



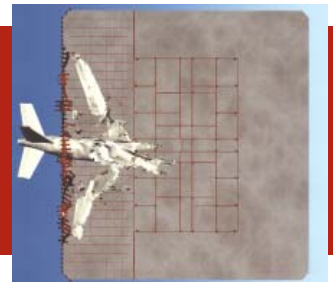
CASE Firms Win Engineering Awards

Three CASE member firms celebrated winning prestigious awards in the ACEC Engineering Excellence Awards – Weidlinger Associates, New York, Magnusson Klemencic Associates, Seattle, WA and Degenkolb Associates, San Francisco, CA.

WTC Forensic Study

Weidlinger won the top award, the Grand Conceptor, with “The World Trade Center Forensic Study: Anatomy of the Collapses”. They set out to understand what happened inside each tower separately from impact to collapse. Based on the evidence and analysis, investigators concluded the buildings were sufficiently robust to resist the impacts of the airplanes but were fatally weakened by the subsequent fires. Each tower fell in a unique way, and the collapse of the South Tower did not cause or contribute to the collapse of the North Tower. This study was the first comprehensive airplane impact analysis on a civilian structure. It was also a benchmark collaboration of experts of two historically disconnected disciplines – structural and fire engineering.

The analysis demonstrated that less than 20 per cent of the towers’ structural capacity was being utilized before the tremendous impact forces severed core columns and stripped fireproofing making them vulnerable. Floors suffered only localized damage after initial impacts and didn’t fail prior to the collapses.



Highcliff Apartments

High on the steep rocky cliffs above Central Hong Kong, the extremely slender profile of Highcliff Apartments captures the eye and imagination. Magnusson Klemencic (MKA) won a Grand Award for this project. The double-ellipse-shaped tower soars 73 stories (818 feet) to a record-breaking height with an amazing slenderness ratio of 20 to 1 (one of the most slender buildings in the world). The structural system was developed by Magnusson Klemencic, and is both unobtrusive and high performance with a first-of-its-kind approach to wind mitigation. Compared to traditional systems, the design provided a 30% reduction in concrete column, wall and beam sizes, and a 40% reduction in steel reinforcing.

For years, MKA has been committed to sustainability in design, targeting reduced material quantities, use of materials that are locally available, and recycling of project elements. MKA incorporated fly ash into all the concrete used in the building’s design.



Murrah Seismic Study

Degenkolb Engineers participated in a ground-breaking FEMA-funded study that analyzes how much blast and progressive collapse resistance can be gained in existing buildings if seismic rehabilitation measures are taken. Degenkolb assessed whether a seismic retrofit can increase the blast resistance of a building. It was concluded that seismic strengthening would have prevented the progressive collapse of individual floors to only the first level. Such performance would have prevented most of the casualties. This study is a first step in determining whether a multi-hazard mitigation strategy could save lives and protect communities from economic and human catastrophes.

The financial losses attributed to the terrorist attack rippled across the country. Experts estimate costs in Oklahoma City alone surpassed \$1 billion. The federal government spent \$1.2 billion after the attack to make federal buildings safer. An audit issued a month after the bombing, estimated \$652 million in total damage, including \$225 million in losses to the state.



SBA Proposal to Alter Size Standards Is a Major Concern

A recently published proposed rule would alter the standard used to determine the eligibility of engineering firms for small business programs and federal set-aside contracts. The change, proposed by the Small Business Administration (SBA), seeks to convert size standards that are currently based on annual gross receipts, to a "number of employees" basis. Under the proposed rule, the current size standard for engineering services, which is \$4 million in annual gross receipts, would convert to 50 or less employees. In addition to the number of employees test, engineering firms must maintain annual gross receipts of less than \$7 million. SBA is suggesting the "gross receipts test" to ensure that firms do not purposely stay below the 50-employee threshold, while subcontracting out large amounts of work in order to remain eligible for small business set-asides.

"It's always a concern when SBA toys with the size standard," said Kathy Dewkett, of Dewkett Engineering. "Depending on the size of your firm, you could lose your eligibility for



small business programs overnight."

ACEC began meeting with SBA's Office of Size Standards last year in anticipation of the proposed standard, and has established a task force of small, medium, and large firm principals to address the issue.

The task force's goal is to establish consensus among ACEC firms and develop comments for SBA, to protect the interests of all ACEC members.

