

## Structural Support During Environmental Cleanup – Clyde, Ontario

August 2005

### The Problem:

- Residential furnace oil tank leaked into soil below structures footings
- Structure needed to be either supported or removed during environmental cleanup
- Based on structure, caissons and driven piles were not a consideration due to the vibration caused during installation
- Depth of excavation below the structure footing to remove the impacted material was 2.7 m (9 ft)



### The Solution:

- **Chance® Helical Piers** with foundation repair brackets were chosen to support the structure with some modifications
- The pier shaft was encased from the underside of the bracket to a calculated depth into the soil to be left undisturbed
- Encasement was a 150 mm (6") HSS steel section to provide the lateral support to the helical pier and provide bending resistance from eccentric load

- Steel pipe was filled with grout
- Once the helical piers were installed the impacted soil was removed and replaced with clean fill
- Chance Helical Piers were considerably more economical reparation method than other options presented to the client

### Product Used: (20) Chance® Helical Piers

Three helix configuration with 150 mm (6") diameter grout filled **Chance® Helical™ Pulldown Micropile** contained in HSS Structural section

**Depth:** 5.5 to 6.4 m (18 to 21 ft) below footing elevation

**Loads:** 70 KN (16 kips) allowable load (140 KN ultimate load)

**Finishing:** Foundation repair bracket

**Geotechnical Engineer:** Jacques Whitford Consulting Engineers  
**Structural Engineer:** Pretium Engineering Inc.  
**Chance® Helical Pier Installer:** EBS Engineering and Construction Ltd.

