

ENGINEER UPDATE

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USACE meets all ARRA goals

When President Barack Obama signed the \$787 billion American Recovery and Reinvestment Act of 2009 into law on Feb. 17, 2009, the U.S. Army Corps of Engineers began a fast-paced, effort to meet the requirement to obligate ARRA funding, with limited exceptions, by Sept. 30, 2010.

By the end of September, USACE had successfully obligated \$4.43 billion of the \$4.6 billion (96 percent) of its civil works ARRA appropriation; \$2.56 billion of the \$2.85 billion (90 percent) received for military programs; and \$531 million of \$535 million (99.3 percent) in the International and Interagency Services Program.

The ARRA MILCON program awarded 100 percent of the authorized projects executed by USACE. The remaining ARRA MILCON funds, generated by bid savings, are awaiting resource management decisions on whether funds can be cost transferred.

"I'm proud of the tremendous talent, dedication and disciplined thought that our Corps team used in delivering on these important ARRA requirements," said Lt. Gen. Robert Van Antwerp, USACE commander. "It wasn't easy, but our Corps family always comes through when called upon to support our nation and armed forces."

The Recovery Act was passed to stimulate recovery of the U.S. economy by quickly putting to work funds provided in the legislation. The president also told the American public that the funds would be spent in a transparent and accountable manner.

The stated purposes for ARRA were to preserve and create jobs and promote recovery, and to invest in transportation, environmental protection and other infrastructure that would provide long-term economic benefits.

ARRA funds also allowed USACE to provide lasting value for the nation by addressing much-needed infra-



Photo courtesy of Jacksonville District

The American Recovery & Reinvestment Act provided funds for sand re-nourishment to stabilize Fort Clinch, an 1800s fortification that is on the National Register of Historic Places.

structure improvements in both water resources and military construction.

USACE acted quickly to put the funds to use. The legislation set forth project selection criteria for projects that would:

- Be obligated/executed quickly.
- Result in high, immediate employment.
- Have little schedule risk.
- Be executed by contract or direct hire of temporary labor.
- Complete either a project phase, a project, or provide a useful service that does not require additional funding.

For civil works, USACE released its initial list of ARRA-funded civil works projects in early April 2009.

The civil works ARRA project list provided projects to increase employment and other economic benefits across the U.S. The civil works programs provide the nation with project benefits related to inland and coastal navigation, the environment, flood risk management, hydropower, recre-

ation and more.

Wyoming was the only state not represented in the ARRA project list because it had no civil works projects that met ARRA requirements.

For many of the selected civil works projects, ARRA funds were used in conjunction with appropriated fiscal 2009 and 2010 funds.

Military-funded ARRA project lists were developed at the Department of Defense and provided to all services for execution on March 20, 2009. USACE, as the Department of Defense construction agent, worked closely with DoD, Army and Air Force program managers to refine project lists and timelines for project awards and construction schedules.

Meeting the ARRA obligation timeline required USACE to remain flexible and adaptable. As contracts came in below or higher than government estimates, or as it was discovered contracting could not be accomplished in time to meet the September deadline, funds were redistributed to or from projects to meet the requirements. For both civil works and military programs, USACE had a list of already identified, ARRA-qualified projects where funds could quickly be moved.

"We could not have achieved success in our ARRA obligations without the commitment and dedication of the outstanding teammates at every level of the Corps," said Gary Loew, chief of the Civil Works Programs Integration Division. "Through planning and preparation, we identified projects that were ready to go and that met the intent of ARRA, and from start to finish we stayed flexible in responding to changes in where and how the funds could be executed."

The ARRA success of the Corps' Small Business Program is especially noteworthy. In civil works, about 73

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Insights

All believers face spiritual warfare

By Col. Gary Sexton*Chaplain, U.S. Army Corps of Engineers**(This is the third in a series on spiritual discipline.)*

We continue our series on spiritual discipline as we consider spiritual warfare. My worldview is supernaturalism, the belief that there is a reality beyond our five senses that interacts with our current physical reality.

As Dr. Ken Boa states in *Conformed to His Image*, "The scriptures abound with military images of conflict, warfare, and adversaries in the believer's life. It is not a question of whether we are engaged in a spiritual warfare; the question is how effectively we are fighting."

Paul wrote to his protégé Timothy these words of encouragement and warning: "Suffer hardship with me, as a good soldier of Christ Jesus. No soldier in active service entangles himself in the affairs of everyday life, so that he may please the one who enlisted him as a soldier." (2 Timothy 2: 3-4)

First, believers must not be more conscious of Satan's kingdom than of the person and work of God. C.S. Lewis in his book *The Screwtape Letters* advises that we avoid two extremes. The first is the tendency "to disbelieve in their [demons'] existence. The other is to believe, and to feel an excessive and unhealthy interest in them."

