Louisiana Oil Barrier Berms

Presented by Ancil Taylor
WEDA Gulf Coast Chapter
November 3, 2010

BEAN

Deepwater Horizon
April 20, 2010

Largest Oil Spill Response Effort

- The Deepwater Horizon event occurred 4/20/2010
- Massive emergency response from Federal, State, Local and Industry
- International Assistance available from numerous nations
- Offshore berm construction identified as a potential source of protection for Louisiana's fragile and exposed marshes.

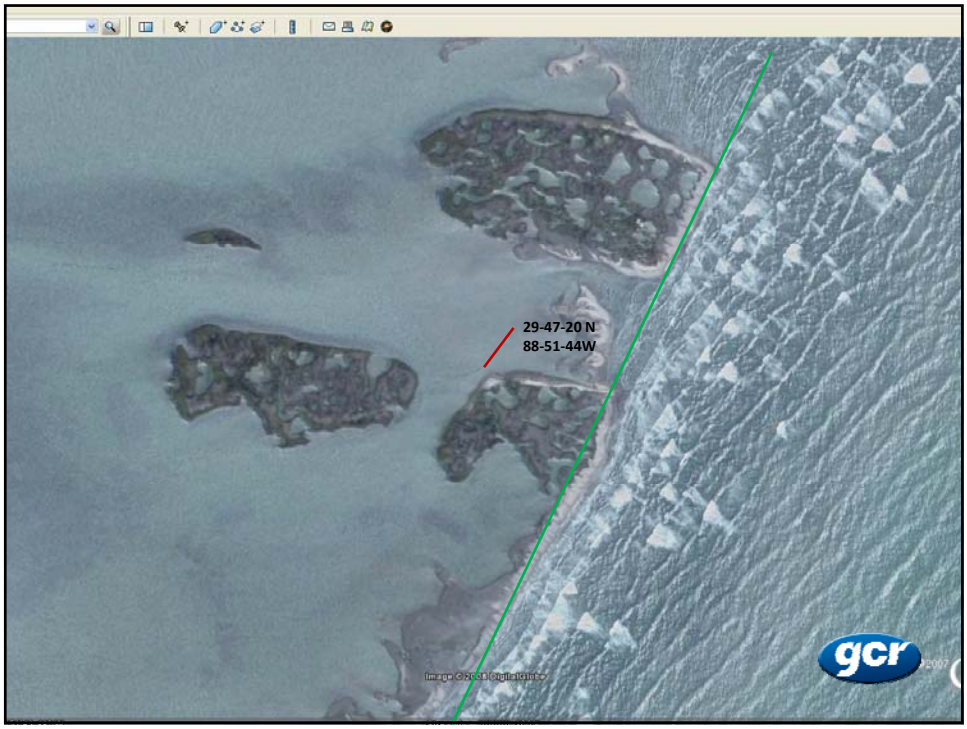
Offshore berm construction identified as a potential tool for protection of Louisiana's fragile and exposed marshes.

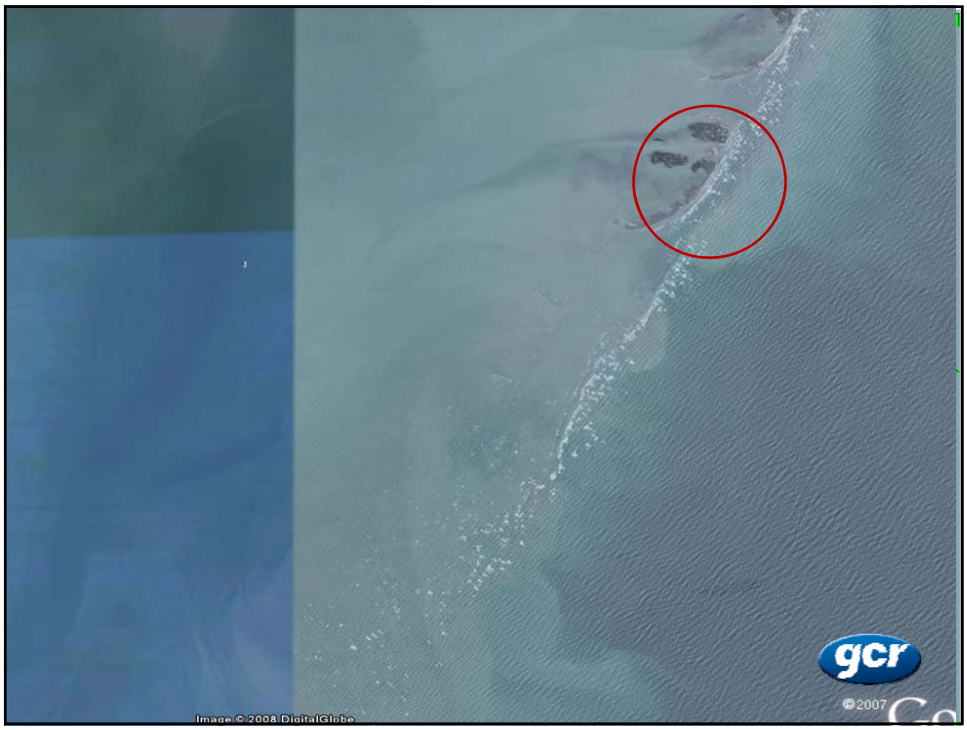
Directed by state and local officials to:

