Gulf Intracoastal Waterway Bank Stabilization Efforts on the Upper Texas Coast

Photo from arsheffield/flickr.com

A collaborative effort to protect our coastal wetlands

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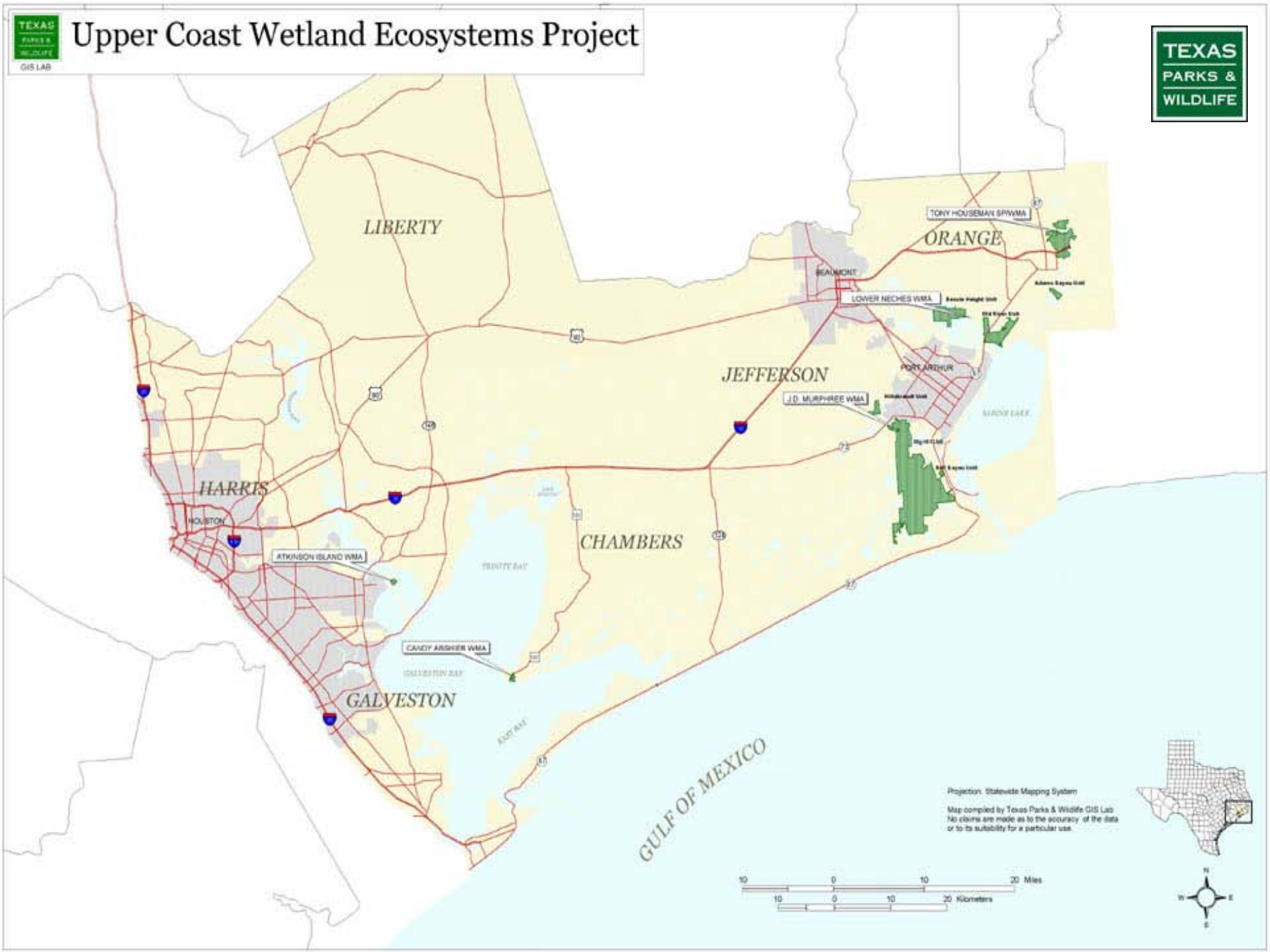
Upper Coast Wetland Ecosystems Project



GIWW

- 423 miles in TX
- Nation's 3rd busiest waterway
- TX handles 58% of total traffic ($25B)
- 125' wide x 12'deep (maintained)

