Soil and Foundation Improvement Solutions for Seismic Resistant Design

This research program is focused on developing innovative soil and foundation improvement solutions to reduce the earthquake foundation input motion and increase the resistance of foundations against earthquakes. The specific objectives of the research are:

a) to evaluate the seismic site response and soil-structure interaction (SSI) effects on modifying ground motion at the base of structure;
b) to develop innovative retrofitting techniques for foundations of existing structures; and
c) to develop efficient foundation systems suitable for seismic loads
A wide range of projects covering the effect of seismic site response, soil-structure interaction, innovative pile foundation systems, and techniques to improve the lateral capacity of pile foundations are performed.

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This research tackles practical problems pertaining to foundation-soil interaction and is expected to have a substantial impact on the future practice of the foundation construction industry in Canada and beyond.