



INTERNAL PIPE

HydraTite®

JOINT SEAL

Market

Culvert Rehabilitation

Challenge

A culvert in Watertown, CT had a significant water flow and an erosion problem, leading to 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, starting to lose structural integrity. This culvert was located under a roadway which presented the additional challenge of traffic control. The separating joints caused concerns because the above roadway could be damaged by infiltration forming sinkholes.

Engineered Solution

HydraTech engineered a solution to address all of these issues. HydraTite seals were installed over the culvert joints for a permanent solution to the leaking separated joints. Five tons of riprap (large-diameter stone) were 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 installing nine HydraTite seals that were 72" in diameter, the placement of five tons of riprap, concrete patching inside the pipe, and the concrete casing of the inlet stone headwall.



Solution

The HydraTite solution enabled a trenchless repair at a fraction of the cost of fully lining the pipeline or pipe replacement. The sealed joints and repaired invert restored the culvert's flow and helped stop damage to the above roadway by eliminating infiltration. All of this work was completed from the side of the road with minimal traffic disruption. The HydraTite seal proved to be an economical in situ repair solution.



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