



Leslie Street

Sheet Piling, Pile Driving, Caissons

Toronto, ON

+ Project Snapshot

- 1000 pipe piles
- 1.0 M Caissons
- 6m wide by 5m deep & 400m long sheet pile shoring trench
- 5 Cranes

+ Project Background

In challenging and variable geotechnical conditions, Soletanche Bachy Canada (SB Canada) was hired to design and install a 6 m wide, 5 m deep & 400 m long sheet pile shoring trench to facilitate major utility relocation activities along Leslie St. in downtown Toronto, along with pile driving over 1,000 pipe piles at the base of excavation and drilling 1.0 m diameter caissons to support future overhead streetcar poles/cables.

+ Project Description

The project called for the design, supply, installation, and removal of a sheet pile shoring trench for major utility relocation. SB Canada installed a 400 m long shoring trench, 5 metres deep, and 9 metres with upper-level bracing to allow the installation of continuous precast storm culverts and RCP installation.

The foundation work consisted of the supply and installation of piles to support the new utility structure.

- Drilling 80 units of 0.914 m diameter x 7 m caisson foundations to support overhead catenary system for new public transit system
- 4 working crews & supervisors making up ~20 workers (pile driving crew x 2, weld crew, drilling crew)
- Open ended pipe piles, 875 units of 9-5/8" diameter x 45' long
- 725 cold rolled sheet pile pairs installed with a vibrator hammer with an average length of 55'.



Owner
Toronto Transit Commission
General Contractor
Pomerleau Inc.

SB Canada Personnel
Jeff Thomson
Period of Work
2015

The duration of the sheet pile work lasted approximately 8 months and was spaced according to construction staging. The pipe pile installation work was equivalent to 6 months but was also spaced according to construction staging.

Soil conditions varied a great deal from each end of this jobsite.

- Clayey and organic soils at the north end of the jobsite (very susceptible to disturbance).
- Sandy silt to silt layer at the south end.

The project specifications included strict vibration and settlement requirements as well as requiring the shoring system to be preloaded.

+ Notable Equipment

- Pile driving rig with VTL System– 165 Ton crawler

- crane, B32 Diesel Hammer.
- Pile driving rig with VTL System – 70 Ton crawler crane, B21 Diesel Hammer.
- Pile driving rig with Hanging Lead System – 70 Ton crawler crane, B21 Diesel Hammer.
- 110 Ton Crawler Crane - HPSI 500 vibrator hammer for 55' long sheet pile installation.
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