Louisiana Oil Barrier Berms

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WEDA Eastern Chapter
October 6, 2010

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.

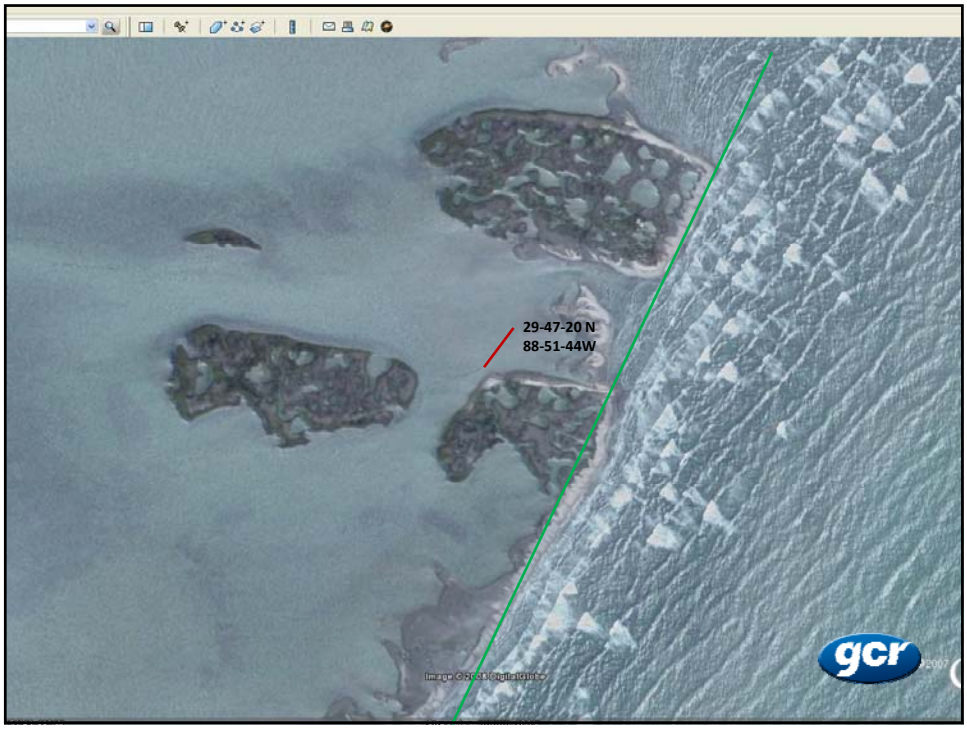
Offshore berm construction identified as a potential tool for protection of Louisiana's fragile and exposed marshes.

