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Military construction program evolves to keep pace with Army Transformation

By Brig. Gen. Merdith W.B. "Bo" Temple
Director of Military Programs
Headquarters

Essential changes are taking place in the U.S. Army Corps of Engineers' military construction program to keep pace with the most comprehensive restructuring of the Army since the years immediately following World War II.

The Army is transforming from a division-oriented structure into a more brigade-centric, modular force as rapidly as possible while maintaining the war-fighting readiness of its operational units. This change brings unique challenges and opportunities in many areas, including military construction (MILCON).

Trends

During the past few years, the USACE MILCON program has steadily increased, while our staffing to execute the program has steadily decreased. Despite this disparity, we've done a good job leveraging assets to accomplish our diverse mission requirements.

Today's workload is even larger and will continue to grow as a result of several factors. One of these is the construction requirements from the latest round of the Base Realignment and Closure. BRAC 2005 is focused more on realignment than past BRAC rounds, which means that Army installations that gain units will need to have facilities built.

In addition, the Army is changing its global footprint through the Global Defense Posture Realignment. More units are returning from overseas locations. Before these units can be brought stateside, the facilities and infrastructure have to be in place to house them, train them, and provide their families with the quality of life they deserve.

At the same time, the conversion to a modular force will have certain unique facility requirements that will need to be in place as units are stood up.

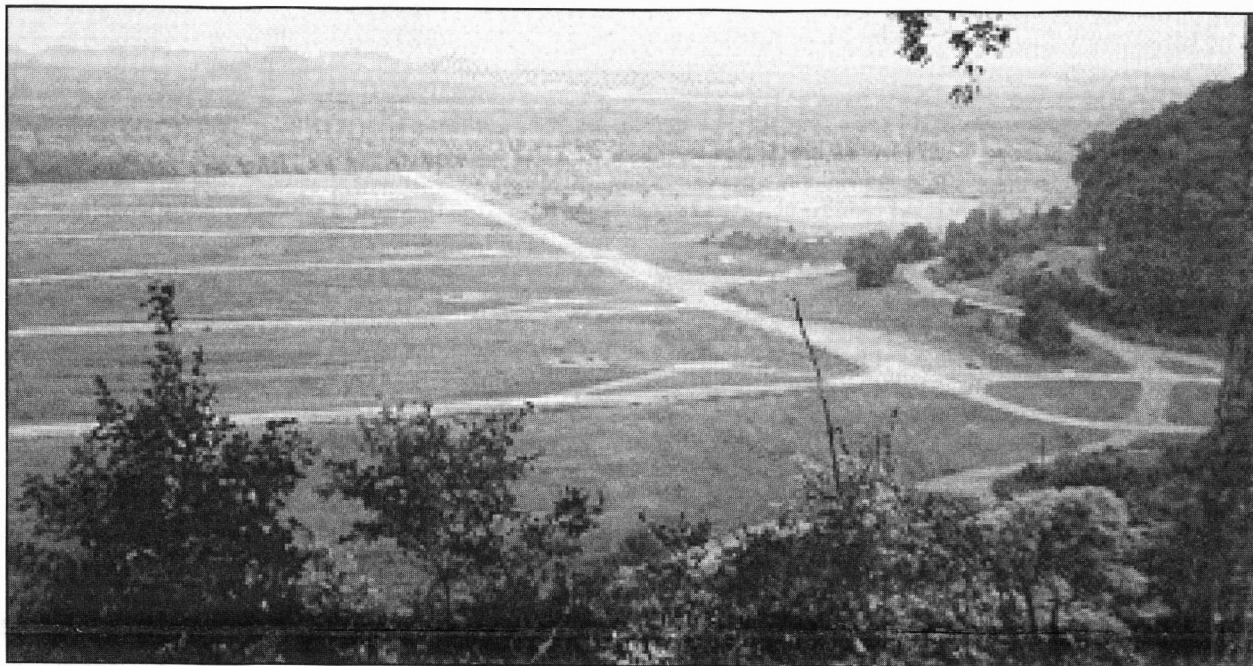
And finally, many of the existing facilities at our posts are near or have surpassed their design life and need to be replaced or rehabilitated.

Increased workload

The result is that our MILCON workload will likely reach or exceed \$40 billion during the next few years, and we cannot expect any additional human resources to execute the increased workload.

Add to this the requirement that BRAC and re-stationing initiatives must, by law, be completed by September 2011, and that the Army's eventual goal is not just sustainable buildings, but sustainable installations, and you can see that the Corps and our military customers have some tremendous challenges ahead.

As the Army's construction agent, we must help ensure that the Army has the quality, sustainable facilities and infrastructure it needs to meet future capabilities and missions. Now more than ever, our business processes need to allow us to deliver faster, less expensive, safer, and greener facilities to our



The Army will need more live-fire training ranges like Yano Range at Fort Knox, especially when the Armor School at Fort Knox moves to Fort Benning under Army Transformation. This range can accommodate six tanks, six Bradleys, six attack helicopters, or a combination of all three. (Photo by Ken Crawford, Louisville District)

Soldiers and their families.

Not business as usual

Our current business processes and organizational structure will not support the new requirements, so we must find new, innovative ways to plan, program, design, and build facilities. In the past year-and-a-half, we have looked across our MILCON program to identify efficiencies and processes that we can change, and we have gained perspectives from private industry, and from senior leaders in the Department of Defense and Department of the Army.

As a result of these efforts, we have developed a number of changes in our organization, business processes, and technology that we think will make the USACE MILCON program less prescriptive in the way of requirements, and place more emphasis on performance-based criteria.

The strategies and process changes are transforming our MILCON program, allowing us to meet our goal of continuing to deliver quality, sustainable facilities in less time and at lower cost.

We are now using the business processes of MILCON Transformation at several BRAC 2005 projects. In fiscal year 2007 (FY07), MILCON Transformation will be employed to the maximum extent possible on all Army MILCON and BRAC 2005 projects in the U.S.

What is MILCON Transformation?

MILCON transformation means several things: First, the Corps will provide additional *master planning* support to the primary customer, the Assistant Chief of Staff for Installation Management (ACSIM), laying the foundation for better facilities

in the future.

Second, we will increase our use of *standard designs and processes* that includes a transition from design-build in FY07 to the use of prototype adapt-build models by FY08. Centers of Standardization will allow us to manage this effort better and capture shared lessons learned more seamlessly, while maintaining our core technical competencies.

Third, we will employ *regional acquisition approaches* as described in the National Acquisition Plan, expand use of all types of construction, including *manufactured building solutions*, and emphasize *partnering* with customers and with industry, to include our small business community.

Fourth, we will apply *new technologies and tools* generated by industry and the Engineer Research & Development Center — tools such as the Building Information Model, the Land Use Evolution Model, and the Antiterrorism/Force Protection Planner, which are all parts of our "Fort Future" suite of Simulation and Modeling for Acquisition, Requirements, and Training tools set. To make our buildings more sustainable, we are looking at and incorporating more efficient energy systems and new technologies that conserve water, such as waterless urinals.

Helping to pull together these points is the establishment of a *continuous building program*. This program will provide contractors with greater predictability in funding, which will allow them to keep building at multiple sites across multiple facilities without waiting for incremental or phased funding.

The continuous building program also provides contractors with the opportunity to make improvements as projects move forward and incorporate lessons learned, which will lead to a reduction in project

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Insights

Courage is the value that guarantees all the others

Col. Sherrill Munn
Chaplain, U.S. Army Corps of Engineers

The last of the seven Army values is Personal Courage: facing fear, danger, or adversity with physical and moral courage. Courage is perhaps the most important of all the values. As Samuel Johnson, the great British writer, puts it, "Courage is the greatest of all the virtues. Because if you haven't courage, you may not have an opportunity to use any of the others."

A person cannot live a life of honor, integrity and loyalty without courage, both physical and moral. A coward cannot provide selfless service because he is first and foremost self-centered. He has neither respect for others nor self-respect. Whether in the face of danger he is paralyzed by fear or capitulates to moral pressure, in the end he will fail in his duty.

Winston Churchill expressed this truth eloquently, "Courage is the first of human qualities because it is the quality which guarantees all others."

But courage does *not* mean that we do not fear. In fact, if there is no fear, there is no courage. Courage is the virtue that is required in those important moments in life when we must act in the face of physical danger, risk of loss, or when pressured and tempted to do what we know to be wrong.

