

Great Lakes Navigation System

Buffalo District

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US Army Corps of Engineers
BUILDING STRONG®



Key FY16/17 Buffalo District O&M Activities

- *2.35M CY of dredging*
- Dredged material management
- Structure repair with government plant at Cleveland, Toledo, and Conneaut in 2016; Cleveland, Ashtabula, and Buffalo (CDF maintenance) in 2017
- Structure Repair by contract at Cleveland, Lorain, Fairport, and Port Clinton Harbors using Sandy Supplemental funds
- CDF maintenance at Buffalo Harbor



Dredging Projects

2016

- Toledo
- Sandusky
- Huron
- Cleveland
- Conneaut
- Erie
- Rochester
- Oswego

2017

- Toledo
- Sandusky
- Cleveland
- Ashtabula
- Buffalo
- Fairport



Project highlights

- Cleveland East Breakwater: On-going repair of 4,400 linear feet of the Cleveland Harbor East Breakwater Dolosse structures damaged by Hurricane Sandy.
- Buffalo CDF #4: on-going repair of the lakeside stone dike to ensure continued performance and structural integrity of a structure subject to extreme wave action





USACE-Buffalo District Storyboard

Who: SAF, Inc.

What: Buffalo CDF 4 Dike Repair
Contract No. W912P4-14-D-0009 0001

When: SEP 2015 – NOV 2016

Where: Buffalo Confined Disposal Facility #4, Buffalo, NY.

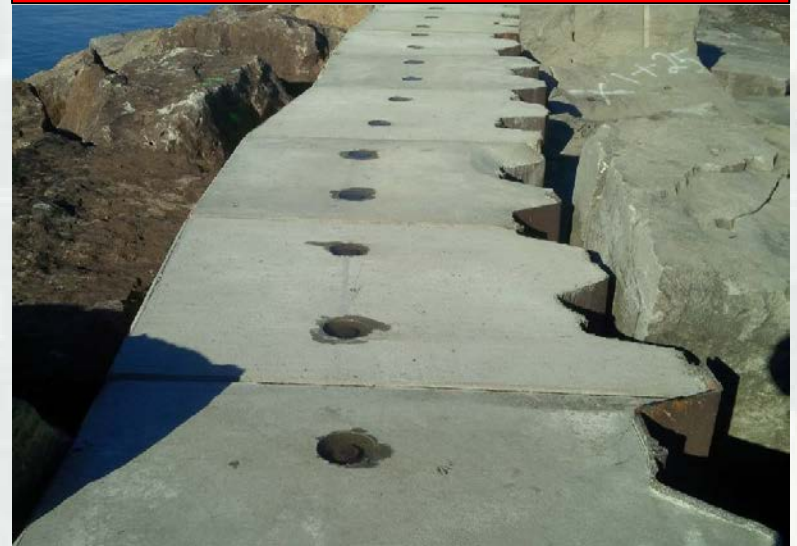
Why: Improve the structural integrity of the lakeside stone dike by repurposing existing armor stone downslope, adding additional grouted and non-grouted stone underlayers, casting concrete blocks at the crest, and placing new armor stone on the lakeside crest.



Looking down dike wall, showing finished concrete blocks and new blocks being poured.



Looking toward shore, showing old armor removed and underlayer installed. Further out you can see that the underlayer has been grouted.



Finished reach with new armor stone placed on lakeside of the crest. At the end of the 2015 construction season the repair will be 33% completed.



USACE-Buffalo District Storyboard

The ribbon cutting ceremony for the \$18.9 million detached breakwater repair at Oswego, NY was held on the 25th of November to highlight the project's successful completion. The breakwater received extensive damage from the oversized waves and extreme angle hitting the structure from Hurricane Sandy in 2012, thus requiring this critical structure's repair. Nine hundred and seventy three 16-Ton dolosse and unusually large armor stone (up to 20-Ton) were used for the 1,050 linear foot repair. Armor stone material was railed from the Jamesville Quarry, NY and the Rock of Ages Quarry, VT.

The contractor, Durocher Marine Division / Kokosing Construction Company, worked vigilantly to repair the exposed and submerged breakwater using a combination of armor stones and dolosse. All together they placed 973 dolosse, 51,863 tons of armor stone, 40,316 tons of underlayer stone, and 13,068 tons of bedding stone, and completing the project 12 months ahead of schedule.

The ceremony was attended by U.S. Congressman John Katko, U.S. Senator Charles Schumer representative, City of Oswego Mayor Thomas W. Gillen, Port of Oswego Chairman Terrence Hammill.