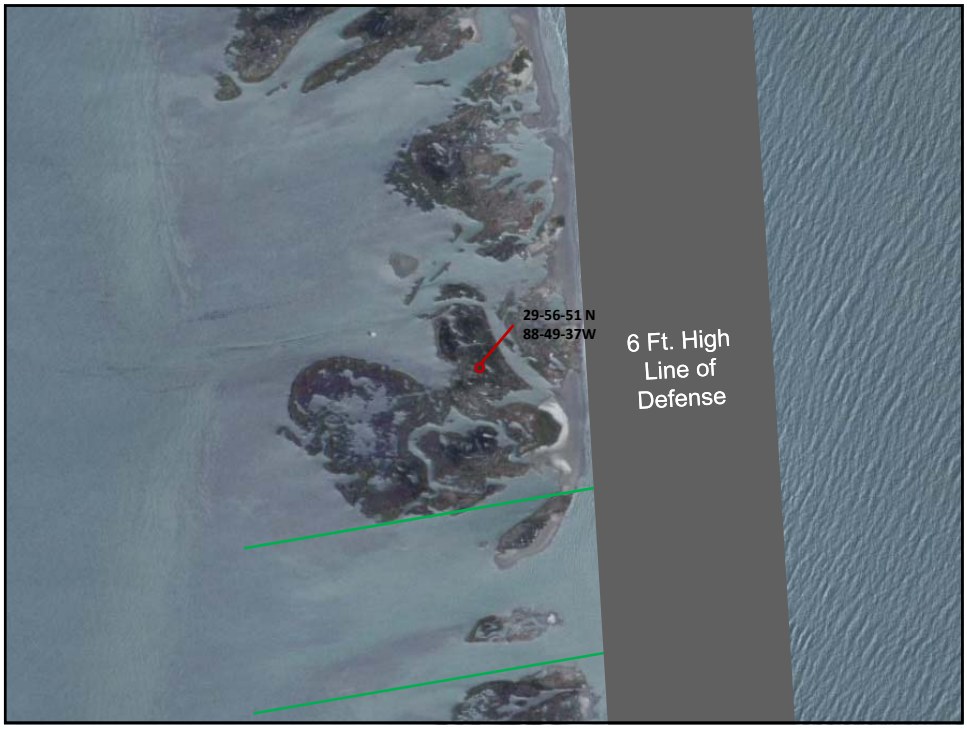
- Initiate conceptual design effort and a very quick feasibility analysis
- Contact potential dredging resources to ascertain equipment availability
- Begin developing a plan to deploy the dredging resources in a manner that creates linear real-estate as quickly as possible.

National Attention

- Presented conceptual plan to Governor Bobby Jindal on Saturday, May 8, 2010
- Team asked to proceed with the next steps, securing an emergency permit for the response plan.


29-47-20 N
88-51-44W
gcr


gcr
©2007
Image © 2008 DigitalGlobe


29-56-51 N
88-49-37W
6 Ft. High
Line of
Defense

Tidal Exchange
Watercraft
Access
Grand Terre Islands
+6 Elevation
20'
25:1
25:1
Existing Landmass
1 Mile
Isle Grande Terre
Source of Material

Develop a Plan

Goal – Immediate construction of "linear real-estate."

