GEOSOLV DESIGN > BUILD

GEOPIER®

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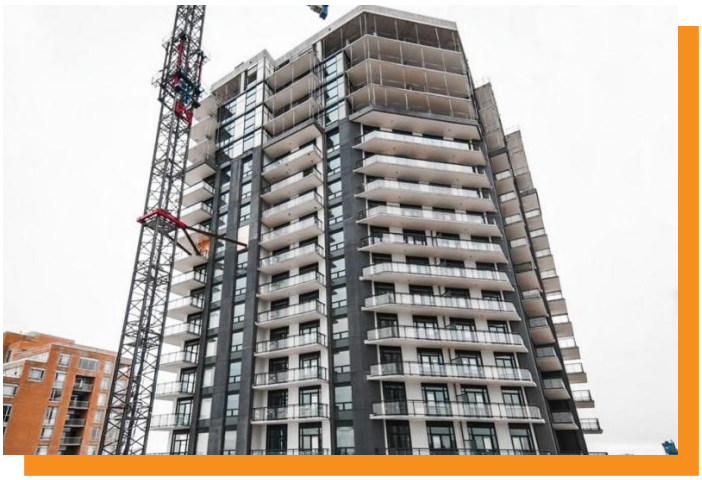
# Caroline Street Private Residences
# Waterloo, Ontario

## Challenge

Soil conditions consisted of a layer of compact deposit of silts and sands followed by a very stiff to hard deposit of silty clay from 22.5 to 27 metres below the underside of the raft. It was identified that differential settlement between the podium's spread footings and the tower's raft foundation was going to be a major challenge. Based on the geotechnical information, as much as 4 – 6 inches of settlement was predicted for the tower's raft, while minimal settlements were expected for the more lightly loaded podium.

## Solution

The Geopier Impact® system was selected for its cost-effectiveness, flexibility and settlement control. The Geopier system was able to provide the variable stiffness below the tower mat to match the variable pressure of the mat as well as the ability to match settlements across the entire structure.



*Reaching a height of 22-storeys, the attractive Caroline Street Private Residences is one of the tallest buildings in the neighbourhood*

## Outcome

The tidy differential settlement control provided between the raft and podium (supported on regular spread footings) and the customized stiffness below the mats variable pressures provided for excellent value. Extremely high contact pressures were well supported by the Geopier® system.

## Project Team

**G.C./Owner**
Van Mar Contractors

**Structural Engineer**
Stephenson

**Geotechnical Engineer**
SOLA Engineering

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

Before you Remove It or Go Through It, contact us to *Improve It*
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Project #0926