



#### Scope of Services

- Survey - Crack Mapping
- Documentation of As-Built Conditions
- Analysis
- Design Recommendations

#### Program

Becica Associates was part of a team of consultants whose goal was to identify the cause of water penetration and other structural deficiencies in the 27 story steel and concrete framed hotel and casino. The building façade was the main concern and our challenge was to devise a responsive repair scheme that did not change the building's appearance and did not interrupt casino operations.

The façade evaluation we performed included a detailed survey, analysis and report of existing conditions. Four swing staging "drops" representing 10% of the brickwork surface area were randomly selected. Using a ten power measuring magnifier, every mortar joint crack larger than 0.1mm was noted and plotted onto an accurate building elevation.

Façade cracking was analyzed to establish the statistical importance of the extent of water penetration through the brickwork itself and to evaluate the most probable cause of cracking.

Other observations included the lack of head and sill flashing and an improperly terminated through wall flashing throughout the project.

#### Design Recommendations

- Installing new vertical movement joints in the brickwork
- Fill mortar joint cracks using the "Bag & Grout" technique
- Spot repair deficient through-wall flashing
- Add window head and sill flashings.
- Replace window gaskets and sealants.

#### Estimated Project Cost

\$5 Million

#### Report Date

1992