Rickenbacker. Capt. Eddie Rickenbacker, America's top fighter ace in World War I, defines courage as "doing what you are afraid to do. There can be no courage unless you are scared."

And Rickenbacker would know. He flew 300 combat hours, and shot down 26 enemy planes. In 1941, he was terribly injured in a crash of an airliner outside Atlanta. Despite his injuries, he encouraged those still alive and those dying. He directed some passengers who were still mobile to get off the plane to get help. Although given up for dead by his doctors, by his faith, force of will, and great courage, he survived.

In 1942, as a civilian during World War II, Rickenbacker was on a mission for Gen. Douglas MacArthur to review the condition of American bases in the Pacific. During one flight, the pilot of the B-17 in which Rickenbacker was a passenger was forced to ditch in the ocean. They were off course and did not know their position.

Rickenbacker and the other passengers and crew spent 24 days adrift in a life raft. When they were rescued, suffering from exposure, dehydration, and starvation, the others attributed their survival to Rickenbacker's leadership, encouragement, and bravery.

Courage & leadership. Courage is integral to leadership. There are a number of reasons why this is true, but these three are most important. First, as the Rev. Billy Graham states, "Courage is contagious. When a brave man takes a stand, the spines of others are stiffened." The courageous example of a leader encourages and emboldens those he leads.

Second, a leader is a person of action who refuses to let his fears choose his destiny. As Dale Carnegie put it, "Inaction breeds doubt and fear. Action breeds con-

fidence and courage."

Third, a true leader understands that there are two types of courage, physical and moral. They go hand-in-hand and a failure in either is to fail as a leader. Mark Twain's observation is still too true today, "It is curious that physical courage should be so common in the world and moral courage so rare."

Too many times we have seen smart, gifted, experienced, brave people rise to positions of leadership only to fall in disgrace because their moral courage did not match their physical courage. We lose many more leaders over moral turpitude than physical cowardice.

In fact, I submit that courage *begins* with moral courage. It is the foundation of all other virtues, including physical courage. In the words of Confucius, "To know what is right and not to do it is the worst cowardice."

Source. Where does courage come from? We can be encouraged and inspired by the courage of others, but that doesn't mean we will be courageous. As President Kennedy said, "The stories of past courage can offer hope; they can provide inspiration. But they cannot supply courage itself. For this each man must look into his own soul."

There is no easy answer to this question. Part of it is that we learn from the difficult experiences we face in life. As the old English proverb states, "A smooth sea never made a skilled mariner." It is on the anvil of tough times and threatening situations that our characters are forged.

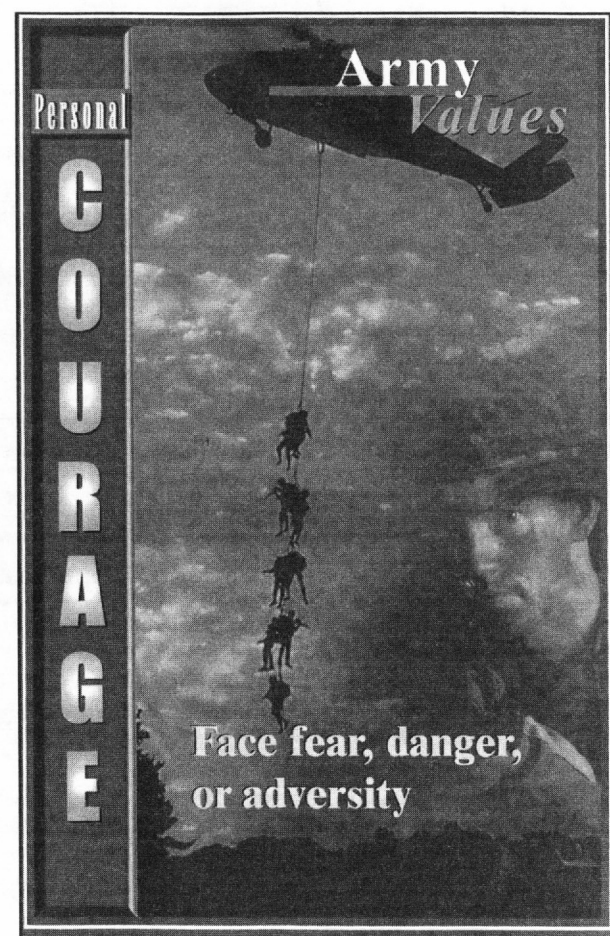
For many, their source of courage is their faith. In fact, the Roman philosopher and orator Cicero believed faith and courage went hand-in-hand. He said "A man full of courage is also a man full of faith."

Joshua before leading the people of Israel into battle encouraged them by reminding them of God's presence, "Be strong and courageous. Do not be terrified, do not be discouraged, for the Lord your God will be with you wherever you go." (Joshua 1:9). A sense of divine presence and the calling to a higher purpose beyond oneself has often emboldened people to face the most difficult circumstances with great courage, whether battle, wounds, serious illness, or death of loved ones.

Pfc. Tuong. I recently accompanied Lt. Gen. Carl Strock, the Chief of Engineers, to Walter Reed Army Medical Center to visit wounded engineer Soldiers. Each of them has a story of courage under fire, but one young man's story stands out and I want to relay it to you.

Pfc. Tuong is the son of a Vietnamese immigrant whose father fought in the South Vietnamese Army. He was deployed to Iraq and on a recovery mission and was driving an M-2 Bradley Infantry Fighting Vehicle to recover a disabled vehicle.

On the way to the site, Tuong's Bradley was hit by an IED, and he suffered severe shrapnel wounds to both legs. He made sure others were out of the vehicle, then checked himself and saw he was bleeding heavily from one leg. He called for assistance and was helped out of the Bradley.



A medic bandaged his wounds and put a tourniquet on his right leg. They moved him into a second Bradley to take him to a hospital. But as the second Bradley began to move out, it was hit by a second IED. The Bradley caught fire, and the rear exit ramp jammed.

Fearing they were trapped in a burning vehicle, the medic began to "freak out." Tuong remained calm, calmed the medic, and explained to him how to open the cargo hatch. The medic climbed out, then helped Tuong out.

Soldiers dragged him from the burning Bradley and put him in a HMMWV. Tuong noticed he was bleeding again, checked his tourniquet, and found it had loosened. Again remaining calm, he informed the medic, who replaced the tourniquet.

Finally, the HMMWV made it to the field hospital. Through all this, Tuong showed incredible bravery under fire. Though severely wounded, he remained calm and attentive to the situation, kept his head, and through his courageous leadership certainly helped to save the lives of other Soldiers.

Victorious. Through courage, we cannot only survive the most difficult circumstances in life, but we can be victorious over them and accomplish great things. Perhaps most importantly, courage builds strength of soul and a sense of a life well-lived with meaning and purpose.

The words of the Roman Emperor Marcus Aurelius are true: "It is not death that a man should fear, but he should fear never beginning to live." A valiant man or woman truly lives his or her whole life through, but, as Shakespeare writes, "Cowards die many times before their deaths."

(The opinions expressed in this article are those of the writer and do not reflect the official policy or position of the U.S. Army Corps of Engineers, the Department of the Army, the Department of Defense, or the U.S. government.)



District protects sea life during blasting

By Nancy Sticht
Jacksonville District

Ports maintained by the U.S. Army Corps of Engineers, in partnership with local port authorities, are America's link to world markets. Florida's Port of Miami, in particular, carries the dual distinction of "Cruise Capital of the World" and "Cargo Gateway of the Americas."

Last year alone, about 3.5 million passengers and more than one million tons of cargo transited through the Port of Miami from around the world. Two new cruise terminals, each accommodating 3,500 to 4,000 passenger mega-cruise ships, are planned.

In 1990, to meet the growing needs of the port and the demands of the passenger and commercial shipping industries, Congress authorized the deepening and expansion of the Port of Miami to 42 feet.

Phase I, in which the Port of Miami deepened the entrance channel and main turning basin under an agreement with the federal government, was completed in 1993.

Phase II, a \$40 million Corps project to address the South Harbor, began in fiscal year 2005 and is scheduled to be completed this year. The project includes the deepening of the Dodge-Lummus Island Turning Basin and Fisherman's Channel.

