

CASE STUDY

Elk Street Bulkhead Wall

Buffalo, New York

HISTORY

As early as 1880, the Buffalo River area around Elk Street in Buffalo, NY was being used for petroleum refinement. When Standard Oil, a predecessor of MobilExxon, purchased the property in 1892, they began refining petroleum products in earnest.

Fast forward to 1981, when the oil refinery shut down and the site was used as a distribution terminal that took in oil products through a pipeline and barges until 2005 when it was shut down completely.

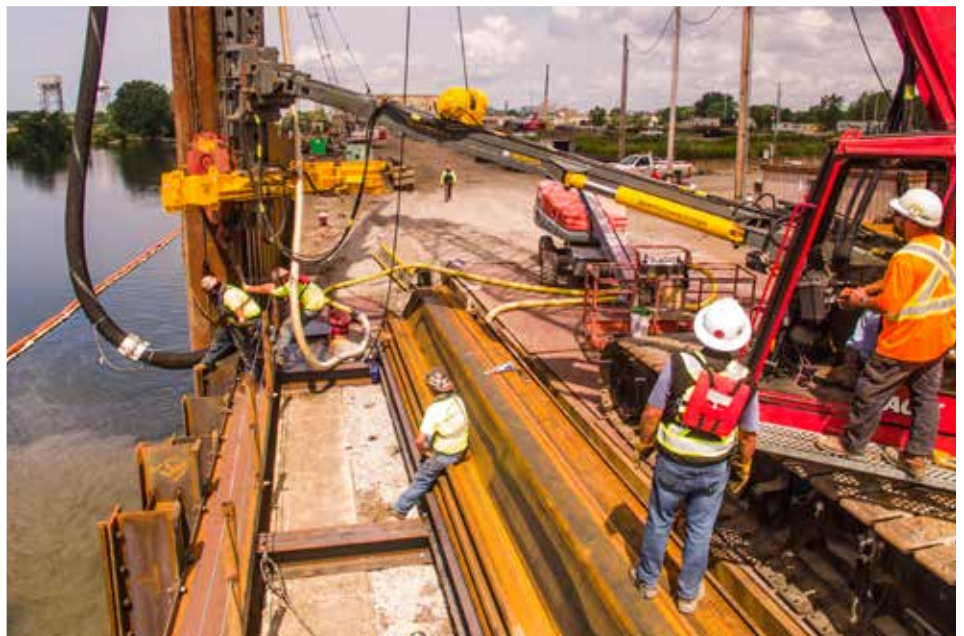
PROBLEM

Krog Group wanted to purchase the long-discarded oil refinery land and build a new industrial park on the property, but first, remediation paid for by ExxonMobil had to be done. As we know from previous oil refinery sites, oil leaches into the soils surrounding the plant and tank farms and eventually makes its way into the waterways. Because this refinery sat directly on the Buffalo River, the affected soil needed to be removed and the property contained.

The water portion of the site also held environmental concerns as well as the remnants of previous timber walls and their tie backs. This portion of the project was extremely challenging given the constraints of working on water with tide changes of 7-8 feet.

SOLUTION

Ferraro Pile & Shoring was awarded the contract for the containment of oil in the soil surrounding the previous oil refinery and tank farms from leaching into the Buffalo River. Working with the engineer of record, Wood Group, Ferraro reached out to Nucor Skyline



CASE STUDY**Elk Street Bulkhead Wall****PROJECT PARTNERS:**

Owner: Elk Street Commerce Park, LLC.,
– Buffalo, NY

General Contractor: Ferraro Pile &
Shoring, Inc., – Alden, NY

Engineer: Wood Group USA, Inc. –
Houston, TX

PRODUCTS:

Pipe Pile: 36" OD x 1" Gr 65 king piles
(300 tons)

Sheet Pile:
SKZ 31 Gr 50 and SKZ 38 Gr 66 (925 tons);
NZ 19 Gr 60 (225 ton)

Other: Larssen weld-on connectors for
36" king piles (4,800 lf), 24" interior king
pile supports (140 tons), 5 ½" and 6 ¾"
guide pipes and 3.5" and 4.5" smooth bar
toe pins (22,000 lf)

PROJECT TIME FRAME

July 2018 to February 2019



and their experienced team of engineers.

The king pile wall that was designed to hold back the contamination is comprised of 36" king piles, connected to SKZ 31, SKZ 38, and NZ 19 sheet piles. The 36" king piles would have interior supports of 24" pipe piles and the SKZ sheeting would have guide pipes and toe pins attached for ease of installation.

Nucor Skyline produced the 36" x 1" OD pipe piles that were used as king piles in their Longview, WA facility. The Larssen weld-on connectors for the sheet piles were attached there as well. All other products were fabricated at Nucor Skyline's Morrisville, PA

facility. The Nucor Skyline sheet piling had to be seal welded to assure water tightness. Dura-Bond Steel, of Export, PA, was able to set up a jig/bracing system which held the sheet pile pairs to the same width during the seal welding process. This allowed Ferraro to adjust their template, spacing their king piles correctly for the seal-welded pair of sheets.

The project was a success, with Nucor Skyline able to deliver the fabricated king pile pipes with connectors within tolerance and promptly. The sheet pile and toe pins were all delivered ahead of schedule, making a smooth driving and installation process.