



THEME BUILDING RENOVATION PROGRAM

PROJECT DESCRIPTION

The 50-year-old cultural and historic landmark LAX Theme Building underwent a renovation involving a new engineering design for the arch system. The old stucco was completely removed and reconstructed. The top half of the building was coated with newly designed moisture-, water-, and ice- proof stucco to protect against damage from the elements. Fans were integrated into each arch to keep the structure moisture-free by blowing air out a centrally located vent on the pinnacle of the building. The renovation also involved shoring the building's foundation, providing required Americans with Disabilities Act upgrades, and seismically upgrading various building elements (including the garden plaza screen wall).

The most significant part of the seismic retrofit was the unique installation of a Tuned Mass Damper (TMD) in the top core of the building. Comprised of nearly 600 tons of steel, this structure-within-a-structure absorbs violent motion caused by earthquakes by counterbalancing with harmonic vibrations of its own. A TMD is typically installed at the base of a building. As one of the first of its kind in the United States, TMD installation at the top of the structure eliminated the need to widen the legs of the arches and allowed the Theme Building to maintain its original, historical structure and appearance.

TRAVELER BENEFITS

The Theme Building houses glass-encased commercial space with space-age interior that provides a 360-degree view of the airport and surrounding area along with spectacular exterior lighting designed by Walt Disney Imagineering.

In addition, the public observation deck, which was closed after September 11, 2001 was re-opened upon completion of the renovation. Travelers will find these sites more readily accessible, seismically safer and aesthetically pleasing.



Arches of the LAX Theme Building undergo reconstruction with newly designed stucco to protect against rain and ice.



Air and moisture is expelled through this central vent to prevent damage from condensation.

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■ CONSTRUCTION DATES

March 2007 – June 2010

■ COST

\$12.3 million

■ FUNDING

Funding for the project came from the LAX Airport Revenue Fund.

■ TRAVELER IMPACTS

During construction, the space-age themed Encounter Restaurant and the ground-level City Deli public cafeteria remained open to the public. Offices and the airport's commissary, that provides prepared foods to the rest of LAX's Concessions, also remained open.

■ CONTRACTORS

Architect: Gin Wong Associates o Contractor: Tower General Contractors

Engineer: VCA

Seismic Engineering Design: Miyamoto International

Seismic Testing: University of California, Los Angeles (UCLA) Network Earthquake Engineering



A Crane installs one of the 22 two-inch steel plates that comprise the tuned mass damper. A total of 600 tons of steel were placed into the top core as part of the unique seismic retrofit.