

## JOHN HANCOCK TOWER



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Boston's tallest buildings since its completion in 1976, the John Hancock Tower is well-known for its architectural achievements and engineering flaws. The building's opening was delayed for several years as a result of failing glass panels, yet subsequently was awarded several prominent architectural awards.

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## Architecture & Design Features

- ◇ All glass building with full-floor height glass panels (no spandrel panels)
  - ◇ Highly reflective window glazing results in slight contract building color to match sky color
    - ◇ Parallelogram shaped floor plates
    - ◇ Slender shaped floor plates with 'sharp-dimension' building corners
    - ◇ Vertical notch on one side of the tower emphasizes verticality shape
      - ◇ Original John Hancock Mutual Life Insurance building's image is reflected on the tower's east-side facade
    - ◇ Unique 'Tuned Mass Damper', installed near the top of the building, counter acts building sway during high-wind conditions
    - ◇ Original 3-pane glazing units replaced with single pane glazing units after identification of glass failure in 1976
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# 200 Clarendon

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## PROJECT SUMMARY

Project Description	Boston's tallest buildings since its completion in 1976, the John Hancock Tower was one of the first all-glass high rise buildings designed by the prominent architectural firm I.M. Pei. The building experienced significant problems including falling glass, foundation wall shift, and building 'sway', during wind conditions at the uppermost floors, resulting in occupants' motion sickness. The building was built by the John Hancock Mutual Life Insurance Company and served as its corporate headquarters for 30 years.
Official Building Name	200 Clarendon (as of 2015)
Other Building Names	John Hancock Tower
Location	Boston's Back Bay District   Boston, MA
Address	200 Clarendon Street, Boston, MA
Construction	Commenced - 1968   Completed - 1976
Occupancy & Use	Office

## PROJECT DESIGN & CONSTRUCTION

Owner/Developer	John Hancock Mutual Life Insurance Company
Architect	Harry N. Cobb of I.M. Pei & Partners
Structural Engineer	Mueser, Rutledge, Wentworth & Johnston
Façade	All-glass façade comprised of 10,344 oversized vertical glass panels. Original 3-layer glass panels replaced with single pane glass after original glazing design failure.
Structure	Steel frame with all-glass facade

## BUILDING CONSTRUCTION SUMMARY

Size   Category	2,060,000 GSF   191,400 GSM   Class A Office
Height Rankings	#475th tallest in world   63rd tallest in Unites States   Tallest in Boston, MA
Height Details	Tip: 790 feet / 241 meters   Occupied Floors: 790 feet / 241 meters
Number of Floors	Above Ground - 62
Parking	8-story adjacent parking garage   2,000+ spaces

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## NOTABLE FACTS

- ◇ In 1977, awarded National Honor Award by American Institute of Architects (AIA). Subsequently received the Twenty-five year Award by AIA.
- ◇ The proximity of National Historic Landmark, Boston's Trinity Church was a major concern during the planning and design of the John Hancock Tower
- ◇ Numerous development deficiencies occurred including damage to utility lines, sidewalk pavement and nearby buildings as a result of complications of clay and mud fill associated with the Back Bay neighborhood of Boston.
- ◇ A model-scale replication of the building and utilization of wind tunnel testing identified the problems contributing to the failing glass system. During the time it took in effecting glazing replacement, numerous plywood panels replaced glass panels leading to the building's nickname 'Plywood Palace'.
- ◇ The building's tuned mass damper is a unique system and is located on the 58th floor of the building. The system is comprised of two 300-ton lead weights at opposite ends of the building. Additional structural diagonal steel bracing was also added to stabilize the building.

