



The 474 North Lake Shore Drive Condominium Building is a 62-story, concrete framed structure, built in 1990. The first 15 stories of the high-rise tower are a parking structure, which extends to the west of the high-rise tower into an adjacent structure.

The exposed roof of the parking structure mostly serves as a common area sundeck at the 16th floor. Private terraces are located at the northeast and southeast corners of the 16th floor sundeck. The private terraces are separated from common area by built-in planters.

The sundeck structure consists of a post-tensioned concrete slab with a concrete topping. The existing waterproofing system consisted of a TPO membrane, geofilm fill for changes in elevation, and a finished surface of concrete pavers set on pedestals. There are also several partially enclosed steel-framed structures and an array of free-standing planters.

Openings were made in the waterproofing system during a facade repair project to install temporary anchorages for facade access equipment. The openings revealed water below the membrane indicating the waterproofing system had been compromised. BTC performed half-cell testing revealing localized areas of corrosion potential. There were also leaks in the top floor of the parking garage below the sundeck. Leak sources were identified through extensive water testing.

BTC designed repairs to the common area terrace, southeast private terrace, and built-in planter waterproofing systems. A hot-applied rubberized asphalt membrane was used for all 3 areas. The pavers and most of the geofilm was reinstated as the finish surface for the common area. Concrete pavers were installed over a sand bed on the private terrace. The contractor phased the work so overburden could be temporarily stored in adjacent areas.

BTC also provided bidding assistance and construction contract administration services for the project.

Project Name:

16th Floor Waterproofing Repairs
474 North Lake Shore Drive
Condominiums

Project Location:

474 North Lake Shore Drive
Chicago, Illinois

Client:

474 North Lake Shore Drive
Condominium Association /
FirstService Residential

Approximate Construction Cost:

\$1,000,000

Year Completed:

2024

Nature of Services:

Evaluation, Design of Waterproofing
Repairs, Bidding Assistance, and
Construction Contract Administration

