

## Project: **Blessing Hospital System**

21005 Broadway, Quincy, IL. 62305

**Architect:** Christner Inc.  
168 North Meramec, St. Louis, Mo. 63105

**Structural Engineer:** SSE Inc.  
138 West Clinton, St. Louis, Mo. 63122

**General Contractor:** S M Wilson and Company  
2185 Hampton Ave., St. Louis, Mo. 63139

**Deep Foundation Contractor:** King Waterproofing  
23215 Corona Rd, Quincy, IL. 62305

In March of 2020 the construction for a new annex was being built at Blessing Hospital in an old parking lot that once was consisted of several old buildings. The project is a three-story metal building with brick façade supported by steel girders and steel columns on column footings. It also has a skywalk from the annex to the hospital. The project was designed for helical piles in the column footings with the ultimate capacities ranging from 80 kips to 170 kips.

King Waterproofing contacted Performance Piers and requested assistance in designing the correct helical piles for the project. Using the deep excavation helical pile program with the information provided in the soil report and the loads shown on the plans Performance Piers provided King Waterproofing a formative and competitive proposal with the Empire Piers helical anchors.

The 40 Kip piles would be installed with the 2.87" OD, .217 wall material. The 60K piles were installed with the 3.5" OD, .254 wall material. These piles have a 6K lateral load and 15K uplift load. The remaining piles were all installed with 4.5" OD .337 wall material.

Because of the concern with a 20" water main near the building on the south side that was 100 years old two of the column footings had to be designed with 120 kip ultimate lateral load. The piles also had to be designed with an unbraced length of 10' in case the water line would break and wash out the soil. Performance Piers designed a 4.5" pile to be 35' in depth to achieve the capacity. The top 14' of these piles would be sleeved with a 5" diameter shaft to take up the unbraced length. Empire Piers built the sleeves to be installed in the field and welded around the top and bottom of the pipe to the 4.5" shaft as well as plug weld the bolt holes. The sleeves were made to the exact length with a small gap between the coupling and sleeve when it was slid on for the weld.

The pile depths typically ranged from 24' -28' in depth to achieve the required capacities. The project was completed in 2.5 weeks.