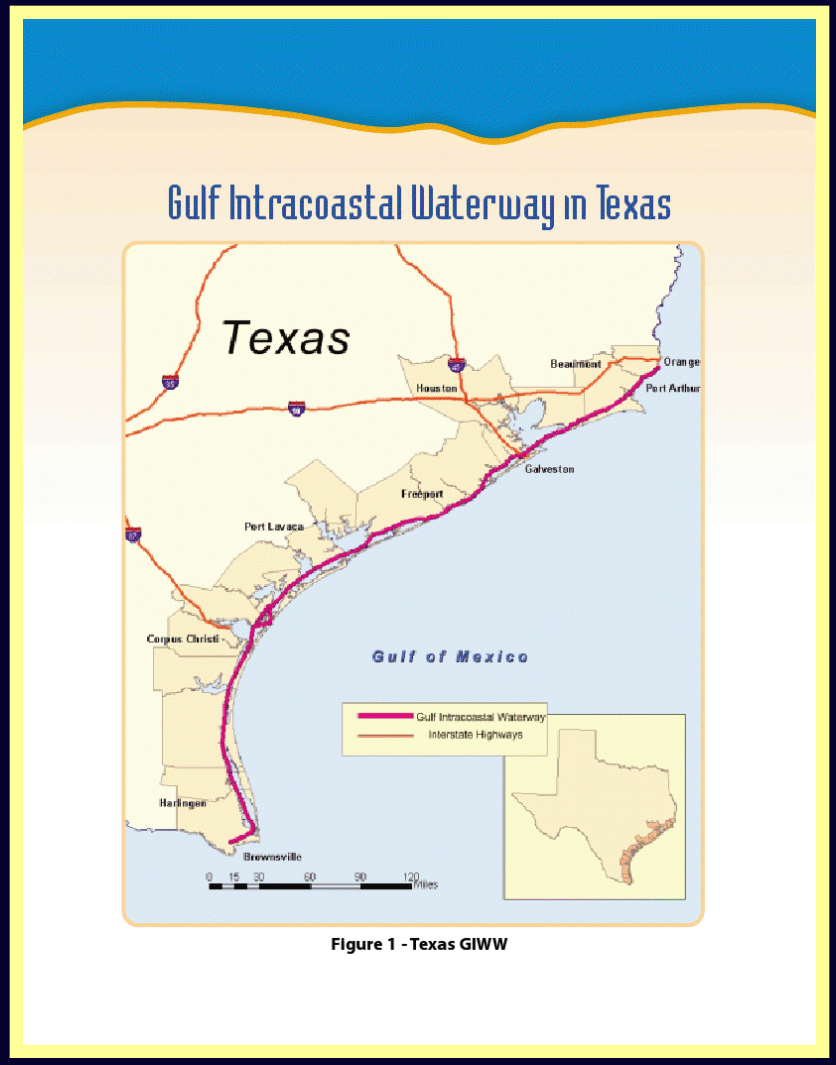
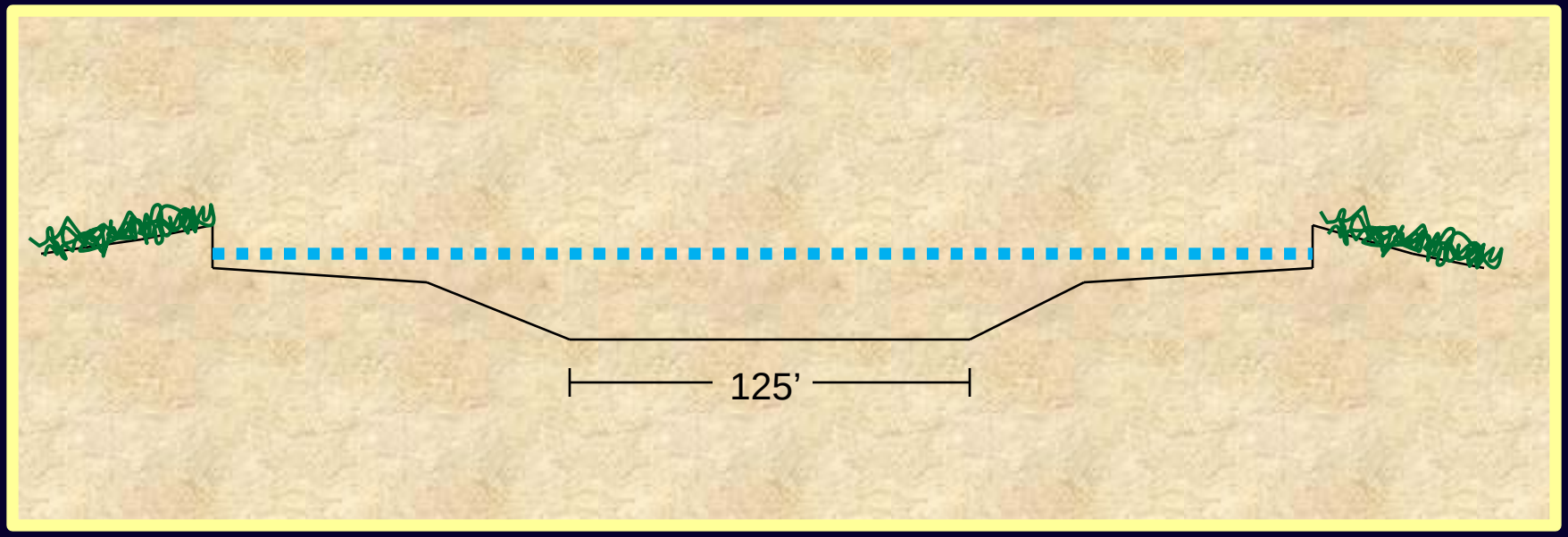


