

## Value Engineering Gives Ft. Meade Better Barracks

By Marshall Hudson, Baltimore District, USACE

Low prices are good, but they are not a bargain if an item is unneeded or unwanted. Real value is getting essential function and quality for a fair price.

That principle, which applies to economizing in private life, is also the cornerstone of value engineering, the process of getting more value for the money spent on a project.

According to John Vogel, Value Engineer for Baltimore District, the goal of value engineering is to improve value by improving performance, safety, quality, reliability, and life cycle cost of a given project.

“People sometimes think that is just cost cutting, but that’s not the case,” said Vogel. “We’re trying to get value, to get the cost and worth of functions as close as we can to being equal.”

In value engineering, functions are things that the customer really needs and wants from a project. There are basic functions that describe what the item must do, which could be anything from housing soldiers to preventing flooding to eliminating unexploded ordinance. There are also secondary functions, such as convenience, dependability, and cosmetic appeal that may or may not be required.

Once it is clear that a project may be a good candidate for a value engineering study, a team is put together and a five-phase process is implemented to identify better ways to reach the same goals.

An example of a recent value engineering success in Baltimore District is the recently completed barracks complex project at Fort Meade, Virginia USA.

Project manager Scott Drumheller said the estimated cost of the Department of the Army standard design for the barracks complex was substantially above the programmed amount. Further, it



Value Engineering takes a good idea and makes it better, as in the case of the recently completed barracks complex at Fort Meade, Md. Value Engineering modified the Army’s standard design to give the soldiers more of the features they want at a lower cost to the Army.

did not meet the requirements of today’s soldiers. The soldiers wanted laundry rooms in every building and added storage capacity in every room, while the plan called for two community buildings with centralized laundry and storage facilities which cost much more.

Vogel said this was a “value mismatch.”

With the support of former District Engineer Col. Charles Fiala Jr., Drumheller, Vogel, and Baltimore District’s in-house design team figured out how to stay on budget, satisfy the customer, and capitalize on emerging Department of the Army barracks design criteria.

They put bigger closets and washers and dryers in every building. This allowed them to eliminate a community building, which saved costs. They also saved money by using wood construction with a brick veneer instead of block construction.

“We were able to add functional enhancements while maintaining the building’s outside appearance and

meeting all of the installation's design requirements," said Drumheller. "They're maintainable, and the inside is even better than the original plan."

The project that started \$11 million over budget was completed on budget, construction time was reduced by 50 percent, and amenities were added.

The Corps has long embraced the concept of value engineering. It has been actively applied to work since 1964, and every district has its own value engineer. According to Vogel, Baltimore District studies about 10 projects a year. The general cost avoidance goal is to save about six percent of all projects studied. Since 1964, Baltimore District has saved 10.3 percent, amounting to \$163 million.

"It is really a success story for the Corps," said Vogel.

*Additional information furnished by John Vogel, PE, CVS of Baltimore District, USACE which did not appear in the original article by Mr. Hudson:*

The project in the article was actually a combination of a late FY 00 Phase I and a follow-on FY 01 Phase II. They were combined for construction. Two studies were performed, one locally on Phase I and one at HQUSACE level on both Phase I & II.

- The local study was done in Nov 99. generated 121 ideas resulted in development of 33 proposals and 4 design suggestions.
- The HQUSACE study was done in Jan 01 generated 85 ideas led to 24 proposals.

Despite the two excellent studies, the project remained largely unchanged until it became apparent that the CWE of nearly \$50M was a non-starter against a combined PA of \$37M. Savings attributable to the two studies and subsequent additional Value Engineering effort by the design team were \$8.847M.

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