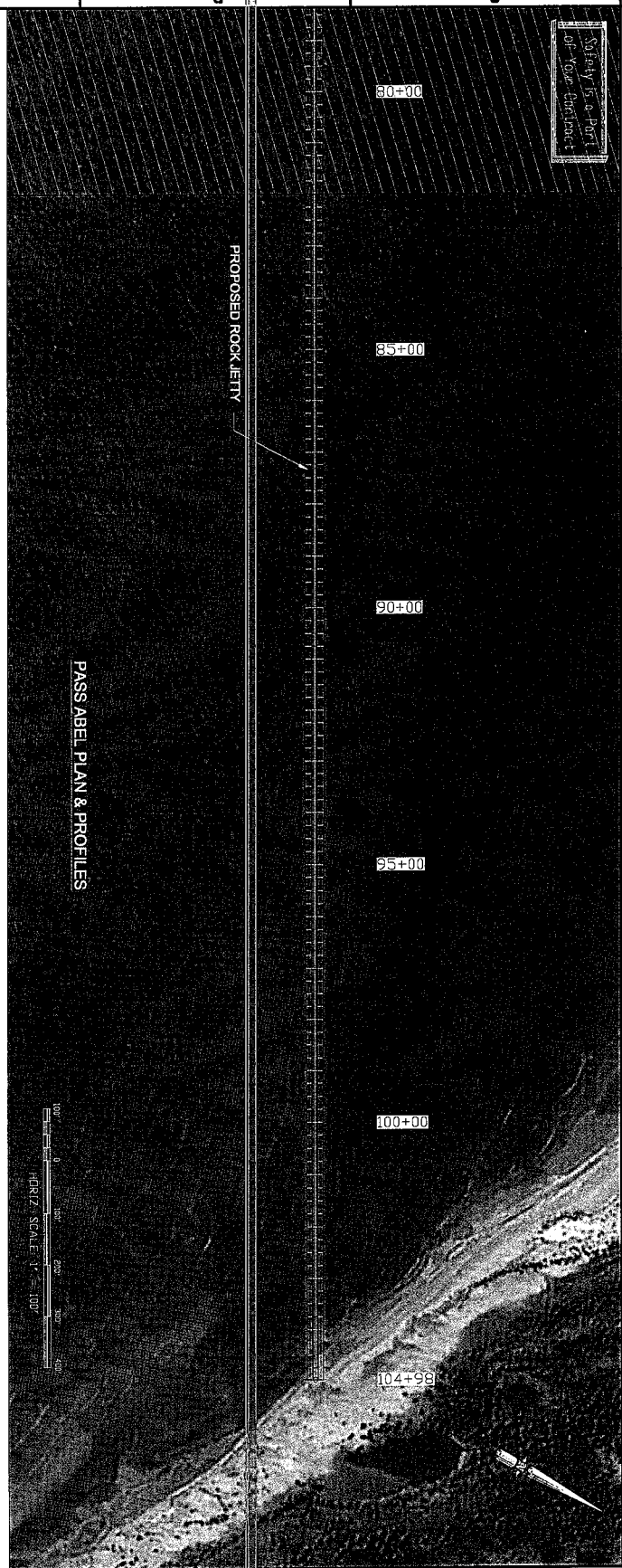
MARK	DESCRIPTION	DATE	APPROVED

6-28-2010

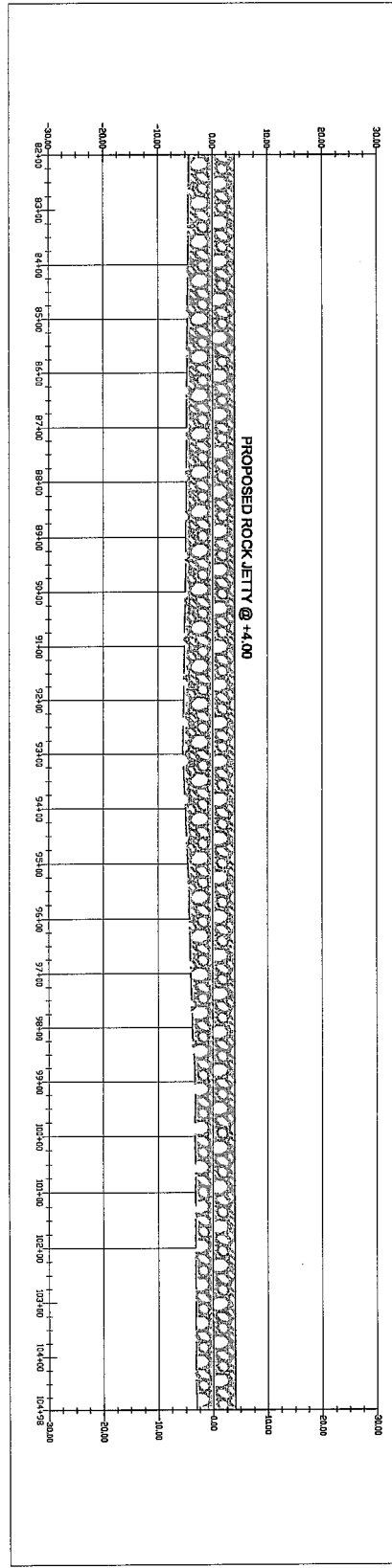
(9)



Safety Is a Part  
of Every Contract



HORIZ. SCALE: 1" = 100'



HORIZ. SCALE: 1" = 100'

VERT. SCALE: 1" = 10'

SHEET NUMBER  
X

197 ELYSIAN DRIVE HOUMA, LA 70363  
PHONE: 985.886.3634  
FAX: 985.886.3634  
E-MAIL: info@shawcoastal.com  
WWW: www.shawcoastal.com

4171 ESSEN LANE BATON ROUGE, LA 70809  
PHONE: 225.337.2708  
FAX: 225.337.2708  
E-MAIL: info@shawcoastal.com  
WWW: www.shawcoastal.com

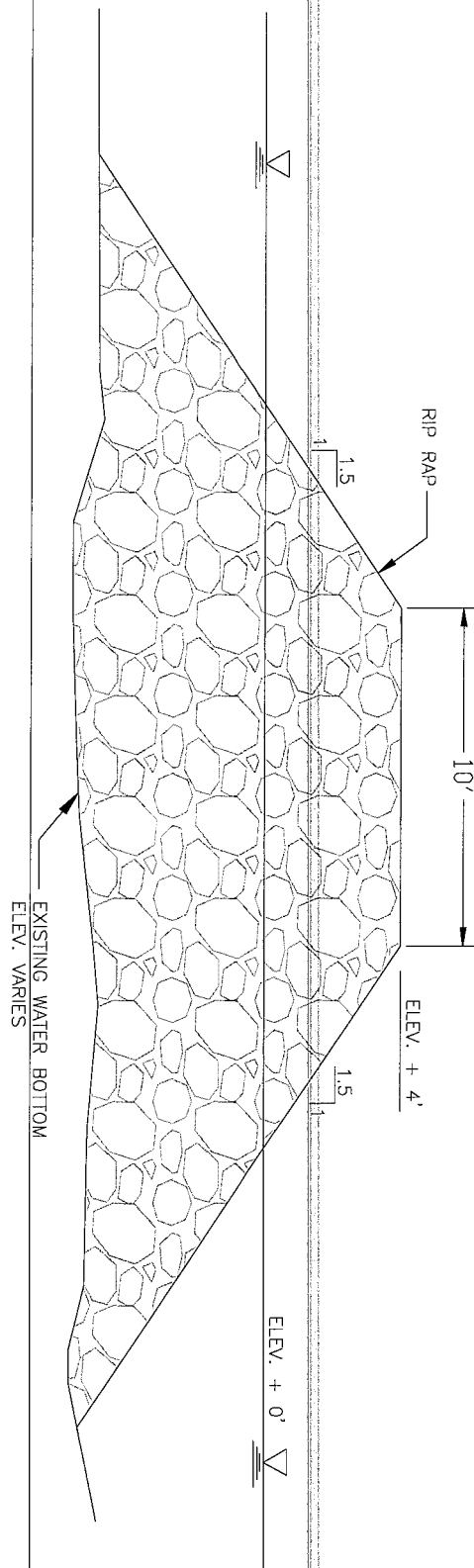
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DRAWN BY: X CHECKED BY: X  
PLOT DATE: 6/22/10  
JOB NO.: X  
DATE: X



MARK	DESCRIPTION	DATE	APPROVED

60-28-2510





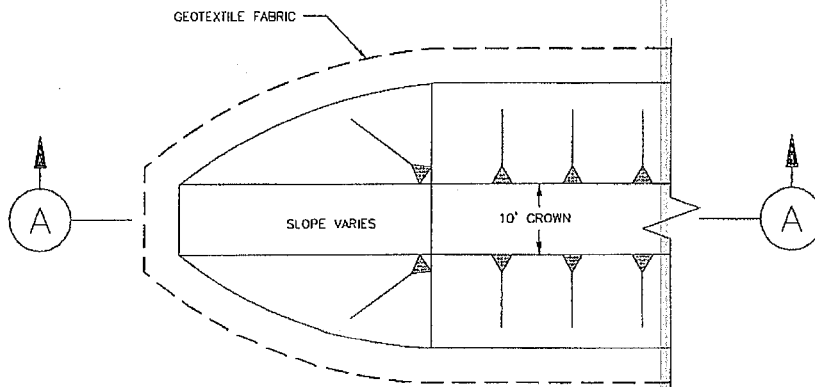
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**X**

**TYPICAL CROSS SECTION**

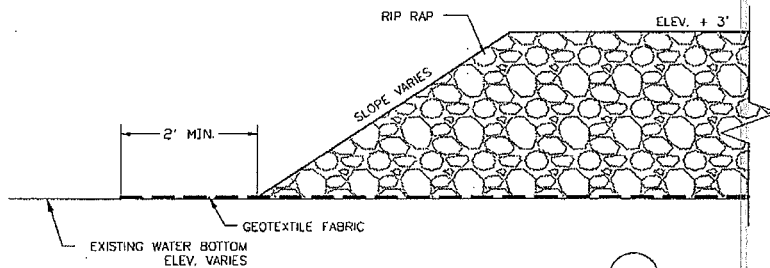
OFFICE LOCATIONS:			
197 ELYSIAN DRIVE HOUMA, LA. 70365 PHONE: 985.868.3434	701 POYDRAS STREET NEW ORLEANS, LA. 70139 PHONE: 504.595.2534	4171 ESSEN LANE BATON ROUGE, LA. 70809 PHONE: 225.932.2758	
FILE: W:\CAD\136372 GRAND FILE PASSES\mg\Typ. rock cross section - psmf.dwg			
DESIGNED BY: X	CHECKED BY: X	PLOT DATE: 6/23/10	JOB NO: X
DRAWN BY: X	CHECKED BY: X	PLOT SCALE: X	DATE: X

[illegible]

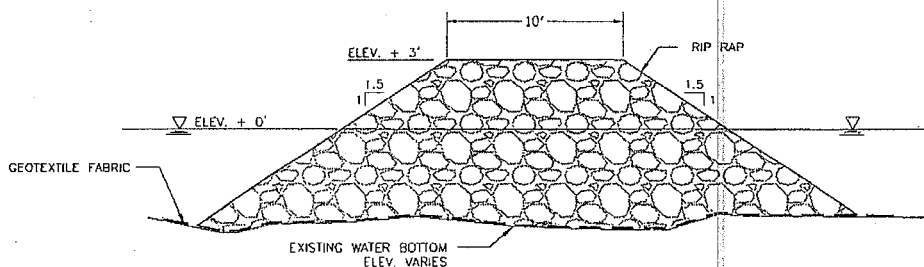
DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
MJC	6/26/10	MJP	1




PLAN  
N.T.S.



SECTION A  
N.T.S.



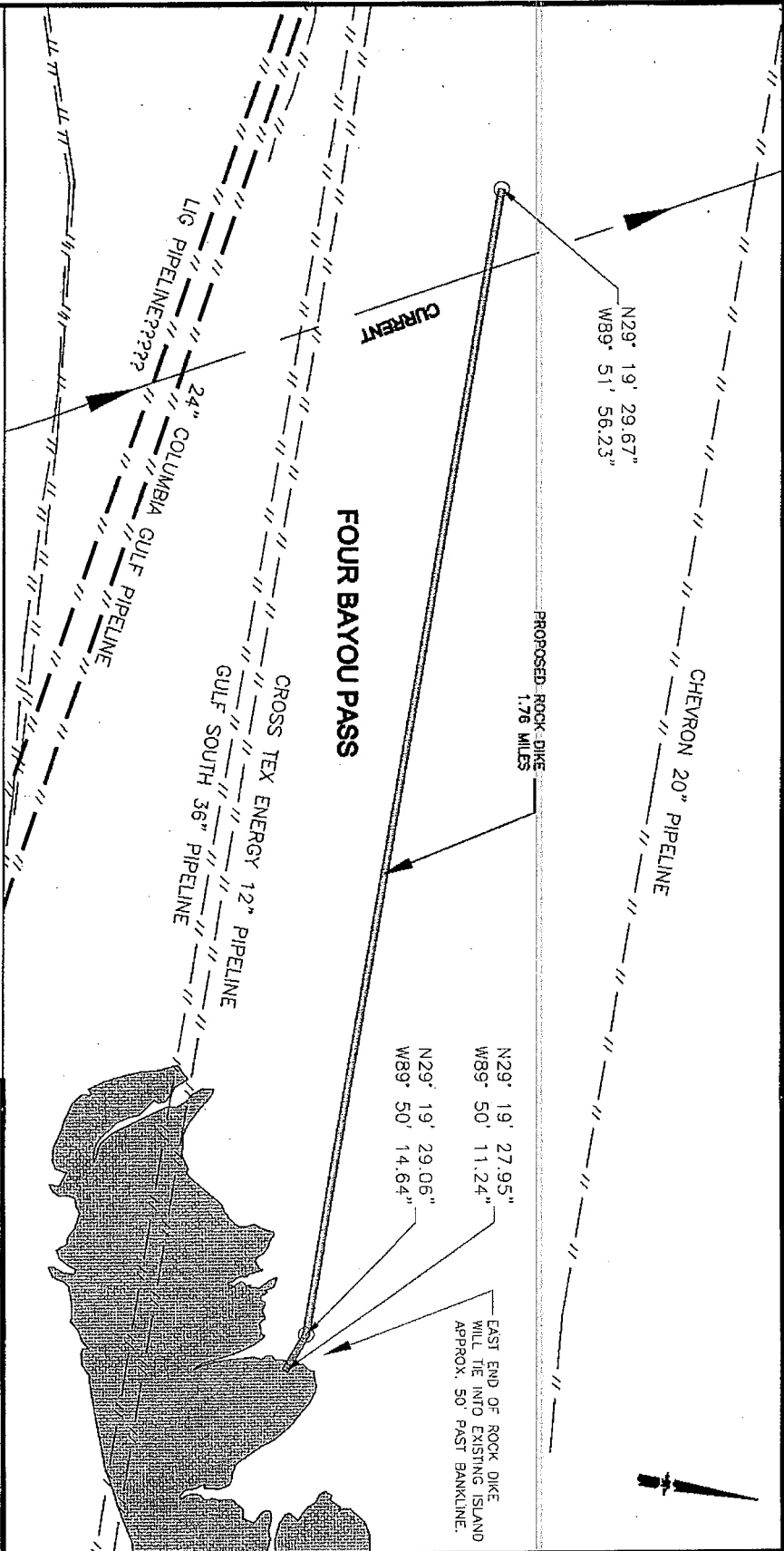
TYPICAL ROCK DIKE SECTION  
N.T.S.

	JEFFERSON PARISH, LA
	<p><b>ROCK DIKE WEST END TYPICAL DETAILS</b></p> <p>JEFFERSON PARISH ROCK PLAN GRAND ISLE, LA</p>

6-28-10

12

DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
MJC 6/26/10	MJP		1



JEFFERSON PARISH, LA

QUATRE BAYOU ROCK DIKE  
PLAN VIEW

JEFFERSON PARISH ROCK PLAN  
GRAND ISLE, LA

6-28-10

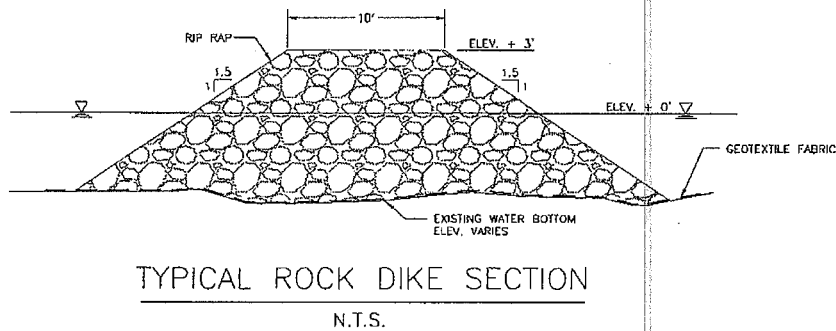
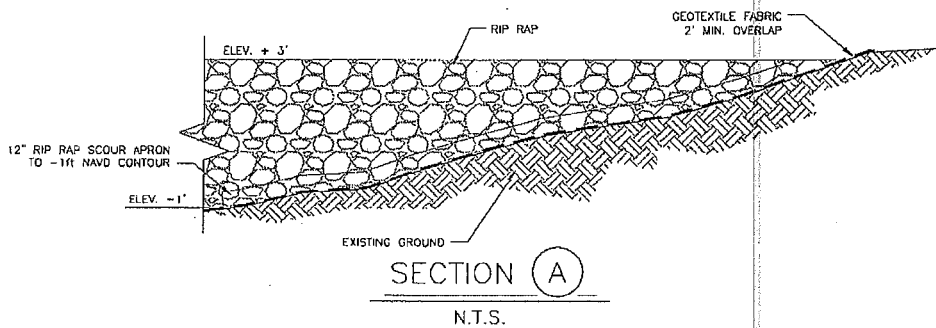
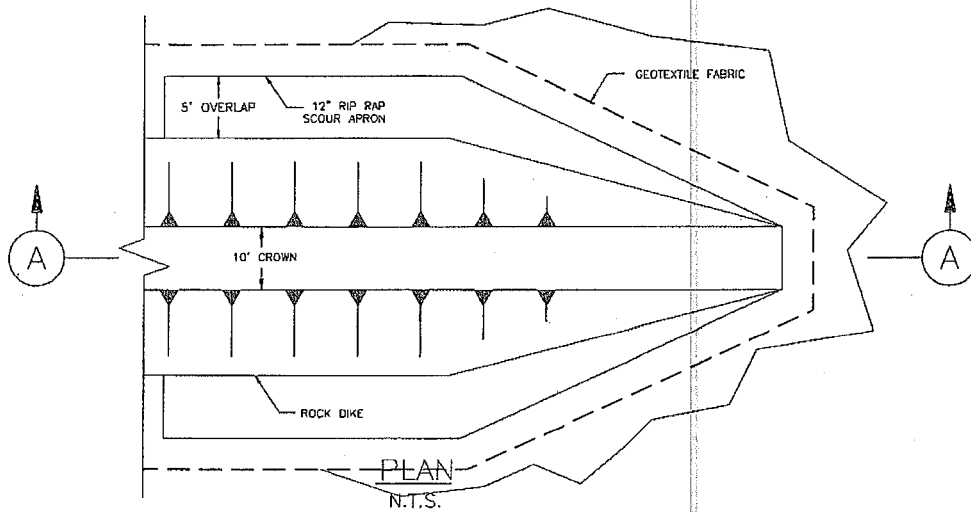
13

DRAWING  
NUMBER 2

APPROVED BY

CHECKED BY  
MJP

DRAWN BY  
6/27/10  
MJC



JEFFERSON PARISH, LA

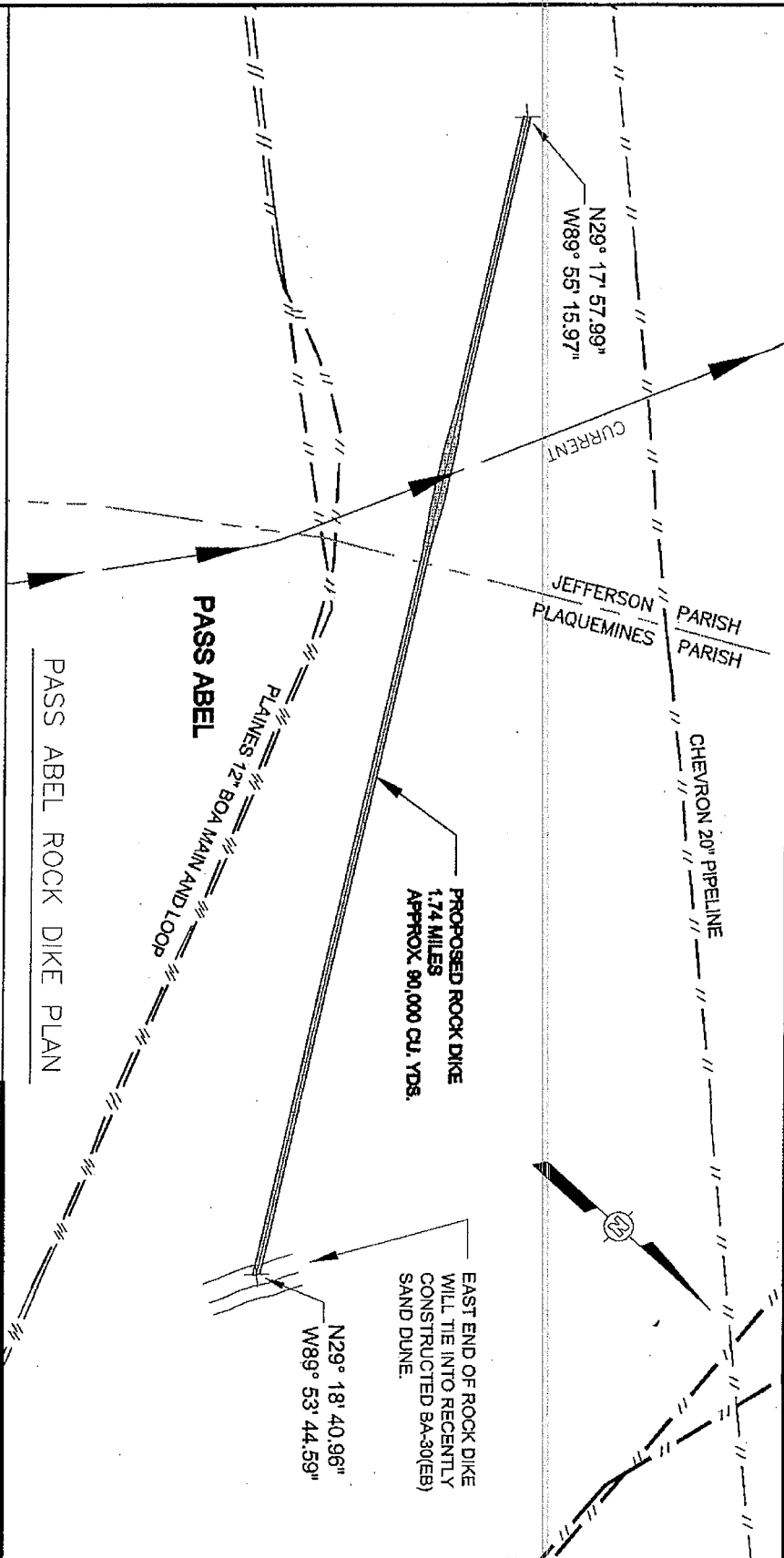
**QUATRE BAYOU PASS ROCK DIKE  
EAST END TYPICAL DETAILS**

JEFFERSON PARISH ROCK PLAN  
GRAND ISLE, LA

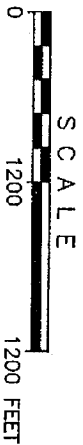
6-28-16

14

DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
MJC	6/26/10	MJP	1



PASS ABEL ROCK DIKE PLAN



JEFFERSON PARISH, LA

PASS ABEL ROCK DIKE  
PLAN VIEW  
JEFFERSON PARISH ROCK PLAN  
GRAND ISLE, LA

6-28-10

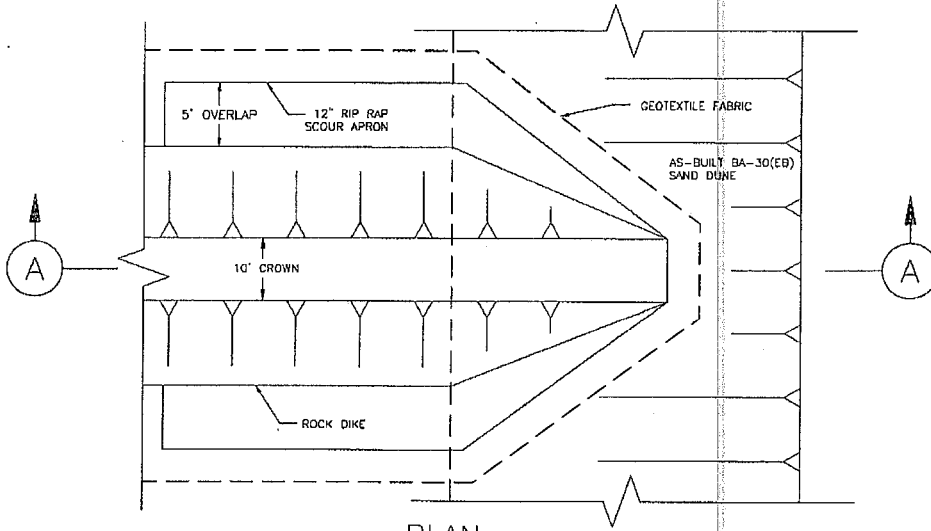
(15)

DRAWING NUMBER 2

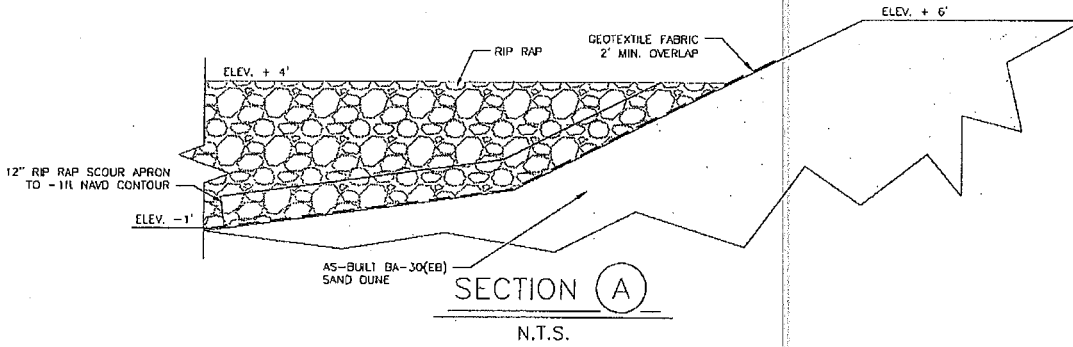
APPROVED BY

CHECKED BY

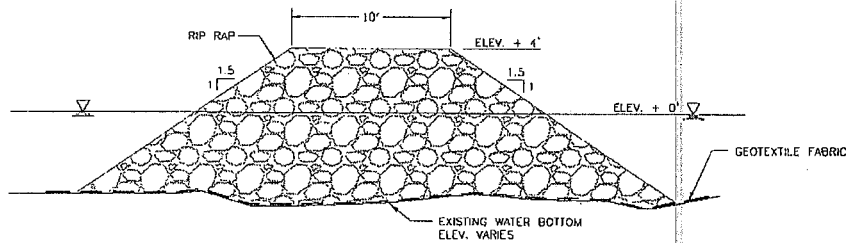
DRAWN BY MJC 6/27/10



PLAN  
N.T.S.



SECTION A  
N.T.S.



TYPICAL ROCK DIKE SECTION  
N.T.S.



JEFFERSON PARISH, LA

**PASS ABEL ROCK DIKE  
EAST END TYPICAL DETAILS**

JEFFERSON PARISH ROCK PLAN  
GRAND ISLE, LA

6-28-10

16



STEVE J. THERIOT  
PARISH PRESIDENT

## JEFFERSON PARISH LOUISIANA

DEPARTMENT OF ENVIRONMENTAL AFFAIRS

June 7, 2010

Our Mission is:  
"Provide the services,  
leadership, and vision to  
improve the quality of life  
in Jefferson Parish."

Revised on  
June 24th

Mr. Pete Serio, Chief Regulatory Branch  
U. S. Army Corps of Engineers  
New Orleans District  
P. O. Box 60267  
New Orleans, Louisiana 70160-0267

**Subject: Emergency Authorization  
Proposed Rock Dike Closures**

Dear Mr. Serio:

Per our telephone conversation, Jefferson Parish is hereby requesting emergency authorization to install rock jetties in five passes along the Jefferson Parish/Plaquemines Parish barrier islands to reduce inland movement of oil from the BP Deepwater Horizon Oil Spill disaster. The rock jetties will be installed in Caminada Pass, Barataria Pass, Pass Abel, Four Bayou Pass and Cheniere Ronquille Pass. The jetties are proposed to be built at a + 4.0' elevation. No wetlands will be impacted by this activity. We ask that the U.S. Army Corps of Engineers begin processing this emergency request as soon as possible, as oil is presently entering the Barataria Basin's estuaries via these passes. BP and the U.S. Coast Guard have approved the rock jetties at Pass Abel and Four Bayou Passes and we anticipate receiving approval on the other three passes. Permit drawings are attached for your review.

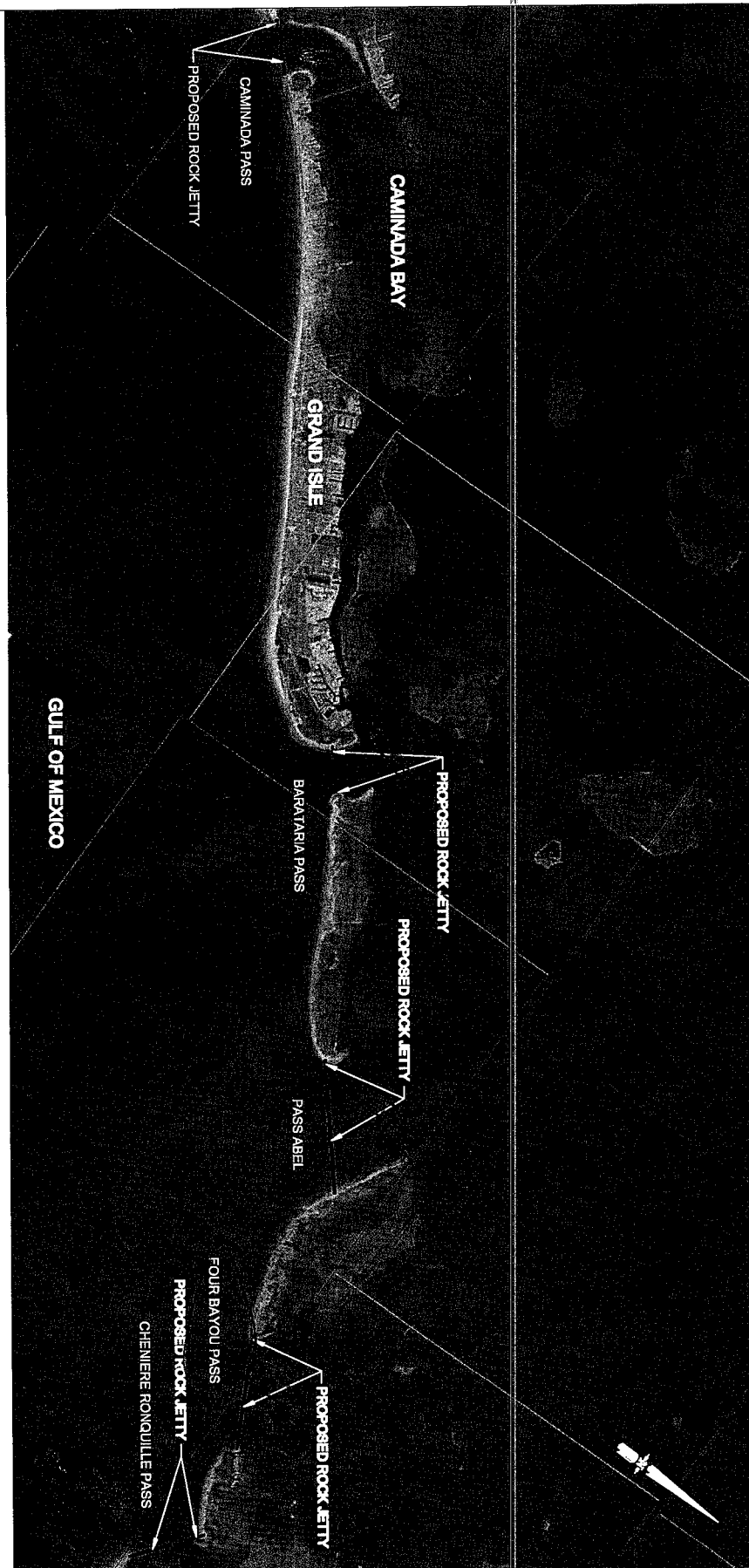
Please issue this emergency authorization as soon as possible. Should you have any questions or need additional information, please contact me at [REDACTED]

Sincerely,

Marnie Winter, Director  
Jefferson Parish Environmental Affairs

Attachment

cc: Hon. Steve Theriot, Jefferson Parish President  
Hon. Billy Nungesser, Plaquemines Parish President  
Hon. David Camardelle, Mayor, Town of Grand Isle  
Hon. Tim Kerner, Mayor, Town of Jean Lafitte  
Mr. Jose Gonzalez, COO, Jefferson Parish  
Mr. Deano Bonano, Homeland Security Chief, Jefferson Parish  
Mr. P.J. Hahn, Coastal Zone Manager, Plaquemines Parish



SHEET NUMBER

JEFFERSON PARISH  
GRAND ISLE PASSES

## SITE PLAN

**OFFICE LOCATIONS:**

197 ELYSIAN DRIVE	701 POYDRAS STREET	4171 ESSEN LANE
HOUMA, LA 70363	NEW ORLEANS, LA 70139	BAYON ROUGE, LA 70809
PHONE: 985.868.3434	PHONE: 504.595.2534	PHONE: 225.932.2758

FILE: WYOM/13872 GRND SLE PASSER/Dep/Working - but 1 permitting

DESIGNED BY: X	CHECKED BY: X	PLUT DATE: 6/3/10	JOB NO.: X
DRAWN BY: NJC	CHECKED BY: X	PLUT SCALE: X	DATE: X



**Shaw** Shaw Coastal, Inc.

[illegible]



\* ESTIMATED ROCK VOLUME 130,200 ft<sup>3</sup>

PROPOSED ROCK JETTY

29° 11' 34.5"  
90° 2' 52.9"

29° 11' 36.7"  
90° 21' 50.6"

29° 11' 45.2"  
90° 21' 41.1"

## PROPOSED ROCK JETTY - A

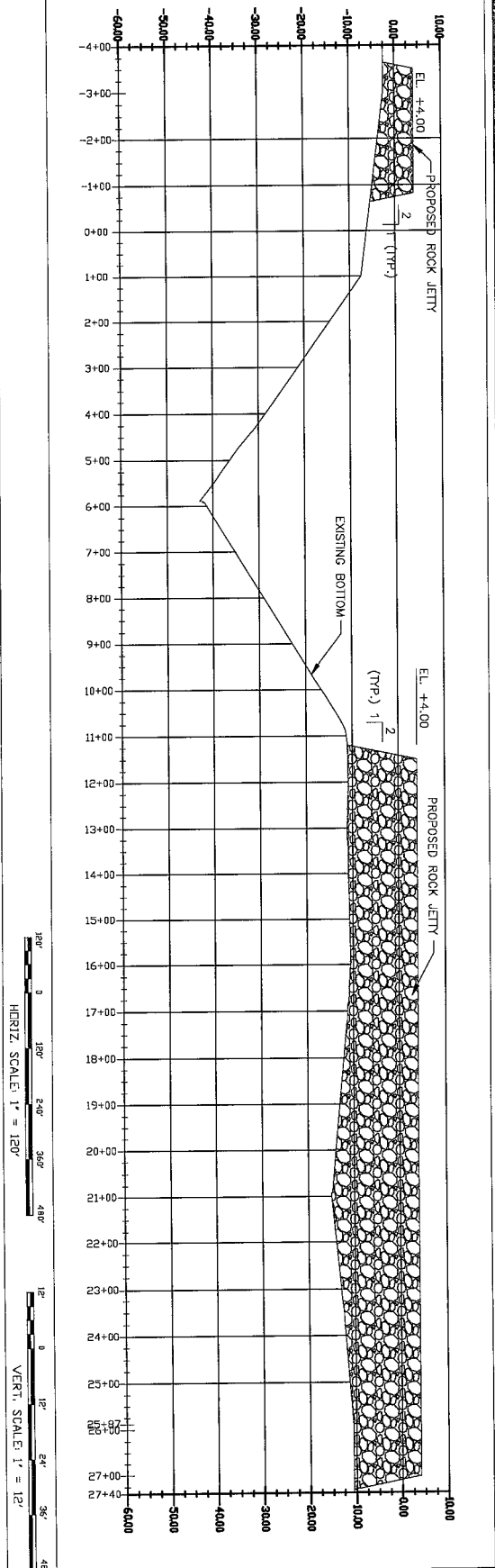
29° 11' 56.2"  
90° 2' 28.9"

CAMINADA PASS

\* ESTIMATED ROCK VOLUME 31,145 yd<sup>3</sup>  
\* ESTIMATED ROCK VOLUME 840,915 ft<sup>3</sup>

120° 0 120° 240° 360° 480°

SCALE 1" = 120'



120° 0 120° 240° 360° 480°

HORIZ. SCALE: 1" = 120'

VERT. SCALE: 1' = 12'

**SHEET NUMBER**  
**2**

JEFFERSON PARISH  
GRAND ISLE PASSES  
CAMINADA PASS  
PLAN & PROFILE

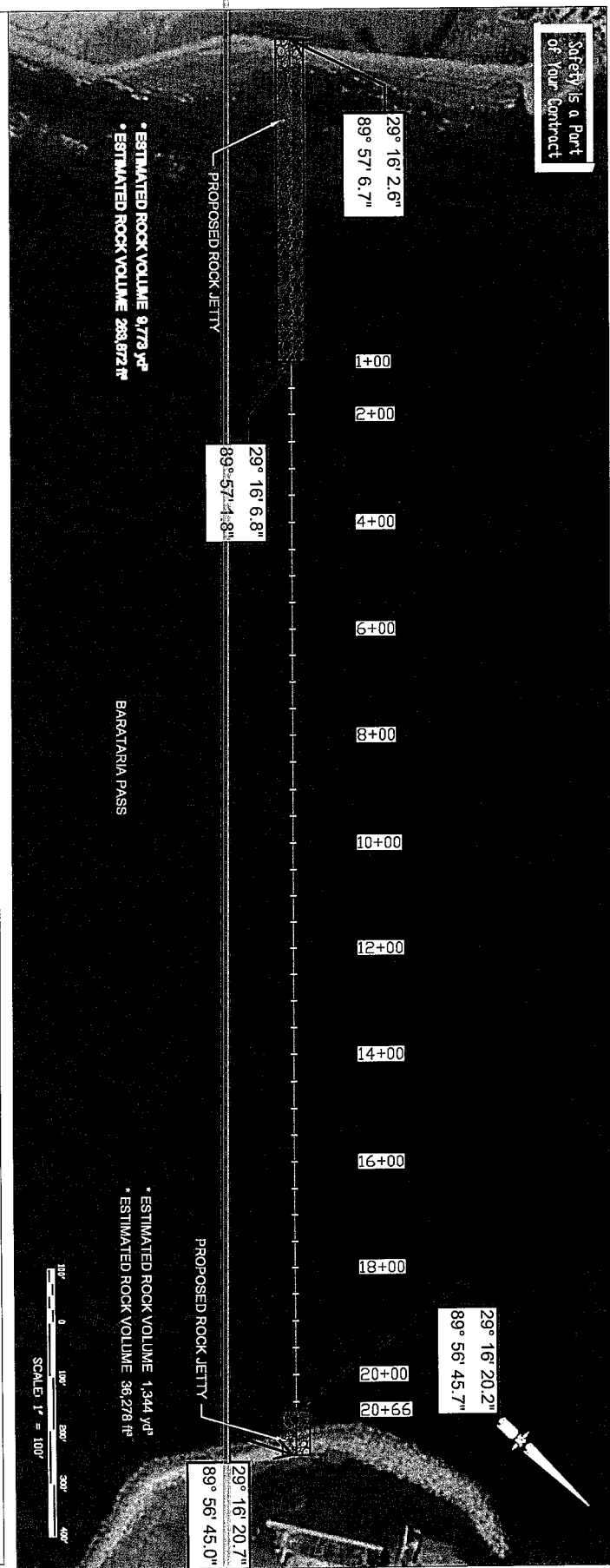
OFFICE LOCATIONS:			
197 ELYSIAN DRIVE HOUMA, LA. 70363 PHONE: 885.868.3434	701 POYDRAS STREET NEW ORLEANS, LA. 70139 PHONE: 504.595.2534	4171 ESSEN LANE BATON ROUGE, LA 70809 PHONE: 225.932.2758	
FILE: WAC02138272 GRAND ISLE PASSERS/Dog/Working - but 1 permits dog			
DESIGNED BY: X	CHECKED BY: X	PLUT DATE: 6/3/10	JOB NO: X
DRAWN BY: MJC	CHECKED BY: X	PLUT SCALE: X	DATE: X



**Shaw®** Shaw Coastal, Inc.

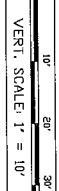
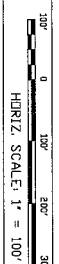
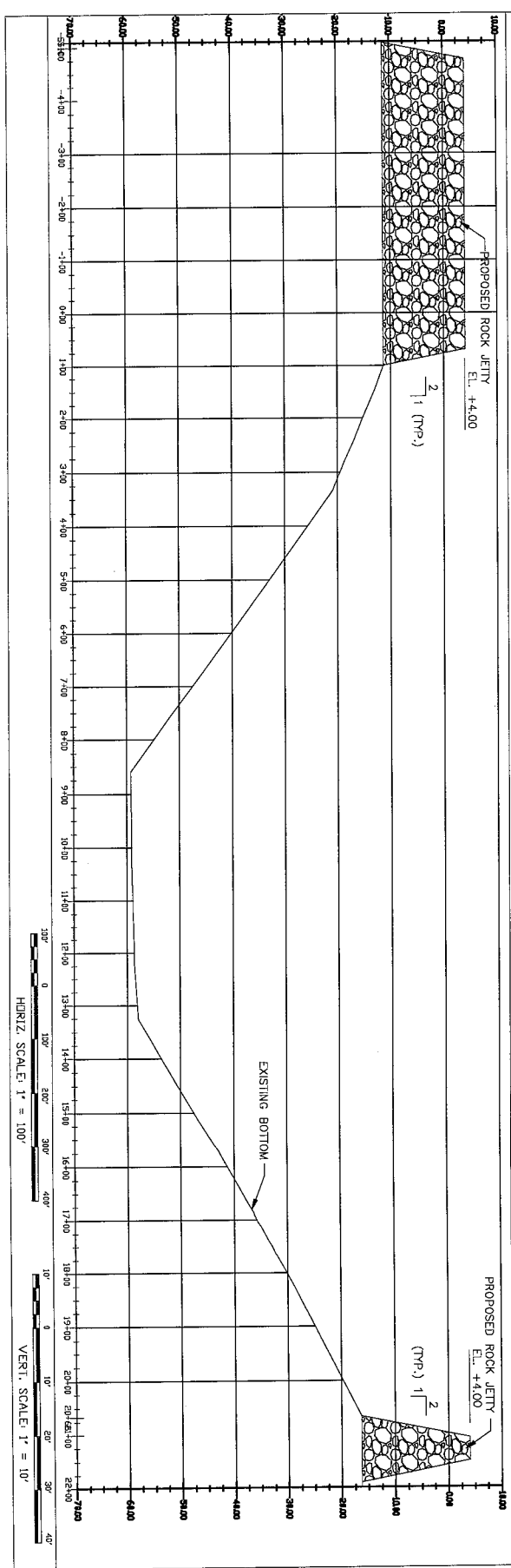
[illegible]

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ESTIMATED ROCK VOLUME 9,773 yd<sup>3</sup>  
ESTIMATED ROCK VOLUME 283,872 ft<sup>3</sup>

ESTIMATED ROCK VOLUME 1,344 yd<sup>3</sup>  
ESTIMATED ROCK VOLUME 36,278 ft<sup>3</sup>



**SHEET NUMBER**  
3

JEFFERSON PARISH  
GRAND ISLE PASSES  
**BARATARIA PASS  
PLAN & PROFILE**

**DESIGN LOCATIONS:**  
157 ELYSIAN DRIVE  
HOLMA, LA. 70363  
PHONE: 985.889.3434

701 POYDRAS STREET  
NEW ORLEANS, LA. 70139  
PHONE: 504.595.2534

4171 ESSEN LANE  
BATON ROUGE, LA. 70809  
PHONE: 225.332.2758

FILE: W:\DATA\343722 GRAND ISLE PASSES\Design\Working - Barataria\Barataria.dwg

DESIGNED BY: X	CHECKED BY: X	PLUT DATE: 6/3/10	JOB NO.: X
DRAWN BY: MAC	CHECKED BY: X	PLUT SCALE: X	DATE: X

**Shaw Shaw Coastal, Inc.**

DATE	DESCRIPTION	DATE	APPROV

Safety is a Part  
of Your Contract

29° 17' 44.2"  
89° 54' 25.5"

1+00 2+00 4+00 6+00 8+00 10+00 12+00 14+00 16+00 18+00 20+00 22+00 24+00 26+00 28+00

29° 17' 47.4"  
89° 54' 21.2"

29° 17' 54.6"  
89° 54' 11.8"

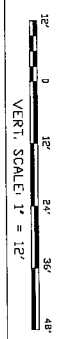
PROPOSED ROCK JETTY

• ESTIMATED ROCK VOLUME 8,105 yd³  
• ESTIMATED ROCK VOLUME 210,000 ft³

P400 JBB

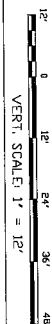
120' 0' 120' 240' 360' 480'

SCALE: 1" = 120'



24+00  
26+00  
28+00  
30+00  
32+00  
34+00  
36+00  
38+00  
40+00  
42+00  
44+00  
46+00  
48+00  
50+00  
52+00  
54+00  
56+00

PASS ABEL

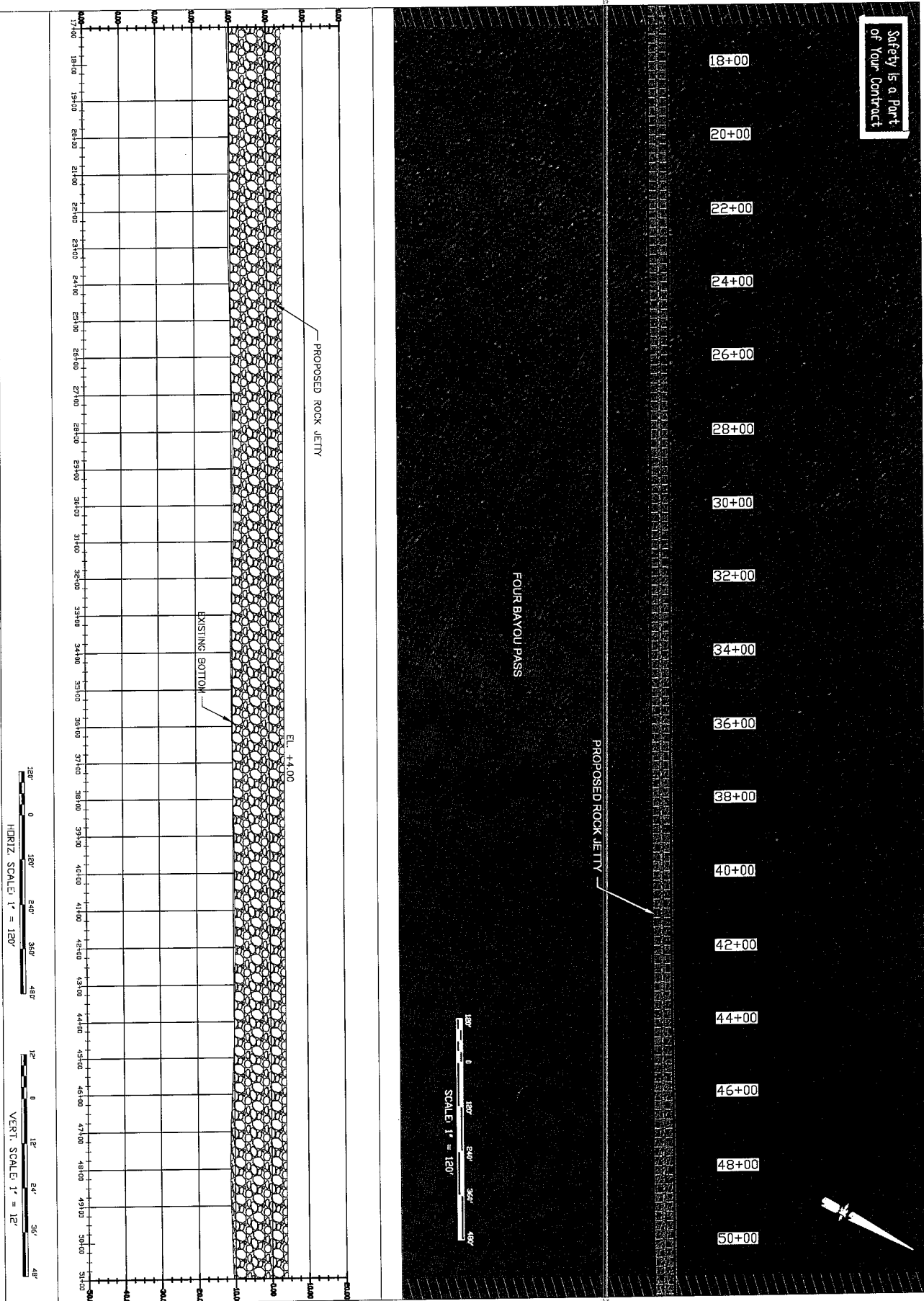
[illegible]

60+91

MARK	DESCRIPTION	DATE	APPR

MARK	DESCRIPTION	DATE	APPR.

Safety is a Part  
of Your Contract



<b>SHEET NUMBER</b> 0	JEFFERSON PARISH GRAND ISLE PASSAGE <b>FOUR BAYOU PASS          PLAN &amp; PROFILE</b>		<b>OFFICE LOCATIONS:</b> 197 ELYSIAN DRIVE HOUMA, LA. 70363 PHONE: 866.668.3434 TOLL: 800.337.2735		701 POYDRAS STREET NEW ORLEANS, LA. 70119 PHONE: 866.668.3434 TOLL: 800.337.2735		4171 ESSEN LANE BATON ROUGE, LA. 70809 PHONE: 723.837.2735	
	DESIGNED BY: X	CHECKED BY: X	PLUT DATE: 6/3/10	JOB NO.: X				
	DRAWN BY: X	CHECKED BY: X	PLUT SCALE: X	DATE: X				

MARK	DESCRIPTION	DATE	APPR.





MARK	DESCRIPTION	DATE	APR



# PROPOSED ROCK JETTY

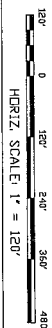
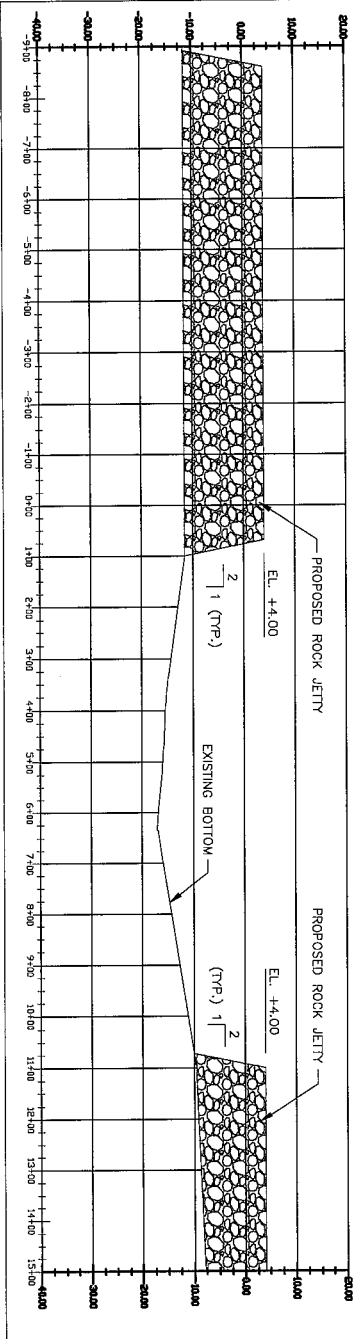
- ESTIMATED ROCK VOLUME 15,946 yd<sup>3</sup>
- ESTIMATED ROCK VOLUME 430,628 ft<sup>3</sup>

29° 19' 23.0"  
89° 49' 30.0"

CHENIERE RONQUILLE PASS

29° 19' 16.9"  
89° 49' 21.1"

24+



**10**

JEFFERSON PARISH  
GRAND ISLE PASSES  
CHENIERE RONQUILLE PASS  
PLAN & PROFILE

OFFICE LOCATIONS:			
197 ELYSIAN DRIVE HOUMA, LA. 70363 PHONE: 985.868.3434	701 POYDRAS STREET NEW ORLEANS, LA. 70139 PHONE: 504.595.2534	4171 ESSEN LANE BATON ROUGE, LA 70809 PHONE: 225.932.2758	
FILE: V:\CAG\138372 GRAND ISLE PASSES.Dwg\Working - Bill jennings.dwg			
DESIGNED BY: X	CHECKED BY: X	PLOT DATE: 6/3/10	JOB NO.: X
DRAWN BY: NJO	CHECKED BY: X	PLOT SCALE: X	DATE: X

[illegible]

Safety is a Part  
of Your Contract

8+00

10+00

12+00

14+00

16+00

18+00

20+00

22+00

24+00

26+00

28+00

30+00

32+00

33+19

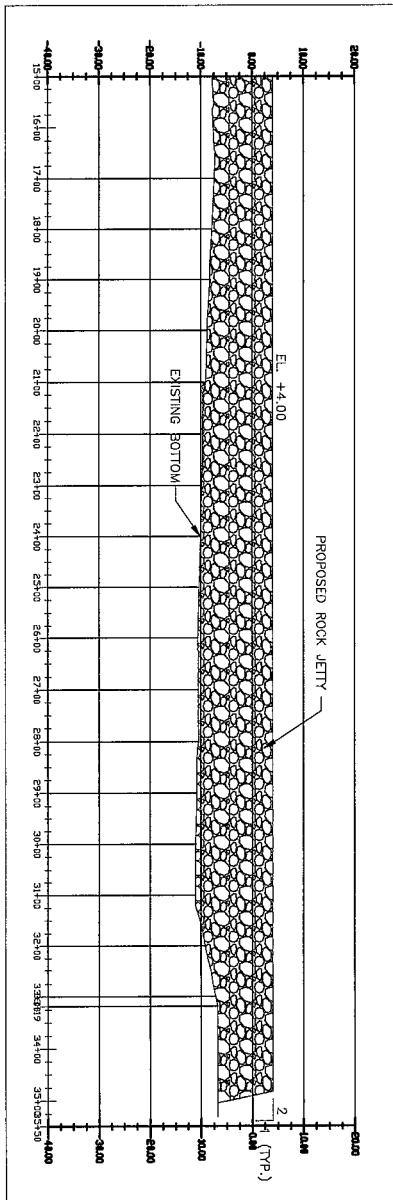
CHEMIERE RONQUILLE PASS

PROPOSED ROCK JETTY

• ESTIMATED ROCK VOLUME 36,779 yd<sup>3</sup>  
• ESTIMATED ROCK VOLUME 988,027 ft<sup>3</sup>

29° 19' 2.3"  
89° 48' 59.6"

120' 0' 120' 240' 360' 480'  
SCALE: 1" = 120'



120' 0' 120' 240' 360' 480'  
HORIZ. SCALE: 1" = 120'

12' 0' 12' 24' 36' 48'  
VERT. SCALE: 1" = 12'

SHEET NUMBER  
11

JEFFERSON PARISH  
GRAND ISLE PASSAGE  
CHEMIERE RONQUILLE PASS  
PLAN & PROFILE

DESIGN LOCATIONS:  
197 ELYSIAN DRIVE 701 PONDAS STREET 4171 ESSEN LANE  
HOUMA, LA 70363 NEW ORLEANS, LA 70139 BATON ROUGE, LA 70809  
PHONE: 855.888.3434 PHONE: 504.555.2534 PHONE: 225.552.2755  
FILE: V:\WORK\2012\CHANDLER PASSAGE\CHANDLER PASSAGE.dwg - 11/11/2012  
DESIGNED BY: X CHECKED BY: X PLOT DATE: 6/2/10 JOB NO.: X  
DRAWN BY: JAC CHECKED BY: X PLOT SCALE: X DATE: X

**Shaw** Shaw Coastal, Inc.

MARK	DESCRIPTION	DATE	APP'D



## Laborde, Brad MVN

---

**From:** MWinter [MWinter@jeffparish.net]  
**Sent:** Tuesday, June 08, 2010 12:07 PM  
**To:** Laborde, Brad MVN  
**Cc:** DBonano  
**Subject:** FW: Grand Isle permit answer

Brad,

Below please find a response to the two questions posed in a telephone conversation earlier.

(1) Yes, we have identified a source for the rocks. Rock will be provided on one or more of the following contractors: Pine Bluff Sand & Gravel, Bertucci, or Luhr Bros.

All three operate quarries on the Mississippi River and ship rock via barge to the project site.

(2) All rocks will be placed from barges.

Please let me know if you have any further questions or comments.

Thanks.

Marnie Winter, Director

Jefferson Parish Environmental Affairs

4901 Jefferson Highway, Suite E

Jefferson, LA 70121

Phone: [REDACTED] Fax: [REDACTED] Cell: [REDACTED]

---

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The Shaw Group Inc. <http://www.shawgrp.com>

**Marino, Melissa L MVN**

---

**From:** Farabee, Michael V MVN  
**Sent:** Tuesday, June 08, 2010 7:34 AM  
**To:** Marino, Melissa L MVN; Laborde, Brad MVN  
**Subject:** FW: Request for Emergency Authorization Rock Jetties at 5 Passes

**Attachments:** Request COE Emergency Authorization for Rocks @ 5 Passes.pdf; emergency permit - all sheets - 8x11 (2).pdf



Request COE emergency permit -  
emergency Authoriz. all sheets ...

Hey, thanks to both of you for taking the time for this.

Melissa, please let Pete know what the ORM number is for this and don't forget to use the new proj. description, "Deepwater Horizon Oil Spill", next week it will be something like, "Gulf Area, oil leak and response". Very PC.

Thanks,

Michael V. Farabee  
New Orleans District  
Regulatory Branch  
Chief, Eastern Evaluation Section

(504) 862-2292  
(504) 862-2117 Fax

In order to assist us in improving our service to you, please complete the survey found at: <http://per2.nwp.usace.army.mil/survey.html>

-----Original Message-----

From: Serio, Pete J MVN  
Sent: Tuesday, June 08, 2010 6:21 AM  
To: Farabee, Michael V MVN; Mayer, Martin S MVN  
Subject: FW: Request for Emergency Authorization Rock Jetties at 5 Passes

FYI.

