



PROJECT DATA SHEET:
Grand Central Air Terminal

SEISMIC ENHANCEMENT FOR A MONUMENT OF AVIATION



***Masonry Solutions
International, Inc.***

10815 Beaver Dam RD, Suite D
Cockeysville, MD 21030 USA
Tel: 877-815-7906 Fax: 410-771-1942



Grand Central Air Terminal (GCAT)

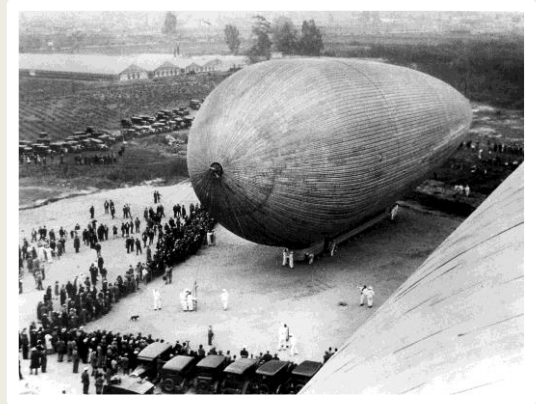
Location: Glendale, CA

Age: Built 1928

Key Topics: Seismic retrofit, historic stabilization, NDE, CIF injection, GS anchors

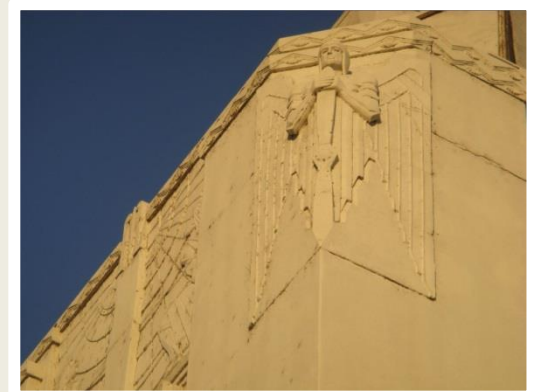
Project Background:

- Grand Central Air Terminal (GCAT) or Grand Central Airport was the first official air terminal for Los Angeles
- Several famous aviation pioneers made their mark at GCAT, including Charles Lindbergh, Amelia Earhart, Howard Hughes, and William Boeing
- With its close proximity to Hollywood's studios of old as well as all manner of aircraft, GCAT was a magnet for big budget movies up to and including the 1940's
- Due to declining profitability, GCAT shuttered in 1959. It was later damaged in the 1994 Northridge earthquake
- The Walt Disney Company purchased GCAT in 1997 and subsequently launched a major seismic retrofit project



Challenges Presented:

- Due to multiple building campaigns enlarging the original terminal, a complex web of structural elements existed
- Hidden, riveted steel leads coursed throughout the building and architectural flourishes adorned the exterior façade, necessitating an extremely cautious intervention
- The renovation needed to address seismic concerns while avoiding unwanted changes to aesthetics

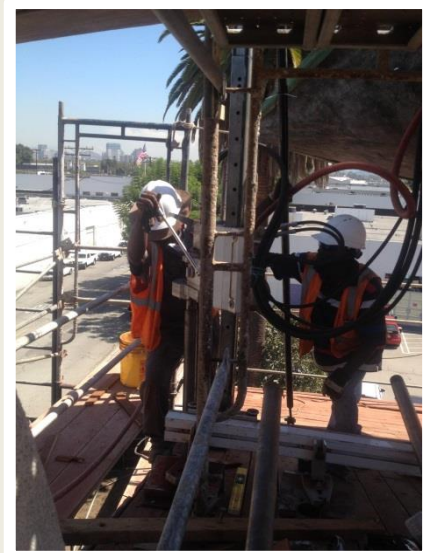
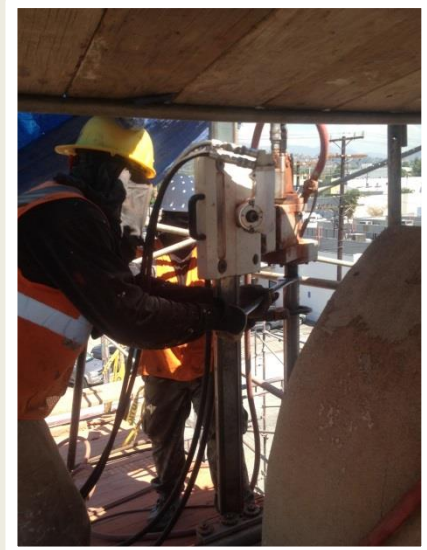




Repair and enhance without changing the aesthetics.

Services and Solutions:

- Masonry Solutions worked with the project team to develop a comprehensive approach that utilized non-ferrous internal reinforcement of GCAT's walls
- First Masonry Solutions' technicians drilled vertically through the exterior CMU and brick to allow for placement of the Gruenstark Masonry Fabric Anchor System
- Masonry Solutions applied advanced long-bore dry coring tools and techniques, including use of the proprietary Romeo I Coring Equipment
- Installation of Gruenstark fabric anchoring followed, with injection of Compatible Injected Fill, or CIF, to bond reinforcements to surrounding masonry units
- This allowed the team to strengthen key points of the structure without precipitating needless intervention
- Over 6800 linear ft. of Gruenstark fabric anchors were furnished and installed by MSI
- Additionally, due to voided and weakened masonry, MSI injected MSI Flowable Fill, a cost-effective fill for large open cavities, throughout the majority of the building, bonding individual units together and providing rigidity
- Masonry Solutions performed their work with caution to protect and enhance without negatively affecting any of the substantial architectural heritage present at GCAT
- This seismic retrofit project allowed Grand Central Air Terminal's historic visage to continue illuminating an era of aviation for future generations of visitors to come



Masonry Solutions International, Inc.

10815 Beaver Dam RD, Suite D
Cockeysville, MD 21030 USA
Tel: 877-815-7906 Fax: 410-771-1942

Masonry Solutions International has worked in the field of masonry preservation and enhancement for over 20 years. It has pioneered a number of advanced techniques, including compatible masonry injection and undercut fabric anchorage.