Challenges. Although the Port of Miami had previously attempted dredging this portion of the port without blasting, their efforts were unsuccessful due to hard limestone common to the area. Jacksonville District's solution was to blast the limestone, to enable the dredges to achieve the necessary depth for the channel and turning basin.

One of the greatest challenges for the project was the initial concerns of staffs of environmental resource agencies and non-government agencies about the use of blasting as a construction technique. Many biologists are unfamiliar with explosives and the physics of explosions, and only limited information is available about the environmental effects of blasting as a construction technique.

The Corps, the local sponsor, and the contractor held a variety of blasting workshops and public information sessions to explain the technique and the planned precautions to protect the sea life in the waters surrounding the port.

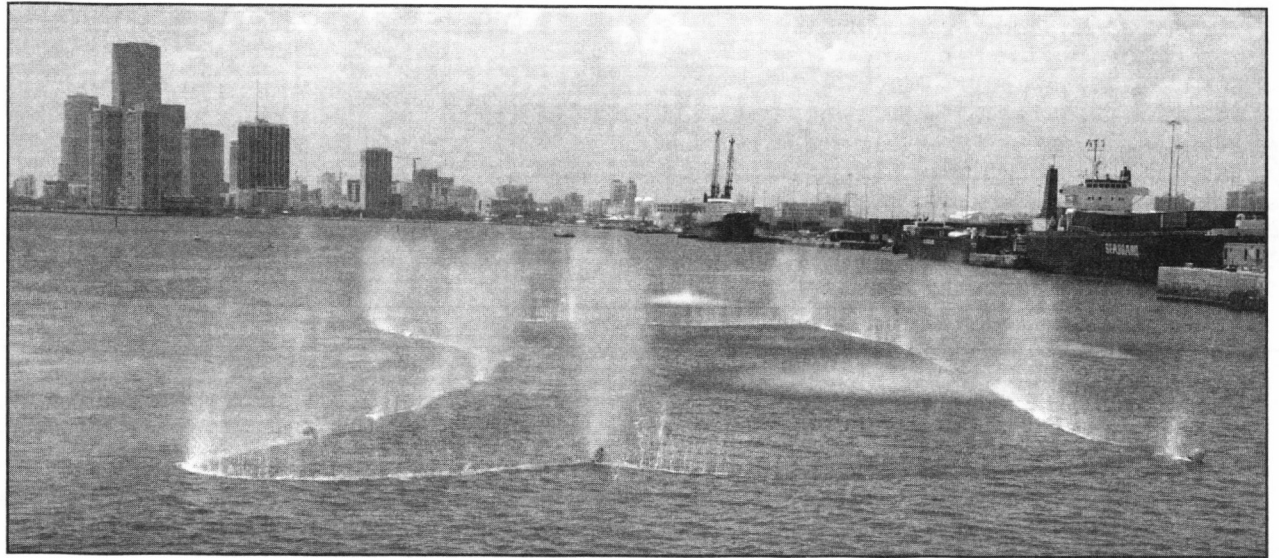
Protecting wildlife. Along with blasting the limestone, another major challenge for Jacksonville District was ensuring the safety of bottlenose dolphins, manatees, sea turtles, and other marine life and protected species that transit the harbor. The district developed a conservative blasting plan including state-of-the-art confined blasting techniques, observation, monitoring, and mitigation measures.

The National Oceanic and Atmospheric Administration (NOAA), National Marine Fisheries Service and the U.S. Fish and Wildlife Service, determined that the plan provided sufficient protection so that marine life was unlikely to be harmed by the detonations.

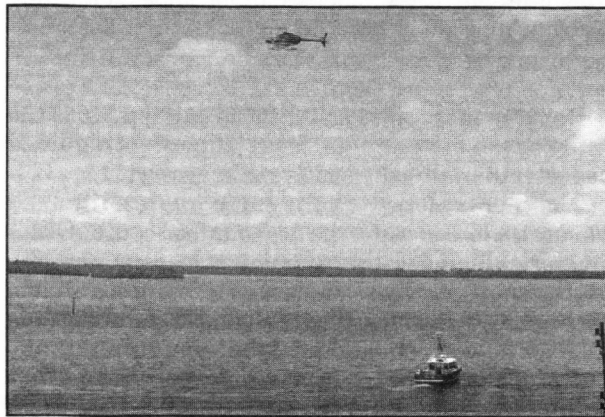
Generally, potential impacts to marine life that could occur from underwater blasting vary, based on the mitigation measures employed before, during, and after detonation. These affects range from acoustic and physical discomfort, to non-lethal and lethal injuries to internal and/or auditory systems.

Confined blasting was the key. In confined blasting, a technique used in Florida since the 1980s, the hole where the explosive material is placed is capped with an inert material, such as crushed rock. This is called "stemming the hole." Studies have shown that stemmed blasts decrease the strength of the pressure wave by more than 90 percent.

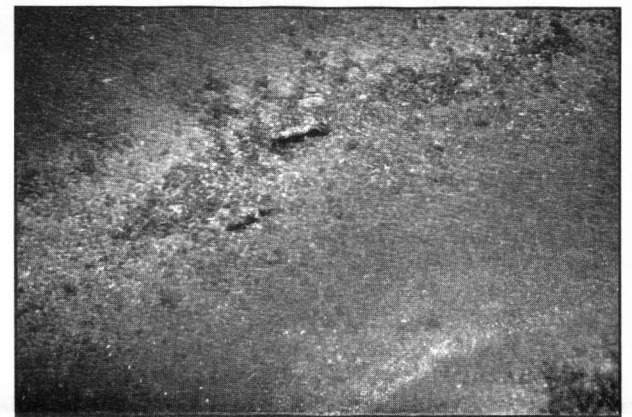
Jacksonville District conducted a test blast program to determine the lowest amount of explosives necessary to adequately break rock. Blasting was



Detonation cord draws the blast "boxes" while the blasts themselves are lower in the water and bushy in appearance. (Photo by Terri Jordan, Jacksonville District)



The observer vessel *SeaMe* and a helicopter from the drill barge keep watch for sea life, like the two manatees feeding at right. (Left photo by Ken Hollingshead, NOAA Fisheries; right photo by Mary Jo Barkazsi, ECOES Consulting, Inc.)



limited to daylight hours, no earlier than two hours after sunrise to not later than one hour before sunset, and no more than three blasts each day. By the time blasting concluded, only 40 detonations had occurred in a 38-day period.

Six vessel and aircraft-based observers trained in monitoring marine animals were on site to track the location and movement of marine mammals and protected species in defined protective zones. The zones were set up as a series of concentric circles (danger zone, safety zone, and watch zone) around the detonation site.

Observation. The observers conducted these watches at least 60 minutes before, during, and 30 minutes after each detonation. If marine animals were spotted, the detonation was delayed until they left the area on their own. Under no circumstances were animals forced out of the area.

A total of 168 protected marine species – 58 dolphins, 110 manatees, and 17 sea turtles – were observed throughout the blasting period. Dolphins were observed an average distance of 2,000 feet from the blast array, and manatees swam within 3,500 feet. Only 13 delays were necessary to ensure their protection during the 38 days of blasting.

Success. Based on the limited size and confinement of the blasts, the depth of the water, and the required stand-off distances between the animals and the blast array, both Jacksonville District and NOAA believe that the animals were unlikely to have been harmed by the detonations. The conservative monitoring and mitigation requirements helped to accomplish this mission while protecting marine animals and their surrounding ecosystem.

"I'm pleased that this project worked exactly as we had anticipated it would work," said project biologist Terri Jordan. "The data we collected backed up

three years of planning, research, scientific journal reviews, and consultation."

Following the completion of the construction and maintenance dredging for the Port of Miami project in June, Jacksonville District hosted an After Action Review for the federal, state and local environmental resource agencies. Participants also included the contractor and other interested parties, including the Tropical Audubon Society and the Sierra Club.

"From the standpoint of the blasting, all-in-all – everyone was surprised with how well the blasting went," said Lisa Gregg of Florida Fish & Wildlife Conservation Commission. "The efforts taken by the district to collect the pressure data helped further our knowledge about what the potential impacts could be. That additional information helps to fill in the gaps in our current knowledge base, and will help us to assess future blasting projects."

