



Walworth Run Interceptor Realignment

LOCATION: Cleveland, OH

OWNER: Northeast Ohio Regional Sewer District

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PROJECT PROFILE

This project included construction of a new sewer (1,209 feet long, 60-inch diameter) intended to replace an existing interceptor sewer; the original sewer was impeding the construction of ODOT's new Innerbelt Bridge which was abandoned prior to the bridge's construction. This project was located in a historic district of Cleveland, Ohio where there were several old brick buildings near the tunnel alignment, and other critical urban considerations. Super Excavators completed this project early, which helped the bridge contractor get started earlier on their contract with ODOT. The project was also completed \$870,000 under budget.

Super Excavators scope of work for this project consisted of 1,209 linear feet of 60" Hobas Pipe installed via microtunneling. The soils in the tunnel zone varied from soft silty clays to wet/saturated sandy silts and silty sands. Due to the soil types and proximity of existing structures, much care was needed to prevent settlement. We performed the entire project with no measurable settlements or disturbances to the existing facilities/structures.

As required by MTBM methods, SEI also constructed four (4) liner plate shafts. The shafts ranged from 18-24' foot in diameter, and 46-55' in depth. The water table was approximately 12-14' below ground surface, but due to huge inflows, and high hydrostatic pressures, our shaft designs figured the water at ground surface. All of the shafts and tunnel were assumed to have water pressures of 40+ feet of head during design. At each shaft location, deep wells and specialized dewatering systems were installed to manage water levels, and concrete plugs were poured in shaft bottoms to compensate for bottom heave and reduce hydrostatic pressures.



PROJECT PROFILE

Below, is a summary of the shafts that were constructed at depths greater than 40 feet, and in extremely high water tables:

Junction Chamber / Shaft No. 1 - 30 ft diameter / 55 vertical feet,

Manhole / Shaft No. 2.1 - 24 ft diameter / 50 vertical feet

Manhole / Shaft No. 2.2 - 24 ft diameter / 50 vertical feet

Junction Chamber / Shaft No. 2 - 24 ft diameter / 46 vertical feet

Due to the extremely wet ground conditions, and saturated sandy silts, in addition to implementing dewatering at each shaft, we also implemented ground improvement mitigation around shafts, and at tunnel face to minimize flowing ground conditions at break in / out of microtunneling. No measurable ground loss was recorded throughout the duration of this project.



TOTAL VALUE OF CONTRACT:

\$6,031,702.00

COMPLETION TIMELINE:

OCTOBER 13, 2010 - JUNE 9, 2011

COMPLETED AS:

PRIME CONTRACTOR
