## **Digging Deep**

Malcolm is under contract to provide temporary support of excavation for 500 Folsom in San Francisco, a proposed 570-unit apartment building located within the Transbay Development Area south of the Financial District in downtown San Francisco. With a building height of 440 ft, the project requires eight floors of below-grade parking developed

With a building height of 440 ft, the project requires eight floors of below-grade parking developed within a 72-ft-deep excavation.

within a 72-ft-deep excavation. Due to the steep sloping bedrock, a combination of secant piles and cutter soil mixing (CSM) panels will be installed for the temporary shoring walls. Bracing for the excavation will be a combination of internal struts and tiebacks. The project is underway with demolition of the existing structure, which will be followed immediately by the foundation work.



Brierley Associates performed BIM modeling for the 500 Folsom apartment building in San Francisco.

## Waterproofing on a Hillside

The new Neelu Bachra Centre at 500 West Broadway in Vancouver, British Columbia, Canada, is a LEED Silver certified building that includes six stories of retail and office

space and four levels of underground parking.

To waterproof and protect the foundation, Xypex Admix C-500 was added to the concrete walls and slab on



Xypex was used to waterproof the foundation of Vancouver's new Neelu Bachra Centre.

grade. The walls were shotcrete placed and had a drainage board matting behind them to act as a drainage layer. They were placed in 8-ft lifts against the shotcrete soil-nailed excavation stabilization layer or against a single-sided plywood backing form. The shotcrete nozzelman commented that the Xypex mix had no set delay or other discernible differences in its "shootability" compared with standard shotcrete mixes.

Built into a hillside, the new structure had significant water flow into the excavated hole from the surrounding soils. Leaking cracks in the exterior foundation walls self-healed; minor repairs were required only in the elevator shaft. This deep foundation building, set into a hillside with a known high water flow, was completely and permanently waterproofed using Xypex C-Series Admixture.