Ribbon Cutting Ceremony



Finished Project with Dolosse at Western End



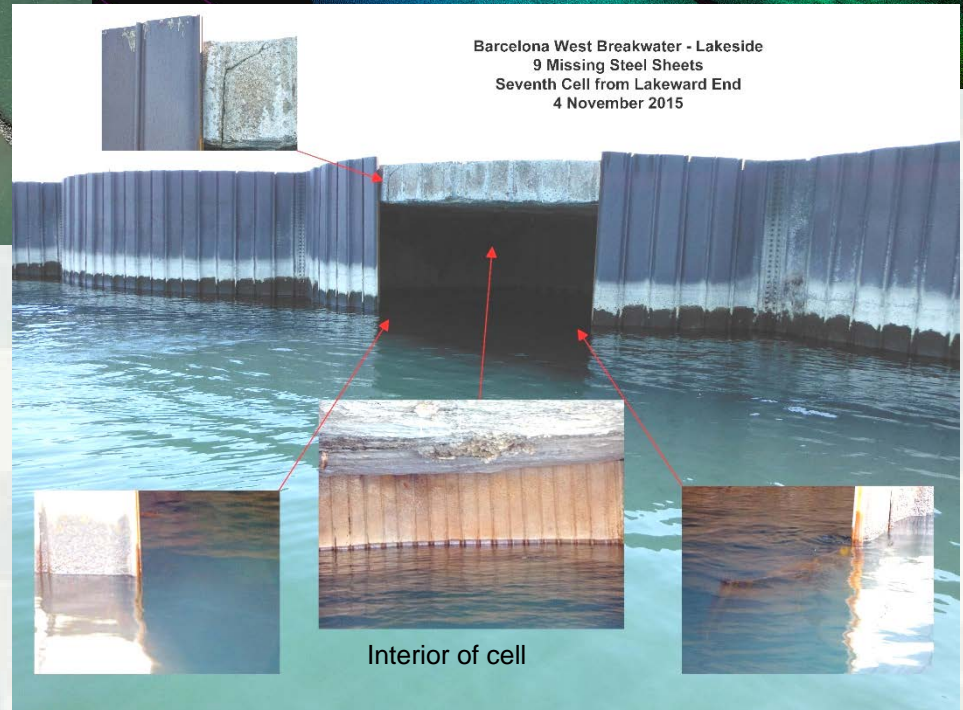
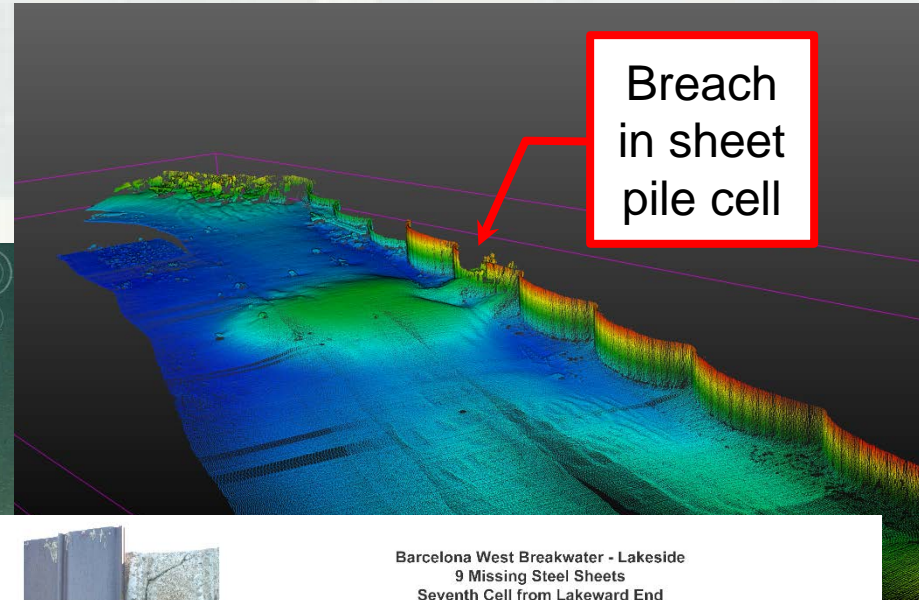
Finished Project with View of Eastern End



USACE-Buffalo District Storyboard

Barcelona Harbor, NY

Cellular sheet pile failure was caused by storms of 29 OCT – 02 NOV.
Complete loss of internal fill down to water line left the concrete cap suspended only by edge friction. LRB staff mobilized on 04 NOV, assessed the structure condition, and closed the structure to public access due to danger of collapse. A request for emergency repair funds is being prepared.





Barcelona Harbor, NY

Cellular sheet pile failure worsened during the storm of 12–13 NOV. LRB staff made a site visit on 16 NOV to document the additional damage and consult with local stakeholders. Complete loss of the lake side sheet pile and the concrete cap occurred. The harbor side sheet pile was severely damaged and the cell effectively no longer exists. Sheet pile has separated from the landward adjacent cell and it appears that there is a void of approximately 3' depth below the concrete cap of that cell. Another storm with winds of up to 50 mph is predicted for 18 NOV. An additional site survey will be conducted to determine if the damage from this storm effects the adjacent cells.



Previously damaged cell is now completely missing



Separated sheet pile and missing fill at adjacent cell