

Second Avenue Subway, Phase 1

New York, New York

Slurry walls were utilized in the construction of a massive cut-and-cover TBM launch box for this challenging tunnel project.



The project

The slurry walls constructed for this project at 94th Street and Second Avenue in Manhattan were used to construct a massive cut-and-cover “launch box” encompassing an 800-foot-long by 75-foot-wide excavation. Once excavated, this launch box served as the main portal for the tunnel-boring machine to dig south, as well as the new line’s 96th Street Station.

The challenge

This project was extremely challenging due to very tight working zones as well as excavating adjacent to historic buildings on very poor foundations.

The solution

The slurry walls were installed using 20-foot panel excavations to a depth of 105 feet. The southern-third of the slurry walls were excavated through and seated in the very hard Manhattan Schist Rock formation. Removable panel joints with embedded vinyl water stops were utilized to help ensure a watertight structure.

The reinforcing steel cages were fabricated full length (100 feet long) and delivered to the job site on flatbed trucks. They were then lifted in the middle of Second Avenue during normal traffic hours and placed into the excavated panels.

Project facts

Owner(s)

MTA Capital Construction

Keller business unit(s)

Keller

Main contractor(s)

N/A

Solutions

Support of excavation

Markets

Infrastructure
Transportation
Tunnels and shafts

Techniques

Diaphragm walls

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