Figure 1 - Texas GIWW

GIWW

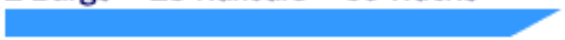
- Marsh loss
- Marsh degradation
- Marsh conversion
- Cut bank erosion

GIWW cross section



Capacity Compared

1 Barge = 15 Railcars = 60 Trucks

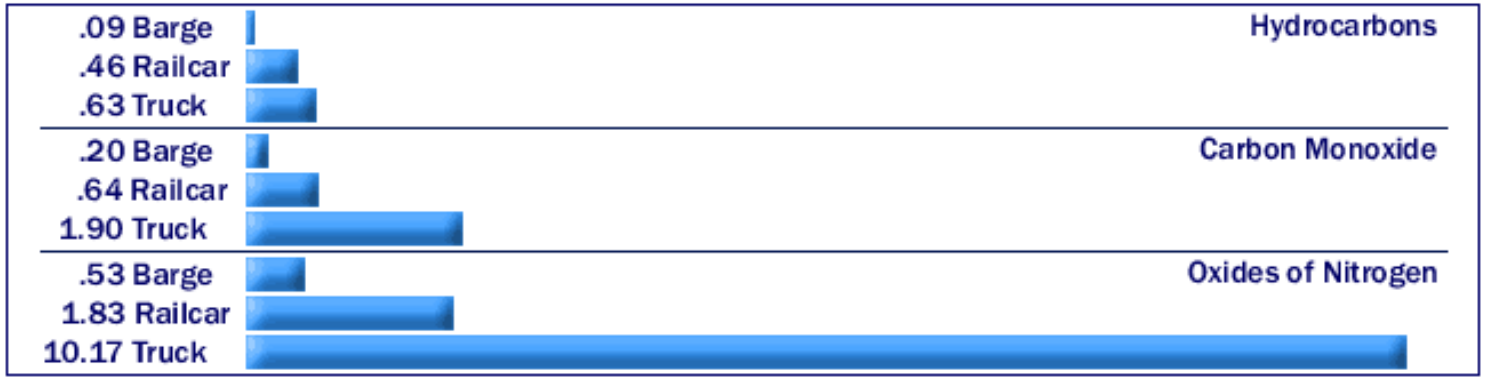


Barges mean:

- Less congestion
- Hazardous cargo is kept far from densely-populated areas
- Lower probability for accidents

Barges go the extra miles! *Distance one gallon of fuel carries one ton of cargo*

Barges Produce Less Pollution *Pounds produced to move one ton of cargo 1000 miles*



A Good Idea

CWPPRA (Breaux Act)

