

## CAMBRIDGE CENTER NORTH GARAGE, CAMBRIDGE, MASSACHUSETTS

**OWNER:**  
Boston Properties

**ARCHITECT/ENGINEER:**  
Desman Associates

**CONTRACTOR:**  
John Moriarty & Associates

The Cambridge Center North Garage provides 1,176 parking spaces on 6<sup>1</sup>/<sub>2</sub> levels. The structural system is a cast-in-place post-tensioned frame with an architectural precast concrete exterior facade. Exterior columns are 24" diameter round cast-in-place concrete. Interior columns of 24" x 28" square cast-in-place concrete. Floor to floor height is 9'-0", made possible by using shallow cast-in-place post-tensioned concrete beams 1'-8" deep and 4'-0" wide.

In comparing types of structural systems, the use of a cast-in-place post-tensioned system was chosen with the following advantages over precast:

- Construction cost was nominally less expensive.
- Due to the post-tensioned floor slabs, cast-in-place construction provides a virtually crack free deck. In place of temperature reinforcement, concrete was compressed with post-tensioning to compensate for tensile forces due to shrinkage and creep.
- The number of joints required in a cast-in-place system was far fewer than a precast system.
- All exposed connections between columns and beams were eliminated.
- High strength concrete and epoxy-coated rebar were utilized to increase the life of the structure.