Pete Serio  
Chief, Regulatory Branch  
504-862-2255

In order to assist us in improving our service to you, please complete the survey found at: <http://per2.nwp.usace.army.mil/survey.html>

-----Original Message-----

From: MWinter [mailto:MWinter@jeffparish.net]  
Sent: Monday, June 07, 2010 10:03 PM  
To: Serio, Pete J MVN  
Cc: STheriot; Billy Nungesser; david camardelle; TIMKERNER50@YAHOO.COM; JGonzalez; DBonano; P J Hahn  
Subject: Request for Emergency Authorization Rock Jetties at 5 Passes

Pete,

Per our earlier telephone conversation, attached please find our request for emergency authorization. Please let me know if there is anything we can do or provide to expedite this authorization.

Thanks.

Marnie Winter, Director

Jefferson Parish Environmental Affairs

4901 Jefferson Highway, Suite E

Jefferson, LA 70121

Phone: [REDACTED] Fax: [REDACTED] Cell: [REDACTED]

**SUMMARY OF COMMENTS**

***Emergency permit application to restrict Pass Abel and Four Bayou Pass to limit oil intrusion into interior marsh (June 26, 2010)***

		USACE	USFWS	EPA	CPRA	NOAA	H-SERT	CRCL et al	
1.0	Provide more engineering information, particularly how the structures will tie into existing islands								
1.1	Submit detailed plans for the rock tie-in points at Pass Abel and Four Bayou Pass: address the eastern tie end of the rock jetty @ the island on the east side of Four Bayou Pass	●							Shaw has developed tie in details for both of the proposed passes. At Pass Abel, the dike will tie into the recently constructed East Grand Terre dune. As this dune is higher than the proposed rock structure, the proposed rock structure will be overtopped first in the event of a storm surge, thus minimizing scour of the existing island. In addition, a scour blanket will extend around the tie in to the -1 ft NAVD contour. For Four Bayou Pass, topographical highs were identified using existing lidar information. The rock dike will extend 50 ft onto the island at the high spot. Topographical surveys will be performed to verify the location and elevation of the tie in. A scour blanket will extend from the tie in to the -1 NAVD contour. Details of the proposed tie-ins are attached.
1.2	Identify need, if any, for land-based construction equipment at shoreline tie-in points.					●			Land based equipment will operate within the footprint of the dike and tie in. End-on construction techniques will be utilized at the tie in to limit shore impacts.
1.3	Identify need, if any, for dredging for flotation or equipment access.					●			No dredging is anticipated at this time. Barges will be light loaded to facilitate access in shallow waters.
1.4	No excavation should be authorized for this project unless approved by the NOD through coordination with natural resource agencies.		●						No excavation will be required

# SUMMARY OF COMMENTS

Emergency permit application to restrict Pass Abel and Four Bayou Pass to limit oil intrusion into interior marsh (June 26, 2010)

		USACE	USFWS	EPA	CPRA	NOAA	H-SERT	CRCL et al	
1.5	Lacks details on construction access locations and methods.					●			In depths less greater than 6 ft, rocks will be offloaded directly onto the alignment. From depths ranging from 6 ft to 3ft, barges will be light loaded and rocks placed in a similar manner. For depths less than three feet, track based equipment operating within the footprint will spread material into the desired configuration. Daily progress reports on construction methods and equipment will be provided. Pre-construction bird surveys will be performed with USFWS and LDWLF. Construction, and if deemed necessary, biological monitors will be onsite.
1.6	Unclear who would maintain the proposed structures for the duration of the emergency (to avoid creation of navigation hazards) and who would remove the rock after the emergency has concluded to minimize adverse impacts.					●			USCG has personnel and vessels on site to assist with navigational issues. Project features will be marked and/or lighted as per USCG requirements. Rocks will be removed by BP contractors after the Unified Command determines that the threat of oil has passed.
2.0	Concerns that the rocks will not be temporary								
2.1	The rock dikes should be removed entirely immediately after the threat of oiling resulting from the Mississippi Canyon 252/Deepwater Horizon incident ends.		●			●	●		The subject permit application is for a temporary structure that will be removed when the threat of oil has past, as determined by the National Incident Command.
2.2	The determination of oiling threat will be based on near shore oiling forecasts produced in support of the National Incident Command.						●		Actual field conditions will be constantly monitoring allowing for early identification and response to adverse effects on ecosystem.

\* If the NEPA review extends beyond the threat of oil then the project must be removed in the meantime



# SUMMARY OF COMMENTS

Emergency permit application to restrict Pass Abel and Four Bayou Pass to limit oil intrusion into interior marsh (June 26, 2010)

		USACE	USFWS	EPA	CPRA	NOAA	H-SERT	CRCL et al	
2.3	The permittee will be responsible for removal of these structures if monitoring shows adverse effect on ecosystem (especially the adjoining barrier islands in form of erosion, breach overwash, etc.) or within 90 days after threat of oil has passed.				●				Shaw is also developing a monitoring plan capable of identifying morphological changes to the barrier islands and passes. Should serious unexpected morphological changes be observed, the proposed rock structures will be altered or removed to correct the problem.
2.4	Removal if they are found to be causing erosion elsewhere or are ineffective in preventing oil from entering through either pass.					●			Monitoring will include effectiveness of preventing oil from entering through the passes as well as ecosystem impacts.
2.5	If the permit is granted, identify the responsible party for impacts from the jetties and their removal.						●		Project was authorized by the Unified Command and is being funded by BP. Removal will also be funded by BP. <i>* need verification of this</i>
2.6	If permitted, there needs to be clause in the permit for removal, and the identification of a responsible party for the financial aspects of removing the rocks.						●		Noted. See comment 5.5 above.
2.7	There is no firm commitment to remove such rock barriers.; Lacking a commitment by the applicant to remove these structures, an analysis on the likely long term impacts of rock jetty installation should be required.			●		●			The emergency permit application is for a temporary structure to limit oil impact on interior marsh. A separate permit would be required to leave the rocks in place, and it is agreed that an analysis of the likely long term should be required if such an application were to be submitted.

*\* Again, rock removal will take place if the BEA review extends beyond the emergency threat (see condition) following permit will be the exp date*

*\* USACE to remove within 30 days?*

# SUMMARY OF COMMENTS

*Emergency permit application to restrict Pass Abel and Four Bayou Pass to limit oil intrusion into interior marsh (June 26, 2010)*

		USACE	USFWS	EPA	CPRA	NOAA	H-SERT	CRCL et al	
2.8	The rock dike structures would not be a temporary oil-fighting feature, but a permanent change to the landscape in Barataria Bay. If the project is anticipated to be temporary, no information was provided to describe how the project would be dismantled and temporary impacts addressed. Therefore, the impacts of these structures would also be permanent and long-term. The potential for large-scale environmental impacts would require more in-depth study prior to approving for construction.							●	The rocks will be removed after the threat of oil has been determined to be over by the Unified Command.
3.0	<b>Effectiveness for preventing oil intrusion, less damaging alternatives.</b>								
3.1	The plan relies on an engineering and construction approach that carries high economic and environmental risk, and threatens the sustainability of the very ecosystem we are all trying to save.							●	We all agree that there is a potential risk of environmental impacts on ecosystem of Barataria Bay from the dikes. However this risk is manageable by an intensive monitoring program and removal of dikes if potential damage is identified through monitoring. Compared to the risk from the dikes, the risk to ecosystem from oil is real and not manageable.

**SUMMARY OF COMMENTS**  
*Emergency permit application to restrict Pass Abel and Four Bayou Pass to limit oil intrusion into interior marsh (June 26, 2010)*

		USACE	USFWS	EPA	CPRA	NOAA	H-SERT	CRCL et al	
3.2	Estuaries can naturally recover from the impacts of oil. In our current crisis, the degraded state of the oil and the dispersed nature of the oil will likely not result in long-term impacts to large areas of interior wetlands.							●	<p>There is a definite immediate short term impact from oil entering the estuary; the long-term impact is unclear. The impacts from the dikes that have been raised occur over a longer term (decades), while their short-term impacts are minor and can be mitigated. The dike will limit the immediate short-term impact from oil by improving the collection efficiency of oil. After the immediate short-term threat is gone the dikes will be removed. This is the best possible scenario, as impacts from dikes are likely on larger time scales (decades) and will be mitigated by removal of dikes after oil impact has decreased.</p> <p>Large areas of interior wetlands are being impacted now, and we cannot know for sure that additional and repeated oiling will not result in long-term impacts. David Westerholm, Director of NOAA's Office of Response and Restoration testified that:</p> <p>"The effect of the Deepwater Horizon oil spill and the dispersants used, on coastal wetland loss will be determined by how much oil reaches coastal wetlands, and how long the oil persists. Large amounts of oil resting on vegetated coastal shorelines could cause the vegetation to become stressed and die. This could cause the roots to die, which would weaken marsh soils. Weakened marsh soils would then be at risk of accelerated erosion from waves and storms. The long-term effects to these habitats have yet to be determined." (Written statement of David Westerholm, Director, Office of Response and Restoration, National Ocean Service, U.S. Department of Commerce Hearing on Our natural resources at risk: the short and long term impact of the Deepwater Horizon oil spill before the subcommittee on insular affairs, Oceans and Wildlife, Committee on Natural Resources, U.S. House of Representatives, June 10, 2010.</p>

*Emergency permit application to restrict Pass Abel and Four Bayou Pass to limit oil intrusion into interior marsh (June 26, 2010)*

		USACE	USFWS	EPA	CPRA	NOAA	H-SERT	CRCL et al	
3.3	There are remediation activities that would be more appropriate for use in interior wetlands than those wetlands located in high energy areas such as the Mississippi River Delta.							●	Suggestions are welcome. This spill will provide ample opportunity to use all available remediation activities.
3.4	Increased velocities resultant from the rock jetties will compromise the ability for clean up technologies to remove the oil						●		It is not clear that this is the case; modeling results indicate that the resulting velocity fields allow for clean-up operations to continue. Monitoring of the effectiveness will help adapt to more efficient strategies if required, including modification to the dikes if required.  The ability for clean up technologies to remove the oil will be improved, not compromised, through the reduction in the pass width

**SUMMARY OF COMMENTS**

**Emergency permit application to restrict Pass Abel and Four Bayou Pass to limit oil intrusion into interior marsh (June 26, 2010)**

		USACE	USFWS	EPA	CPRA	NOAA	H-SERT	CRCL et al	
3.5	No information provided to support the claim that oil is suspended under the water and could therefore move under the barges.			●					Grand Isle Mayor David Camardelle provided an eye witness account of subsurface oil surfacing almost daily between 2:00 pm and 4:00 pm and made reference to NOAA's recent confirmation of subsurface oil. News agencies reported on June 8, 2010, that NOAA agency head, Jane Lubchenco told a news conference that NOAA's research offers proof that vast quantities of oil have spread not just along the ocean's surface, but at a great depth underwater, and further stated that scientists have completed a process of "fingerprinting" the oil that confirms the oil did in fact come from the BP spill. "The test results confirm that there is oil subsurface. We've always suspected that, but it's good to have confirmation," the NOAA chief said (http://www.google.com/hostednews/afp/article/ALeqM5iyqYbhKXS-hMAAMZBOzpifZicIQ) NOAA research data relative to subsurface oil can be found in several scientific reports including: Smith, Mayer, DeRobertis, et al. June 3-11, 2010. NOAA Ship Thomas Jefferson Deepwater Horizon Response Mission Report. Interim Project Report-Leg 2.
3.6	NOAA believes the proposed activity will have little or no effect on reducing the exchange of water, and thus the movement of oil, through the passes under consideration.					●			Please see response to 2.12-2.16 below
3.7	Should the oil still be in the Gulf of Mexico when the Fall/Winter cold fronts come through, the rock barrier will slow the flow of unooled or oiled water out of the basin.		●						In the same way that the rock barriers allow us to better spread resources in the passes for incoming oil, the rocks will allow us to do the same for outgoing oil.

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**SUMMARY OF COMMENTS**  
*Emergency permit application to restrict Pass Abel and Four Bayou Pass to limit oil intrusion into interior marsh (June 26, 2010)*

		USACE	USFWS	EPA	CPRA	NOAA	H-SERT	CRCL et al	
3.8	We continue to believe that the barge barrier option is a viable alternative with less environmental consequences and should be tried before it is abandoned in favor of a more environmentally damaging rock berm.			●					<p>Barge and boom operations are currently underway, and are not effective due to the size of the pass. There are not sufficient barges available to effectively operate over the entire pass width, which allows for a significant flow of oil to enter the pass unmitigated</p> <p>The barge barrier option is being implemented. However, the rock barriers are part of the comprehensive plan and will work in conjunction with the barges. Rocks will provide a barrier when inclement weather limits barge operations or if the threat of severe weathers forces removal of the barges until the weather threat has abated. Additionally, the rock barrier is less costly and labor intensive.</p> <p>he barge/boom only option is being implemented as we speak. Limited barges, weather down time, shallow water and other factors are limiting our ability to best use the barges. By placing rocks in these two passes, and reducing the length of the fight, we can move the barges to other areas, better utilizing the limited resources available.</p>
3.9	Lack of clarity on why the rock structures are better than barges/boom alone.						●		
3.10	The rocks will reduce the linear extend of the operations, but with faster currents there is a risk of having to move farther inland to capture the oil, and that would increase the distance over which operations take place.						●		<p>It is not clear that this is the case; modeling results indicate that the resulting velocity fields allow for clean-up operations to continue.</p> <p>Monitoring of the effectiveness will help adapt to more efficient strategies if required, including modification to the dikes if required.</p>

**SUMMARY OF COMMENTS**  
***Emergency permit application to restrict Pass Abel and Four Bayou Pass to limit oil intrusion into interior marsh (June 26, 2010)***

		USACE	USFWS	EPA	CPRA	NOAA	H-SERT	CRCL et al	
3.11	Oil in the water column could also become trapped in the rock structure, leading to a more complex cleanup effort.							●	<p>Rock recovers from oiling much faster than any other shoreline type, while marsh shoreline is the most sensitive to oiling and takes longer to recover than sandy beaches. The U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) established Shoreline Environmental Sensitivity Index (ESI) rankings for different shoreline types (Table 1). Habitat sensitivity is based on exposure to natural removal processes (wind and wave action), biological sensitivity and production, human use of habitat, and ease of oil removal. The property of the shoreline contacted affects the behavior of the spilled oil. High wave action enhances both physical removal and weathering processes, thus wave-swept rocky shores tend to recover from oil spills in a matter of months while marshes and mangroves may be affected for years. (NRCS, May 2010. Organic sorbents for the remediation of oil contaminated soils, Interim Conservation Practice Standard 772 Guidance, Field Office Technical Guide Section IV, p. 2)</p> <p>Methods of cleaning oil off of rock structures have been established. Also, the rock can be protected with a smaller (and more available) boom than that needed to block the high velocity passes. Furthermore, the rocks can be cleaned on an individual event basis, thus reducing the complexity of removal efforts.</p>

# SUMMARY OF COMMENTS

Emergency permit application to restrict Pass Abel and Four Bayou Pass to limit oil intrusion into interior marsh (June 26, 2010)

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**SUMMARY OF COMMENTS**  
**Emergency permit application to restrict Pass Abel and Four Bayou Pass to limit oil intrusion into interior marsh (June 26, 2010)**

		USACE	USFWS	EPA	CPRA	NOAA	H-SERT	CRCL et al	
3.13	Figure 1 pre-post velocity profiles and impacts on operations (Ioannis Georgiou)						●		
3.14	<p>Figure 1: pre-post velocity profiles and impacts on operations</p>								<p>Response to 3.13-3.16:</p> <p>2.18. We appreciate the opportunity to use of the sketch prepared by Dr Ioannis Georgiou to explain the mechanics of possible reduction of oil propagation through the Passes. Maximum velocities (V) at the passes without barrier are in excess of <u>4 ft per second</u>. The passes are very wide: Pass Abel is more than 7,000 ft in width. One can compute a possible huge amount of oil that currently or in the future can <u>propagate into the bay</u>. Excluding velocities for most of the length of the pass (making V=0 and making B post &lt;&lt;&lt; B pre-project would exclude a significant amount of oil from entering the pass.</p> <p>In addition, modeling showed that construction of the dike would reduce in more than a 65% decrease in the flow volume at Pass Abel (<math>V \cdot B \cdot C</math>; the total amount of water and oil that enter the bay) and more than a 35% reduction in volume at Quatre Bayou Pass. This means that there is an overall reduction of the oil entering the bay through these passes.</p>
3.15	The primary concern is to reduce the large openings for attacking and capturing oil effectively. I understand that the rocks will reduce the linear extend of the operations, but with faster currents there is a risk of having to move farther inland to capture the oil, and that would still increase your distance over which operations take place.						●		<p>Same as above.</p>

# SUMMARY OF COMMENTS

## Emergency permit application to restrict Pass Abel and Four Bayou Pass to limit oil intrusion into interior marsh (June 26, 2010)

		USACE	USFWS	EPA	CPRA	NOAA	H-SERT	CRCL et al	
3.16	Since there is oil at depth (another concern), and surface structures (barges, rigid pipe, or boom) cannot capture this, we have to acknowledge that by constricting inlets you will also accomplish this: a. The faster currents will change the velocity profile (figure 1), and inadvertently increase the volume that skimmers would have to pump, per unit time during flood currents (gray box in fig 1) b. The area below the gray box, integrated and subtracted from the pre-rock placement profile, would also increase the amount of subsurface oil coming through these inlets. Water surface oil capturing depth ,-----, Increased volume of oil that post-rocks velocity profile needs to be captured compared to present operations Increased volume of subsurface oil per unit time, per unit width or opening						●		Same as above.
3.17	The proposed rocks would accelerate velocities through the narrowed passes. Thus, the movement into the estuary of any such subsurface oil could potentially be accelerated by the proposed rock berm project itself. With respect to subsurface oil, the rock project could actually make matters worse.			●			●		We are using our models to inform the barge and boom operations. The ingress of subsurface oil can be predicted and addressed.

# SUMMARY OF COMMENTS

## Emergency permit application to restrict Pass Abel and Four Bayou Pass to limit oil intrusion into interior marsh (June 26, 2010)

		USACE	USFWS	EPA	CPRA	NOAA	H-SERT	CRCL et al	
3.18	Alterations in hydrology could increase water flow through the passes creating a funnel effect for oil to enter into the Barataria Bay and complicate the oil-fighting methods in the passes.							●	By reducing the length of the fight in other passes, we have more assets available for stopping and collecting oil in other passes.
3.19	Deepening of the channel, along with increased velocities, could accelerate the movement of oil both on the surface and in the water column into the interior marshes.							●	The velocities are not increased in Pass Abel as shown by the modeling. The velocities are slightly increase in Quattre Bayou Pass. However, as discussed above, the overall flow rate decreases, reducing the volume of oil entering through the pass.
3.20	Storm surge would greatly increase the velocities through the narrowed passes, potentially accelerating oil entry into the estuary during a storm.		●						Storm surge will increase velocities for existing conditions as well as with-dike conditions. It is expected that as was shown to be the case with typical conditions, the dikes will reduce the volume of flow compared to existing conditions for storm surge.
									Storm surge could potentially accelerate oil entry into the estuary without the rock structures.
3.21	There needs to be some consideration of how the islands and/or the shape of the inlets will change as the flows change after rock placement. It is possible that this could make it even more difficult to contain oil moving through the inlet using the fixed barges as the flow paths change, new areas open up/close, etc.						●		The time scale of morphology of the type described is much longer than the expected time period the dikes are in place. Therefore, this is not expected to be a concern.
3.22	Full support for the rapid implementation of the authorized barge barriers as a less damaging option for attempting to block oil in these passes.			●					Noted.

SUMMARY OF COMMENTS									
Emergency permit application to restrict Pass Abel and Four Bayou Pass to limit oil intrusion into interior marsh (June 26, 2010)									
		USACE	USFWS	EPA	CPRA	NOAA	H-SERT	CRCL et al	
3.23	Lesser environmentally damaging and practicable alternatives to reduce the inland movement of oil, such as booms and skimmers, should be utilized to the maximum extent practicable.					●			Noted.
3.24	The risks of long-term damage posed from oil entering into the interior marshes could be less damaging than the long-term risks associated with the rock dikes proposed in the Emergency Barataria Bay Oil Spill Protection Plan.							●	Rock dikes will be temporary. Therefore, long-term risks are not anticipated. Monitoring plan will detect short-term morphological changes to the barrier islands and passes, and allow for appropriate response to limit impacts.

# SUMMARY OF COMMENTS

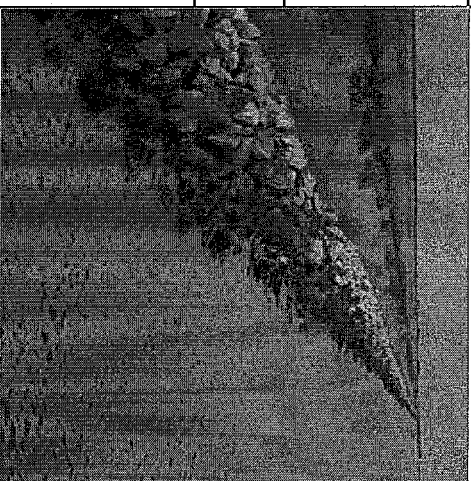
## Emergency permit application to restrict Pass Abel and Four Bayou Pass to limit oil intrusion into interior marsh (June 26, 2010)

4.0	Secondary impacts, primarily due to changes in tidal hydrology	USACE						
		USACE	USFWS	EPA	CPRA	NOAA	H-SERT	
4.1	Will likely result in scouring and breaching of the barrier island chain.		●	●		●		●
								<ul style="list-style-type: none"> <li>Response to Comments on scouring and erosion/breaching of barrier islands: ● Breaching of adjacent islands will be mitigated by providing a dike with a low crest height, suggested to be +2 ft NAVD88. Most islands have elevations on average of +3 to +5 ft NAVD88</li> <li>Higher velocities through Quatre Bayou Pass may result in <u>deepening of the pass</u>. The depth of tidal passes are primarily controlled by the volume of water flowing through them. When the dike is removed and the pass returned to existing conditions, the flow through the pass will be insufficient to maintain the scoured depth, and the channel is expected to fill in to existing conditions.</li> </ul>
4.2	Restricting the tidal passes may force water to seek new outlets for drainage or increase the size of existing openings. Those outlets would likely be through lower elevation portions of existing barrier islands.					●		<ul style="list-style-type: none"> <li>It is not clear how the dikes will increase wave energy and erosion from waves. The proposed erosion mechanisms should be further explained in detail so that an appropriate response can be developed to address the concern.</li> </ul>
4.3	Modeling shows the preferred alternatives would significantly alter flow volumes through the two passes; most likely result in the widening and/or deepening of other passes through increased scour and erosion.			●				<p>Generally, these comments are addressed through the proposed extensive monitoring program. Previous experience by USACE by building a dike in Pass Abel appears to not have resulted in these impacts. The figure below shows this rock dike at Pass Abel, constructed more than 10 years ago. In order to assure that the proposed berm does not create any negative impact, and extensive <u>monitoring</u> program will be conducted and if damage is shown to have occurred, the <u>dikes will be removed</u>.</p>
4.4	Confining the water flow through a smaller opening could lead to increased erosion at the bottom of the pass, deepening these passes permanently.							●

# SUMMARY OF COMMENTS

*Emergency permit application to restrict Pass Abel and Four Bayou Pass to limit oil intrusion into interior marsh (June 26, 2010)*

		USACE	USFWS	EPA	CPRA	NOAA	H-SERT	CRCL et al	
4.5	Restricting the tidal passes may force water to seek new outlets for drainage or increase the size of existing openings. Those outlets would likely be through lower elevation portions of existing barrier islands.					●			
4.6	Increased erosion of existing barrier islands could be expected from wave energies					●			
4.7	Installation of rock jetties will definitely increase the current through the remaining tidal interchange area and likely increase scouring on the sea floor.						●		
4.8	The rock dikes could also result in longterm economic impacts through increased barrier island and wetland land loss, reducing the habitat for fish and wildlife and diminishing the lines of defense against storm surges.							●	
4.9	The presence of hardened structures at the inlets will likely create more instability around the barrier islands, create more erosion and possibly additional conduits for oil to enter into the bays and marshes.						●		Monitoring and pre/concurrent construction morphological modeling will be used to determine if this is the case. If so, corrective action will be taken.



# SUMMARY OF COMMENTS

## Emergency permit application to restrict Pass Abel and Four Bayou Pass to limit oil intrusion into interior marsh (June 26, 2010)

		USACE	USFWS	EPA	CPRA	NOAA	H-SERT	CRCL et al	
4.10	Analysis and modeling were performed with islands and jetties as non-overtopping (solid) boundaries. This obviously underestimates the performance of hard-soft connections; the weakest point near connections of hard-soft combinations, the soft being the barriers and marsh vicinity will definitely erode and subsequently breached.						●		The flow modeling was intended to illustrate the maximum changes in maximum velocities expected to occur; existing conditions do not overtop either the islands or the dikes. Therefore the use of solid boundaries is correct to determine maximum possible changes. If storm surge modeling is conducted, all boundaries will be represented by accurate elevations and overtopping will be allowed to occur.
4.11	The 10 - 14 % change in the tidal prism; shown in the presentation as a reduction and therefore a positive point, is not entirely positive. During a storm, the storm prism (exchange of ocean with bay during a storm), is much more energetic, and will still be accommodated by the bay because the bay area did not change. Hence, risking island breaching, and marsh incisions in areas that may appear robust today. The science behind where this might happen is still complex.						●		The expected storm prism is likely to be reduced for the same reasons discussed above
4.12	Scouring of restricted tidal passes may cause exposure of pipelines and other infrastructure.					●			Concrete aprons or other engineered solutions will be used to protect pipelines and other infrastructure. Monitoring will provide early identification of potential problem areas.
4.13	Disrupt the littoral process and result in increased erosion; would affect sediment transport processes		●	●		●			Generally, these comments are addressed through the proposed extensive monitoring program.

SUMMARY OF COMMENTS								
<i>Emergency permit application to restrict Pass Abel and Four Bayou Pass to limit oil intrusion into interior marsh (June 26, 2010)</i>								
		USACE	USFWS	EPA	CPRA	NOAA	H-SERT	CRCL et al
4.14	Adverse impacts on adjacent shorelines, especially on eastern Grand Terre where one rock jetty is proposed to tie into the adjacent beach face.					●		Dike tie-in to East Grand Terre would like result in accretion on the seaward side of the structure due to the bayward orientation of littoral drift along the island. The island on the bayward side of the structure is primarily wetlands and unlikely to be impacted by the dike, especially when considering that the dike will greatly reduce velocities in the vicinity.
4.15	Increased velocities associated with a storm surge could cause breaching on or near the transition points where the proposed rocks connect with existing islands. This would be similar to what occurred at levee transition points during hurricane Katrina.			●		●		See attached design for end-point detail.
4.16	It should be noted that restoration of the beach and dune on eastern Grand Terre had been recently partially completed by a barrier island restoration project funded under the auspices of the Coastal Impact Assistance Program (CIAP).					●		Noted.
4.17	Altering hydrology will likely result in increased erosion of Louisiana's barrier islands and interior marshes.							● This comments is addressed through the proposed extensive monitoring program.
4.18	The proposed rock dike could interrupt the sediment exchange between the interior marshes and the Gulf of Mexico, specifically during storm events.							● Please discuss the mechanism on how the dikes will result in increased erosion to interior marshes and adjacent barrier islands so the comment can be addressed. Based on our understanding of the local coastal processes, it is unclear how or where this would occur



**SUMMARY OF COMMENTS**  
*Emergency permit application to restrict Pass Abel and Four Bayou Pass to limit oil intrusion into interior marsh (June 26, 2010)*

		USACE	USFWS	EPA	CPRA	NOAA	H-SERT	CRCL et al	
4.19	The proposed rock dikes will alter the tidal prism which could lead to changes in salinities and wetland habitats.							●	Response to 6.1 and 6.2: The tidal prism was shown to be reduced by approximately 10%. In the past 100 years, the tidal prism of Barataria Bay has been increased by more than 200% through wetland erosion, subsidence and relative sea level rise that resulted from water, oil, and natural gas extraction as well as from controlling flood events from the Mississippi River and Bayou Lafource. A 10% change (decrease) is unlikely to cause detrimental impacts on the overall area change of inlets to Barataria Bay is less than a 10% reduction.
4.20	Shall evaluate potential impacts of the activity on habitats of concern including impacts on tidal passes and oyster producing areas and sediment transport.					●			
4.21	The proposal would result in substantial reductions in tidal inlet cross-sectional area which could reduce fish and crustacean passage.			●		●			
4.22	Applicant fully intends to seek authorization of rock placement in the three remaining passes in the near future.			●		●			Impacts from further rock placement should be evaluated in permits for those structures, and not for the proposed work in this permit application.
4.23	Modeling in an idealized estuary conducted by the USACE Engineer Research and Development Center found that the increase in current velocities resulted in a "tendency to shift toward flood dominance with increasing wetland loss." (Reference: Sanchez, A. 2008. Interactions between wetlands and tidal inlets. Coastal and Hydraulics Engineering Technical Note. (ERDC/CHL CHETN-IV-72. Vicksburg, MS: U.S. Army Engineer Research and Development Center.)							●	The study performed in the CHETN-IV-72 arrived at the stated conclusions by assuming the only changing factor was wetland loss, not necessarily the other way around (ie they conclude wetland loss led to more flood dominance and higher velocities, not that higher velocities led to more flood dominance and wetland loss). In addition, the wetland loss that caused the increased velocities and flood dominance occurs over a long time scale (decades) while the proposed project is expected to be in place much shorter time scales (months to years).

# SUMMARY OF COMMENTS

## Emergency permit application to restrict Pass Abel and Four Bayou Pass to limit oil intrusion into interior marsh (June 26, 2010)

		USACE	USFWS	EPA	CPRA	NOAA	H-SERT	CRCL et al	
4.24	The proposed action could result in adverse direct and indirect impacts to near shore, surf zone, sand flats, and back barrier marshes designated as essential fish habitat. Direct impacts from excavation and tracking (movement of heavy equipment on the barrier islands) may occur as a result of moving and placing rock into existing shorelines. Shorelines may be indirectly impacted					●			Direct impacts from construction will be limited to the construction template. Indirect impacts stated (wave and sediment transport) are not expected based on our understanding of the coastal processes. Please provide more detail on the mechanism of the direct impacts so the specific concerns can be addressed.
4.25	The permittee shall assess potential direct and indirect impacts on shoreline stability and hydrodynamics using shoreline response and sediment transport modeling. This assessment shall include all shorelines, islands and passes extending from Caminada Pass eastward to Chenier Ronquille. At a minimum, the analyses shall evaluate potential changes in sediment transport, tidal pass dynamics and shoreline response. These analyses shall be conducted using					●			This modeling work has been initiated, but requires considerable time and effort. Results will not likely be available for several weeks or months. Extensive monitoring before, during , and after construction will help assess the impacts. If results of the modeling study indicate negative impacts beyond the impact of oil, the dikes will be removed.
% 0	<b>Cummulative impacts.</b>								
5.1	The cumulative effect of this action and the future rock closures would most likely be long-term significant changes in hydrology through the passes, which could have substantial unforeseen adverse impacts in terms of increased barrier island erosion and breaching, and possibly reduced fishery access			●		●			Long term is over time scales of years to decades; this is a temporary structure that is expected to be in place for the short term.

SUMMARY OF COMMENTS									
<i>Emergency permit application to restrict Pass Abel and Four Bayou Pass to limit oil intrusion into interior marsh (June 26, 2010)</i>									
		USACE	USFWS	EPA	CPRA	NOAA	H-SERT	CRCL et al	
5.2	Concerned about the cumulative impacts of five proposed partial closures on barrier islands in the Barataria Bay estuary					●			<input type="checkbox"/> At this time we are only seeking authorization for the two passes. We are initiating modeling to analyze alternatives in other passes and determine if there are acceptable alternatives. If it is determined that this technique will work in other passes, in conjunction with the two currently requested, then we will modify our request accordingly. At that time, the Corps will analyze potential impacts and determine if the additional authorization is warranted.
5.3	NOAA requests the Army Corps of Engineers express its intention pertaining to the need to conduct a Regulatory Environmental Impact Statement to evaluate likely near and long term project impacts individually, as well as the cumulative effects of similar emergency response actions in the vicinity of the project area.					●			Noted.
5.4	It is our understanding that closure of these two passes will be followed by plans to close the other three passes, Caminda Pass, Barataria Pass and Cheniere Ronquille Pass. The cumulative impacts of the entire project could have drastic modifications to the tidal prism for Barataria Basin.							●	At this time we are only seeking authorization for the two passes. We are initiating modeling to analyze alternatives in other passes and determine if there are acceptable alternatives. If it is determined that this technique will work in other passes, in conjunction with the two currently requested, then we will modify our request accordingly. At that time, the Corps will analyze potential impacts and determine if the additional authorization is warranted.
5.5	Modeling comments								

# SUMMARY OF COMMENTS

## Emergency permit application to restrict Pass Abel and Four Bayou Pass to limit oil intrusion into interior marsh (June 26, 2010)

		USACE	USFWS	EPA	CPRA	NOAA	H-SERT	CRCL et al	
5.6	No analysis was undertaken to determine the likely impact of such increased velocities on the depth of each pass, or the dimensions of adjacent passes.					●			Higher velocities through Quatre Bayou Pass may result in deepening of the pass. The depth of tidal passes are primarily controlled by the volume of water flowing through them. When the dike is removed and the pass returned to existing conditions, the flow through the pass will be insufficient to maintain the scoured depth, and the channel is expected to fill in to existing conditions.
5.7	Lacking wave refraction/diffraction analyses.			●		●			<input type="checkbox"/> Most of the waves striking the rock structures will be depth limited. Also the rock structures will protect west grand terre and the NE of East Grand Terre from northerly waves. We anticipate a net benefit to these two islands in terms of wave energy.
5.8	Modeling conducted as a part of the permit request indicates an increase in water velocities and a shift in water current patterns, although no velocity profiles have been modeled or provided.							●	Modeling is ongoing and will be further developed based on field monitoring data.
5.9	Modeling performed is inadequate to accurately represent the system being impacted.						●		Noted.
5.10	Perform at minimum coarse morpho dynamic modeling at the passes to determine effects on sediment transport.						●		Modeling is ongoing and will be further developed based on field monitoring data.

# SUMMARY OF COMMENTS

Emergency permit application to restrict Pass Abel and Four Bayou Pass to limit oil intrusion into interior marsh (June 26, 2010)

		USACE	USFWS	EPA	CPRA	NOAA	H-SERT	CRCL et al	
5.1.1	This is a purely a hydrodynamic study, without (or at least other parts are ongoing) any information to either infer, or provide insights into the morphological response of nearby nonhard shorelines and marshes, in combination with coastal processes operating in the project area.						●		Modeling is ongoing and will be further developed based on field monitoring data.
5.1.2	There needs to be some consideration of how the islands and/or the shape of the inlets will change as the flows change after rock placement. It is possible that this could make it even more difficult to contain oil moving through the inlet using the fixed barges as the flow paths change, new areas open up/close, etc.						●		This modeling work has been initiated, but requires considerable time and effort. Results will not likely be available for several weeks or months. Extensive monitoring before, during, and after construction will help assess the impacts. If results of the modeling study indicate negative impacts beyond the impact of oil, the dikes will be removed. However, the timescale of the potential morphologic processes are years to decades, while the proposed project is to be in place only for months to years.
6.0	Recommended permit conditions								
6.1	If the permit is granted, that it be on the condition that the rock jetties are removed when they are no longer needed as part of the response.						●		Concur.
6.2	Recommends a Special Condition be added to any permit issued for this project indicating that the permit does not address the applicability of this project to the spill response effort, which is a decision to be made by the National Incident Commander in consultation with the Federal On-Scene Coordinator.					●			Concur.

only 10' at shore from where the water meter permit


# SUMMARY OF COMMENTS

## *Emergency permit application to restrict Pass Abel and Four Bayou Pass to limit oil intrusion into interior marsh (June 26, 2010)*

		USACE	USFWS	EPA	CPRA	NOAA	H-SERT	CRCL et al	
6.3	The permittee shall include emergency provisions for allowing drainage of surge from Barataria Bay in the event tropical storm or hurricane.				●				Consider low crested "weir" segment or other means.
6.4	Rock baniers should be designed and constructed in a manner that does not increase water velocity in any of the passes to the point that results in scour of beach habitat down to the mean low low water line.		●						Modeling is being conducted to predict such changes. IN addition, monitoring will be conducted to identify such changes should they occur.
6.5	Rock barrier installation should not result in a redirection of the ebb-tide delta Gulfward to the point that the littoral building process is compromised.		●						Concur.
6.6	The permittee shall develop and implement a monitoring plan which will address the changes in current (velocity and direction) and impact on sediment morphodynamics of the adjoining banler island system. This monitoring plan should be developed in consultation with state and federal agencies.				●				Concur.

# SUMMARY OF COMMENTS

## Emergency permit application to restrict Pass Abel and Four Bayou Pass to limit oil intrusion into interior marsh (June 26, 2010)

		USACE	USFWS	EPA	CPRA	NOAA	H-SERT	CRCL et al	
6.7	The permittee shall develop a post-emergency mitigation plan to ensure compensation for all unavoidable adverse impacts to vegetated and unvegetated habitats. Such a plan may include sand fill placement to restore pre-project conditions (i.e., coastal processes and spatial extent of islands) to the maximum extent practicable. Implementation of the mitigation shall occur within the same year the rock dikes are removed.					●			Our monitoring plan will identify secondary impacts should they occur. If negative secondary impacts are occurring, then a suitable mitigation plan will be developed and implemented.
6.8	Permit conditions: No dredging for flotation or equipment access is authorized.					●			Concur.
6.9	No heavy construction equipment (i.e., dump trucks or tracked excavators) should be allowed on existing islands, shorelines or vegetated wetlands unless approved by the NOD through coordination with the natural resource agencies. No construction access corridors should be across marsh unless approved by the NOD through coordination with the resource agencies.					●			No construction corridors will be allowed in critical habitat or vegetated wetlands. Impacts to vegetated wetlands due to construction of the tie ins will be identified and submitted to the NOD prior to construction. 
7.0	OTHER COMMENTS								
7.1	Strongly recommend the Corps not authorize the proposed rock project.			●					Noted.
7.2	Recommends the NOD not authorize this project under emergency procedures.					●			Noted.

# SUMMARY OF COMMENTS

*Emergency permit application to restrict Pass Abel and Four Bayou Pass to limit oil intrusion into interior marsh (June 26, 2010)*

		USACE	USFWS	EPA	CPRA	NOAA	H-SERT	CRCI et al	
7.3	Lack of collaboration with scientific community.								
7.4	Limited, if any, scientific input has been incorporated from outside experts, even when offered. This process is inadequate for an endeavor of this scope of potential impacts and risks. Prior to issuance of a permit, we recommend incorporating science and technical expertise into the planning process to work to address the concerns listed in this letter.							●	The model used to inform selection of the preferred alternative was developed through coordination with scientific input from several sources over an extended period of time. Input from scientists and engineers at the state and federal level was provided throughout project development. The comments provided will be used in the development of the monitoring plan and the scientific community will have an opportunity to review and provide additional input into the monitoring process.
7.5	We re-emphasize our desire to resolve these concerns in a constructive way and in an expedited manner. We also request to be included in future oil-fighting strategies planning. We stand ready to assist.							●	We will be happy to collaborate and share with the scientific community as we implement these novel measures. Lessons learned during this fight may provide critical tools in combating future events. Before this event is over, collaboration may lead to continuing improvements in our operational capacity. However, the immediacy of the situation demands swift action. It should be noted that these plans were developed by experts in coastal project implementation and coastal process modeling. All constructive comments, scientific input, and other suggestions are welcome and will be evaluated if detailed information is provided.
7.6	Monitoring								
7.7	Pre (or concurrent) and post construction monitoring of the adjacent shorelines should be conducted to quantify the impact to wetlands.		●						All comments relative to monitoring are being considered in the development of the monitoring plan.



# SUMMARY OF COMMENTS

Emergency permit application to restrict Pass Abel and Four Bayou Pass to limit oil intrusion into interior marsh (June 26, 2010)

		USACE	USFWS	EPA	CPRA	NOAA	H-SERT	CRCL et al	
7.8	The permittee shall develop and implement a monitoring plan which will address the changes in current (velocity and direction) and impact on sediment morphodynamics of the adjoining banler island system. This monitoring plan should be developed in consultation with state and federal agencies.				●				Monitoring plan to address operational efficiency and secondary impacts due to these structures will be implemented.. The plan includes provisions for addressing the concerns expressed by the commenting entities. This plan will include periodic workshops with the agencies to identify concerns.
7.9	Monitoring should consist of a GlobalPosition-Satellite (GPS) determination of the existing shorelines plotted on the most recent low altitude aerial photography presently available for oil spill response.		●						Same as above.
7.10	Every six months post project construction, the permittee should submit a monitoring report to the NOD, and interested natural resource agencies that includes GPS data indicating		●						Same as above.
7.11	Hydrographic surveys of the passes should also be taken every 6 months to document system response and determine if adverse erosion is occurring.		●						Same as above.
7.12	Should monitoring demonstrate that the project has significant adverse effects, corrective action		●						Same as above.
7.13	The effectiveness of these structures in enhancing the capture of oil should be monitored.			●					Same as above.

Apples to Apples  
 Concern  
 Monitor  
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 provide

**SUMMARY OF COMMENTS**

*Emergency permit application to restrict Pass Abel and Four Bayou Pass to limit oil intrusion into interior marsh (June 26, 2010)*

		USACE	USFWS	EPA	CPRA	NOAA	H-SERT	CRCL et al	
7.14	Should be monthly meetings of an agency/permittee/expert group to consider whether the structures are still needed for oil spill response and to identify an appropriate time for their removal.						●		Same as above.
7.15	With the UFWL Service's assistance, a qualified observer should monitor each colonial nest site to determine the minimum distance at which construction can occur without disturbing nesting birds (nesting gulls, terns, and/or black skimmer).		●						Same as above.  Birding surveys are being conducted in conjunction with the USFWL and LWL&F.
7.16	Monitoring should include surveying the effects of construction activities and rock dikes on erosion or infilling tidal passes and marsh. As part of the monitoring plan, the permittee shall provide to the resource agencies copies of pre-construction and as-built plans and surveys of the passes and the islands on each side of the passes. The bayward, alongshore, and offshore limits of the surveying should be approved by the NOD through coordination with the resource agencies.					●			Same as above.

# SUMMARY OF COMMENTS

*Emergency permit application to restrict Pass Abel and Four Bayou Pass to limit oil intrusion into interior marsh (June 26, 2010)*

		USACE	USFWS	EPA	CPRA	NOAA	H-SERT	CRCL et al	
7.17	The permittee shall develop and implement a monitoring plan, in coordination with the natural resource agencies, to assess the potential direct and indirect impacts of project implementation. At a minimum, the monitoring plan shall require field data collection (e.g., topographic and bathymetric surveys, aerial photography) adequate to quantitatively assess potential and actual impacts to tidal pass geometry, sediment transport and resulting shoreline response for all areas that may be directly and indirectly impacted (i.e., from Caminida Pass east to Chenier Roquille). As part of the monitoring plan, the permittee shall provide to the resource agencies copies of pre-and post- construction data and results.					●			Same as above.
7.18	The permittee will be responsible for removal of these structures if monitoring shows adverse effect on ecosystem (especially the adjoining barrier islands in form of erosion, breach overwash, etc.) or within 90 days after threat of oil has passed.				●				Noted.
7.19	<b>Mitigation</b>								
7.20	Applicant expressed an unwillingness to undertake actions that may be necessary to mitigate for unintended consequences of project implementation.					●			Monitoring will allow for early identification of unintended consequences and allow for mitigation adaptive management or other appropriate mitigation actions.

SUMMARY OF COMMENTS									
Emergency permit application to restrict Pass Abel and Four Bayou Pass to limit oil intrusion into interior marsh (June 26, 2010)									
		USACE	USFWS	EPA	CPRA	NOAA	H-SERT	CRCL et al	
7.21	Restoring portions of barrier islands impacted by refracted/diffracted waves, breached by tidal movement, or otherwise impacted by construction of the rock jetties.					●			Noted.
7.22	Permittee should be responsible for mitigating all unavoidable adverse impacts to wetlands.		●						Noted.
7.23	The permittee shall develop a post-emergency mitigation plan to ensure compensation for all unavoidable adverse impacts to vegetated and unvegetated habitats. Such a plan may include sand fill placement to restore pre-project conditions (i.e., coastal processes and spatial extent of islands) to the maximum extent practicable. Implementation of the mitigation shall occur within the same year the rock dikes are removed.					●			Noted.
7.24	Permittee should be responsible for mitigating all unavoidable adverse impacts to piping plover critical habitat.		●						See ESA comment below. Additionally, it is noted that the intend of the project is to protect back barrier shorebird habitat as most habitat at the project site has already been impacted by oil.
7.25	An acceptable compensatory mitigation plan should be developed through coordination with resource agencies.		●						Mitigation plan will be developed through coordination with appropriate agencies.
7.26									

**SUMMARY OF COMMENTS**

***Emergency permit application to restrict Pass Abel and Four Bayou Pass to limit oil intrusion into interior marsh (June 26, 2010)***

		USACE	USFWS	EPA	CPRA	NOAA	H-SERT	CRCL et al	
7.27	<b><i>Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et</i></b>								
7.28	Piping plover Critical Habitat (CH) includes Elmer's Island, Grand Isle, and East Grand Terre. To the maximum extent possible, avoid impacts to island habitat from the dune/vegetation line to mean low low water (Le., within CH). If this is not possible, in order to minimize disturbance to feeding and resting piping plovers, construction activity should be limited in CH to the maximum extent possible.		●						We are coordinating with the LDWF and the USFWS to identify critical habitat in the project area. Our monitoring plan will address potential impacts to critical habitat.

**SUMMARY OF COMMENTS**

***Emergency permit application to restrict Pass Abel and Four Bayou Pass to limit oil intrusion into interior marsh (June 26, 2010)***

		USACE	USFWS	EPA	CPRA	NOAA	H-SERT	CRCL et al	
7.29	<b>Migratory Bird Treaty Act (40 Stat. 755, as amended; 16 U.S.C. 703 et seq.),</b>								
7.30	<p>To minimize disturbance to colonies containing nesting gulls, terns, and/or black skimmers, the Service typically recommends that all work within 650 feet of a colonial nest site be restricted to the non-nesting period (i.e., September 16 through April 1). The Service should be notified if colonial bird nest sites are identified within the 650-foot buffer, and coordination should take place between the permittee and the Service to determine the most appropriate course of action. With the Service's assistance, a qualified observer should monitor each colonial nest site to determine the minimum distance at which construction can occur without disturbing nesting birds. That distance could be utilized as the construction zone buffer for that nesting area. An additional precaution would include limiting activities that are closest to the nesting sites to the cooler parts of the day (i.e., morning and evening).</p>		●						<p><input type="checkbox"/> We are coordinating with the LDWF and the USFWS to identify nesting colonies in the project area. Our monitoring plan will address potential impacts to nesting colonies.</p>

Condensed response to agency comments.

Tyler Ortego draft. 6-27-2010 3:45 pm Oneil and Vickie edits. 6-27-2010 5:15 Josh additions

## **Introduction**

After the June 23, 2010 interagency presentation, comments were received from the USFWS, EPA, CPRA, NOAA, H-SERT and CRCL. These comments were forwarded to Jefferson Parish and Shaw by the NOD permit analyst. This document was produced to address concerns raised in these comments. Most of the commenters are concerned about the same key issues. Below, we attempt to condense these comments into the key issues in order to address concisely. In addition, we will address the specific permit conditions recommended by the various stakeholders.

## **Provide more engineering information, particularly how the structures will tie into existing islands.**

Shaw has developed tie in details for both of the proposed passes. At Pass Abel, the dike will tie into the recently constructed East Grand\_Terre dune. As this dune is higher than the proposed rock structure, the proposed rock structure will be overtopped first in the event of a storm surge, thus partially diverting wave energy and minimizing scour of the existing island. In addition, a scour blanket will extend around the tie in to the -1 ft NAVD contour. For Four Bayou Pass, topographical highs were identified using existing lidar information. The rock dike will extend 50 ft onto the island at the high spot. Topographical surveys will be performed to verify the location and elevation of the tie in. A scour blanket will extend from the tie in to the -1 NAVD contour.

Details of the proposed tie-ins are attached.

## **Concerns that the rocks will not be temporary**

The requested emergency authorization is for temporary rock structures. The proposed rock structures are being implemented by BP at the direction of the National Incident Command (NIC) to aid in preventing the ingress of oil into sensitive interior marshes. After the threat of oil is gone, at the direction of the NIC, BP will remove the rock structures.

Shaw is also developing a monitoring plan capable of identifying morphological changes to the barrier islands and passes. Should serious unexpected morphological changes be observed, the proposed rock structures will be altered or removed to correct the problem.

## **Effectiveness for preventing oil intrusion, less damaging alternatives.**

Mississippi Canyon 252 Deepwater Horizon oil spill is unprecedented and continues to inflict high economic and environmental damage on coastal parishes and the state of Louisiana. The risk of not moving forward with this project to limit oil reaching interior marsh is greater than the potential short-term environmental impacts associated with this project. Potential negative impacts have been minimized through extensive hydrodynamic modeling to determine the best possible alignments for Pass Abel and Four Bayou Pass.

Currently, a variety of methods are being employed to prevent oil from entering the estuaries. Booms, skimmers, steel pipe booms and barge mounted vacuum trucks are all being utilized in this attempt. Unfortunately, there is a wholesale shortage of necessary assets to effectively keep oil out of the

Condensed response to agency comments.

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estuary. The Jefferson Parish barge plan (MVN-2010-1342-EOO) calls for 16 barges sets in Pass Abel and 24 barge sets in 4 Bayou Pass. Currently, 7 sets are in place in Pass Abel, 7 sets are sitting in Bayou Rigaud and the contractors are scrambling to find the remainder. By utilizing the proposed rock structures in Pass Abel and Four Bayou Pass, these assets can be moved to enhance the effort in other passes.

Some commenters stated that the oil would be less damaging than our proposed structure. Large areas of interior wetlands are being impacted now, and we cannot know for sure that additional and repeated oiling will not result in long-term impacts. David Westerholm, Director of NOAA's Office of Response and Restoration testified that:

*"The effect of the Deepwater Horizon oil spill and the dispersants used, on coastal wetland loss will be determined by how much oil reaches coastal wetlands, and how long the oil persists. Large amounts of oil resting on vegetated coastal shorelines could cause the vegetation to become stressed and die. This could cause the roots to die, which would weaken marsh soils. Weakened marsh soils would then be at risk of accelerated erosion from waves and storms. The long-term effects to these habitats have yet to be determined." (Written statement of David Westerholm, Director, Office of Response and Restoration, National Ocean Service, U.S. Department of Commerce Hearing on Our natural resources at risk: the short and long term impact of the Deepwater Horizon oil spill before the subcommittee on insular affairs, Oceans and Wildlife, Committee on Natural Resources, U.S. House of Representatives, June 10, 2010.*

Other commenters stated that the proposed structures would increase velocities in the passes, making it harder to contain and collect oil. However, our modeling results clearly demonstrate that the peak velocity will be reduced in Pass Abel, and only localized increases will occur in Four Bayou Pass. Modeled velocity fields in Four Bayou Pass indicate that the proposed rock structures would in fact create a situation that enhances oil capture effectiveness. Slight velocity increases in other passes are manageable and predictable.

In addition, our model results predict a slight *decrease* in overall tidal prism of Barataria Bay as a result of the proposed rock structures. Modeling showed that construction of the dike would result in a more than 65% decrease in the flow volume at Pass Abel and more than a 35% reduction in volume at Four Bayou Pass. This means that there is an overall reduction of the oil entering the bay through these passes directly proportional to the reduction of flow volume. Therefore, concerns about increased oil ingress due to changed velocities are unfounded.

Shaw is developing a monitoring plan which will document the effectiveness of the proposed structures/operations to capture oil.

### **Secondary impacts, primarily due to changes in tidal hydrology.**

Extensive modeling was performed in order to identify the most effective, least damaging alternatives in the two passes. Based on our modeling, the proposed rock structure will reduce the tidal flow in Pass Abel and Four Bayou Pass, slightly increase the tidal flow in Caminada Pass, Barataria Pass and Pass Ronquille and overall, slightly decrease the tidal prism of the overall system (Barataria Basin). It was noted that the pass will respond morphologically to reach an equilibrium. However, morphological



Condensed response to agency comments.

Tyler Ortego draft. 6-27-2010 3:45 pm Oneil and Vickie edits. 6-27-2010 5:15 Josh additions

responses occur on the order of years or decades, while our structure will only be in place until the NIC declares that there is no more threat of oil. *? uncertain time frame*

Numerical modeling is being conducted to address concerns about storm surge. Results of the modeling are not available at the time of this writing, and will be presented as soon as available. In general, storm surge will increase velocities for existing conditions as well as with-dike conditions. It is expected that as was shown to be the case with typical conditions, the dikes will reduce the volume of flow entering the bays as compared to existing conditions for storm surge.

Shaw is also developing a monitoring plan capable of identifying morphological changes to the barrier islands and passes. Should serious unexpected morphological changes be observed that cannot be corrected through adaptive management, the proposed rock structures will be altered or removed to correct the problem.

### **Cumulative impacts.**

At this time we are only seeking authorization for the two passes. We are initiating modeling to analyze alternatives in other passes and determine if there are acceptable alternatives. If it is determined that this technique will work in other passes, in conjunction with the two currently requested, then we will modify our request accordingly. Again, at this time we are only requesting an emergency permit for rock structures in Pass Abel and Four Bayou Pass.

### **Recommended Permit Conditions**

1. IF the permit is granted, that it be on the condition that the rock jetties are removed when they are no longer needed as part of the response.
  - Concur.
2. Recommends a Special Condition be added to any permit issued for this project indicating that the permit does not address the applicability of this project to the spill response effort, which is a decision to be made by the National Incident Commander in consultation with the Federal On-Scene Coordinator.
  - Concur.
3. The permittee shall include emergency provisions for allowing drainage of surge from Barataria Bay in the event tropical storm or hurricane.
  - Concur.
4. Rock barriers should be designed and constructed in a manner that does not increase water velocity in any of the passes to the point that results in scour of beach habitat down to the mean low low water line.
  - Modeling is being conducted to predict such changes. In addition, monitoring will be conducted to identify such changes should they occur.
5. Rock barrier installation should not result in a redirection of the ebb-tide delta Gulfward to the point that the littoral building process is compromised. The permittee shall develop and implement a monitoring plan which will address the changes in current (velocity and direction) and impact on sediment morphodynamics of the adjoining barrier island system. This monitoring plan should be developed in consultation with state and federal agencies.

Condensed response to agency comments.

Tyler Ortego draft. 6-27-2010 3:45 pm Oneil and Vickie edits. 6-27-2010 5:15 Josh additions

- Concur. The monitoring plan will also address critical habitat, and migratory bird nesting colonies. Pre-construction monitoring activities have been initiated.
- 6. The permittee shall develop a post-emergency mitigation plan to ensure compensation for all unavoidable adverse impacts to vegetated and unvegetated habitats. Such a plan may include sand fill placement to restore pre-project conditions (i.e., coastal processes and spatial extent of islands) to the maximum extent practicable. Implementation of the mitigation shall occur within the same year the rock dikes are removed.
  - Concur. Our monitoring plan will identify secondary impacts should they occur. If negative secondary impacts are occurring, then a suitable mitigation plan will be developed and implemented.
- 7. No dredging for flotation or equipment access is authorized.
  - Concur.
- 8. No heavy construction equipment (i.e., dump trucks or tracked excavators) should be allowed on existing islands, shorelines or vegetated wetlands unless approved by the NOD through coordination with the natural resource agencies. No construction access corridors should be across marsh unless approved by the NOD through coordination with the resource agencies. No construction corridors will be allowed in critical habitat or vegetated wetlands.
  - Concur. Impacts to vegetated wetlands due to construction of the tie in features will be identified and submitted to the NOD prior to construction of those features.

DAVID VITTER  
LOUISIANA

DEPUTY WHIP

Armed Services

Banking, Housing and Urban Affairs

Commerce, Science, and Transportation

Environment and Public Works

Small Business and Entrepreneurship

## United States Senate

WASHINGTON, DC 20510

July 6, 2010

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Website with E-Mail Access:  
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The Honorable Lisa Jackson  
Administrator  
U.S. Environmental Protection Agency  
1200 Pennsylvania Avenue, NW  
Washington, DC 20460

The Honorable Jane Lubchenco  
Administrator  
National Oceanic and Atmospheric Administration  
1401 Constitution Avenue, NW  
Washington, DC 20230

Colonel Alvin Lee  
Commander and District Engineer  
New Orleans District  
United States Army Corps of Engineers  
PO Box 60267  
New Orleans, Louisiana 70160

### VIA FACSIMILE AND ELECTRONIC MAIL IMMEDIATE ATTENTION REQUESTED

Dear Administrator Lubchenco, Administrator Jackson, and Colonel Lee:

I write to express my strong and ever growing frustration with yet another example of the faceless bureaucratic mindset of our federal agencies when it comes to protecting the Louisiana coast versus a solutions oriented approach. On June 7<sup>th</sup> Jefferson Parish requested a permit for the emplacement of temporary rock dikes in the Barataria Bay passes as a defensive measure against oil intrusion into the bay. As of late last week expectations were that this project would receive the go-ahead from the Corps of Engineers. Appropriately, BP moved forward and procured \$16 million in rocks, which are currently sitting in Barataria Bay on roughly 40 barges. However, yesterday the Corps denied the permit request.

In denying the permit, the Corps cited potential for adverse environmental impacts on the bay by the rock dikes. I along with thousands of directly affected Louisiana citizens find this ironic because the oil spill itself is an environmental catastrophe beyond measure. All efforts must be made to limit/lessen the environmental impact of the spill itself. This current impasse is yet another example of the federal bureaucratic bottleneck that so often crushes the can-do attitude of our local communities.

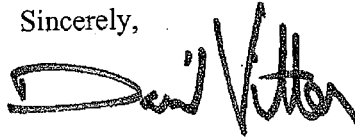
Grand Isle, Jefferson Parish and the State have done everything they can to work with the Federal Agencies involved in this permit process. The original request for the rock closure of five passes has been reduced to just two. The State has offered a plan by which all rock will be removed at a later date, after the threat of oil penetration of the Barataria Bay has subsided. The

<b>ACADIANA</b> 800 LAFAYETTE STREET SUITE 1200 LAFAYETTE, LA 70501 (337) 262-6898 FAX: (337) 262-6373	<b>CENTRAL LOUISIANA</b> 2230 SOUTH MACARTHUR DRIVE SUITE 4 ALEXANDRIA, LA 71301 (318) 448-0169 FAX: (318) 448-0189	<b>NORTHEAST LOUISIANA</b> 1217 NORTH 19TH STREET MONROE, LA 71201 (318) 325-8120 FAX: (318) 325-9165	<b>NORTHWEST LOUISIANA</b> 920 PIERREMONT ROAD SUITE 113 SHREVEPORT, LA 71105 (318) 861-0437 FAX: (318) 861-4865	<b>SOUTHEAST LOUISIANA</b> 2800 VETERANS BOULEVARD SUITE 201 METairie, LA 70002 (504) 689-2753 FAX: (504) 689-2607	<b>SOUTHWEST LOUISIANA</b> 3221 RYAN STREET SUITE E LAKE CHARLES, LA 70601 (337) 436-0463 FAX: (337) 436-3163
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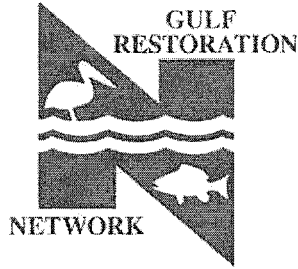
Parish and State have even recommended a course of action by which rock will be immediately removed if it is determined to have immediate negative environmental impact above that of the oil spill itself. Yet even in the face of this willingness to compromise, the permit has been rejected by the federal agencies involved. Even worse, the federal agencies in charge have offered no alternative solutions or ideas to protect this section of our coast.