⬇

GIWW in LA

⬇

Texas NWRs

⬇

Texas WMAs

Hurricane Season 2005

- Hurricane Rita
- Increased erosion
- NFWF Grant
- Available $

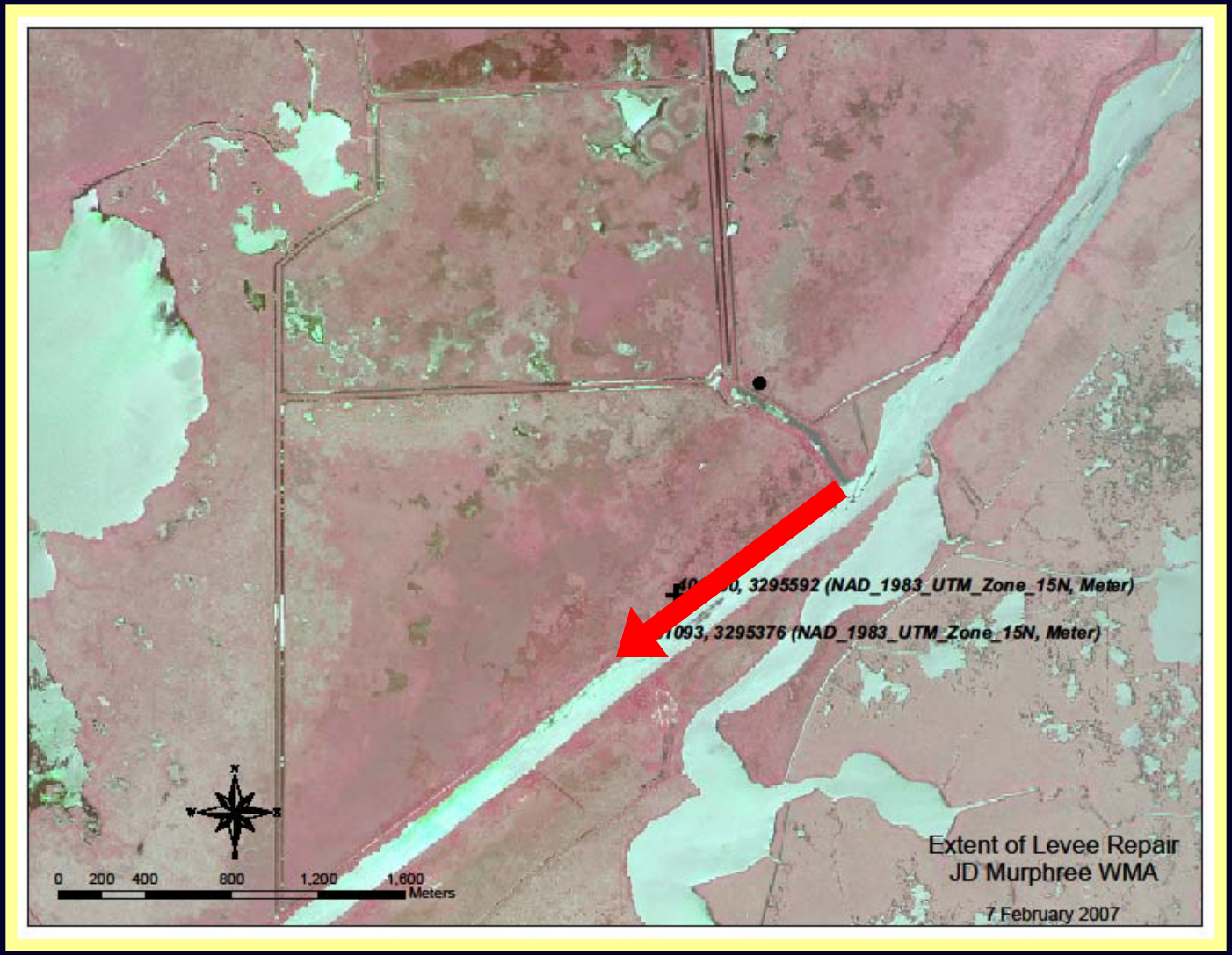
Planning Partners

- NFWF
- McFaddin NWR
  - experience
- USFWS Coastal Program
- Ducks Unlimited
  - Survey, design, $ delivery
- Army Corps of Engineers

