

CARL R. DARNALL ARMY MEDICAL CENTER

PROJECT TEAM

Owner ● Army Corps of Engineers

General Contractor ● Balfour Beatty and McCarthy

Architect ● HKS Architects and Wingler & Sharp

Structural Engineer ● Cagley & Associates

Mechanical Engineer ● Southland Industries

Electrical Engineer ● M.C. Dean

BUILDING STATS

Location ● Fort Hood, Texas

Total Size ● 900,000 sq. ft.

Number of Stories ● 6

Rough Project Cost ● \$500 million

Projected Completion Date ● November 2014

Project Delivery Method ● Design-Build



Rendering of the main entrance and the patient bed tower. Courtesy of HKS Architects



Rendering of the healing garden. Courtesy of HKS Architects



Rendering of the intersitial building systems floor. Courtesy of HKS Architects

ARCHITECTURE

The façade of the medical center consists of Texas stone, and masonry recycled panels for easy maintenance and constructability.

Glazing provides daylighting into the transitional areas such as lobbies, waiting rooms, and public spaces like the cafeteria.

The medical center is broken into four parts, three clinics, a patient bed tower, and it also has a healing garden. Three story clinics have the potential to be expanded in the future, and the bed tower has an administrative floor that can be converted into more medical rooms.

STRUCTURAL

Concrete beams were designed for redundancy in order to protect the medical center from progressive collapsing.

Steel braced frames on exterior or interior are the main component of the lateral system.

The floors designed for high activity for medical procedures are designed as a 10" two way slab, and the 6th floor is designed as an 8" two way. The IBS floors are designed as composite deck with concrete topping.

MECHANICAL

A central utility plant located off site houses four 1,250 ton centrifugal chillers and four 11,600 MBH steam boilers. The base loaded 200 ton heat recovery chiller provides chilled water during the winter and it preheats the returning heating hot water.

Twenty five air handlers provide 100% outside air for the hospital with enthalpy wheels that recover heat from the general exhaust air.

Above each floor is an IBS floor which allows for easy maintenance of the equipment for building services.

ELECTRICAL

Emergency power is provided to the building by two 480 V, 3 phase emergency power class generators.

The CUP receives 12.47kV from primary feeders which then steps down to 480/277, 3 phase with transformers.

The medical center has recessed lighting with more luminous lighting in the medical rooms.