

A wide-angle photograph of a sunset over a body of water. The sun is low on the horizon, creating a bright orange and yellow glow that reflects on the water. The sky is filled with soft, colorful clouds in shades of pink, purple, and blue. In the distance, a long, narrow strip of land or a causeway extends across the water, with a small boat visible on it. The overall scene is serene and beautiful.

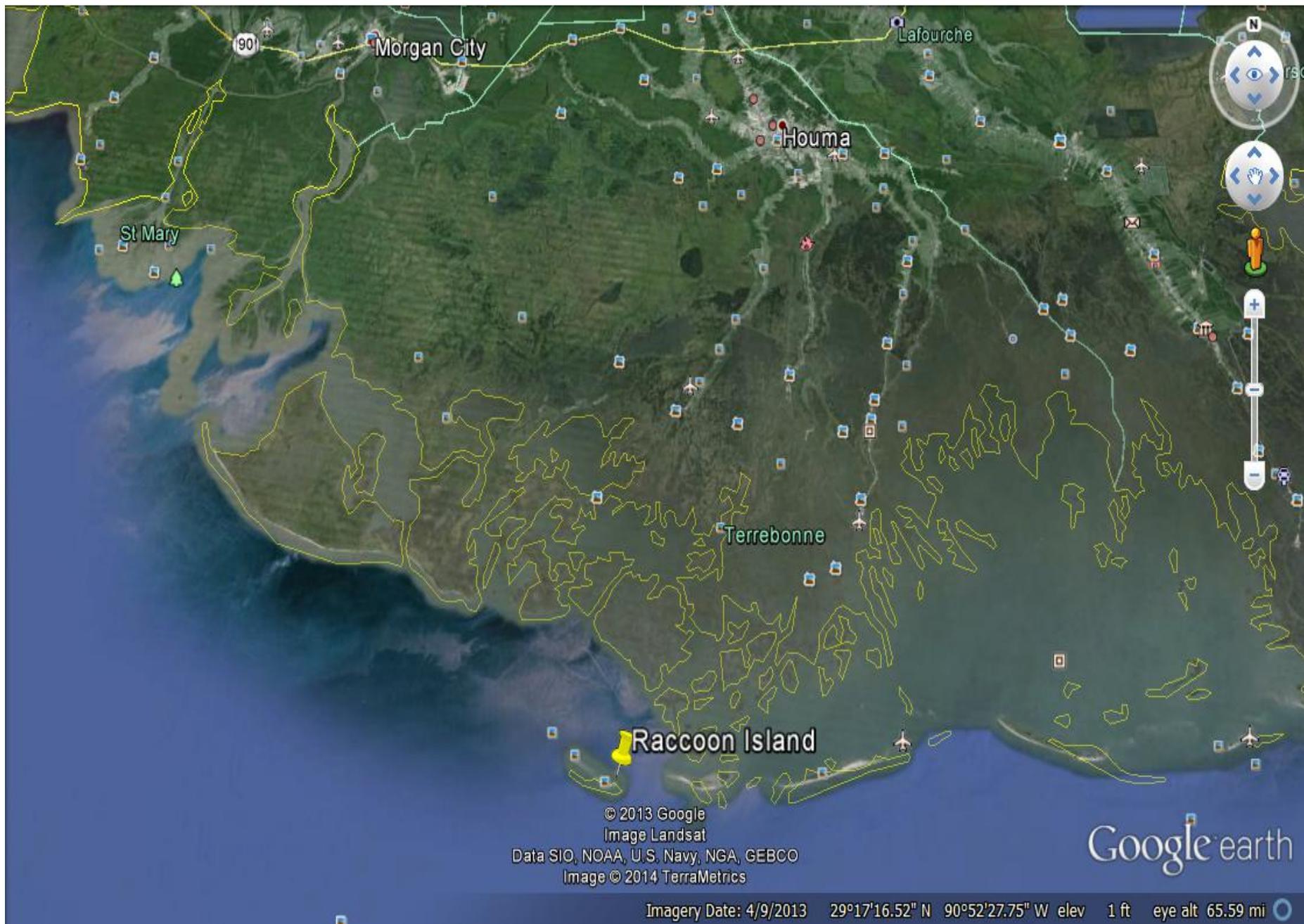
Raccoon Island
2013

Raccoon Island Marsh Creation Project

Terribonne Parish Louisiana

- Client:** Weeks Marine – general contractor
State of Louisiana USDA - Natural Resources Conservation Service (NRCS)
- Project Location:** located on the westernmost island within the Deernieres Barrier Island Refuge approximately 25 miles southwest of Cocodrie, La in the Gulf of Mexico.