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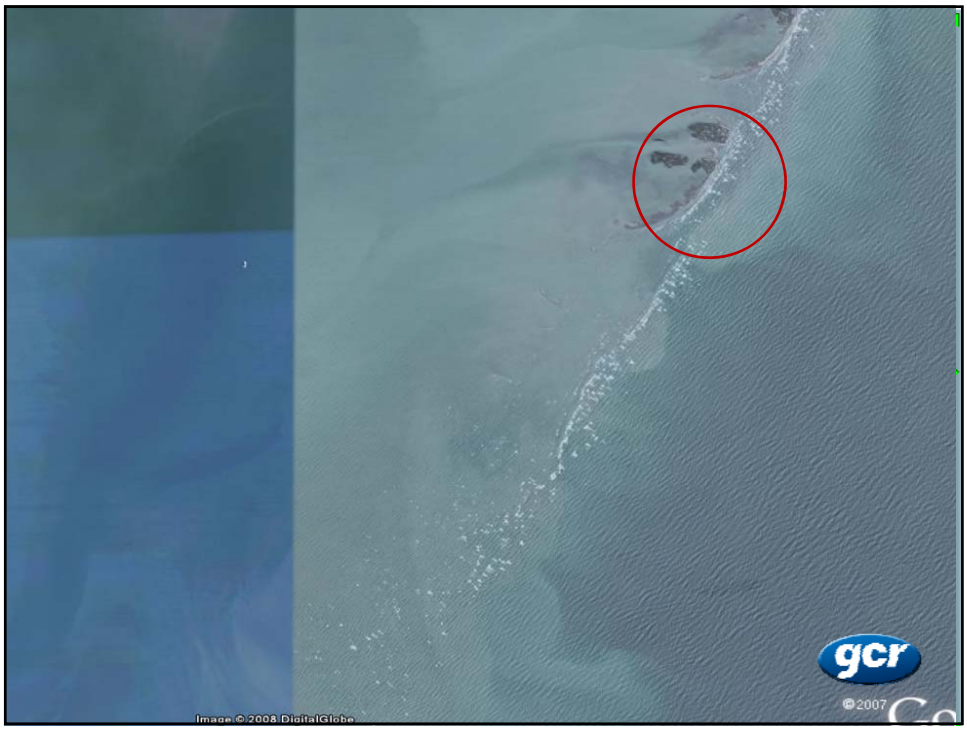
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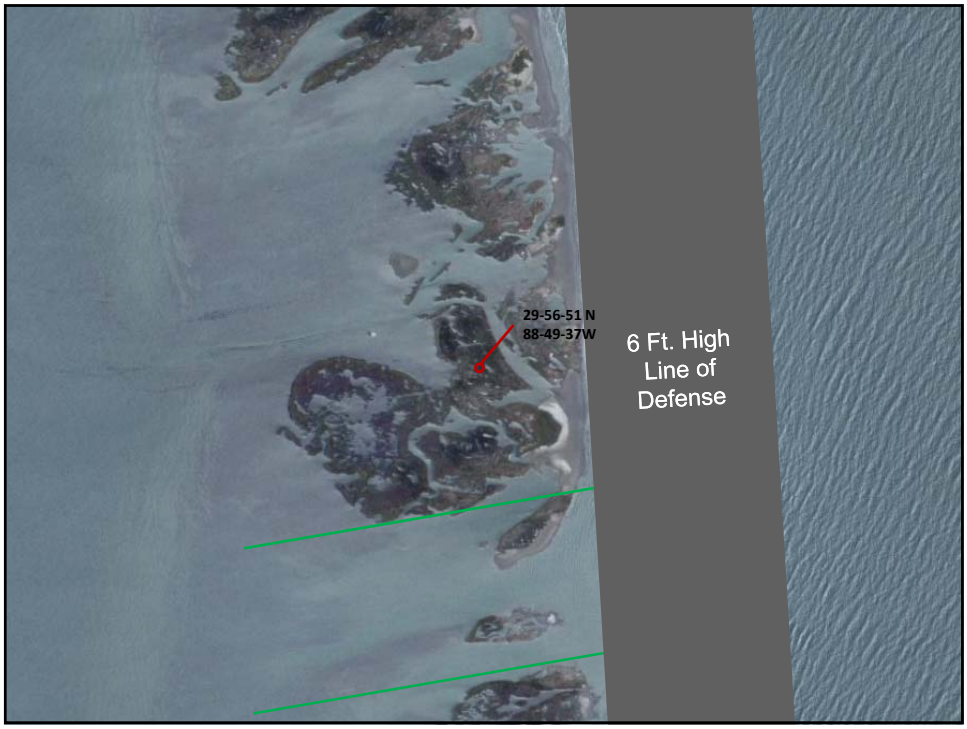
29-56-51 N
88-49-37W
6 Ft. High
Line of
Defense