Education. As part of the continued efforts to educate others about blasting as a construction technique in areas where endangered and protected species are present, Jacksonville District presented posters about the Miami project at the 15th and 16th Biennial Conferences on the Biology of Marine Mammals, and presented information at the Ocean Society Conference's special session on Ocean Acoustics and the National Dredging Team Meeting.

The district has also been invited to present a paper about the Miami project at the International Society of Explosive Engineer's 33rd Annual Conference on Explosives & Blasting Techniques early next year.

District staff is also advising international environmental counterparts about the use of blasting as a construction technique for projects in County Cork, Ireland, and Kiel, Germany.

(Jacksonville District biologist Terri Jordan also contributed to this article.)

Freedom Souq serves Navy in Bahrain

By Andrew Stamer
Transatlantic Programs Center

In Arabic a *souq* is a marketplace or bazaar, and that's exactly what the 188,000-square-foot Installation Service Support Center in Bahrain is, except that it is done American style. This two-story building has the appeal and feel of a typical shopping mall found in the U.S.

Vice Adm. Patrick Walsh, commander, U.S. Naval Forces Central Command/5th Fleet, gave the facility his seal of approval by cutting the ribbon for the official opening on June 15. Col. Lawrence Sansone, Gulf Regional Engineer, and Michael Good, director of Navy Exchange Operations, also helped cut the ribbon.

"This new facility helps us achieve our personal goals," Walsh said. "So whether it's working out in the state-of-the-art fitness facility, purchasing a gift for a family member back home, or just grabbing a quick bite to eat, the Freedom Souq will go a long way toward improving the quality of our lives, as well as the quality of our work."

How this facility finally came to open its doors is a story 10 years long, according to Muhammad Khan, a project engineer with the Bahrain Resident Office. Large spans of time are common with construction, especially from concept through actual construction, and especially for a project of this magnitude.

"It's probably one of the biggest force protection projects I've ever worked on," said Khan of the \$24 million facility.

A new trend

A common trend in the military has been to consolidate larger operations, such as post or base exchanges and commissaries, under one roof. This project takes the trend a step further.

"This building consolidates more than 20 functions into one large facility that provides Sailors, Soldiers, and others with a safe area to shop and recreate," said Roger Thomas, director of Engineering and Construction Management Directorate.

The four main tenants of the souq are Morale, Welfare, and Recreation (MWR), the Navy Exchange, a post office, and the Navy Federal Credit Union.

Before Freedom Souq was built, basic facilities were scattered throughout the naval base. The shops were small, located in trailers, and weren't adequate to support the influx of Sailors when a large ship pulled into port.

Typical ship stores carry between 200 and 300 essential items for troops on board, according to Dan Cougevan, the general manager of the Naval Support Activity Bahrain Navy Exchange. The Navy Exchange in Freedom Souq has expanded from a small store to a 30,000-square-foot store that spans two floors.

"We'll have more than 7,000 line items in this



The Installation Service Support Center in Bahrain, named Freedom Souq, is almost identical to any shopping mall in the U.S. (Photos courtesy of Transatlantic Programs Center)

store," Cougevan said. "The first floor has food and consumables; the top deck carries shoes, clothing, jewelry, and an outstanding assortment of technology-based products. This store is an absolute knockout."

But it is more than just a place to shop. It is the heart of the base and the focal point of a tree-lined pedestrian mall – the base's main artery.

Whether Sailors work the early or late shift, they can grab a bite to eat at the 24-hour food court. Other amenities include laundry and dry cleaning services, barber shop, beauty salon, video store, Internet café, photo shop, two movie theaters, and three clubs (one each for officers, chiefs, and enlisted personnel).

The MWR fitness center is located in the other wing of the building and boasts the latest in cardio and weight rooms. Its design also encompasses basketball and racquetball courts encircled by a full-size running track.

This track was designed to let avid runners maintain aerobic fitness indoors due to Bahrain's extreme heat.

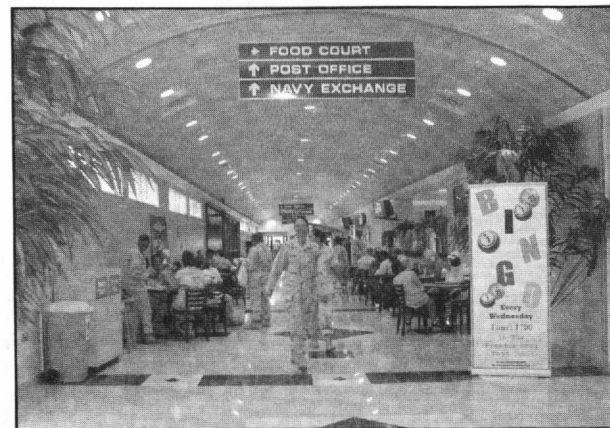
Troops can even relax after a work out in the sauna and steam room.

Force protection

This facility was designed to meet the latest in standards, and one of those is force protection guidelines.

"The need for a force protected community service support center became apparent as early as 1996," said Maj. Saiprasad Srinivasan, assistant resident engineer, Bahrain Resident Office.

In 1996, 16 U.S. service members were killed when the Khobar Towers complex in Saudi Arabia was bombed, which spurred a military construction boom in Bahrain and other areas in 1997. Since then, the Navy has invested more than \$100 million in construction projects.



The planning for Freedom Souq included these force protection requirements. These requirements were one of the most critical aspects the design, said Crawford Horne, senior architect who was involved with this project.

"One aspect of designing the building to meet force protection considerations is to keep exterior openings – doors and windows – to a minimum, yet keeping enough windows to allow some natural light into the building," said Horne.

Logistics

Finding solutions to logistical problems is a common issue during construction.

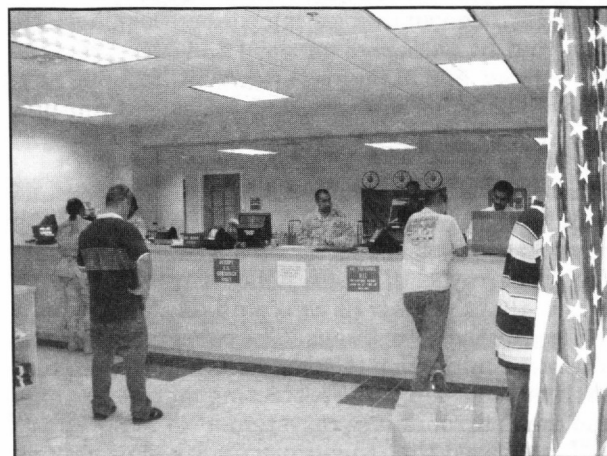
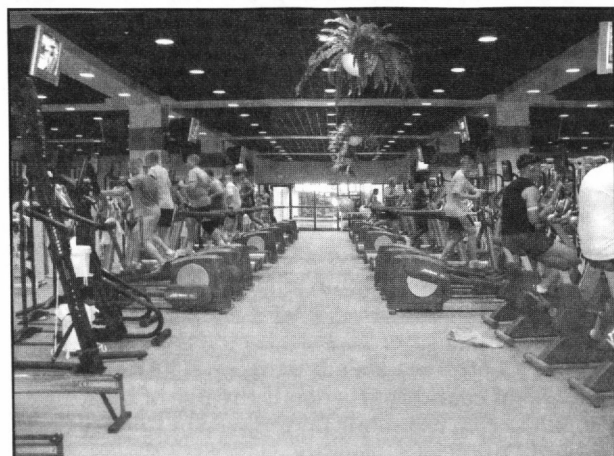
"It can be a challenge because most of the materials come from outside Bahrain," Khan said. These items range from ceiling systems to specialized force-protection equipment shipped from the U.S. "Procurement is a challenge because you have to think what you will need six months out. These items can be hard to get one month out; it can be expensive or even impossible.

"The success or failure of a project can depend on one item," said Khan. With 30 years of experience in the field, he has seen projects that didn't come through on time or under budget because of this lack of logistics. This aspect is important during the initial planning and throughout construction. And with a project as large as Freedom Souq, getting the thousands of items where they are needed when they are needed was tough.

"It was challenging, but when I look back, it is something I can be proud to have been a part of," Kahn said.

