

STRUCTURES

DIVISION



GEOTECHNICAL CONSTRUCTION SERVICES

Da Vinci Science Center at PPL Pavilion

Location:
Allentown, PA

H&K Company:
Structures Division

Construction Manager:
Alvin H. Butz, Inc.



Owner:
DaVinci Science Center

Services Included:
• Micropiles

- Additional Project Features:**
- 136 EA (9,456 LF) of 5.5" Diameter 150 Kip Micropiles
 - 27 EA (1,876 LF) of 7" Diameter 225 Kip Micropiles
 - 33 EA (2,613 LF) of 7" Diameter 300 Kip Micropiles
 - 159.59 CY of grout installed in the Micropiles



Project Description:

This scope of this project was to install micropiles to support the brand-new science center being installed in the heart of Allentown, PA. Subsurface conditions were not favorable for shallow foundations. This region is also known for sinkholes and Karst topography, so micropile deep foundations were the obvious choice for the building foundation.

The bid scope of this project was to install 196 EA micropile at a 300-kip capacity in 40 days to maintain the tight construction schedule. Prior to the start of the project, detailed coordination between H&K, the Construction Manager, the Owner and the Designer, enabled us to economize the size and capacity of the micropiles to provide a cost savings by reducing the size of the casing and reinforcement bar. The actual quantity of piles installed overran the original designers estimate by over 36%, which is common with the subsurface conditions found in the Lehigh Valley. Even with installing the additional footage, our crew was able to complete the project in 49 days, to keep the project on schedule.

