

## A CASE HISTORY

**Project:**

Corestates Center Sports Complex  
Philadelphia, PA

**Structural Engineer:**

Bernard Schwartz &  
Associates  
Blue Bell, PA

**General Contractor:**

L.F. Driscoll Co.  
Bala Cynwyd, PA

**Foundation Contractor:**

D'Angelo Bros., Inc.  
Philadelphia, PA

**Job Description:**

Mechanical-equipment foundation installation with strict settlement tolerances posed unique challenges to the foundation designers. Since the underground piping systems had to be installed before the equipment, two problems came to light. One was that the structure itself limited access for a timber-pile rig. The other was that the proximity of the underground piping raised concerns against the excessive vibration and possible heaving associated with pile driving.

Site geology consisted of a dense sand and gravel layer under a 25-foot organic/clay layer covered by 5 feet of common fill.

**Repair Solution:**

Chance SS175 HELICAL PIER<sup>®</sup> Foundation Systems anchors were used to support the structural equipment pads which required a 10-kip working load per anchor.

Due to the close spacing of the 45 anchors, 4,000 ft.-lb. of installing torque was used to exceed standard factors of safety used for this working load. The installation was achieved using a 190 Dynahoe first to expose the existing piping and then to supply power to the 10,000 ft.-lb. drive head for anchor installation.

Chance streetlight foundations also were installed for site lighting around the arena perimeter.

