

NEW GENERATION CHILD DEVELOPMENT CENTERS OPEN AT FORT RILEY, KANSAS

The first of a new generation of Child Development Centers (CDCs) entered service earlier this year at Fort Riley, KS where more than \$1-billion dollars worth of construction is planned or underway in step with the US Army's 1st Infantry Division returning from a ten-year station in Germany. The daycare/preschool facilities, based on a standard design, are representative of a broader initiative of design standards developed for various Army facilities to improve not only on-base infrastructure and military family resources, but facilities procurement policy that delivers them at less cost, better quality and faster completion using LEED-equivalent design, sustainable materials, and conscientious construction management.



The identical 16,000-sq.-ft. childcare centers at Fort Riley were produced by a \$11.25-million Multiple Award Task Order Contract (MATOC). The set-aside contract was awarded to a minority-led joint venture and produced the mid-sized CDC standard design that serves 198 children ranging in age from infants to pre-kindergarten. The facility's plan provides 12 classrooms, a commercial kitchen, staff training room, a staff break room, infirmary for isolating sick children, and an administrative area. The facilities comply with the Force Protection Act and incorporate numerous CATV surveillance cameras, controlled access and other security provisions.

U. S. Army Corps of Engineers administered the MATOC contract awarded on the basis of fixed-cost and design/build project delivery. The standard's general guidelines for CDCs originated at the Army Facilities

Standardization Center within the US Army Engineering & Support Center in Huntsville, AL. In addition to economies gained from consolidating multiple projects in a MATOC award and adherence to the standard, the programming instills continuous process improvement and reduces total project delivery schedules. Applicable lessons learned from projects and their as-built drawings can help to steadily refine the standard, according to the Architectural Branch at Huntsville. The Army also foresees the common environments presenting less adjustment issues to children when families are transferred from installation to installation across the Continental United States.

In step with the military's emphasis on sustainable construction, the buildings are designed to LEED® Silver-equivalent criteria that could potentially evolve into LEED Gold- or even LEED Platinum-equivalent specifications. LEED is an acronym for the Leadership in Energy & Environmental Design rating system originated by the US Green Building Council and the Army design standard allows for achieving it with several types of construction, including the metal building systems supplied to the Fort Riley projects by Butler Manufacturing. The MATOC partnership of Caman /Strickland Joint Venture served as the design/builder for the two CDCs with BNB Architecture, as project architects, and Lankford & Associates, mechanical, electrical and plumbing engineers, as well as LEED-Equivalent design consultants.

Alan Lankford, PE, LEED AP, with Lankford & Associates, Consulting Engineers, scored the LEED-equivalent of 35 credits for each CDC, although the Army did not incur the cost of formal LEED registration and certification. The energy modeling applied E Quest Energy Analysis approved by DOE2. Systems included natural gas heating with electric air-conditioning equipped with an economizer, variable air volume distribution and CO-2 control.

High-efficiency water heaters and boilers further help to reduce gas usage. On the plumbing side, low-flow, hands-free water fixtures are expected to save 41 percent of customary water usage for this type of facility. T5 lighting throughout the interior is equipped with motion sensor controls and natural daylight assist contributed by an atrium and clerestory elements. The site illumination has 90-deg. cutoff lenses to minimize light pollution.

Although spatial goals were clearly defined in the standard and by code, these did not impair BNB Architecture from applying creative latitude to the CDC design. This was particularly true of the interior. Green Label-Plus finishes, epoxy paint, heat-welded, non-wax vinyl flooring, and low-VOC adhesives contribute to the enviro-friendly interior environment. BNB eliminated all 90-degree corners in favor of safer bull-nose junctures and used shielded door hinges throughout. The clerestory and atrium are another element not mandated in the by the Army's standard, along with sealed counters and other upgrades.

The Caman/Strickland joint venture gained bonus credits by diverting 75 percent, instead of the eligible LEED-credit minimum of 50 percent, of the construction waste for recycling instead of incineration or landfill disposal. The Butler CMR-24® standing seam metal roof system was insulated to R-28 and the walls to R-19. The insulated glazing is another energy-saving feature.