



# Geo-Connect

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FEATURE STORY

## Liebherr LRB 255 Universal Piling Rig

**Geo-Foundations' fleet of drill rigs** has been expanded with the purchase of a Liebherr LRB 255 universal piling rig. This is the first Liebherr rig of its style in the Ontario market and is the largest rig of this class currently available.

The rig is equipped with a 30 m long, independently articulating mast and a 605 kW power plant. These unique attributes give the machine the capability to construct a wide array of deep foundation systems including high capacity macropiles, continuous flight auger-cast (CFA) piling, cased CFA piling, vibrated steel sheet

piling, conventional kelly drilling with Leffer-style casing to 25 m depth, augered soil mixing, cutter soil mixing, vibrated stone columns, diaphragm slurry walls and driven piles.

The capabilities of this rig, coupled with Geo-Foundations' existing technical expertise, enables



Geo-Foundations' Liebherr LRB 255 torn down and ready for shipping



Geo-Foundations to provide the widest range of geotechnical and geostructural solutions in the local marketplace.

The rig is currently working at the Metrolinx West Toronto Diamond grade separation project in Toronto, ON. 🇨🇦

### INSIDE:



#### Project Update

**Geo-Foundations'** crews busy in Penetanguishene, ON this winter installing CFA shoring system. >

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#### West River Bridge

**New 4-lane** highway bridge in Nova Scotia supported on micropiles constructed by Geo-Foundations. >

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#### Staff Announcement

**Geo-Foundations** is pleased to announce Mark Montgomery has joined our team. >

# Water treatment plant expansion, Penetanguishene, Ontario

**Geo-Foundations' crews are underway constructing a design-build excavation support system at the Philip H. Jones Water Treatment Facility in Penetanguishene, ON. The aging facility is being upgraded and expanded, while remaining in full operation.**



The original plant was built on reclaimed land; typical subsurface soils consist of saturated sands, silts and organic layers.

Excavations to 7 m below grade (4 m below harbour level) are required, and Geo-Foundations is constructing 12 metre deep anchored secant (interlocking) caisson walls, using continuous flight auger (CFA) methodology and tied back with post-tensioned soil anchors, to protect the existing structures during excavation.

A Casagrande B300 drill rig equipped with a 0.75 m x 18 m long auger is being used to construct the CFA piles. A test drilling program was conducted in early December, during which several caissons

were constructed then exhumed for examination. The first stage of CFA wall construction was completed by year's end; completion of the entire subcontract is expected by March 2012. 🏠

## STAFF ANNOUNCEMENT

### Mark Montgomery Joins Geo-Foundations

Geo-Foundations is pleased to announce the addition to our senior staff, in the summer of 2011, of Mark Montgomery, B.A.Sc. Mark brings almost 25 years of deep foundation industry experience to our team. Mark's specialties include CFA piling, sheet piling, driven piling, excavation support systems, and large diameter drilling expertise. 🏗️



### Nova Scotia Highway 104 – West River Bridge

Under subcontract to Dexter Construction Company Limited, Geo-Foundations' crews used 2 drill rigs and worked around the clock in the late summer and fall of 2011 constructing 152 micropiles for the foundations of 6 structures that are part of Nova Scotia Highway 104's 4-lane, 2-span West River Bridge at Antigonish. The micropiles, as deep as 32 metres, were drilled through cobble-rich till

soils and embedded in mudstone and anhydrite bedrock. Two of the bridge piers were constructed inside sheet pile cofferdams – the micropiles for these structures were drilled from atop a suspended temporary access platform. 🏗️



## PTI Appointment

Geo-Foundations' Jim Bruce has been appointed, as a voting member, to the Post Tensioning Institute Prestressed Rock and Soil Anchor Committee. Current activities of the committee are focused on revising the PTI

Recommendations for Prestressed Rock and Soil Anchors for the purpose of publishing a Fifth Edition of this popular publication in the near future. 🏗️

## WEBSITE RELAUNCH

February 1<sup>st</sup>

Be sure to come check out what's new at [Geo-Foundations.com](http://Geo-Foundations.com)





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