

# MICROPILE UNDERPINNING SUPPORT



## PHILADELPHIA MUSEUM OF ART – SOUTH TERRACE

Deepening the existing museum basement to allow construction of new elevators and a new truck access tunnel required underpinning and partial removal of existing concrete foundation walls for the actively operating museum. D'Angelo Bros., Inc. engaged Peirce Engineering, Inc. to design 150 ton design load micropiles to support the steel needle beams designed by the project geotechnical engineer. Micropile design considered large unbraced lengths so that lateral bracing of the micropiles could be minimized or eliminated in order to facilitate removal of very hard gneiss bedrock. Micropiles were located to be either behind or encased within the proposed foundation walls. In addition, Peirce Engineering, Inc. designed the 300 ton micropile load test frame and its 75 ton design load tension reaction anchors.

**CONSTRUCTION MANAGER:**  
L. F. Driscoll Company  
Bala Cynwyd, Pennsylvania

**UNDERPINNING CONTRACTOR:**  
D'Angelo Bros., Inc.  
Philadelphia, Pennsylvania.



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1220 Valley Forge Road, Suite 14  
Phoenixville, PA 19460

Ph: (610)933-8353

Fax: (610)933-8359

Mail@PeirceEngineering.com