Another area of battle for the believer is the flesh. The word "flesh" is used in different ways in the Bible. It can simply mean the body (Colossians 2: 24), or it can refer to what Paul calls "the law of sin which is in my members." (Romans 7:22-23)

We are often like a ship tossed in a storm with unsecure cargo crashing about, putting the ship at risk. Here the danger below decks is more serious than the weather. In the same way, our souls are endangered more by the inward power of sin than by the outward body.

Boa writes, "No two people have an identical combination of fleshly dispositions. Some have more of a problem with temper or envy, while others may have greater difficulties with unforgiveness or lust. Before we can effectively deal with the flesh, we must be honest enough with ourselves to determine our particular form of carnality."

God's Spirit indwells each believer and is the power source for living a victorious spiritual life. Paul wrote: "Walk by the Spirit, and you will not carry out the desire of the flesh." (Galatians 5:17)

The third front of spiritual warfare is the world. Believers are both citizens of heaven and pilgrims on Earth. Therefore, we experience a constant tension between the temporal and eternal realms. We are instructed to be *in* the world but not *of* the world, meaning that we must live in the world without being shaped by it.

A key weapon for defeating the values of the world is renewing the mind with scriptural truths. Paul teaches us, "Do not be conformed to this world, but be transformed by the renewing of your mind, so that you may prove what the will of God is, that which is good and acceptable and perfect." (Romans 12:2)

The word transformed is a translation of the term "metamorphosis," referring to the change that a

caterpillar undergoes to become a butterfly. In the same way that a caterpillar changes into a butterfly, Boa tells us that we need to internalize Biblical values through reading and memorizing Scripture, meditating on it and personalizing it.

The influence of education, media and entertainment entices us to trivialize many cultural manifestations of sin. Two forms of worldliness that must be dealt with are consumerism and accumulation. As the most blessed country on Earth, we enjoy the highest standard of living. So we are tempted to surround ourselves with stuff, believing that ownership of the latest thing will somehow makes us feel better about ourselves, others and our station in life.

Materialism must be resisted in the power of the Spirit. St. Augustine said, "Our souls are restless until we find our rest in Thee, O Lord."

Someone has described the spiritual life as living between D-Day and V-Day. On the strategic level, the victory is won by establishing a beachhead and landing manpower, equipment and supplies. The next task is to expand the beachhead and begin moving inland to seize key objectives.

When the victory is won, whether through destruction of the enemy or surrender, then our army may celebrate with ticker-tape parades and joyful reunions with loved ones.

The resurrection of Jesus was the beachhead. His coming again will be our Victory Day.

(The opinions 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.)

Child rescued at Abiquiu Lake

Tristan Wann, 8 years old, went missing at the Abiquiu Lake Project's overlook after his family stopped for lunch.

A quick search of the area, which sits atop towering sandstone bluffs overlooking Abiquiu Lake in Albuquerque District and bordered by a chain link fence, revealed that Tristan had scaled the fence and managed to work his way about 30 feet down the cliff face. He was precariously perched on a small ledge of loose material about 120 feet above the dam, and could not go in any direction.

Eric Garner, supervisory park ranger, radioed for assistance. Austin Kuhlman, park ranger, and David Dutton, operations manager, soon arrived on the scene. Garner

climbed down about 50 feet below the observation area to a stable ledge and began talking with the boy. Dutton called 911 and drove halfway across Abiquiu Dam to get a better view of the situation. Kuhlman was on standby with a rope and harness in case the situation worsened.

And worsen it did. It began to rain as the first responder arrived. Garner kept talking to Tristan as the rain became heavier and water began to pour down the face of the cliff. The boy was becoming upset and the rangers feared that he would fall, likely to his death, according to Dutton.

The situation deteriorated quickly as the rain increased. Because the first responder had a back injury, he was un-

sure if he could rappel down to Tristan, who was losing his footing.

Kuhlman is an experienced rock climber with rappelling experience, Kuhlman ventured over the ledge to rescue the boy, who was becoming increasingly frantic, despite calming pleas from Garner.

As the weather worsened, Kuhlman secured the child and was pulled back up to safety by family members and other park staff, where Tristan was reunited with his mother. After examination by local paramedics, the boy was allowed to leave with his mother and grandparents.

(Eric Garner and Dave Dutton contributed to this article.)