- Original concept – mine directly offshore 1 – 2 miles parallel to the coastline and convey material into the alignment.
  - This Option ultimately not permitted by Federal agencies
- Permitted concept – mine material from suitable offshore or Miss. River borrow areas.

Met with Stakeholders

- **Presented conceptual plan to USACE**
- **Presented Conceptual plan to USCG**
- **Presented conceptual plan to BP**
- **Presented conceptual plan to:**
  - **DOI**
  - **NOAA**
  - **EPA**
  - **USFWS**
  - **LDWF**

And, of course, the MEDIA

Execution

- Assisted the State of Louisiana in acquiring an emergency permit (NOD 20) from the USACE New Orleans District.
- Acquired permit on May 27, 2010

NEWS RELEASE

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG®

For Immediate Release:
May 27, 2010

Contact: Amanda Jones
504-862-1014
amanda.s.jones@usace.army.mil

Corps decision on state's emergency permit request

NEW ORLEANS – Today, May 27, 2010, the U.S. Army Corps of Engineers, New Orleans District Commander Col. Al Lee offered an emergency permit to the state of Louisiana for portions of their barrier island plan.

"After careful consideration of the available information, and working closely with the state of Louisiana, the coastal parishes, and our federal partners, I have offered the permit under Emergency Permit NOD-20, with special conditions, authorizing the state to proceed with six reaches, E3 and E4 to the east of the Mississippi River, and W8, W9, W10, and W11 to the west," said Col. Al Lee, commander of the New Orleans District, U.S. Army Corps of Engineers. "These areas have been identified as critical locations where greater immediate benefit is likely to be achieved with minimal adverse disruption of coastal circulation patterns."

The Corps' regulatory permit compliance program will assure that the 33 conditions of the permit will effectively carry out the intent of the state's project. If necessary, modifications to the permit can be made as conditions evolve.

The request was processed under the emergency permit procedures of New Orleans District's NOD-20.

The New Orleans District received the emergency permit request from the Coastal Protection and Restoration Authority of Louisiana at 11 p.m. Tuesday, May 11 for work on the Chandeleur Islands and also on all barrier islands from East Grand Terre Island and eastward to Sandy Point. The permit was requested "to enhance the capability of the islands to reduce the inland movement of oil from the Deepwater Horizon oil spill," as per the original permit request cover letter.

In accordance with the NEPA process, which must be followed even in emergency situations, we solicited interagency comments on the state's permit application. Those agency comments were provided to the state, which then submitted a revised plan on May 14. The revised plan extended the reach westward to Timbalier Island and removed the near shore borrow area along Chandeleur Islands. The Corps again solicited interagency comments on the state's revision. Following discussions between the state and the Corps regarding technical analyses, the state submitted additional information on May 21 and May 24.

Authorization under NOD-20 is temporary and does not replace the normal permit approvals. Within 30 days, a full Department of the Army permit request must be submitted.

(Editor's note: Please see attached document for additional information on the plan).

U.S. ARMY CORPS OF ENGINEERS, New Orleans District
www.mvn.usace.army.mil
www.facebook.com keyword: New Orleans District
twitter.com/teamneworleans

EXECUTE IMMEDIATELY

- Execution strategy initiated
  - First question - Develop contract with State of Louisiana <u>or</u> BP?
  - Second question – Dredgers available?
  - Third challenge – design a configuration of the large capacity U.S. Fleet that could execute construction most expeditiously in an offshore environment then most cost effectively.

Contracting Methods?

- Louisiana chose The Shaw Group as the contractor that could most expeditiously affect procurement and management of this massive effort.
- Shaw chose The Bean Companies and GCR Associates as the two contractors to continue the efforts of permitting and construction management / oversight assistance.

Dredgers Available?

- Great Lakes Dredge & Dock
- Weeks Marine
- Manson Construction
- Stuyvesant Dredging

Securing Equipment

- Identified equipment that may be immediately available.
- Ascertained the level of effort to secure releases of additional equipment from current contractual obligations.
- Through collaboration with HQUSACE and Districts, some projects suspended and / or postponed across the Gulf and East coasts.