I request your immediate attention to this issue and look forward to your written response. My scheduler will be in contact with your agencies shortly to set up a conference call whereby I expect to hear your recommendations for an intelligent way forward with this permit request or alternative ideas.

Sincerely,

A handwritten signature in black ink, appearing to read "David Vitter". The signature is stylized with a large, sweeping "D" and a cursive "Vitter".

David Vitter  
United States Senator



## UNITED FOR A HEALTHY GULF

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June 2, 2010

Col. Alvin Lee  
United States Army  
Corps of Engineers  
New Orleans District  
7400 Leake Avenue  
New Orleans, LA 70118

RE: Jefferson Parish Emergency Authorization for Proposed Rock Dikes in Barataria Basin  
Passes

Dear Col. Lee,

I am writing on behalf of the Gulf Restoration Network (GRN), a diverse coalition of individual citizens and local, regional, and national organizations committed to uniting and empowering people to protect and restore the resources of the Gulf of Mexico. Please consider the following comments regarding the emergency permit for the Proposed Rock Dikes in Barataria Basin. While we share the Parish's desire to protect our coast from the harmful effects of the ever-growing threat of oil fouling our wetlands, it does not seem that the rock dike proposal gives sufficient evidence supporting the claim that it will reduce oil impacts that outweigh the impacts this project could have on the basin. Given the below concerns, we ask that the Corps not approve this request for an emergency general permit at this time.

1. There is not sufficient information in the proposal to show that this plan would actually reduce the impact of the oil to Louisiana's coast.
2. Altering hydrology could result in increase erosion of barrier islands and interior marshes.
3. Constricting tidal passes would increased velocity, which could actually hasten oil into interior marshes.
4. Constricting tidal passes would influence migration of aquatic life.
5. The proposed rock dike could interrupt the sediment exchange between the interior marshes and the Gulf of Mexico.
6. The rock dikes would not be a temporary oil-fighting feature, but a permanent change. If the applicant claims that the dikes will be temporary, no explanation as to how the dikes will be removed was supplied.

7. We understand that the BP oil drilling disaster is a disaster of unprecedented proportions. However, we are concerned that Louisiana is proposing to have such a large project covered under a general permit (NOD 20). General permits are intended to have negligible impacts individually and cumulatively, however this project will certainly have impacts that would normally require a full Environmental Impact Statement (EIS) under the National Environmental Policy Act (NEPA). While we acknowledge that this disaster requires regulatory flexibility, general permits were never intended to address massive projects with potentially significant environmental impacts. We are deeply troubled by the precedent that would be set by this action.

We would like to be clear that we are very concerned about the impacts of the BP oil drilling disaster; however, hastily moving forward with this effort that may prove ineffective and inflict harm on existing natural resources is not the best approach. For the above reasons, as well as reasons submitted by coastal scientists and stakeholders, the permit should be denied until additional information can be provided to the U.S. Army Corps of Engineers, the commenting agencies and the public. Once sufficient information is provided, an additional comment period should be set.

Thank you for reviewing our concerns. I would be happy to explore these ideas further if you have any questions.

For a healthy Gulf,

Matt Rota  
Water Resources Program Director

CC: Mike Boots, CEQ  
Host Greczmiel, CEQ  
Garret Graves, State of Louisiana  
Lisa Jackson, EPA  
Al Armendariz, EPA Region 6  
Lawrence Starfield, EPA Region 6  
John Ettinger, EPA Region 6  
Jane Lubchenco, NOAA  
Pete Serio, USACE New Orleans District

**From:** [Serio, Pete J MVN](#)  
**To:** [Laborde, Brad MVN](#)  
**Subject:** FW: Special Conditions and monitoring plan  
**Date:** Friday, July 02, 2010 9:18:36 AM

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FYI

Pete Serio  
Chief, Regulatory Branch  
504-862-2255

In order to assist us in improving our service to you, please complete the survey found at:  
<http://per2.nwp.usace.army.mil/survey.html>

-----Original Message-----

From: Ettinger.John@epamail.epa.gov [<mailto:Ettinger.John@epamail.epa.gov>]  
Sent: Thursday, July 01, 2010 10:46 AM  
To: Serio, Pete J MVN  
Cc: Honker.William@epamail.epa.gov; Watson.Jane@epamail.epa.gov; Woodka.Janet@epamail.epa.gov; EOC\_Water; McCormick.Karen@epamail.epa.gov; Parrish.Sharon@epamail.epa.gov; Evans.David@epamail.epa.gov; Keehner.Denise@epamail.epa.gov; Miller.Clay@epamail.epa.gov; Landers.Timothy@epamail.epa.gov; Keeler.Barbara@epamail.epa.gov; Croll.Brittany@epamail.epa.gov  
Subject: Re: Special Conditions and monitoring plan

Pete,

Here are our comments.

Thank you for the opportunity to review and comment on the proposed conditions for a permit for rock jetties in Jefferson Parish. EPA continues to have ongoing concerns about the efficacy of this project and the severe potential environmental impacts, as detailed in our earlier comments. Our concerns about the impact and degradation of the ecosystem are shared by local scientists, again, as detailed in their letters to the Corps. The temporary nature of this proposal is questionable and the ability to mitigate the impact is questionable. We would urge continued review and discussion on this project with a broader group of scientists and engineers. EPA considers a decision to issue this permit in light of these concerns to be solely a Corps decision and a Corps decision alone.

----- Original Message -----

From: "Serio, Pete J MVN" [[Pete.J.Serio@usace.army.mil](mailto:Pete.J.Serio@usace.army.mil)]  
Sent: 06/30/2010 06:56 AM EST  
To: John Ettinger; <[Patti\\_Holland@fws.gov](mailto:Patti_Holland@fws.gov)>; "Patrick Williams" <[Patrick.Williams@noaa.gov](mailto:Patrick.Williams@noaa.gov)>; "Richard Hartman" <[Richard.Hartman@noaa.gov](mailto:Richard.Hartman@noaa.gov)>; <[rachel.sweeney@noaa.gov](mailto:rachel.sweeney@noaa.gov)>; "Miles Croom" <[Miles.Croom@noaa.gov](mailto:Miles.Croom@noaa.gov)>  
Subject: FW: Special Conditions and monitoring plan

Attached is the draft permit for the rock dikes in Pass Abel and Four Bayou Pass. Please submit your comments to us by 7:00 AM on Thursday, July 1.  
Also attached is the first draft of the interim monitoring plan. We are forwarding the plan as a heads-up to be discussed later.

Pete Serio  
Chief, Regulatory Branch  
504-862-2255

National Oceanic and Atmospheric Administration  
Comments Pertaining to Proposed Authorization of  
Two Rock Dike Closures in Jefferson Parish

July 1, 2010, 2010

NOAA appreciates the urgency of necessary and appropriate actions to reduce the movement of oil into the valuable estuarine waters and wetlands in the Barataria Basin. However, NOAA remains concerned regarding the potential for significant direct and indirect adverse impacts, potential piecemealing of additional inlet restrictions, and the likelihood of resultant cumulative impacts. NOAA also remains concerned that the proposed rock dike structures will remain in place despite proposed permit conditions to require removal of the structures and assurances by the involved parties that these measures are intended to be temporary in nature.

NOAA also is concerned that many of the proposed permit special conditions require actions by the permittee, yet require funding by BP or the Oil Spill Liability Trust Fund. Lacking written commitments to fund as-yet undefined actions, NOAA questions the capability of the applicant to fulfill permit special conditions.

In view of these and previously raised concerns, NOAA continues to recommend the proposed project not be authorized under emergency procedures.

Background

By electronic mail dated June 8, 2010, the U.S. Army Corps of Engineers, New Orleans District (NOD) requested natural resource agency review of the application by Jefferson Parish for emergency authorization to construct partial rock dike closures (PRDC) in Caminada Pass, Barataria Pass, Pass Abel, Four Bayou Pass, and Cheniere Ronquille Pass. In a document dated June 9, 2010, NOAA provided comments on that proposal and recommended the NOD not authorize the effort under General Permit NOD-20.

On June 24, 2010, the NOD transmitted to NOAA a revised request from Jefferson Parish for the placement of PRDCs in Four Bayou Pass and Pass Abel only. In a document dated June 24, 2010, NOAA provided general comments and recommended draft permit special conditions to be applied if the NOD determined permit issuance was warranted. It should be noted that NOAA again recommended against authorization of the project under General Permit NOD-20, which is used by the NOD to authorize emergency actions.

On June 29, 2010, NOAA staff participated in a conference call with the federal natural resource agencies and staff of the NOD, including the District Commander. During that call, NOD indicated they were likely to authorize the placement of PRDCs in the two passes (Pass Abel and Four Bayou Pass) based on commitments provided by representatives of the applicant, as well as U.S. Coast Guard staff serving in the National



Incident Command and Unified Command Centers. Given the ramifications of a decision to permit under emergency authorization a project that would result in potentially significant adverse impacts, NOAA believes it is important to document the commitments that were verbally communicated to the natural resource agencies by the NOD during the conference call on June 29. Those commitments are described below. NOAA requests that NOD review these commitments as understood by NOAA and identify and clarify those where misunderstandings may be present, prior to permit issuance.

In addition, on June 30, 2010, NOD transmitted for NOAA review the draft permit special conditions proposed to be included in the authorization for this project. Given NOAA's understanding of the commitments made by the applicant and the USCG, other information discussed during the June 29, 2010, conference call, and NOAA's concerns related to potential project impacts to trust resources, NOAA provides recommended revisions to those permit special conditions below. However, due to the short review period, NOAA has not yet provided recommended revisions to the monitoring plan. Therefore NOAA requests revision to the permit special condition related to monitoring to require completion and implementation of the monitoring plan, in coordination with NOAA, prior to initiation of project construction.

#### **Documentation of Commitments**

1. Either BP or the Oil Spill Liability Trust Fund would be responsible for funding the removal of the PRDCs when the threat of oil entering these passes from the Deepwater Horizon spill has ended.
2. Either BP or the Oil Spill Liability Trust Fund would be responsible for funding monitoring, modeling, and mitigative actions necessary to offset adverse impacts caused by the construction of the PRDCs. Mitigative actions could include major efforts to restore barrier island segments adversely impacted by PRDC installation.
3. The NOD authorization would require the PRDCs to be removed when the threat of oil entering the passes from the Deepwater Horizon spill has passed. If Jefferson Parish later desires these structures to remain in place, the Parish would have to apply for a new authorization under normal Clean Water Act and Rivers and Harbors Act procedures and complete an Environmental Impact Statement to evaluate impacts associated with those structures.
4. The NOD would not consider authorization of PRDCs in the remaining three passes originally requested by Jefferson Parish under the present application.
5. Construction of PRDCs in Four Bayou Pass and Pass Abel would not be initiated until all necessary baseline data collection had been completed.
6. Construction of PRDCs would not be initiated until a monitoring plan had been completed, in full coordination with the natural resource agencies.
7. Construction of PRDCs would not be initiated until all modeling efforts necessary to evaluate the likely impacts of project implementation had been initiated.
8. Jefferson Parish is the permittee. The Parish and NOD would be responsible for overseeing compliance with all permit special conditions.

### Specific Comments

NOAA continues to recommend the NOD not authorize this project under emergency procedures. Routine data collection and coastal engineering methods should be applied prior to permit issuance to assess potential impacts and risks, and whether the adverse impacts outweigh potential benefits. However, if the NOD determines that emergency authorization for this effort is warranted, NOAA recommends the following revisions to the proposed Special Conditions transmitted on June 30, 2010. These recommendations are a continuation of comments provided under the authority of the Essential Fish Habitat (EFH) provisions of the Magnuson-Stevens Fishery Conservation and Management Act and the Fish and Wildlife Coordination Act. It should be noted that a required Essential Fish Habitat Assessment pursuant to NOAA's EFH Findings with the NOD Regulatory Program has not been completed at this time.

- ✓ Special Condition 5: This special condition indicates that any request to place rock dikes in the three adjacent passes will require additional coordination with the NOD under the present application. During the June 29, 2010, conference call, NOD indicated there would be no further consideration of the placement of PRDCs in those three adjacent passes. As such, NOAA recommends this special condition be revised to remove the phrase "or request to place rock dikes in the three adjacent passes".
- ✓ Special Condition 13: NOAA recommends the phrase "or future maintenance work" be deleted from the first sentence because the action is proposed as temporary in nature.

Special Condition 15: NOAA recommends this provision be revised as below to clarify that removal of the structures is required immediately upon a determination that the threat of oiling has passed, and additionally that the applicant is responsible for all elements associated with the removal. As currently drafted, the provision may lack clarity of intent.

"The permittee is aware that this is a temporary measure for oil response only and that the rock dike structures shall be removed immediately after the threat of oiling resulting from the Deepwater Horizon incident ends. The determination of the oiling threat will be based on near shore oiling forecasts produced in the support of the National Incident Command.

x { The permittee is responsible for all aspects of removal and disposal of the rock dike structures. Prior to construction, the permittee shall develop a plan for all aspects of removal and disposal of the rock dike structures. The plan shall be developed in coordination with the ~~natural resource agencies~~ <sup>CEMVA</sup> and include provisions for disposal of rock material that may become contaminated."

Special Condition 16: In the highly complex western Barataria Bay area, there are numerous factors that could confound interpretation of post-construction monitoring data. For example, without predictive assessments, it would be difficult to determine if

shoreline erosion or island breaching following storm events are related to the proposed tidal pass restrictions. The recommended predictive engineering assessments would provide an engineering basis for establishing causal relationships.

NOAA recommends adding the following special condition to any authorization of this project to require predictive engineering analyses to evaluate likely or anticipated effects of the proposed action on barrier islands and headlands, tidal inlets, water quality and sediment transport within the affected area.

*Monitoring* { “Prior to construction, the permittee, in conjunction with CEMVN Regulatory Branch and interested parties, shall develop a comprehensive plan to assess potential direct and indirect impacts on shoreline stability and hydrodynamics using shoreline response and sediment transport modeling. These analyses shall be conducted using standard coastal engineering methods. This assessment shall include all shorelines, islands and passes extending from Caminada Pass eastward to Pass Chaland. At a minimum, the analyses shall evaluate potential changes in sediment transport, tidal pass dynamics and both bay and gulf shoreline response that may result from the project in both fair weather and various storm events. The permittee shall submit the analyses to NOD, NOAA and other interested agencies. The results of this analysis may result in additional monitoring requirements.

NOAA concurs that providing potential monitoring requirements to the applicant in advance of permit issuance is desirable, but there has not been sufficient time to provide detailed comments on acceptable minimum monitoring requirements. Special Condition 16 indicates the intended draft monitoring plan would be acceptable as the minimum necessary. NOAA will review and submit specific recommended monitoring elements as soon as practicable. There should be discussion amongst NOD, NOAA, and other natural resource agencies on the acceptability of that minimum plan prior to indicating such to the applicant. NOAA also recommends revising Special Condition 16 as follows:

“Prior to construction, and in conjunction with CEMVN Regulatory Branch and other interested parties, the permittee shall develop and implement a comprehensive monitoring plan with measurable hydrodynamic, geomorphologic, bathymetric, and water quality elements. The monitoring plan shall require field data collection (e.g., topographic and bathymetric surveys, aerial photography) adequate to quantitatively assess potential and actual impacts to tidal pass geometry, sediment transport and resulting shoreline response for all areas that may be directly and indirectly impacted (i.e., from Caminada Pass east to Pass Chaland ). The adequacy of data acquisition (e.g., limits and density of surveys) should be coordinated with NOAA and other natural resource agencies. The permittee is responsible for implementing the monitoring plan. As part of the monitoring plan, the permittee shall provide to the resource agencies copies of pre-and post-construction data and results.”

✓ Special Condition 17: NOAA recommends revising this provision to include both predictive engineering analyses and monitoring as project features.

✓ Special Condition 18: This special condition relates to corrective actions to be undertaken if monitoring data demonstrate adverse impacts. The entity responsible for a determination of adverse impacts is not identified. NOAA recommends this special condition be revised to clarify that the NOD, in coordination with the natural resource agencies, will be responsible for a determination of adverse impacts, if warranted.

✓ Special Condition 20: This special condition indicates the permittee would be responsible for mitigating for all adverse impacts. NOAA recommends this special condition be revised to clarify that the NOD, in coordination with the natural resource agencies, would be responsible for identifying impacts to wetlands and special aquatic sites and for defining and prescribing mitigative actions necessary to offset such impacts.

June 24, 2010  
June 28, 2010 ADDENDUM

Colonel Alvin Lee  
U.S. Army Corps of Engineers  
Commander  
New Orleans District  
P.O. Box 60267  
New Orleans, LA 70160

Dear Colonel Lee,

We, the undersigned coastal scientists and engineers, are writing to express our concerns over the Emergency Barataria Bay Oil Spill Protection Plan that has been submitted for an emergency permit to the U.S. Army Corps of Engineers by Jefferson Parish. The permit request is to construct rock dikes and closure structures on two passes (Four Bayou Pass and Pass Abel) to Barataria Bay.

Many of us have dedicated our professional lives to the study of Louisiana coastal systems and have been among the first to recommend responsive measures in the face of the oil spill disaster on the coast. We understand the importance of acting quickly, but we also understand the importance to acting responsibly for the current threat and for the long-term sustainability of the Louisiana coast.

In sum, we believe that the current plans are based on a common goal to protect interior wetlands from excessive oiling but, ultimately the plan relies on an engineering and construction approach that carries high economic and environmental risk, and threatens the sustainability of the very ecosystem we are all trying to save. The purpose of this letter is to alert you to these concerns and to offer to assist in resolving them.

The Emergency Barataria Bay Oil Spill Protection Plan features various alignment alternatives for linear rock dike structures to block Pass Abel and Four Bayou Pass. These features could fundamentally alter, and impair, coastal hydrology leading to drastic changes in the tidal prism and could increase erosion of the barrier islands and interior wetlands. At present, little reliable information exists relative to the impacts on the hydrology, sediment and wetland habitats. Specific concerns include:

- The proposed rock dikes will alter the tidal prism which could lead to changes in salinities and wetland habitats.
- Modeling conducted as a part of the permit request indicates an increase in water velocities and a shift in water current patterns, although no velocity profiles have been modeled or provided. Modeling in an idealized estuary conducted by the USACE Engineer Research and Development Center found that the increase in current velocities resulted in a “tendency to shift toward flood dominance with increasing wetland loss.” (Reference: Sánchez, A. 2008. Interactions between

wetlands and tidal inlets. Coastal and Hydraulics Engineering Technical Note. ERDC/CHL CHETN-IV-72. Vicksburg, MS: U.S. Army Engineer Research and Development Center.)

- Altering hydrology will likely result in increased erosion of Louisiana's barrier islands and interior marshes.
- Alterations in hydrology could increase water flow through the passes creating a funnel effect for oil to enter into the Barataria Bay and complicate the oil-fighting methods in the passes.
- It is our understanding that closure of these two passes will be followed by plans to close the other three passes, Caminda Pass, Barataria Pass and Cheniere Ronquille Pass. The cumulative impacts of the entire project could have drastic modifications to the tidal prism for Barataria Basin.
- The proposed rock dike could interrupt the sediment exchange between the interior marshes and the Gulf of Mexico, specifically during storm events.
- The rock dikes are being proposed, in addition to the barge plan for surface oil, to fight oil in the water column due to concerns that dispersants have resulted in large quantities of oil below the surface. However, the oil in the water column could also become trapped in the rock structure, leading to a more complex clean-up effort.
- Confining the water flow through a smaller opening could lead to increased erosion at the bottom of the pass, deepening these passes permanently. Deepening of the channel, along with increased velocities, could accelerate the movement of oil both on the surface and in the water column into the interior marshes.
- During a storm surge, the rock dikes, at a +4 elevation, are unlikely to significantly reduce the movement of oil into the estuary. In contrast, the hard structures located adjacent to the barrier islands are likely to increase the probability of large scale erosion and breaching of the barrier islands.
- The rock dike structures would not be a temporary oil-fighting feature, but a permanent change to the landscape in Barataria Bay. If the project is anticipated to be temporary, no information was provided to describe how the project would be dismantled and temporary impacts addressed. Therefore, the impacts of these structures would also be permanent and long-term. The potential for large-scale environmental impacts would require more in-depth study prior to approving for construction.

We certainly understand the risk of ecosystem damage due to oiling of the interior wetlands in Barataria Bay. The ecosystem impacts can include mortality of wetland plants leading to wetland loss and impacts to the fisheries and wildlife communities. However, we also understand that estuaries can naturally recover from the impacts of oil. Louisiana's wetlands have been recovering from oil spills for nearly 50 years. These historic oil spills are smaller in scale overall, however could have similar or more damaging localized effects. In our current crisis, the degraded state of the oil and the dispersed nature of the oil will likely not result in long-term impacts to large areas of interior wetlands. There are also remediation activities that would be more appropriate

for use in interior wetlands than those wetlands located in high energy areas such as the Mississippi River Delta.

We also understand the economic impacts to individuals and communities that rely on these estuaries for their livelihood. Yet, the rock dikes could also result in long-term economic impacts through increased barrier island and wetland land loss, reducing the habitat for fish and wildlife and diminishing the lines of defense against storm surges.

Ultimately, the oil-fighting strategies that are proposed for the Louisiana coast need to evaluate the economic and environmental risks involved, both short-term and long-term, and plan to address those risks. The risks of long-term damage posed from oil entering into the interior marshes could be less damaging than the long-term risks associated with the rock dikes proposed in the Emergency Barataria Bay Oil Spill Protection Plan.

Lastly, the plans are currently proceeding on an in-house basis. Limited, if any, scientific input has been incorporated from outside experts, even when offered. This process is inadequate for an endeavor of this scope of potential impacts and risks. Prior to issuance of a permit, we recommend incorporating science and technical expertise into the planning process to work to address the concerns listed in this letter.

In closing, we re-emphasize our desire to resolve these concerns in a constructive way and in an expedited manner. We also request to be included in future oil-fighting strategies planning. We stand ready to assist.

For purpose of reply, you may contact Natalie Snider at the Coalition to Restore Coastal Louisiana at [nsnider@crcl.org](mailto:nsnider@crcl.org).

Respectfully submitted,

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cc: Governor, State of Louisiana  
Members, Louisiana Congressional Delegation  
Assistant Secretary for Civil Works, United States Army



Chair, Coastal Protection and Restoration Authority  
Executive Director, Office of Coastal Protection and Restoration  
President, Jefferson Parish  
President, Lafourche Parish  
Mayor, Town of Lafitte  
Mayor, Town of Grand Isle  
Administrator, Environmental Protection Agency  
Administrator, National Oceanic and Atmospheric Administration  
Secretary, Department of Interior  
Secretary, Louisiana Department of Wildlife and Fisheries

NOAA 2

June 24th  
comments

National Oceanic and Atmospheric Administration  
Comments on  
Emergency Authorization Request for  
Rock Dike Closures

June 24, 2010

By electronic mail dated June 8, 2010, the U.S. Army Corps of Engineers, New Orleans District (NOD) requested natural resource agency review of the application by Jefferson Parish for emergency authorization to construct partial rock dike closures (PRDC) in Caminada Pass, Barataria Pass, Pass Abel, Four Bayou Pass, and Cheniere Ronquille Pass. In a document dated June 9, 2010, NOAA provided comments on that proposal and recommended the NOD not authorize the effort under General Permit NOD-20.

On June 24, 2010, the NOD transmitted to NOAA a request for emergency authorization from Jefferson Parish for the placement of PRDCs in Four Bayou Pass and Pass Abel. According to information transmitted with the permit application, the U.S. Coast Guard has approved the construction of those two PRDCs only. In the e-mail transmitting that application, NOAA was given approximately six hours to provide agency comments and recommendations. Given the short review and comment period, NOAA is unable to provide detailed comments and recommendations at this time. The NOD should refer to our comments on the original emergency authorization application, dated June 9, 2010 (attached), for additional concerns. The following identify general concerns and limited recommendations towards a path forward at this time.

General Comments

- On June 23, 2010, staff of NOAA participated in a conference call with the NOD, other natural resource agencies, and representatives of the applicant to discuss concerns regarding the placement of PRDCs in passes leading into Barataria Bay. During that conference call, information was provided regarding hydrologic modeling that had been undertaken to evaluate some potential impacts of project implementation. That information suggested the PRDCs would significantly increase velocities in portions of each pass. No analysis was undertaken to determine the likely impact of such increased velocities on the depth of each pass, or the dimensions of adjacent passes.
- No wave refraction/diffraction analyses had been completed, but representatives of the applicant did agree that project implementation could have some adverse impacts on adjacent shorelines, especially on eastern Grand Terre where one PRDC is proposed to tie into the adjacent beach face. It should be noted that restoration of the beach and dune on eastern Grand Terre had been recently partially completed by a barrier island

restoration project funded under the auspices of the Coastal Impact Assessment Program.

- NOAA is concerned about the future of the constructed PRDCs. During the June 23 conference call, representatives of the applicant indicated an intention to leave the structures in place following completion of oil spill closure efforts. Lacking a commitment by the applicant to remove these structures, an analysis on the likely long term impacts of PRDC installation should be required.
- NOAA is concerned about the cumulative impacts of five proposed partial closures on barrier islands in the Barataria Bay estuary. While this proposal only represents two of the previously requested five closures, the applicant indicated during the June 23 conference call and in the permit application submittal that they plan to request approval of the other three in the future. If the Corps of Engineers determines that approval of these two partial closures is warranted as an emergency action to help mitigate oil movement into the Barataria Bay estuary, they should require a thorough analysis of the cumulative impacts of all five closures on the coastal ecosystem prior to any consideration of authorizing the remaining structures.
- Restricting the tidal passes may force water to seek new outlets for drainage or increase the size of existing openings. Those outlets would likely be through lower elevation portions of existing barrier islands. During the June 23 conference call, consultants working for the applicant indicated a possibility that restricting tidal passes could lead to increases in the size or depth of existing openings, or the creation of new openings elsewhere. Were this to occur, project implementation could increase the already high erosion rates of these barrier habitats. This may be a more likely risk for islands in greater stage of deterioration. In our review of the permit plats provided to NOAA for this application, it appears that the barrier islands on both sides of Four Bayou Pass are extremely degraded and have numerous low areas susceptible to inlet formation and erosion.
- During the June 23 conference call, representatives of Jefferson Parish clearly indicated an unwillingness to undertake actions that may be necessary to mitigate for unintended consequences of project implementation. Mitigation actions that could reasonably be expected to be necessary include: 1) removal or partially degrading portions of either PRDC if they are found to be causing erosion elsewhere or are ineffective in preventing oil from entering through either pass; or, 2) restoring portions of barrier islands impacted by refracted/diffracted waves, breached by tidal movement, or otherwise impacted by construction of the PRDCs.

#### Specific Comments

In view of the concerns raised above and lacking official clarification from the applicant regarding their position on future structure removal and mitigation, NOAA recommends the NOD not authorize this project under emergency procedures. However, if the NOD determines that emergency authorization for this effort is warranted, NMFS recommends the following conditions be included in any permit issued for the partial rock dike closure

project. These comments are provided under the authority of the Essential Fish Habitat provisions of the Magnuson-Stevens Fishery Conservation and Management Act and the Fish and Wildlife Coordination Act.

1. The rock dikes should be removed entirely immediately after the threat of oiling resulting from the Mississippi Canyon 252/Deepwater Horizon incident ends. The determination of oiling threat will be based on near shore oiling forecasts produced in support of the National Incident Command.
2. The permittee shall assess potential direct and indirect impacts on shoreline stability and hydrodynamics using shoreline response and sediment transport modeling. This assessment shall include all shorelines, islands and passes extending from Caminada Pass eastward to Chenier Ronquille. At a minimum, the analyses shall evaluate potential changes in sediment transport, tidal pass dynamics and shoreline response. These analyses shall be conducted using standard coastal engineering methods. The permittee shall submit the analyses to NMFS and other interested agencies.
3. The permittee shall develop and implement a monitoring plan, in coordination with the natural resource agencies, to assess the potential direct and indirect impacts of project implementation. At a minimum, the monitoring plan shall require field data collection (e.g., topographic and bathymetric surveys, aerial photography) adequate to quantitatively assess potential and actual impacts to tidal pass geometry, sediment transport and resulting shoreline response for all areas that may be directly and indirectly impacted (i.e., from Caminada Pass east to Chenier Roquille). As part of the monitoring plan, the permittee shall provide to the resource agencies copies of pre-and post-construction data and results.
4. No dredging for flotation or equipment access is authorized.
5. No heavy construction equipment (i.e., dump trucks or tracked excavators) should be allowed on existing islands, shorelines or vegetated wetlands unless approved by the NOD through coordination with the natural resource agencies. No construction access corridors should be across marsh unless approved by the NOD through coordination with the resource agencies.
6. The permittee shall develop a post-emergency mitigation plan to ensure compensation for all unavoidable adverse impacts to vegetated and unvegetated habitats. Such a plan may include sand fill placement to restore pre-project conditions (i.e., coastal processes and spatial extent of islands) to the maximum extent practicable. Implementation of the mitigation shall occur within the same year the rock dikes are removed.

June 24, 2010  
Emergency Authorization Request for Jefferson Parish  
Rock/Barge Plan - Pass Abel and Quatro Bayou Pass

The U.S. Fish and Wildlife Service (Service) is in receipt of your June 24, 2010, electronic transmittal requesting comments pertaining to emergency General Permit NOD-20 authorization of Jefferson Parish Government's proposal to construct two barriers in Pass Abel and Quatro Bayou Pass within the Barataria Basin barrier island chain. The project would consist of a combination of rock jetties, anchored barges, and booms to serve as a barrier for oil intrusion and to aid in oil clean up. The comments below are submitted in accordance with the technical assistance provisions of the Fish and Wildlife Coordination Act (FWCA; 48 Stat. 401, as amended; 16 U.S.C. 661 et seq.). In addition, these comments pertain to the Migratory Bird Treaty Act (MBTA) (40 Stat. 755, as amended; 16 U.S.C. 703 et seq.), and provide emergency informal consultation information under the authority of the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.). Due to the limited time provided for agency review and response to the emergency authorization request, the Service reserves the right to provide additional recommendations and permit conditions when the formal permit application is processed as per the requirements of NOD-20.

The Service is committed to the protection of Louisiana's wetlands from ongoing land loss and the added impact of the oil spill. We also remain committed to working closely with all agencies involved in spill response efforts to further explore alternatives and alternative features in order to reduce the current degree of risk and uncertainty associated with any oil spill response activities.

On June 23, 2010, the applicant's consultants provided a presentation explaining the proposed project alternatives and the potential impacts and benefits of the preferred alternatives. The applicant contends that the rock barrier proposal would provide more control of oil than just booms and barges as the rocks would hold better in storm events. The booms previously failed to hold oil during a spring storm event that caused strong southerly winds and high wave action. The Service agrees that in spring storm situations, the rocks would be a better solution; however, the situation is now that summer weather patterns prevail, placid conditions are the norm, with the exception of tropical events. In a tropical storm/hurricane event, it is likely that the rock jetty would be over-topped by wave action and would not be any more effective than the barges and booms. Also, should the oil still be in the Gulf of Mexico when the Fall/Winter cold fronts come through, the rock barrier will slow the flow of unoled or oiled water out of the basin.

Modeling of the two proposed barriers demonstrates that the tidal flow in Pass Abel would be reduced by 70 % and Quatro Bayou Pass by 35 %. In total, the volume of water passing through the five passes within the Barataria Basin would be reduced by 10% as a result of the two barriers. The applicant maintains that they intend to construct similar rock jetties in all of the five passes. The Service is concerned that construction of all of the rock barriers would have a substantial adverse impact on tidal flow and will likely result in scouring and breaching

of the barrier island chain. Furthermore, installation of hard structures in the marine environment is known to disrupt the littoral process and result in increased erosion.

#### Barrier Island Habitat

To ensure that the proposed action does not result in significant adverse impacts to tidal processes and the littoral accretion process, and does not result in excessive erosion, the Service recommends the following:

1. The rock barriers should be designed and constructed in a manner that does not increase water velocity in any of the passes to the point that results in scour of beach habitat down to the mean low low water line. Furthermore, rock barrier installation should not result in a redirection of the ebb-tide delta Gulfward to the point that the littoral building process is compromised.
2. No excavation should be authorized for this project unless approved by the NOD through coordination with the Service and other natural resource agencies.
3. Pre (or concurrent) and post construction monitoring of the adjacent shorelines should be conducted to quantify the impact to wetlands. Monitoring should consist of a Global-Position-Satellite (GPS) determination of the existing shorelines plotted on the most recent low altitude aerial photography presently available for oil spill response. Every six months post project construction, the permittee should submit a monitoring report to the NOD, and interested natural resource agencies that includes GPS data indicating whether there are or any breaches at the work sites and within the Barataria Basin island chain. Hydrographic surveys of the passes should also be taken every 6 months to document system response and determine if adverse erosion is occurring.
4. Should monitoring demonstrate that the project has significant adverse effects, corrective action will be implemented.
5. The permittee should be responsible for mitigating all unavoidable adverse impacts to wetlands and piping plover critical habitat. An acceptable compensatory mitigation plan should be developed through coordination with the Service.
6. All rock and other tidal obstructions should be removed after the threat of oil intrusion has passed.

#### Endangered Species

On May 12, 2010, the Service provided a memo transmitting ESA emergency consultation recommendations to Federal Agencies. If the Corps determines that emergency authorization is warranted, in addition to the guidance provided in that memo, our office would like to add the following recommendations specifically designed to protect the Federally threatened piping plover and its critical habitat (CH):

Service's Office of Law Enforcement carries out its mission to protect migratory birds through investigations and enforcement, as well as by fostering relationships with individuals, companies, and industries that have taken effective steps to minimize their impacts on migratory birds, and by encouraging others to enact such programs. It is not possible to absolve individuals, companies, or agencies from liability even if they implement avian mortality avoidance or similar conservation measures. However, the Office of Law Enforcement focuses its resources on investigating and prosecuting individuals and companies that take migratory birds without regard for their actions or without following an agreement such as this to avoid take.

The Service suggests the following recommendations as mitigative measures to minimize project-associated impacts to migratory birds:

1. To minimize disturbance to colonies containing nesting gulls, terns, and/or black skimmers, the Service typically recommends that all activity occurring within 650 feet of a colonial nest site be restricted to the non-nesting period (i.e., September 16 through April 1). The Service should be notified when colonial bird nest sites are identified, and no activity should occur on the beach within a recommended buffer zone during the nesting season. With the Service's assistance, a qualified observer should monitor each colonial nest site to determine the minimum distance at which construction can occur without disturbing nesting birds. That distance could be utilized as the construction zone buffer for that nesting area and a boom(s) could be placed in lieu of the jetty within that buffer distance until nesting is complete, at which time the jetty can be completed.
2. Birds would likely utilize the jetties as resting/fishing perches. If the jetties are oiled, birds attracted to them will likely come in contact with oil as well. The applicant should use a deterrent (e.g., reflective streamers or other specialized roosting deterrent) in an effort to keep birds off the jetties. At a minimum, weekly inspection and replacement of deterrents should be undertaken. If deterrents are not totally effective, periodic cleaning of the jetties should be undertaken to reduce the potential for oiling of birds.

**From:** Ettinger.John@epamail.epa.gov  
**Sent:** Thursday, June 24, 2010 1:06 PM  
**To:** Serio, Pete J MVN  
**Cc:** Richard Hartman; Patrick Williams; Patti\_Holland@fws.gov; Walther, David; Rachel Sweeney; Farabee, Michael V MVN; Laborde, Brad MVN; Mayer, Martin S MVN; Evans.David@epamail.epa.gov; Honker.William@epamail.epa.gov; Keehner.Denise@epamail.epa.gov; McCormick.Karen@epamail.epa.gov; Miller.Clay@epamail.epa.gov; Landers.Timothy@epamail.epa.gov; Parrish.Sharon@epamail.epa.gov; EOC\_Water; Watson.Jane@epamail.epa.gov; Woodka.Janet@epamail.epa.gov  
**Subject:** Re: FW: Jefferson Parish Rock plan request for emergency authorization - Pass Abel and Quatro Bayou Pass

Pete,

Following are EPA's comments on this proposal. Thank you again for your coordination on this matter.

As we have repeatedly emphasized, we fully share the applicant's urgency with respect to blocking oil from entering the valuable estuarine waters and wetlands in Barataria Basin, while at the same time minimizing any potential negative environmental impacts of our actions. For this reason, we fully and quickly supported authorization of the permitted barge barriers for five passes, including the two that are subject to this latest permit request. We have seen no information to suggest that the barge barriers would be a less effective option. We continue to believe that the barge barrier option is a valid alternative with less environmental consequences and should be tried before it is abandoned in favor of a more environmentally damaging rock berm.

The applicant asserts that the permitted barge barriers (MVN-2010-1342-EOO) would not block oil that might be suspended below the surface of the water. Such oil, it is feared, could move underneath the partially submerged barges and enter the estuary. There is no information to support this claim. More importantly, the proposed rocks would accelerate velocities through the narrowed passes. Thus, the movement into the estuary of any such subsurface oil could potentially be accelerated by the proposed rock berm project itself. With respect to subsurface oil, the rock project could actually make matters worse.

The applicant also argues that the authorized barge barriers would have to be moved during storms, thus allowing oil to flood into the estuary on a storm surge. We too are greatly concerned about potential increased oil contamination of coastal marsh due to storm surges. Here again, however, the rocks might not be any more effective during a storm – and they could possibly worsen matters. Specifically, a storm surge could overtop the rock dikes, which permit application drawings show at being four feet above the waterline. Additionally, a storm surge would greatly increase the velocities through the narrowed passes, potentially accelerating oil entry into the estuary during a storm. Unfortunately, there are no easy or good answers when dealing with the prospect of a hurricane or large storm. It is not clear why the rocks would be any more effective in a storm. Additionally, the increased velocities associated with a storm surge could cause breaching on or near the transition points where the proposed rocks connect with existing islands. This would be similar to what occurred at levee transition points during hurricane Katrina.

We greatly appreciate the applicant's hard work to minimize potential adverse environmental impacts by modeling various less damaging options. The work done in that regard was high quality, given the extremely limited timeframe. Despite such efforts, we believe the modeling shows the preferred alternatives would significantly alter flow volumes through the two passes. Specifically, the applicant's modeling projects that flow volumes through the two subject passes could change by approximately 65% in Pass Abel and over 35% in Four Bayou Pass. It was acknowledged in the June 23, 2010, meeting that this would most likely result in the widening and/or deepening of other passes through increased scour and erosion, as well as other potential indirect impacts. Moreover, what is unknown is how these proposed rock dikes would affect sediment transport processes and fisheries ingress and egress. Nor has any modeling or analysis been done on how these rocks would affect wave energies. Here too, increased erosion of existing barrier islands could be expected.

The applicant would likely argue that the overall effect of these two rock projects on all five passes that were the subject of the earlier permit application would be minimal. However, it is clear to us that the applicant fully intends to seek authorization of rock placement in the three remaining passes in the near future. It is also apparent that there is no firm



commitment to remove such rock barriers. In such a scenario, we would likely see long-term changes in flow volumes through the other three passes that are similar to the substantial effects projected for the two passes that are the subject of this latest request. Thus, the cumulative effect of this action and the future rock closures would most likely be long-term significant changes in hydrology through the passes, which could have substantial unforeseen adverse impacts in terms of increased barrier island erosion and breaching, and possibly reduced fishery access. The barge barriers would have no such long-term effects, because these barriers are by definition temporary.

Thus, based on the availability of a less environmentally damaging and permitted option, as well as the remaining potential for long-term substantial indirect and cumulative adverse environmental impacts, we strongly recommend the Corps not authorize the proposed rock project. Again, we reiterate our full support for the rapid implementation of the authorized barge barriers as a less damaging option for attempting to block oil in these passes.

John Ettinger  
U.S. EPA Region 6  
[REDACTED]  
ettinger.john@epa.gov

-----"Serio, Pete J MVN" <Pete.J.Serio@usace.army.mil> wrote: -----

To: John Ettinger/R6/USEPA/US@EPA, "Richard Hartman" <Richard.Hartman@noaa.gov>, "Patrick Williams" <Patrick.Williams@noaa.gov>, <Patti\_Holland@fws.gov>, "Walther, David" <david\_walther@fws.gov>, "Rachel Sweeney" <Rachel.Sweeney@noaa.gov>  
From: "Serio, Pete J MVN" <Pete.J.Serio@usace.army.mil>  
Date: 06/24/2010 06:49AM  
cc: "Farabee, Michael V MVN" <Michael.V.Farabee@usace.army.mil>, "Laborde, Brad MVN" <Brad.Laborde@usace.army.mil>, "Mayer, Martin S MVN" <Martin.S.Mayer@usace.army.mil>  
Subject: FW: Jefferson Parish Rock plan request for emergency authorization - Pass Abel and Quatro Bayou Pass

Please have your comments to us by 1:00 PM today. Thank you for your cooperation.

Pete Serio  
Chief, Regulatory Branch  
504-862-2255

In order to assist us in improving our service to you, please complete the survey found at: <http://per2.nwp.usace.army.mil/survey.html>

-----Original Message-----

From: Ortego, Tyler R [mailto:tyler.ortego@shawgrp.com]  
Sent: Thursday, June 24, 2010 6:42 AM  
To: Serio, Pete J MVN; Karl Morgan  
Cc: Laborde, Brad MVN; MWinter; DBonano; Malbrough, Oneil; Duffourc, Vickie; Malbrough, Benjamin  
Subject: Jefferson Parish Rock plan request for emergency authorization - Pass Abel and Quatro Bayou Pass

DATE: June 24, 2010

TO: Mr. Pete Serio, Chief Regulatory ,Branch



# State of Louisiana

CPRA  
**BOBBY JINDAL**  
GOVERNOR

June 24, 2010

Pete Serio  
Chief, Regulatory Branch  
Operations Division  
U.S. Army Corps of Engineers  
P.O. Box 60267  
New Orleans, Louisiana 70160-0267

Dear Mr. Serio:

The purpose of this letter is to recommend conditions in the emergency authorization requested by Jefferson Parish for tidal pass constrictions at Pass Abel and Four Bayou Pass, Plaquemines Parish, Louisiana. These conditions are needed to address concerns of our agency regarding potential unintended consequences of these hard structures should they be allowed to remain in place longer than necessary to address the current emergency response to the Deepwater Horizon event MC-252.

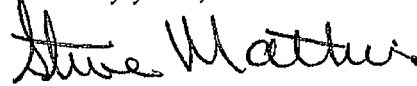
Potential unintended consequences of long-term existence of proposed hard structures include changing boundary conditions of tidal exchange passes; subsequent increase in tidal exchange through adjacent passes; increase in erosion on both sides of adjoining barrier islands; and causing overwash or breach in existing islands. To address these concerns, we recommend that the following conditions be included in any authorization issued.

1. The permittee shall develop and implement a monitoring plan which will address the changes in current (velocity and direction) and impact on sediment morphodynamics of the adjoining barrier island system. This monitoring plan should be developed in consultation with state and federal agencies.
2. The permittee will be responsible for removal of these structures if monitoring shows adverse effect on ecosystem (especially the adjoining barrier islands in form of erosion, breach overwash, etc.) or within 90 days after threat of oil has passed.
3. The effectiveness of these structures in enhancing the capture of oil should be monitored.

4. The permittee shall include emergency provisions for allowing drainage of surge from Barataria Bay in the event tropical storm or hurricane.

Please let us know if you have any questions regarding these recommendations.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Steve Mathies". The signature is written in a cursive style with a large, stylized "S" and "M".

Steve Mathies

Executive Director

**From:** Serio, Pete J MVN  
**Sent:** Thursday, June 24, 2010 9:11 AM  
**To:** Farabee, Michael V MVN; Laborde, Brad MVN  
**Subject:** FW: comments from ED on Rock Barrier Plan for Pass Abel and Four Bayou Pass

Pete Serio  
Chief, Regulatory Branch  
504-862-2255

In order to assist us in improving our service to you, please complete the survey found at:  
<http://per2.nwp.usace.army.mil/survey.html>

-----Original Message-----

**From:** Baummy, Walter O MVN  
**Sent:** Thursday, June 24, 2010 9:11 AM  
**To:** Serio, Pete J MVN; Mayer, Martin S MVN  
**Cc:** Accardo, Christopher J MVN; Colletti, Jerry A MVN; Baummy, Walter O MVN  
**Subject:** FW: comments from ED on Rock Barrier Plan for Pass Abel and Four Bayou Pass

**Basis of Review:** Temporary oil response emergency measure for 2 rock dikes at Pass Abel (configuration 3B) and Four Bayou Pass (configuration 5A).

**BLUF:** The rock dikes can provide a measure to prevent oil penetration into the Barataria basin. Approval as a temporary measure is recommended. The rock dikes are to be utilized as integral part of a comprehensive plan to prevent oil spill penetration.

Based upon discussion at the 23 June 2010 meeting, temporary was considered 6 to 12 months.

Comments:

1. The applicant has provided comprehensive modeling of the passes and the effects of the rock dike alternatives on current patterns, velocity magnitudes, tidal energy, and tidal volume. Similar modeling should be performed that corresponds to the sequencing of any additional rock berms or sand barriers in the Barataria basin area. Each additional measure must be evaluated for its contribution to this cumulative effect.
2. A monitoring plan should be developed. Monitoring should extend into the Barataria Basin beyond the area of construction. Monitoring should commence immediately and continue post construction or until it has been demonstrated the effects are negligible. The monitoring plan should be developed in conjunction with and shared with the resource agencies. The following should be monitored to assess changes in bathymetry and water movement:
  - Scour and deposition patterns
  - Basic water quality, including salinity and dissolved oxygen
  - Cross sections and velocities in the passes
3. Selected alternatives for Pass Abel and Four Bayou Pass tie into existing islands. Bank line tie-in design should be incorporated into the permit to minimize potential for flanking of the structure that could lead to erosion situations. Design of these tie-ins can be a condition of the permit in lieu of submission prior to approval.
4. Observation, monitoring and adaptive management of the constructed dikes will provide important data to assess if the dikes are performing in accordance with results predicted by the model. Particular attention to flow patterns, velocities, deposition and scour on a recurring basis would assist in arresting unexpected adverse affects that could result. Particular attention should be focused on scour around pipelines in the vicinity of the dikes both during and post construction. Pipelines could become exposed as a result of scour and result in potentially dangerous conditions.

5. Changes in the tidal flows induced by the rock berms will result in system wide changes over time. The effects can only be quantified with more extensive modeling combined with field measurements. It is suggested that such modeling be submitted when the full permit is submitted or alternatively, a detailed plan and timeline included that considers field monitoring results. Potential effects of the rock dikes will require continuous evaluation with the possibility of response actions over the near term. These activities will warrant full engagement with the resource agencies.

Walter Baomy, Jr., P.E.  
Chief, Engineering Division  
New Orleans District

**From:** Serio, Pete J MVN  
**Sent:** Thursday, June 24, 2010 8:50 AM  
**To:** Mayer, Martin S MVN; Farabee, Michael V MVN; Laborde, Brad MVN  
**Subject:** FW: comments from ED on Rock Barrier Plan for Pass Abel and Four Bayou Pass

FYI

Pete Serio  
Chief, Regulatory Branch  
504-862-2255

In order to assist us in improving our service to you, please complete the survey found at:  
<http://per2.nwp.usace.army.mil/survey.html>

-----Original Message-----

From: Powell, Nancy J MVN  
Sent: Wednesday, June 23, 2010 5:44 PM  
To: O'Cain, Keith J MVN; Baummy, Walter O MVN; Serio, Pete J MVN  
Subject: comments from ED on Rock Barrier Plan for Pass Abel and Four Bayou Pass

As an emergency measure, the 2 rock dikes at Pass Abel and Four Bayou Pass can provide some measure of prevention of oil spill penetration into the Barataria basin and should be approved. The rock dikes should be an integral part of a comprehensive plan to prevent oil spill penetration.

Both preferred alternatives for Pass Abel and Four Bayou Pass tie into existing islands. Bank line tie-in design should be incorporated to minimize potential for flanking of the structure.

The applicant has provided comprehensive modeling of the passes and the effects of the rock dike alternatives on current patterns, velocity magnitudes, tidal energy, and tidal volume. Similar modeling should be performed that corresponds to the sequencing of any additional rock berms or sand barriers in the Barataria basin area. Each additional measure must be evaluated for its contribution to this cumulative effect.

Monitoring plan should be developed. Monitoring should extend into the Barataria Basin beyond the area of construction. Monitoring should commence immediately and continue post construction or until it has been demonstrated the effects are negligible. Information should be shared with the resource agencies. The following should be monitored:

- Scour and deposition patterns
- Basic water quality, including salinity and dissolved oxygen
- Cross sections and velocities in the passes

Nancy J. Powell, P.E., D.WRE  
Chief, Hydraulics and Hydrologic Branch  
U.S. Army Corps of Engineers, New Orleans District CEMVN-ED-H PO Box 60267 New Orleans, LA 70160 Phone - (504) 862-2449 Fax - (504) 862-2471 email - [nancy.j.powell@usace.army.mil](mailto:nancy.j.powell@usace.army.mil)

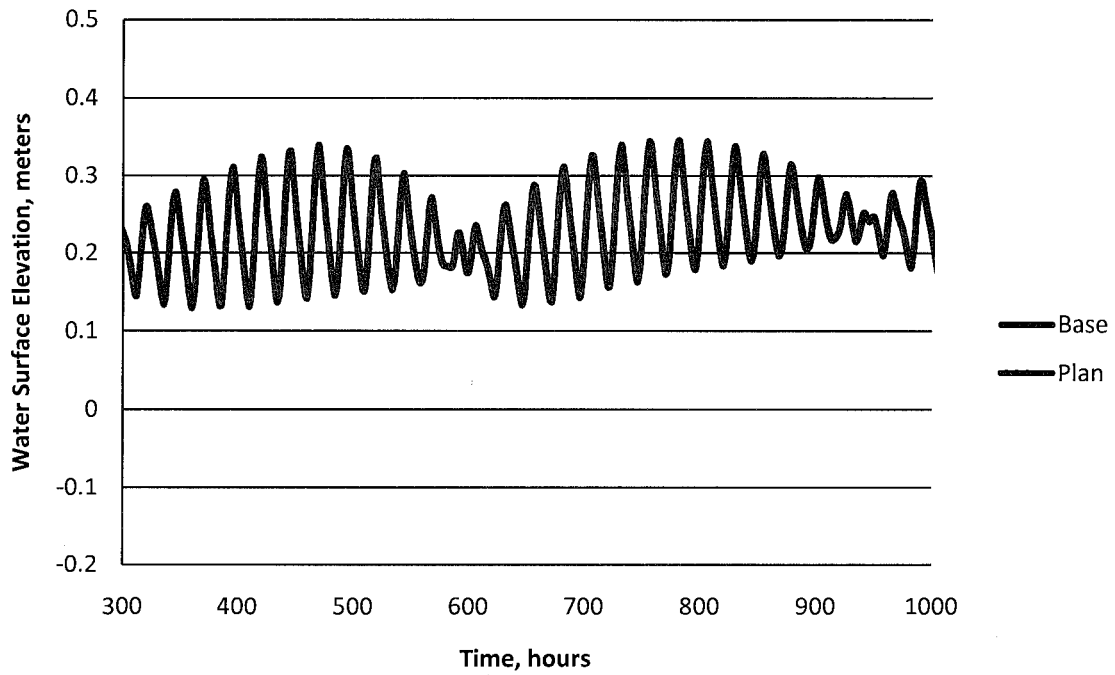
From our modeling effort, we observe a number of reactions to the constricting Pass A Bel and Four Bayou Pass. These include:

- 1) Slight lowering of the tide ranges North of the passes (see time series water level data). The largest differences in the tide ranges are just north of the passes with the changes being reduced as the tide progresses inland.
- 2) Slight differences in the wetted areas for the high and low water levels.
- 3) There is a redistribution of flow through the passes with Barataria Pass possessing higher velocities for the plan configuration.

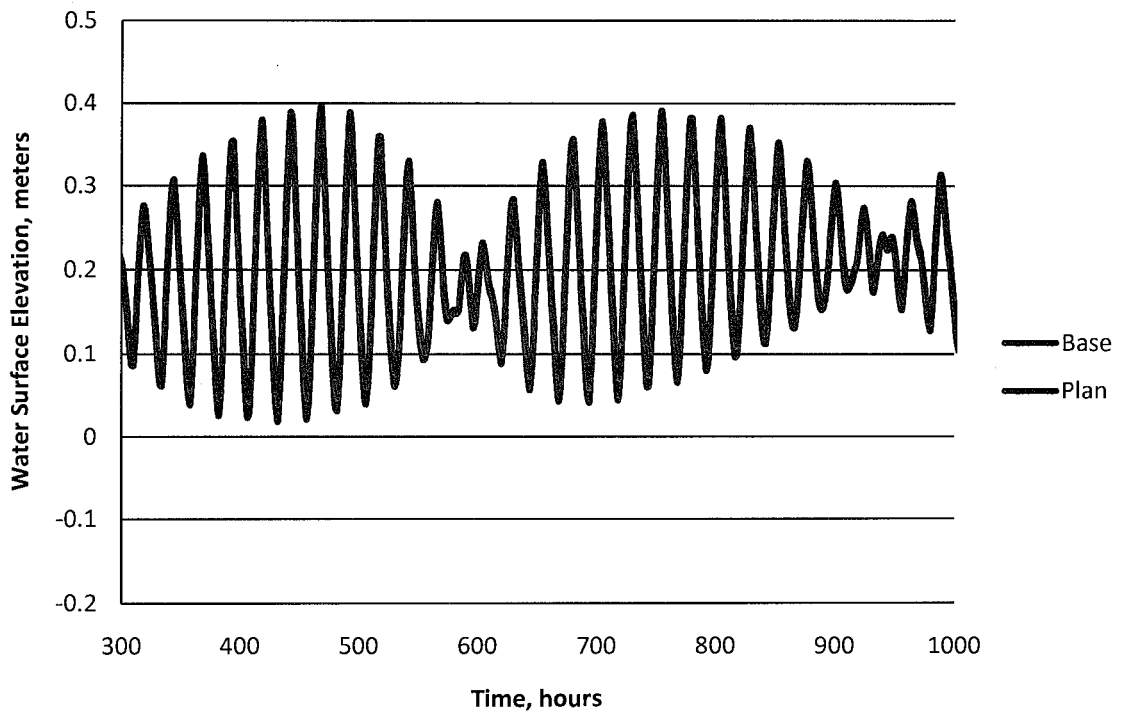


Figure 1. Locations with Water Surface Elevation Point Comparisons.