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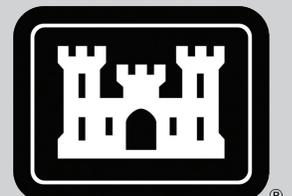
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Commander, USACE.....Lt. Gen. Robert L. Van Antwerp
Chief, Public AffairsW. Curry Graham
EditorBernard W. Tate
Designer.....Wendy L. Medlin



Deputy chief of staff given top award

By Bernard Tate
Headquarters

Cheryl Partee, the Headquarters deputy chief of staff, has received the National Women of Color Award for Professional Achievement in Government.

"I feel very humbled, actually," Partee said. "You do your job, and you don't *expect* awards and those kinds of things. So when you are recognized for your efforts, you feel very humbled."

Partee received the award in Dallas at the awards ceremony during the National Women of Color STEM Conference Oct. 28-30 (STEM stands for Science, Technology, Engineering and Math). She found out about the award in July in a letter from Career Communication Group, Inc., (CCG), which also organizes the Black Engineer of the Year Award (BEYA) Conference.

"The awards serve a two-fold purpose," according to a CCG information package. "First, they create an awareness of the vast talent pool of talented and accomplished minorities, and dispel the myth of lack of achievement. And secondly, they serve as role models who can excite and inspire young people to reach their own potential."

Partee compiled a nomination package detailing her achievements throughout her federal career, and submitted it through the Equal Employment Opportunity Office at Headquarters to CCG. A selection

panel reviewed all of the packages, applied strict criteria and selected the winners.

Partee's package was thick because she has served in the federal government for more than 28 years, beginning as a GS-3 clerk-typist. She has worked for the Army, Air Force, Navy, Defense Contract Management Agency, and since 2006 for the U.S. Army Corps of Engineers. She came to the Headquarters on a developmental assignment in 2009 and was competitively selected as the deputy chief of staff, a GS-15 position.

When asked which job really stood out for her, Partee replied, "It's this one, to tell the truth. I'm a budget analyst by trade; that's what I've done my entire career until I came to Headquarters. But there is no real career track for this position. In budget, there are courses, training and developmental opportunities to aid in learning how to do the job. In this job, there are different skill sets required because you have to deal with so many facets of the organization.

"It's never boring," Partee said. "I enjoy coming to work every day. It's always something different, and that's exciting for me because I don't get stagnant. I wasn't stagnant being a budget analyst because dealing with numbers is my forte. But this job offers the opportunity to learn, grow and understand the organization from a strategic lens. This is exactly where I should be."



Photo courtesy of Cheryl Partee

Cheryl Partee received the National Women of Color Award for Professional Achievement in Government.

ARRA

Continued from page 1

percent of all contracts actions and 52 percent of the total contract dollars obligated went to small businesses. For military programs, 65 percent of the contract awards and 43 percent of the obligated ARRA dollars went to small businesses.

"Our ARRA contracting success in working with small businesses throughout the nation again ensured USACE is a leader in federal small business opportunities," said Jackie Robinson-Burnette, chief of the Small Business Office. "Small businesses are the backbone of our nation's economy, and they provide the Corps with critical mission support."

In civil works, ARRA provided USACE with critical funding needed to complete projects on earlier timetables than would have been possible with existing appropriations to date.

In the Everglades, for example, the infusion of ARRA funds enabled USACE to fund \$40 million of the \$53 million federal share for the Picayune Strand project, and to fund \$44 million for the Site 1 Impoundment/Fran Reich Preserve project to provide critical water storage and management.

Elsewhere, ARRA funds were obligated for projects to significantly advance or complete dredging in critical ports and harbors like Oakland, New York/New Jersey, Jacksonville and Charleston, and in many of the nation's critical navigable waterways.



Photo courtesy of Sacramento District

Sacramento District installed solar electricity systems at nine park and dam offices under a \$1.26 million ARRA contract. The first system was installed at New Hogan Lake, above. The panels will reduce energy consumption at the offices by 41 percent on average.

ARRA-funded contracting for civil works also included critical public safety efforts for periodic inspections of levees and improvements to flood risk reduction projects; upgrades and modernization of infrastructure at USACE recreation areas; environmental restoration; and maintenance work on USACE locks, dams and other facilities.

Military programs ARRA contracting will result in projects that will provide the nation's service members and their families with critical new facilities and modernization and repair of existing facilities.

Key ARRA-funded military programs projects include construction of a new hospital at Fort Hood,

Texas, and three new Warrior in Transition Complexes (WTC) at Fort Bliss, Texas; Fort Campbell, Ky.; and Fort Eustis, Va. The WTCs will provide space for wounded and injured warriors to recuperate from injuries sustained during service. New construction will also include 16 new child development centers, eight each for both Army and Air Force bases.

