

AquaBlok® Installation Profile

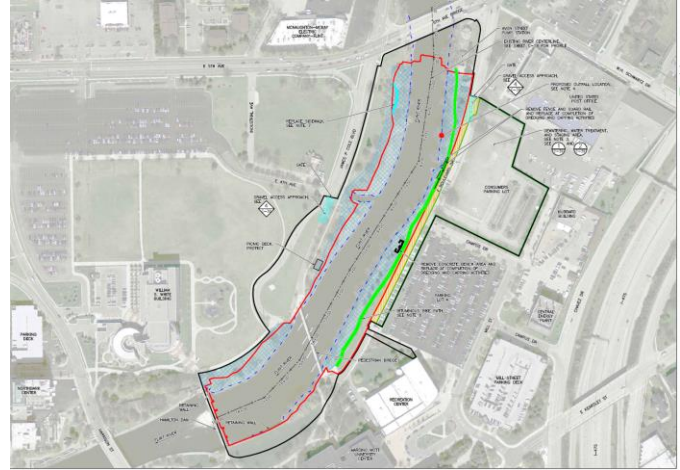


Site Location: *US EPA Region*
Flint River, Michigan

Project Status: *Completed 2017*

Objective: Establish an isolation barrier between impacted sediments and the overlying water column. Incorporate bedform diversity elements for improved aquatic habitat.

Setting/Purpose: The project was located on the Flint River and includes the river reach extending approximately 1900 feet upstream of the Hamilton dam. The site was a historic MGP consisting of coal tar impacted sediments. The project included dredging approximately 4 to 7 feet of existing sediment with placement of a low-permeability cover/cap system over remaining MGP impacted sediments.



Contaminant(s) of Concern: DNAPL - PAHs (polynuclear aromatic hydrocarbons) from historic MGP.

AquaBlok Cap Design / Site Area: The site required an area of 307,000SF for placement of the low-permeability barrier. The design called for a minimum 1-foot final hydrated cap thickness, based on an assumed final application rate of 86.5 lb/CF. AquaBlok's Blended Barrier material was selected due to its higher aggregate content and resistance to erosion. Its bulk density is an average of shoveling and jiggling values as called out by the ASTM test method for bulk density. Blended Barrier consists of a mixture of AquaBlok 3070FW and locally sourced AASHTO #8 aggregate. Blending was performed by the contractor on-site prior to installation.

Method of Placement: Installation was performed by via level cut clamshell mounted on an excavator. A barge with hopper was loaded at the shoreline and used to transport Blended Barrier to the installation barge. Installation progressed incrementally from upstream to downstream allowing the placement barge to utilize spuds for accurate placement of capping materials and to prevent spudding into the newly installed cap.



Current Status: Since the completion of installation no visible sheen has been reported. Efforts are underway to perform further monitoring of the capping zones, but the areas addressed are considered to be successful in accomplishing the objectives outlined by the engineer and site owner.

Site Owner: Consumers Energy / **Contractor:** Severson Environmental / **Engineering Firm:** Barr Engineering Co.