### Comparison for Point 1

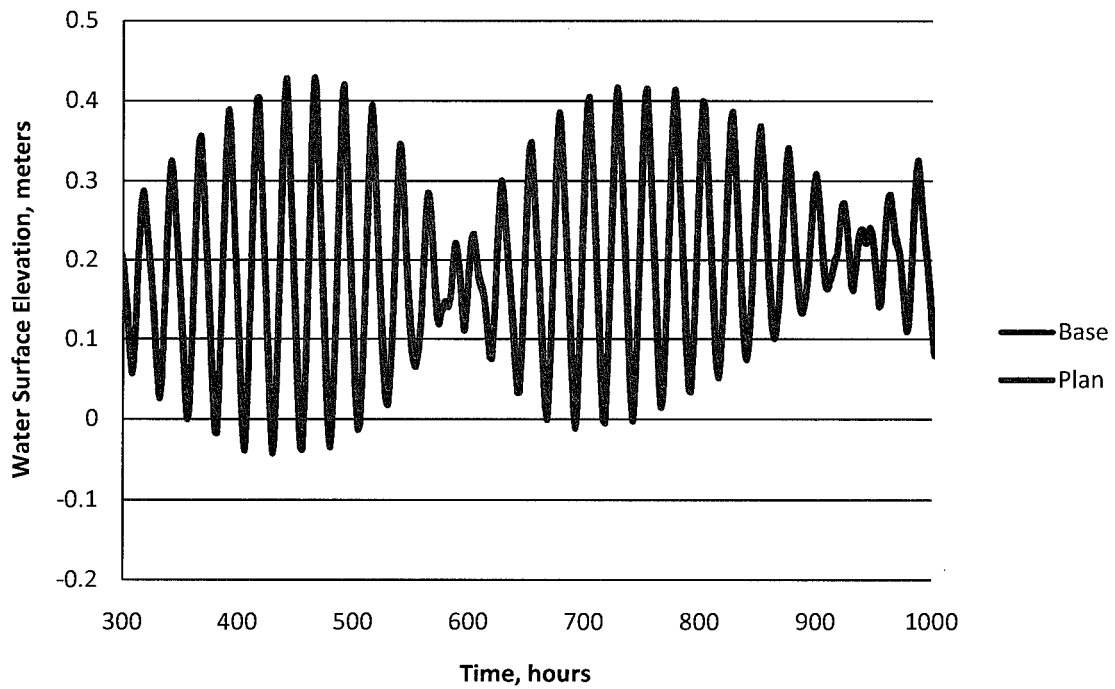


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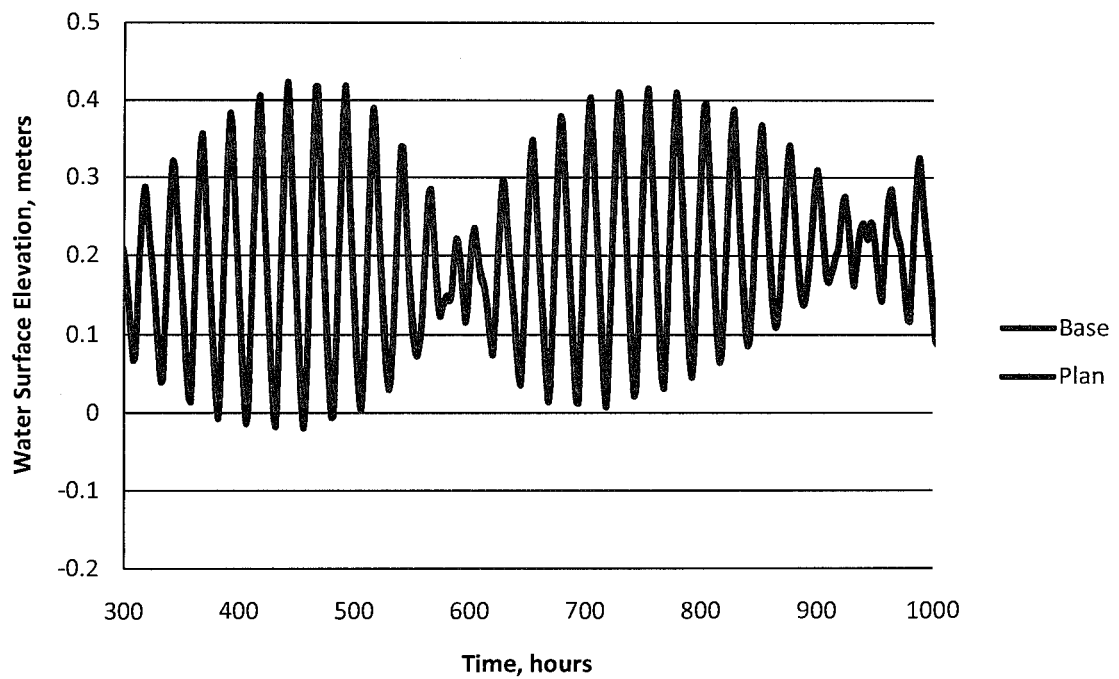




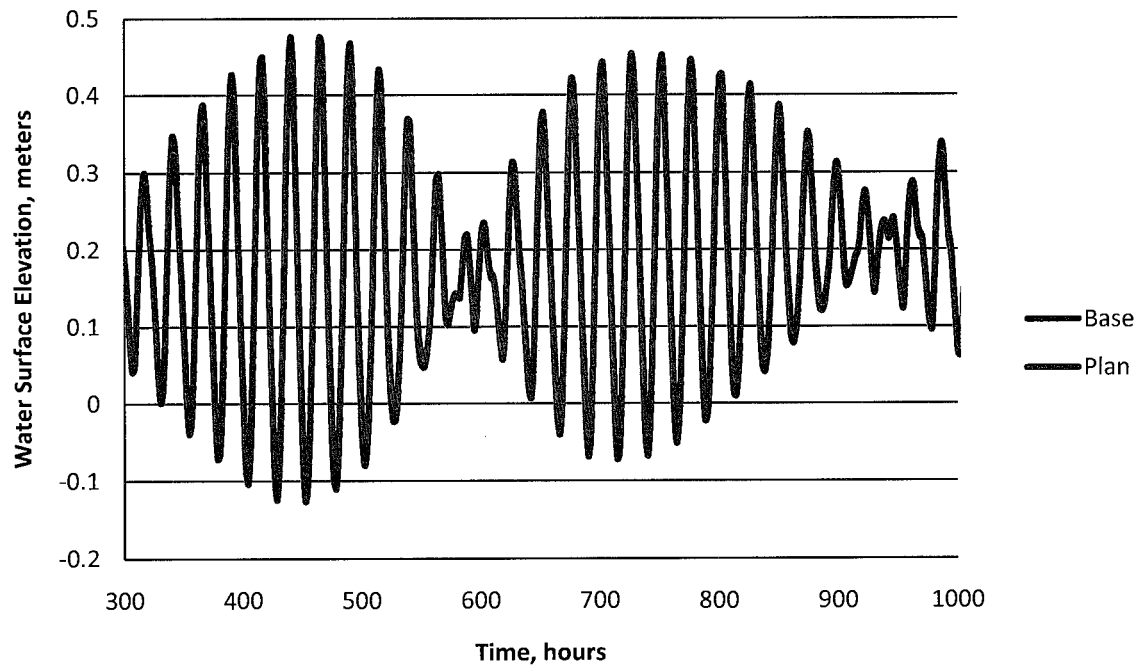
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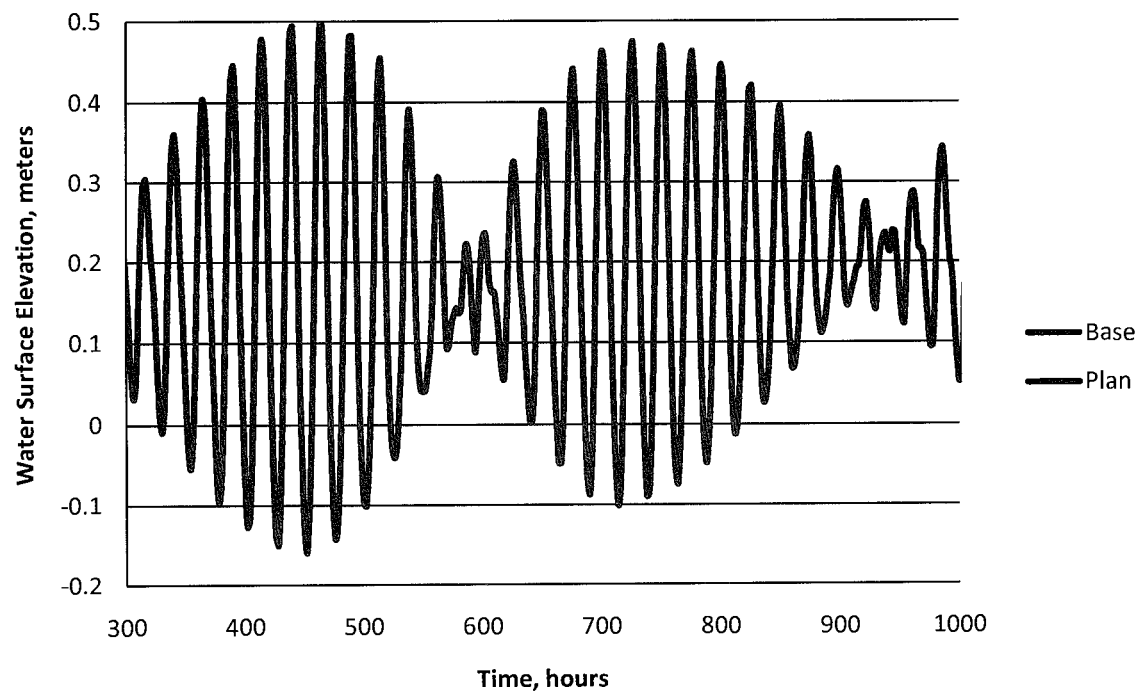
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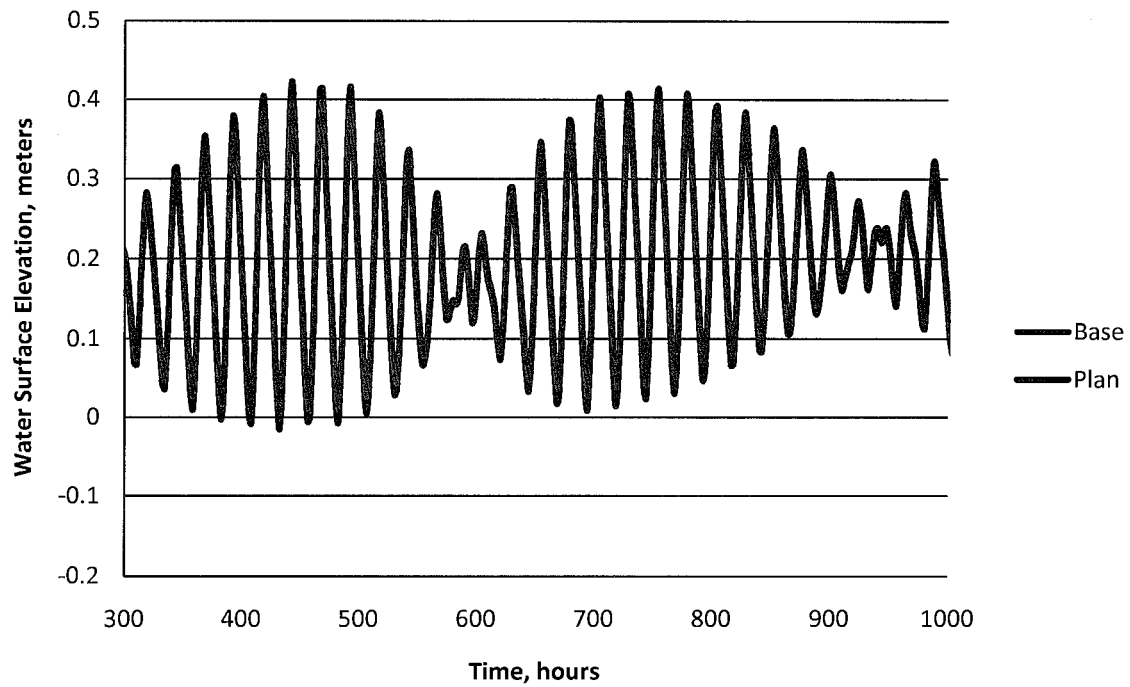
### Comparison for Point 5



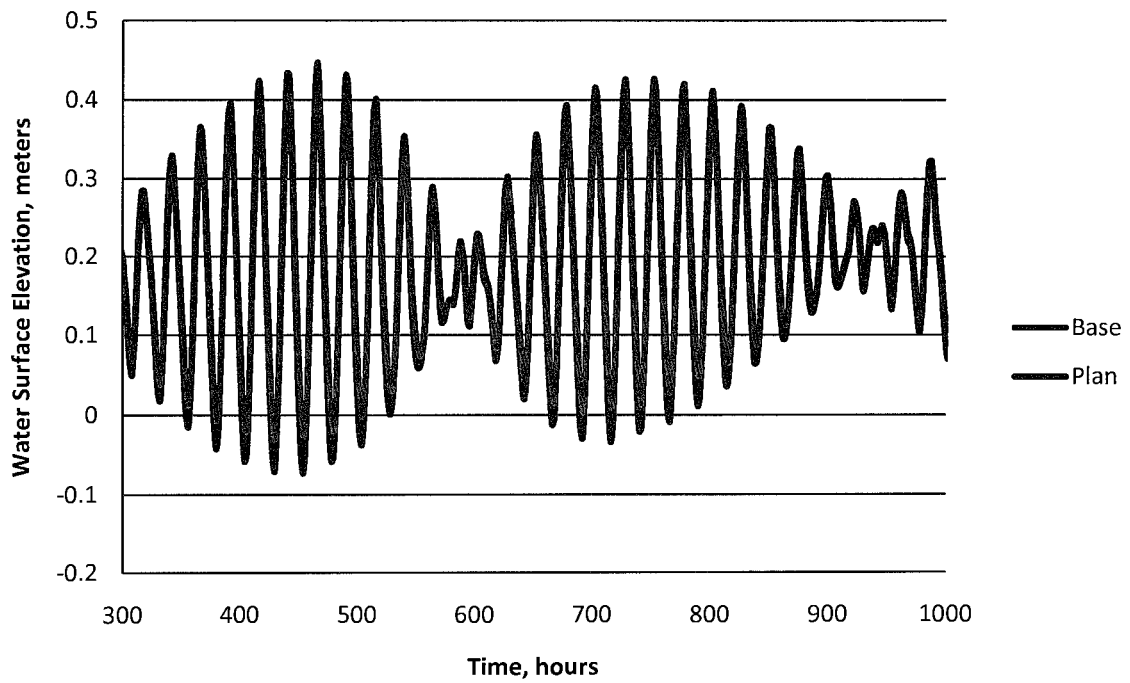
### Comparison for Point 6



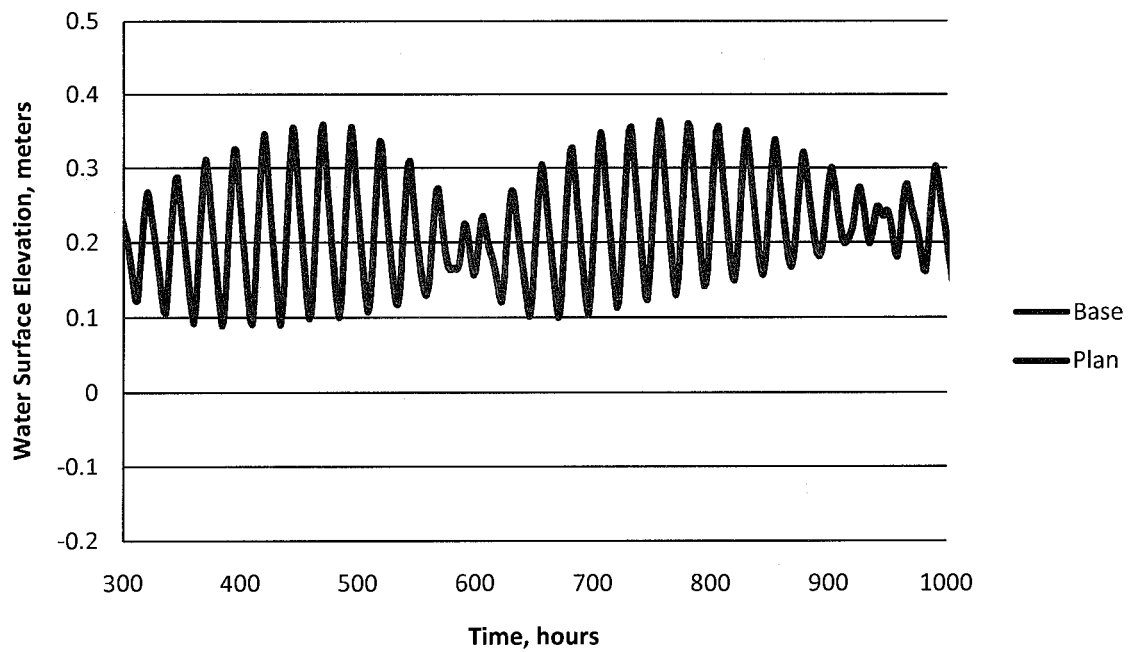
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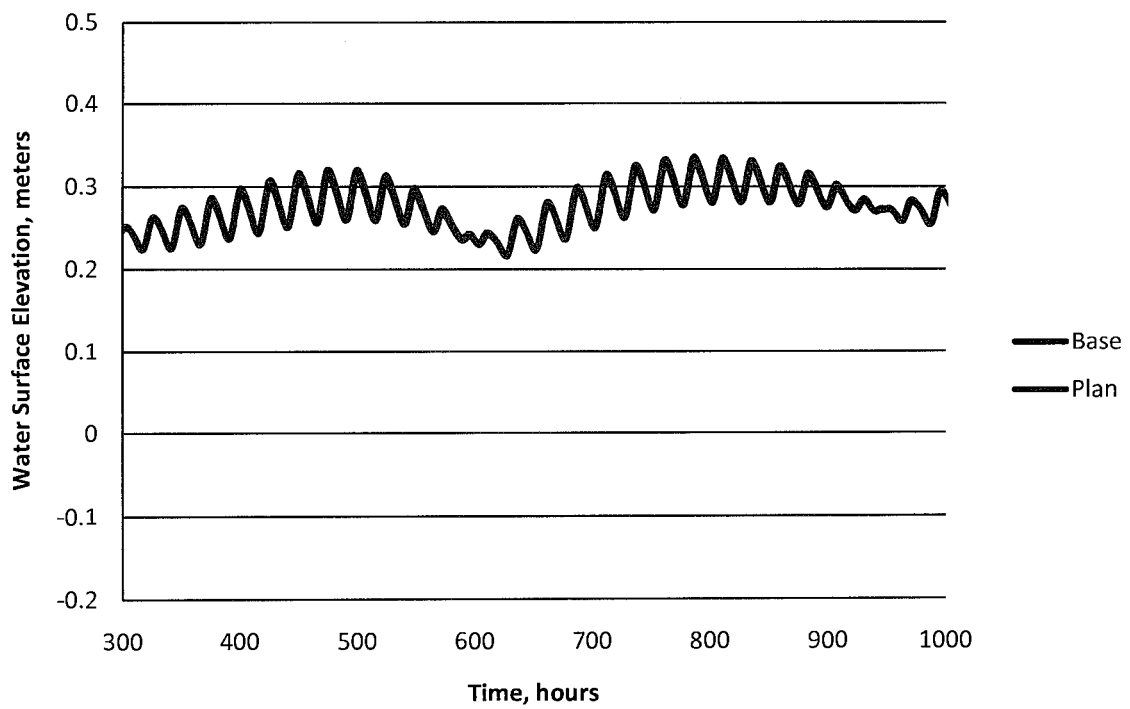
### Comparison for Point 8



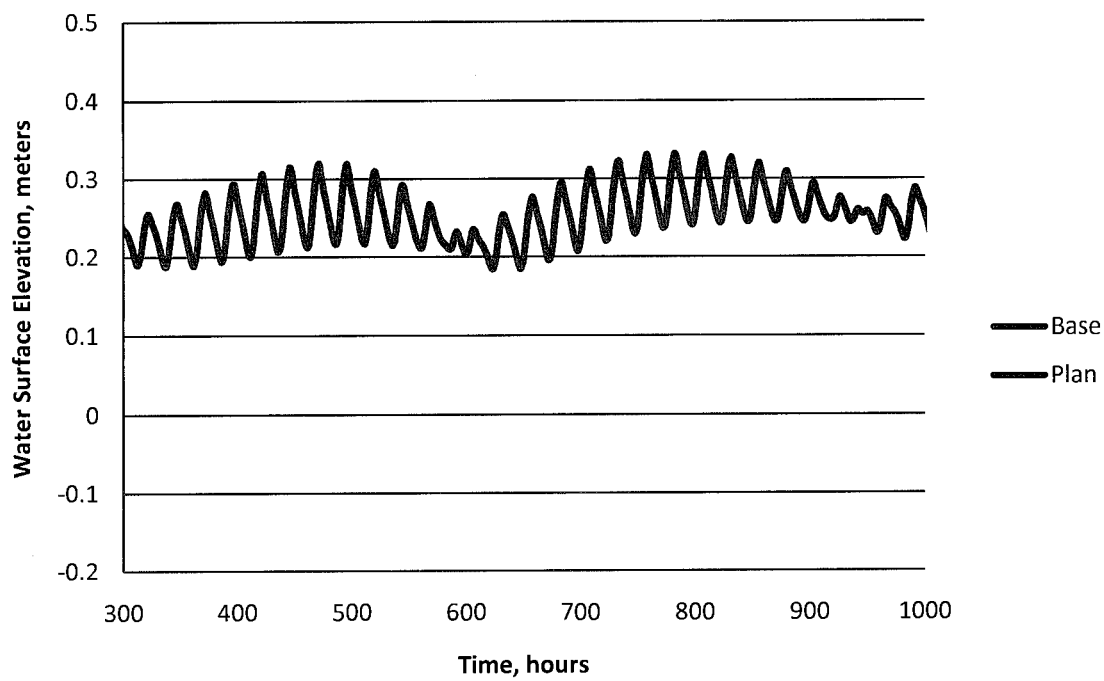
### Comparison for Point 9



### Comparison for Point 10



# Comparison for Point 11



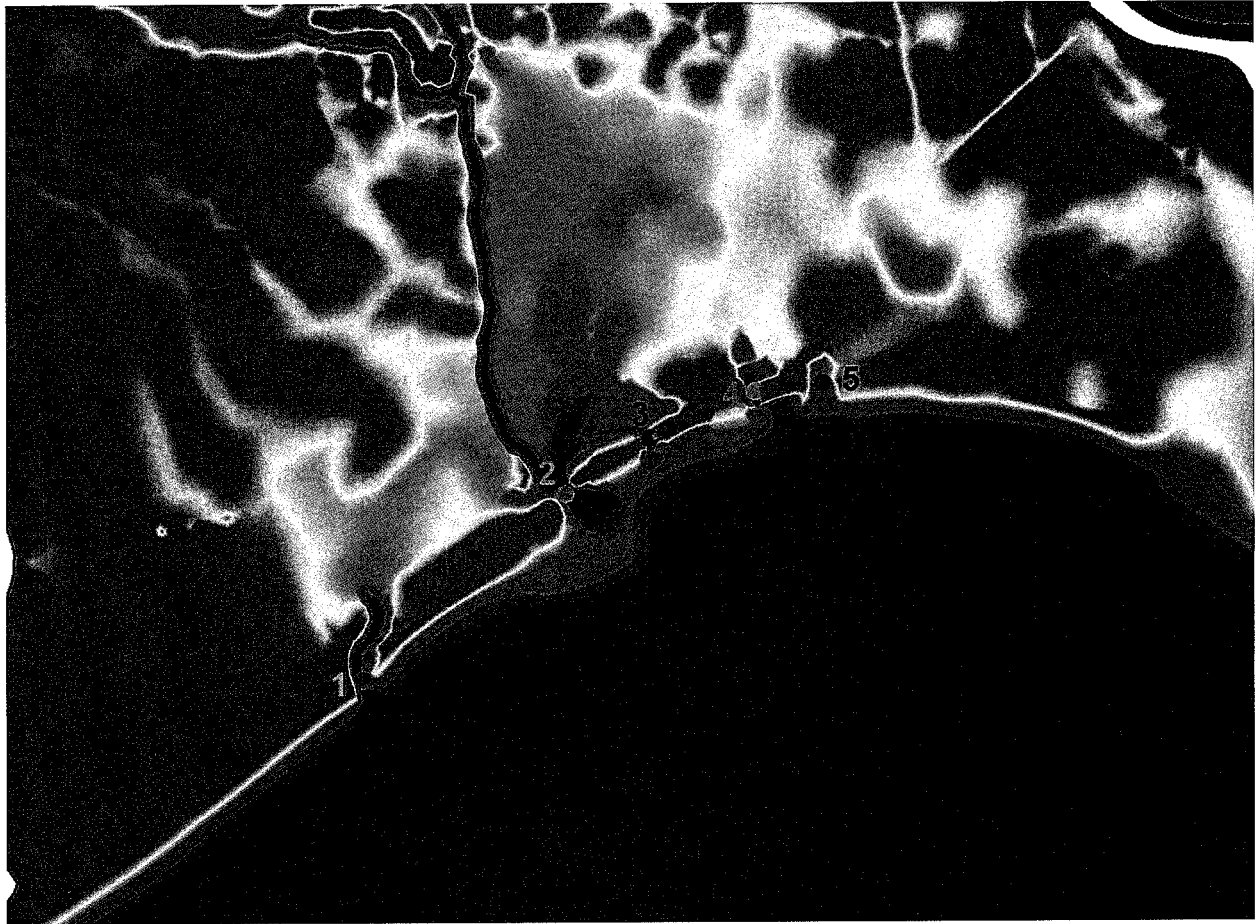
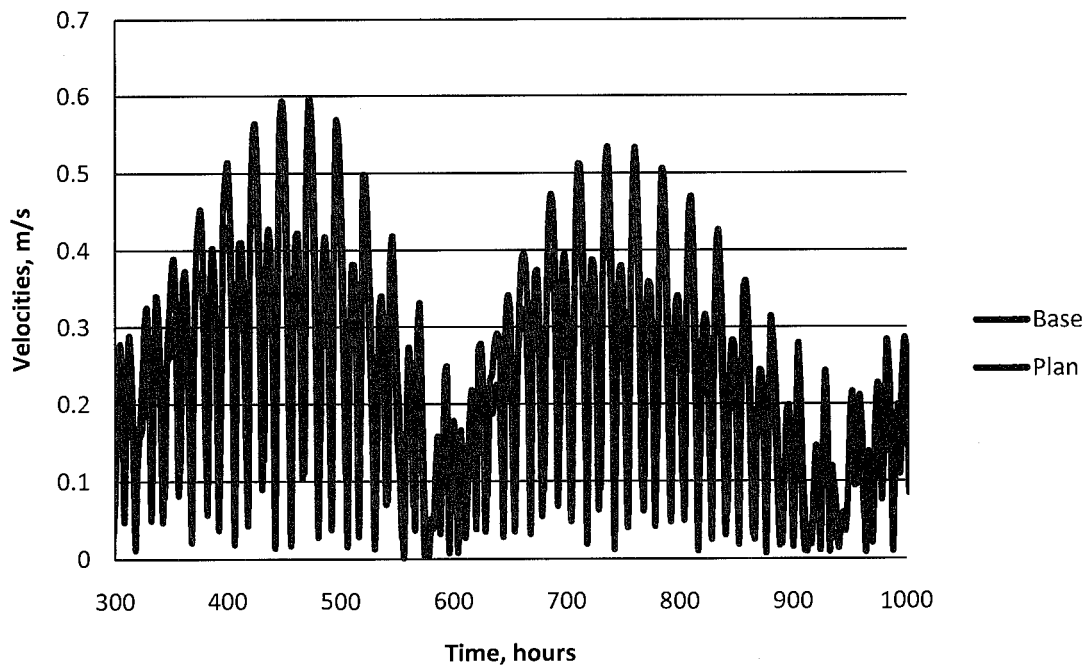
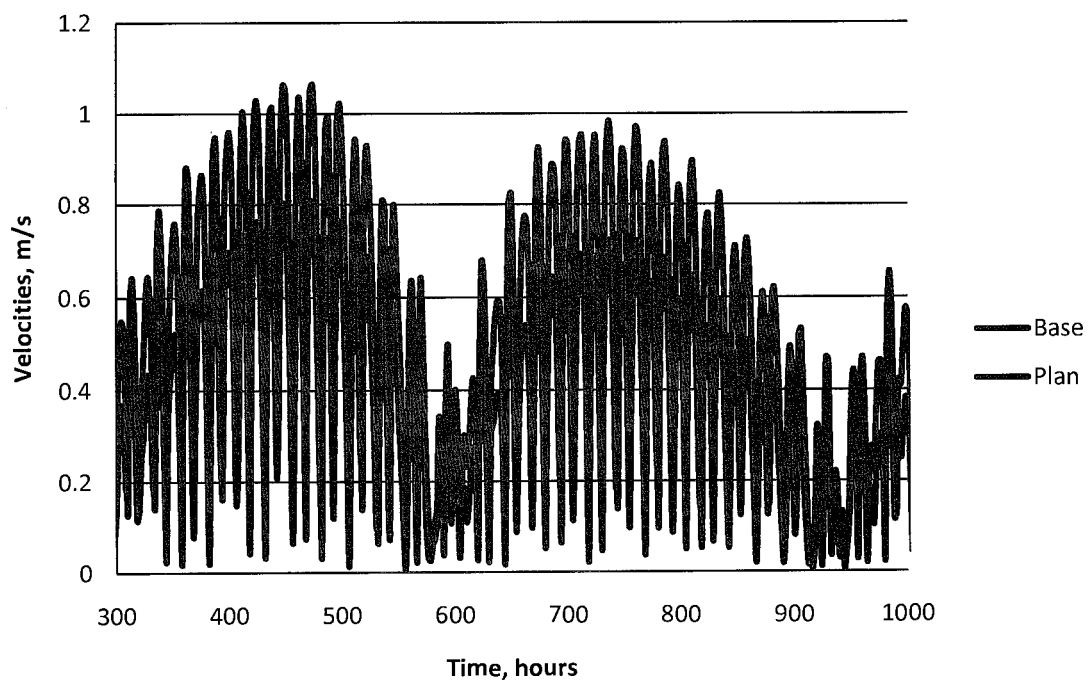


Figure 2. Locations with Velocity Comparisons.

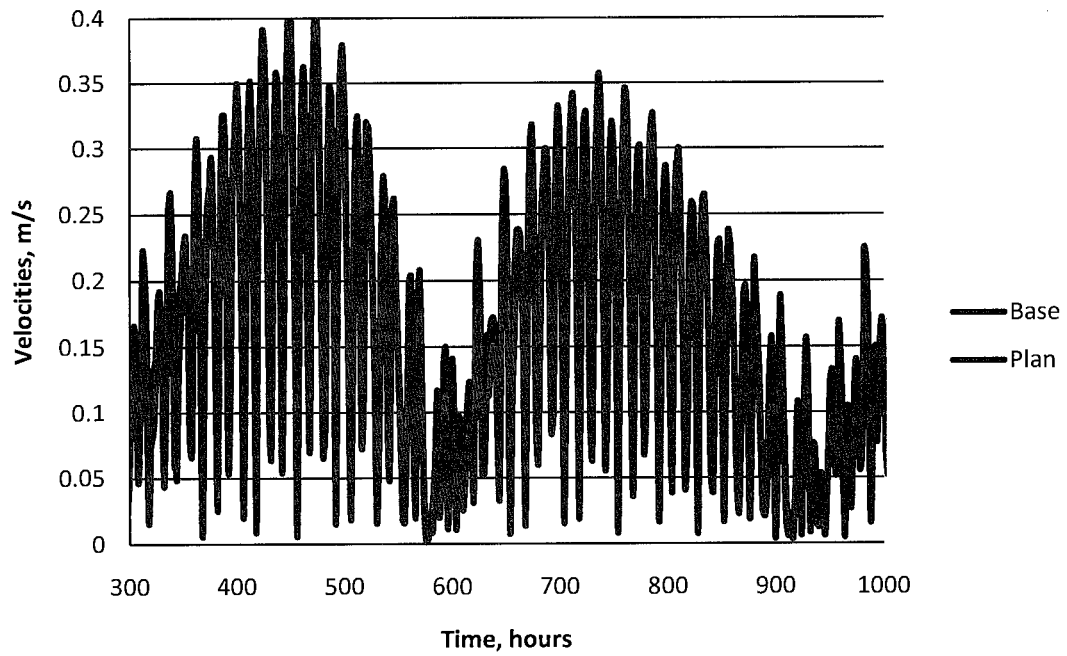
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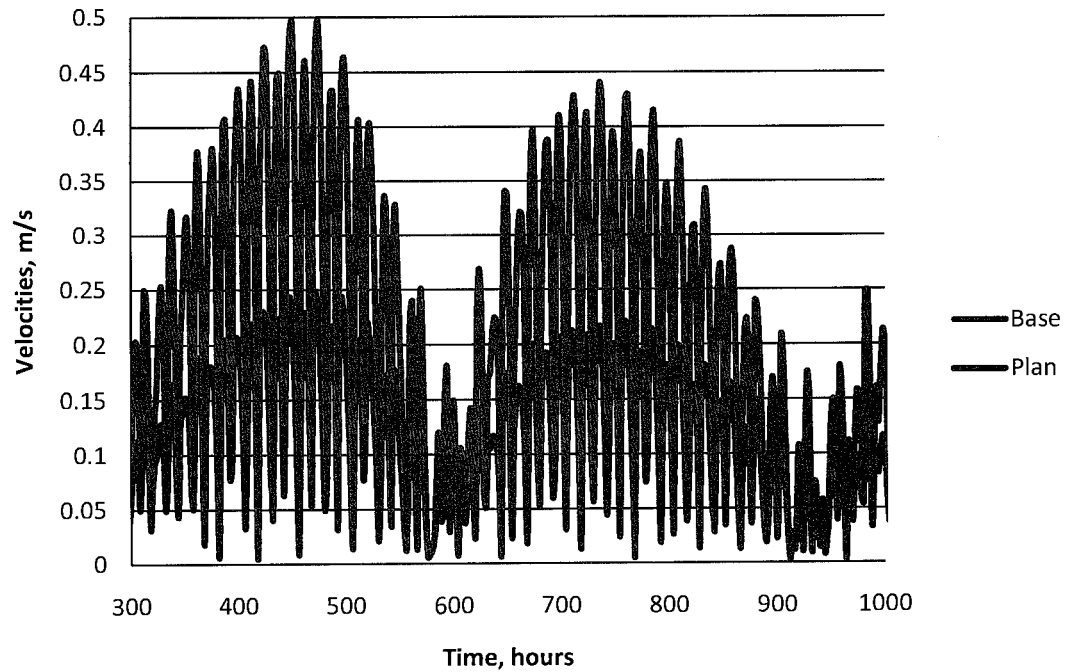
### Comparison for Point 2



### Comparison for Point 3



### Comparison for Point 4





# Comparison for Point 5

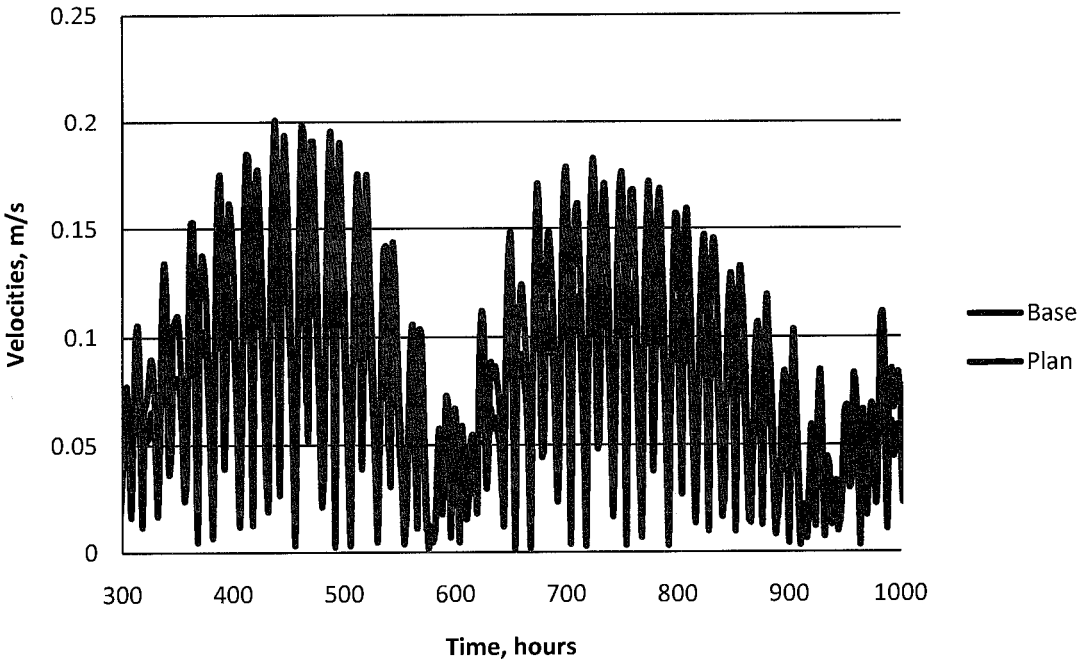




Figure 3. Base Maximum Water Surface Elevation.



Figure 4. Plan Maximum Water Surface Elevation.



Figure 5. Base Minimum Water Surface Elevation.

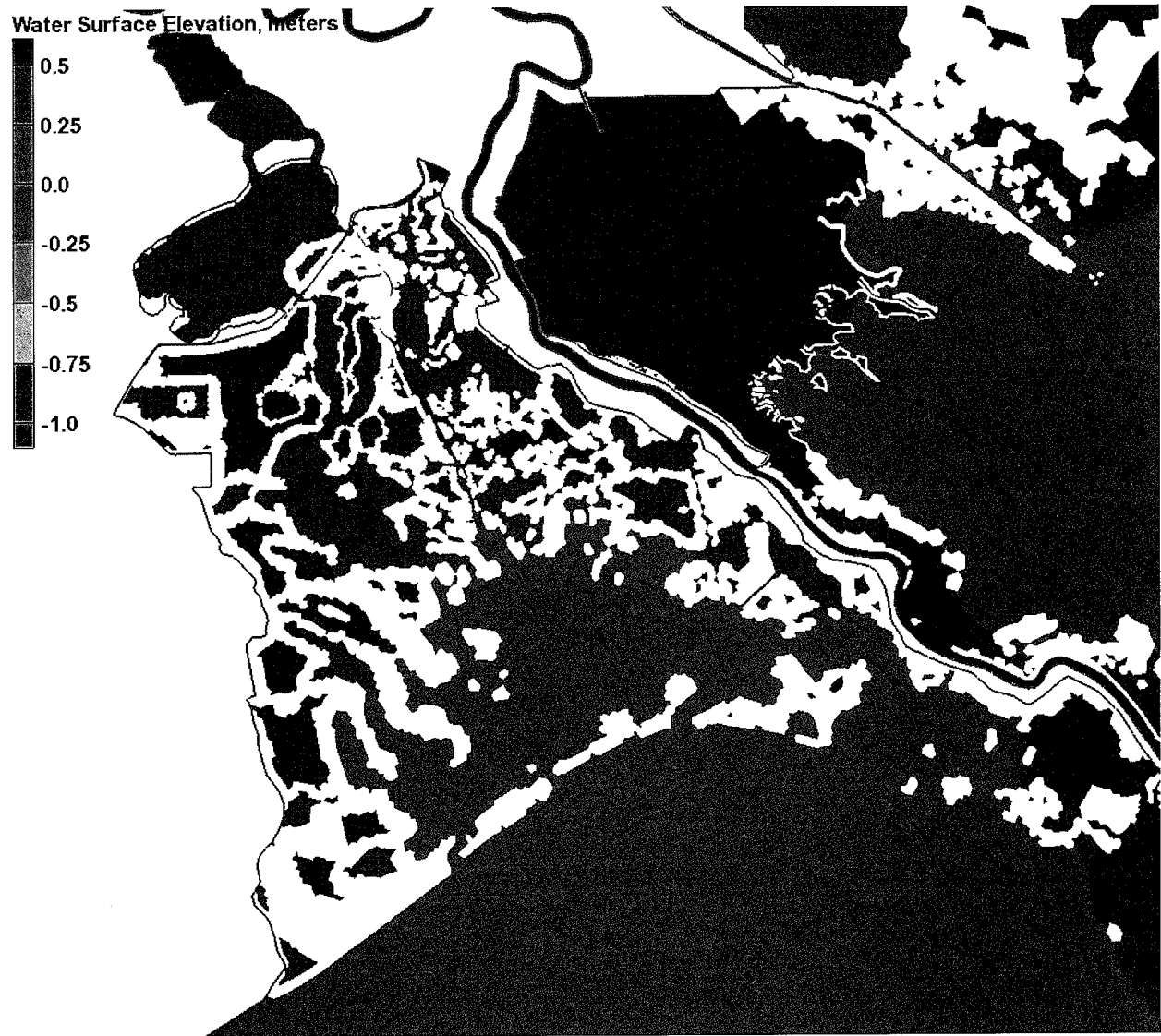


Figure 6. Plan Minimum Water Surface Elevation.

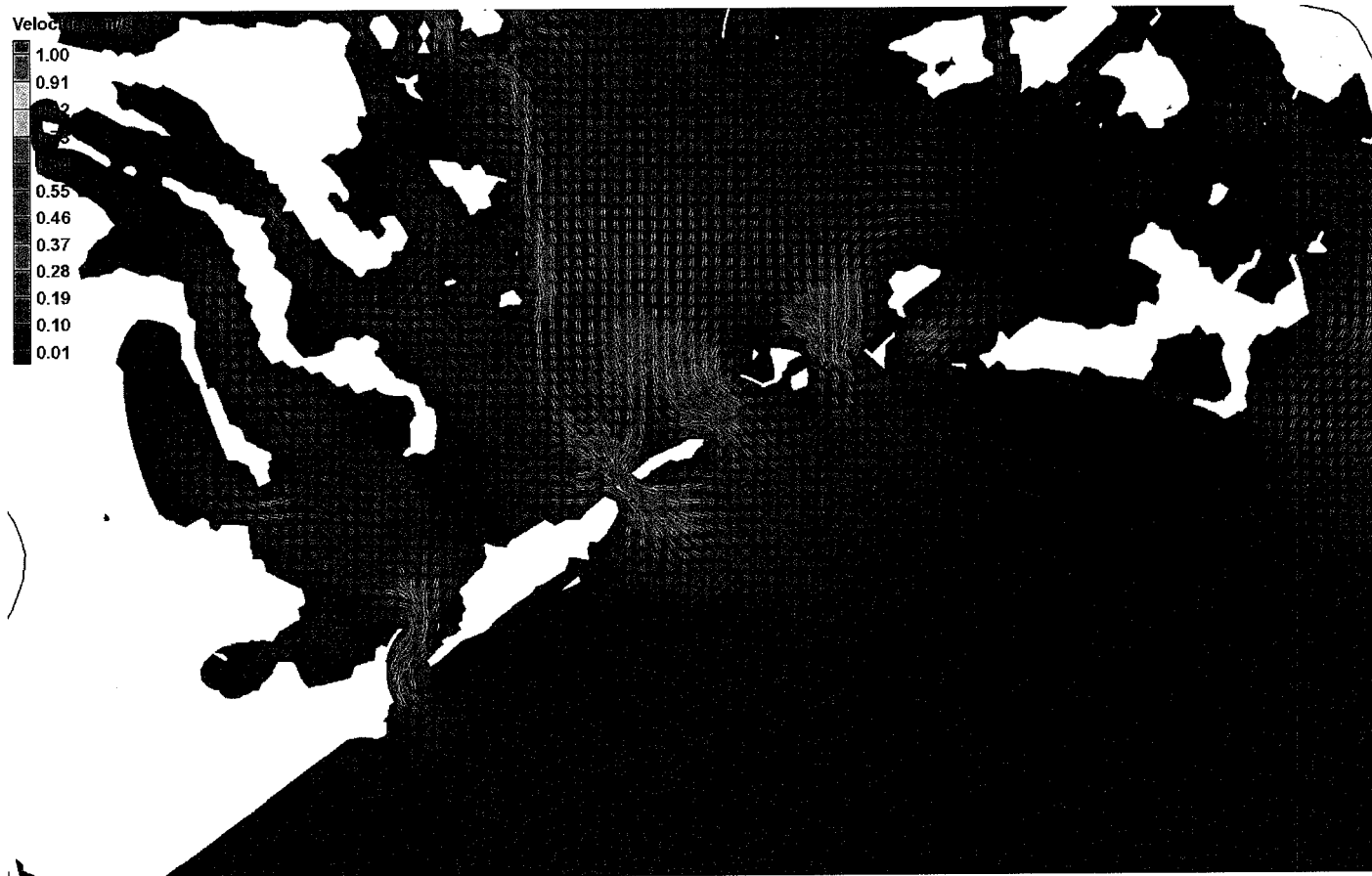


Figure 7. Base Maximum Ebb Velocities.

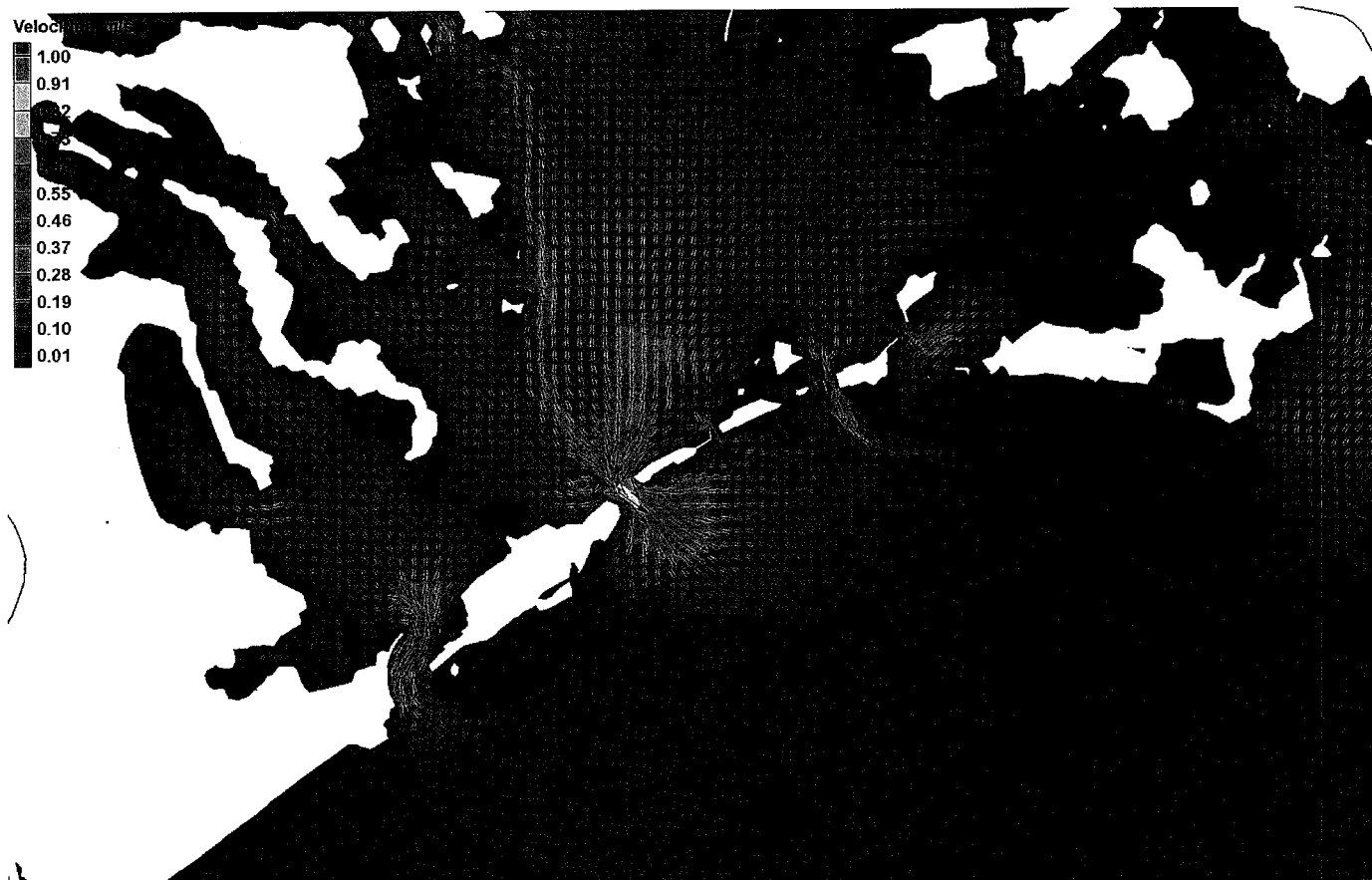


Figure 8. Plan Maximum Ebb Velocities.

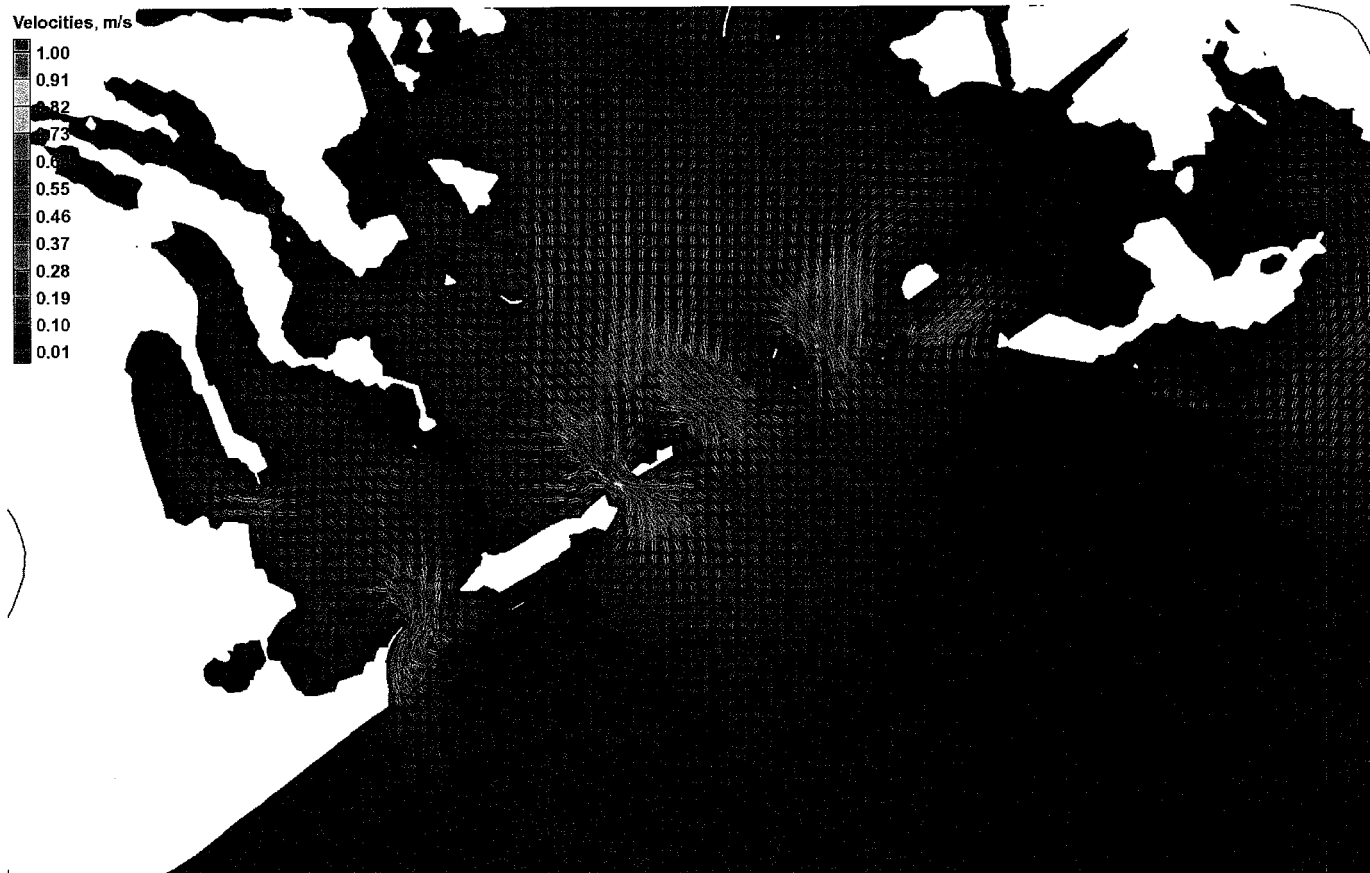


Figure 9. Base Maximum Flood Velocities



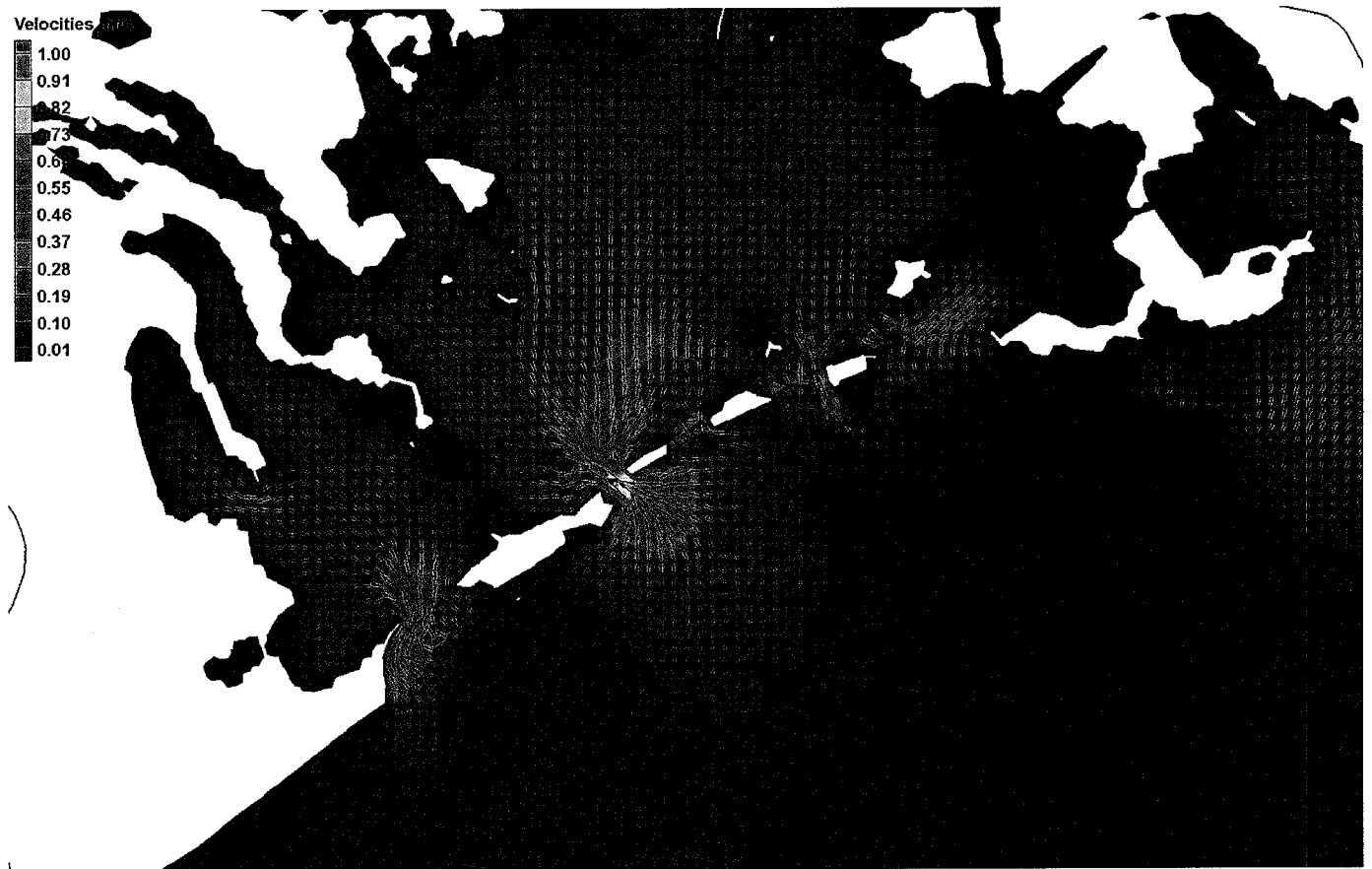
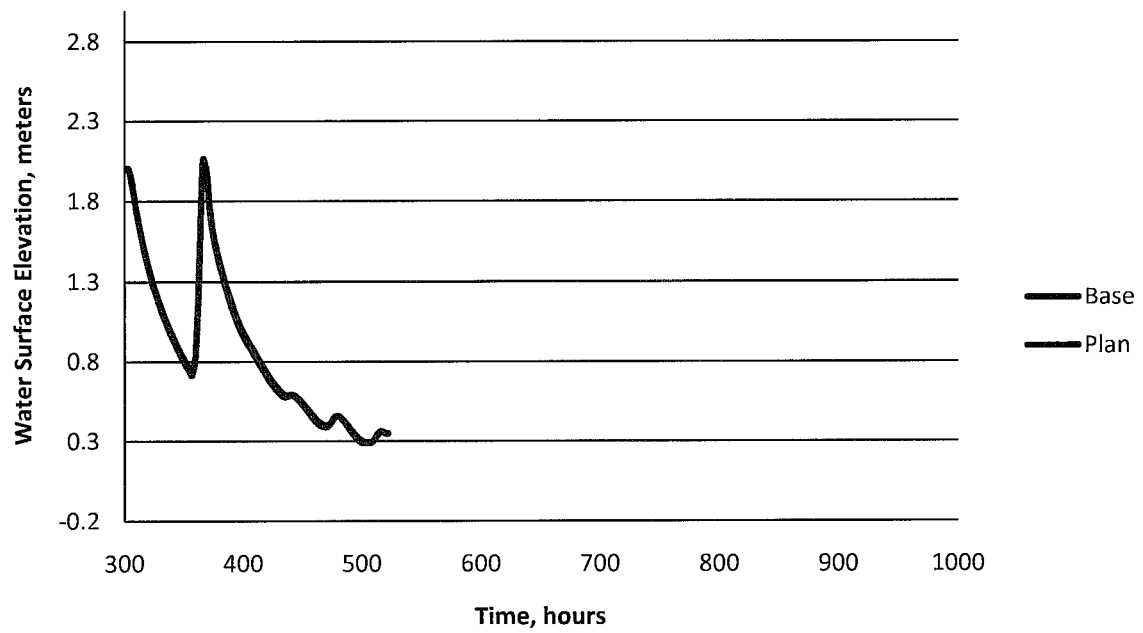


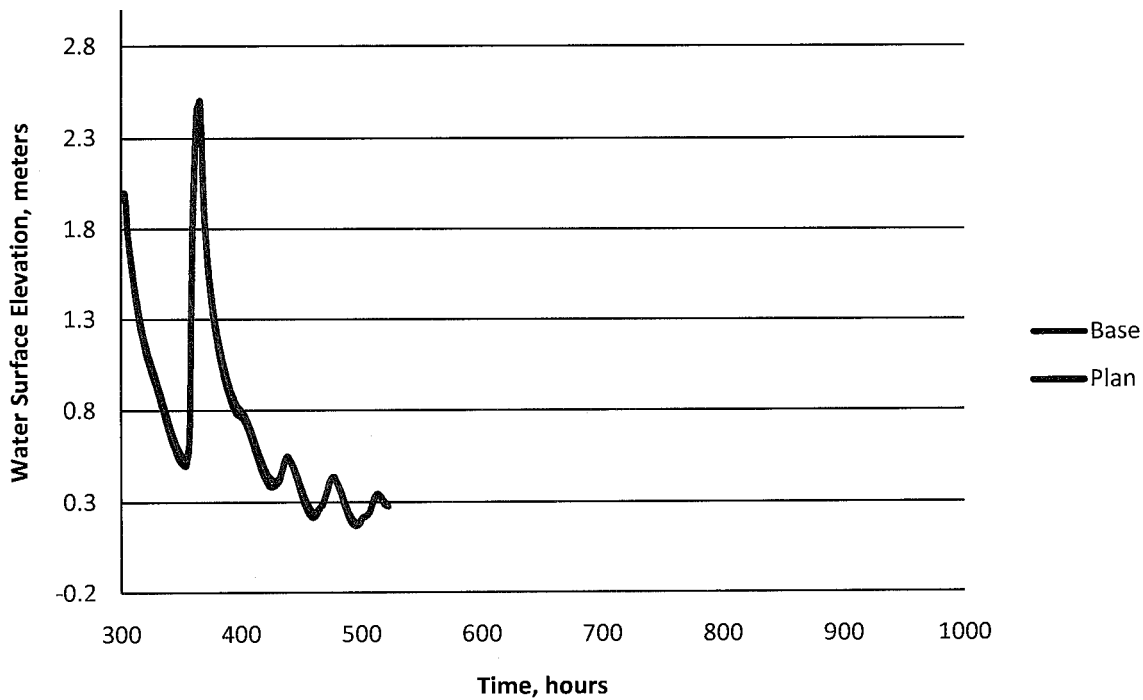
Figure 10. Plan Maximum Flood Velocities.

We also ran a storm condition (tide increased to a value of approximately 4.5 meters) and compared the water surface elevations for the previously shown 11 points. The results are below.

