

## CASE STUDY

# 1800 Lake Apartments

Mixed-use Residential/Below-grade Parking – Minneapolis, Minnesota

## HISTORY

Greater Minneapolis, home to 12 lakes within just 58 square miles, proudly gives its citizens access to its many waterways – over 16 percent of the city is parkland, the largest in the United States among cities with similar population densities. Located in the Uptown neighborhood of southeastern Minneapolis is its largest lake, 400-acre Lake Calhoun, with an extensive trail system for biking and running, three beaches and a popular sailing outpost.

Lake Avenue wraps around the north side of Lake Calhoun and creates a transition from one of the city's most popular recreational areas into a thriving retail zone. The CPM Development group believed the avenue's intersection with Calhoun Parkway and Knox Avenue was the optimal "gateway" and created transformational plans for a development featuring wider sidewalks, a courtyard with a café, a 55-unit apartment building atop 2 levels of below-grade parking, and an accompanying 9,000-square-foot office/retail structure.

## PROBLEM

A substantial amount of the project timeline called for the demolition of existing structures on-site and the excavation of two levels below-grade for the parking structure. A fully developed neighborhood limited the working area of the project. Another concern was a much shorter prime construction season than is normal in warmer parts of the United States and a high water table measured at 14 feet below grade, 3 feet above the lowest slab level.

## SOLUTION

BKV Group and Engineering Partners had previously, and successfully, worked with Nucor Skyline on similar projects in the Minneapolis area that used the top-down construction



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method with a steel sheet pile system. Prior knowledge by all parties streamlined the design and aided achievement of HUD approval for the Lake Apartments project that started in the fall of 2010. An ABI MOBILRAM was used to install the sheet piles in very loose to medium dense sands. Joint permeability was eliminated by welding the sheet pile interlocks from the bottom of the excavation to the top of the pile.

Driving of the sheet piles began at the start of winter, which relieved project partners from extraneous costs (shelter, heating equipment) that come with traditional slurry wall construction, and the remainder of the project timeline was shortened considerably.



### PROJECT PARTNERS

#### Developers

CPM Development  
Minneapolis, Minnesota

Shelard Group  
Eden Prairie, Minnesota

#### Contractors

Weis Builders  
Minneapolis, Minnesota

Ramsey Excavating Co.  
Minneapolis, Minnesota

#### Architect

BKV Group  
Minneapolis, Minnesota

#### Engineer

Engineering Partners Intl.  
Eagan, Minnesota

### PRODUCT

355 tons of AZ 19-700 and AZ 26-700  
(at load bearing points)

