



US Army Corps
of Engineers®
Buffalo District



New York and Ohio Harbors Superstorm Sandy - Navigation Structure Repair

Appropriation Category: Operations and Maintenance (O&M)

Current Condition: Navigation structures at five (5) deep-draft commercial harbors are in need of non-routine maintenance repairs. Superstorm Sandy caused significant damage to several navigation structures; dislodging and fracturing armor stone, exposing interior core stone (leaving the structures vulnerable to accelerated damage in subsequent events), and causing a loss of crest height and width in some locations. Failure to repair the damaged structures will result in further degradation; increased future maintenance costs; and increased wave climate within the impacted harbors which could lead to increased transportation costs for commercial users, unsafe conditions for recreational users and increased potential for damage to shoreline structures. Repairs to the damaged structures are scheduled to be completed in 2016.

Background: On October 30, 2012, Superstorm Sandy passed through the Lakes Erie and Ontario with high winds, waves and rainfall far exceeding typical storm events. Offshore wave heights exceeded the estimated 100-year wave heights in some locations resulting in increased loading and accelerated damage to navigation structures at the five (5) harbors shown on the map. Post storm project inspections have confirmed the presence of additional deterioration and defined the limits of the damaged areas. A list of structures with the estimated lengths of required repairs is provided below.

- Cleveland Harbor, OH - East Breakwater - 2200 LF
- Cleveland Harbor, OH - East Breakwater, East End (Dolosse) - 3200 LF
- Cleveland Harbor, OH - East Arrowhead - 1250 LF
- Cleveland Harbor, OH - West Arrowhead - 150 LF
- Lorain Harbor, OH - East Breakwater - 2000 LF
- Erie Harbor, PA - South Pier - 65 LF
- Fairport Harbor, OH – East Breakwater - 2300 LF
- Oswego Harbor, NY - Detached Breakwater - 2400 LF

Significance: Deep draft commercial harbors provide significant economic and environmental benefits to the locality, the region, the Great Lakes and the Nation. Great Lakes ports are part of an overall system that competes against other modes of transportation that are less economically viable and far less environmentally sustainable. When smaller commercial ports and harbors are closed due to lack of dredging funds, it ultimately affects all harbors in the system. Commodities transported on the Great Lakes navigation system represent 10 percent of all U.S. waterborne domestic traffic. Navigation structures are a critical component of the harbors. The structures safeguard navigation activities in the harbors by providing vessels protection from storm surges, waves and ice. In addition, all of the harbors serve as designated harbors of refuge; with the purpose of providing refuge to water crafts during severe lake storms.

February 2015



Work Package	Estimated Federal Cost	Federal Funding through FY15	FY16 Requirement
Cleveland Harbor, OH East Breakwater-Dolosse	36,847	36,847	0
Cleveland Harbor, OH East Breakwater	7,034	7,034	0
Cleveland Harbor, OH E&W Arrowheads	6,160	6,160	0
Erie Harbor, South Pier Repair	1,184	1,184	0
Fairport Harbor, OH East Breakwater Repair	10,100	309	9,791
Lorain Harbor, OH Breakwater Repair	9,276	9,276	0
Lorain Harbor, OH CDF Maintenance	211	211	0
Oswego Harbor, NY Breakwaters	27,641	27,641	0
Port Clinton Harbor, OH Jetty Repair	TBD	50	TBD*
TOTAL	98,453	88,712	9,791*

Congressional Interests:

New York

- Representative Elsie Stefanik R-NY-21
- Representative Richard Hanna D-NY-22
- Representative Tom Reed R-NY-23
- Representative John Katko R-NY-24
- Representative Louise Slaughter D-NY-25
- Representative Brian Higgins D-NY-26
- Representative Chris Collins R-NY-27
- Senator Charles Schumer D-NY
- Senator Kirsten Gillibrand D-NY

Pennsylvania

- Representative Mike Kelly R-PA-3
- Senator Patrick J. Toomey R-PA
- Senator Robert P. Casey Jr. D-PA

Ohio

- Representative Robert E. Latta R-OH-5
- Representative Marcy Kaptur D-OH-9
- Representative Marcia Fudge D-OH-11
- Representative David Joyce R-OH-14
- Senator Rob Portman R-OH
- Senator Sherrod Brown D-OH