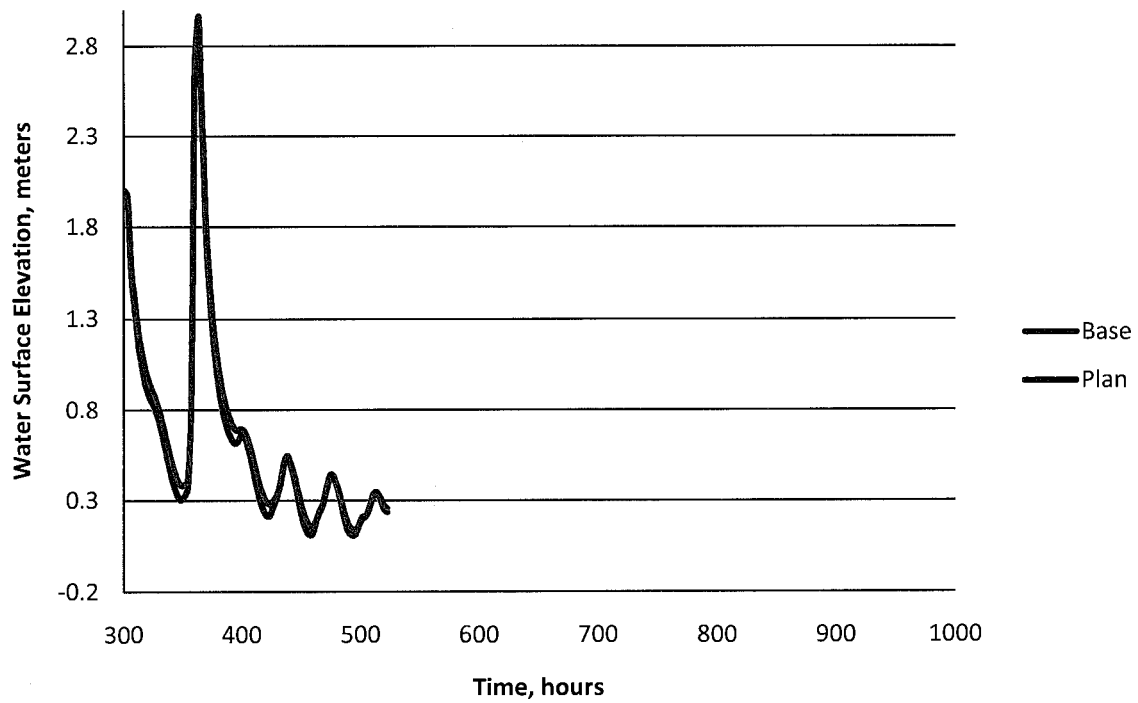
### Comparison for Point 1



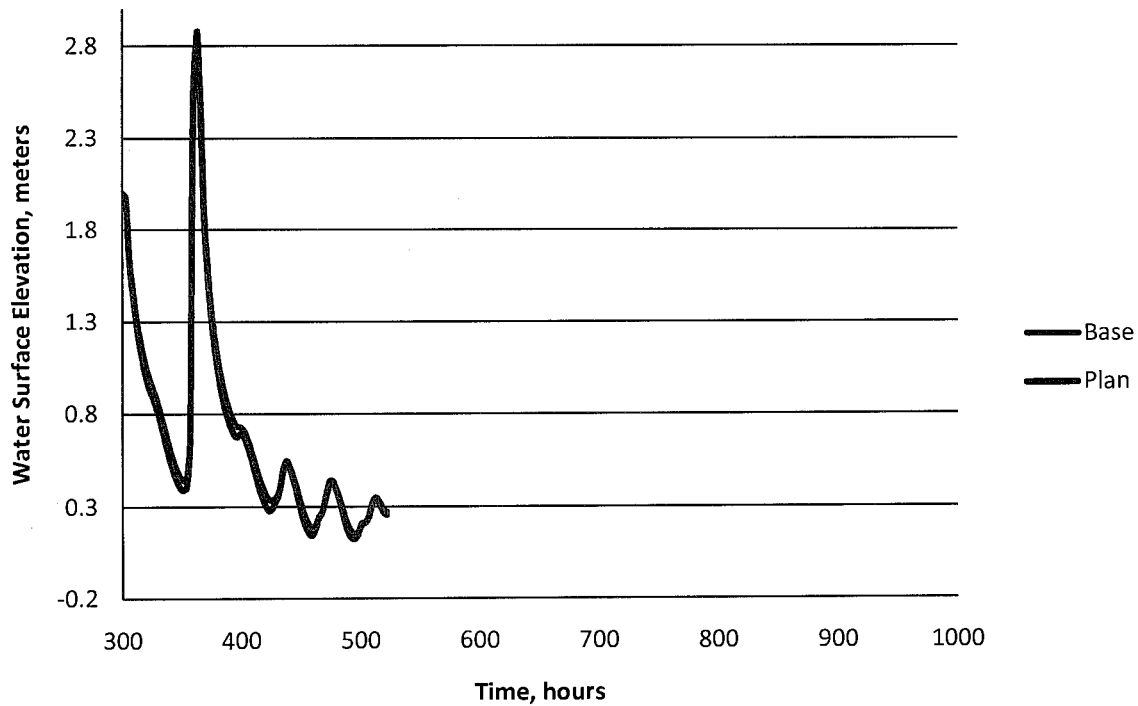
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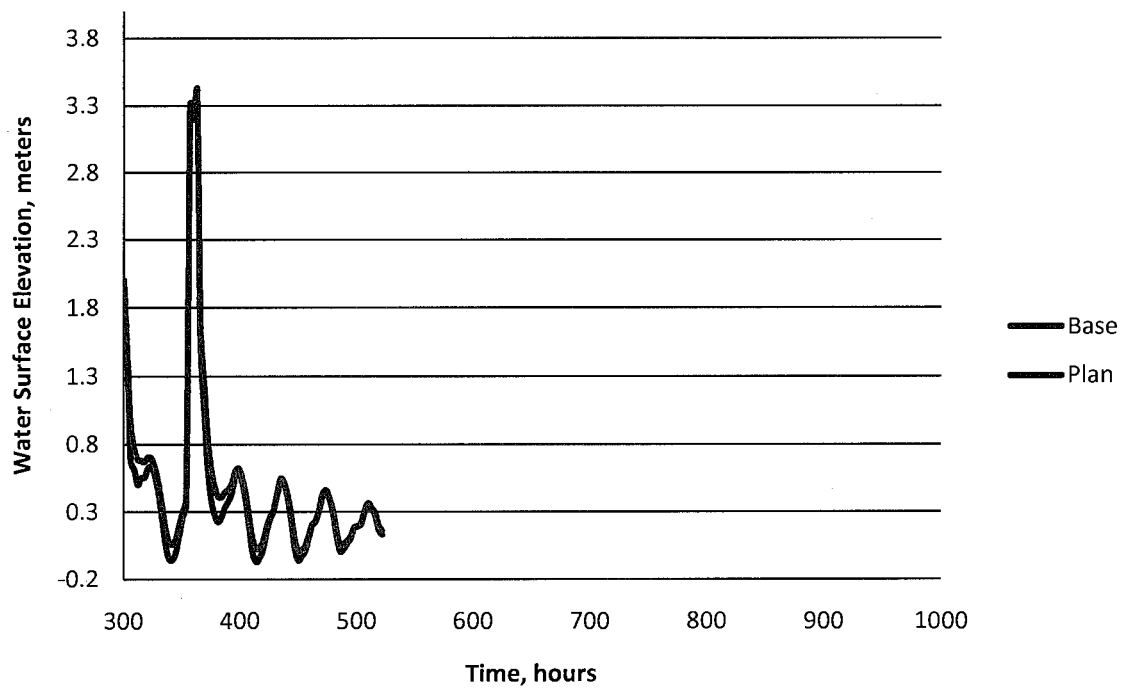
### Comparison for Point 3



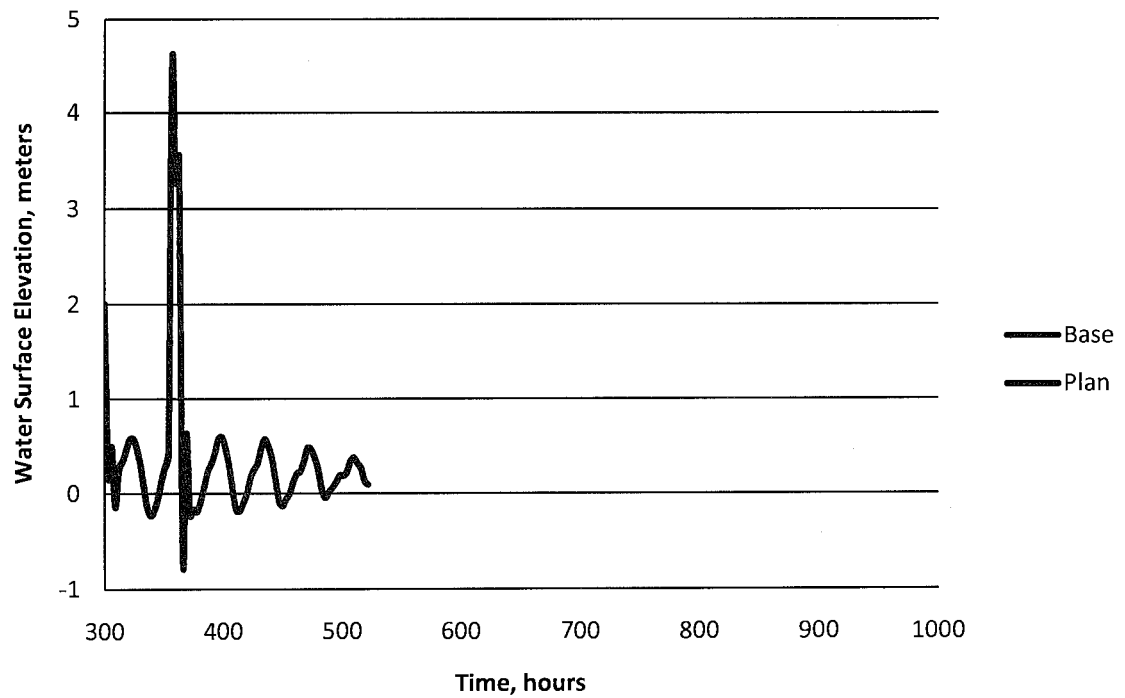
### Comparison for Point 4



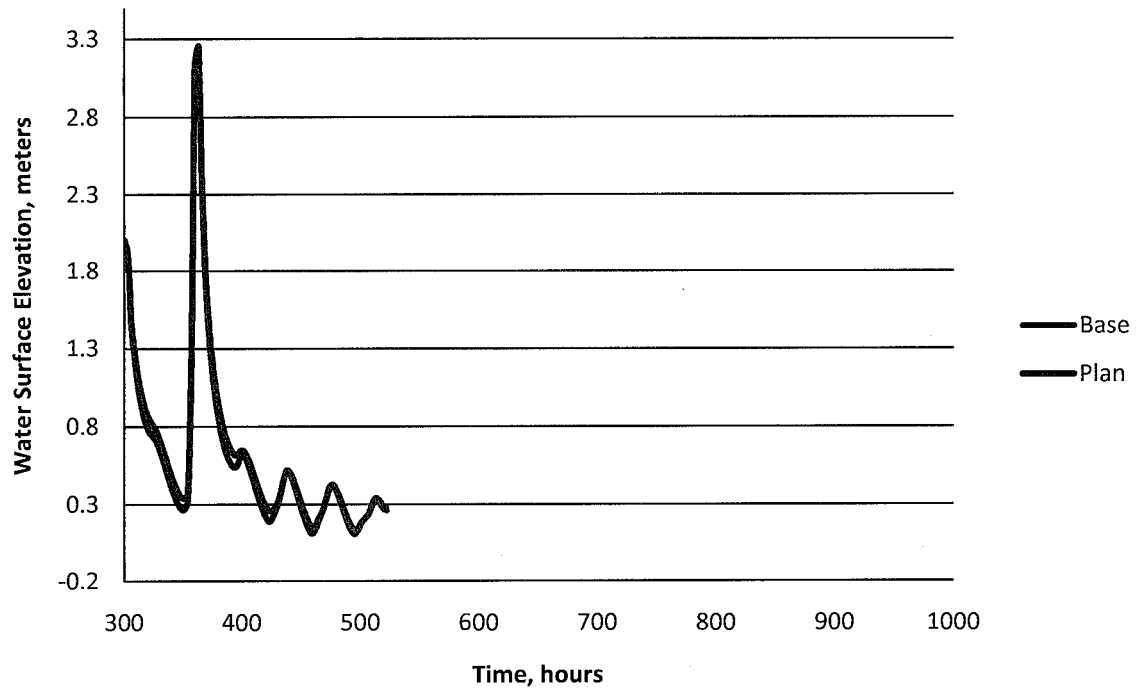
### Comparison for Point 5



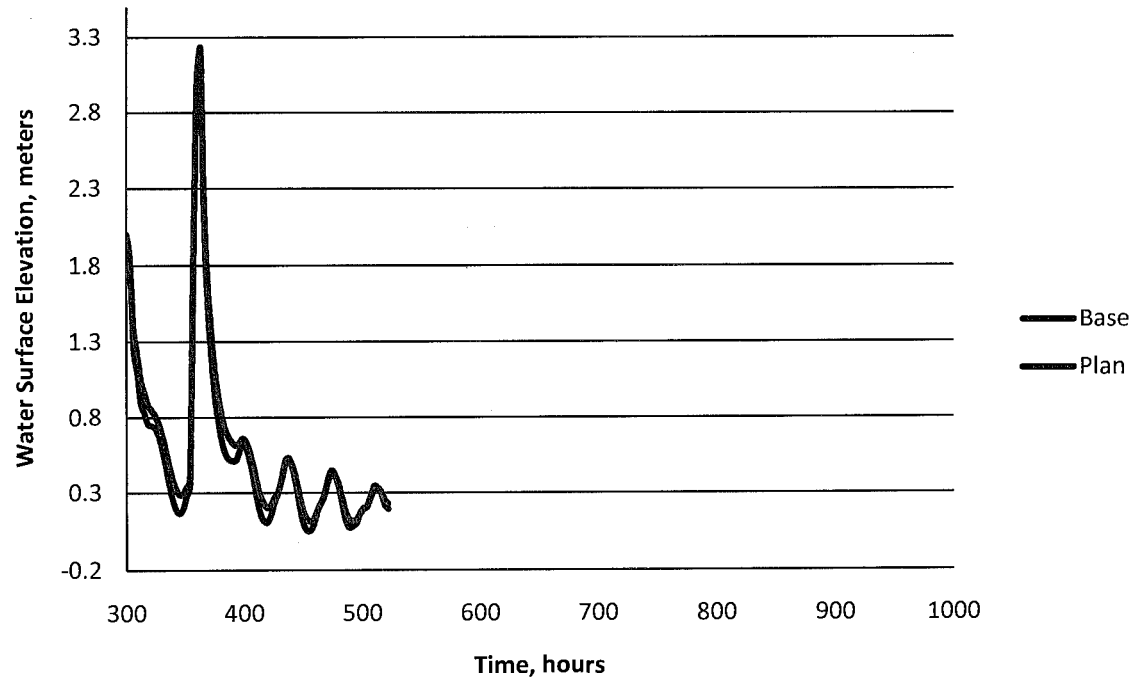
### Comparison for Point 6



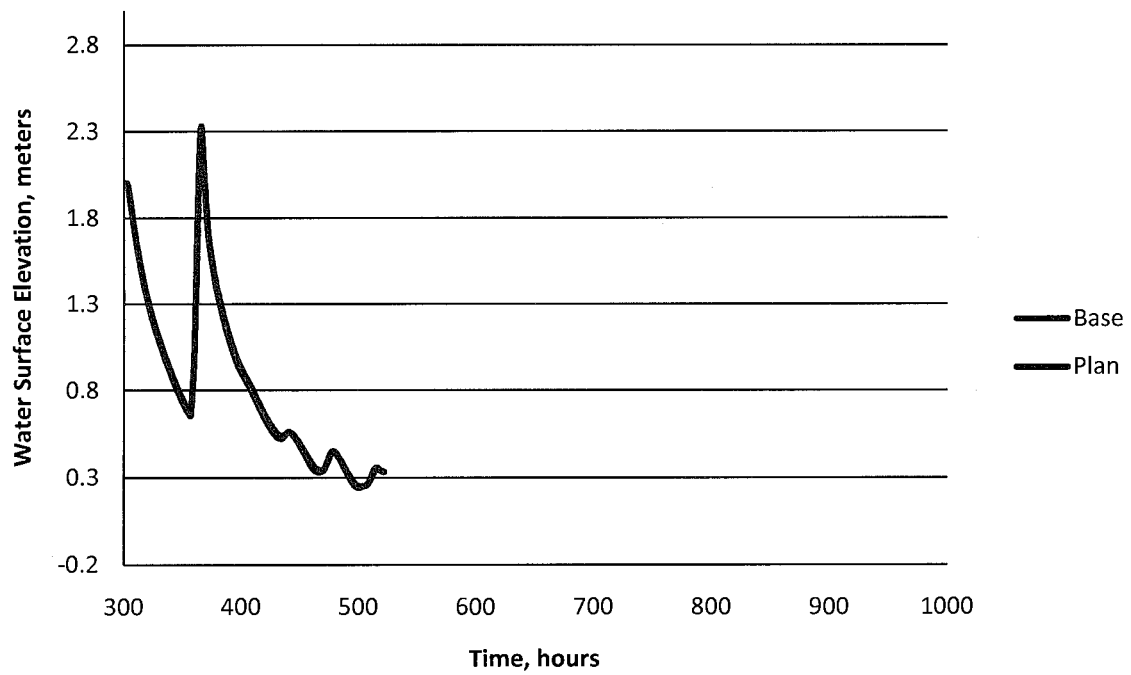
### Comparison for Point 7



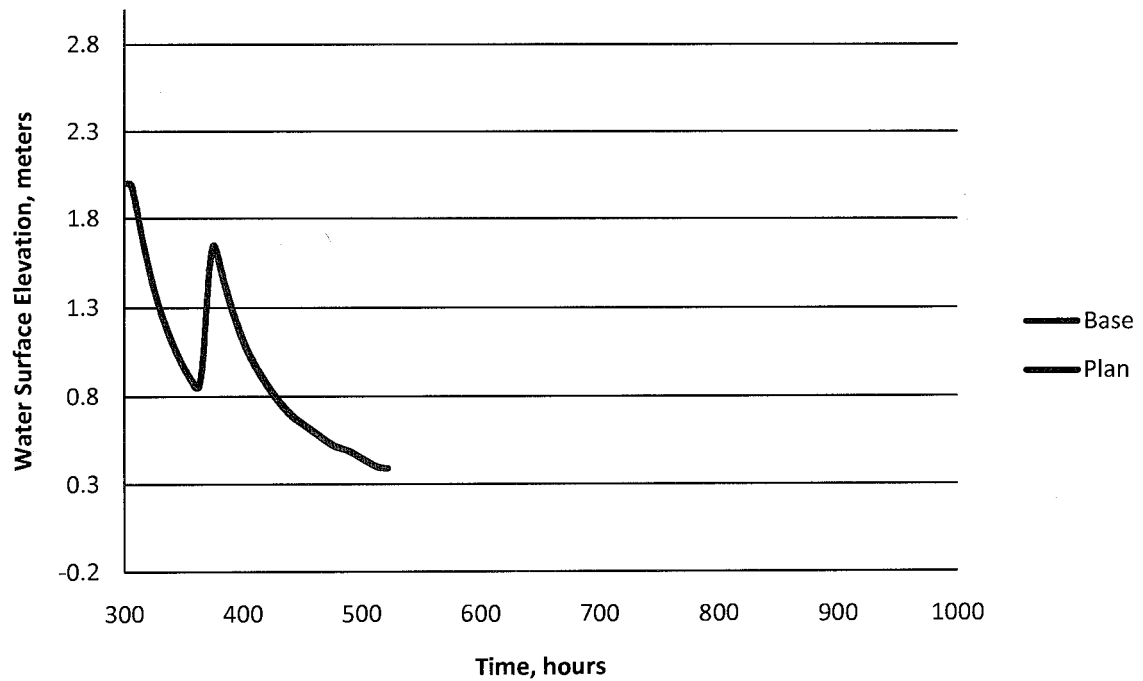
### Comparison for Point 8



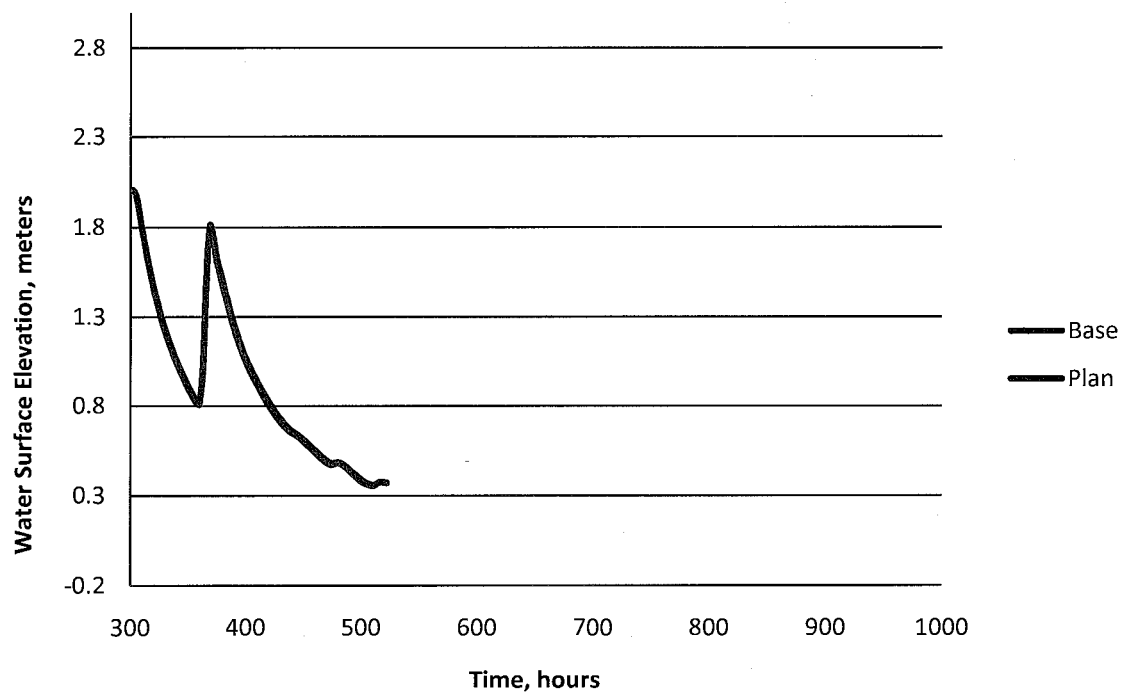
### Comparison for Point 9



### Comparison for Point 10



## Comparison for Point 11



## H-SERT Comments Regarding Rock Jetty Installation Permit Request from Jefferson Parish

In summary the comments are:

- 1) The modeling performed is inadequate to accurately represent the system being impacted.
- 2) Installation of rock jetties will definitely increase the current through the remaining tidal interchange area and likely increase scouring on the sea floor.
- 3) Increased velocities resultant from the rock jetties will compromise the ability for clean up technologies to remove the oil and likely increase the influx of subsurface oil due to the deepening of the passage due to scour.
- 4) The presence of hardened structures at the inlets will likely create more instability around the barrier islands, create more erosion and possibly additional conduits for oil to enter into the bays and marshes.
- 5) It is unclear as to how the jetties will perform any better than the barge and boom system behind the proposed jetties.
- 6) This was an extremely short time frame in which HSERT could develop a more robust review of the plan.

Leading to the following recommendations:

- 1) IF the permit is granted, that it be on the condition that the rock jetties are removed when they are no longer needed as part of the response.
- 2) IF the permit is granted, identify the responsible party for impacts from the jetties and their removal.
- 3) Perform at minimum coarse morphodynamic modeling at the passes to determine effects on sediment transport.

### Comments:

#### Denise Reed

- The sediment transport consequences of these structures must be considered. Our experience with hard structures in Louisiana is that they alter the configuration of the surrounding sandy shoreline. The models, I assume, consider the existing island features are 'hard' – these are not morphodynamic models. There needs to be some consideration of how the islands and/or the shape of the inlets will change as the flows change after rock placement. It is possible that this could make it even more difficult to contain oil moving through the inlet using the fixed barges as the flow paths change, new areas open up/close, etc. The flows are not the only concern here. Experts may be able to provide additional insight on this without the need for additional modeling.

- Given that these rocks will harden part of the shoreline during extreme conditions, e.g., the outflow from the Bay after a tropical storm, the softer parts of the system (e.g., the sandy barriers between the inlets) will then become the weak spot as the inlets have been hardened and constricted. It is possible that hardening the inlets makes breaching of the islands more likely – both resulting in additional erosion and more pathways for oil to move in from the Gulf.



- It is not clear to me how these structures will increase our ability to contain and remove the oil over and above the temporary barges. I understand that the barges will need to be moved during storms, but under those conditions the flows through the inlets will be much greater likely further limiting the ability to use traditional clean up techniques like booms and skimmers.

**Unless these conditions have been considered I do not see how these structures can be seen to increase our ability to limit oil penetration into the estuary.**

How these issues influence the permit is not my area. However it is important that expectations of the performance of these structures, both the benefits they might provide for cleanup and the potential consequences for the shoreline system, are thought through during the permit process. Recognizing the emergency situation facing the coast I understand that measures may need to be taken that would otherwise not be considered. But given the potential long term consequences of rock structures for sediment transport at our shoreline, the experience we have in other areas where they alter sediment transport pathways and can limit the ability of the barriers to 'heal' after storms, I strongly recommend that if a permit is issued for these structures it be **on the condition that they are later removed when no longer needed as part of the response**. Given that the longevity of the spill and oil movement through the system is currently unknown, I suggest ~ monthly meetings of an agency/permittee/expert group to consider whether the structures are still needed for oil spill response and to identify an appropriate time for their removal. The State's Horizon SERT could support such a group.

### **Doug Meffert**

I think Denise's comments are very thorough and well-outlined. After going through the attachments and the presentation, in particular, I want to re-emphasize the lack of clarity on why the rock structures are better than barges/boom alone. the presentation has alternatives that with 1) jetties alone and 2) jetties with boom/barges but none of the alternatives evaluate booms/barges without jetties. If that option has been evaluated, it needs to be included. If the jetties are going to happen anyway, I agree completely with Denise's condition in **bold**.

### **Ioannis Georgiou**

**Comments on rocks and jetties in two Barataria Estuary tidal inlets (Pass Abel, and Quatre Bayou).**

This is a purely a hydrodynamic study, without (or at least other parts are ongoing) any information to either infer, or provide insights into the morphological response of nearby non-hard shorelines and marshes, in combination with coastal processes operating in the project area.

**General comments for rocks as oil capturing devices, impacts on operations, etc.**

Continuity tells us that if we reduce the cross-sectional area and the forcing remains unchanged, velocities need to increase to satisfy continuity. We also know that faster moving currents will

erode sediment, especially if this persists over a relatively long time. The time period however, can be shortened if these structures are subjected to conditions outside their equilibrium state.

Their performance in capturing oil however still is unclear to me. I have the following concerns regarding this.

1. the primary concern is to reduce the large openings for attacking and capturing oil effectively. I understand that the rocks will reduce the linear extend of the operations, but with faster currents there is a risk of having to move farther inland to capture the oil, and that would still increase your distance over which operations take place.
2. Since there is oil at depth (another concern), and surface structures (barges, rigid pipe, or boom) cannot capture this, we have to acknowledge that by constricting inlets you will also accomplish this:
  - a. The faster currents will change the velocity profile (figure 1), and inadvertently increase the volume that skimmers would have to pump, per unit time during flood currents (gray box in fig 1)
  - b. The area below the gray box, integrated and subtracted from the pre-rock placement profile, would also increase the amount of subsurface oil coming through these inlets.

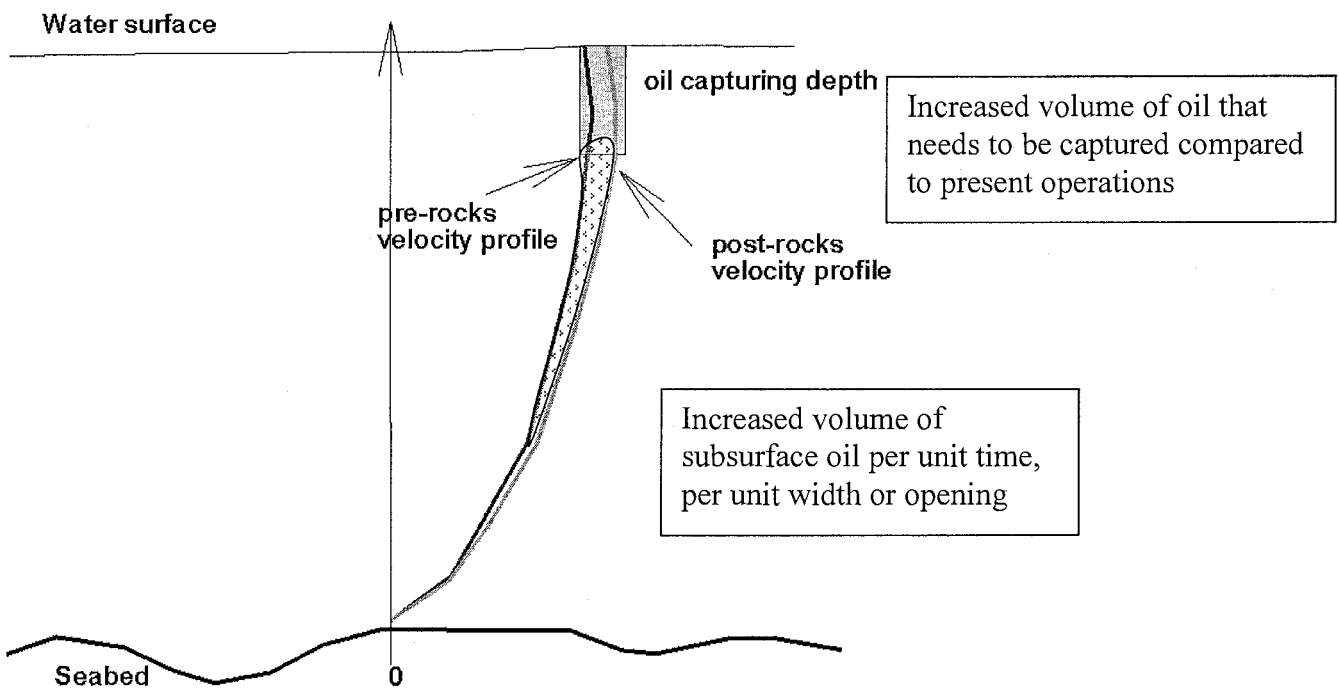


Figure 1 pre-post velocity profiles and impacts on operations

Analysis and modeling were performed with islands and jetties as non-overtopping (solid) boundaries. This obviously underestimates the performance of hard-soft connections; the

June 24, 2010

Colonel Alvin Lee  
U.S. Army Corps of Engineers  
Commander  
New Orleans District  
P.O. Box 60267  
New Orleans, LA 70160

Dear Colonel Lee,

We, the undersigned coastal scientists and engineers, are writing to express our concerns over the Emergency Barataria Bay Oil Spill Protection Plan that has been submitted for an emergency permit to the U.S. Army Corps of Engineers by Jefferson Parish. The permit request is to construct rock dikes and closure structures on two passes (Four Bayou Pass and Pass Abel) to Barataria Bay.

Many of us have dedicated our professional lives to the study of Louisiana coastal systems and have been among the first to recommend responsive measures in the face of the oil spill disaster on the coast. We understand the importance of acting quickly, but we also understand the importance to acting responsibly for the current threat and for the long-term sustainability of the Louisiana coast.

In sum, we believe that the current plans are based on a common goal to protect interior wetlands from excessive oiling but, ultimately the plan relies on an engineering and construction approach that carries high economic and environmental risk, and threatens the sustainability of the very ecosystem we are all trying to save. The purpose of this letter is to alert you to these concerns and to offer to assist in resolving them.

The Emergency Barataria Bay Oil Spill Protection Plan features various alignment alternatives for linear rock dike structures to block Pass Abel and Four Bayou Pass. These features could fundamentally alter, and impair, coastal hydrology leading to drastic changes in the tidal prism and could increase erosion of the barrier islands and interior wetlands. At present, little reliable information exists relative to the impacts on the hydrology, sediment and wetland habitats. Specific concerns include:

- The proposed rock dikes will alter the tidal prism which could lead to changes in salinities and wetland habitats.
- Modeling conducted as a part of the permit request indicates an increase in water velocities and a shift in water current patterns, although no velocity profiles have been modeled or provided. Modeling in an idealized estuary conducted by the USACE Engineer Research and Development Center found that the increase in current velocities resulted in a “tendency to shift toward flood dominance with increasing wetland loss.” (Reference: Sánchez, A. 2008. Interactions between wetlands and tidal inlets. Coastal and Hydraulics Engineering Technical Note.

ERDC/CHL CHETN-IV-72. Vicksburg, MS: U.S. Army Engineer Research and Development Center.)

- Altering hydrology will likely result in increased erosion of Louisiana's barrier islands and interior marshes.
- Alterations in hydrology could increase water flow through the passes creating a funnel effect for oil to enter into the Barataria Bay and complicate the oil-fighting methods in the passes.
- It is our understanding that closure of these two passes will be followed by plans to close the other three passes, Caminda Pass, Barataria Pass and Cheniere Ronquille Pass. The cumulative impacts of the entire project could have drastic modifications to the tidal prism for Barataria Basin.
- The proposed rock dike could interrupt the sediment exchange between the interior marshes and the Gulf of Mexico, specifically during storm events.
- The rock dikes are being proposed, in addition to the barge plan for surface oil, to fight oil in the water column due to concerns that dispersants have resulted in large quantities of oil below the surface. However, the oil in the water column could also become trapped in the rock structure, leading to a more complex clean-up effort.
- Confining the water flow through a smaller opening could lead to increased erosion at the bottom of the pass, deepening these passes permanently. Deepening of the channel, along with increased velocities, could accelerate the movement of oil both on the surface and in the water column into the interior marshes.
- During a storm surge, the rock dikes, at a +4 elevation, are unlikely to significantly reduce the movement of oil into the estuary. In contrast, the hard structures located adjacent to the barrier islands are likely to increase the probability of large scale erosion and breaching of the barrier islands.
- The rock dike structures would not be a temporary oil-fighting feature, but a permanent change to the landscape in Barataria Bay. If the project is anticipated to be temporary, no information was provided to describe how the project would be dismantled and temporary impacts addressed. Therefore, the impacts of these structures would also be permanent and long-term. The potential for large-scale environmental impacts would require more in-depth study prior to approving for construction.

We certainly understand the risk of ecosystem damage due to oiling of the interior wetlands in Barataria Bay. The ecosystem impacts can include mortality of wetland plants leading to wetland loss and impacts to the fisheries and wildlife communities. However, we also understand that estuaries can naturally recover from the impacts of oil. Louisiana's wetlands have been recovering from oil spills for nearly 50 years. These historic oil spills are smaller in scale overall, however could have similar or more damaging localized effects. In our current crisis, the degraded state of the oil and the dispersed nature of the oil will likely not result in long-term impacts to large areas of interior wetlands. There are also remediation activities that would be more appropriate for use in interior wetlands than those wetlands located in high energy areas such as the Mississippi River Delta.

We also understand the economic impacts to individuals and communities that rely on these estuaries for their livelihood. Yet, the rock dikes could also result in long-term economic impacts through increased barrier island and wetland land loss, reducing the habitat for fish and wildlife and diminishing the lines of defense against storm surges.

Ultimately, the oil-fighting strategies that are proposed for the Louisiana coast need to evaluate the economic and environmental risks involved, both short-term and long-term, and plan to address those risks. The risks of long-term damage posed from oil entering into the interior marshes could be less damaging than the long-term risks associated with the rock dikes proposed in the Emergency Barataria Bay Oil Spill Protection Plan.

Lastly, the plans are currently proceeding on an in-house basis. Limited, if any, scientific input has been incorporated from outside experts, even when offered. This process is inadequate for an endeavor of this scope of potential impacts and risks. Prior to issuance of a permit, we recommend incorporating science and technical expertise into the planning process to work to address the concerns listed in this letter.

In closing, we re-emphasize our desire to resolve these concerns in a constructive way and in an expedited manner. We also request to be included in future oil-fighting strategies planning. We stand ready to assist.

For purpose of reply, you may contact Natalie Snider at the Coalition to Restore Coastal Louisiana at [nsnider@crcl.org](mailto:nsnider@crcl.org).

Respectfully submitted,

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Dallon Weathers, M.S.  
Coastal Geologist  
University of New Orleans  
Pontchartrain Institute for Environmental  
Sciences  
New Orleans, Louisiana 70148

cc: Governor, State of Louisiana  
Members, Louisiana Congressional Delegation  
Assistant Secretary for Civil Works, United States Army  
Chair, Coastal Protection and Restoration Authority  
Executive Director, Office of Coastal Protection and Restoration  
President, Jefferson Parish  
President, Lafourche Parish  
Mayor, Town of Lafitte  
Mayor, Town of Grand Isle  
Administrator, Environmental Protection Agency  
Administrator, National Oceanic and Atmospheric Administration  
Secretary, Department of Interior  
Secretary, Louisiana Department of Wildlife and Fisheries

National Oceanic and Atmospheric Administration  
Comments on  
Emergency Authorization Request for  
Rock Dike Closures

June 9

Comments

June 9, 2010

By electronic mail dated June 8, 2010, the U.S. Army Corps of Engineers, New Orleans District (NOD) requested natural resource agency review of the application by Jefferson Parish for emergency authorization to construct partial rock dike closures in Caminada Pass, Barataria Pass, Pass Abel, Four Bayou Pass, and Cheniere Ronquille Pass. The Corps of Engineers is considering authorizing the proposed partial rock dike closures under provisions of General Permit NOD-20. Rock dikes would be constructed to a +4 ft elevation for the purpose of reducing northward oil intrusion into coastal waters between the barrier island chain and the mainland. Due to the limited time provided for agency review and response to the emergency authorization request, NOAA reserves the right to provide additional recommendations and permit conditions. Those recommendations could be provided during our review of a response to agency comments developed by the applicant, our review of proposed permit special conditions provided to NOAA by NOD personnel, or when a formal permit application is processed within 30 days of permit issuance as required by provisions of General Permit NOD-20.

#### General Comments

##### *Project Efficacy Concerns*

- The stated purpose of the project is to “reduce inland movement of oil from the BP Deepwater Horizon Oil Spill.” NOAA believes the proposed activity will have little or no effect on reducing the exchange of water, and thus the movement of oil, through the passes under consideration. As the tidal inlets are restricted through dike construction, scouring will very likely result in deepening of the remaining openings, or formation of new openings, to accommodate the existing tidal prism. Those new openings would invariably be through existing barrier island features. In light of the very clear possibility for both direct and indirect adverse impacts, NOAA suggests the applicant provide a technical analysis of the ability of the proposed dikes to meet project objectives.

##### *Potential Adverse Impacts*

- The proposed action could result in adverse direct and indirect impacts to near shore, surf zone, sand flats, and back barrier marshes designated as essential fish habitat. Direct impacts from excavation and tracking (movement of heavy equipment on the barrier islands) may occur as a result of moving and placing rock into existing shorelines. Shorelines may be indirectly impacted from altered wave patterns and sediment transport processes created by the dikes.

- The proposal would result in substantial reductions in tidal inlet cross-sectional area which could reduce fish and crustacean passage.
- Restricting the tidal passes may force water to seek new outlets for drainage. Those outlets would likely be through lower elevation portions of existing barrier islands. Were this to occur, project implementation could significantly increase the already high erosion rates of these rare habitats. This may be a more likely risk for islands in greater stage of deterioration, such as Cheniere Ronquille east of Pass Ronquille.
- Hard structures reflect wave energy and may contribute to erosion of existing shorelines. This will be more substantial where dikes are placed at a more perpendicular angle to existing shorelines. Such is the case with the proposed Pass Abel dike and the tie-in with East Grand Terre Island and the Cheniere Ronquille dike and the tie-in with Grand Pierre Island.
- Scouring of restricted tidal passes may cause exposure of pipelines and other infrastructure. Additionally, increased tidal velocities caused by restricted passes could result in disruption of near shore sediment transport processes.

#### *Procedural Concerns*

- NOAA recommends a Special Condition be added to any permit issued for this project indicating that the permit does not address the applicability of this project to the spill response effort, which is a decision to be made by the National Incident Commander in consultation with the Federal On-Scene Coordinator.
- Under normal permitting procedures, a project of this individual scope would likely require full NEPA compliance. NOAA requests the Army Corps of Engineers express its intention pertaining to the need to conduct a Regulatory Environmental Impact Statement to evaluate likely near and long term project impacts individually, as well as the cumulative effects of similar emergency response actions in the vicinity of the project area.
- Lesser environmentally damaging and practicable alternatives to reduce the inland movement of oil, such as booms and skimmers, should be utilized to the maximum extent practicable.
- The proposal lacks details on construction access locations and methods. Such information is necessary for NOAA to assess and quantify potential impacts. In particular, the excavation of flotation channels to accommodate barges and the need for land-based construction equipment at shoreline tie-in points has not been identified.
- It is unclear who would maintain the proposed structures for the duration of the emergency (to avoid creation of navigation hazards) and who would remove the rock after the emergency has concluded to minimize adverse impacts.

#### Specific Comments

In view of the concerns raised above, NOAA recommends the NOD not authorize this project under emergency procedures. However, if the NOD determines that emergency authorization for this effort is warranted, NMFS recommends the following conditions be included in any permit issued for the partial rock dike closure project. These comments are provided under the authority of the Essential Fish Habitat provisions of the



Magnuson-Stevens Fishery Conservation and Management Act and the Fish and Wildlife Coordination Act.

1. Prior to issuance, the permittee shall assess impacts on shoreline erosion rates using shoreline response modeling and empirical analysis of sediment transport rates. These analyses shall be conducted using standard coastal engineering methods. The permittee shall submit the analyses to NMFS and other interested agencies.
2. The permittee shall evaluate potential impacts of the activity on habitats of concern including impacts on tidal passes and oyster producing areas and sediment transport.
3. No dredging for flotation or equipment access is authorized outside of areas depicted on the June 3, 2010, plats unless approved through interagency coordination.
4. The permittee shall avoid, to the extent practicable, direct impacts to vegetated wetlands and unvegetated shoreline from construction of the rock dikes.
5. No heavy construction equipment (i.e., dump trucks or tracked excavators) should be allowed on existing islands, shorelines or vegetated wetlands unless approved by the NOD through coordination with the natural resource agencies. No construction access corridors should be across marsh unless approved by the NOD through coordination with the resource agencies.
6. Prior to construction, the permittee shall develop a monitoring plan, in coordination with the natural resource agencies, to assess the adverse impacts of rock dike construction. Monitoring should include surveying the effects of construction activities and rock dikes on erosion or infilling tidal passes and marsh. As part of the monitoring plan, the permittee shall provide to the resource agencies copies of pre-construction and as-built plans and surveys of the passes and the islands on each side of the passes. The bayward, alongshore, and offshore limits of the surveying should be approved by the NOD through coordination with the resource agencies.
7. The rock dikes should be removed entirely as soon after the emergency ends as is possible, unless determined otherwise through coordination with the resource agencies.
8. The permittee shall develop a post-emergency mitigation plan to ensure compensation for all unavoidable adverse impacts on vegetated and unvegetated habitat. Such a plan may include sand fill placement to restore pre-project conditions (i.e., coastal processes and spatial extent of islands) to the maximum extent practicable. Implementation of the mitigation should occur within the same year the rock dikes are removed.

weakest point near connections of hard-soft combinations, the soft being the barriers and marsh vicinity will definitely erode and subsequently breached.

The 10 – 14 % change in the tidal prism; shown in the presentation as a reduction and therefore a positive point, is not entirely positive. During a storm, the storm prism (exchange of ocean with bay during a storm), is much more energetic, and will still be accommodated by the bay because the bay area did not change. Hence, risking island breaching, and marsh incisions in areas that may appear robust today. The science behind where this might happen is still complex.

If permitted, there needs to be clause in the permit for removal, and the identification of a responsible party for the financial aspects of removing the rocks.

National Oceanic and Atmospheric Administration  
Comments on  
Emergency Authorization Request for  
Rock Dike Closures

June 9, 2010

By electronic mail dated June 8, 2010, the U.S. Army Corps of Engineers, New Orleans District (NOD) requested natural resource agency review of the application by Jefferson Parish for emergency authorization to construct partial rock dike closures in Caminada Pass, Barataria Pass, Pass Abel, Four Bayou Pass, and Cheniere Ronquille Pass. The Corps of Engineers is considering authorizing the proposed partial rock dike closures under provisions of General Permit NOD-20. Rock dikes would be constructed to a +4 ft elevation for the purpose of reducing northward oil intrusion into coastal waters between the barrier island chain and the mainland. Due to the limited time provided for agency review and response to the emergency authorization request, NOAA reserves the right to provide additional recommendations and permit conditions. Those recommendations could be provided during our review of a response to agency comments developed by the applicant, our review of proposed permit special conditions provided to NOAA by NOD personnel, or when a formal permit application is processed within 30 days of permit issuance as required by provisions of General Permit NOD-20.

General Comments

*Project Efficacy Concerns*

- The stated purpose of the project is to “reduce inland movement of oil from the BP Deepwater Horizon Oil Spill.” NOAA believes the proposed activity will have little or no effect on reducing the exchange of water, and thus the movement of oil, through the passes under consideration. As the tidal inlets are restricted through dike construction, scouring will very likely result in deepening of the remaining openings, or formation of new openings, to accommodate the existing tidal prism. Those new openings would invariably be through existing barrier island features. In light of the very clear possibility for both direct and indirect adverse impacts, NOAA suggests the applicant provide a technical analysis of the ability of the proposed dikes to meet project objectives.

*Potential Adverse Impacts*

- The proposed action could result in adverse direct and indirect impacts to near shore, surf zone, sand flats, and back barrier marshes designated as essential fish habitat. Direct impacts from excavation and tracking (movement of heavy equipment on the barrier islands) may occur as a result of moving and placing rock into existing shorelines. Shorelines may be indirectly impacted from altered wave patterns and sediment transport processes created by the dikes.

- The proposal would result in substantial reductions in tidal inlet cross-sectional area which could reduce fish and crustacean passage.
- Restricting the tidal passes may force water to seek new outlets for drainage. Those outlets would likely be through lower elevation portions of existing barrier islands. Were this to occur, project implementation could significantly increase the already high erosion rates of these rare habitats. This may be a more likely risk for islands in greater stage of deterioration, such as Cheniere Ronquille east of Pass Ronquille.
- Hard structures reflect wave energy and may contribute to erosion of existing shorelines. This will be more substantial where dikes are placed at a more perpendicular angle to existing shorelines. Such is the case with the proposed Pass Abel dike and the tie-in with East Grand Terre Island and the Cheniere Ronquille dike and the tie-in with Grand Pierre Island.
- Scouring of restricted tidal passes may cause exposure of pipelines and other infrastructure. Additionally, increased tidal velocities caused by restricted passes could result in disruption of near shore sediment transport processes.

#### *Procedural Concerns*

- NOAA recommends a Special Condition be added to any permit issued for this project indicating that the permit does not address the applicability of this project to the spill response effort, which is a decision to be made by the National Incident Commander in consultation with the Federal On-Scene Coordinator.
- Under normal permitting procedures, a project of this individual scope would likely require full NEPA compliance. NOAA requests the Army Corps of Engineers express its intention pertaining to the need to conduct a Regulatory Environmental Impact Statement to evaluate likely near and long term project impacts individually, as well as the cumulative effects of similar emergency response actions in the vicinity of the project area.
- Lesser environmentally damaging and practicable alternatives to reduce the inland movement of oil, such as booms and skimmers, should be utilized to the maximum extent practicable.
- The proposal lacks details on construction access locations and methods. Such information is necessary for NOAA to assess and quantify potential impacts. In particular, the excavation of flotation channels to accommodate barges and the need for land-based construction equipment at shoreline tie-in points has not been identified.
- It is unclear who would maintain the proposed structures for the duration of the emergency (to avoid creation of navigation hazards) and who would remove the rock after the emergency has concluded to minimize adverse impacts.

#### Specific Comments

In view of the concerns raised above, NOAA recommends the NOD not authorize this project under emergency procedures. However, if the NOD determines that emergency authorization for this effort is warranted, NMFS recommends the following conditions be included in any permit issued for the partial rock dike closure project. These comments are provided under the authority of the Essential Fish Habitat provisions of the

Magnuson-Stevens Fishery Conservation and Management Act and the Fish and Wildlife Coordination Act.

1. Prior to issuance, the permittee shall assess impacts on shoreline erosion rates using shoreline response modeling and empirical analysis of sediment transport rates. These analyses shall be conducted using standard coastal engineering methods. The permittee shall submit the analyses to NMFS and other interested agencies.
2. The permittee shall evaluate potential impacts of the activity on habitats of concern including impacts on tidal passes and oyster producing areas and sediment transport.
3. No dredging for flotation or equipment access is authorized outside of areas depicted on the June 3, 2010, plats unless approved through interagency coordination.
4. The permittee shall avoid, to the extent practicable, direct impacts to vegetated wetlands and unvegetated shoreline from construction of the rock dikes.
5. No heavy construction equipment (i.e., dump trucks or tracked excavators) should be allowed on existing islands, shorelines or vegetated wetlands unless approved by the NOD through coordination with the natural resource agencies. No construction access corridors should be across marsh unless approved by the NOD through coordination with the resource agencies.
6. Prior to construction, the permittee shall develop a monitoring plan, in coordination with the natural resource agencies, to assess the adverse impacts of rock dike construction. Monitoring should include surveying the effects of construction activities and rock dikes on erosion or infilling tidal passes and marsh. As part of the monitoring plan, the permittee shall provide to the resource agencies copies of pre-construction and as-built plans and surveys of the passes and the islands on each side of the passes. The bayward, alongshore, and offshore limits of the surveying should be approved by the NOD through coordination with the resource agencies.
7. The rock dikes should be removed entirely as soon after the emergency ends as is possible, unless determined otherwise through coordination with the resource agencies.
8. The permittee shall develop a post-emergency mitigation plan to ensure compensation for all unavoidable adverse impacts on vegetated and unvegetated habitat. Such a plan may include sand fill placement to restore pre-project conditions (i.e., coastal processes and spatial extent of islands) to the maximum extent practicable. Implementation of the mitigation should occur within the same year the rock dikes are removed.

The U.S. Fish and Wildlife Service (Service) is in receipt of your 09:14 AM, June 8, 2010, electronic transmittal requesting comments pertaining to emergency authorization of Jefferson Parish Government's proposal to construct rock jetties in 5 passes along the Jefferson and Plaquemines Parish barrier island chain. The rock jetties would be constructed to a +4.0' elevation at Caminada Pass, Barataria Pass, Pass Abel, Four Bayou Pass, and Chenier Ronquille Pass. The proposed work is intended to protect wetlands from the oil spill associated with the Deepwater Horizon (i.e., Mississippi Canyon 252) blowout. The comments below are submitted in accordance with the technical assistance provisions of the Fish and Wildlife Coordination Act (FWCA; 48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), but do not constitute the report of the Secretary of the Interior as required by Section 2(b) of that Act. In addition, these comments pertain to the Migratory Bird Treaty Act (MBTA) (40 Stat. 755, as amended; 16 U.S.C. 703 et seq.), and provide emergency informal consultation information under the authority of the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) in anticipation of emergency consultation.

The Service is committed to the protection of Louisiana's wetlands from ongoing land loss and the added impact of the oil spill. We also remain committed to working closely with all agencies involved in spill response efforts to further explore alternatives and alternative features in order to reduce the current degree of risk and uncertainty associated with any oil spill response activities.

On May 12, 2010, the Service provided a memo transmitting ESA emergency consultation recommendations to Federal Agencies. If the Corps determines that emergency authorization is warranted, in addition to the guidance provided in that memo, our office would like to add the following recommendations specifically designed to protect the Federally threatened piping plover and its critical habitat (CH):

1. Piping plover CH includes Elmer's Island, Grand Isle, and East Grand Terre. To the maximum extent possible, avoid impacts to island habitat from the dune/vegetation line to mean low low water (i.e., within CH). It is recommended that the jetties be constructed before July 15, prior to piping plover wintering season and fall migration. If this is not possible, in order to minimize disturbance to feeding and resting piping plovers, construction activity should be limited in CH to the maximum extent possible. Post-construction monitoring of down-drift shorelines should be conducted to determine the impact of these jetties on CH.
2. The proposed jetties should be removed immediately once the threat of oil is no longer imminent, as they could result in negative impacts to piping plover CH by disrupting long shore sediment transport and altering sediment deposition patterns. Areas disturbed by jetty construction should be restored to pre-construction conditions.

The Migratory Bird Treaty Act prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the U.S. Department of the Interior. While the Act has no provision for allowing unauthorized take, the Service realizes that some birds may be killed during emergency response activities even if all reasonable measures to protect birds are implemented. The

Piping plover CH includes Elmer's Island, Grand Isle, and East Grand Terre. To the maximum extent possible, avoid impacts to island habitat from the dune/vegetation line to mean low low water (i.e., within CH). If this is not possible, in order to minimize disturbance to feeding and resting piping plovers, construction activity should be limited in CH to the maximum extent possible.

### Migratory Birds

The Migratory Bird Treaty Act prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the U.S. Department of the Interior. While the Act has no provision for allowing unauthorized take, the Service realizes that some birds may be killed during emergency response activities even if all reasonable measures to protect birds are implemented. The Service's Office of Law Enforcement carries out its mission to protect migratory birds through investigations and enforcement, as well as by fostering relationships with individuals, companies, and industries that have taken effective steps to minimize their impacts on migratory birds, and by encouraging others to enact such programs. It is not possible to absolve individuals, companies, or agencies from liability even if they implement avian mortality avoidance or similar conservation measures. However, the Office of Law Enforcement focuses its resources on investigating and prosecuting individuals and companies that take migratory birds without regard for their actions or without following an agreement such as this to avoid take.

The Service suggests the following recommendations as mitigative measures to minimize project-associated impacts to migratory birds:

To minimize disturbance to colonies containing nesting gulls, terns, and/or black skimmers, the Service typically recommends that all work within 650 feet of a colonial nest site be restricted to the non-nesting period (i.e., September 16 through April 1). The Service should be notified if colonial bird nest sites are identified within the 650-foot buffer, and coordination should take place between the permittee and the Service to determine the most appropriate course of action. With the Service's assistance, a qualified observer should monitor each colonial nest site to determine the minimum distance at which construction can occur without disturbing nesting birds. That distance could be utilized as the construction zone buffer for that nesting area.

An additional precaution would include limiting activities that are closest to the nesting sites to the cooler parts of the day (i.e., morning and evening).

The Service appreciates the opportunity to provide these comments. If there are any question regarding our recommendations, please contact Patti Holland at [REDACTED].

**From:** Ettinger.John@epamail.epa.gov  
**Sent:** Wednesday, June 09, 2010 8:07 PM  
**To:** Laborde, Brad MVN  
**Cc:** Seth\_Bordelon; richard hartman; Patrick Williams; Walther, David; Serio, Pete J MVN; Mayer, Martin S MVN; Honker.William@epamail.epa.gov; Keeler.Barbara@epamail.epa.gov; Landers.Timothy@epamail.epa.gov; Miller.Clay@epamail.epa.gov; Watson.Jane@epamail.epa.gov; Woodka.Janet@epamail.epa.gov; EOC\_Water  
**Subject:** Re: NOD-20 request; 5 Rock Dike Closures in Plaquemines Parish/Jefferson Parish

Brad,

This is a re-send of EPA's comments with minor format edits. (I have removed quotation marks and italics in the second paragraph.) Please use this version as our formal response. Thanks.

The central question is whether the potential adverse environmental impacts of this proposed project could outweigh potential benefits.

Blocking oil from entering estuaries and coastal wetlands is of utmost importance to all involved in the spill response. It must not, however, be done at the expense of the sustainability and productivity of the coastal environment.

We recommend the proposed emergency authorization be denied based on the potential for significant near- and long-term impacts on sediment processes, erosion rates, and fisheries. While the applicant has provided no assessment of such impacts, experience with rock projects elsewhere in coastal Louisiana suggests that there could be serious adverse unintended impacts to the aquatic environment, contrary to the goal of the project. We are available to work with the applicant to help quickly develop less environmentally damaging alternatives to the proposed project.

The proposed rock dikes, while well intended, could have long-term impacts contrary to the goal of protecting Louisiana's valuable coastal resources. Such potential impacts include increased erosion rates due to changes in sediment transport processes, reduced ingress and egress of fish and other aquatic organisms, and other potential negative impacts - including effects on navigation access and safety. The creation of such rock dikes could increase velocities and/or block sediment transport in the project area, thereby eroding the barrier islands further. Moreover, the extent to which this approach will effectively aid in blocking and removing oil from the aquatic ecosystem is uncertain.

To avoid the potential for long-term unintended adverse impacts of this and other proposals, we would recommend the Corps quickly review the feasibility of less environmentally damaging options. We realize given the nature of this crisis that the Parish government might not have the resources to provide adequate analysis and information to support such a review and recommend, therefore, that the Corps convene a meeting of agency and external experts to review this proposal and make recommendations to minimize potential downsides and maximize potential upsides. Such a meeting should include government and academic scientists with expertise in coastal geology, fisheries, and barrier island restoration, and should examine ideas based upon the efficacy in terms of potential at stopping shoreward movement of oil, the feasibility of alternative approaches, and potential environmental impacts.

Thanks in advance for your consideration of these comments. Please let me know if you have any questions or would like to discuss this matter further

John Ettinger  
U.S. EPA Region 6





L966F1

BOBBY JINDAL  
GOVERNOR

## State of Louisiana

DEPARTMENT OF WILDLIFE AND FISHERIES  
OFFICE OF WILDLIFE

ROBERT J. BARHAM  
SECRETARY

JIMMY L. ANTHONY  
ASSISTANT SECRETARY

June 9, 2010

Mr. Pete J. Serio, Chief  
Regulatory Branch  
United States Army Corps of Engineers  
P. O. Box 60267  
New Orleans, LA 70160-0267

RE: *Emergency Permit Jefferson and Plaquemines Parishes Barrier Island Chain Rock Jetties*  
*Applicant: Jefferson Parish*  
*Notice Date: June 08, 2010*

Dear Mr. Serio:

The professional staff of the Louisiana Department of Wildlife and Fisheries (LDWF) has reviewed the above referenced Emergency Notice. Based upon this review, the following has been determined:

A comparison of historic photography indicates that islands adjacent to Pass Abel, Four Bayou Pass, and Cheniere Ronquille Pass are eroding northward. Rock dikes installed at these passes are likely to be abandoned as the islands continue to migrate northward. The structures would then be rendered ineffective.

Hard structures, such as rock dikes, can reflect wave energy thereby causing increased erosion in those transition areas where hard structures end and natural ground begins. If not adequately addressed in project design, construction of the proposed rock dikes could result in a rapid increase in erosion along the flanks of the structures.

Also, field observations indicate that rock dikes are not impervious to oil. A rock dike overlain with filter cloth and capped with more rock may prevent oil from passing through the structure.

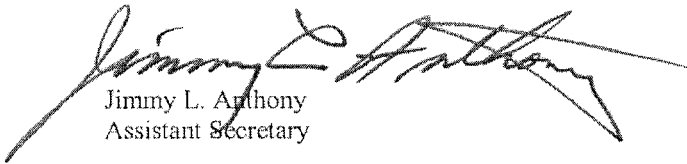
Sand berms constructed in front of the rock jetties may provide an additional layer of protection from oil seepage through the structures (some sand berms were authorized under EUA 10-037). Applicant shall be required to monitor and repair all areas that are eroded as a result of the placement of the rock structures.

The Louisiana Natural Heritage Database indicates the presence of bird nesting colonies within one mile of this proposed project. If the project will be occurring during the nesting season (Feb 16<sup>th</sup>-Sept. 15<sup>th</sup>) please consult with the Michael Seymour the Louisiana Natural Heritage Program Ornithologist at 225-763-3554

Our Database also indicates that several federally listed or state rare species and natural communities are known to occur in the area. These species and communities include sea piping plover, grass beds, coastal mangroves, manatees, diamondback terrapin and sea turtles.

The Louisiana Department of Wildlife and Fisheries appreciates the opportunity to review and provide recommendations to you regarding this proposed activity. Please do not hesitate to contact Habitat Section biologist Matthew Weigel at [REDACTED] should you need further assistance.

Sincerely,



Jimmy L. Anthony  
Assistant Secretary

mw/cm/cm

c: Christy McDonough, Biologist Supervisor  
Matthew Weigel, Biologist  
Carolyn Michon, Biologist  
EPA Marine & Wetlands Section  
USFWS Ecological Services

DEQ

## Laborde, Brad MVN

---

**From:** Jamie Phillippe [Jamie.Phillippe@LA.GOV]  
**Sent:** Wednesday, June 09, 2010 3:01 PM  
**To:** Laborde, Brad MVN  
**Cc:** Chris Piehler; Dwight Bradshaw; Jeff Dauzat; Cheryl Nolan; Melvin "Mitch" Mitchell; Tom Killeen; Gary Aydel; Ronnie Bean; Betty Brousseau; Sanford Phillips; Rodney Mallett; \_DEQ-  
BP Deepwater Horizon Oil Spill  
**Subject:** RE: NOD-20 request; 5 Rock Dike Closures in Plaquemines Parish/Jefferson Parish

Brad,

DEQ has the following comments concerning the rock jetties project:

- We are unsure if the rock jetties will effectively prevent oil from entering Barataria Bay, &
- To have the rock jetties removed after the oil spill situation has abated.

