A Stable Foundation
The pier and abutments feature a deep foundation system consisting of 7-in.-diameter micropiles extending into the clay and silty sands beneath the aqueduct supporting more than 1000 tons of water, concrete, and stone load. The 65-ft-long micropiles featured a concrete filled upper steel casing, with a lower 50-ft-long grouted bond zone. In addition to their high axial and lateral capacity, micropiles were ideally suited for this project site given the small footprint of the installation equipment, the ability to drill through potential obstructions, and the need to minimize vibrations on the surrounding masonry abutments.

Bringing Back the Water
On September 22, 2011, after a year of construction, the original canal system was restored and the waters of the Ohio & Erie Canal flowed once again over Tinkers Creek as they have done for the past 166 years. Unlike its predecessors, the new, all concrete aqueduct structure will provide Cuyahoga Valley National Park and its visitors with a functional piece of history well into the twenty-first century.

Anthony Borrelli is the New York bridge division manager for Bergmann Associates in Rochester, N.Y., and the project’s engineer of record.

For additional photographs or information on this or other projects, visit www.aspirebridge.org and open Current Issue.

Elevation view of the new aqueduct and fully reconstructed masonry pier. Photo: Henry G. Russell Inc.