



**Infrastructure Innovators Since 1994**

**QuakeWrap, Inc.**

6840 S. Tucson Blvd., Tucson, AZ 85756

(520) 791-7000, FAX (520) 791-0600

Toll Free (866) QuakeWrap (782-5397)

[www.quakewrap.com](http://www.quakewrap.com)

## PROJECT PROFILE

### I-35 Tunnel Repair with StifPipe®

**Repair System:** StifPipe® FRP technology applied to rehab large underground storm tunnel

**Project Engineer:** Brierley Associates

**Owner:** Minnesota Department of Transportation

**General Contractor:** PCI Roads

**FRP Installer:** FRP Construction

**Design and Materials:** QuakeWrap, Inc.

**Location:** Minneapolis, MN

#### Project Synopsis:

- Design called for a fully-structural retrofit of a 20-foot section of a 12-foot concrete lined tunnel, including engineering for 100+ feet of soil and hydrostatic pressure.
- The design also called for layers of StifPipe® by QuakeWrap to be installed internally by wet layup method.
- Project challenges included gaining initial access to the 100+ feet deep tunnel, with the closest access manhole approximately 3,200 feet away from the repair location.
- Additionally, groundwater and snow melt were running and needed to be bypassed utilizing an inline pump and pipe system through the tunnel. As such, another challenge the project team had to face was to complete the repair in time before the snow above ground melted and substantially increased flows and pumping costs.
- The project was completed with success without any significant issues encountered at the project site.
- This trenchless tunnel repair project sets the current record for the deepest application of a fiber reinforced polymer (FRP) repair system for fully-structural pipe/tunnel rehabilitation.
- Special thanks to project engineer Brierley Associates, general contractor PCI Roads and specialty installers FRP Construction ([www.FRPConstruction.com](http://www.FRPConstruction.com))
- View the video of the project [on the QuakeWrap YouTube Channel here.](#)



Contact an engineer today at  
[info@quakewrap.com](mailto:info@quakewrap.com)



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• Project Photos



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