USACE also executed a \$555 million ARRA-funded expansion of the Homeowners Assistance Program (HAP), a DoD program managed by USACE. The expanded HAP program provided much-needed assistance to wounded Soldiers, to the spouses of Soldiers killed since Sept. 11, 2001, and to military service members and eligible DoD civilian employees facing a financial loss resulting from a permanent change of station during these hard economic times.

In the Interagency and International Services Program, USACE received more than \$550 million funded by EPA and other federal agencies. The work will enable USACE's interagency partners to operate new Land Ports of Entry that secure borders, accelerate cleanup of hazardous waste and provide modern medical facilities for military veterans.

"While meeting the September deadline for ARRA contract obligations was certainly a significant accomplishment, we still have much to do during the next two years to complete and deliver these ARRA-funded projects to the American public," Loew said.

USACE projects support Wounded Warrior program

By Scott Harris
Headquarters

The U.S. Army Corps of Engineers is supporting the Army Wounded Warrior Program through evidence-based design, and innovative management and acquisition strategies for new state-of-the-art health care facilities worldwide. The program, which was implemented in April, 2004, is designed to guide severely wounded, injured and ill Soldiers from evacuation through treatment, rehabilitation, return to duty, or military retirement and transition into the civilian community.

Evidence-based healthcare design creates an environment that is therapeutic, efficient for staff performance, and supports family involvement. It integrates research-based architectural design and holistic healthcare practices that result in improved patient recovery, privacy, and comfort and safety for both patients and staff. The design process incorporates as many evidence-based design concepts as possible.

"These are certainly exciting times as we design and build new and innovative facilities serving the needs of our wounded warriors and their families," said Robert Slockbower, director of Military Programs. "Evidence-based healthcare design takes a holistic approach to healing that will significantly aid our wounded warriors in the recovery and transition process."

Some projects recently completed, under construction or still in the design and planning phase will become part of an integrated healthcare network providing world-class medical service to the nation's wounded, active-duty service members, retirees and family members.

Washington, D.C.

The Walter Reed Military Advanced Training Center was recently completed in Washington, D.C., and is specifically designed to return wounded Soldiers to the highest possible level of activity, and to provide a place where collaborative research can be done to share advances in rehabilitation and prosthetic design with all patients who have sustained either amputation or functional limb loss.

The 31,000-square-foot facility features innovative technology that improves military amputee care and also addresses the needs of patients suffering from traumatic brain injuries. For those receiving prosthetics, this facility allows computerized and video monitoring for biomechanical studies and advanced physical training therapy allowing patients to regain full mobility.

Project engineers faced many new challenges building this innovative facility. Some of the more challenging features not normally found in a healthcare facility include a helicopter simulator, a rock climbing wall and a fire arms simulator, all designed to help patients regain confidence and the ability to re-establish and maintain basic combat skills.

Another high-tech feature includes a gait lab equipped with 26 cameras that capture patients walking and running gait or stride patterns as they step on weight-sensitive force plates and a specialized treadmill.

Other features include a kitchen with lounge space for family members, and a video teleconferencing system to allow field medics to communicate with amputee care technicians in real-time during amputations. The VTC system also allows wounded Soldiers to communicate with comrades still in-theater.

Building a world-class healthcare facility with these features required steadfast resolve, teamwork, shared responsibilities and open channels of communication. Having clear lines of communication was critical to the design team's ability to achieve an early sign-off on the proposed floor plans. Success required meeting the expectations of the beneficiaries and stakeholders, along with achieving a quality construction in a timely manner.

When appropriate, the customer was consulted when decisions were required. This dialogue also allowed the team to forecast the impact of changes, especially since they were mostly geared to improving Soldier care. Due to the nature of most of these owner-requested changes, there was little resistance, particularly since they contributed to the facilities objectives.

An open door policy ensured decisions were reached quickly. Working together onsite enabled the contractor and the project manager to address new ideas and react quickly to any new changes.

The completed project consists of large glass windows, stucco and concrete surrounding a finished building with porcelain tile, upgraded carpeting, stainless steel railings and trim. These features convey the quality that USACE strives to achieve.

Fairbanks, Alaska

The Bassett Army Community Hospital in Alaska was completed in 2007 and serves as another example of quality care facilities built for wounded warriors. The 260,000-square-foot Bassett Army Community Hospital opened in June 2007, replacing the old hospital that was built in 1951.