- Objective:** This barrier island shoreline protection and marsh creation project was initiated to protect against tropical storms and provide additional space for the rookery an important nesting colony for the brown pelican and other species of colonial wading sea birds.

- Overview:** Build an approximately 58 acre containment area filled to elevation +3.0, berm heights maintained at elevation +4.0. An approximately 640,000 cubic yards of fill from an adjacent borrow area was used to place the fill in the containment area using a hydraulic dredge.
- IAI Scope:** To reconstruct and maintain the berm impacted by erosion, followed by installing geotextile tube wave and tide energy breaks along the length of the berm to prevent further damage.
- Time Period:** March – April 2013
- Crew Size:** 8 to 12
- Equipment:** (4) Marsh buggy excavators
(2) Deck barges, 80' & 120' long
Quarters barge with 18 ton deck crane
75 HP 8" electric submersible pump & jet ring
6" dry prime pump
200 kW generator



190

Morgan City

Lafourche

Houma

St. Mary

Terrebonne

Raccoon Island

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Image Landsat
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
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Google earth

Imagery Date: 4/9/2013 29°17'16.52" N 90°52'27.75" W elev 1 ft eye alt 65.59 mi



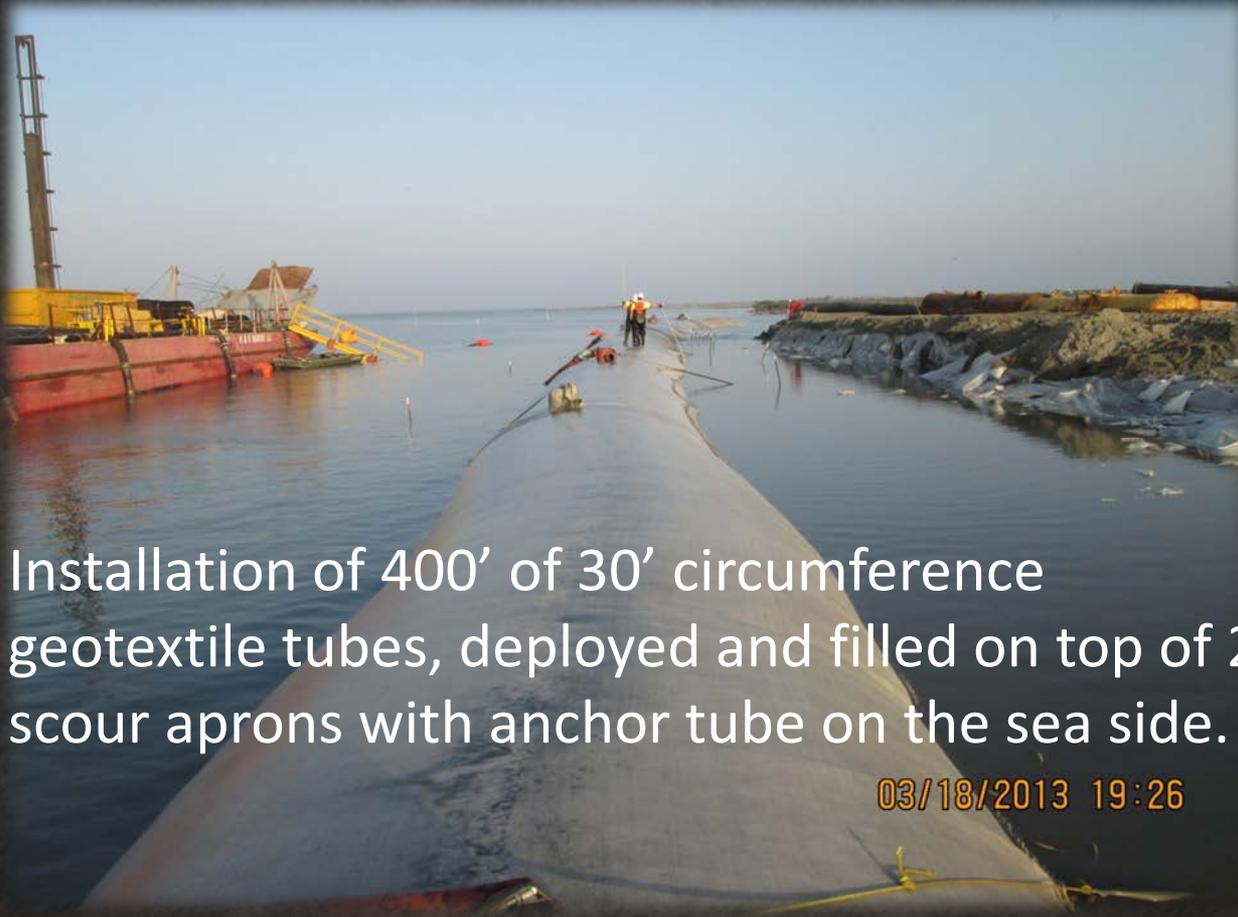
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Bayou Belle Photography*