The Plan

- Haul material from various borrow areas to designated re-handling areas located at appropriate contours offshore but within state waters.
- Re-handling areas designed to meet the draft demands of vessels while accommodating the pumping capabilities of the re-handling dredges.
- Allocate the hauling equipment based upon draft, sail speed, transport volume.
- Allocate re-handling dredge capability based upon installed HP and total dynamic head at specific flow-rates.

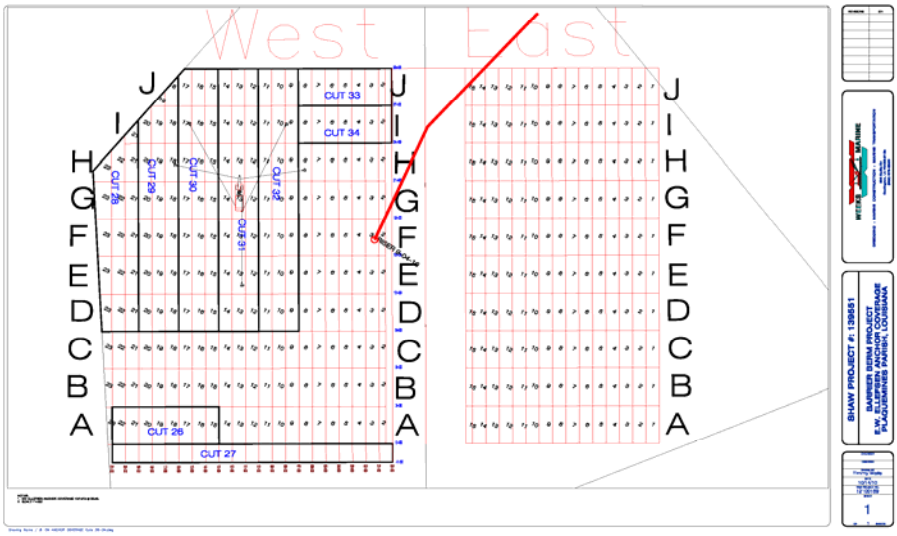
The Plan (Fleet)

7 individual and concurrently operating dredge spreads.

- 1 lg CSD direct placement to 50,000 feet
- 1 lg CSD up to 40,000 feet & 2 TSHD
- 1 lg CSD up to 40,000 feet & 2 TSHD
- 1 lg CSD to 40k ft & combination of 2 TSHD and 8 scows
- 1 lg CSD to 40k ft & combination of 2 TSHD and 8 scows
- 1 med CSD & spider barge loading scows
- 1 med CSD & spider barge loading scows

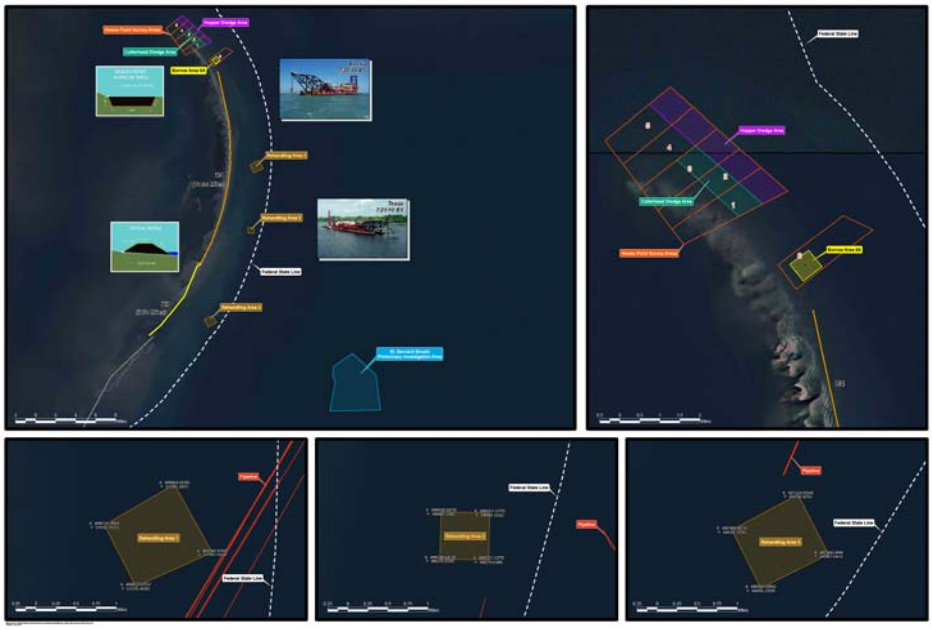
WESTERN BARRIER BERM DETAIL

Current as of July 19, 2010



EASTERN BARRIER BERM DETAIL

Current as of July 19, 2010



Mobilization by Shaw team

- Secured Release of Equipment
- Initiated mobilization of equipment
  - Preparation of equipment for deployment offshore.
  - Construction and modifications of spider barges.
  - Marshalling of approximately 200,000 feet of 30-inch pipeline.

