

CASE STUDY:

Twin Culvert Rehabilitation

CLIENT

A Pennsylvania Township

PROBLEM

A deteriorated 72" diameter twin-barrel CMP culvert system beneath an active roadway required structural rehabilitation that could restore the aging infrastructure while maintaining flow and minimizing disruption to traffic.

RESULTS

Both culverts were structurally rehabilitated using SprayWall®, extending the service life of the system while allowing the roadway to remain open throughout the project.

A twin-barrel culvert in Pennsylvania had experienced deterioration that required a proactive, long-term structural rehabilitation solution. Located beneath an active roadway, the project presented an additional challenge: the culverts needed to be restored without creating the road closures and traffic disruptions that are often associated with conventional dig-and-replace projects.

Because the culverts served an active stream, maintaining flow control of the water through the existing structure was critical throughout the duration of the project. The rehabilitation approach also needed to provide access for the installation team while protecting the surrounding site and allowing both structures to be returned to service efficiently.

SOLUTION

Abel Recon, a Sprayroq Certified Partner, implemented a rehabilitation approach using SprayWall structural polyurethane lining to trenchlessly restore the twin-barrel culvert without full replacement.

Before rehabilitation began, the stream was temporarily bypassed to create controlled working conditions inside the culverts. The structures were then prepared for application to provide the proper substrate conditions for the lining system.

SprayWall was applied at a thickness of 500 mils throughout the culverts to create a lining capable of restoring the hydraulic and structural integrity of the existing assets. This creates a new pipe inside the pipe. Because the rehabilitation could be completed from within the structures, the team avoided extensive excavation and was able to keep the roadway above open to traffic throughout the project.

Following application and curing, the bypass was removed, and both culverts were returned to service.

RESULTS

The twin culvert system was successfully rehabilitated without the need for full excavation or roadway closure. SprayWall restored structural integrity to the deteriorated structures while preserving the existing culvert configuration and hydraulic function.

By rehabilitating the culverts in place, Abel Recon was able to limit disruption to the traveling public and surrounding environment while providing a long-term solution for the aging infrastructure.

The project also demonstrated the advantages of a spray-applied structural lining system in applications where traditional replacement would require substantially more excavation, traffic control, and stream disturbance.

CONCLUSION

This Pennsylvania twin barrel culvert rehabilitation demonstrates how deteriorated stormwater infrastructure can be renewed while minimizing disruption to the communities it serves.

Through careful bypass management, experienced field execution, and the structural performance of SprayWall, Abel Recon restored both culverts while keeping the roadway open to the community it serves.

The completed project provides the asset owner with renewed structural performance, extended service life, and a durable trenchless alternative to full culvert replacement.

