CASE STUDY
MICROTUNNELING | SLURRY MICROTUNNELING

Project Name:
Regional Sewer Expansion: Lake Elmo West Project

Prime/Sub Contractors:
Engineering & Construction Innovations, Inc. – Oakdale, MN

Location:
Lake Elmo, MN

Owner:
Metropolitan Council Environmental Services (MCES)

Ground Conditions:
Glacial till, sands, and groundwater up to 39 ft depth

Akkerman Equipment:
SL74P Slurry Microtunneling System with MT875K Jacking Frame. Model 240A GBM System for pilot tube probing

Pipe:
74-in OD steel casing

Total Length/Longest:
Multiple drives totaling approximately 1,350 LF

PROJECT OVERVIEW

Engineering & Construction Innovations, Inc. (ECI) completed slurry microtunneling operations for the Lake Elmo West Regional Sewer Expansion Project in Lake Elmo, Minnesota. The project required installation of large-diameter sewer infrastructure to support regional growth and expand wastewater capacity for surrounding communities.

Operating in glacial deposits with groundwater, the crew utilized microtunneling methods to maintain face stability and alignment across multiple drives. Guided boring techniques were also incorporated to probe subsurface conditions and reduce installation risk prior to tunneling.

THE CHALLENGES

- Variable ground conditions including glacial till, sands, and groundwater
- Managing installation depths approaching 39 feet
- Maintaining alignment accuracy across multiple long drives
- Identifying subsurface obstructions prior to tunneling operations

THE SOLUTION

- Utilized the Akkerman SL74P slurry microtunneling system to manage groundwater and maintain face stability
- Implemented pilot tube probing with the Akkerman 240A GBM System to identify potential obstructions
- Applied slurry pressure balance methods to control ground conditions during excavation
- Executed multiple drives using consistent installation practices to maintain alignment accuracy

OUTCOME

- Successfully completed multiple microtunnel drives totaling approximately 1,350 LF
- Maintained accurate line and grade control through variable glacial soils
- Reduced installation risk through pre-tunneling subsurface assessment
- Supported expansion of regional wastewater infrastructure capacity
- Enabled reliable service growth for Lake Elmo and surrounding communities



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