Thanks,

Jamie Phillippe

Louisiana Department of Environmental Quality

401 Water Quality Certifications

From: Laborde, Brad MVN [mailto:Brad.Laborde@usace.army.mil]  
Sent: Tuesday, June 08, 2010 9:00 AM  
To: Seth\_Bordelon@fws.gov; Balkum, Kyle; richard.hartman@noaa.gov; John Ettinger - EPA; Jamie Phillippe; Patrick Williams; Butler, Dave; Joseph "Jay" Pecot; Christine Charrier; Walther, David; Karl Morgan  
Cc: Serio, Pete J MVN; Mayer, Martin S MVN  
Subject: NOD-20 request; 5 Rock Dike Closures in Plaquemines Parish/Jefferson Parish

All,

Jefferson Parish has requested an emergency authorization to install rock jetties in 5 passes along the Jefferson and Plaquemines Parish barrier island chain to combat the Deepwater Horizon oil discharge. The rock jetties will be constructed to a +4.0' elevation at Caminada Pass, Barataria Pass, Pass Abel, Four Bayou Pass, and Chenier Ronquille Pass.

The permit drawings are attached for your review. Please provide your comments by 3:00 pm on Wednesday June 9, 2010.

Laborde, Brad MVN

102

**From:** Farabee, Michael V MVN  
**Sent:** Wednesday, June 09, 2010 2:02 PM  
**To:** Laborde, Brad MVN  
**Subject:** FW: Rock dikes

Michael V. Farabee  
New Orleans District  
Regulatory Branch  
Chief, Eastern Evaluation Section

(504) 862-2292  
(504) 862-2117 Fax

In order to assist us in improving our service to you, please complete the survey found at:  
<http://per2.nwp.usace.army.mil/survey.html>

-----Original Message-----

From: Karl Morgan [mailto:Karl.Morgan@LA.GOV]  
Sent: Wednesday, June 09, 2010 11:32 AM  
To: Joseph "Jay" Pecot; Regina Staten  
Cc: Farabee, Michael V MVN  
Subject: FW: Rock dikes

For whomever is handling the rock dikes, we need a condition that they be removed within 6 months of the end of the emergency clean-up activities.

From: MWinter [mailto:MWinter@jeffparish.net]  
Sent: Wednesday, June 09, 2010 11:04 AM  
To: Karl Morgan  
Subject: Re: Rock dikes

Karl,

Rocks are an emergency measure and will be removed after the emergency has passed if warranted.

---

From: Karl Morgan  
To: MWinter  
Sent: Wed Jun 09 09:41:52 2010  
Subject: Rock dikes

Marnie,

Is the intention to remove the rocks after the spill crisis or does the Parish intend to leave them in place?

## MEMORANDUM FOR C/CEMVN-OS-S

SUBJECT: Request for Review, 5 Rock Dike Closures in Plaquemines/Jefferson Parish

In response to the email request for review of this subject emergency authorization package, Engineering Division submits the following comments/questions/recommendations. ERDC responses are included as a separate attachment to this memorandum.

1. Potential success of this effort directly impacted on proposed stone gradation to be used in construction, which is not provided in the permit package. Larger, poorly graded, gradations will result in larger voids; what is the anticipated permeability of these rock structures?
2. Rock volumes provided in the permit appear to be neatline estimates, and potentially underestimated for the purpose of cost estimating. Anticipated settlement needs to be calculated and incorporated into the permit quantities.
3. No bankline tie-in designs are provided in the permit package. Wave action and tidal surges will result in flanking of the structures, likely in a relatively short timeframe. This will ultimately result in erosion of the existing island platforms.
4. Proposed structures as shown indicate approximately a 50' bottom width and 10' top width. By nature, this will result in significant void space, allowing potential entrapment of oil. Is there a viable cleanup plan for these structures once oil gets embedded within? What happens to the rock structures if they have been "oiled"? How do we clean oil off the rock while they are in place? (In theory, you could scrape contaminated sand off of the sand berm and dispose of it somehow, how do you clean the rock?)
5. No marking or warning signs are proposed within the application provided. Although majority of these passes are not federally authorized waterways, they are viable navigation routes. Recommend signage be provided at all sites, especially in light of potential future settlement.
6. Are these to be permanent structures, or is future removal of these structures being considered? What happens after the oil spill threat is over? When will it be removed, and whose responsibility to remove? If removal part of the plan, it should be specified. Also, for overall coastal restoration, is it beneficial to leave the rock in place? There should be an exit strategy for the rock dikes for after the spill threat is over.

7. Future settlement is likely, resulting in submerged structures and/or rock barriers right at the water elevation. Who is responsible for future maintenance of these structures and what is the anticipated maintenance cycle and cost?

8. In this attempt to close tidal passes, applicant should anticipate scour immediately ahead of rock placement activities. It is recommended that a scour protection pad be maintained a minimum of 400' ahead of vertical construction to minimize scour within the proposed construction footprint.

9. Based on limited subsurface information we have in the area associate with the rock design section furnished (approx 14' high with 10' crown width with no berm) we anticipate usual settlement for building rock on soft CH during construction for Pass Abel, Four Bayou Pass and Cheniere Ronquille Pass, a separator layer (crushed stone, geotextile separator, etc) is recommended to placed below the rock to minimize settlement and hold the rock in place while settling. As for Caminada and Barataria Passes less settlement is expected compare to the other passes but a separator is recommended.

10. The proposal indicates a significant lift of rock in the majority of the construction efforts. Geotechnical stability analysis is recommended to verify of stability berms are needed for structure integrity. This could significantly increase project rock quantity.

11. Based on the permit drawings provided it is estimated that the proposed dike structures will approximately close the respective passes as follows:

Caminada Pass	60%
Barataria Pass	25%
Pass Abel	85%
Four Bayou Pass	80%
Cheniere Ronquille	78%

While the remaining passes show significant proposed closures, Barataria Pass is remaining 75% open upon completion of these efforts. It does not appear that the potential for rock launching into the navigation channel, and potential for future navigation concerns is warranted by this 25% closure. In all likelihood, any oil in this vicinity would bypass the small sections of proposed rock and follow currents into the Barataria Pass. Recommend deleting this reach from the proposed effort. The potential to close all passes as proposed and still maintain tidal flows without breaching or erosion of additional inlets (or significant deepening of the remaining passes) is doubtful.

12. If the permit is constructed as proposed, the potential for launching of stone at the terminal end of the dike extensions is likely. To preserve the structure integrity, a dike head or launch section may be considered to accommodate anticipated stone loss into the scour area.

13. What is the anticipated production rate, duration, and scheduling for this proposed effort?

14. The applicant should provide information on the effect of the proposed action on velocities and tidal prisms. Reducing the cross sections of all these passes could impact water circulation and salinity in Barataria Bay. Could the constriction of flow at Caminada Pass cause channel velocities to increase in the vicinity of the bridge to Grand Isle?

15. Suggest we seek funds from hqsace or nic for immediate collection of bathy data and adcp transect data at spring tide at all passes in barataria and terrebonne basins for erdc and that they fund erdc to update models and model refinement and conduct hydro modeling in barataria and terrebone to look at flow and velocity changes flushing and water exchange changes in particle pathways and residence time in response to jetty construction to evaluate benefits in terms of retarding oil spill entry through the passes as well as unintended consequences also try to set up salinity modeling. This is needed to provide sound advice to nic. This could be done prior to issuing final permit.

16. Also suggest we seek funding to examine other ideas for defending the passes. We can either sit back and react to ideas like this or take this on proactively either w funding from hqsace or nic. ERDC has capability to offer NIC, BP and parishes that does not seem to be provided by anyone else. This may cause delays in work presently being performed by ERDC for MVN.

17. Does this plan change the tidal prism and if so how much? How do various passes exchange water with sections of the bay and how does plan alter that? What about the product of surface velocity and gap width this might be parameter to minimize to retard surface oil penetration how does plan change this.

18. The potential is for velocities to increase at all passes, some significantly depending on cross section reduction. This might just jet oil deeper into the bay. It will be more difficult to boom at the pass because of increased velocities.

19. It should be noted that these passes have deepened over time; since 1980, the cumulative cross sectional area of Barataria, Quatre Bayou, Caminada, and Pass Abel have increased from approximately 25%. Depths have increased by 5 to 15 feet in all but Barataria Pass. (Source: Impacts of Rising Sea Level to Backbarrier Wetlands, Tidal Inlets, and Barrier Islands: Barataria Coast, Louisiana, FitzGerald et al, 2007). Because the cross sectional area for these passes is increasing over time, this increases the likelihood that there will be some response in cross sectional area, either in these passes or at other passes in the area.

20. The berms we permitted had less potential for environmental damage to the basin behind barrier islands. Pass closures have much more potential, and it is more difficult to weight beneficial impacts versus detrimental impacts. Is permit applicant held liable and responsible for other environmental damage inflicted by the rock dikes? Is the corps liable if we issue a permit? Seems like table of environmental risks should be included to inform the applicant.

21. What is the big picture? We need to be concerned about cumulative impacts; there are now going to be sand berms and rock dikes along the coastline between Grand Isle and the river. What additional permits are going to be proposed?



## MEMORANDUM FOR FILE

SUBJECT: Horizon Stone Placement Permit to Close 5 Passes

Meeting was held with the applicant at 0900 hours this date, to generally discuss comments submitted yesterday regarding subject permit. Represented at the meeting were the Shaw Group, OCP, Jefferson Parish, COE-Regulatory, and COE-Engineering Division. It was stated that an Interagency meeting will be held in the near future to voice Agency concerns. It was noted that the permit as applied will be for temporary structures. Required removal (in regards to what extent) will apparently be discussed at a later date)/

The applicant is concentrating all efforts on the two (2) previously approved passes, namely Pass Abel and Four Bayou Pass.

Applicant is well aware that general concerns regarding this construction effort are "Big Picture" concerns, such as cumulative impacts of all combined permit efforts and more specifically reaction of the Passes (velocity, erosion, etc) in response to stone placement. They are planning to proceed with modeling efforts to answer at least some of the questions and are interested in coordinating up-front with ERDC on these modeling efforts. Nancy Powell's name was provided as a POC for modeling coordination efforts. Shaw Group stated that "Coastal Harbors" was onboard to perform modeling and would be arriving tomorrow to initiate efforts.

T. Baker is currently performing magnetometer reconnaissance of the proposed worksites, and will next be obtaining bathymetric survey data to feed the modeling efforts.

The Shaw Group will next be applying for a "piling" permit, to place piles along the rock alignment in the interim period. Barges will be aligned on this configuration and tied to the piles until rock placement is approved and initiated. Barges will be used as work platform for oil collection efforts, and will be removed to safe harbor during any tropical storm events. This removal plan is currently being coordinated with the Coast Guard. Required barges are currently staged in the Grand Isle vicinity.

Current rock placement plans call for placement of 415,000 tons (neatline) across the 5 proposed passes on the alignment provided in the permit drawings. Rock will be placed on top of a Tensar geogrid to minimize settlement. Proposed stone gradation to be used is a graded "A" stone, which is a quarry run stone of 5000-lb topsize. The well graded stone will result in minimal void space. The applicant has already been in contact with Luhr Bros, Choctaw, and Bertucci and appears to be ready to move stone when the permit is approved. Anticipate placing 4000 tons/day per work unit and have the capacity to work up to six work units as required.

## ERDC Response

There are many potential problems that could arise with this design. The following is a listing of several potential issues that could arise from the implementation of this design.

- The presence of the rock structures may induce significant erosion in the passes, due to increased velocities. This erosion may undermine the structure, or flank the structures by eroding the barrier islands.
- The increased velocities through the cuts will increase the vertical mixing through the cuts, which in turn may mix the oil and oil products through the water column.
- If a hurricane strikes this region, the presence of rock structures is likely to induce breaching of the barrier islands, resulting in a potentially catastrophic loss of land.
- The structures may serve to restrict tidal flow and induce zones of low circulation, both of which could be detrimental to water quality.
- There is the potential for significant impacts on dissolved oxygen and salinity resulting from these constrictions and the changed in circulation associated with them.
- Rock jetties are porous, so significant oil and oil products could be transported through them

This list is by no means exhaustive. These are just a few of the potential issues that are immediately obvious upon first assessment of the plans.

Under normal circumstances, each of these issues would be addressed with extensive data collection and modeling analyses. However, since this is not possible in the current situation, it seems prudent to opt for the most conservative options that will accomplish the goal of mitigating the oil while minimizing the impacts to the existing conditions of this system.

Therefore, the first option should be to evaluate whether or not, and to what degree, the presence of these structures will improve the ability of skimmer and boom operations to capture the oil going through the passes. Have these operations been unsuccessful so far, and is there no option for increasing their effectiveness short of the structural option? Is there a way to quickly estimate the minimum change of flow cross-section required to reduce the footprint of the skimming and boom operations to a manageable size?

If the structures are built, we recommend several changes to the design that should help alleviate most of these concerns and should make the structures much more efficient at accomplishing their stated purpose of oil intrusion mitigation.

These design modifications are predicated on the assumption that the optimum design will result in maximum oil mitigation benefits with minimum impact to the existing circulation patterns.

- The jetties should be reduced in height from 4' to MHHW. This will allow overtopping during a significant storm or wind event, thereby reducing the pressure on the barrier islands themselves and minimizing the opportunity for breaching.
- Some of the rock saved in this reduction could be placed in the cuts, if it is determined that the velocities in the cuts will be significant enough to induce erosion. This will likely be the case under storm conditions.
- The placement of jetties or (preferably) booms perpendicular to the cuts and extending out into the gulf would be very beneficial to trapping oil. Modeling results indicate that the currents are likely to move parallel to the structures and enter the cuts, so the booms and/or jetties would trap the oil in a manner analogous to the trapping of littoral sediments. An example of this configuration is a natural spit connected to Dauphin Island, which has been shown to serve as an effective oil trap.
- The constrictions themselves should be sized such that they are small enough that the water passing through them can be effectively skimmed, but not so small that the currents are dramatically increased and the flow patterns are affected. Therefore, based on a quick and conservative analysis of the currents in the passes taken from existing model results, we recommend that the reduction in cross-sectional area at any of the cuts not exceed 50%. This should limit the change in the current speed to a level that may not be significantly detrimental, and may not dramatically change the circulation and morphology patterns (at least in the near term). The proposed cuts at Pass Abel and 4 bayou pass exceed this criterion as now designed. A possible alternative design for pass Abel is to have 2 cuts in the jetty, where skimming can take place at both cuts and the total cross sectional area change can be limited to 50%.
- Finally, extensive data collection in the vicinity of these passes should begin immediately and continue through the life of the project, to monitor discharge through the passes, water levels, basic water quality constituents (such as salinity, dissolved oxygen, and sediment oxygen demand). This monitoring program should begin pre-construction, to get some idea of the baseline conditions.

## Laborde, Brad MVN

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**From:** Brown, Jane L MVN  
**Sent:** Wednesday, June 09, 2010 8:57 AM  
**To:** Laborde, Brad MVN  
**Cc:** Schneider, Donald C MVN  
**Subject:** RE: MVN-2010-1271-EOO; NOD-20 Emergency Request

We have no objection.

-----Original Message-----

From: Schneider, Donald C MVN  
Sent: Tuesday, June 08, 2010 9:33 AM  
To: Brown, Jane L MVN  
Cc: Laborde, Brad MVN  
Subject: Fw: MVN-2010-1271-EOO; NOD-20 Emergency Request

-----  
Message sent via my BlackBerry Wireless Device

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From: Laborde, Brad MVN  
To: Schneider, Donald C MVN; Schindler, Paige P MVN  
Sent: Tue Jun 08 09:31:00 2010  
Subject: MVN-2010-1271-EOO; NOD-20 Emergency Request

Don and Paige,

Jefferson Parish has requested an emergency authorization to install rock jetties in 5 passes along the Jefferson and Plaquemines Parish barrier island chain to combat the Deepwater Horizon oil discharge. The rock jetties will be constructed to a +4.0' elevation at Caminada Pass, Barataria Pass, Pass Abel, Four Bayou Pass, and Chenier Ronquille Pass.

The permit drawings are attached for your review. I will send a hard copy as well. Please provide me with feedback by 3:00 pm on Wednesday June 9, 2010.

Thank you for your time,

Brad LaBorde  
Environmental Resources Specialist  
Eastern Evaluation Section  
(504) 862-2225  
(504) 862-2117 - fax

In order to assist us in improving our service to you, please complete the survey found at <http://per2.nwp.usace.army.mil/survey.html> <<http://per2.nwp.usace.army.mil/survey.html>>

## Laborde, Brad MVN

---

**From:** Schindler, Paige P MVN  
**Sent:** Tuesday, June 08, 2010 9:55 AM  
**To:** Laborde, Brad MVN; Schneider, Donald C MVN  
**Subject:** RE: MVN-2010-1271-EOO; NOD-20 Emergency Request

Brad, we have no real estate interests in the proposed work areas, no RE instrument will be required. Thanks, Paige

-----Original Message-----

**From:** Laborde, Brad MVN  
**Sent:** Tuesday, June 08, 2010 9:31 AM  
**To:** Schneider, Donald C MVN; Schindler, Paige P MVN  
**Subject:** MVN-2010-1271-EOO; NOD-20 Emergency Request

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In order to assist us in improving our service to you, please complete the survey found at <http://per2.nwp.usace.army.mil/survey.html> <<http://per2.nwp.usace.army.mil/survey.html>>

**LAKE PONTCHARTRAIN BASIN FOUNDATION**  
**SAVE OUR COAST SAVE OUR LAKE**

**20 YEARS OF SAVING OUR LAKE AND COAST**

P.O Box 6965 Metairie, LA. 70009-6965 - SaveOurLake.org

**To:** Mr. Pete Serio  
Via email: [pete.j.serio@usace.army.mil](mailto:pete.j.serio@usace.army.mil) & [Brad.Laborde@usace.army.mil](mailto:Brad.Laborde@usace.army.mil)  
USACE -New Orleans District  
PO BOX 60267  
New Orleans, LA 70160-0267

**Date:** June 15, 2010

**RE: Emergency Authorization for the proposed Rock Dikes in Barataria Basin–  
Jefferson Parish**


Dear Mr. Serio:

The proposed rock dikes to temporarily close tidal passes along the Barataria Basin Gulf shoreline threaten the very resources they are proposed to protect, and for that reason we oppose approval of a permit to construct these structures. Our primary concern is that tidal flow will work against the intent of the project. A reduced cross-sectional area will dramatically increase the velocity of normal tidal currents and scour the channel. A greater threat would be tidal flow driven by a lower pressure system such as a tropical depression or hurricane. In this case, the remaining channel will be enlarged and structures may be undermined. It is also possible that overtopping water will scour around the placed blockage in the channels and threaten the adjacent gulf islands or shoreline. This could be similar to the damage caused by Hurricane Katarina in which massive damage was at the transitions from hard structure to soft (soil) levees. Water will take the path of least resistance and in so doing, erode the adjacent landscape. The result may be new breaches and tidal inlets across the gulf shoreline. This poses an unacceptable risk to the coast, and would increase the risk of oil penetrating the coast.

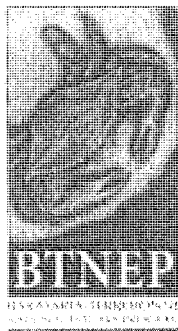
Please call or email for any questions.

Regards,



John A. Lopez Ph.D.  
Director – Coastal Sustainability Program  
Lake Pontchartrain Basin Foundation  
 [johnlopez@pobox.com](mailto:johnlopez@pobox.com)

CC: John Ettinger



June 10, 2010

Mr. Pete Serio, Chief Regulatory Branch  
U.S. Army Corps of Engineers  
New Orleans District  
P.O. Box 60267  
New Orleans, Louisiana 70160-0267

Subject: Jefferson Parish Emergency Authorization for Proposed Rock Dikes in Barataria Basin Passes

Dear Mr. Serio:

While the Barataria-Terrebonne National Estuary Program strongly supports the restoration of the Barataria Basin barrier shoreline (as well as the Terrebonne Basin barrier islands), we must respectfully object to the issuance of this Emergency Authorization requested by Jefferson Parish due to the severe impacts to the Barataria Basin that these rock dikes would cause. The Emergency Authorization was requested by Jefferson Parish to construct rock dikes which would considerably narrow the width of Caminada Pass, Barataria Pass, Pass Abel, Four Bayou Pass, and Chenier Ronquille Pass. The reason given for the permit request was to "reduce the inland movement of oil from the BP Deepwater Horizon Oil Spill..." The reasons for our objection to this permit are as follows:

**The Rock Dikes would facilitate, not lessen, movement of oil from offshore into the internal estuaries.**

Reducing the width of the barrier island passes either with rock dikes or sunken barges without significant restoration of the internal wetlands beforehand would result in increased velocities of water flowing through the passes during a given tidal cycle. This would result in any oil that may remain in the open Gulf when these rock dikes are completed to flow at exceptionally higher velocities, moving oil farther up into our estuaries.

The concept of tidal prism is a well-studied, scientific principal. The water flowing into, and out of an estuary in a given tidal cycle (the tidal prism) has increased substantially over the years. This increased tidal flow is directly related to the amount of wetland loss we have experienced in the internal basins. The conversion of wetlands to open water allows for an increased tidal flow through the passes. The higher volumes and quicker velocities erode the passes making the barrier islands smaller. Simply narrowing the size of the passes will only serve to force water flowing through them at faster speeds. The substantially increased flow of water would carry oil from the Gulf at equally increased speeds, making the oil more difficult to be managed by boats pulling booms with skimmers. A well-establish guideline in oil spill response is that booms are ineffective at trapping oil in currents greater than 0.7 knots.

**The Rock Dikes or sunken barges in the passes will increase erosional forces substantially.**

The increased flow of water flowing into and out of the Barataria estuary caused by the rock dikes or sunken barges placed in the passes may result in severe erosion to occur along the back barrier marshes. The western shoreline of Caminada Pass will likely be substantially affected. The recently accreted sand "spit" along the western shoreline of Caminada Pass as well as the camp sites along that shoreline will most likely be severely eroded. Increased velocities may potentially compromise the stability of the Caminada Bridge, although this would have to be verified by structural engineers. The entire hydrology of the modified passes will undoubtedly change considerably and will change the form through erosion of the ends of Grand Isle, Grand Terre, East Grand Terre, and other islands. The passes will become much deeper in order to accommodate the increased volumes of water passing through them.

**Final Comments**

The wish to protect our estuaries from the petroleum flowing out of the Gulf floor from the Deep Water Horizon spill is completely and utterly understandable. This desire is completely shared by the Barataria-Terrebonne National Estuary Program. But we can not allow our quest for remedies against this latest assault on our national estuary, the petroleum from the Deep Water Horizon, to leave us with extensive and lasting damages. Our wetland system, a system that has protected our communities and provided for a richly productive place to live for generations, has been weakened severely by past human modifications. We all know what those modifications to our natural system have been. Ironically, many of those human modifications have been to facilitate and promote oil and gas production. The people living here today, the people who love this place must remain unified in our desire and efforts to protect it. We have the ability to restore this place based on the principals of good science combined with the cultural and social needs of those of us who live here. The oil will be cleaned from our marshes. We will recover from this. We can not let our zeal to protect our wetlands from oil alter it beyond repair.

Thank you for the opportunity to comment on this Emergency Authorization.

Sincerely,



Kerry M. St.Pè  
Program Director

Cc: BTNEP Management Conference Members (via email)  
Janet Woodka, Environmental Protection Agency (via email)  
National Estuary Program Directors (via email)



June 25, 2010

Colonel Alvin Lee  
Commander  
U.S. Army Corps of Engineers  
New Orleans district  
P.O. Box 60267  
New Orleans, LA 70160

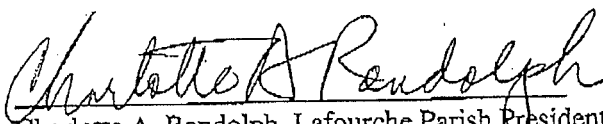
RE: BP Deepwater Horizon Oil Spill Response  
Jefferson Parish Barataria Basin Passes - Rock and Barge Plan

Dear Colonel Lee:

By this letter I am hereby confirming Lafourche Parish's support for Jefferson Parish's proposed plan and ongoing effort to restrict passes between barrier islands to prevent oil from entering Barataria Bay using barrier configurations in the form of barges, rock dikes, and other diversionary booming.

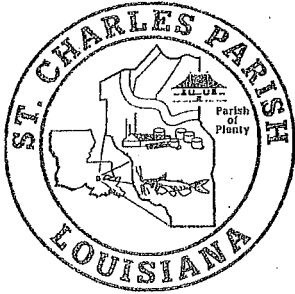
Should you wish to discuss this matter further, please do not hesitate to contact me.

Sincerely,

  
Charlotte A. Randolph, Lafourche Parish President

  
Date

cc: Hon. Steve Theriot, Jefferson Parish President  
Ms. Mamie Winter, Director, Jefferson Parish Department of Environmental Affairs  
Mr. Deano Bonano, Chief, Jefferson Parish Homeland Security



BILLY RAYMOND, SR.  
CHAIRMAN  
COUNCILMAN, DISTRICT I

LARRY COCHRAN  
VICE CHAIRMAN  
COUNCILMAN, DISTRICT V

CAROLYN K. SCHEXNAYDRE  
COUNCILWOMAN AT LARGE, DIVISION A

TERRY AUTHEMENT  
COUNCILMAN AT LARGE, DIVISION B

SHELLEY M. TASTET  
COUNCILMAN, DISTRICT II

WENDY BENEDETTO  
COUNCILWOMAN, DISTRICT III

PAUL J. HOGAN  
COUNCILMAN, DISTRICT IV

MARCUS M. LAMBERT  
COUNCILMAN, DISTRICT VI

DENNIS NUSS  
COUNCILMAN, DISTRICT VII

# ST. CHARLES PARISH

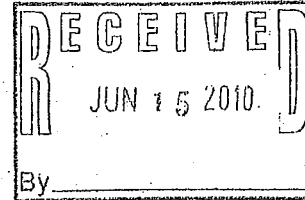
## OFFICE OF THE COUNCIL

P.O. BOX 302 • HAHNVILLE, LOUISIANA 70057

(985) 783-5000 • Fax: (985) 783-2067

www.stcharlesparish-la.gov • scpcouncil@st-charles.la.us

June 11, 2010



Honorable Steve J. Theriot  
Jefferson Parish President  
P. O. Box 9  
Gretna, LA 70054

Re: Support of Jefferson Parish's "Advanced Measures Plan"

Dear Parish President Theriot:

On Monday, June 7, 2010, the St. Charles Parish Council adopted Resolution No. 5753 strongly supporting Jefferson Parish in implementing their "Advanced Measures Plan" for the five primary passes that connect the Barataria Basin with the Gulf of Mexico.

A copy of the resolution is enclosed for your records.

Sincerely,

BARBARA JACOB-TUCKER, LCMC, CAA, CMA, CPO  
COUNCIL SECRETARY

BJT/sm

enclosure

cc: Parish Council  
Parish President V.J. St. Pierre, Jr. w/enclosure

2010-0208

INTRODUCED BY: ST. CHARLES PARISH COUNCIL

V.J. ST. PIERRE, JR., PARISH PRESIDENT

RESOLUTION NO. 5753

A resolution strongly supporting Jefferson Parish in implementing their "Advanced Measures Plan" for the five primary passes that connect the Barataria Basin with the Gulf of Mexico.

WHEREAS, on April 20, 2010, at approximately 9:45 CDT the Deepwater Horizon Platform exploded changing the way of life on the entire Gulf Coast; and,

WHEREAS, all methods to stop the flow of oil with the containment cap and to clean up the affected area with containment booms, chemical dispersants, skimmers, and vacuum pumps are being used; and,

WHEREAS, pumping of sand along the barrier islands to create a "sand barrier berm" between the existing coastline and the GOM, has presently been undertaken by the State of Louisiana in the East Grand Terre Island Vicinity; and,

WHEREAS, it is the opinion of Jefferson Parish Official's that in addition to the "sand barrier berms" between Pass Ronquille and Elmers Island, the weakness in the system to resist an oil spill of this nature and to protect the sensitive interior marshes of the Basin is the lack of control mechanism to adequately stop the surface oil from entering the Basin through the five major passes that connect the Basin to the Gulf of Mexico, namely Caminada Pass, Barataria Pass, Pass Abel, Four Bayou Pass, and Pass Ronquille; and,

WHEREAS, it is believed that BP could improve the ability to control more of the oil that is entering the Basin through these passes with system of barges, spud barges, deck barges and rocks across a large portion of each pass and to supply connecting booms across the balance of the passes in an attempt to stop and remove most of the surface oil at the entrance to the basin which is also the entrance from the Gulf of Mexico to the waterways of St. Charles Parish including Lake Salvador and Lake Cataouchie.

NOW THEREFORE, BE IT RESOLVED, THAT WE, THE MEMBERS OF THE ST. CHARLES PARISH COUNCIL, do hereby strongly support the "Advanced Measures Plan" for the first primary passes that connect the Barataria Basin with the Gulf of Mexico.

BE IT FURTHER RESOLVED, that a copy of this Resolution be forwarded to Governor Bobby Jindal, United States Senator Mary Landrieu, United States Senator David Vitter, United States Representative Charlie Melancon, United States Representative Joseph Cao, United States Representative Steve Scalise, Colonel Alvin Lee, Corps of Engineers, Admiral Thad Allen, U. S. Coast Guard, Jefferson Parish Council, Jefferson Parish President Steve Theriot, Lafourche Parish Council, Lafourche Parish President Charlotte Randolph, Terrebonne Parish Council, Terrebonne Parish President Michael Claudet, Plaquemines Parish Council, Plaquemines Parish President Billy Nungesser, St. Bernard Parish Council, St. Bernard Parish President Craig Taffaro, Jr., Grand Isle Mayor David Camardelle, Lafitte Mayor Tim Kerner, Southeast Louisiana Flood Protection Authority - West, Lafourche Levee Board, Greater Lafourche Port Commission, Mr. Garrett Graves, Office of Coastal Restoration, and Mayor of New Orleans Mitch Landrieu.

The foregoing resolution having been submitted to a vote, the vote thereon was as follows:

YEAS: SCHEXNAYDRE, AUTHEMENT, RAYMOND, TASTET, BENEDETTO, HOGAN, COCHRAN, LAMBERT, NUSS

NAYS: NONE

ABSENT: NONE

And the resolution was declared adopted this 7th day of June, 2010, to become effective five (5) days after publication in the Official Journal.

Support Implementing Advanced Measures Plan-oil spill

CHAIRMAN:

SECRETARY:

DLVD/PARISH PRESIDENT:

APPROVED:

DISAPPROVED:

PARISH PRESIDENT:

RETD/SECRETARY:

AT 3:45 P.M.

REC'D BY:

*Billy Raymond Sr.*

*Barbara Jacob Tucker*

*June 8, 2010*

*[Signature]*

*[Signature]*

*June 8, 2010*

*[Signature]*

The attached correspondence was forwarded to the following:

Honorable Bobby Jindal  
Governor  
State Capital  
P. O. Box 94004  
Baton Rouge, LA 70804-9004

Honorable Mary Landrieu  
United States Senator  
Hale Boggs Federal Building  
500 Poydras Street, Room 1005  
New Orleans, LA 70130

Honorable David Vitter  
United States Senator  
Southeast Regional Office  
2800 Veterans Boulevard, Suite 201  
Metairie, LA 70002

Honorable Charlie Melancon  
United States House of Representatives  
3rd Congressional District  
423 Lafayette Street, Suite 107  
Houma, LA 70360

Honorable Steve Scalise  
United States House of Representatives  
1<sup>st</sup> Congressional District  
110 Veterans Boulevard, Suite 500  
Metairie, LA 70005

Honorable Joseph Cao  
United States House of Representatives  
2<sup>nd</sup> Congressional District  
4640 S. Carrollton Avenue, Suite 120  
New Orleans, LA 70119

Colonel Alvin B. Lee  
District Engineer and Commander  
U.S. Army Corps of Engineers  
New Orleans District  
P.O. Box 60267  
New Orleans, LA 70160-0267

Admiral Thad Allen  
Headquarters U.S. Coast Guard  
2100 Second Street, SW  
Mail Stop 7000  
Washington, D.C. 20593-7000  
emailed to:  
zachary.a.zubrizki@uscg.mil

Ms. Eula Lopez  
Jefferson Parish Council Clerk  
P. O. Box 9  
Gretna, LA 70054

Honorable Steve J. Theriot  
Jefferson Parish President  
P. O. Box 9  
Gretna, LA 70054

Ms. Carleen Babin  
Lafourche Parish Council Clerk  
P.O. Drawer 5548  
Thibodaux, Louisiana 70302

Honorable Charlotte Randolph  
Lafourche Parish President  
P.O. Drawer 5548  
Thibodaux, Louisiana 70302

Mr. Paul Labat  
Terrebonne Parish Council Clerk  
P.O. Box 2768  
Houma, LA 70361

Honorable Michael Claudet  
Terrebonne Parish President  
P.O. Box 2768  
Houma, LA 70361

Ms. Melissa P. LeBlanc  
Plaquemines Parish Council Secretary  
P.O. Box 61  
Pointe-a-la-Hache, LA 70082

Honorable Billy Nungesser  
Plaquemines Parish President  
8056 Hwy. 23, Suite 200  
Belle Chasse, LA 70037

Ms. Roxanne Adams  
St. Bernard Parish Council Clerk  
8201 W. Judge Perez Drive  
Chalmette, LA 70043

Honorable Craig P. Taffaro, Jr.  
St. Bernard Parish President  
8201 W. Judge Perez Drive  
Chalmette, LA 70043

Mayor David Camardelle  
Town of Grand Isle  
PO Box 200  
Grand Isle, LA 70358

Mayor Timothy P. Kerner  
Town of Jean Lafitte  
2654 Jean Lafitte Boulevard  
Lafitte, LA 70067

Ms. Susan H. Maclay, President  
Southeast LA Flood Protection Authority – West  
7001 River Road  
Marrero, LA 70072

Mr. Randy Trosclair  
Lafourche Basin Levee District  
P.O. Box 670  
Vacherie, LA 70090

Mr. Chett Chaisson  
Executive Director  
Greater Lafourche Port Commission  
P.O. Drawer 490  
Galliano LA 70354

Mr. Garret Graves, Director  
Louisiana Office of  
Coastal Protection and Restoration  
1051 North 3rd Street  
Capitol Annex Building, Suite 138  
Baton Rouge, LA 70802

Honorable Mitch Landrieu  
Mayor, City of New Orleans  
1300 Perdido Street  
New Orleans, LA 70112

# Plaquemines Parish Government

**BILLY NUNGESSER**

Parish President

8056 Hwy. 23, Suite 200  
Belle Chasse, LA 70037(504) 392-6690  
(504) 274-2462  
1-888-784-5387  
Fax: (504) 274-2463

June 25, 2010

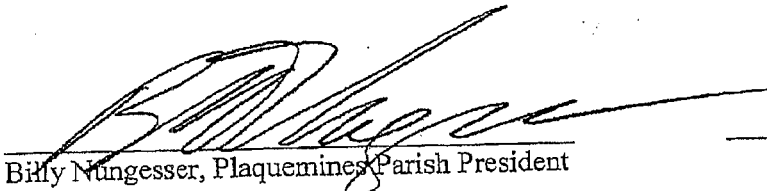
Colonel Alvin Lee, Commander  
U.S. Army Corps of Engineers  
New Orleans district  
P.O. Box 60267  
New Orleans, LA 70160RE: BP Deepwater Horizon Oil Spill Response  
Jefferson Parish Barataria Basin Passes – Rock and Barge Plan

Dear Colonel Lee:

By this letter I am hereby confirming Plaquemines Parish's support for Jefferson Parish's proposed plan and ongoing effort to restrict passes between barrier islands to prevent oil from entering Barataria Bay using barrier configurations in the form of barges, rock dikes, and other diversionary booming.

Should you wish to discuss this matter further, please do not hesitate to contact me.

Sincerely,

  
Billy Nungesser, Plaquemines Parish President6/25/2010  
Datecc: Hon. Steve Theriot, Jefferson Parish President  
Mr. P.J. Hahn, Plaquemines Parish Coastal Zone Administrator  
Ms. Marnie Winter, Director, Jefferson Parish Department of Environmental Affairs  
Mr. Deano Bonano, Chief, Jefferson Parish Homeland Security

## Laborde, Brad MVN

---

**From:** Billy Nungesser [bnungesser@plaqueminesparish.com]  
**Sent:** Wednesday, June 30, 2010 4:24 PM  
**To:** Lee, Alvin B COL MVN  
**Subject:** Permit for Rock Berm  
**Attachments:** image001.png

Col. Lee - The Army COE has still not approved the emergency rock permit for Pass Abel and Four Bayous Pass. Please approve the emergency permit for the rocks immediately. Thank You -

Billy Nungesser, Parish President

Plaquemines Parish Government

8056 Highway 23, Suite 200

Belle Chasse, LA 70037

Office [REDACTED]

Fax ([REDACTED])

email: [bnungesser@plaqueminesparish.com](mailto:bnungesser@plaqueminesparish.com)

logo

BOBBY JINDAL  
GOVERNOR



ROBERT D. HARPER  
SECRETARY

State of Louisiana  
DEPARTMENT OF NATURAL RESOURCES  
OFFICE OF COASTAL MANAGEMENT

JUN 30 2010

June 24, 2010

CERTIFIED MAIL NO. 0092571173

**Jefferson Parish, Department of Environmental Affairs**

4901 Jefferson Highway, Suite E  
Jefferson, LA 70121  
Attn: Marnie Winter

**EUA 10-050-1; Amended Emergency Use Authorization**

**Description:** Proposed construction of rock jetties in Caminada Pass, Barataria Pass, Pass Abel, Four Bayou Pass, and Cheniere Ronquille Pass. The jetties are proposed to be built at a 4.0' elevation.

**Location:** Caminada Pass Jetty 1 – POB: Lat. 29° 11' 34.5" N; Long. 90° 2' 52.9" W.; POE: 29° 11' 36.7" N; 90° 2' 50.6" W.; Caminada Pass Jetty 2 – POB: Lat. 29° 11' 45.2" N; Long. 90° 2' 41.1" W.; POE: 29° 11' 56.2" N; 90° 02' 28.9" W.; Barataria Pass Jetty 1 – POB: Lat. 29° 16' 2.6" N; Long. 89° 57' 06.7" W.; POE: 29° 16' 6.8" N; 89° 57' 1.8" W.; Barataria Pass Jetty 1 – POB: Lat. 29° 16' 2.6" N; Long. 89° 57' 06.7" W.; POE: 29° 16' 20.7" N; 89° 56' 45.0" W.; Pass Abel Jetty 1 – POB: Lat. 29° 17' 44.2" N; Long. 89° 54' 21.2" W.; POE: 29° 17' 47.4" N; 89° 54' 21.2" W.; Pass Abel Jetty 2 – POB: Lat. 29° 17' 54.6" N; Long. 89° 54' 11.8" W.; POE: 29° 18' 33.5" N; 89° 53' 20.8" W.; Four Bayou Pass Jetty 1 – POB: Lat. 29° 18' 44.5" N; Long. 89° 51' 38.3" W.; POE: 29° 18' 46.5" N; 89° 51' 34.2" W.; Four Bayou Pass Jetty 2 – POB: Lat. 29° 18' 54.2" N; Long. 89° 51' 21.7" W.; POE: 29° 19' 14.9" N; 89° 50' 34.2" W.; Cheniere Ronquille Pass Jetty 1 – POB: Lat. 29° 19' 29.0" N; Long. 89° 49' 38.9" W.; POE: 29° 19' 29.0" N; 89° 49' 21.1" W.; Cheniere Ronquille Pass Jetty 2 – POB: Lat. 29° 19' 16.9" N; Long. 89° 49' 21.1" W.; POE: 29° 19' 2.3" N; 89° 49' 59.6" W.

**Jefferson and Plaquemines Parishes, LA**

**Amendment :** Proposed modification in the locations of the rock jetties associated with Pass Abel and Four Bayou Pass.

**Amended Location:** Pass Abel Jetty and Four Bayou Pass Jetty are depicted on the revised plats.

Dear Ms. Winter:

We have reviewed the revised information presented to the Office of Coastal Management (OCM) in your Amended Emergency Use Authorization request dated June 23, 2010. Pursuant to the provisions contained in the LAC (Title 43, Part I, Chapter 7 §723.B.3.), the Amended

Post Office Box 44487 • Baton Rouge, Louisiana 70804-4487  
617 North Third Street • 10th Floor • Suite 1078 • Baton Rouge, Louisiana 70802  
(225) 342-7591 • Fax (225) 342-9439 • <http://www.dnr.louisiana.gov>



**Page 2**

Emergency Use Authorization request is hereby granted. This Amended Emergency Use Authorization provides only for that work necessary to accomplish the above referenced purpose and is contingent upon acceptance of the following conditions.

1. This Amended Emergency Use Authorization is strictly limited to the activity as described in your request and accompanying plats.
2. Dredge and fill activities for site access are not authorized unless specifically described in the work statement of this letter.
3. The applicant agrees, by virtue of the commencement of authorized activities, to submit to OCM, a complete application packet (\$100 application fee, Joint Application Form, vicinity plats, plan plats, cross section plats, etc.) for the activity not more than thirty (30) days from the date of this amended authorization. You may obtain a free application packet by calling our office at (225) 342-7591 or (800)-267-4019; or by visiting our website at <http://www.dnr.state.la.us/crm/coastmgt/cup/cup.asp>.
4. The applicant agrees, by virtue of the commencement of authorized activities, to avoid to the maximum extent practicable, vegetated wetland impacts, and if necessary to mitigate for those unavoidable adverse impacts to vegetated wetlands, including submerged aquatics, should OCM determine that mitigation is necessary. Should OCM deem mitigation to be necessary, the applicant agrees, by virtue of the commencement of authorized activities, to submit and fulfill a mitigation plan that has been approved by OCM.
5. The applicant agrees, by virtue of the commencement of authorized activities, to adjust, alter, or remove any structure or other evidence of the authorized emergency use if, in the opinion of OCM, it proves to be beyond the scope of the authorized activity or is abandoned.
6. The applicant agrees, by virtue of the commencement of authorized activities, to hold and save the State of Louisiana, the Department of Natural Resources (DNR), and their officers and employees harmless from any damage to persons or property which might result from the emergency use.
7. The applicant agrees, by virtue of the commencement of authorized activities, to certify that the emergency use has been completed in an acceptable and satisfactory manner and in accordance with the plans and

specifications approved by OCM as referenced herein. OCM may, when appropriate, require such certification by given by a registered engineer.

8. The applicant agrees, by virtue of the commencement of authorized activities, to ensure that this Amended Emergency Use Authorization, or a copy thereof, shall be available for inspection at the work site at all times during operations.
9. The applicant agrees, by virtue of the commencement of authorized activities, to notify OCM of the date on which initiation of the authorized emergency activity began. The applicant shall notify OCM by mailing the enclosed green initiation card on the date of initiation of the authorized activities.
10. The applicant agrees, by virtue of the commencement of repair activities, to ensure that the authorized activity does not result in the blockage of any natural or manmade streams or sloughs. A follow-up investigation of the authorized work will be conducted by employees of OCM to determine compliance with this condition.
11. The area where the project is located is all part of the aboriginal homelands of the Chitimacha Tribe of Louisiana. As such, large villages, burial sites, and sacred sites were in place in that entire area. If at any time during the course of the work, any traditional cultural properties are discovered, Permittee shall immediately contact Kimberly S. Walden (Cultural Director) or Melanie Aymond (Research Coordinator) at (██████████) or (██████████) Office hours are Monday through Thursday from 7:30 A.M. - 5:00 P.M. and on Friday between 7:30 A.M.– 11:30 A.M. If traditional cultural properties are discovered on the weekend or after business hours, the notification shall be made the next business morning.
12. In order to ensure the safety of all parties, the permittee shall contact the Louisiana DOTTIE System (1-800-272-3020) a minimum of 48 hours prior to the commencement of any excavation (digging, dredging, jetting, etc.) or demolition activity.
13. The following conditions have been provided by the Louisiana Department of Wildlife and Fisheries:

Ecological Studies:

A comparison of historic photography indicates that islands adjacent to Pass Abel, Four Bayou Pass, and Cheniere Ronquille Pass are eroding northward. Rock dikes installed at these passes are likely to be abandoned

as the islands continue to migrate northward. The structures would then be rendered ineffective.

Hard structures, such as rock dikes, can reflect wave energy thereby causing increased erosion in those transition areas where hard structures end and natural ground begins. If not adequately addressed in project design, construction of the proposed rock dikes could result in a rapid increase in erosion along the flanks of the structures.

Also, field observations indicate that rock dikes are not impervious to oil. A rock dike overlain with filter cloth and capped with more rock may prevent oil from passing through the structure.

Louisiana Natural Heritage Program:

The Louisiana Natural Heritage Database indicates the presence of bird nesting colonies within one mile of this proposed project. If the project will be occurring during the nesting season (Feb 16<sup>th</sup>-Sept. 15<sup>th</sup>) please consult with the Michael Seymour, the Louisiana Natural Heritage Program Ornithologist, at [REDACTED].

Our Database also indicates that several federally listed and state rare species and natural communities are known to occur in the area. These species and communities include piping plover, snowy plover, grass beds, coastal mangroves, manatees, diamondback terrapin, and sea turtles.

14. All hard structures must be marked/lighted in accordance with U.S. Coast Guard regulations. These markers/lights, if required, must be maintained at the sight until such time as all potential hazards to navigation are removed.
15. The following conditions have been provided by the Coastal Protection and Restoration Authority of Louisiana:

The permittee shall develop and implement a monitoring plan which will address the changes of current (velocity and direction) and impact on sediment morphodynamics of the adjoining barrier island system. This monitoring plan should be developed in consultation with state and federal agencies.

The permittee will be responsible for removal of these structures if monitoring shows adverse effects on the ecosystem (especially the adjoining barrier islands in form of erosion, breach overwash, etc.) or within 90 days after the threat of oil has passed.

The effectiveness of these structures in enhancing the capture of oil should

be monitored. The permittee shall include emergency provisions for allowing drainage of surge from Barataria Bay in the event of a tropical storm or hurricane.

16. Unless otherwise specified, this Amended Emergency Use Authorization supersedes the original Emergency Use Authorization, signed June 10, 2010 and will expire 30 days from the date of this letter, if the work has not been initiated or if the applicant has not submitted a complete Coastal Use Permit Application to OCM for the authorized activity. This expiration condition will be waived only if the applicant notifies OCM of the reason(s) for the delay and proposes an acceptable schedule for initiation of the work, or submits a complete Coastal Use Permit Application.
17. This amended authorization is not valid unless the applicant agrees to the terms and conditions provided for herein by executing in the space provided below.

Should you have any questions or need additional help, please feel free to contact Mrs. Christine Charrier, Acting Program Manager, at (██████████).

Sincerely,




Karl Morgan,  
Acting Administrator

AGREED TO AND ACCEPTED by \_\_\_\_\_ this \_\_\_\_\_ day  
of \_\_\_\_\_, 20\_\_\_\_.

KM/nd

Attachments (green card and plats)


CC:  Pete Serio, COE w/plats  
David Butler, LDWF w/plats  
Peggy Rooney, OCM/SS w/plats  
Frank Cole, OCM/FI w/plats  
Jason Smith, Jefferson Parish w/plats  
Albertine Kimble, Plaquemines Parish w/plats

Final Plats EUA 10-050-1  
 NO 6/24/10

PLAT 10-050-1  
 10-050-1

DATE	REVISION

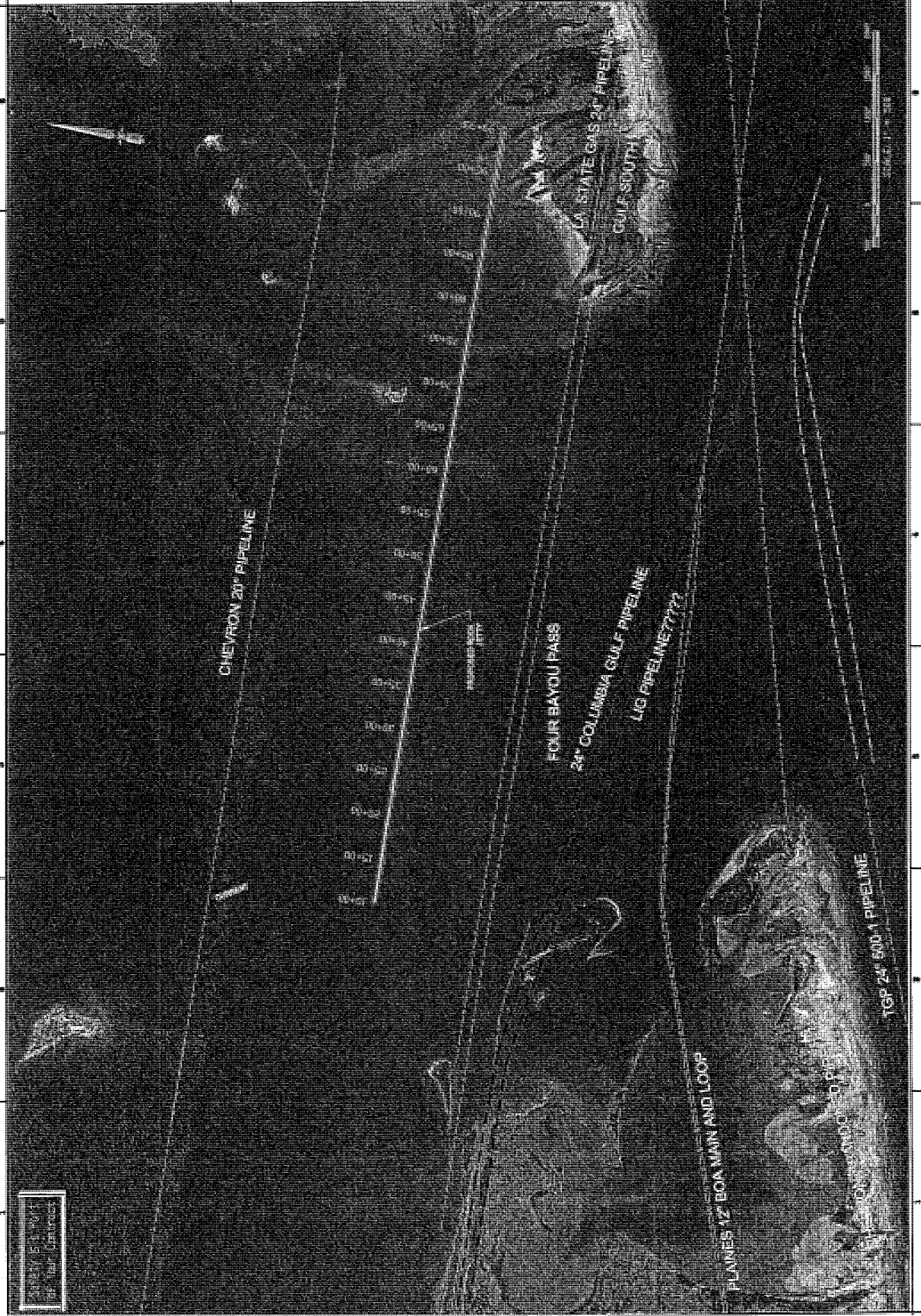
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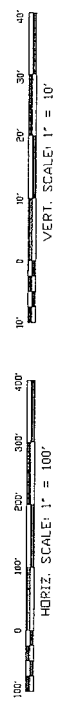
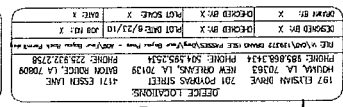
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DATE	6/24/10
BY	
CHECKED BY	
APPROVED BY	

10-050-1  
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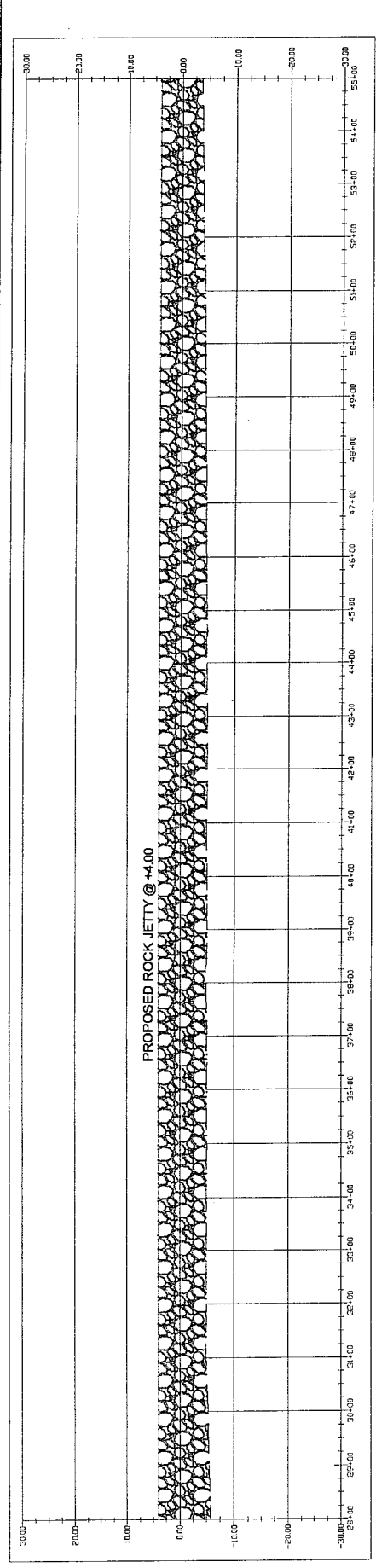
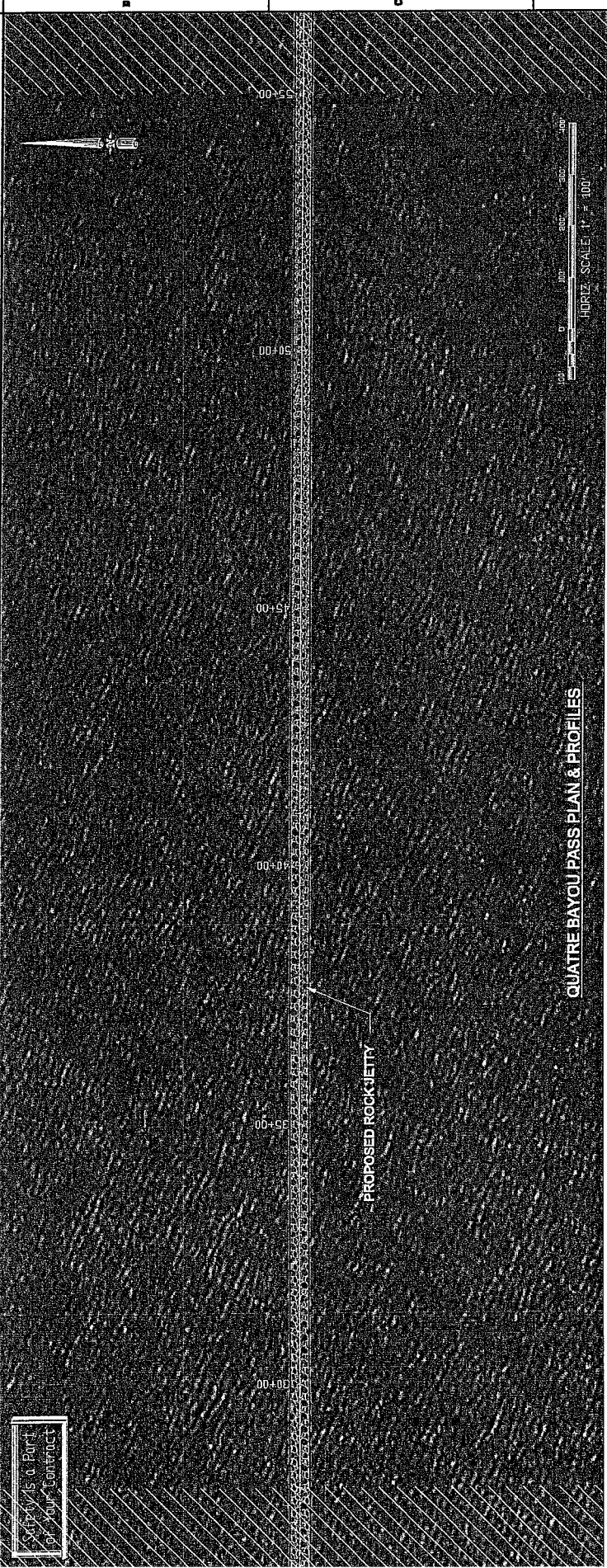
**Safety is a Part  
of Your Contract**





Final Plans EVA-10-050-1  
 MD 6/24/10

This is a Part  
 of our Contract



DATE	DESCRIPTION

**Shaw Coastal, Inc.**

191 ELYSIAN DRIVE  
 HOUMA, LA 70363  
 PHONE: 855.866.1434  
 FAX: 855.866.1434  
 701 POKING STREET  
 BAYOU ROUGE, LA 70809  
 PHONE: 225.322.2758

DESIGNER: X	CHECKED BY: X	DATE: 6/23/10	SCALE: X
PROJECT: X	DATE: 6/23/10	SCALE: X	SCALE: X

191 ELYSIAN DRIVE	HOUMA, LA 70363
PHONE: 855.866.1434	FAX: 855.866.1434
701 POKING STREET	BAYOU ROUGE, LA 70809
PHONE: 225.322.2758	


SHEET NUMBER  
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Final Plans EVA 10-050-1  
 MD 6/24/10

Safety is a Part  
 of Your Contract

DATE	APP.

