

A CASE HISTORY

Project:

Foundation settlement
Columbus, Ohio

Owner:

The Daimler Group

Structural Engineer:

Jezerinac, Geers & Associates, Inc.

Geotechnical Engineering:

CTL Engineering

Designed By:

Engineering Division of Hydro-Tech

Installed By:

Hydro-Tech

Description of Building:

200,000-square-foot warehouse under construction with exterior walls of 26-ft.-high concrete tilt-up panels. Design load for the footings was 4,000 pounds per lineal foot.

Site Preparation:

The entire site had been raised 2 to 12 feet with compacted clay during the winter.

Distress Observed:

After the erection of the tilt-up panels and the placement of the steel roof, the southwest and southeast corners of the building settled approximately 1 to 3 inches. Standard penetration tests were performed by CTL Engineering to determine the consistency of the soil near the corners of the building. Blow counts, as low as 1 were encountered 6 to 10 feet below the footing elevation. The engineers concluded that the weak soil was probably a result of frozen soil being stripped and placed within the building area.

**Repair:**

33 Helical Pier[®] Foundation Systems screw anchors were installed to an average depth of 20 feet. Lifting force of 15,000 to 20,000 pounds was applied. Amount of Lift: ¼" to 2¾".