The \$215 million hospital serves military personnel at Fort Wainwright, Fort Greeley, Eielson Air Force Base and remote military sites north of the Alaska Range. It also serves military family members and retirees in a 46,400-square-mile range around the greater Fairbanks area for a total patient base of about 25,000.

Similar to the new facility at Walter Reed, this hospital is designed to accommodate modern changes in medical care, as well as the increasing use of automation in both clinical and administrative areas of the hospital.

Fort Belvoir, Va.

Healthcare facilities currently under construction include a state-of-the-art hospital at Fort Belvoir, Va., an \$870 million complex that is expected to be completed next June. It will have 120 inpatient beds, will nearly triple the patient capacity of the current DeWitt Army Community Hospital and will serve more than twice as many patients.

In keeping with the Corps' commitment to sustainability, energy efficiency was important in the facility de-



USACE Photo

The rock climbing wall at the Walter Reed Military Advanced Training Center is one of many unique design features geared toward helping the wounded warrior regain confidence and the ability to re-establish and maintain basic combat skills.

sign. One of the many innovations at the Fort Belvoir hospital is a storm water system. Courtyards between the outpatient facilities emphasize storm water treatment and the collection of rainwater for later use. Two rain barrels and two underground cisterns per courtyard hold a combined total volume of about 160,000 gallons. This system will provide the majority of water needed for irrigation throughout the year.

Fort Sam Houston, Texas

Another project involves expansion and renovation of Brooke Army Medical Center (BAMC) on Fort Sam Houston in San Antonio, Texas. A 760,000-square-foot addition will increase the size of BAMC's Level 1 Trauma Center and the hospital's Burn Center, the only American Burn Association-verified Burn Center in the Department of Defense.

When construction is finished in 2011, BAMC will be renamed the San Antonio Military Medical Center (SAMMC) North and absorb the inpatient care services currently provided by Wilford Hall Medical Center, also located in San Antonio at Lackland Air Force Base.

An Ambulatory Care Center under construction at Lackland will replace Wilford Hall and focus exclusively on outpatient care, including surgical services, as well as provide Graduate Medical Education training programs.

Several other medical and research facilities are also under construction at Fort Sam Houston, including a Medical Education and Training Campus. This campus will consolidate the enlisted medical training programs of all of the services, providing instruction to combat medics, Navy corpsmen, radiology technicians, nuclear medicine technologists, and several other types of specialists.

A Tri-service Research Laboratory and the Joint Center of Excellence for Battlefield Health and Trauma Research

Continued on next page

Park clean-up brings back memories

By Joanne Castagna
New York District

In the 1970s, I was a young girl living near Marine Park in Brooklyn in New York City. I have fond memories of the park, including walking with my dad along the tree line and playing with my brother in the fields.

I also recall strange odors from nearby landfills and abandoned cars along the water not far from where I played. At the time, I didn't think of these things as bad, but merely the character of my neighborhood.

Today, New York District is restoring the park's natural habitat. This generation of children will have their own memories of wildlife, nature trails and the scent of growing plants.

Last December, the district, together with the New York City Department of Parks & Recreation and the New York State Department of Environmental Conservation, began work on the Gerritsen Creek Marine Park Ecosystem Restoration Project.

"Our hope is to not only have an excellent habitat, but to also create a beautiful place for visitors to get close to natural wetlands," said Dan Falt, project manager. "The Corps is often required to perform ecosystem restoration work as part of its construction projects, but the environmental work on this project is not a result of construction. It is a pure environmental project from beginning to end."

The project is restoring 32 acres of marsh and 20 acres of coastal grassland in portions of Marine Park. The 798-acre public park is primarily a marsh adjacent to Jamaica Bay. In the mid-20 century, developers took dredged sand from nearby Rockaway Inlet and filled in most of the marshland to build up the land to create the community of Marine Park.

Over the years, the remaining marsh degraded due to landfills, dumping and overgrown plant life. Restoring the marshland has many benefits including improved water quality, increased fish and wildlife habitats, and recreation and fishing opportunities.

To restore the marshland, the team is removing invasive



Photo by Diane Castagna



Photo courtesy of Galvin Brothers, Inc.

(Left) JoAnne Castagna and her brother play in Marine Park during the late 1970s. (Right) Bulldozers remove the top layer of invasive phragmites in Marine Park before excavation and planting can start.

plants, replanting native plants and removing dredged material from the marsh, which will allow the marsh to receive the tide water it needs from Gerritsen Creek.

First, the invasive phragmites (reedgrass) were removed. Phragmites were overgrowing the area, crowding the soil and blocking sunlight from other plants.