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Phase 1



Installation of 400' of 30' circumference geotextile tubes, deployed and filled on top of 25' scour aprons with anchor tube on the sea side.

03/18/2013 19:26

Quarters barge loaded with supplies and equipment







Ramp barge used to store geotextile tubes and scour aprons
and as a working platform.

03/18/2013 19:24



Geotextile tube deployment and berm maintenance

03/16/2013 09:12



03/14/2013 10:08



03/14/2013 14:43



Borrow area adjacent to the length of the berm. 8' Toyo with jet ring used to perform the dredging.

03/14/2013 14:03



Geotextile tubes being filled



03/21/2013 10:22



03/18/2013 19:26



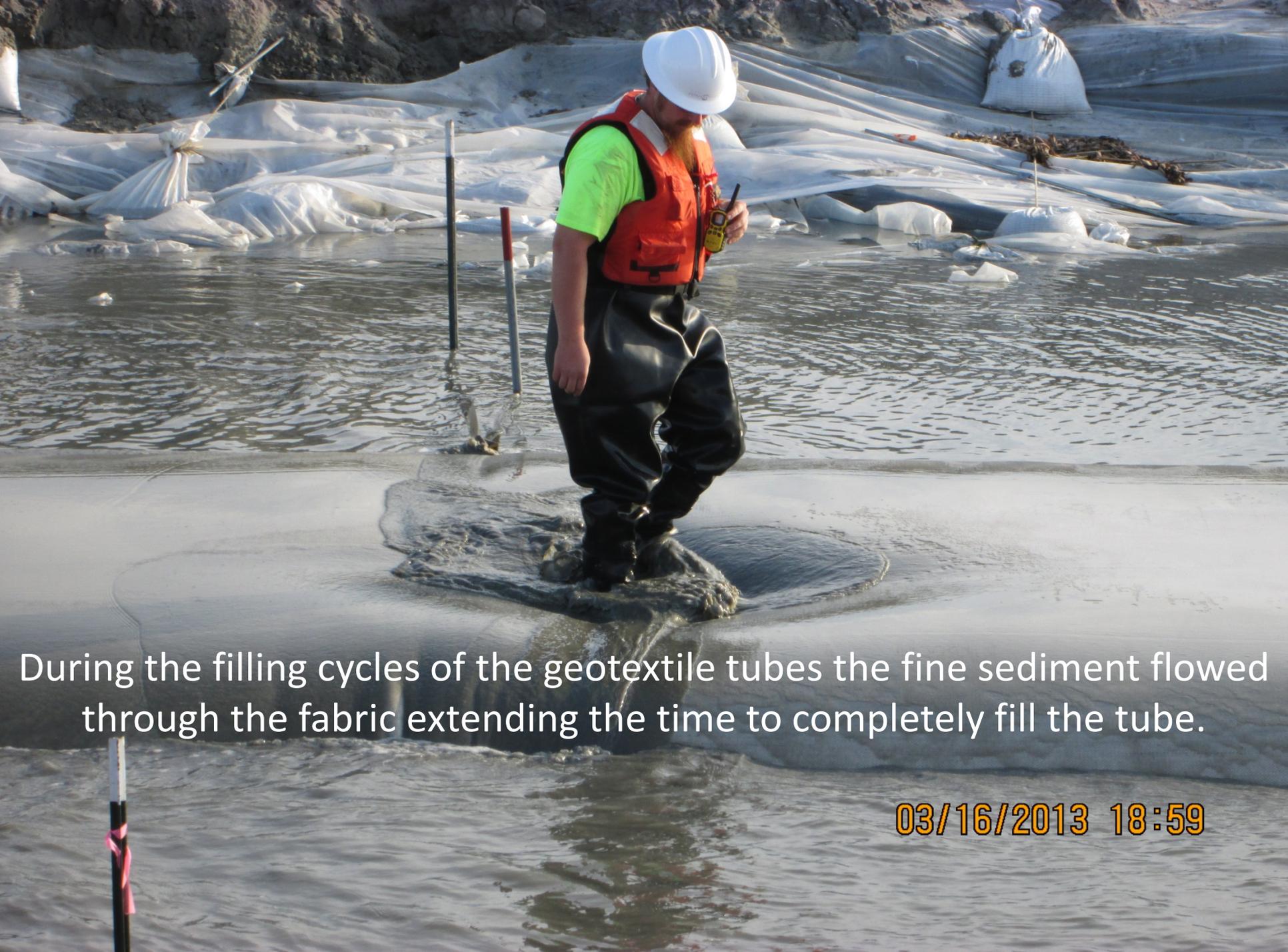
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Problems/Issues To Overcome





Extremely fine sand and clay



During the filling cycles of the geotextile tubes the fine sediment flowed through the fabric extending the time to completely fill the tube.

