

## MGP Site Remedial Design for Soil and Sediment Removal



AECOM took this site from remedial investigation, feasibility study, design and into construction. Major achievements include revising the design to include rehabilitation and stabilization of a historic building after the village prevented the client from demolishing the building.

### Client

Former Manufactured Gas Plant

### Location

New York, USA

### Contract Value

USD 1.1MM

### Years

2015—present

### More Information

1.978.905.2100

AskEnvironment@aecom.com

### Project Overview

AECOM is serving as design engineer and environmental consultant for a large scale remedial construction project located at a former Manufactured Gas Plant (MGP) that operated from 1899 to 1930. The project consists of the removal of upland soils and riverine sediments that have been impacted by the prior MGP operations at the site, and the restoration of disturbed areas upon completion of remedial construction. AECOM was retained to design a remedial action program for this MGP site which would permanently address the impacts. Our client, a utility company, had entered into a Consent Order with the New York State Department of Environmental Conservation (NYSDEC) to complete the investigation and cleanup of the MGP.

### Client Benefits

- Natural restoration techniques will increase the value of the property after completion of the design.
- Phased excavation approach maintained lake levels, satisfying multiple stakeholders
- Close co-ordination with the Village DPW through design has carried through to construction, Village DPW has coordinated lake levels with the contractor, extending the available dredging season.
- Simultaneous preparation of multiple environmental permitting documents with the design reduced project costs.
- AECOM's expert regulatory negotiation and community relations efforts expedited the permitting process.



- Direct interactions with NYSDEC allowed the optimal remedy to be implemented.
- Site restoration, when complete, will transform the property to a valuable piece of real estate and return it to productive use.
- Coordination with adjacent property owner minimized disruptions

## Work Performed

AECOM completed a RI for the site, which included installation of soil borings and monitoring wells; excavation of test pits; collection of surface soil, subsurface soil, groundwater, and sediment samples; and performance of a Fish and Wildlife Impact Analysis and a qualitative Human Health Exposure Assessment. Data collected during the Remedial Investigation (RI) as well as from previous investigations show that subsurface soil and groundwater over a limited area of the upland portion of the site near the gasholder and MGP building are impacted by organic constituents and non-aqueous phase liquids (NAPL). Generally, impacts are limited to the top 10 feet of fill material which overlays silt and clay layers. Within the outlet, shallow sediment in some areas is impacted with organic constituents and NAPL to a depth up to five feet. Some of those impacts are associated with sources other than the site, including storm sewer outfalls. Using data collected during the RI, the distribution of contaminants in sediment was determined, sediment background concentrations were calculated, and ecological impacts in sediment were evaluated.

AECOM prepared the Feasibility Study for the site. The team also developed and evaluated remedial alternatives for the upland and sediment portions of the site and a combined remedial action was recommended. The recommended remedial action included excavation of surface and subsurface soil and former MGP structures on the upland portion of the site and excavation of at least one foot of sediment within the identified limits of impacts as well as all visually impacted sediment.

In 2012, the NYSDEC began preparation of the proposed plan for the site. AECOM worked with the client to respond to NYSDEC comments and questions and to prepare comments on the proposed plan. AECOM participated with the client and NYSDEC in a public meeting to present the proposed plan to the public. The Record of Decision for the site was issued by NYSDEC incorporating AECOM's proposed plan from the FS and key comments that will reduce the cost of cleanup for the client.

AECOM prepared detailed construction documents for removal of soils and sediment as required in the ROD, and assisted the client in obtaining all necessary permits required for the work. The construction included re-routing the flow into the nearby lake outlet to allow removal of impacted sediments in the dry. AECOM developed detailed restoration plans to include the use of engineered structures to restore the riverbanks and riverbed as part of the design and permitting process. Restoration of the riverbed included the installation of submerged aquatic vegetation throughout the entire reach of the river to enhance the quality of the wildlife habitat.