

# CASE STUDY

## 7" HELICAL PILE SOE AND UNDERPINNING FOR A 100-YEAR-OLD COMMUNITY CENTER

### INSTALLER:

CMI Structural Solutions

### PILE DETAIL:

7" OD x .300" WT  
4.5" OD x .337" WT

### EMBEDMENT DEPTH:

20' and 30'

### OVERVIEW:

The Spiegel Community Center is housed in a historic building in the village of Pittsford. The community center had outgrown the existing building and after several years of research and planning, it was decided that the existing historic building would be preserved and added onto.

### CHALLENGE:

The large addition required the excavation for the new foundation to go deeper than the existing foundations which border the addition on two sides. This required a SOE be put in place to not only stabilize the existing building, but ensure to ensure the existing foundations were not undermined by the excavation. In addition, any excessive vibrations would cause damage to the historic building.

### SOLUTION:

CMI Structural Solutions proposed a solution for the retrofit, underpinning, and shoring of the 100-year-old community center. This included the use of helical piles and Counterforce underpinning brackets from Ideal. To stabilize the structure, CMI installed fourteen 7" OD x 408" WT and 4.5" OD x 337" WT helical piles. The piles were installed to 20-foot and 30-foot depths. Counterforce underpinning brackets were used at each pile location. Once all of the piles were installed, timber lagging was attached to the face of the piles as the excavation continued. A unique feature and advantage of this temporary shoring is that the timber lagging can be removed as the excavation is backfilled, and re-used elsewhere in the future.



**WITH PREVIOUS SINKHOLE ACTIVITY ON SITE, THE PILES HAD TO BE DRIVEN TO BEDROCK TO ENSURE ZERO MOVEMENT SHOULD THE SOILS DISAPPEAR.**

