

Project Spotlight



Michigan Ditch Tunnel: Walden County, CO

Owner: City of Ft Collins General Contractor: BT Trenchless Installer: Flashfill Services



Background Information

In the early 1900's, the 5.2 mile-long Michigan Ditch was built to transfer mountain water from the west side to the east side of Never Summer Mountains in Jackson County, CO. This tunnel has provided essential water supply to the city of Fort Collins for the last 40 years; but in 2015 "The Mudslide" occurred and, during this shift in soil, nearly 95% of the water supply was cut off. This required a rapid repair and a unique, creative construction.



Project Details

This project presented many unique challenges, not the least of which was its elevation at 10,300 feet above sea level, which meant that the warm weather required for this type of construction would not last long, and the project would need to be completed before water run-off events that would occur inevitably in the Spring months. Limited access to the site made conventional methods, such as barrel mixers, virtually impossible. This meant the project was on an extremely tight schedule.



The design-build team chose to construct an eight-foot-diameter, 765-foot curved tunnel through the mountain with a 60-inch carrier pipe. In order for this tunnel to remain stable, the annular space between the tunnel and the carrier pipe had to be filled with a non-pervious material that offered extreme compressive strength. Aerix's Aerlite™ low-density cellular concrete (LDCC) was chosen for this unique application. The installation crew from Flashfill Services installed 1,000 cubic yards of Aerlite within five short days on the jobsite, enabling tunnel construction to remain on schedule.



Aerix Added Value

Due to its extremely high compressive strength and enhanced flowability, Aerix's Aerlite LDCC provided the perfect solution for this unique and challenging project. With the use of Aerlite, this new tunnel would not only provide the long-term stability required for this mountainous region but would also enable the quick restoration of the mountain water to the city of Fort Collins, whose water supply had been significantly reduced. Fort Collins residents can now rely on a steady stream of crisp mountain water for years to come.