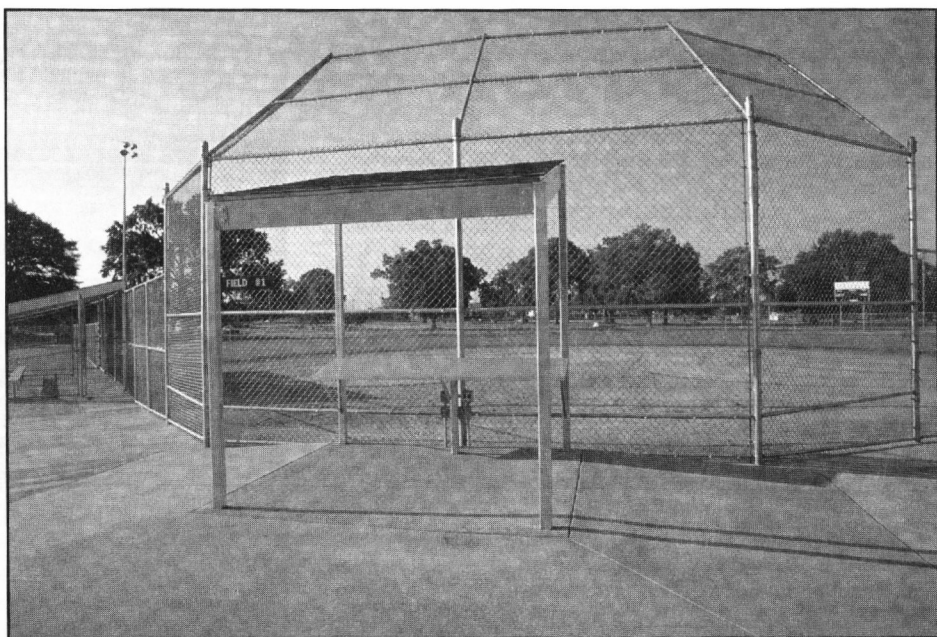
Although many materials had to be brought into the country, this project had an impact outside of its secured fence line. The construction contractor, Contrack International Inc., hired a local firm as a major subcontractor. These types of arrangements work out well because the local contractor knows the local laws and has connections with subcontractors that a firm from outside the country may not have.

"At least half of the contract value goes back into



Freedom Souq provides a wide variety of services to Navy personnel in Bahrain. Above is the fitness center and post office. (Photo courtesy of Transatlantic Programs Center)

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New facilities either completed or under construction at Fort Benning include everything from barracks to recreational facilities. (Photos by Jonas Jordan, Savannah District)

Fort Benning faces MILCON challenges

By Tiffany Holloway
And Sarah McCleary
Savannah District

A flood of Soldiers and their families are relocating to Fort Benning, Ga., due to Army Transformation and base closures, driving the demand for new facilities on the installation. In addition to the increase in infantry Soldiers coming to the base, the Armor School at Fort Knox, Ky., is merging with Fort Benning under the Army's plan for a modular force.

It all adds up to a challenge for the U.S. Army Corps of Engineers.

Corps projects underway or recently completed will provide the installation with much-needed facilities and services for the 10,000-plus Soldiers and family members who will call Fort Benning home. Various facilities including a fire station, chapel, fitness center, cargo apron, consolidated health clinic, shoot houses, combined arms collective training facility, digital multi-purpose range complex, and a barracks complex make up just part of the major military construction projects at Fort Benning, known as the Home of the Infantry.

Construction of the fire station and chapel is complete. The new one-story fire station has a kitchen with dayroom that doubles for dining or recreational purposes. Sleeping quarters are part of the facility, as well as administrative offices, medical room, and an apparatus storage room with a separate room for disinfecting equipment.

The old fire station, built in 1937, had many of the firefighters using their sleeping rooms as offices due to lack of space. Other firemen and women slept in open bays and shared bathroom facilities. The new fire station boasts separate bathrooms for women and men, as well as more space in their living quarters.

"It's like we have died and gone to heaven," said Fire Chief Arthur Simmons. "It took a while to get funding, but project manager Ken Holloway worked with the Director of Public Works and was instrumental in helping us get the new fire station."

The chaplains held a ribbon cutting ceremony last Dec. 4. Lt. Col. Ron Smith, the garrison chaplain, said the chapel seats 600 and has about 2,400 visitors every week, attending Protestant, Catholic, and Jewish services.

On the heels of the chapel dedication, a groundbreaking ceremony for the new fitness center was held on March 17. The new fitness center will have both a lap pool and a recreation pool, free weights, plate load, and weight-stack exercise machines, and cardiovascular equipment, such as bikes and treadmills. Other features of the new facility include a rock climbing wall, separate saunas for men and women, and family changing rooms.

Another project underway, scheduled for completion in August, is the cargo apron located at Lawson Army Airfield.

"The cargo apron's purpose is to let airplanes load and unload hazardous cargo," said Leroy Fedd, quality assurance representative.

Fedd said that poor soil conditions and erosion have made the project a challenge. To help with erosion control, engineers developed a field material used to cover concrete piping that is acting to bridge and control the flow of a creek.

Fortunately, the consolidated health clinic has not experienced challenges during production. Construction on the clinic, a one-story building that will serve 200 patients at a time, began in May 2005. The clinic will serve about 37,000 visitors each year, providing x-ray, audio testing and physical therapy facilities never available before.

"The clinic will offer Soldiers one building, as opposed to several different buildings to obtain treatment," said Ronald Hodge, quality assurance representative. The clinic is centrally located and provides convenient access. "We are trying to make the Soldier's life as easy as it can be."

To help Soldiers hone their combat skills, Savannah District is building shoot houses, a combined arms collective training facility, and a digital multi-purpose range complex allowing Soldiers to train in modern facilities with state-of-the-art equipment.

The district is also building much-needed barracks for the 3rd Brigade Combat Infantry Division, housing 144 Soldiers per complex. Each Soldier will have a bedroom, bathroom, and kitchen in the new facility. "The barracks complex will also include a brigade headquarters and two battalion headquarters with company operations facilities," said Rich English, resident engineer.

The increase in the Corps' responsibilities at Fort Benning as it transforms to a full-spectrum force require an increase in administrative staff, from 35 to 115 at the peak of construction, according to Joe Caggiano, assistant chief of Construction Division.

"Savannah District will be engaged in an extremely robust workload during the next several years in order to provide quality facilities for the Soldiers and their families," said Tim Morris, senior project manager for Fort Benning. "Funding for military construction at the base will climb from \$50 million to more than \$300 million each year for the next three years."

(Tiffany Holloway is a Department of the Army intern assigned to the Savannah District Public Affairs Office. She is currently completing the 18-month program following a year at Savannah District, completion of the Defense Information School Public Affairs Officers Course, and a 90-day rotation through the Pentagon. Sarah McCleary is a Department of the Army intern currently assigned to the Savannah District Public Affairs Office for one year.)

Freedom Souq

Continued from previous page
the local economy," said Khan.

This contract employed more than 650 employees from 10 nationalities to include Bahraini, Bangladeshi, Egyptian, Filipino, Indian, Jordanian, Nepali, Pakistani, Sri Lankan, and American.

Construction was managed by the Bahrain Resident Office and completed in March. The project was completed in 30 months on budget with more than 1.8 million man-hours with no lost time accidents.

From March until the ribbon-cutting, the tenants were moving into the facility and getting set up.

It took coordination of players from the Naval Facilities Engineering Command, the public works department on the Bahrain base, TAC elements in Bahrain and Winchester, and the contractor, to make this project come together. Throughout the design process, the Navy, and tenants who would be occu-

pying the facility, played an instrumental role in presenting their requirements to the TAC design team, said Keith Evers, project manager.

"There has always been a strong presence of teamwork and pride in the Bahrain program from all the participants — the Navy, Army Corps of Engineers and the contractors," said Evers. "The success of Freedom Souq pays testament to these qualities, and when you thought the bar was on that last rung, it was raised higher."

"We've opened a world-class facility for our world-class service members," Srinivasan said. "It's a one-stop shop for all their recreation, leisure and shopping needs."

And the reaction to the facility since its opening "has been extremely positive," Evers said. "You know your team has done well when you see the expression on the patrons' faces when they entered the facility for the first time. They were in awe."

Iraqis risk lives to rebuild their nation

By Ken Holder
And James Bullinger
Gulf Region South

It can be a matter of life and death to work for the U.S. Army Corps of Engineers in Iraq. The Corps' projects and progress in Iraq are well-known, but much of that work is actually done by Iraqi civilians, sometimes at the cost of their lives.

