

## Regent Student Living Apartments St. Catharines, Ontario

### | Challenge

Soil conditions consisted of a loose to compact sand to sand and gravel fill, and a dense layer of native sand to sand and gravel. The sand is underlain by soft to firm silty clay till soils to an elevation of 79.6 meters where very dense silt tills were encountered. To further complicate matters, groundwater was also met in the initial investigation, along with caving soils.

### | Solution

The Rapid Impact Compaction (RIC) system was selected based on its ability to rapidly and efficiently increase the bearing capacity of soils, its minimization of settlement, and the creation of uniform support for foundation footing. RIC, when compared to the time and cost of over-excavation and re-compaction, was the definitive solution to these challenging soil conditions.

### | Outcome

Despite the challenging soil conditions, this project realized significant cost-savings along with a practical and “clean” solution that altogether avoided excess soils from being created.



*This 7-story building was built ahead of schedule & below budget by utilizing the RIC system*

## Project Team

**G.C./Owner**  
Penn Corporation

**Structural Engineer**  
Kalos Engineering Inc.

**Architect**  
Brouwer Architecture

**Ground Improvement - Rigid Inclusions - Piling Systems - Slope Stability - Ground Reinforcement**

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