

Storm Sewer Structural Repair

CUSTOMER
NY Research Facility

DATE OF APPLICATION
August 2017

LOCATION
New York

SUBSTRATE
Cast Iron

PROBLEM

A 15-inch storm sewer pipe suspended above an active animal research facility was deemed a potential rupture risk due to suspected structural deterioration. A pipe failure in this critical area could result in flooding, contamination, and major disruptions to ongoing research activities.

A repair solution was needed that would eliminate the rupture risk and could be completed without interrupting laboratory operations.

Mechanical Epoxy Solutions' experienced technicians installed a permanent repair using an external carbon fiber composite wrap.

Installation steps:

1. The surface of the pipe was prepared by bristle blasting the length of the repair.
2. Through-wall penetrations and multiple bell-and-spigot joints were prepped using a repair putty to provide a smooth wrapping surface, even over complex pipe geometry.
3. The composite wrap was installed along the entire length of the compromised pipe. The system was designed to bond directly to the cast iron substrate and provide additional hoop strength and structural stability.

The pipe system remained fully operational throughout the repair process. Structural integrity was restored without pipe replacement or disruption to the critical research facility below.

- All technicians were certified in 40-hour HAZWOPER and Bloodborne Pathogen safety protocols.
- The repair was completed with the pipe online, eliminating disruptions to active research operations.
- The composite structural reinforcement extended the service life of the piping and avoided costly pipe replacement.

SOLUTION

BENEFITS



Fig. 1 Bell and spigot joint smoothed with repair putty



Fig. 2 Composite wrap installation



Fig. 3 Through-wall penetration after installation