

# Renovation Design C-17 Hangar

A change in mission requirements for the U.S. Air Force Reserve at March Air Force Base (AFB) necessitated the renovation of an existing hangar to allow the storage and maintenance of the C-17 Globemaster transport plane. Kleinfelder provided sustainable design, structural engineering, and construction administration services for this hangar renovation.

## PROJECT RESULTS

*Kleinfelder's sustainable design solution for this hangar renovation saved the Air Force \$19 million in construction costs.*

*Kleinfelder provided a sustainable, cost-effective design that successfully addressed client mission, lifecycle design, construction, and operations parameters.*



## CHOOSING FROM ALTERNATIVES

To comply with federal standards, the C-17 required an additional 9-plus feet of clearance above the wings and other structures to allow safe maintenance operations around the aircraft. Options included building a new, larger hangar; constructing a new higher door on the existing hangar; or raising the existing hangar to provide the additional necessary clearance. An alternatives analysis was required to identify the best option to meet the Air Force's mission requirements.

## COORDINATED DESIGN AND REVIEW PROCESS

Kleinfelder worked with the prime contractor to develop an alternatives analysis of the options, comparing sustainability, cost, and risk. After electing to raise the existing hangar, Kleinfelder coordinated the design and design review process with project stakeholders, including USACE Louisville and Los Angeles Districts, HQ AFRC/CEC, and March AFB. The design included deconstruction, new member, and reconstruction details using AutoCADD, which allowed the Air Force, USACE, and the contractor to use the electronic files after design completion.

### Location:

March Air Force Base,  
California

### Owner:

U.S. Army Corps of  
Engineers, Louisville District



C-17 Globemaster transport plane



Design uses energy-efficient doors