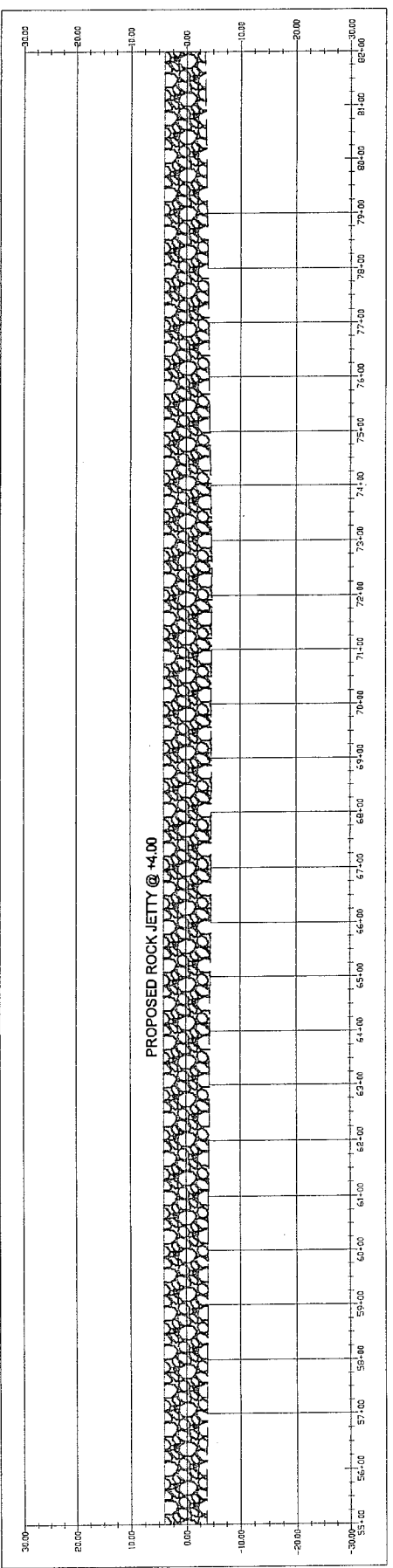
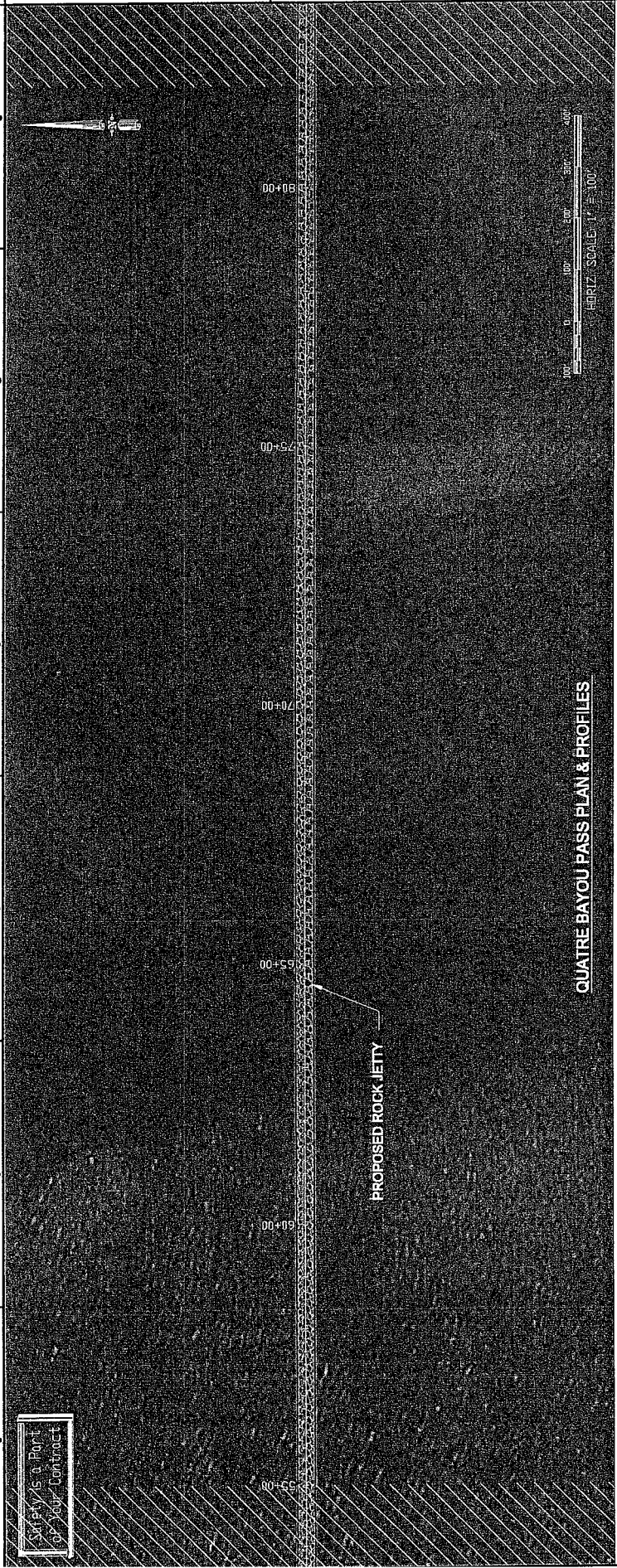
**Shaw** Shaw Coastal, Inc.



197 GUYAN DRIVE  
 101 PONDUS STREET  
 HOUMA, LA 70333  
 PHONE: 885.888.1434  
 FAX: 885.888.1434  
 NEW ORLEANS, LA 70139  
 PHONE: 504.583.2534  
 BICOM PROJECT, LA 70809  
 PHONE: 225.332.7358  
 4171 ESTATE LANE  
 OFFICE LOCATIONS

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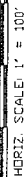
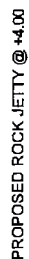


VERT. SCALE: 1" = 10'

HORIZ. SCALE: 1" = 100'



Safety Is a Part  
of Your Contract



SHEET NUMBER

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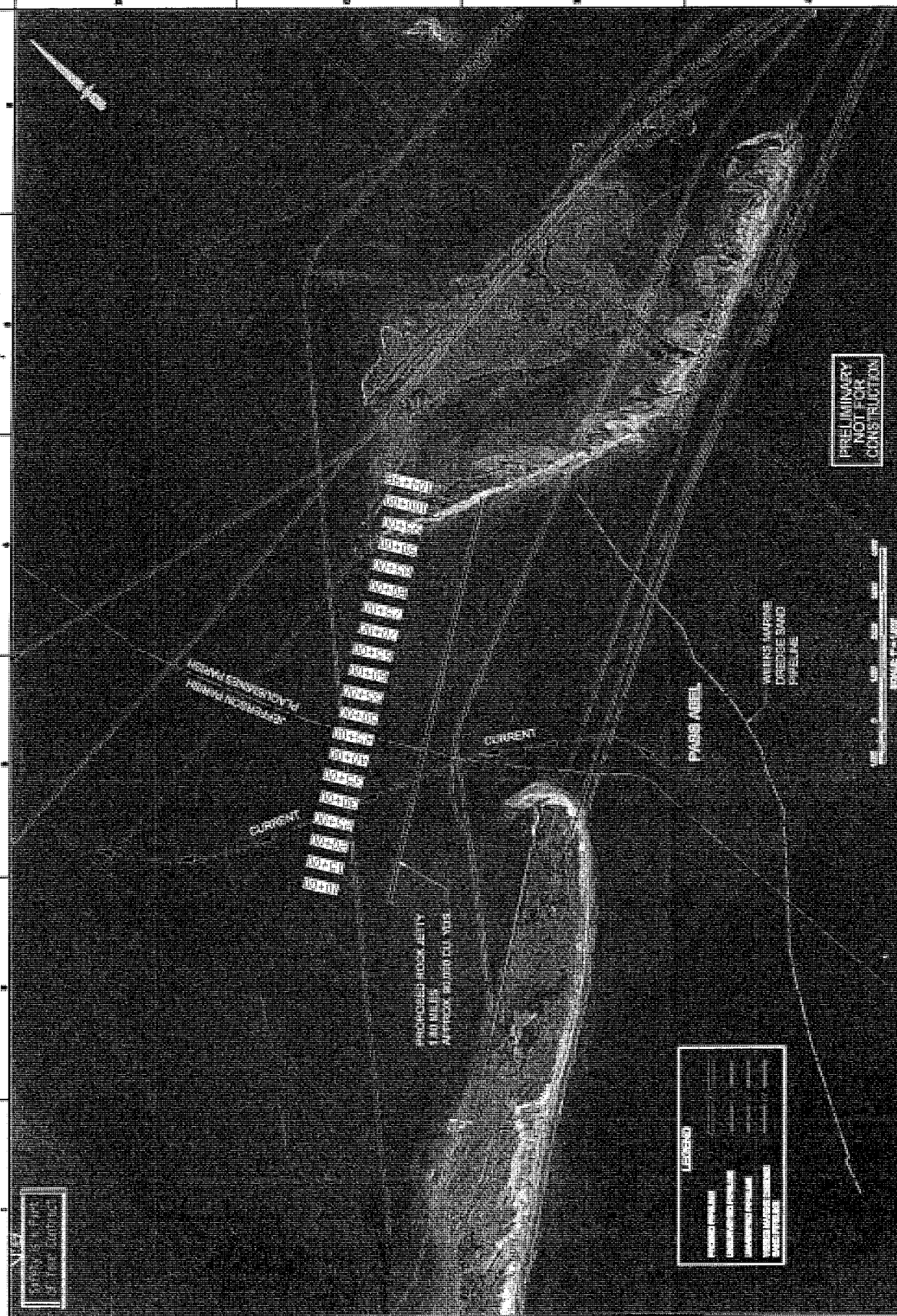
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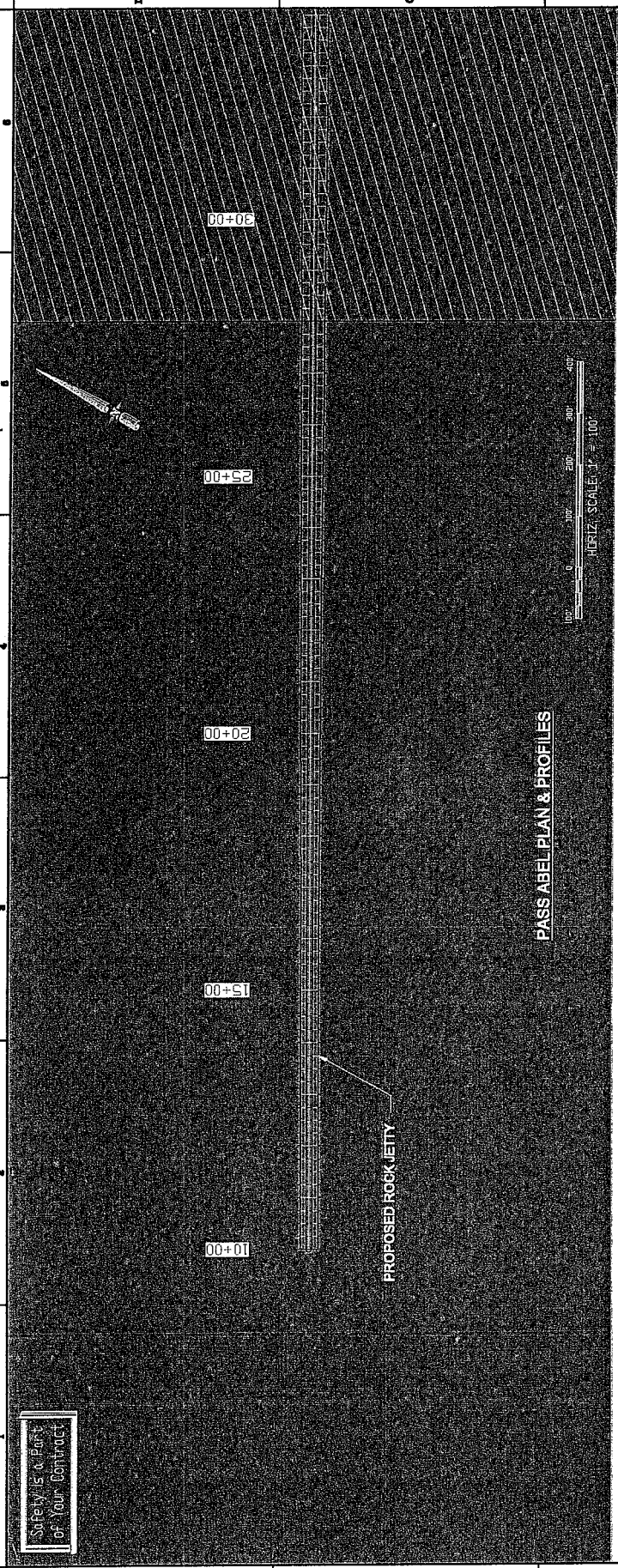
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 NEW YORK 17, N.Y.

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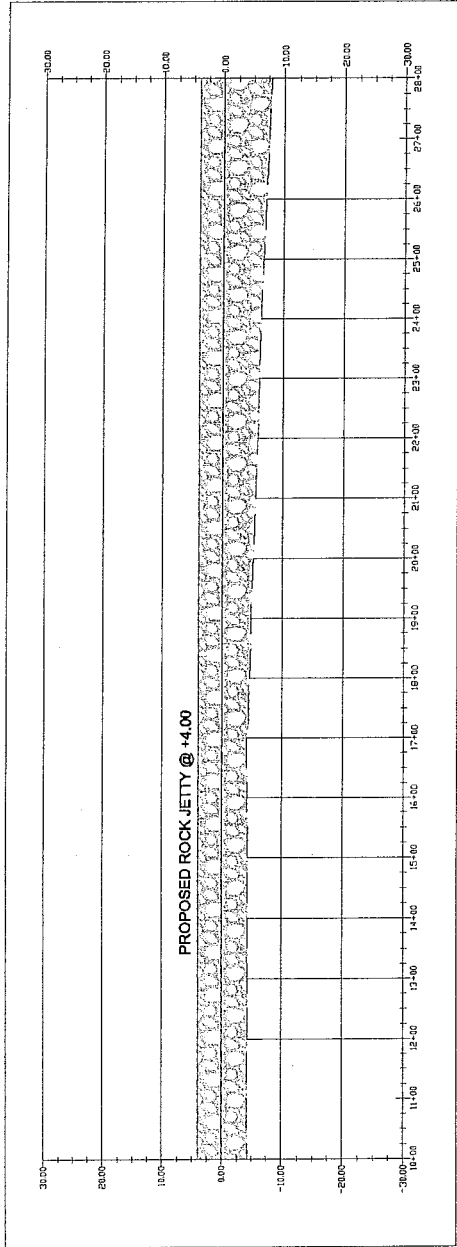


Final Plans EWA 10-050-1  
 MD 6/24/10

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 of Your Contract



PASSABEL PLAN & PROFILES



NO.	DESCRIPTION	DATE	BY

**Shaw** Shaw Coastal, Inc.

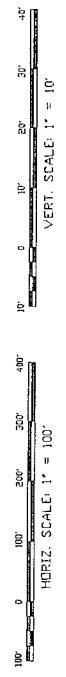
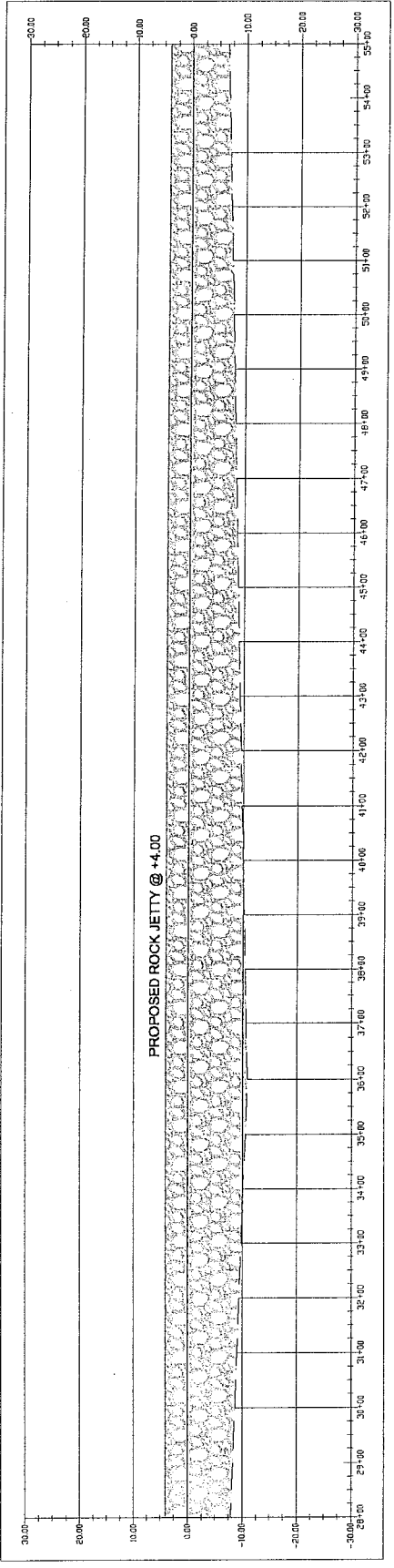
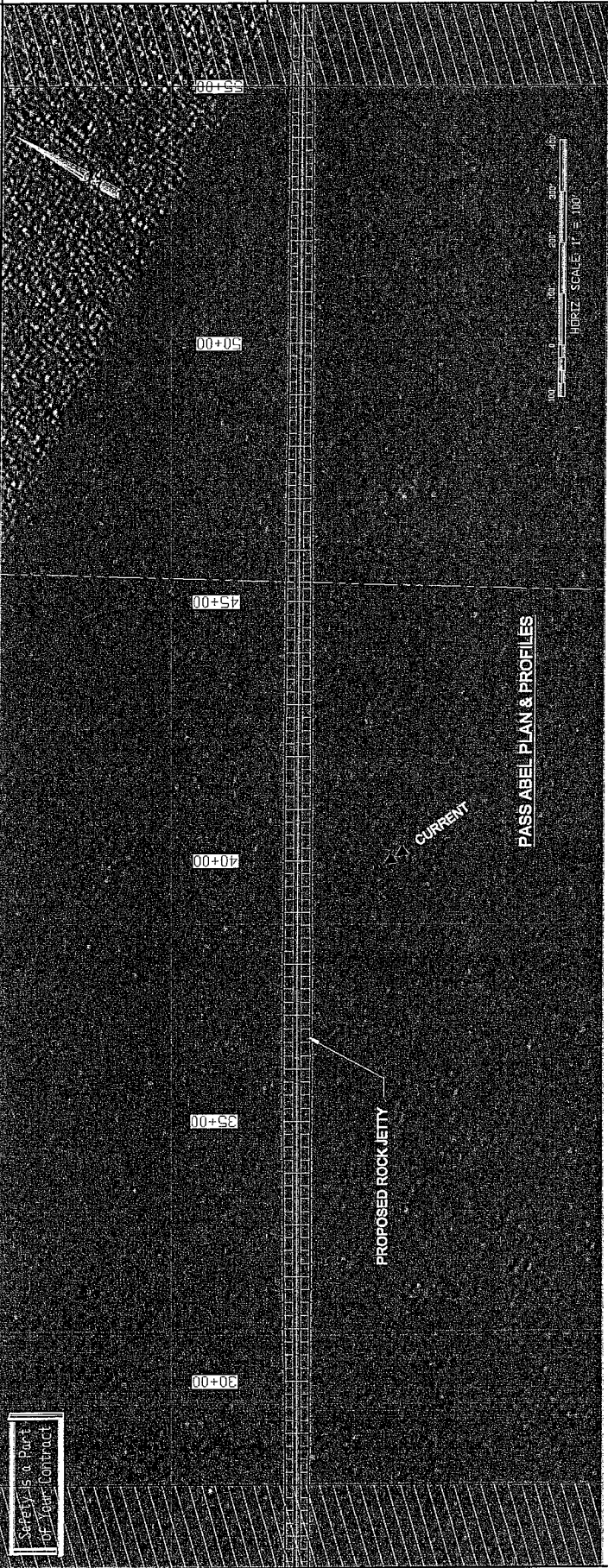
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 PHONE: 504.585.2531  
 FAX: 504.585.2532  
 DATE: 6/22/10  
 DRAWN BY: X  
 CHECKED BY: X  
 SCALE: 1" = 100'

197 ELYSIAN DRIVE  
 201 PLYMOUTH STREET  
 NEW ORLEANS, LA 70119  
 PHONE: 504.585.2531  
 FAX: 504.585.2532

SHEET NUMBER  
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Final Plans EVA 40-050-1  
 MD 6/24/10



Safety is a Part  
 of Your Contract

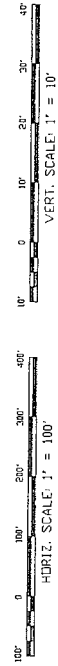
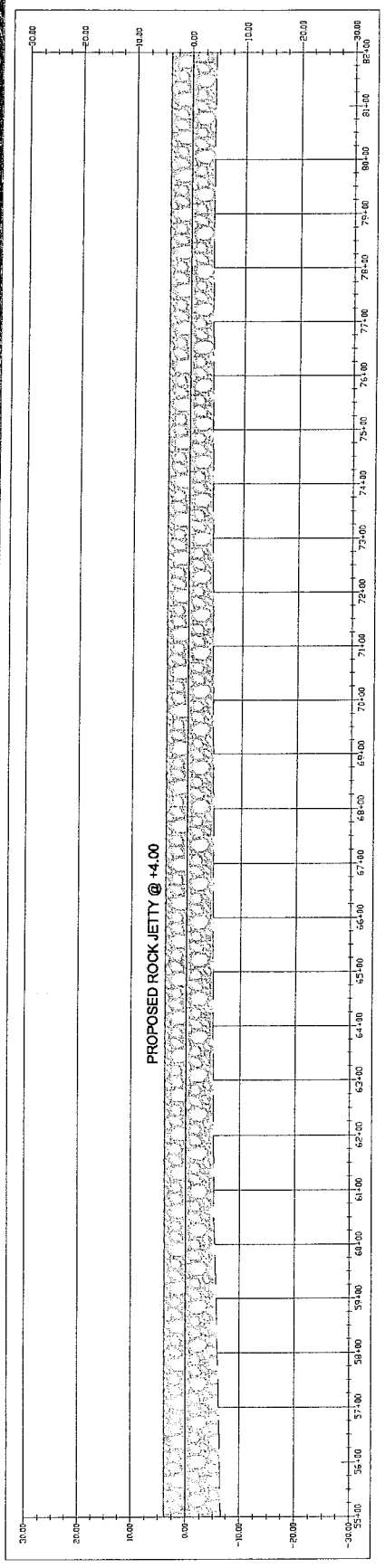
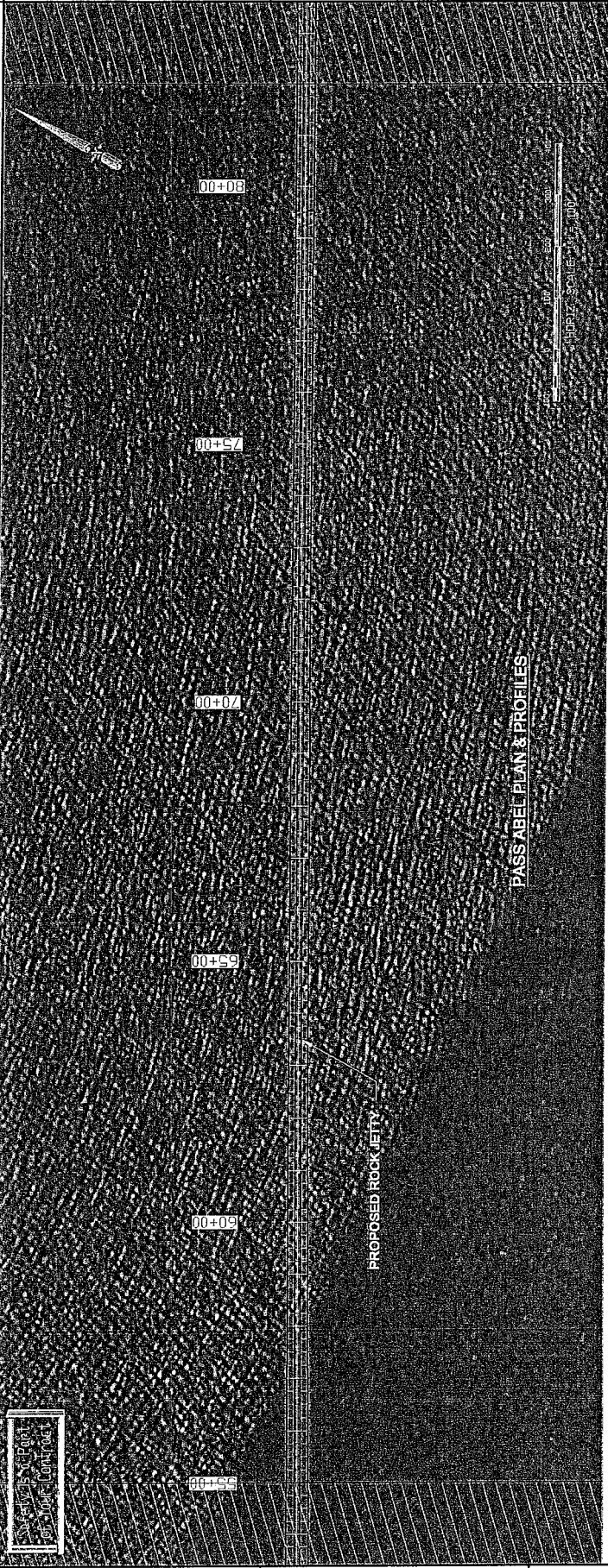
Shaw Shaw Coastal, Inc.

187 LIVINGSTONE DRIVE  
 NEW ORLEANS, LA 70131  
 PHONE: 504.595.5334  
 FAX: 504.595.5334  
 4171 ECHO LANE  
 NEW ORLEANS, LA 70139  
 PHONE: 504.595.5334  
 FAX: 504.595.5334

DATE: 6/22/10  
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SHEET NUMBER  
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Final Platy EUA 10-80-1  
 91D 6/24/10



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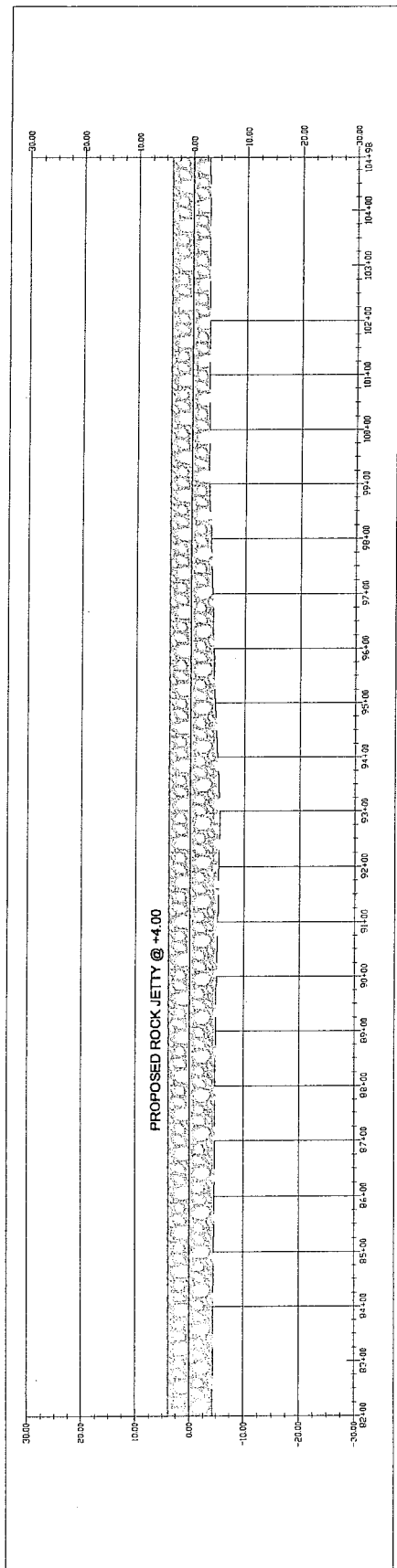
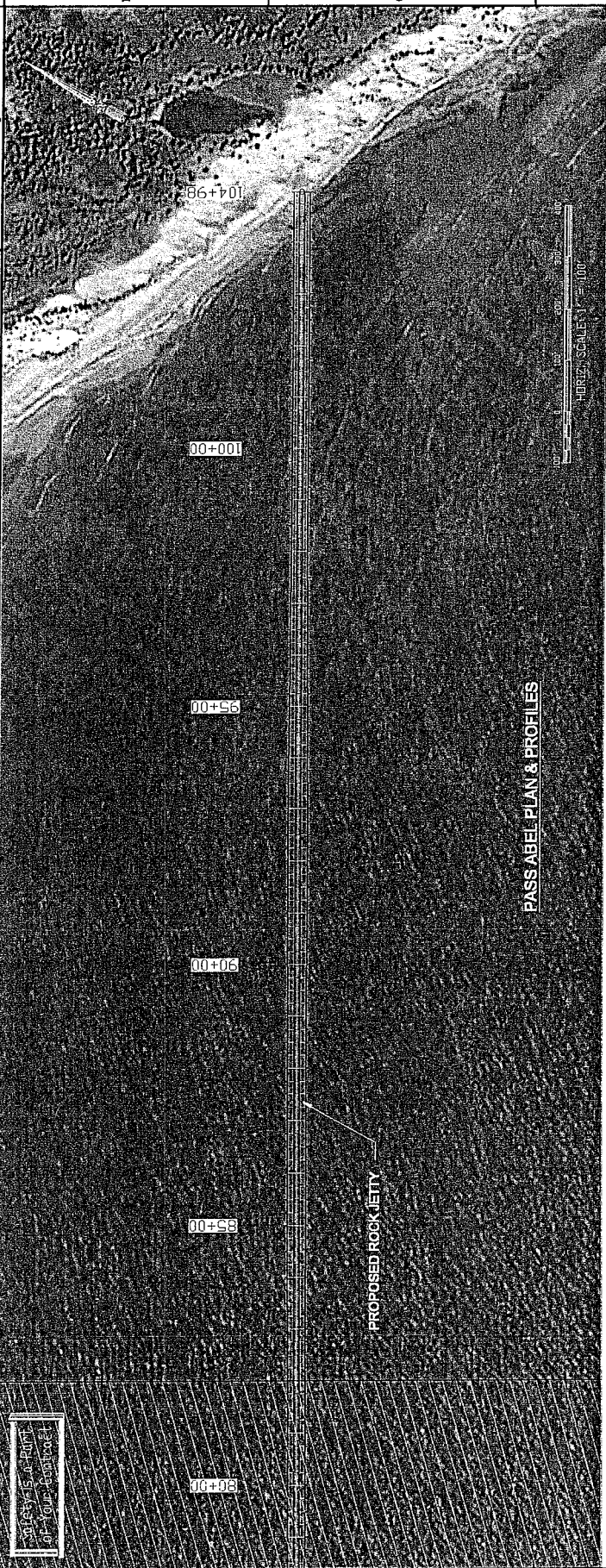
**Shaw**  
 Shaw Coastal, Inc.

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Final Plans ECA 10-050-1  
 MD 6/24/10



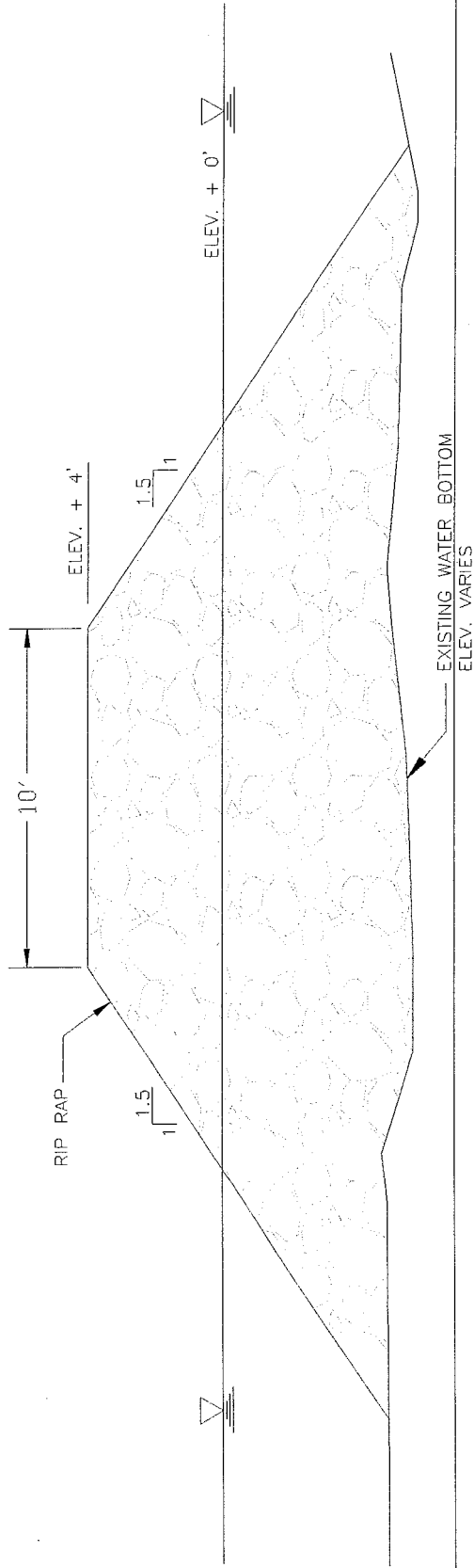
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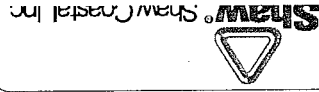
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 HOUMA, LA 70303  
 PHONE: 985.888.3434  
 FAX: 985.888.3434  
 NEW ORLEANS, LA 70119  
 PHONE: 504.555.0319  
 PHONE: 225.512.2726  
 DATE: 6/22/10  
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 CHECKED BY: X  
 DATE: 6/22/10  
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SHEET NUMBER  
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Final Plan ECA 10-050-1  
 MD 6/29/10



TYPICAL CROSS SECTION  
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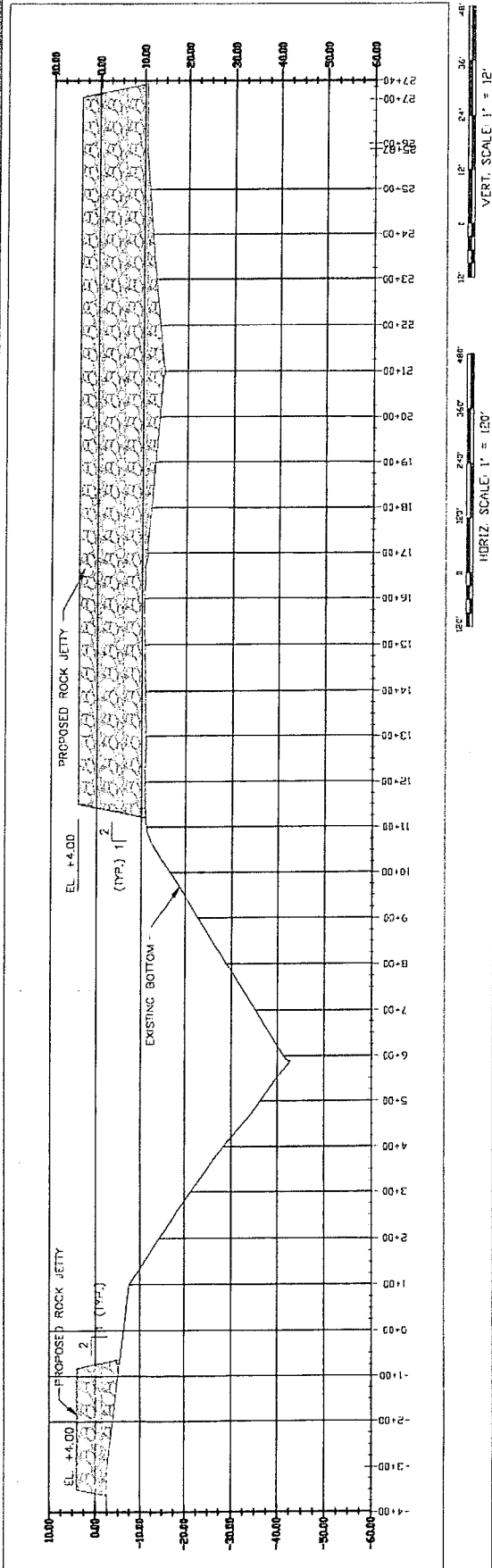
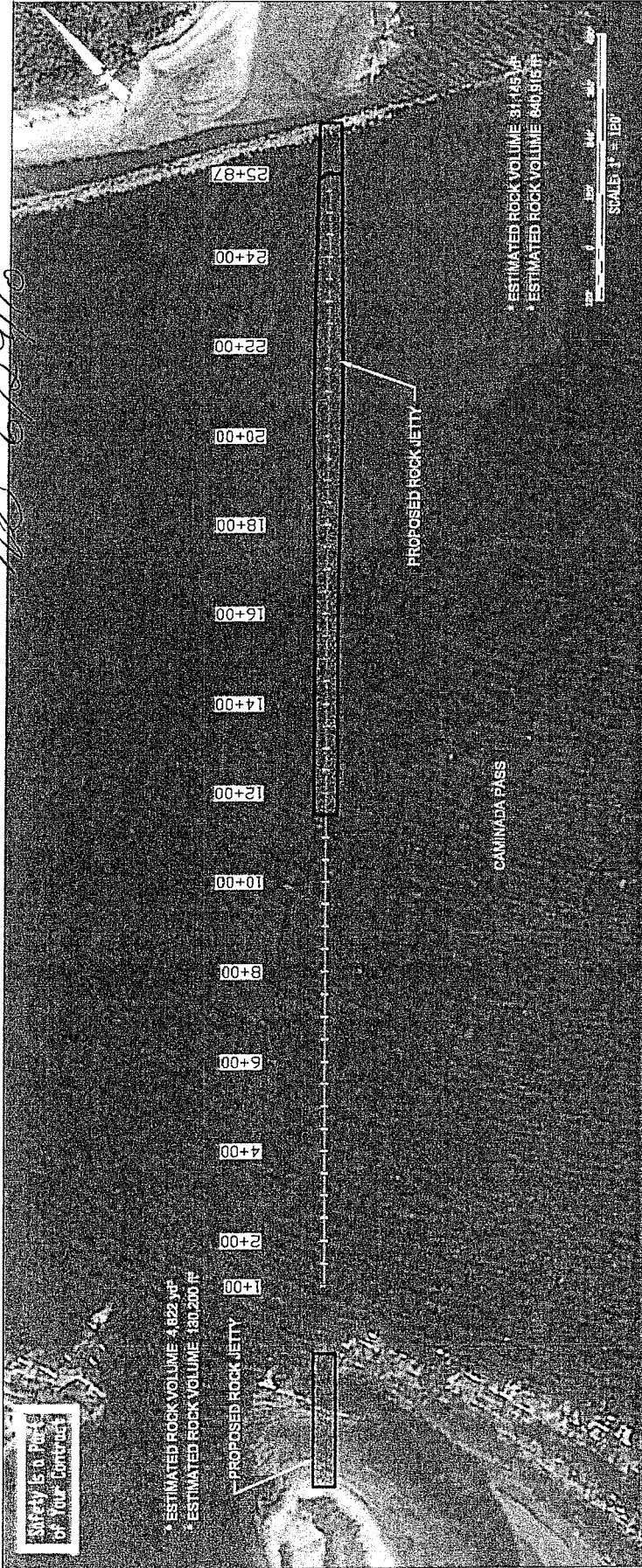
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PHONE: 504.598.3434			
FAX: 504.598.3434			
MOBILE: 504.598.3434			
EMAIL: info@shawcoastal.com			
187 ELYSIAN DRIVE			
701 PONDAS STREET			
HOUMA, LA. 70363			
NEW ORLEANS, LA. 70139			
OFFICE LOCATIONS:			

TYPICAL CROSS SECTION

SHEET NUMBER  
 X



Final Plans ECA 10-050-1  
MD 65410



DATE	APP'D	DESCRIPTION



187 Elysian Drive  
New Orleans, LA 70115  
Phone: 504.586.3434  
Fax: 504.586.3435  
E-mail: info@shawcoastal.com  
Website: www.shawcoastal.com

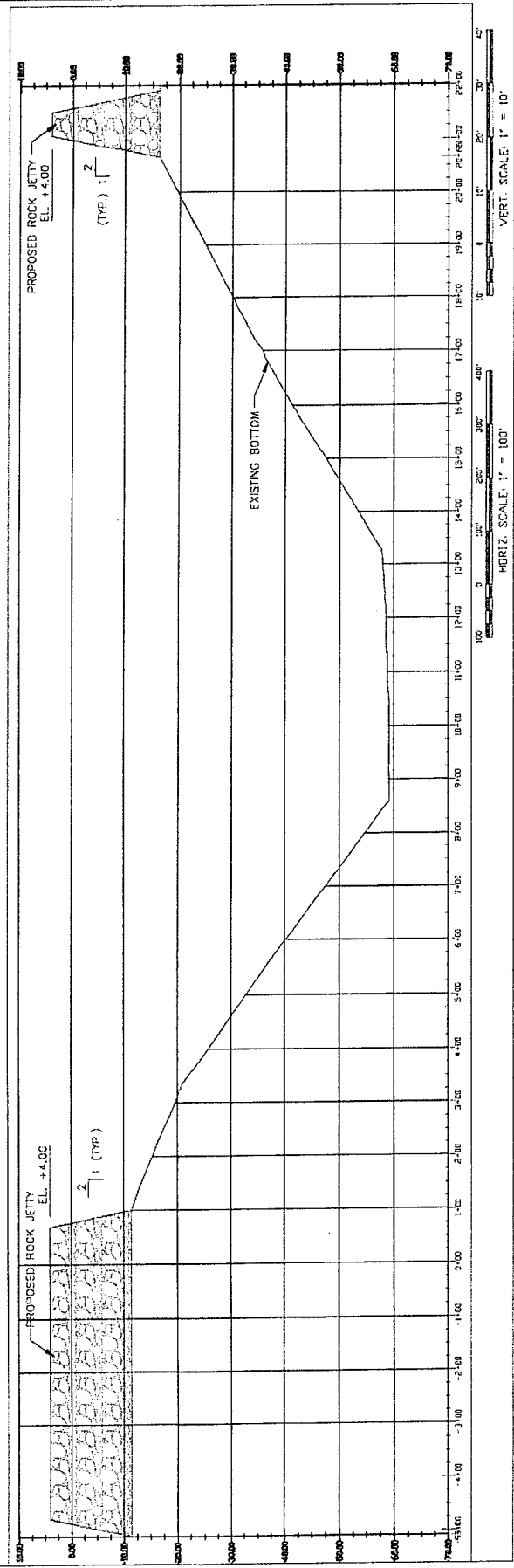
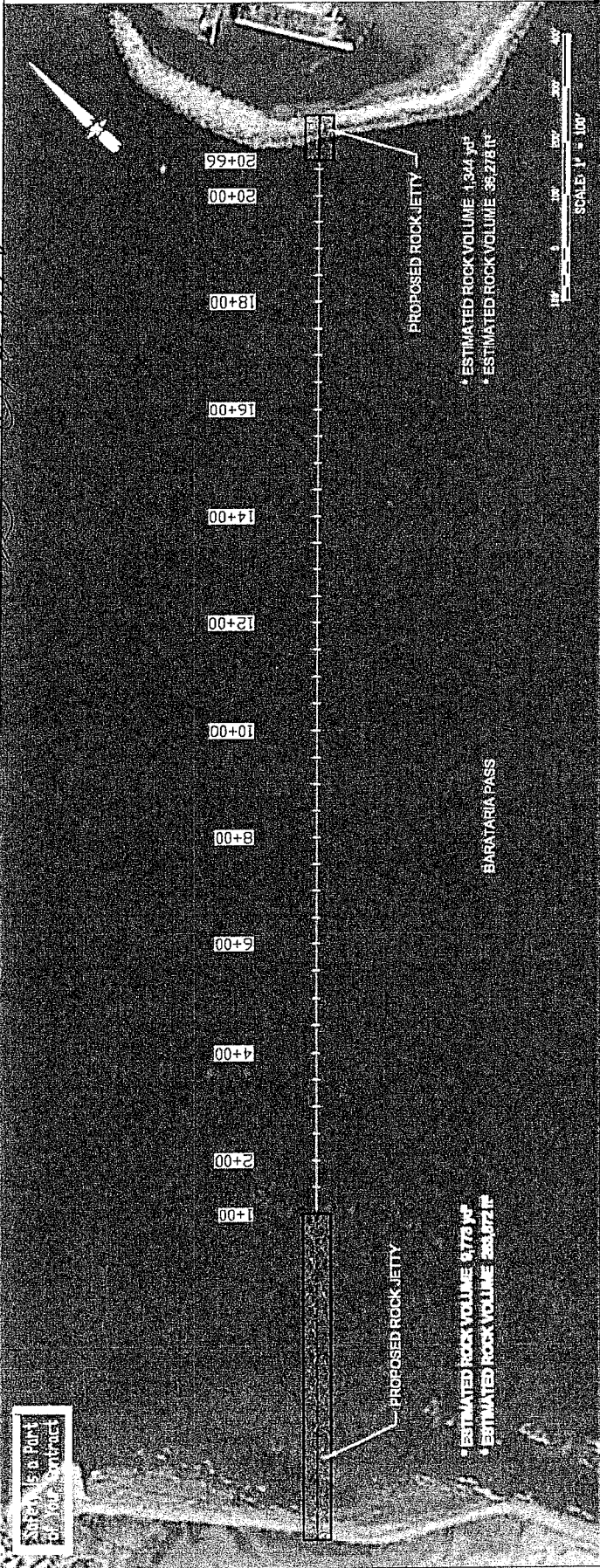
1771 Elysian Lane  
New Orleans, LA 70119  
Phone: 504.586.3434  
Fax: 504.586.3435  
E-mail: info@shawcoastal.com  
Website: www.shawcoastal.com

10/20/2010  
Caminada Pass  
Plan & Profile

SHEET NUMBER  
2



Final Plat, EVA 10-050-1  
 MS 612410



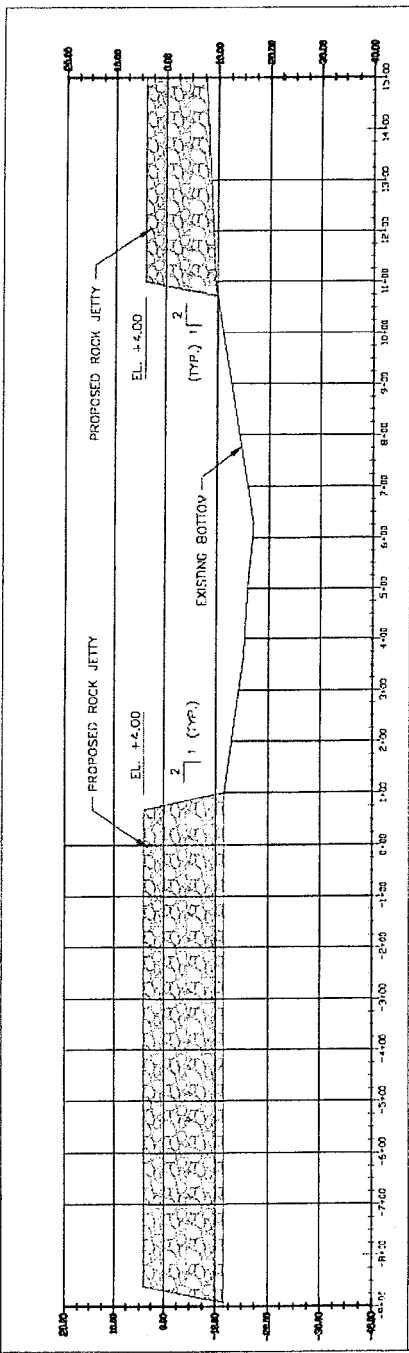
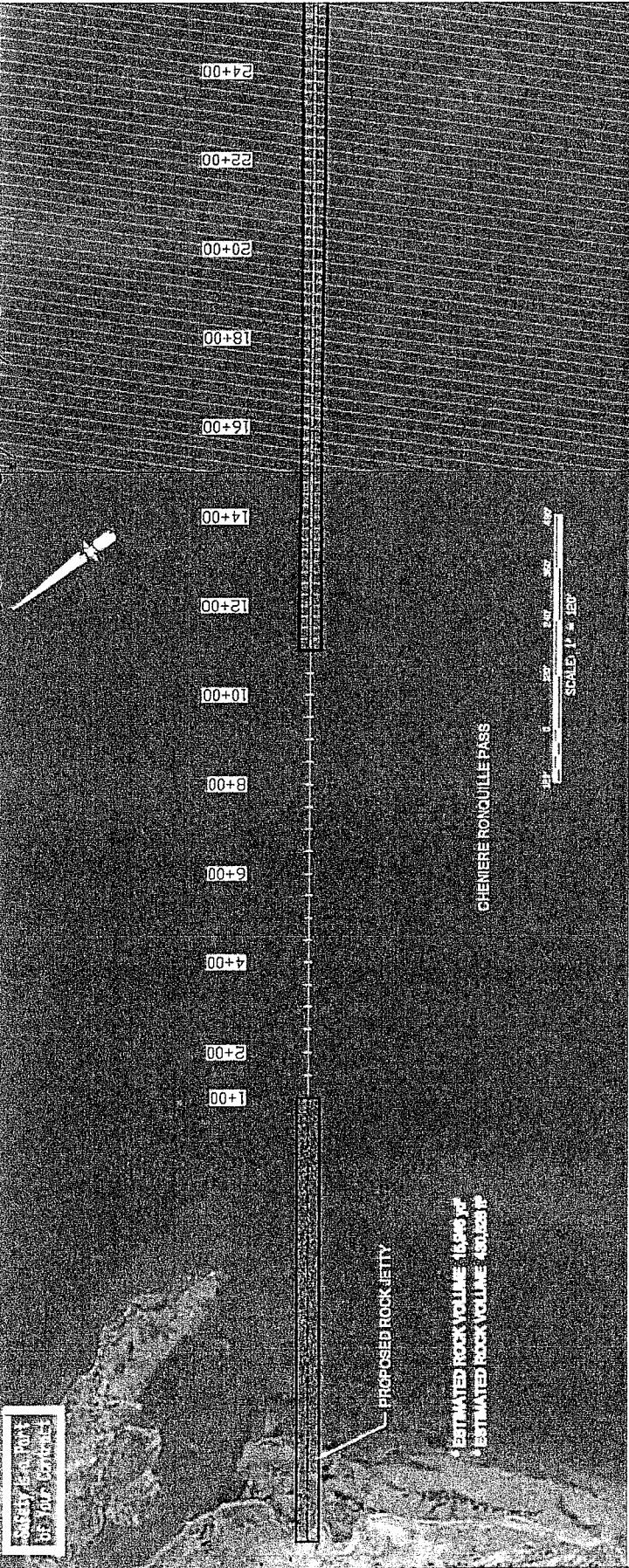
NO.	REVISION	DATE	BY



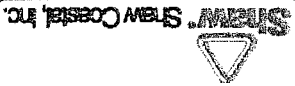
DESIGNED BY: X  
 CHECKED BY: X  
 DATE: 10/1/10  
 PROJECT: BARATARIA PASS  
 157 LYSAN DRIVE  
 NEW ORLEANS, LA 70129  
 PHONE: 504.555.2304  
 FAX: 504.555.2304  
 E-MAIL: info@shawcoastal.com

BARATARIA PASS  
 PLAN & PROFILE  
 SHEET NUMBER: 6

Final Plans EIA 10-050-1  
 MD 6/24/10



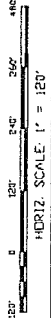
DATE	DESCRIPTION



PROJECT LOCATION:  
 137 ELYSIAN DRIVE  
 701 RIVIERA STREET  
 SUITE 100  
 NEW ORLEANS, LA 70119  
 PHONE: 504.886.1313  
 FAX: 504.886.1314  
 EMAIL: info@shawcoastal.com  
 WWW.SHAWCOASTAL.COM

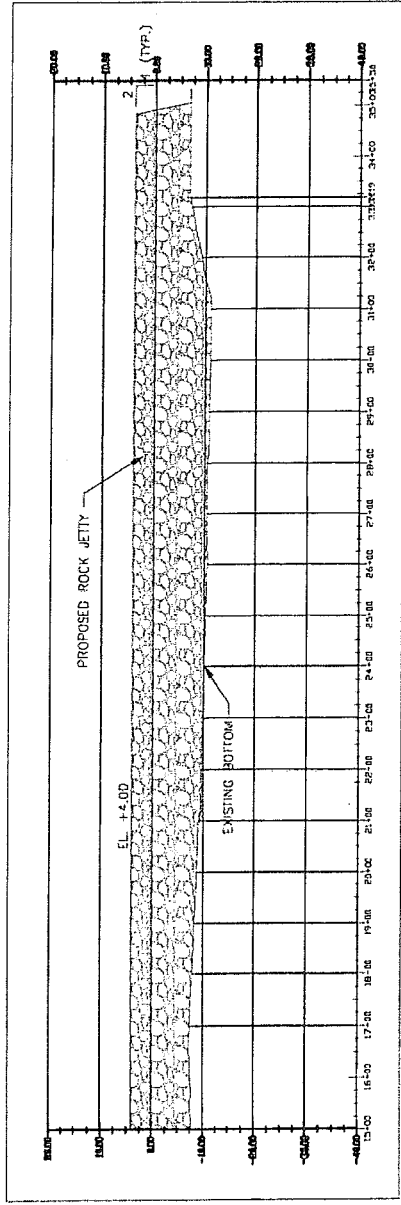
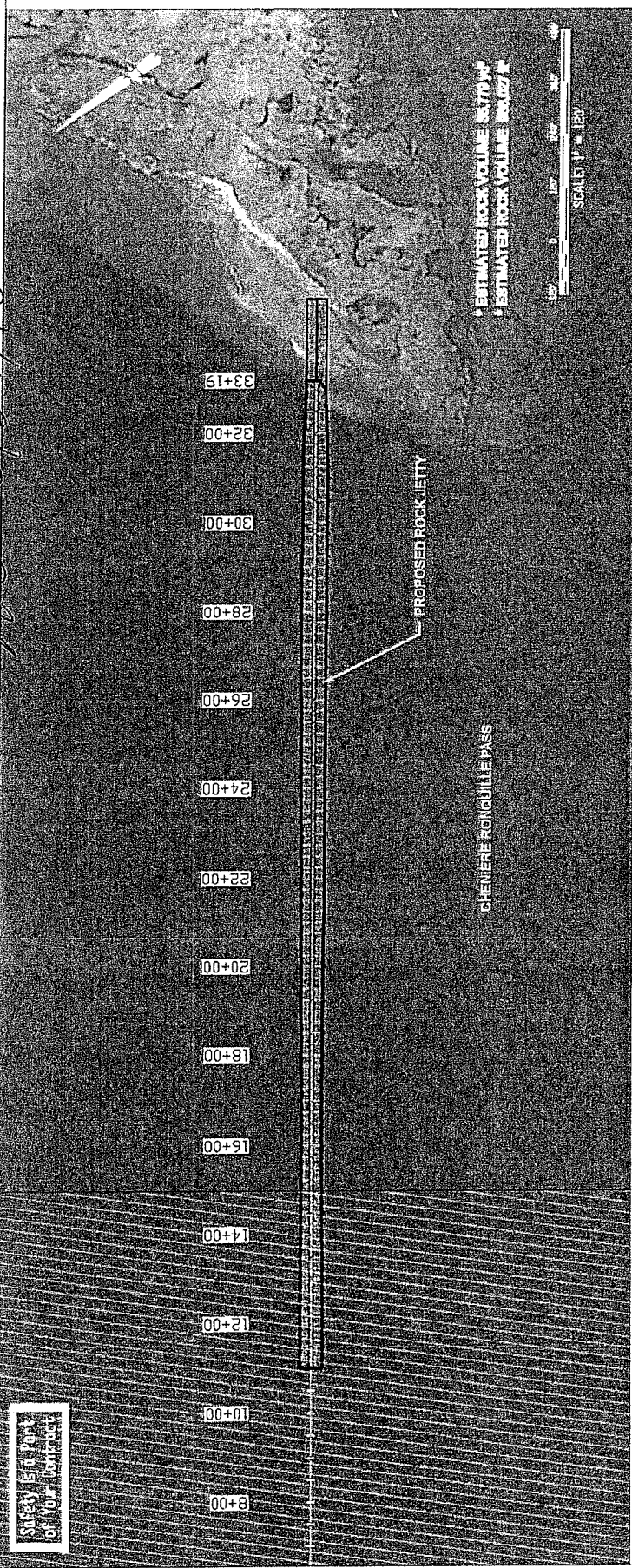
CHENIERE RONQUILLE PASS  
 PLAN & PROFILE

SHEET NUMBER  
 10



Final Plat ECA 10-050-1  
 MD 6/24/10

Safety is a Part  
 of Your Contract



DATE	DESCRIPTION

**Shaw Coastal, Inc.**

1171 ESTATE LANE  
 10000 ROCKY AVE.  
 HOUSTON, TEXAS 77055  
 PHONE: 281.992.2335  
 FAX: 281.992.2336

**CHENIERE RONQUILLE PASS**

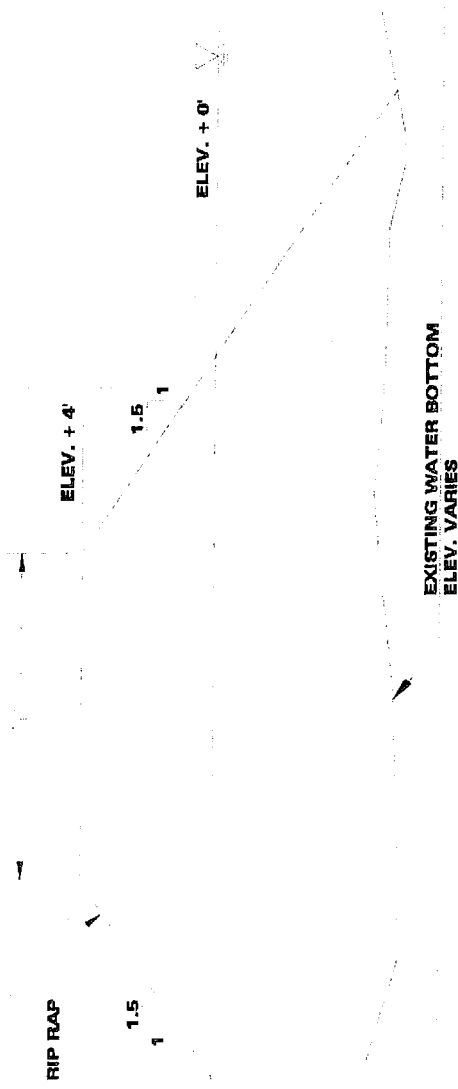
1171 ESTATE LANE  
 10000 ROCKY AVE.  
 HOUSTON, TEXAS 77055  
 PHONE: 281.992.2335  
 FAX: 281.992.2336

**CHENIERE RONQUILLE PASS**

1171 ESTATE LANE  
 10000 ROCKY AVE.  
 HOUSTON, TEXAS 77055  
 PHONE: 281.992.2335  
 FAX: 281.992.2336

SHEET NUMBER  
 11

Final Plans EVA 10-050-1  
 MD 6/24/10



TYPICAL CROSS SECTION  
 N.T.S.





DEPARTMENT OF THE ARMY  
NEW ORLEANS DISTRICT, CORPS OF ENGINEERS  
P.O. BOX 60267  
NEW ORLEANS, LOUISIANA 70160-0267

REPLY TO  
ATTENTION OF

JUL 01 2010

Operations Division  
Eastern Evaluation Section

**SUBJECT:** Additional Information Request

**BASE FILE:** MVN-2010-1271-EOO (Deepwater Horizon Oil Discharge)

Marnie Winter  
Jefferson Parish Environmental Affairs  
4901 Jefferson Highway, Suite E  
Jefferson, Louisiana 70121

Dear Ms. Winter:

This is in reference to your June 24, 2010 and June 28, 2010 modified emergency request to construct a temporary rock dike structure at Pass Abel and Four Bayou Pass in Jefferson and Plaquemines Parishes, Louisiana. Your project would result in a 1.74 mile rock structure at Pass Abel, with approximately 101,000 cubic yards of material being placed from open water, eastward to Grand Terre Island and a 1.76 mile structure at Four Bayou Pass, with approximately 62,000 cubic yards of rock material to be placed from open water, eastward to Point Chenier Ronquille. Due to the scope of your proposal and the potential for adverse impacts, we request that you address the following items.

The rock dike structures at Pass Abel and Four Bayou Pass are proposed as an additional oil spill response tool that will work in tandem with boom, barge, and skimming operations. You have expressed that mobilization of the barge operation has provided beneficial results, but is shut down due to current weather conditions. During high wind events, higher wave conditions will exist at the passes including the possibility for enhanced wave energy at the dike opening at Four Bayou Pass due to wave reflection off the dike, and higher velocities of water will enter the constricted passes (as demonstrated in your modeling results). Constrictions created by the dikes will act to increase flow through the reduced cross-sectional area, potentially moving great quantities of oil further into the basin.

- In the event that barge, booming, and skimming operations are shut down, how effective are the rock structures as a standalone project at reducing the volume of oil entering the Barataria Basin when no clean-up operations are permitted during high tide/increase flow events, as seen with Hurricane Alex?

