

# Culverts – Case Study 1

---



## Problem

---

Structural problems causing roadbed erosion



## Project

---

Rehabilitation of double culvert pipe



## Client

---

City of Sylvester, Georgia



## Location

---

24" x 72' double culvert in Sylvester, Georgia

## Description

---

These culvert pipes, located under a busy highway, were in very bad condition causing road bed problems. The owner wanted to fix the culvert pipes prior to repaving and adding a sidewalk. The culvert was buried 10 feet under the roadbed making excavation both difficult and expensive. And the culvert needed to be extended to accommodate for the sidewalk addition.

## Solution

---

The Poly-Triplex Certified Installer diverted the flow through one of the pipes and cleaned and prepared the structure and the liner. With a crane and winch, the liner was pulled through the structure. Liner was then cured-in-place using air pressure and steam heat.

Inflation bladder was removed to expose a structural and monolithic liner from end to end, extending approximately 12" beyond both ends of the existing culvert, then flow was diverted back into the lined pipe. The process was then repeated on the second pipe.

## Benefit

---

The Poly-Triplex Installation Team completed the structural lining of both structures in less than 12 hours total. The process required no excavation and no interruption of traffic, resulting in huge cost savings to the city. And, the city was able to add the much needed sidewalk.



**Upper Left:** Liner is saturated and enclosed within a reinforced vinyl tube, lifted with a crane and pulled into place with a winch on the opposite end of the pipe.

**Upper Right:** Liner is inflated and cured-in-place with air pressure and steam heat injection.



**Upper Left:** Installation of the liner is complete. Flow has been diverted from the unlined pipe to the lined pipe and the first culvert has been returned to full service.

**Upper Right:** Lining process has been duplicated on the second structure, with both installations combined taking less than 12 hours to complete.

## Comments

---

Installation of the Poly-Triplex structural lining system will prevent further deterioration of the culvert pipe and further soil and roadbed erosion. The extension of the pipe allowed for enough expansion of the roadbed area to accommodate the addition of a new sidewalk.