Original plan

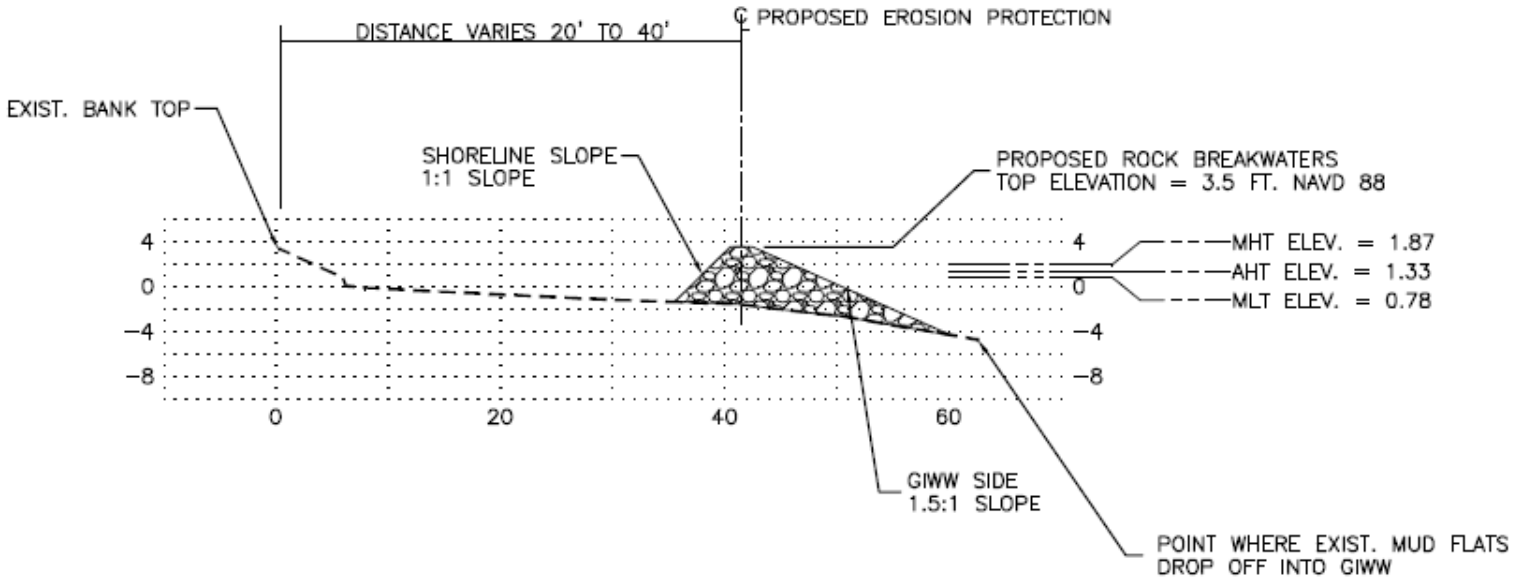
- Highest priority
- breaches
- 1800 acres
- 1500 feet

Revised plan



Original Design

NOTE: BREAKWATERS WILL HAVE A SHORELINE SIDE SLOPE OF 1 TO 1 AND A 1.5 TO 1 SIDE SLOPE ON THE GIWW SIDE. THE CROWN WILL HAVE A WIDTH OF 2 FEET. ROCK WILL BE 18 INCH GRADED ROCK PLACED TO ENSURE NO LARGE OUTCROPPINGS OCCUR. TOP ELEVATION OF THE BREAKWATER WILL BE +3.5 NAVD. EACH END OF THE BREAKWATER WILL BE TIED TO THE SHORELINE WITH A 25 FOOT SEGMENT OF RIP RAP BUILT ACCORDING TO SPECIFICATIONS USING RIP RAP FOR PROTECTION.



TYPICAL CROSS SECTION FOR ROCK BREAKWATERS

NOT TO SCALE

NOTE: ALL ELEVATIONS ARE NAVD 88

Construction

- Luhr Bros.
- Availability
- Placement
- 2700 linear ft.

Process

- High water
- Elevation
- Monitoring
- $185 / linear ft.

Phase 2

- NAWCA
- Updated design
- Additional 2100’
- $119 / linear ft.

Future

- CIAP / NAWCA
- Remainder of C-9 GIWW bank
- Entire south bank

Cooperators

Questions?