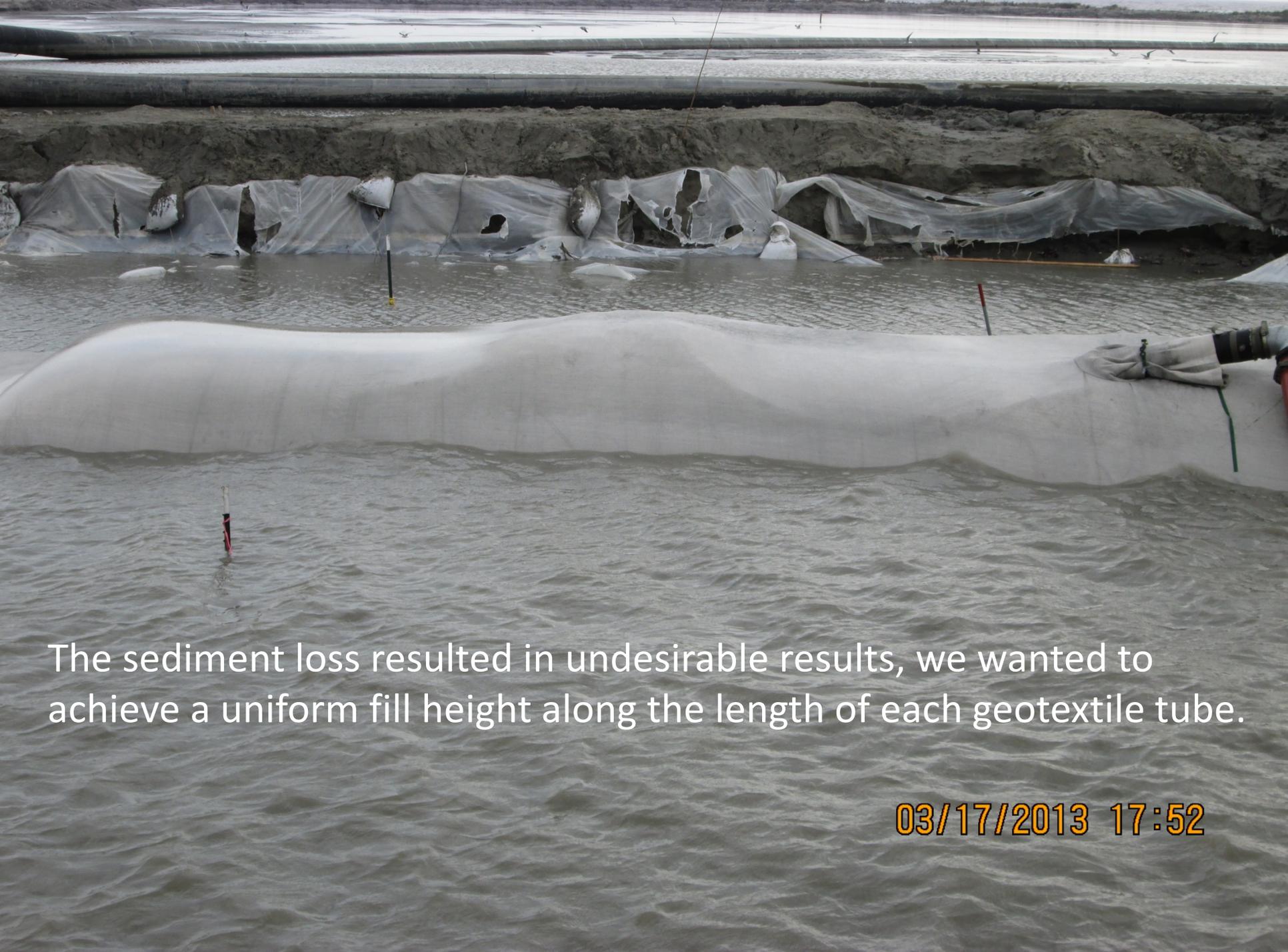
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03/16/2013 19:00