On June 23, Iraqi engineer Salah Hadi Obid was murdered for working with Gulf Region South. Salah was simply a patriot, a man intent on making a difference in his native land, determined to help his countrymen rebuild his nation's infrastructure and improve the quality of life.

After three decades of neglect under Saddam Hussein's regime, followed by the 2003 war, then damage from looters and sabotage, much of Iraq's infrastructure is either destroyed, in decay, or inoperable. Salah was a 35-year-old college-educated Iraqi engineer who possessed the knowledge, skills, and fortitude to do the job and to do it well.

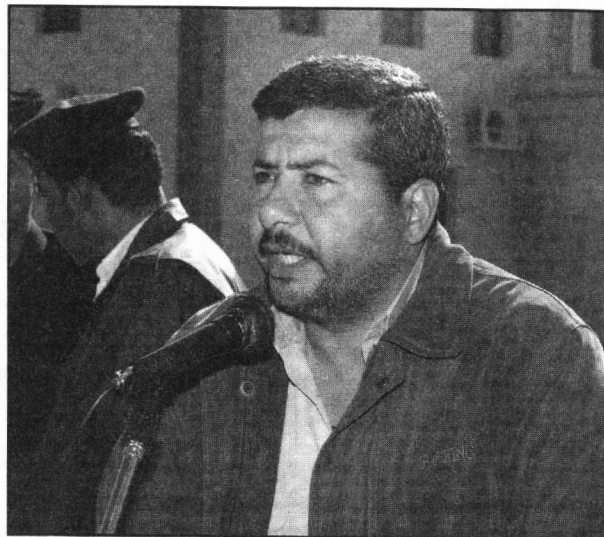
"Salah was one of those rare individuals who possessed everything he needed to be successful in whatever field he chose," said Lt. Col. Lorenzo Valenzuela, deputy commander of Gulf Region South. "As an Iraqi he was deeply saddened by all the hardships his nation and its people had been put through. Years of war, tyranny, neglect, and then war again left their mark on Salah. He also understood what we're trying to do for his people, and he truly enjoyed being a part of rebuilding this nation to its former glory."

Salah's desire to help his country led him to employment with USACE as the deputy resident engineer in the Forat Area Office in the Qadissiyah Province of southern Iraq.

Salah's ability and his dedication to the reconstruction mission made him an invaluable resource. But it also placed him in danger.

"He was our 'go-to' guy on a whole bunch of levels," said Valenzuela. "Salah was an excellent ambassador for his nation and for us. He trained other Iraqi engineers on issues varying from construction techniques to safety. When we needed to explain things to government officials, Salah was always the one we turned to and asked for help."

"He was more than just another engineer," Valenzuela said. "He was the heart and soul of our operation up here in Forat. I can't even begin to describe the magnitude of loss we all felt when we



Salah Hadi Obid, an Iraqi engineer, gives a speech at a police station he helped build. Salah lost his life on June 23. (Photo courtesy of Gulf Region South)

received the terrible news that he had been murdered."

Michael Osborne, the resident engineer in the Forat office, not only supervised Salah, but was proud to call him friend.

"Salah and I were friends and worked together for about 13 months," Osborne said. "I trained him on USACE procedures and U.S. construction methods. His family and my family exchanged emails frequently. We exchanged Christmas gifts for our families."

He was the right kind of person USACE needed for reconstruction efforts in Iraq," Osborne added. "Salah was a dedicated and loyal employee, experienced and professional. He always responded to taskings immediately and gave 110 percent to complete them."

Salah's projects included preparing the design for the 8th Iraq Army Division's barracks and force protection structures. But one of the most important and last projects to Salah was the Hashim Al-Merqal School in Qadissiyah, which was once a mud and straw structure used by more than 500 children.

According to Osborne, this school became a reality because of Salah's tenacity and his dedication to his people.

"There was no money, no land, and no support

from the provincial government," Osborne said. "But Salah never gave up hope and he carried the cause forward, as he did with all of his projects. With some luck, he obtained just enough funds from the Corps an account dedicated to Iraqi educational construction project."

And with that \$182,650 victory, construction started June 13.

"The facility will be dedicated as the 'Salah Obid School' when it is completed in October," Osborne said. "Salah was well respected by his peers and other locals that he lived and worked with."

But by working for the Americans, Salah placed his life and family at risk with those bent on stopping a free Iraq. He knew the danger and sent his family away to safety.

On June 23, while on his way to help a small village build a mosque, Salah was abducted, tortured, and shot 12 times. His body was found two days later.

"Those who captured and killed him understood the psychological impact his loss would have on the reconstruction effort," said Valenzuela. "But even in death Salah has defeated the forces that sought to silence him forever. It is because of Salah that our resolve has been strengthened. We have never been more committed to the mission. The school that will bear his name forever that says to the evil forces at work in Iraq that you can't silence a man of character with a bullet or with acts of terror. At end of the day right will always win out."

Salah was born on America's Independence Day, July 4, 1970, and wanted nothing more than to share his talents with his people and bring freedom to Iraq.

"He was the future of this country and he would want us to carry on," said Valenzuela. "We owe him nothing less than our best each and every day."

"He wanted a better life for his family and his country," Osborne said.

Before departing on R&R leave to the U.S., Osborne and Salah met on June 18, and Osborne described the depth of their friendship.

"I drove Salah to the gate after our meeting, we embraced, and Salah told me 'I love you, my brother. Be safe and enjoy your family.'" Osborne said. "Salah was a stabilizing presence with our local workforce. He is missed for many reasons."

Salah is survived by his wife Zaineb and young daughters Ula and Zaharaa, 10 and 8. They are safe and back home again.

HR Corner

PDSC changes its name, structure

By Louise Hicks
USACE Learning Center

One definition of *change* is to make something pass from one state or stage to another. The Professional Development Support Center (PDSC) in Huntsville, Ala., has done just that. Effective Oct. 1, the PDSC officially changed its name to the USACE Learning Center (ULC).

Along with the name change, the USACE Learning Center has aligned the 175-plus Proponent-Sponsored Engineer Corps Training (PROSPECT) courses with the USACE Communities of Practice (CoP).

The structure of the ULC now has three operational divisions — Engineering & Construction (E&C) Training Division, Plans & Operations (P&O) Training Division, and the Program Management Office (PMO).

The chart also shows the new structure of the ULC

as well as the CoPs and sub-Cops under each academic division. The PMO Division supports the entire center and operates the PROSPECT Registrar Office.

The ULC's traditional Course Managers are in the process of becoming Learning Advisors to the CoPs for which they manage courses. In preparation for this transition, they have completed four of the five American Society for Training Development (ASTD) courses in Human Performance Improvement, including Human Performance Improvement in the Workplace, Analyzing Human Performance, Evaluating Human Performance, and Selecting and Managing Interventions.

By next spring, they will have completed the fifth and final course, Transitioning to Human Performance Improvement, and will ultimately receive certification by ASTD as Performance Consultants.

The leaders, managers, and Learning Advisors at

the ULC want to assist the CoPs and sub-CoPs in reaching and maintaining their goals. With this reorganization, each CoP has a representative, a *Learning Advisor*, at the ULC. Ultimately, the CoP leader, subject matter experts, and the ULC Learning Advisor will work as a team to ensure PROSPECT courses or other performance interventions meet the CoP's requirements and best interests.

This Learning Advisor at the ULC will be a member of the community of individuals that practice and share an interest in a major functional area.

Please call Marilyn Lang (256) 895-7426 or Betty Batts (256) 895-7407 if you need specific information about your E&C or P&O Community of Practice representative and Learning Advisor.

Visit <http://pdsc.usace.army.mil/> for the 2007 PROSPECT schedule and further ULC information, or contact the Registrars, Sherry Whitaker and Bobbie Stoddard at (256) 895-7421/7425.

Around the Corps



Afghanistan Engineer District honors those lost on Sept. 11, 2001.

9/11 in Afghanistan

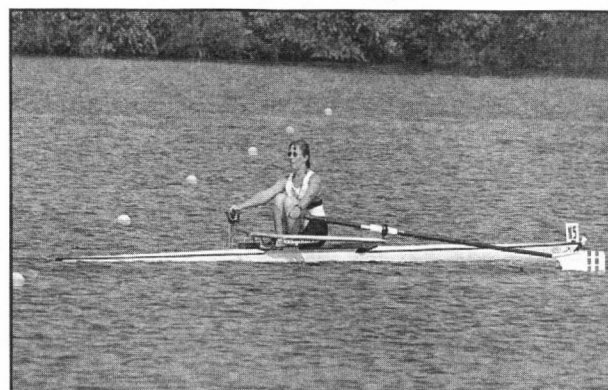
Sept. 11 has special significance in Afghanistan Engineer District.

