



■ Commercial Buildings

Reference Details:

Owner University of Toronto, Toronto, Ontario, Canada +++
General Contractor Ellis Don Corporation, Mississauga, Ontario, Canada +++
Architect Stantec Architecture, Toronto, Ontario, Canada +++
Technical Consultant Halsall Associates Ltd., Toronto, Ontario, Canada

DSI Unit DSI Canada Ltd., Eastern Division, Gormley, Canada

DSI Scope Supply of 21 double corrosion protection GEWI® Piles (Nos. 18 & 20) incl. accessories; rental of equipment for testing; technical



GEWI® Piles support new addition to University of Toronto Building

Centre for Biological Timing and Cognition (CBTC) at the University of Toronto, Toronto, Ontario, Canada

To establish a comprehensive sleep and biorhythm research centre at the University of Toronto, construction of an additional building became necessary. It was decided to add a threestorey, 2,140 m² building to the Ramsey Wright building on the congested St. George Campus.

The locality chosen for the addition challenged the buildings designers and contractors. Parts of the building are situated over existing mechanical and electrical rooms as well as over loading and delivery areas that had to continue to operate during construction. In addition, vibrations had to be minimized in order not to disturb the ongoing research experiments at the adjacent zoological

faculty.

These restraints as well as the restricted site access predestined the use of micropiles. Highly flexible drilling equipment and methods allow DSI GEWI® Piles to be drilled through virtually every ground condition, natural and artificial, with minimal vibration and at any angle. In addition, high-quality small diameter GEWI® Piles (up to 300 mm) are capable of sustaining high compressive loads of up to 5,000 kN. Another advantage of GEWI® Piles is their ability to transfer load via skin friction over the entire bearing length of the pile, thereby avoiding locally high soil pressure concentrations.

After a test had been successfully conducted, a total of 21 GEWI® Piles with double corrosion protection, consisting of one or two 57 or 63 mm Ø GEWI® Bars with capacities up to 1500 kN each were installed and grouted. Due to the low headroom, the GEWI® Piles were installed in segments and connected with full strength couplers on site. The GEWI® Piles were grouted in drilled holes up to 219 mm /Ø slash; an. The average length of the holes was approximately 16 m.

The building will become operational as a Psychology research facility in the summer of 2007. This project is another example of the flexible and efficient use of GEWI® Piles to support and upgrade historical buildings as well as to expand the use of structures with difficult foundation conditions.