The alignment of the rock structures at Pass Abel and Four Bayou Pass increases flow volumes at all five passes, thus creating additional scouring of the channels. In our previous meetings, it was mentioned that recent bathymetric data revealed that one (or more) oil and gas pipelines were currently exposed. A much more rigorous analysis of erosion potential in each of the five passes is required in light of the presence of pipelines. Please identify all oil and gas

pipelines within the five channels and provide a detailed assessment of their current conditions. This pipeline assessment shall include:

- A map of current pipeline locations at Caminada Pass, Barataria Pass, Pass Abel, Four Bayou Pass, and Pass Chenier Ronquille.
- Profiles of the pipeline elevations with depth of cover (below the mudline) across each pass and extending into the bank line
- The diameter, ownership, contact information, and type of product in each pipeline
- The national importance of each pipeline (local, regional, or national) and its current status
- Determining the potential for failure, a detailed protection plan, and plan of action should failure occur. The protection plan should address how current exposures will be protected. Your plan of action should detail how future exposures will be determined and addressed, how the scoured infrastructure will be protected from failure, and response times for corrective action once scour is detected. Assessment should consider a broad range of hydrologic conditions that would be expected over the project duration, modeling results and potential for additional scour based upon material properties of the waterbottoms.

Please forward the requested information to this office so that we may continue our evaluation of your proposal. If you have any questions, please contact Brad LaBorde with this office at (504) 862-2225.

Sincerely,



Pete J. Serio  
Chief, Regulatory Branch  
Operations Division

CEMVN-OD-SE

Department of the Army Permit Evaluation  
And Decision Document

Applicant: Jefferson Parish Department of Environmental Affairs

Application No.: MVN-2010-1271-EOO  
Emergency Authorization Request under NOD-20

This document constitutes the Environmental Assessment, Statement of Findings, and, if applicable, review and compliance determination according to Section 404 of the Clean Water Act (86 Stat. 816; 33 USC 1344), Section 10 of the River and Harbors Act of 1899 (30 Stat. 1151; 33 USC 403), and their implementing regulations.

The applicant has requested Department of the Army permit approval to Jefferson Parish Department of Environmental Affairs.

I have determined that the proposed work need not be advertised by public notice for the reason indicated below.

(X) This permit action qualifies under a NOD-20 as “an emergency” as defined in 33 CFR 325.2 (e) (4) as an unacceptable hazard to life, a significant loss of property, or an immediate, unforeseen, and significant economic hardship if corrective actions requiring a permit is not undertaken within a time period less than the normal time needed to process the application under standard procedures.

( ) The proposed work is a minor modification or addition to work previously permitted. The impacts of the proposed work are expected to have no adverse impacts or only very minor impacts.

( ) The proposed work qualifies for approval under 33 CFR 325.2(c)(1) by a letter of permission.

Although the proposed work is being authorized in accordance with abbreviated procedures allowed under regulations found under 33 CFR 320 through 330, the project has been assessed to include all the evaluation factors cited in 33 CFR 325.3(c) even though a detailed Environmental Assessment and a detailed Statement of Findings have not been prepared.

## Laborde, Brad MVN

---

**From:** MWinter [MWinter@jeffparish.net]  
**Sent:** Tuesday, June 08, 2010 2:18 PM  
**To:** Laborde, Brad MVN  
**Cc:** Mayer, Martin S MVN; Serio, Pete J MVN  
**Subject:** RE: Grand Isle permit answer

Brad,

Yes, we can be there at 9 on Thursday. It will be

Me  
Oneil Malbrough  
Tyler Ortego  
Vickie duffourc

All except me are with Shaw Coastal.

Thanks.

Marnie Winter, Director  
Jefferson Parish Environmental Affairs  
4901 Jefferson Highway, Suite E  
Jefferson, LA 70121  
Phone: [REDACTED] Fax: [REDACTED] Cell: [REDACTED]

-----Original Message-----

**From:** Laborde, Brad MVN [mailto:Brad.Laborde@usace.army.mil]  
**Sent:** Tuesday, June 08, 2010 1:44 PM  
**To:** MWinter  
**Cc:** Mayer, Martin S MVN; Serio, Pete J MVN  
**Subject:** RE: Grand Isle permit answer

Thanks Marnie.

As for your meeting request, myself and Martin Mayer can be available to you on Thursday morning from 9:00-10:00 am, here in Room 272. Martin has been the lead guy on our emergency work and is also the Chief for the Central Evaluation Section in Regulatory. Pete Serio has also tentatively agreed.

If you are available, please send me a list of attendees so I can forward the information to security. Room 272 is small, so please limit your group to 2-4 people.

Thank you,

Brad LaBorde

In order to assist us in improving our service to you, please complete the survey found at:  
<http://per2.nwp.usace.army.mil/survey.html>

-----Original Message-----

**From:** MWinter [mailto:MWinter@jeffparish.net]  
**Sent:** Tuesday, June 08, 2010 12:07 PM



To: Laborde, Brad MVN  
Cc: DBonano  
Subject: FW: Grand Isle permit answer

Brad,

Below please find a response to the two questions posed in a telephone conversation earlier.

(1) Yes, we have identified a source for the rocks. Rock will be provided on one or more of the following contractors: Pine Bluff Sand & Gravel, Bertucci, or Luhr Bros.

All three operate quarries on the Mississippi River and ship rock via barge to the project site.

(2) All rocks will be placed from barges.

Please let me know if you have any further questions or comments.

Thanks.

Marnie Winter, Director

Jefferson Parish Environmental Affairs

4901 Jefferson Highway, Suite E

Jefferson, LA 70121

Phone: [REDACTED] Fax: [REDACTED] Cell: [REDACTED]

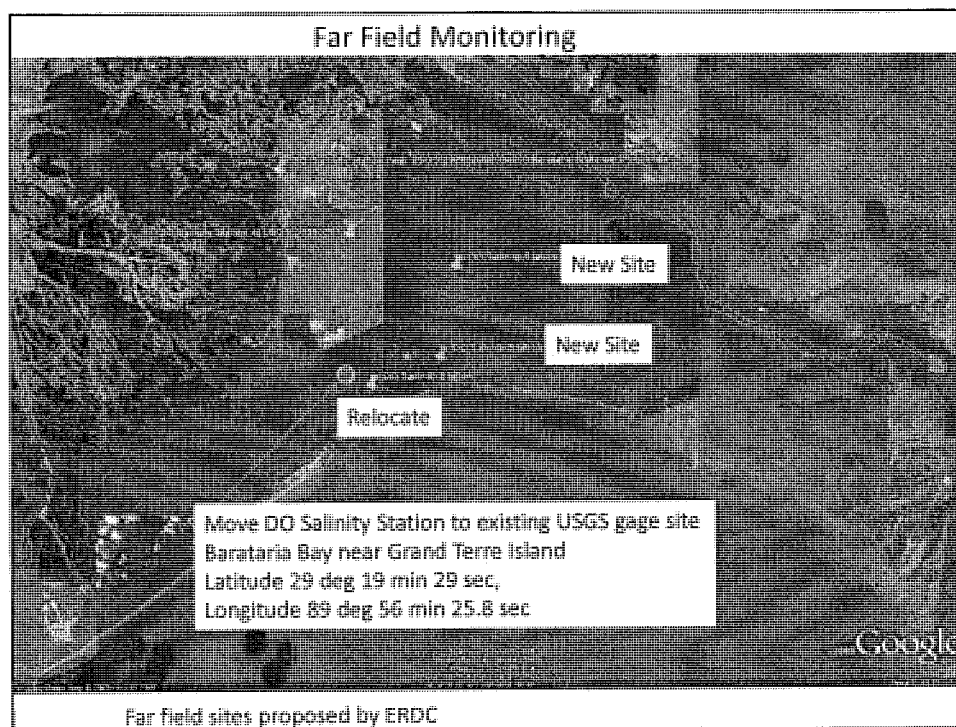
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<http://www.shawgrp.com>

# Proposed Monitoring Program for Jefferson Parish Rock Dike Permit June 26, 2010

Water quality and velocity  
monitoring  
Work to be performed by USGS



## Far Field Monitoring

- 5 sites are proposed on slide 2, 2 are existing USGS sites
- Existing USGS sites in area, all are real time
  - Barataria Bay North of Grand Isle – Temperature, specific conductance, gage height and stream level, wind speed, direction and gusts, salinity
  - Barataria Waterway S of Lafitte – Temperature, specific conductance, gage height and stream level, stream velocity, stream discharge, salinity
  - Barataria Bay near Grand Terre Island – Temperature, specific conductance, stream level, salinity
- Relocate one of the proposed DO site to existing USGS real time site near Grand Terre Island
- Upgrade 3 USGS sites by adding dissolved oxygen and turbidity – measurements at mid-depth
- Add two new sites (labeled DO Salinity Station on slide 2)
  - Sites will collect temperature, specific conductance and salinity at mid-depth
  - Exact location will depend on if the sites will be real time or non real time
- Perform synoptic measurements at the 5 sites – proposed cycle is every 2 weeks for 6 months, 12 measurements, may adjust timing of measurements to better align with tidal cycle
  - Measure velocity, temperature, specific conductance, dissolved oxygen, turbidity, salinity for surface, mid-depth, bottom (throughout water column for velocity)

## Barrier Island and Passes Monitoring

- Baseline data collection (may repeat a portion of baseline data at Barataria Pass to better cover tidal cycle)
  - Initial synoptic at Barataria Pass during daylight hours
    - collect multiple ADCP measurements to rate site
    - Collect multiple temperature, specific conductance, dissolved oxygen, turbidity, salinity for surface, mid-depth, bottom
  - Initial synoptic at Caminada Pass, Pass Abel, Four Bayou Pass and Cheniere Ronquille during daylight hours
    - collect several ADCP measurements
    - velocity transects to measure velocity in areas where scour of barrier island may occur
    - temperature, specific conductance, dissolved oxygen, turbidity, salinity for surface, mid-depth, bottom
  - Upgrade Barataria Pass at Grand Isle, LA, real time gage
    - Presently collects temperature, specific conductance, complete meteorological, salinity, gage height and stream level
    - Add velocity, dissolved oxygen, and turbidity
- Synoptic measurements at Caminda Pass, Barataria Pass, Pass Abel, Four Bayou Pass, and Cheniere Ronquille Pass
  - Measure velocity, temperature, specific conductance, dissolved oxygen, turbidity, salinity for surface, mid-depth, bottom (throughout water column for velocity)
  - Collect additional velocity transects to measure velocity in areas where scour of barrier island may occur as a result of rock dikes

## Barataria Pass at Grand Isle Gage

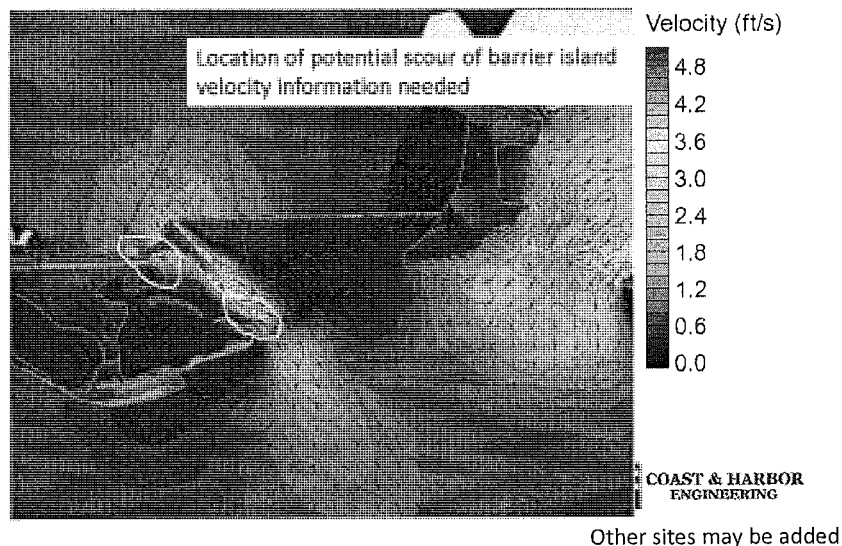
Jefferson Parish, Louisiana  
 Hydrologic Unit Code  
 Latitude 29°16'22.2", Longitude 89°56'48.5" NAD83  
 Gage datum 6.33 feet above sea level NAVD83



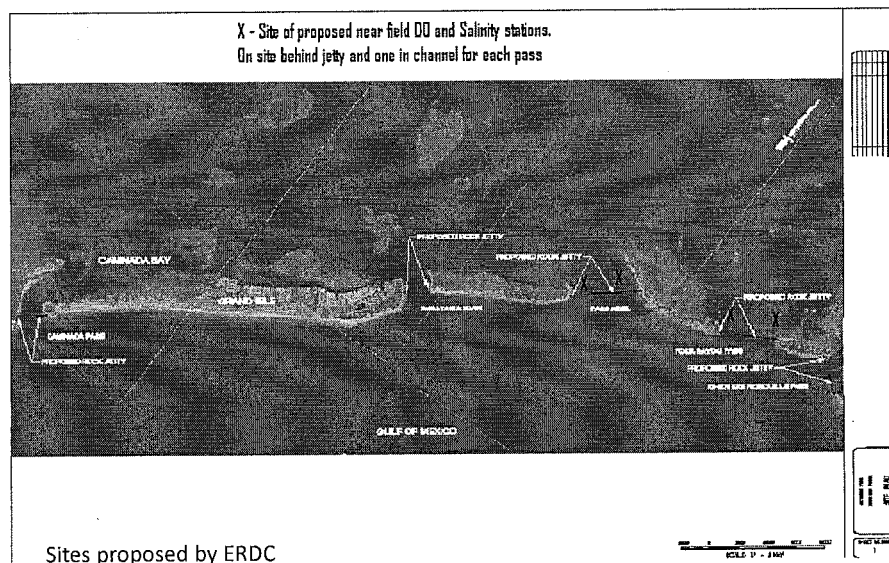
### FOUR BAYOU PASS

Max EBB – Alternative 5b

### Possible velocity sites



## Barrier Island and Passes Monitoring



## Barrier Island and Passes Monitoring

- After completion of rock dikes, identify locations where instruments can be installed (designated as X on the preceding maps) and prepare cost estimate
  - If no suitable sites are present, expand synoptic measurements to include these sites and prepare cost estimate.

## Questions to be answered

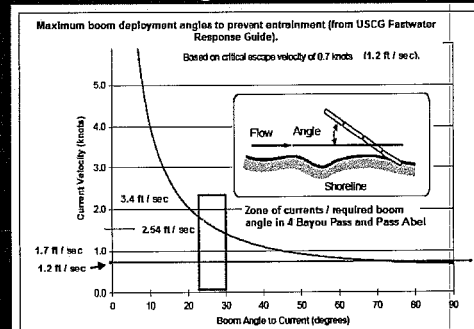
- Can the existing USGS site near Grand Terre Isle be used in lieu of one of the DO salinity sites? (recommend yes)
- Should the two far field DO salinity sites be real time? (recommend yes)
- Should water level data be collected at the two DO salinity sites? (recommend no)
- Should all 5 sites collect data at three depths or is plan to collect at mid-depth supplemented by synoptics at three depths sufficient? (recommend plan to collect at mid-depth)
- Should Barataria Pass at Grand Isle gage be upgraded as proposed? (recommend yes)
- For the four sites shown on slide 5 for the passes, is real time data needed? (recommend no)
- For the four site shown on slide 5for the passes, is multiple depth data needed? (recommend no for real time, yes for synoptics)
- Is baseline monitoring plan appropriate and needed to be done on 28 or 29 June? (recommend yes)
- What is the purpose of the monitoring? What problem will the monitoring answer? Does the proposed monitoring plan fulfill the purpose?

*Alternative?*

## Draft Boom and Skimming Plans for Quatre Bayou Pass and Pass Abel

Tetra Tech Team  
July 6 2010

## Boom Angles and Current



7/6/2010

DRAFT Barataria Bay Booming/Skimming Plan

4

## Maximizing Boom Effectiveness

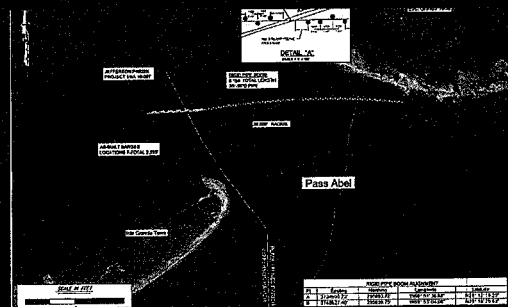
- Work with, not against, currents to funnel oil to quiet areas for effective skimming (oil removal)
- Prevent boom failure by adjusting angles of boom to prevent entrainment (oil going under boom)

7/6/2010

DRAFT Barataria Bay Booming/Skimming Plan

2

## EUA 10-057 Rigid Pipe Boom



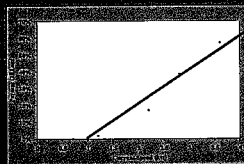
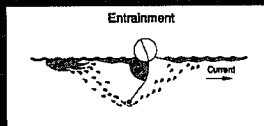
7/6/2010

DRAFT Barataria Bay Booming/Skimming Plan

5

## Boom Entrainment

- Oil goes *under* boom if the current exceeds 0.7 knots (1.2 ft/second) regardless of the size and strength of the boom unless installed at an acute angle to the current
- Oil loss under the boom increases with current speed
- High winds increase the effect of the current to drive oil under the boom



7/6/2010

DRAFT Barataria Bay Booming/Skimming Plan

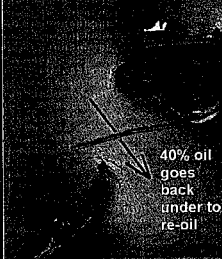
3

## Pass Abel EUA 10-057 Rigid Pipe Boom

MAX FLOOD



MAX EBB



High currents will allow oil to entrain, even more so with higher winds

7/6/2010

DRAFT Barataria Bay Booming/Skimming Plan

6

## Overall Booming/Skimming Strategy: Barataria Bay

- Pass currents are too high for boomed oil containment
- Divert oil to areas of low current in order to:
  - Prevent oil from further movement into bay
  - Collect oil by skimming
- Fence or pipeline boom placed at high angle in fast current areas, reducing water flow  $\leq$  entrainment velocity (0.7 kt; 1.2 ft/sec.)
- Therefore, pilings need proper alignment for deflection booming
- Traditional boom used to guide oil to skimmers, where necessary
- Monitoring plan to be developed and implemented as part of bay protection strategy. Use of monitoring data:
  - Optimize booming and skimming operations
  - Adapt/Add protections strategies to address new oil threats

7/6/2010

DRAFT Barataria Bay Booming/Skimming Plan

7

## Quatre Bayou Pass Bathymetry

Existing Conditions Four Bayou Pass Modeling Oil Behavior

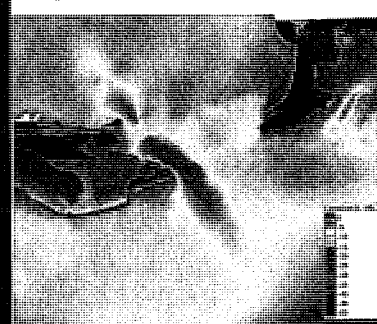


FIGURE 22

DRAFT Barataria Bay Booming/Skimming Plan

27

## Quatre Bayou Pass Alternative Boom and Skimming Plan

7/6/2010

DRAFT Barataria Bay Booming/Skimming Plan

8

## Quatre Bayou Pass Pipeline ROW

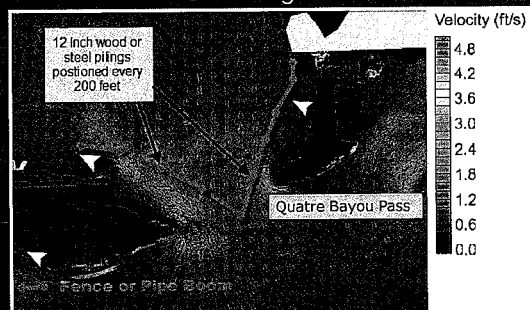


7/6/2010

DRAFT Barataria Bay Booming/Skimming Plan

11

## DRAFT Quatre Bayou Pass Boom and Skimming Plan



7/6/2010

DRAFT Barataria Bay Booming/Skimming Plan

9

## Pass Abel Alternative Boom and Skimming Plan

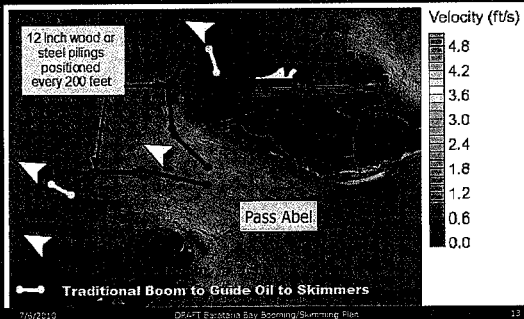
7/6/2010

DRAFT Barataria Bay Booming/Skimming Plan

12



## DRAFT Pass Abel Boom and Skimming Plan



## Questions/Issues

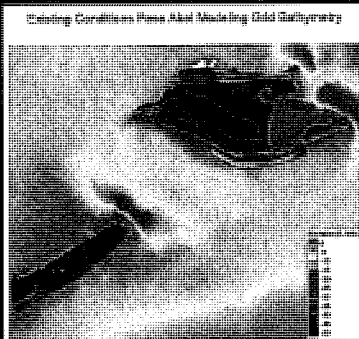
- Questions/comments on approach?
- What booming is currently in place in Quatre Bayou Pass and Pass Abel?
- What pilings are available for deflection booming? Where are they?
- Are pipeline ROW maps accurate?
- Permitting Issues?
- Next Steps

7/6/2010

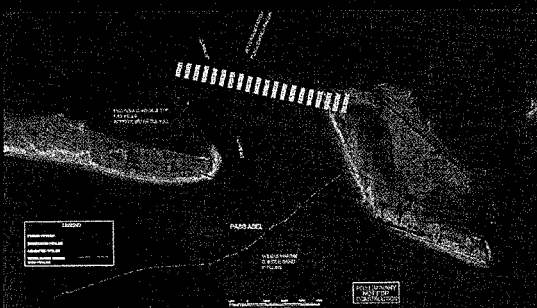
DRAFT Barataria Bay Booming/Summing Plan

14

## Pass Abel Bathymetry



## Pass Abel – Known Pipelines ROW



## Laborde, Brad MVN

---

**From:** Ebersole, Bruce A ERDC-CHL-MS  
**Sent:** Tuesday, July 13, 2010 4:34 PM  
**To:** Laborde, Brad MVN; Baomy, Walter O MVN; Powell, Nancy J MVN  
**Subject:** Some thoughts comments on the pipe boom ppt file

I like the concept of the pipe/fence boom and their alignment along flow streamlines. Hope that is what they are pursuing and not repeat of rock dike request. Some comments on the pipe boom concept

How will floating up and down be enabled? Collars? Staggered piles? Does the floating pipe boom need to be immobile? Susceptibility to movement and breakage for each approach

Circular pipe boom, 36 in? 18" above/below water line? Enough to address wave effects? Can you attach something on top of pipe boom to curtail wave/oil overwash. 1 to 2 ft wave chop in these areas/entrances? will tend to splash oil over and orbital motions will carry underneath the pipe. Is there another shape that maximizes vertical dimension/obstruction to oil

Suspend a curtain on a smaller pipe beneath the boom and maximize height of the boom above water line?

Arrow head alignment good design— follow the streamlines for flood and ebb to minimize loadings on the pipe and minimize grazing angles

End boom in lowest velocity region, extend to nodal points behind the islands

Closed or open tip on the arrow head? Small opening to jet oil into high ebb velocity currents? Terminate open end in high velocity zone of ebb jet. Closed end would tend to reduce oil entry on flood tide. If closed wont oil just go over and under the boom at the tip at ebb? Seems like closed tip is better from oil containment. Is an opening needed in the pass for other reasons

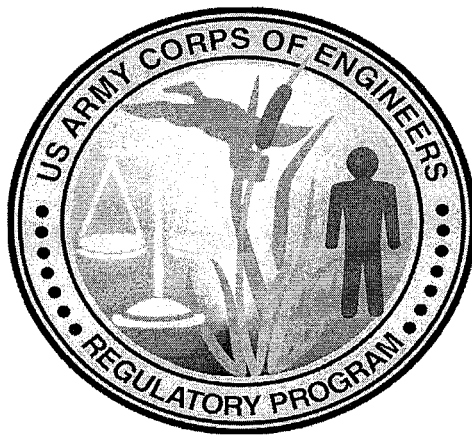
Use conventional boom and piles at lower flows to short-circuit the pipe boom; lower flows enable greater glancing angle.

Can you have relocatable pipe boom section to short-circuit the boom array in lower tide range/velocity conditions when grazing angles can be greater. Use of conventional boom to short-circuit the longer pipe boom when you can do it.

What about use of adjacent coves and embayments to contain oil? Contain short-circuited oil? More quiescent areas to conduct skimming than open waters

Are pipe booms foam filled, light weight concrete? Looked at other shapes of boom? fabrics? What about RIB technology?





## ATTENDANCE RECORD

New Orleans District

**Subject:** Proposed Rock Dike Structures within the 5 passes into Barataria Bay in Jefferson and Plaquemines Parishes, LA

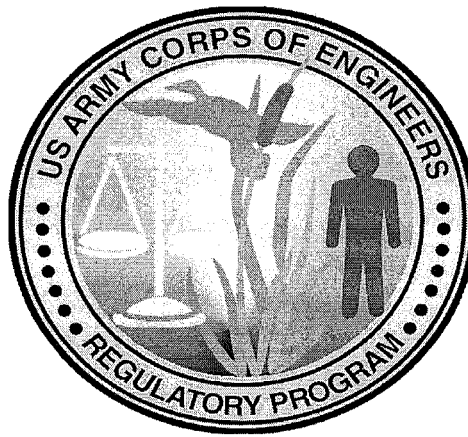
**Ref #:** MVN-2010-1271-EOO

**Date(s):** 6/23/2010

**Place:** CEMVN, room 125

Name	Organization	Phone No.	E-mail
Brad LaBorde	USACE CEMVN-OD-SE	(504) 862-2225	brad.laborde@ usace.army.mil
DEANO BONAVO	JP Homeland Sec.	[REDACTED]	dbonavo@jeffparish.net
Jose Canzalez	J.P. Admin.	[REDACTED]	JCanzalez " " "
Martin S. Mayer	Corps Regulatory	504.862.2276	martin.s.mayer@usace.army.mil
JOHN ETINGER	EPA	[REDACTED]	ETINGER.JHN@EPA.GOV
David Cannadotte	mayon	[REDACTED]	i1uu-yandis159@hotmail.com
PETE SERIO	CORPS-REGULATORY	504-862-2255	PETE.J.SERIO@USACE.ARMY.MIL
CHRIS ACCARDO	COE-OD	504-862-1417	CHRISTOPHER.J.ACCARDO@USACE.ARMY.MIL
Tyler Ortego	Shaw	[REDACTED]	tyler.Ortego@shawgrp.com
Josh Carter	CHE	[REDACTED]	josh@coastharboring.com
Chris Roberts	Jefferson Parish	[REDACTED]	croberts@jeffparish.net
ONEIL MALBROUGH	Shaw	[REDACTED]	oneil.malbrough@shawgrp.com
DONALD SCHNEIDER	CORPS-OPERATIONS	504-862-1828	donald.c.schneider@usace.army.mil
Marnie Winter	Jeff.Par. Environmental	[REDACTED]	mwinter@jeffparish.net
Vickie Duffourc	SHAW COASTAL	[REDACTED]	rickie.duffourc@shawgrp.com

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## ATTENDANCE RECORD

New Orleans District

**Subject:** Proposed Rock Dike Structures in Pass Abel and Four Bayou Pass in Jefferson and Plaquemines Parishes, LA

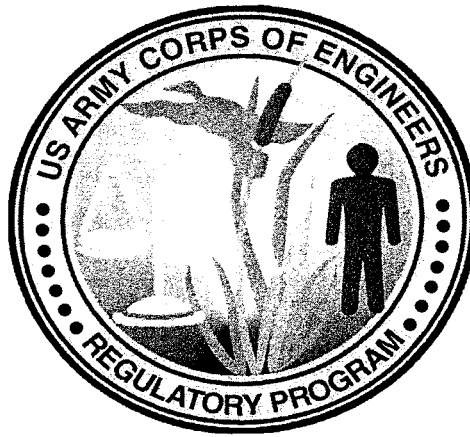
**Ref #:** MVN-2010-1271-EOO

**Date(s):** 7/14/2010

**Place:** CEMVN, room 125

Name	Organization	Phone No.	E-mail
<i>Brad LaBorde</i>	USACE CEMVN-OD-SE	(504) 862-2225	brad.laborde@ usace.army.mil
<i>Martin S. Mayer</i>	<i>COE - Regulatory</i>	<i>504-862-2276</i>	<i>Martin S. Mayer@ usace.army.mil</i>
<i>PETE SERIO</i>	<i>COE - REGULATORY</i>	<i>504-862-2255</i>	<i>PETE T. SERIO @USACE.ARMY.MIL</i>
<i>Oneil Malbrough</i>	<i>Shaw</i>	[REDACTED]	<i>oneil.malbrough @shawgrp.com</i>
<i>Marnie Winter</i>	<i>Jeff. Parish</i>	[REDACTED]	<i>mwinter@jeffparish.net</i>
<i>KEITH O'CAIN</i>	<i>COE - ED</i>	<i>504-862-2746</i>	<i>Keith J. O'cain @ usace.army.mil</i>
<i>John Bivona</i>	<i>COE - ED</i>	<i>504-862-2730</i>	<i>john.bivona @ " "</i>
<i>Nancy Powell</i>	<i>COE - ED</i>	<i>504-862-2449</i>	<i>nancy.j.powell @ usace.army.mil</i>
<i>JOHN ETTINGER</i>	<i>EPA</i>	[REDACTED]	<i>ETTINGER.JOHN@EPA.GOV</i>
<i>Bill Spalding</i>	<i>OCP R</i>	[REDACTED]	<i>easpalding@opsj.com</i>
<i>Vickie Duffourd</i>	<i>Shaw</i>	[REDACTED]	<i>vickie.duffourd@shawgrp.com</i>
<i>Tyler Ortego</i>	<i>Shaw</i>	[REDACTED]	<i>tyler.ortego@shawgrp.com</i>

conf. call			
Patt. Holland	FWS		
Rick Hartman	NMFS		
EPA HQ <sup>Barbara Keeler</sup> ETAL			



## ATTENDANCE RECORD

New Orleans District

**Subject:** Proposed Rock Dike Structures in Pass Abel and Four Bayou Pass in Jefferson and Plaquemines Parishes, LA

**Ref #:** MVN-2010-1271-EOO

**Date(s):** 7/14/2010

**Place:** CEMVN, room 125

Name	Organization	Phone No.	E-mail
Brad LaBorde	USACE CEMVN-OD-SE	(504) 862-2225	brad.laborde@ usace.army.mil
Martin S. Mayer	COE - Regulatory	504-862-2276	martin.s.mayer@ usace.army.mil
PETE SERIO	COE - REGULATORY	504-862-2255	PETE.S.SERIO @USACE.ARMY.MIL
Oneil Malbrough	Shaw	[REDACTED]	oneil.malbrough @shawgrp.com
Marnie Winter	Jeff. Parish	[REDACTED]	mwinter@jeffparish.net
KEITH O'CAIN	COE - ED	504-862-2746	Keith.J.O'cain@ usace.army.mil
John Bivona	COE - ED	504-862-2730	john.bivona@usace.army.mil
Nancy Powell	COE - ED	504-862-2449	nancy.j.powell@usace.army.mil
JOHN ETTINGER	EPA	[REDACTED]	ETTINGER.JOHN@EPA.GOV
Bill Spalding	OCP R	[REDACTED]	easpalding@opsj.com
Vickie Duffourd	Shaw	[REDACTED]	vickie.duffourd@shawgrp.com
Tyler Ortego	Shaw	[REDACTED]	tyler.ortego@shawgrp.com



## Introduction

BP oil spill...emergency permit...emergency authorization for pile/barges...emergency request for rocks...

This plan has been modified based on input from the H-SERT team. ..

## Purpose

The purpose of this monitoring plan is to quickly identify severe adverse hydrological or morphological responses occurring as a result of the proposed activities and to develop appropriate response actions. This monitoring plan will serve as the plan for both MVN-2010-1342-EOO/EUA-057 (pile & barge plan) and for the emergency authorization for the proposed rock structures (MVN-2010-1271-EOO).

## Plan Development

This plan will be finalized in coordination with the NOD upon issuance of the NOD-20 emergency authorization for the proposed rock project.

Pre-construction data collection is ongoing. *Propose to further develop plan during scientific community monitoring workshop.*

## Data Collection Activities

- General requirements
  - Weather events including max wind speeds associated with frontal passage, tropical depressions, etc., work delays, damage to structures or operations, deviations from plan, water level fluctuations from Grand Isle NOAA Gauge
  - **Compile Weekly**
- Construction/operations monitoring
  - Compile and summarize daily reports from contractors
  - Report quantities placed, assets utilized etc...
  - Compare quantities and constructed features to baseline assumptions for adaptive management.
  - Conduct as-built surveys of the rock dikes.
  - Observe and photograph tie in locations. Specifically note evidence of scour.
  - Monitor the long-term settlement of the rock structure by visually observing changes in elevation. Also, survey the centerline every 500 feet and at observed changes in crest elevation.
  - Produce status maps.
  - **Compile Weekly**
- Oil capture efficacy reporting
  - Compile quantity reports from Vacco.
  - Compile working time, down time, orders given
  - Compile oil events (i.e. timing and relative size of oil in passes, tidal conditions at those times)
  - Compile comments, lessons learned from current ops.
  - **Compile Monthly**
- Hydrologic/Morphological monitoring

- Pre-construction, and monthly bathymetry of all 5 passes on pre-determined transects. Also collect at 50% and 90% completion of each dike calculated by length constructed to grade.
  - Create surface elevation models CAD or GIS software and compare monthly data to previous set and pre-construction data.
  - Produce map showing color field of differences between surfaces including areas of erosion and accumulation
  - Calculate net volume change
  - Also, ID exposed pipelines pre-construction and note any potentially exposed due to scour.
- Pre-construction and monthly shoreline elevation survey along pre-determined transects.
  - Use to plot MHW, MLW lines
  - Compare monthly MHW, MLW lines to pre-construction lines
- Island crest centerline elevation. Use existing lidar information and aerial photography to identify an island crest centerline. Use RTK to survey the centerline at 500' intervals and all observed low spots. Visually inspect monthly and after storms. Re-survey after storms or if changes are observed.
  - Compare island crest profiles to pre construction conditions.
- Pre-construction, post construction, quarterly and post storm georeferenced aerial photography. Supplement with visual inspection of weekly photographs from helicopter flyovers.
  - Georeference and overlay to visually identify changes.
  - Corps suggests 1"=300' resolution
- Weekly vessel mounted ADCP surveys of all 5 inlets at approximate peak flood and ebb.
- **Report Monthly**
- Water Quality Monitoring
  - There is disagreement on the necessity of water quality monitoring. Need to discuss further.
  - **Report Monthly**

Notes: All surveys will be adjusted to a common horizontal and vertical datum, and tied to the same monument.

## Reporting

Monthly to JP who forwards to NOD and AMT (see below), all data and analysis will be organized and submitted in a timely manner.

## Adaptive Management

The purpose of this monitoring plan is to identify potential serious adverse secondary impacts so that corrective action will be taken.

An adaptive management team (AMT) will be assembled to determine a) the most appropriate time for removal of the rock barriers, and 2) the need for any remedial actions to address adverse consequences, e.g., island breaching. The AMT will consist of representatives of the Parish and permitting agencies as well as technical experts from the Parish, agencies and academia. A monthly conference call will be pre-

DRAFT - Rock Plan monitoring plan with HSERT suggestions incorporated  
Tyler Ortego July 14, 2010 1:15 pm.

scheduled to discuss the monitoring reports. If, as a result of the AMT discussion, the monitoring data show that operational changes may be warranted the permitting agencies shall convene an in person/video conference meeting of the AMT within 5 days to review the data in detail and provide input to the permitting agencies on an appropriate course of action.

## DRAFT Monitoring Plan for a NEW submission of Tidal Pass Project\_9July2010

PREPARED FOR: Richard Raynie  
PREPARED BY: CH2M HILL  
DATE: July 13, 2010  
ATTACHMENT: Attachment A: Basecamp Posts  
Attachment B: Compiled comments of Monitoring Plan from I. Georgiou, G. Zhang, and D. Reed

At your request, CH2M HILL has compiled information from the OCPR Basecamp site pertaining to the review of DRAFT Monitoring Plan for a NEW submission of Tidal Pass Project\_9July2010. A summary is provided below. Please let us know if you have any questions or require additional information. Attachment A includes the actual Basecamp posts and Attachment B contains complied comments in track changes from Ioannis Georgiou/UNO Department of Earth and Environmental Sciences, Gregg Zhang/LSU Department of Civil and Environmental Engineering, and Denise Reed/UNO Department of Earth and Environmental Sciences regarding the monitoring plan.

**Ioannis Georgiou/UNO Department of Earth and Environmental Sciences** writes, "In addition, by reviewing the modeling presentation again, I would like to make the following comments.

The use of energy (in  $\text{ft}^3/\text{s}^2$ ) as a proxy for morphology is perhaps ok, since this is the product of  $\text{velocity}^2 * \text{Depth}$ , and bed shear stress is proportional to the square of the velocity; however what's more important, is to actually relate this parameter to the amount of time that it is acted upon the bed, such that estimates and quantities of erosion can be determined. In other words, how does this energy measure, correlate to an erosion rate.

The figure shows only a qualitative relationship between kinetic energy and potential erosion, and the changes in kinetic energy from existing show areas that are subject to morphology. During monitoring program, an attempt will be made to quantify the relationship between energy and scour rate.

2. The closure of quatre bayou and Pass Abel under scenarios 3b, 3c, and 5a results in a local reduction in the tidal prism by ~65%. This number is large, and will (as we see in the analysis) increase tidal prism elsewhere. This by definition, means more oil will move elsewhere as well, which may increase the need to close more inlets. This needs to be pointed out to operations as it will affect their current plans and activities.

Considering uncertainties and lack of knowledge on oil movement I would recommend using "may" instead of "will" in this case. The comment should be taking into consideration during the monitoring program.

**Main document changes and comments**

**Page 1: Inserted** **djreed** **7/12/2010 8:46:00 PM**

and to develop appropriate response actions.

**Page 1: Inserted** **tyler.ortego** **7/14/2010 12:20:00 PM**

concur

**Page 1: Deleted** **djreed** **7/13/2010 2:47:00 PM**

**Page 1: Inserted** **gzhang** **7/13/2010 10:00:00 AM**

*(The geotechnical strength of the existing subsoil or bottom sediments need to be obtained by either in-situ or laboratory testing).*

**Page 1: Inserted** **tyler.ortego** **7/14/2010 12:23:00 PM**

*We have used conservative quantity calculations in order to account for uncertain geotechnical properties. We believe that this, combined with the temporary nature of the project, negates the need for geotechnical testing.*

**Page 1: Inserted** **djreed** **7/12/2010 8:13:00 PM**

including max wind speeds associated with frontal passage, tropical depressions, etc.,

**Page 1: Inserted** **tyler.ortego** **7/14/2010 12:24:00 PM**

○ concur.

**Page 1: Inserted** **djreed** **7/12/2010 8:14:00 PM**

, water level fluctuations (from Grand Isle Gauge?)

**Page 1: Inserted** **tyler.ortego** **7/14/2010 12:24:00 PM**

Concur. Measured and predicted preliminary data from NOAA gage located at the Coast Guard Station will be incorporated into the monitoring report.

**Page 1: Inserted** **gzhang** **7/13/2010 9:59:00 AM**

○

(Maybe also include recording the settlement of the rock structures and lateral spreading/movement of the rock dikes? Since this will affect the total quantity of rock placed)

**Page 1: Inserted** **tyler.ortego** **7/14/2010 12:26:00 PM**

As built quantities will be compared to calculated quantities in order to adapt to field conditions. If during construction, more or less quantity is needed than anticipated, then the appropriate adjustments will be made.

**Page 1: Inserted** **djreed** **7/12/2010 8:15:00 PM**

Identify deviations from proposed form/position of constructed features in sufficient detail to allow general evaluation of the effects of the deviations on flow and sediment transport patterns

**Page 1: Inserted** **tyler.ortego** **7/14/2010 12:31:00 PM**

○ Concur. As-built surveys of the rock dikes will be conducted and incorporated into the model to determine if significant deviations from baseline model results will occur.

**Page 1: Inserted** **gzhang** **7/13/2010 10:03:00 AM**

○

Maybe include the recording of

Page 1: Inserted	tyler.ortego	7/14/2010 12:25:00 PM
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o d

Not sure of the value of measuring suspended sediment concentration. Dynamic conditions make it difficult to determine whether differences suspended sediment are due to the structures or other factors such as natural variation. If the purpose of this measurement is to identify scour, we believe that the bathymetric surveys will capture this information. As-built surveys and periodic visual inspection of the rock structures will be used to identify settlement.

Page 2: Inserted	gzhang	7/13/2010 2:46:00 PM
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Page 2: Comment [d1]	djreed	7/14/2010 12:33:00 PM
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This needs to be conducted at all 5 passes and should begin as soon as possible (before rock placement)

Page 2: Comment [IG2]	Ioannis Georgiou	7/12/2010 10:31:00 AM
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I am not sure what this means

Page 2: Inserted	djreed	7/12/2010 8:16:00 PM
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including volumes of oil/water mix and separated oil

Page 2: Inserted	tyler.ortego	7/14/2010 12:38:00 PM
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Total volume of oil water mix will be recorded. Separation and treatment/disposal of the collected oil water mix will be done by others.

Page 2: Comment [d3]	djreed	7/14/2010 12:40:00 PM
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It will be important that this covers both flood and ebb. What is going in and what is going out.

**Tyler Ortego: concur. The general direction of current (ebb or flood) will be recorded.**

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, conditions of oil by observation,,

Page 2: Inserted	tyler.ortego	7/14/2010 12:39:00 PM
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concur

Page 2: Comment [IG4]	Ioannis Georgiou	7/14/2010 12:43:00 PM
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The plan for documenting oiling activities seem very simplistic. The effectiveness, or percent oil captured relative to the oil patches might be useful to know. These volumes should be compared to what is estimated to be in open water, and relative to the recovered volumes from barge operation.

No methodology is specified here; 1. How will the oil patches be measured (daily Satellite imagery, daily RADAR, daily flights, will there be Geospatial analysis to estimated migration rates into the pass?) Something more specific needs to go here.

**Tyler Ortego: Oil will be measured by the volume of oil water mix collected by the vacuum trucks, with qualitative descriptions of the oil bypassing the barges. This will be compared to visual aerial observations of incoming oil (if available).**

Page 2: Inserted	gzhang	7/13/2010 10:06:00 AM
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○  
(I just have a question: will oil interact with either settled sediment or suspended sediment and thus affect settling or scour/erosion?)

Page 2: Inserted	tyler.ortego	7/14/2010 12:43:00 PM
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(I just have a question: will oil interact with either settled sediment or suspended sediment and thus affect settling or scour/erosion?) Unknown. If the purpose of this is to identify scour, then the bathymetric surveys should identify the scour.

Page 2: Comment [d5]	djreed	7/14/2010 12:52:00 PM
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This seems to be of limited value once the project is permitted. Adjustments should be made relative to conditions on the ground rather than the models. Suggest that investment in field measurements is more valuable than models at that point.

**Tyler Ortego: Morphological modeling monitoring requires an extensive effort. If morphological modeling is limited value, then it should be eliminated from the required activities. Concur that field measurements are more valuable than modeling. monitoring plan.**

Page 2: Comment [IG6]	Ioannis Georgiou	7/14/2010 12:46:00 PM
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Should this be in another section since it's not a data collection activity. But while on the modeling subject, what data beyond bathymetry is necessary to perform morphological modeling. Does sediment type and size matter, it's spatial coverage, how about critical shear stress for erosion, and amount in suspension during a tidal cycle. To perform morphological modeling implies that we can do sediment transport very well first. A suite of field data is required to do this and I don't see them here.

**Tyler Ortego: Morphological modeling monitoring requires an extensive effort. If morphological modeling is limited value, then it should be eliminated from the required activities.**

Page 2: Comment [d7]	djreed	7/14/2010 12:47:00 PM
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The grid for this needs to be thought through in relation to the seaward/landward extent of potential effects. Suggest it should extend to flood tide delta and ebb tide delta.

**Tyler Ortego: Concur. See attached.**

Page 2: Comment [IG8]	Ioannis Georgiou	7/14/2010 12:47:00 PM
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These predetermined transects need to be shown on a map. Will this be single beam? What is the spacing between transects?

**Tyler Ortego: Concur. See attached.**

Page 2: Inserted	djreed	7/12/2010 8:25:00 PM
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[it will be important that this extends into shallow waters on either side of the passes adjacent to the islands and close to, e.g., immediately in front of and behind, the rocks to identify any scour around the structure). The grid could vary in resolution – closer spacing of lines in throat of pass and around structures, more separation fur

Page 2: Inserted	tyler.ortego	7/14/2010 1:03:00 PM
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Page 2: Inserted	djreed	7/12/2010 8:27:00 PM
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ther away).

Page 2: Inserted	tyler.ortego	7/14/2010 12:52:00 PM
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[it will be important that this extends into shallow waters on either side of the passes adjacent to the islands and close to, e.g., immediately in front of and behind, the rocks to identify any scour around the structure). The grid could vary in resolution – closer spacing of lines in throat of pass and around structures, more separation further away). **Concur. See attached.**

Page 2: Comment [d9]	djreed	7/12/2010 8:23:00 PM
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Clarify – these would be bathymetric surfaces, correct? Not dynamic simulation models.

Page 2: Comment [IG10]	Ioannis Georgiou	7/14/2010 12:52:00 PM
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What method will be use to create surface models (I assume these are DEM models), kringing, or other, and what grid resolution? The transect spacing will greatly affect the surface result. If single beam used, it maybe better to conduct cross-channel transects and compared those as well. In addition, along-channel (thalweg) transects maybe needed to track the thalweg location and depth.

What about subareal, or really shallow changes? How are those going to be addressed.

**Tyler Ortego:** See attached for transect spacing. We believe the spacing to be adequate for identifying possible adverse effects as they occur. TIN models will be generated using either AutoDesk or ArcGIS software packages for surface comparisons. Single beam will be used. Subaerial changes will be identified by visual inspection of aerial photography. See also the pre-construction and post storm dune crest monitoring.

Page 2: Inserted	djreed	7/12/2010 8:25:00 PM
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including areas of erosion and accumulation

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including areas of erosion and accumulation **Concur**

Page 2: Comment [IG11]	Ioannis Georgiou	7/14/2010 12:57:00 PM
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This is all relevant to the methods used; hence it's success greatly relies on how the transects are obtained in the first place, and the data processed.

**Tyler Ortego:** See attached transect maps.

Page 2: Inserted	djreed	7/13/2010 2:47:00 PM
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Pre-construction and monthly shoreline elevation survey along pre-determined transects. [this needs to include not only cross-shore transects but also a transect alongshore at the crest of the islands to identify low spots. This is important to be able to identify any areas of vulnerability to overwash/back flow and document change. Without the long shore transect low spots and breaches could occur between transect lines – the long shore transect allows cross-shore transects to be further apart]. What is the distance between the transect lines? LIDAR would be the easiest way of tracking the change in subaerial island morphology.

Page 3: Inserted	tyler.ortego	7/14/2010 12:53:00 PM
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See pre construction and post storm island crest elevation monitoring. In addition, visual inspection of aerial photographs will identify changes.

Page 3: Inserted	Anne Elizabeth Gallagher Waddell	7/13/2010 2:47:00 PM
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Pre-construction and monthly shoreline elevation survey along pre-determined transects



Should these be paths instead of transects?

**Tyler Ortego: Unsure of the distinction**

It is likely that beach profiles of nearby islands, from beachface to backbarrier maybe affected by this construction especially after small storms; something needs to be added to assess dune crest elevations at some interval, and for areas in the vicinity.

**Tyler Ortego: See pre construction and post storm island crest elevation monitoring. In addition, visual inspection of aerial photography will identify changes.**

- Pre-construction and monthly shoreline elevation survey along pre-determined transects . **Concur**

Should these be paths instead of transects?

**Tyler Ortego: Not sure of the distinction**

It is likely that beach profiles of nearby islands, from beachface to backbarrier maybe affected by this construction especially after small storms; something needs to be added to assess dune crest elevations at some interval, and for areas in the vicinity.

**Tyler Ortego: See pre construction and post storm island crest elevation monitoring. In addition, visual inspection of aerial photography will identify changes.**

[suggest adding budget flexibility to add additional aerial photography after tropical storms, major cold front events)

Concur

What type of changes will you be looking for and what methods are going to be used to evaluate the change? Visual comparison, habitat classification? Or other.

**Tyler Ortego: visual observation of the aerals.**

How will berm elevation, and dune elevations west and east of the islands be monitored.

**Tyler Ortego: Use existing LIDAR to identify island crest centerlines. Use RTK to survey the centerlines at 500' intervals and observed changes in elevation. Repeat after storms.**

Current monitoring. A bottom mounted ADCP in each pass would be excellent but is probably more data than is needed. Suggest weekly ADCP surveys of all 5 inlets at peak flood and ebb.

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Weekly vessel mounted ADCP surveys in all 5 passes at approximate peak ebb/flood.

Page 3: Comment [IG15]	Ioannis Georgiou	7/14/2010 1:02:00 PM
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I strongly suggest fixed current meters; you will likely not going to capture change in currents accurately with vessel based surveys due to errors in the signals, loss of bottom due to transport, and other issues. Also, there is absolutely no guarantee that will be sampling at the same tidal cycle.

**Tyler Ortego: Vessel mounted ADCP surveys will be used. Due to the dynamic nature of the system, variation due to the rocks may be hard to separate from natural variation. Therefore, we do not believe that the added cost of fixed ADCP stations is justified.**

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? Boat mounted ADCP?

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? Boat mounted ADCP? ? **Vessel mounted ADCP.**

Page 3: Comment [IG16]	Ioannis Georgiou	7/14/2010 1:03:00 PM
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I strongly suggest fixed current meters; you will likely not going to capture change in currents accurately with vessel based surveys due to errors in the signals, loss of bottom due to transport, and other issues. Also, there is absolutely no guarantee that will be sampling at the same tidal cycle.

**Tyler Ortego: Vessel mounted ADCP surveys will be used. Due to the dynamic nature of the system, variation due to the rocks may be hard to separate from natural variation. Therefore, we do not believe that the added cost of fixed ADCP stations is justified.**

Page 3: Comment [IG17]	Ioannis Georgiou	7/12/2010 11:07:00 AM
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This will not provide any meaningful information and can be easily resolved with a bottom ADCP.

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. Not sure daily is necessary unless we can deploy instrumentation.

Page 3: Inserted	tyler.ortego	7/14/2010 1:05:00 PM
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Concur. Vessel mounted ADCP surveys.

Page 3: Inserted	gzhang	7/13/2010 10:04:00 AM
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, suspended sediment concentration?

Page 3: Inserted	tyler.ortego	7/14/2010 1:07:00 PM
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- Not sure of the value of measuring suspended sediment concentration. Dynamic conditions make it difficult to determine whether differences suspended sediment are due to the structures or other factors such as natural variation. If the purpose of this measurement is to identify scour, we believe that the bathymetric surveys will capture this information. As-built surveys and periodic visual inspection of the rock structures will be used to identify settlement.

Page 3: Comment [IG18]	Ioannis Georgiou	7/12/2010 11:11:00 AM
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Again these transects need to be shown, but more importantly, what type of instrument will be used. For this to make some sense and be meaningful, you need to you marine grade instrumentation, such as Seabird or other, and perform CTD casts, to look at the density structure with depth. Surface samples will likely not show the variability.

Also, these need to be coordinated with the tide cycle, i.e. note if falling or rising, .

<b>Page 3: Comment [d19]</b>	<b>djreed</b>	<b>7/14/2010 1:08:00 PM</b>
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I don't see this as essential – perhaps the permits require it.

**Tyler Ortego: Concur**

<b>Page 3: Inserted</b>	<b>djreed</b>	<b>7/12/2010 8:41:00 PM</b>
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and AMT (see below),

<b>Page 4: Inserted</b>	<b>djreed</b>	<b>7/12/2010 8:38:00 PM</b>
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An adaptive management team (AMT) should be assembled to determine a) the most appropriate time for removal of the rock barriers, and 2) the need for any remedial actions to address adverse consequences, e.g., island breaching. The AMT should consist of representatives of the Parish and permitting agencies as well as technical experts from the Parish, agencies and academia. A monthly conference call is pre-scheduled to discuss the monitoring reports. If, as a result of the AMT discussion, the monitoring data show that operational changes may be warranted [?the permitting agencies?] shall convene an in person/video conference meeting of the AMT within 5 days to review the data in detail and provide input to the permitting agencies on an appropriate course of action.

<b>Page 4: Inserted</b>	<b>tyler.ortego</b>	<b>7/14/2010 1:09:00 PM</b>
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Concur

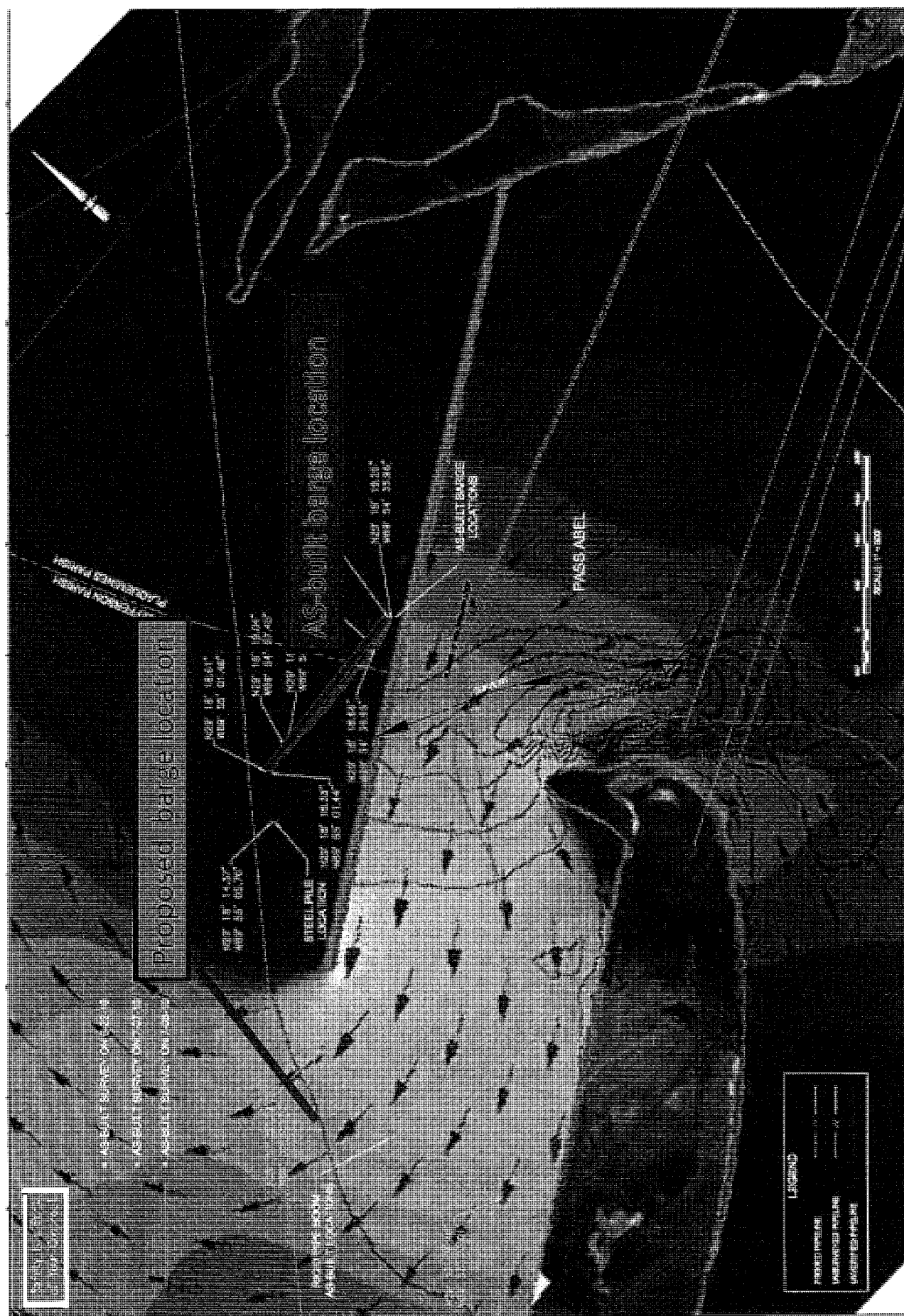
<b>Header and footer changes</b>
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<b>Text Box changes</b>
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<b>Header and footer text box changes</b>
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<b>Footnote changes</b>
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<b>Endnote changes</b>
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AS-BUILT BARGE LOCATION

PHASE 1  
4 SPUD BARGE SETS &  
3 DECK BARGE SETS

AS-built barge location

Proposed barge location

4 SPUD BARGE SETS &  
3 DECK BARGE SETS

PHASE 1  
4 SPUD BARGE SETS &  
3 DECK BARGE SETS

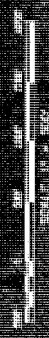
CHANGING POSITION

CHANGING POSITION  
SET BARGE SETS

PLANNED 12" DEEP WATER AND LOGS

= ACCESS ROUTE SURVEY ON 7-08-10  
= AS-BUILT SURVEY ON 7-07-10 & 7-08-10

FOUR BAYOU PASS







Subject: Rock Dike Proposal in Pass Abel and Four Bayou Pass in Jefferson and Plaquemines Parishes

Ref #: MVN-2010-1271-EOO

Date: July 14, 2010

Objective: The applicant requested a meeting to address the subject NOD-20 denial issued on July 3, 2010 with an interest in re-applying under the emergency guidelines.

Organizations/Agencies Represented: CEMVN Regulatory Branch, CEMVN Engineering Division, EPA, EPA Headquarters, OCPR, Shaw Group, Jefferson Parish, FWS, NOAA, NMFS.

- The meeting opened with the applicant stating that the desired rock alignment has not been modified. Since July 3, 2010, they met with H-SERT and other scientists who commented during the permit review to improve their monitoring plan. The applicant provided us with a revised monitoring plan and proposed a financial assurance of \$5M for removal of the structure within 6 to 12 months of approval.
- This financial assurance was based off an estimate given to them from the construction contractor. \$5M was proposed to be placed in an escrow account by BP for removal. No written verification of this agreement was provided. Note: the estimate was for the applicant to remove the rocks and place them on a barge. Transportation, disposal, remediation, and mitigation were not factored into this quote.
- The rock proposal was being submitted to work in tandem with ongoing boom, barge barrier, and skimming operations. Construction would range from 30 to 60 days, with removal lasting 60 to 90 days.
- Currently there are 21 barges and 7 vacuum trucks (as permitted: MVN-2010-1342-EOO) in Pass Abel and the clean-up efforts have worked thus far. All the oil has been confined to one area in the pass, allowing barge operations to be successful.
- Previously permitted rigid pipe booming operations are still being fabricated and are not complete. Their effectiveness is unknown.
- CEMVN and the agencies maintained their ongoing concerns with the overall basinwide impacts outweighing the benefits to the rock barrier proposal.
- The less damaging alternatives of the continued barge barrier operation with additional future draft boom and "V" Barge and boom alignments was suggested.
- Based on: no project modifications; ongoing concerns associated with the potential adverse impacts; uncertainty of the rocks effectiveness as an oil spill remediation tool, and; the existing less damaging alternatives, the applicant was advised that CEMVN would entertain their proposal if reapplied, but the financial assurances alone would not be adequate in offsetting the likelihood of adverse impacts.