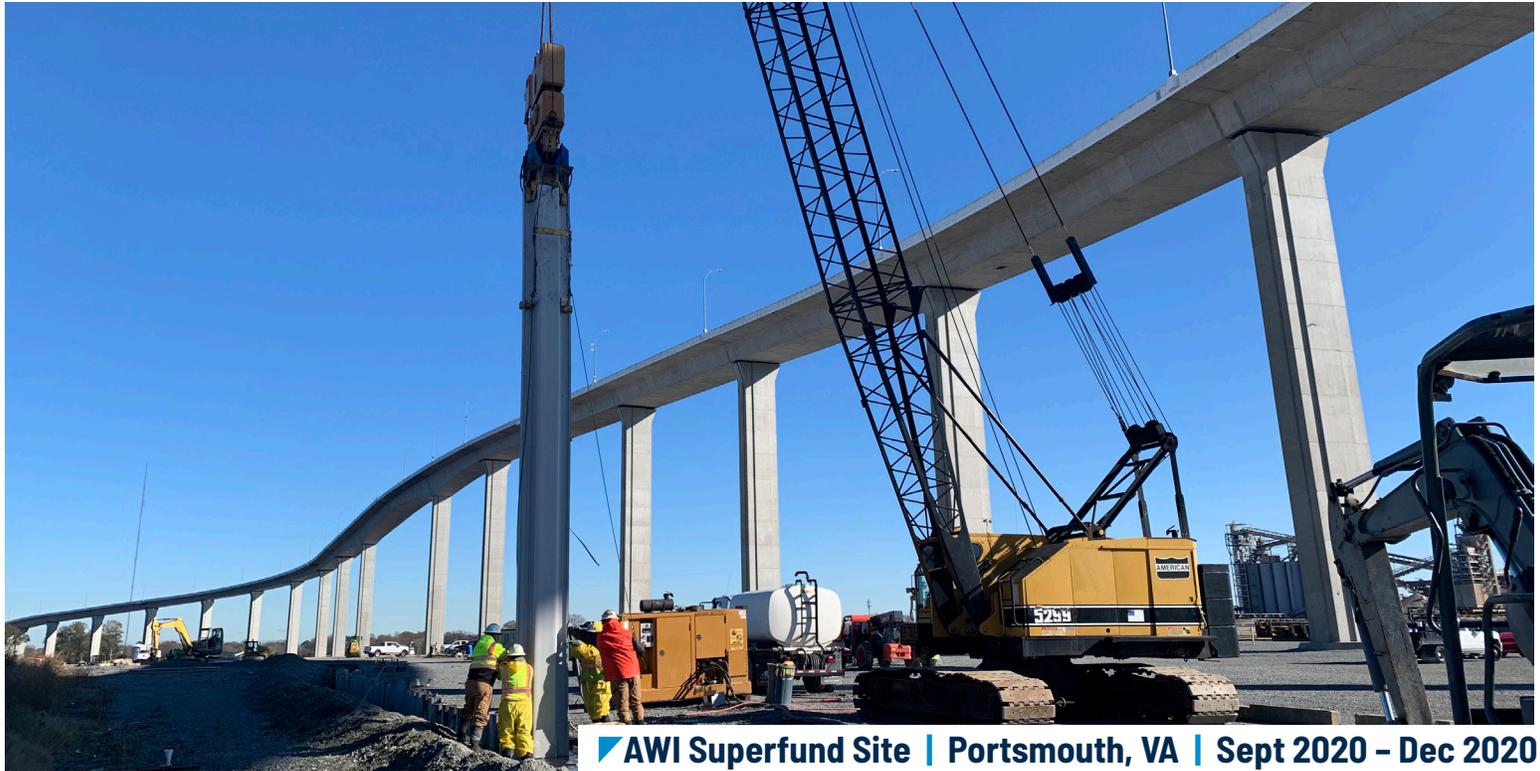


# Cut-Off & Containment / Seepage Barrier



AWI Superfund Site | Portsmouth, VA | Sept 2020 - Dec 2020

## Project Partners:

**Contractor:** Seaward Marine Corporation

**Engineer:** HANA Engineers, EA Engineering

**Owner:** Commonwealth of Virginia & the Environmental Protection Agency (EPA)

**Max Depth:**  
30 ft

**Length:**  
2200 LF of 30ft sheets driven to grade

**Products:**  
ShoreGuard® SG-625  
PileClaw®



## Background

The Atlantic Wood Industries (AWI) site is approximately 48 acres of land along the industrialized waterfront in Portsmouth, VA., with more than 30 acres of contaminated sediments in the Southern branch of the Elizabeth River. For more than 65 years a wood-treatment facility operated at the site using creosote and pentachlorophenol (PCP). The Navy also leased the site from AWI to dispose of waste and sludge, including Polynuclear aromatic hydrocarbons (PAHs), PCP, dioxins, and metal contamination such as arsenic, chromium, copper, lead, and zinc that seeped into the soil, groundwater, and sediments. In 1990 the site was added to the EPA Superfund program's National Priorities List due to the significant risk to human health and the environment from the release of contamination.

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## Why CMI

The Environmental Protection Agency, along with many progressive civil engineers, have recognized the advantages of CMI's ShoreGuard PVC vinyl sheet pile for use as ground water migration barriers. Unlike steel or other conventional materials, CMI's sheet pile is corrosion-resistant, lightweight, environmentally friendly, and provides a longer service life. CMI also has a history of aiding in the cleanup of Brownfield and Superfund sites that has turned some of the most contaminated land into healthy, vibrant properties. For this project HANA Engineers and EA Engineering specified CMI's ShoreGuard SG-625 with interlock sealant to achieve the best possible effective permeability. The SG-625's 30-inch profile meant fewer locks to prevent migration of contaminated ground water while cutting down on the number of driving episodes. CMI's PileClaw, a proprietary steel mandrel installation technology, was used to maximize the efficiency of installing the ShoreGuard 625 sheet pile deep and to grade.



## Installation

Seaward Marine Corporation was able to meet a strict three-month timeline and install 2,200 linear feet of SG-625. A crane-mounted APE Model 150 vibratory hammer was used in conjunction with CMI's patented PileClaw mandrel to drive the 30ft vinyl sheet piles. Seaward Marine installed on average 90 to 100 linear feet of SG-625 per day with the 30ft sheets often being installed in just minutes. "I wouldn't drive this long of vinyl sheet piles to grade with anything else but the PileClaw," Seaward Marine Vice President Walter McKenna says. "In these difficult driving conditions, without a PileClaw, we would never have been able to accomplish the EPA's plan and rigorous schedule for the project. The PileClaw, in conjunction with the product properties of CMI's SG-625 box profile, were instrumental in our success."