



## PROJECT PROFILE

# Plaza Deck Collapse Investigation

Post-Tension Slab Failure | Stamford, CT



### CLIENT

City of Stamford

### BACKGROUND

Built circa 2019, the Allure in Stamford is a twenty-two-story residential structure. The first four levels of the building contain a parking garage and the west side of the fifth level is an amenities plaza deck. The structure typically utilizes a post-tensioned, flat plate framing system. The fifth-floor amenities deck consists of a twelve-inch-thick post-tensioned slab and supports an exterior terrace with grilling and sitting areas, as well as a pool deck.

A partial collapse of the fifth-floor terrace post-tension slab occurred in February 2022. The client engaged WJE to investigate the cause of the collapse and to determine if other buildings in Stamford—built with a similar structural system by the same developer and engineer—could have similar issues.

### SOLUTION

WJE was on site the day after the collapse to document the in-situ condition of the collapsed slab. We performed nondestructive testing and took material samples of the concrete, post-tensioning, and reinforcement. We then performed a detailed review of all design documents, shop drawings, and special inspections from the original construction. Following our review, we issued a report indicating the cause of the collapse. In addition, we performed a peer review of the repair design and performed construction period services for the repair on their behalf. Following the repair of the Allure, we visually inspected an additional four buildings developed by the same team utilizing a similar construction type and provided recommendations for repairs for further investigation by the developer.