Shaw Compliance submittals

- Identify Critical Path and focus available resources appropriately.
- Survey borrow areas. (14 survey teams activated)
- Sample and test borrow areas for contaminants.
- Sample borrow areas for suitability of material.
- Magnetometer survey of proposed sites.
- Acquire cultural / archeological clearances.
- Coordinate and secure oil infrastructure / pipeline right-of-way clearances.
- Berm placement alignment along the islands
- Permits received often within hours of initial execution.

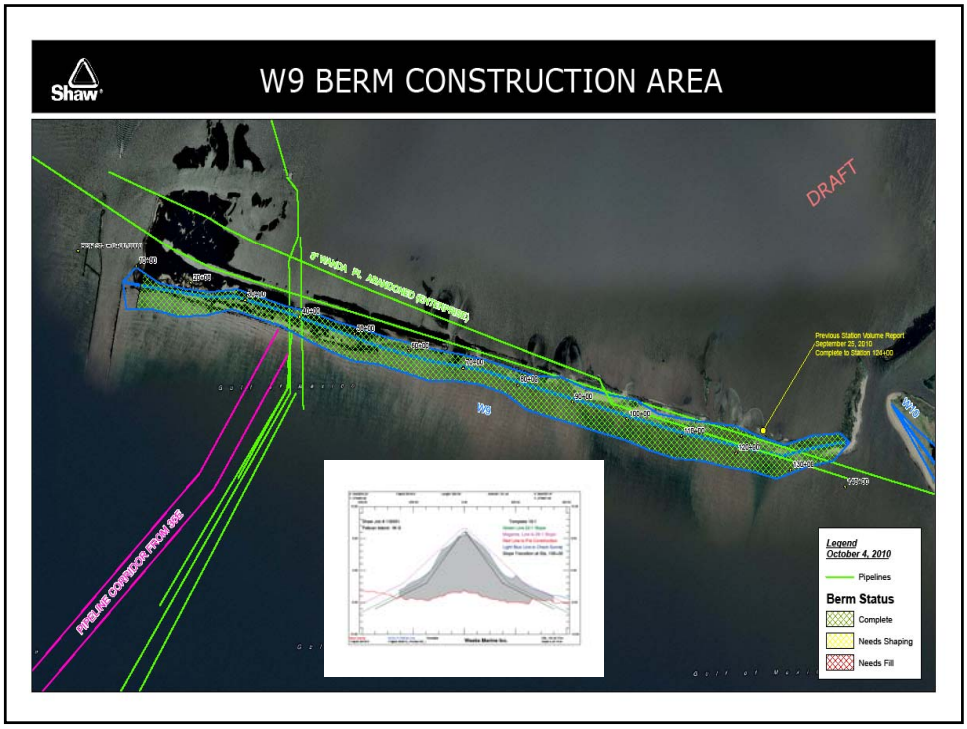
AP

Construction

- First Dredge on site – TSHD *Stuyvesant*
  - Hauling material from Mississippi River to offshore re-handling area within hours of NTP.
- Second Dredge – CSD *California*
  - Direct placement of material from Hewes point to Berm E-4 North (Chandeleur Islands) within 7 days of NTP.
- Additional equipment arriving and deployed as "just-in-time" compliance submittals are approved by the USACE New Orleans.

Construction

- Over 14 million Cubic Yards moved
- Almost 30 compliance submittals completed and approved.
- 75,000 feet of berm under construction or available for placement.
- Berms remain intact and continue to protect fragile marsh from contaminants.



Lessons Learned

- Manage Expectations → Communication
- Stakeholder involvement critical in the development and execution of the plan.
- Industry can integrate and create a synergistic organism for a greater result.
- Material from the borrow sources is exceptional!

Thank You
Questions?