"There was a forest of phragmites 12 feet high," Falt said. "After we removed them, we were astonished to see how much land we had."

The team removed sand and soil from the marsh and placed it in different locations in the park. The sand was graded and contoured to levels suitable for a marsh and coastal grassland habitat. This will allow the saltwater tides from Gerritsen Creek to wash over the land. Phragmites don't like salt water and will die off.

The grading and contouring continued until this spring, and then planting began. The team is planting a wide variety of native coastal grasses. This vegetation will act as filters for the area's water, lessening the negative impact caused by run-off and other contaminants.

Besides providing vegetation, the team will take other measures to encourage wildlife in the area. There are

more than 80 species of fish and 330 species of birds in the area. For example, osprey nesting poles will be placed in the park to encourage the native bird to breed and live in the area, and a two-acre bird sanctuary is being created.

Features will be added to the park to invite people to come as well. Wildlife observation points and new nature trails will be created. Old trails will be restored. Educational signs will be posted along these paths to inform the public about the park's species and plant life.

"With the phragmites down, the public will be able to see a lot more of the park," Falt said. "This project is kind of historic. It's one of our district's first pure ecosystem restoration efforts, and will serve as a model for other restoration projects the Corps plans in the area."

The project will be completed this summer, and the land will be open to the public next summer after the new vegetation has grown. I plan to visit my old park when the project is completed. I'll always fondly remember being there as a child, but it will be even better to see how New York District has restored the park so that the kids of today and tomorrow can enjoy it, too, and gather their own fond memories.

Wounded Warrior

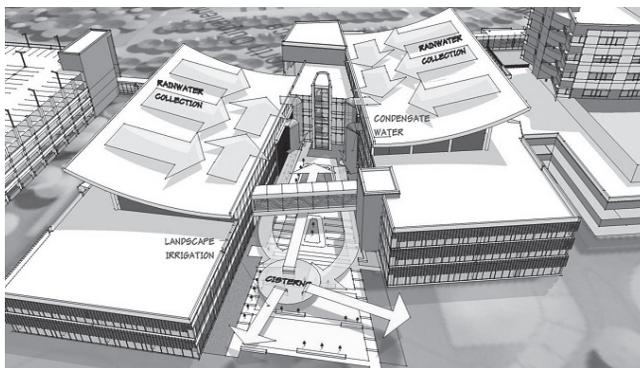
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also are part of the new construction. They will combine research efforts of all military branches to further enhance the techniques used to treat service personnel.

Landstuhl and Fort Benning

Still in design and planning are a replacement hospital for Landstuhl, Germany, and a \$333 million, 745,000-square-foot facility at Fort Benning, Ga. Little is known about the future Landstuhl replacement hospital. In general, the new facility will provide a long-term solution providing quality medical care for wounded warriors, service members and families for decades to come. It will be the largest American medical center and the only Level II trauma center outside the U.S.

The design for the Fort Benning hospital is further along with plans for two wings. One wing would serve as a clinic and the other would serve more as a hospital. The facility would be equipped with two parking decks for



USACE Photo

The Fort Belvoir Hospital design incorporates an integrated storm water system that will capture 160,000 gallons of reusable irrigation water.

patients and staff members and 70 in-patient beds.

Soldier and family centers

The Fort Benning site will also include a Soldier and

Family Assistance Center (SFAC), one of many similar facilities going up throughout the U.S. These centers are integral to the transition of Soldiers back into their units or back into the civilian world.

SFACs built by USACE significantly aid wounded warriors. These modern facilities bring together multiple resources typically scattered around the installation. The SFACs work with wounded warriors and their families to help them navigate the many processes needed for rehabilitation, re-education and re-integration to the unit or civilian society. Case workers assist wounded warriors with legal, educational, spiritual, medical and personnel issues all under one roof.

"These facilities are certainly impressive with the incorporation of new and innovative designs, but it's important to stay focused and remind ourselves why we're going to such great lengths in this effort," Slockbower said. "It's more than just buildings. It's about serving our wounded warriors and their families."

Safety manual now an iPhone app

By Bernard Tate
Headquarters

The *Safety and Health Requirements Manual* is a bear to carry. It's more than 8 inches tall, more than 5 inches wide, 2 inches thick with more than 1,000 pages, and weighs two or three pounds. Phelipe Silva hated lugging it around at project sites, so he did something about it. He created an iPhone application (app) that is now available free to anyone who wants it.