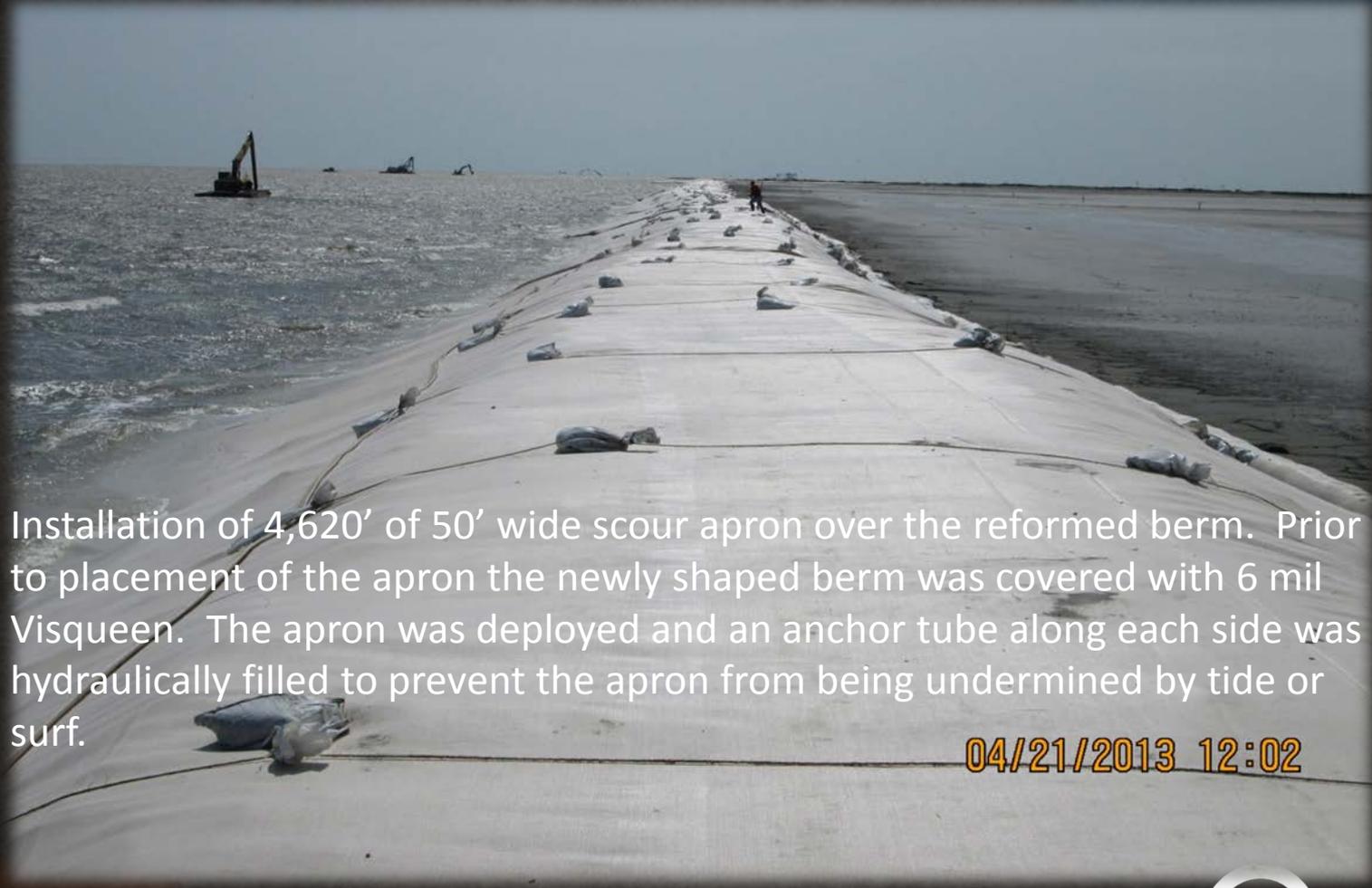
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The sediment loss resulted in undesirable results, we wanted to achieve a uniform fill height along the length of each geotextile tube.