"This date marks the fifth anniversary of the 9/11 terrorist attacks," said Kristi Acuff, a civil engineering technician in the Coastal & Hydraulics Laboratory. "That day ultimately brought us all here to Afghanistan. It has been a tradition for AED employees to fly U.S. flags in honor or remembrance of friends and loved ones."

Soldiers and Civilians stood side-by-side at the special ceremonies in Kabul on Sep. 11 to remember those who lost their lives in the attacks, and those who have since given their lives in the Global War of Terror. The flags are raised, flown for a few moments, brought down, and neatly folded. Standard military protocol is followed, and salutes are rendered during the flags' ascent and descent. Team members raised 298 flags in a five-hour ceremony at AED headquarters.

"It was an awesome and emotional event, and a testament to the patriotism and dedication of all service members, both military and Civilian," Acuff said. "It was a privilege to spend the 9/11 anniversary in Afghanistan. I'll tell these stories to my grandkids in years to come."

"The Corps is leading the way in rebuilding this war-ravaged nation," Acuff added. "Despite the recent incidents in Kabul and throughout the country, our Soldiers and Civilians are steadfast and loyal. Much progress has been. We're determined to bring peace and stability to the people of Afghanistan."



Anne Sudar takes first place in her age group in the World Masters Rowing Regatta.

Masters rowing champ

Anne Sudar took first four first places in the World Masters Rowing Regatta of the Federation Internationale des Societes d'Aviron (FISA).

Sudar, a water resource planner with the Institute of Water Resources, rows in the E class (55-59 years old), and sometimes rows "down" in D class (50-54 years old). She won the first place women's E single in a come-from-behind win, and rowed on three first place teams — the women's E double (two women row-

ing a two-person shell), women's D crew (an eight-person shell), and the mixed E double (a male and female team).

"Coming from behind to win the single was a real thrill, but the best race was the eight," said Sudar. "It was an international composite, with women from Germany and France and the U.S. Several of them were former Olympians. We only had one practice before the race, but the boat clicked instantly — perfectly balanced, exactly in synch. We just flew down the course, finishing a full 10 seconds ahead of all the other boats."

The 33rd annual FISA World Masters Rowing Regatta was held Sept. 7-10 on Lake Mercer in Windsor, N.J. The race attracted 2,452 competitors from 36 nations ranging in age from 27 to 86. Competitors rowed long slender racing shells over a 1,000 meter (0.62 mile) straight-line course.

Small business awards

An initiative sponsored by the Engineer Research & Development Center (ERDC) received a 2006 Army Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Phase II Quality Award.

The project, "Developing a Seamless Integration Between Machine Learning Techniques and Rule-Based Classification of Remotely Sensed Imagery" was proposed by Visual Learning Systems Inc. Of the 254 projects eligible to compete, 34 were nominated for an award. The selection board chose six that represented the best in technology innovation, relevance to the Army, and commercial potential.

Visual Learning Systems developed Feature Analyst to automate the collection of information from remotely sensed images. It provides the Army with a complete toolset for extracting features like roads and buildings from imagery and scanned maps. Several independent studies show Feature Analyst can save 80-90 percent of the time currently spent by analysts on feature collection. Feature Analyst is used throughout DoD, including several intelligence organizations.

Correction

Master Sgt. Richards, NCOIC of the Anaconda Area Office in Iraq, was incorrectly identified on page eight of the September *Engineer Update*.

Meritorious Unit Commendation

Command Sgt. Maj. Bill McDaniel, the current command sergeant major of Gulf Region Division, announced that GRD has earned the Meritorious Unit Commendation. All military personnel who served from July 1, 2004 to Dec. 1, 2005 are authorized the permanent wear of this unit award.

Try before you buy

It's a win-win-win partnership between a community college, its students, and Louisville District. The Co-Op Program of Jefferson Community & Technical College Office Systems Technology (JCTC OST) offers students in seven majors the opportunity to earn course credits while gaining career experience, and Louisville District is taking full advantage of the program.

"This affords both parties the opportunity to try before you buy," said Marilyn Lewis, assistant chief of the district's Engineering Division and chief of the Environmental Branch. "The JCTC OST students get to experience life with the Corps, and the Corps gets to evaluate the students' skills before either has to make a decision on permanent job placement."

"This program gives students the chance to explore career options, experience new work environments, develop professional skills, and make contacts for future employments and references," said Fran White,

JCTC career services counselor.

Wendy Patterson, Brittany Ford, Tammi Jefferies, and Theresa Manor, were all former Co-Op Program students who are now full-time district employees.

To be in the program, students must have 12 credit hours in their major, a 2.0 GPA, complete a program application, and obtain two favorable recommendations from JCTC faculty.

Kirkuk landfill

The Corps and the 3rd Brigade Combat Team are partnering with the Kirkuk Provincial Government, UN Operations, USAID, and the Millennium Relief and Development Services to build an environmentally responsible solid waste landfill.

Kirkuk produces 1,000 tons of solid waste per day, but can dispose of only 25 percent of it. Once complete, this landfill will be one of only two in Iraq — the other is in Baghdad. It will handle 600 cubic meters of waste per day, and serve the needs of about 750,000 Kirkuk residents.

Construction is scheduled to begin this month and take 18 months to complete.

This landfill will meet EPA standards for waste management, and boost the economy by employing local Iraqis. The contractor will provide on-site training for landfill operators, and will also develop a maintenance program and a closure plan that will allow sustainable solid waste management long after the Iraq reconstruction mission is complete.

Prairie ecosystems

More than 40 Corps natural resource specialists gathered in Kansas Aug. 15-16 to compare notes and study the best methods for managing prairie ecosystems at the first USACE Prairie Workshop, sponsored by the Environmental Laboratory (EL) and Kansas City District.

Chester Martin, a research wildlife biologist with EL, said the Corps-wide conference was a forum for those who manage hundreds of thousands of acres of prairies on Corps projects.

"We see this as an informal event, because we want to encourage interaction so that natural resource managers can learn from each other,"

Martin told those attending.

He said prairies are among the most endangered eco-systems in the U.S. A "prairie data call" showed about 800,000 acres of prairie under Corps' jurisdiction. The largest portion is in Northwestern Division, which contains about 600,000 acres.

Paul Peloquin, a senior wildlife biologist with Northwestern Division, said "The prairie is a significant resource that's not protected by law. Prairies, like an endangered species, could become an endangered resource. The prairie is dwindling in both quantity and quality. A major problem affecting Corps prairies are invasive plants."

The first day of the conference featured presentations from Corps prairie experts, and visits to prairie areas at Tuttle Creek, Milford Lake, and Fort Riley, Kan. The second day had additional presentations, and a visit to the acclaimed Konza Prairie and prairie management areas on Fort Riley, plus a group discussion and wrap-up session.

Weber said prairies suffer from an image problem. "You look at a prairie, and all it looks like to most people is grass and weeds," he said. "They don't realize all the different forms of life that are in there."



Buffalo herds also thrive on the prairies managed by the Corps.

MILCON

Continued from page one
costs and time.

The essence of MILCON Transformation can be summarized in three major components — facilities, acquisition strategy, and people.

Facilities

When we talk facilities, we mean the standardization of processes, facilities, and product types. From acquisition to execution, consistency in processes and implementation will be the key to a successful program. The standardization of facilities and processes will result in consistent engineering and construction applications that will allow for expanding the use of all types of construction, and benefit the Army by providing a greater pool of capable contractors.

The standardization of facilities will result in more consistent solicitations via standard Requests for Proposal (RFPs). This will reduce contractor uncertainty about requirements for like facilities from installation to installation, as well as provide for more productive time spent on proposals. And the standardization of product and facility types will allow us to focus more on actual construction and delivery.

At the same time, each facility we build will need to attain a silver rating on the U.S. Green Building Council's LEED (Leadership in Energy and Environmental Design) rating system, a nationally recognized measure of sustainability. The silver rating is one of the most stringent goals in the program. It will be a challenge to consistently meet the silver rating level within the constrained resources available. We will need to find new and better ways to incorporate sustainable features without exceeding cost limitations.