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 28, 2010

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
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- 1 med CSD & spider barge loading scows
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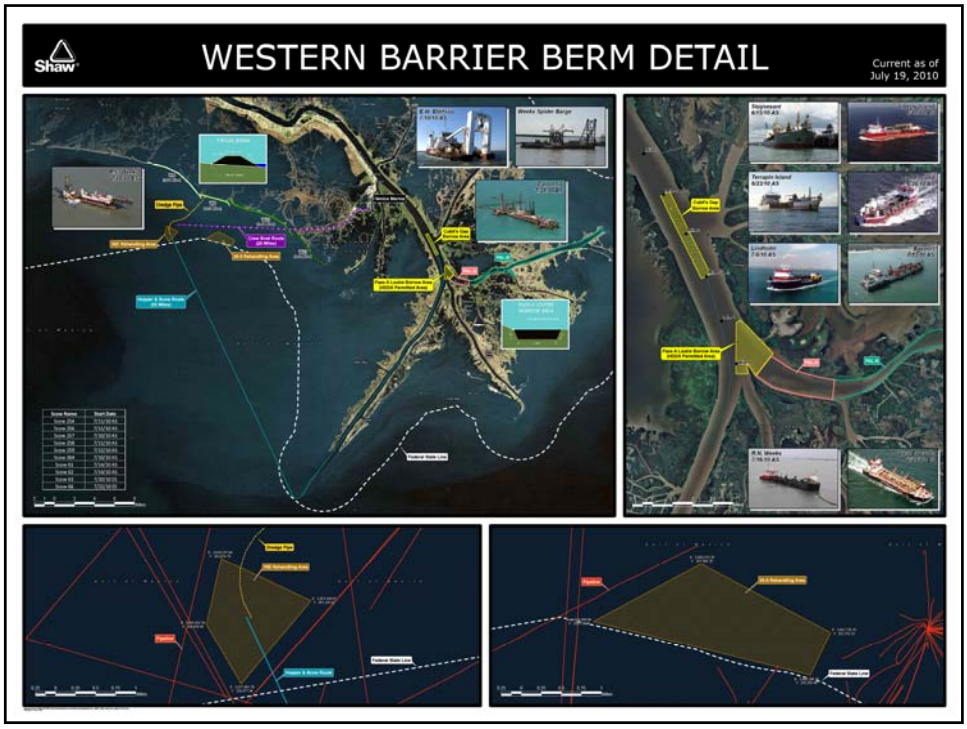
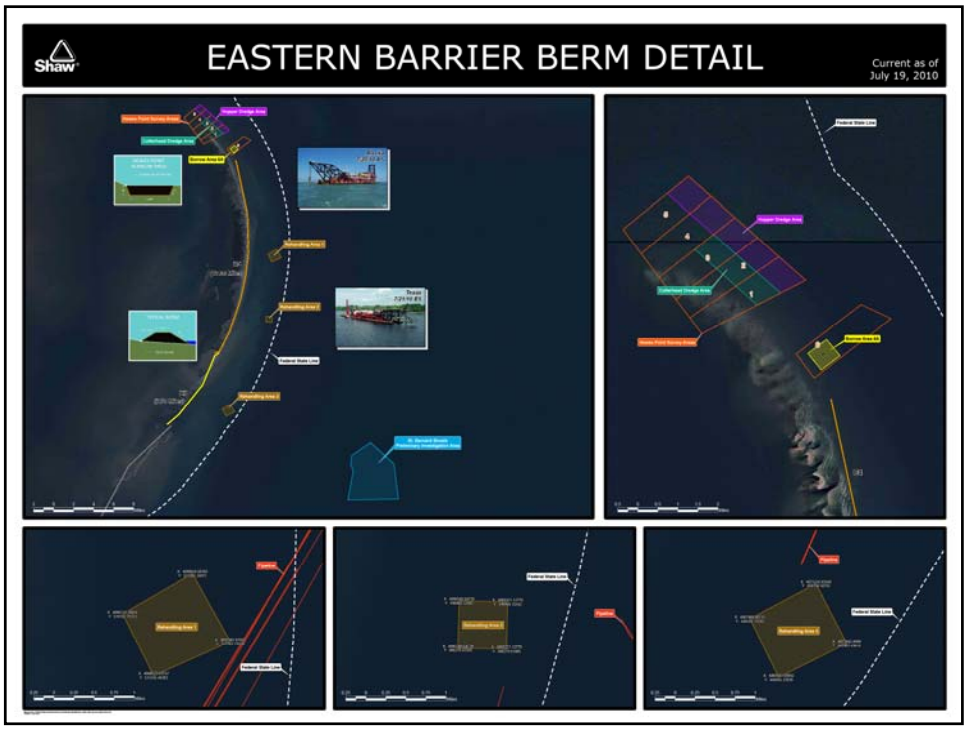

WESTERN BARRIER BERM DETAIL
Current as of
July 19, 2010


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.

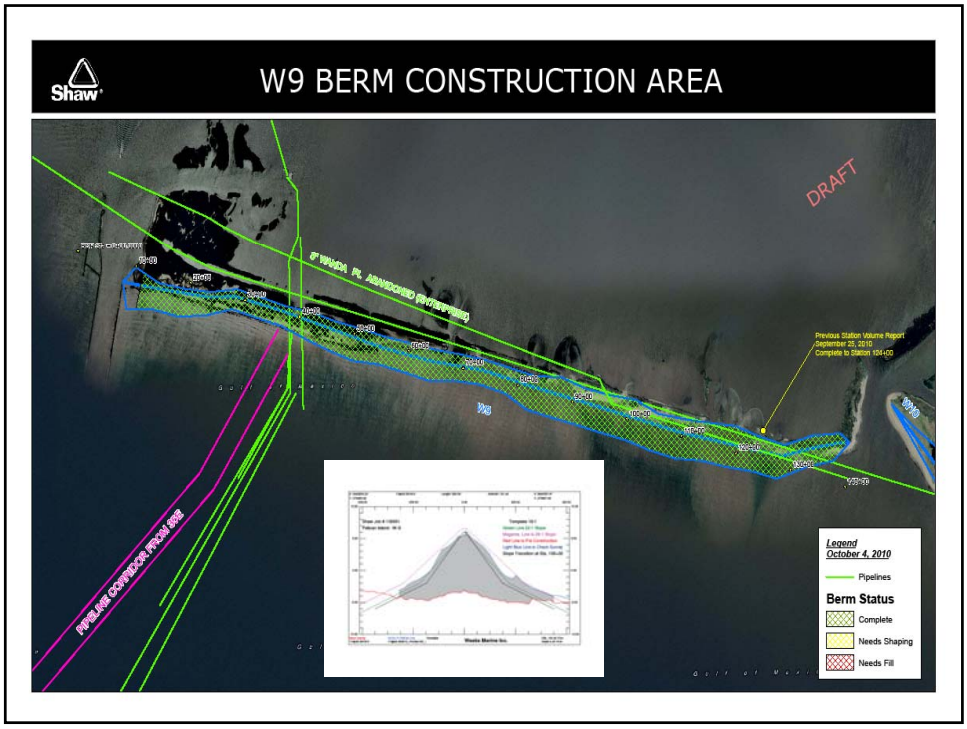
AP

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 13.5 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?