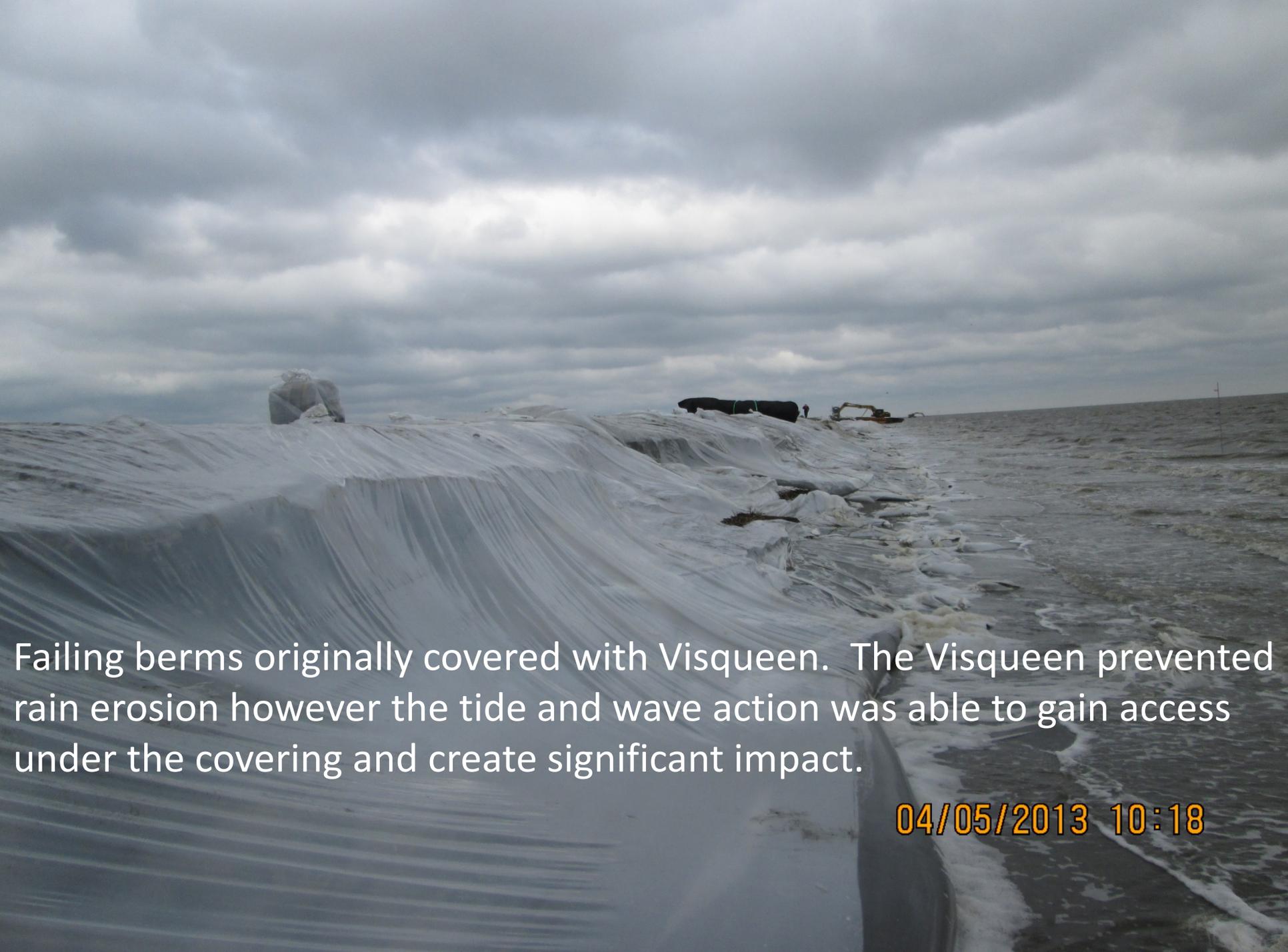
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Phase 2



Installation of 4,620' of 50' wide scour apron over the reformed berm. Prior to placement of the apron the newly shaped berm was covered with 6 mil Visqueen. The apron was deployed and an anchor tube along each side was hydraulically filled to prevent the apron from being undermined by tide or surf.

04/21/2013 12:02



Failing berms originally covered with Visqueen. The Visqueen prevented rain erosion however the tide and wave action was able to gain access under the covering and create significant impact.

