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Earth Retention

BJC Patient Care Center

New Hospital Patient Tower Requires Challenging Earth Retention System

A new 16-story Patient Care Center is under construction as part of the Barnes Jewish Healthcare (BJC) Campus Renewal project in St. Louis, MO. This building will replace what was the 18-story Queeny Tower, which closed in 2019. **The existing building was removed and new construction required excavation along two**

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very busy city streets and immediately adjacent to a remaining building.

Subsurface Constructors' engineers worked closely with the general contractor to design a system to safely support the deep urban excavation, with cut depths ranging from 19 to 45 feet. **Subsurface installed nearly 160 soldier piles and up to three levels of tiebacks at the deepest cut.**

One significant challenge of this project involved shoring along the existing building which is supported by shallow foundations. During construction, an old sheet pile tieback wall was encountered during drilling of the new soldier piles. Subsurface designed a cantilever system in this area to avoid the existing tiebacks. The new tower is scheduled for a phased opening starting in late 2025 with a 2026 completion.

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In addition to the new patient tower, BJC wanted a complete overhaul of the main entrance to the hospital. This required a rebuild of a pedestrian walkway that takes visitors from the parking garage to the hospital. In order to construct the new pedestrian walkway, it was necessary to provide new lateral support for the walls within the existing below grade parking levels.

Subsurface installed a total of 25 tiebacks on three floors through the existing wall that were then attached to walers to provide lateral support as existing floor supports of the garage were compromised.

Project details:

Year: 2022
Location: St. Louis, Missouri