"While I was in the field, I noticed that not many contractors have the manual, and it's annoying to carry a large manual," said Silva, a quality assurance intern at Sacramento District's Sierra Project Office. "I thought it would be easy to put on an iPhone. I always carry my iPhone, so I would always have a copy, and have better navigation than with the manual itself."

"Phelipe contacted me about a couple of months ago with this wonderful idea, and I'm so happy we were able to have him pursue this project," said Ellen Stewart, senior safety engineer with the Office of Safety and Occupational Health in Headquarters. "He contacted us for permission because we are the proponent for the safety manual, EM 385-1-1."

Silva graduated from Brigham Young University-Idaho last year with a degree in construction management. He collaborated with Layne, a programmer friend from BYU-I, to create the safety manual app. It took a couple of months.

"I did it all on personal time," Silva said. "I don't have time at work. Besides, I needed a Mac for this, and the Corps has PCs."

Although he created the app on his own time, Silva drew heavily on his experience as a quality assurance inspector.

"Ideas would occur to me in the field," he said. "For example, I noticed that everyone used the safety manual's index to find what they want, so I put the index right on top. Now you can do an index word search and find what you're looking for in seconds, versus it taking a couple of minutes with the paper manual's index. Not only can you find that keyword you're looking for, but also navigate definitions, acronyms, figures and tables instantly. You can also bookmark pages with notes. I had to do a lot of cutting-and-pasting from the original PDF manual."

The safety manual app launched on Oct. 11, and you can see a short video of how it works at <http://vimeo.com/15444125>. "When you create an app, you send it to the App Store at Apple," Silva said. "They check it to make sure the software is OK, and then Apple launches it."

The U.S. Army Corps of Engineers' safety manual is now available free worldwide to anyone who has an iPhone, iPad or iTouch. Those who wish to download it simply go to Apple's App Store, search for EM 385-1-1, and click on it to download.

Silva said the download takes about a minute, and

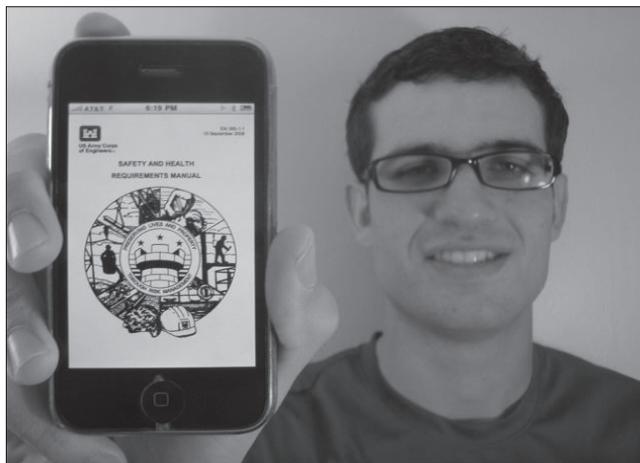


Photo by Jordan Huff, Sacramento District

Phelipe Silva holds his iPhone with the *Safety and Health Requirements Manual* application.

that a few hundred people have already downloaded the safety manual. "The feedback I've gotten is that people like it," he said.

"This is a great idea; I don't know why we never thought of it before," Stewart said. "We've had tremendous response from a lot of folks. It's much more readable, it's searchable, and you can go page-to-page easily with a touch of a fingertip on the screen."

Silva's next project is to adapt the safety manual first to the BlackBerry, and then to the Android mobile device.

JHR Corner

Survey results released

Earlier this year, many U.S. Army Corps of Engineers employees were chosen to participate in the 2010 Federal Employee ViewPoint Survey (FedView), formerly known as the Federal Human Capital Survey (FHCS).

FedView is a government-wide survey on human capital management conducted by the Office of Personnel Management (OPM). FedView focuses on employee perceptions regarding critical areas of their work life that drive employee satisfaction, commitment and ultimately retention in the workforce.

The 2010 survey was the fifth time that OPM conducted the survey. Beginning in 2011, OPM will administer FedView annually. Previously the survey was administered every other year.

The survey was administered electronically and the sample included employees from 29 major federal agencies, as well as 53 small and large federal agencies. The 89-item survey included 11 demographic questions and 78 items that measured federal employees' perceptions about how effectively agencies manage their workforce. More than 260,000 federal employees participated, including about 4,500 USACE employees. The sample was designed to represent the full-time, permanent federal workforce. Government-wide, the response rate was 52 percent.