To facilitate the focus on construction, Centers of Standardization have been identified and will serve as the technical and acquisition resources for the districts. These design centers will employ contractual vehicles that districts will use to fulfill installation standard facility needs.

For example, centers will be responsible for design refinement and for selecting, in coordination with Corps regions, a design-build contract primarily through regional Indefinite Delivery Indefinite Quantity (IDIQ) single source selections. When an executing district calls, the center will issue a delivery order for construction to be managed by the district. With the center issuing the delivery order, we expect a greater consistency of product. The centers will also capture lessons learned and adjust processes based on feedback from the customer, the contractor, and the servicing Corps district.

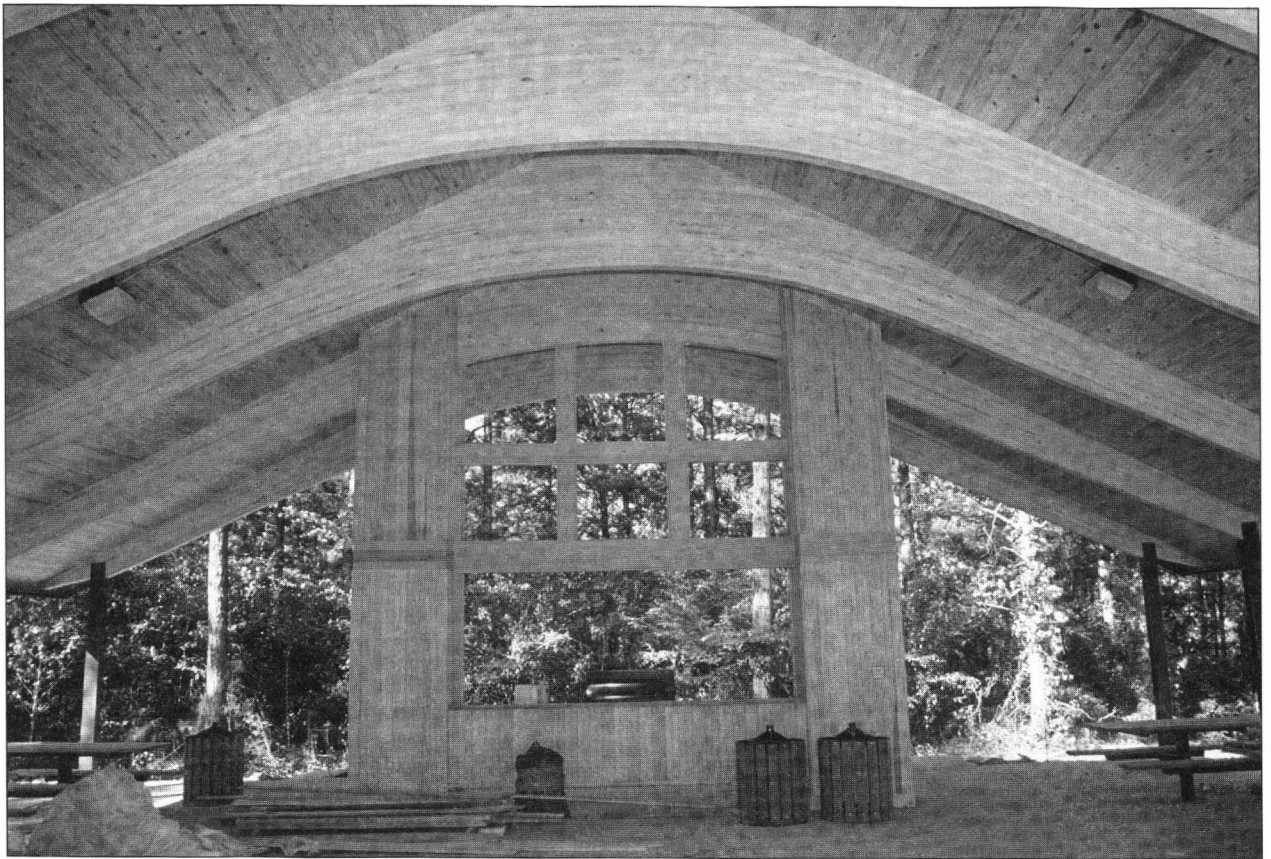
When you combine these efforts to standardize facilities and processes, the result is greater consistency in the quality of construction and a lessening of the risk to the contractor, which will move us closer to achieving lower costs in less time.

Acquisition strategy

The USACE Programmatic Acquisition Strategy provides guidelines to major subordinate commands and Regional Business Centers to develop regional contracting tools to implement MILCON Transformation and to ensure we have sufficient consistency and flexibility. Applicable regions will have their acquisition plans in place and ready for the FY07 construction season.

Within the framework of this strategy, the following contracting approaches are intended to connect the requirement to a completed product or facility:

- A single awarded IDIQ.
- Unrestricted awards.
- Set-asides.
- Local and/or regional contracts.
- Contracts awarded by facility type or product



Military construction is not all firing ranges and barracks. The program includes all facilities needed to support Soldiers, including chapels like this one at Fort Polk. (Photo courtesy of Fort Worth Division)

line.

The strategy also encourages site and local market research to determine final acquisition methods. It provides the flexibility, where appropriate, to group projects to allow for a balance between economies of scale and small businesses as primes, including programs such as 8a, HUBZone, and small, disadvantaged, veteran-owned businesses.

And finally, it provides the opportunity to evaluate potential contractors based on all experience, not just past government experience. The goal is to enhance competition to give us the best chance of selecting the contractor most likely to succeed in meeting our quality, sustainability, cost, and time goals.

Through this acquisition strategy, we will realize efficiencies that will reduce the construction-execution learning curve, as well as costs and time.

People

The last component of MILCON Transformation is people — making sure we are able to maintain our core technical competencies well into the future.

With MILCON Transformation, the Corps will move away from full-service design capability in every district. *This does not mean we will lose our core competencies.* Rather, technical competencies will be concentrated in the Centers of Standardization and distributed to construction locations where district technical oversight is needed.

Competency task forces at Corps Headquarters and at several Regional Business Centers are looking at the effect of this shift and the types and amount of re-training needed for our workforce. Our technical competence must be broadened to include "full-service" engineers and scientists who understand and contribute to various aspects of the facilities life cycle and can readily move from one phase into another.

Training

For MILCON Transformation to succeed, ACSIM, Installation Management Agency (IMA), and the Corps are working to develop a training program. We are looking at two phases for this training program. Phase I would be a corporate leadership overview of Army and MILCON Transformation and their goals. Phase II would be individual Programs of Instruction (POIs) for IMA installation and Corps

district staffs needed for execution of MILCON Transformation. Once the training POIs are established, a schedule of instructions — coordinated among ACSIM, IMA, and the Corps — will be published.

Achieving success

There are many measurements of success. To me, success is defined by our process changes and efficiencies that enable us to deliver to our customers' quality, adaptable, sustainable facilities on time and on budget.

Fundamentally, MILCON Transformation is expected to deliver Army facilities that are more adaptable and sustainable at less cost (15 percent cost savings) and less time (30 percent time savings).

Success is also defined by the realization at Army installations that our process changes and efficiencies have delivered to our customers the high-quality, adaptable, sustainable facilities that our customers critically need, on time and on budget.

We have just begun to use MILCON Transformation principles in some pilot projects at Forts Campbell, Knox, and Bliss. Initial indications are that these projects were awarded at full scope and within the Construction Cost Limits, which already reflects a 15 percent savings.

The Corps will keep everyone posted as we learn (and adapt) more about MILCON Transformation implementation.

We cannot do this alone. We need everyone's support. We need everyone to help make these changes possible, and to work through solving the details and defining the problem areas so that we can improve together.

MILCON Transformation is truly transformational and will require essential culture change in three key communities: the Corps, garrisons, and industry. All of these communities are partners in every Army project, and all three will have to adapt to new ways of doing business to be successful in the future.

We have a great opportunity to prove our relevance to the nation, the Army, our Soldiers, and their families. By implementing MILCON Transformation strategy, staying focused on the execution, and continually looking for process improvements, we will be successful. Working together, we can meet our huge facility requirements during the next several years.