04/05/2013 10:18



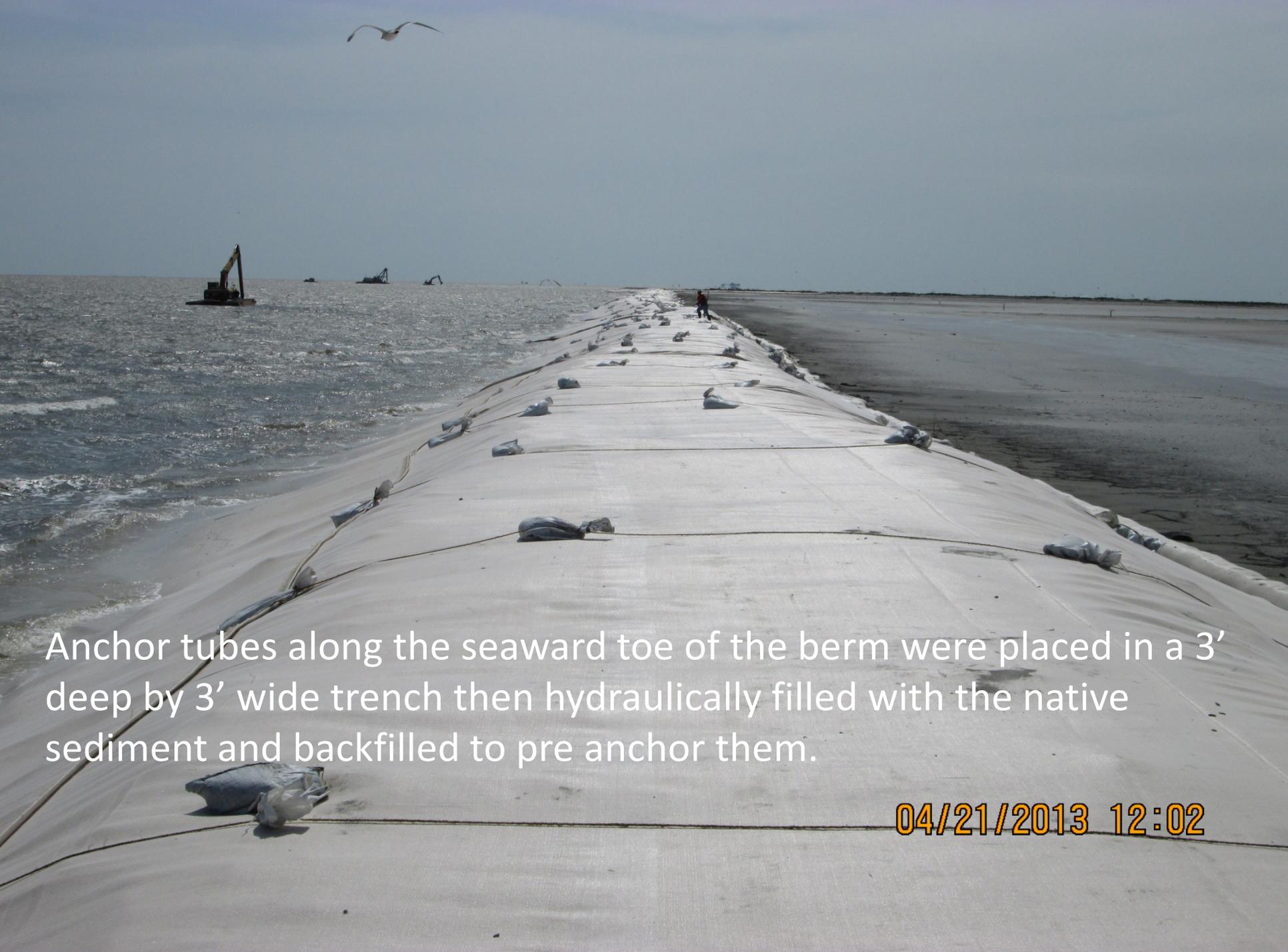


03/31/2013 14:45

A wide-angle photograph of a coastal area during sunset or sunrise. A large, white, rectangular scour apron is laid out on a flat, dark surface, possibly a beach or a tidal flat. The apron is held in place by numerous white sandbags or weights. The apron is field sewn together, with visible seams and a yellow rope tied to a corner. In the background, there is a line of green vegetation and a body of water. The sky is filled with many birds in flight, and the overall lighting is soft and golden.

The scour aprons were field sewn together

03/30/2013 19:52



Anchor tubes along the seaward toe of the berm were placed in a 3' deep by 3' wide trench then hydraulically filled with the native sediment and backfilled to pre anchor them.

04/21/2013 12:02



04/21/2013 12:03



After IAI had completed our portion of the project additional project scope required planting vegetation which was performed by others however the berms continued to hold up well with this system.







The End

