



PROJECT OVERVIEW

During inspections of its road culverts, the city of Rock Springs discovered a corrugated metal culvert that was considered in danger of imminent failure. The 700-foot culvert in question was arched with a maximum height of 48 inches and a maximum width of 72 inches.

The invert of the pipe, which was covered with dirt and trash, was mostly corroded away. In fact, approximately 18 inches of the underlying soil had been eroded along the full length of the culvert. In addition to the invert, there were joint separations of more than six inches in many of the joints. The crown had also caved in over a 10-foot section of the structure running directly under the road.

SOLUTION

The city of Rock Springs' initial thinking was that the entire culvert would need to be replaced. The client decided on a trenchless repair method to prevent traffic disruption, save the existing road and minimize the time and expense required to complete the project. Due to these factors, as well as the oval of the culvert shape, GeoSpray was selected as the ideal solution.

To begin the repair, the culvert was first excavated and cleaned. Next, the pipe areas in danger of collapse were braced with timber, ensuring the safety of the work crew and the general public.

The major flaws in the pipe were then addressed. The timber bracing was used to return the crown to its original shape. Standard portland cement fill was laid in the invert of the culvert to replace the missing soil and the joints were repaired.

PROJECT DETAILS

Location: Rock Springs, WY

Application: Arched Storm Culvert

Client: City of Rock Springs

Installation: May 2014

Installer: Inland Pipe Rehab, LLC



Damaged corrugated metal culvert.



www.geotreesolutions.com

+1.855.655.6750



CASE STUDY:

Arched Storm Culvert Rock Springs, WY

RESULTS

Once the basic shape of the pipe was returned to normal, the GeoSpray liner was applied to the culvert to return the structural integrity of the system and create a like-new condition. The liner was applied using standard spray nozzle techniques to a final thickness of one and a half inches. The inlet and outlet of the culvert were also treated with GeoSpray liner to create a monolithic structure.

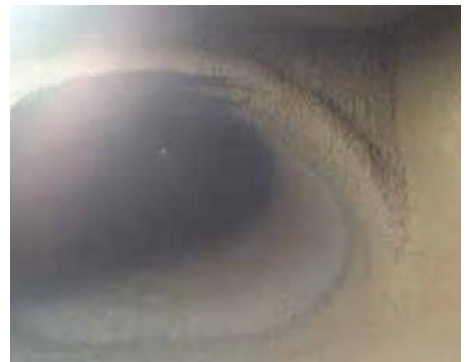
The GeoSpray liner design was certified as a structural rehabilitation by a professional engineer. The city of Rock Springs was able to take a high-risk situation and restore the storm culvert to better-than-new condition in under two weeks while keeping the road open to traffic.



High-risk areas braced with timber.



The repair began with excavating and cleaning.



GeoSpray liner applied to the culvert.

