Market
Culvert rehabilitation

Challenge
A culvert in Watertown, CT had a significant water flow and erosion problem which led to culvert joint separation, invert deterioration, erosion issues, and headwall damage. The erosion had undermined the outlet which resulted in a disruption in water flow. With the age of the culvert, the inlet headwall was made with stacked stone. Over time these stone headwalls can settle and become weak and start to lose structure. This culvert was located under a roadway which also has challenges with traffic control. The separating joints caused concerns with the above roadway being damaged by infiltration.

Engineered Solution
Hydratech implemented an engineered solution to address all of these issues. HydraTite Seals were installed over the culvert joints for a permanent solution to the separated joints that were leaking and eroding the ground below the roadway. 5 tons of riprap (large diameter stone) was placed over the existing outlet void to prevent further deterioration and erosion by restoring natural water flow. The stone headwall was encased in two layers of concrete to prevent further structural damage and environmental erosion.

Scope
The job consisted of the installation of 9 HydraTite Seals that were 72" in diameter, placement of 5 tons of riprap, concrete patching inside the pipe, the concrete casing of inlet stone headwall.

Solution
The HydraTite Solution enables a trenchless repair at a fraction of the cost of fully lining the pipeline. The sealed joints and repaired invert will restore the hydraulics and eliminate damage to the above roadway by preventing infiltration. All of this work was completed from the side of the road impeding traffic minimally. The HydraTite seal proved to be an economical in situ repair solution.