

CASE STUDY

MICROTUNNELING | SLURRY MICROTUNNELING


Project Name:

Boulder MSI Improvements


Prime/Sub Contractors:

BTrenchless – Henderson, CO


Location:

Boulder, CO


Owner:

City of Boulder


Ground Conditions:

Mixed siltstone and claystone


Akkerman Equipment:

SL60C Slurry Microtunneling System with MT875K Jacking Frame. Akkerman TGS Guidance System


Pipe:

60-in OD Permalok® steel casing


Total Length/Longest:

Two drives totaling 1,960 LF (470 LF and 1,490 LF)

PROJECT OVERVIEW

BTrenchless completed slurry microtunneling operations for the Boulder MSI Improvements project in Boulder, Colorado. The project required installation of a 60-in steel casing to house a 42-in wastewater pipeline conveying flows from Boulder Creek, while minimizing impacts to surrounding infrastructure and environmental features.

Microtunneling was selected to reduce surface disruption and avoid impacts to traffic and nearby private wells. Operating from a deep secant pile launch shaft, the crew executed two drives using slurry microtunneling methods to maintain control and alignment in mixed ground conditions.

- Leveraged slurry pressure balance methods to manage mixed ground conditions
- Executed sequential drives from a deep launch shaft to optimize efficiency and site constraints

OUTCOME

- Successfully completed two microtunnel drives totaling 1,960 LF
- Achieved accurate line and grade control across both installations
- Completed a 1,490 LF drive, representing the contractor's longest installation to date
- Minimized surface disruption and avoided impacts to critical infrastructure and environmental features
- Enabled installation of critical wastewater infrastructure for the City of Boulder

THE CHALLENGES

- Mixed ground conditions consisting of siltstone and claystone requiring consistent face control
- Deep launch shaft construction and constrained working conditions
- Requirement to minimize impacts to roadway traffic and nearby private wells
- Maintaining alignment accuracy over a long microtunnel drive

THE SOLUTION

- Utilized the Akkerman SL60C slurry microtunneling system to maintain face stability and alignment control
- Implemented advanced guidance systems to ensure precise line and grade across both drives

