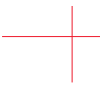




# Randle Reef



Piling

Hamilton, ON

## + Project snapshot

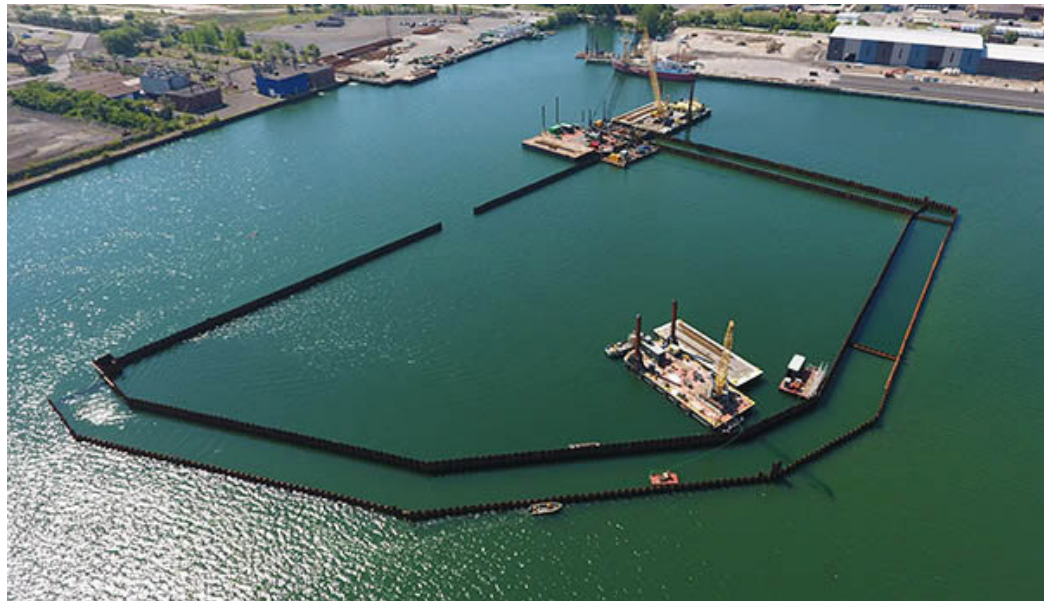
- \$139-million project
- Most contaminated site in the Great Lakes
- 60 hectares (120 football fields) in size
- 695,000 cubic meters of contaminated sediment
- 1,600 pairs of sheet piles, each with an average length of 24m

## + Project description

At the western end of Lake Ontario lies Hamilton Harbour, a busy port that has over a century served shipping and heavy industry in the Great Lakes. Randle Reef is one of the most contaminated sites in the Great Lakes, the site is approximately 60 hectares (120 football fields) in size and contains approximately 695,000 cubic meters of contaminated sediment. As part of a \$139-million project, Randle Reef is in the process of being remediated. The centrepiece of this work is an enclosure that will surround the worst of the pollution, then be filled with dredged sediment from around it. Soletanche Bachy Canada (SB Canada) was contracted for the marine installation of the enclosure.

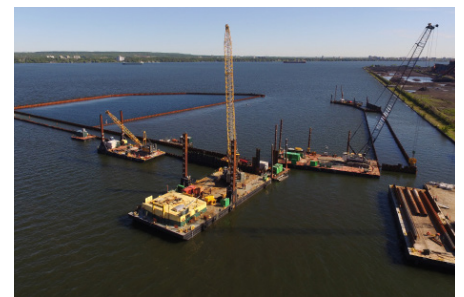
## + Ground conditions

The site conditions on this project were less than ideal, working on the water comes with its own set of challenges. Sb Canada drove piles from barges anchored offshore. The location means all necessary tools and equipment have to be stored on the barges – there's no quick trip back to the yard if anything gets missed. In addition, Lake Ontario doesn't experience heavy swells like one might experience on the ocean, there are other weather factors to be considered. The biggest challenge working on the water is the wind – when picking up material that is upwards of a hundred feet long it can act like a big sail.



**Owner**  
Public Works and Government Services Canada  
**Consultant**  
Riggs Engineering  
**General contractor**  
McNally Construction

**Bermingham personnel**  
Jeff Thomson  
**Period of work**  
April 2016 – October 2017



## + Innovative solutions

This project showcased SB Canada's expertise working in a marine environment. SB Canada relied on its own in-house Berminghammer B-5505 diesel hammers equipped with sheeting legs to get the pile to grade. Crews set the face wall and structural piles with larger vibratory hammers, and then use the diesel hammers to get the sheets to grade. SB Canada had to do some fancy

footwork with its falsework. "We can't put in excessive amounts of falsework because that would disturb the lakebed material. So, we actually implemented a floating template system," Jeff Thomson explained. "We mounted our falsework onto a smaller sectional barge and held that in place with temporary spuds. We can move it along the length of the wall as we install it. That limits the amount of disturbance."

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