Overall, the 2010 FedView survey results were positive for the Corps. USACE did not have any responses that were below the government-wide average. A positive rating of 65 percent or more on an item is considered strengths for the organization, and USACE had 41 items with a positive rating of 65 percent or more. Twenty-three

"EM 385-1-1 is available electronically in a search mode on the USACE Publication Site," Stewart said. "But you need a laptop to access that in the field, which can be awkward to carry, and connectivity can be a problem. Most Corps employees are issued the BlackBerry and you can access the safety manual on the pubs site with those, but a BlackBerry has a very small screen, and the safety manual is difficult to read on one. So Phelipe is working with ACE-IT (Army Corps of Engineers-Information Technology) to make the safety manual available on the BlackBerry, and easy to read on its screen."

"This new safety manual app will be a real asset to our safety program," said Richard Wright, chief of Safety and Occupational Health. "The safety manual has gotten bigger with time. Years ago it was almost small enough to stick in your shirt pocket, but our present edition is a pretty good-sized book and it's a load to carry. Phelipe's app puts the manual at everyone's fingertips, and it's no bigger than an iPhone."

"This is an excellent example of the bright young staff we have in the Corps of Engineers," Wright added. "They come in with new ideas and new ways of doing things, see something they can improve and take the initiative to do it, helping us to improve our safety and health program."

items received positive increases of 5 percent or more better than the 2008 survey.

Subjects covered by these items included development and training of our employees, performance management and culture, talent management, and job satisfaction. Thirty-four items were 5 percentage points or more above the government-wide average.

Items that are 35 percent or more negative are considered weaknesses. USACE had only one item in this category. None of the Corps' items were 5 percentage points or more below the government-wide average for USACE.

To guide government-wide efforts to support agency mission results with strong human capital strategies, OPM created the Human Capital Assessment and Accountability Framework (HCAAF). The FedView survey provided results for four HCAAF indices -- leadership and knowledge management, results-oriented performance, talent management, and job satisfaction. Of 37 agencies, the Department of Defense ranked 10th on leadership and knowledge management, 16th on results-oriented performance culture, 13th on talent management, and 13th on job satisfaction.

The Directorate of Human Resources is developing action plans at Headquarters and the division level to ensure that we have strategies to improve our survey results and to improve USACE as an organization.

The complete FedView survey and USACE results are at www.usace.army.mil/CEHR/Pages/AboutUSACE-HumanResources.aspx. Government-wide results are at www.fedview.opm.gov.

AROUND THE CORPS



USACE workers carefully drop mollusk shells from a barge atop clean boulders in Buttermilk Channel. The rock and shell form a foundation for a 15x30-foot artificial reef designed to imitate a natural oyster reef.

Oyster reefs

Oyster pilot studies to determine whether sustainable oyster reefs can be reintroduced into New York Harbor are being undertaken in a partnership among USACE, several environmental and academic institutions and the Urban Assembly New York Harbor School.

During September and October, four experimental oyster reefs were built in the shallow waters within the New York and New Jersey Harbor Estuary. While no known reefs and only a handful of individual oysters remain today, water quality has improved in the past few decades, and made oyster restoration possible.

The project was officially launched on Governors Island, N.Y., near the quaywall overlooking the Buttermilk Channel. Buttermilk Channel was the site of one of the four reefs, one as far upriver in Hastings, N.Y. The artificial reefs are designed to imitate natural oyster reefs by using a combination of clean rock and mollusk shells.

During the next two years scientists will use the artificial reefs as research platforms to chart oyster growth and reef performance. Information provided by the reefs will guide decision for large-scale restoration.

Daewoo vs. U.S.

On Oct. 11, Daewoo Engineering & Construction Co., Inc., paid \$51 million to the U.S. government to resolve the largest counterclaim judgment in USACE history. The payment satisfies the 2006 Court of Federal Claims fraud counterclaim judgment in *Daewoo v. United States*, plus a \$2,000 discovery sanctions award and a \$600,000 portion of the claim investigation costs.

The case arose out of Daewoo's construction of a 53-mile road in the Republic of Palau under a USACE contract. The counterclaim judgment occurred because of serious defects in Daewoo's \$64 million certified equitable adjustment claim. The trial court's decision, which was affirmed on appeal, can be found at 73 Federal Claims Reporter 547.

"Daewoo recognized the serious nature of this judgment and is determined to make good on all aspects of the case," said Bom Sik Cho, vice-president of Daewoo. "We intend to move forward as a responsible contractor,

and regain our reputation as a reliable partner with whom the U.S. government can do business."

Mortuary facilities

Mortuary affairs has been part of the Dover Air Force Base mission for nearly 60 years. Philadelphia District is helping the base fulfill that mission by building a mortuary complex.

The complex includes the Mortuary Affairs Operations Center, built by the district in 2003; the Joint Personal Effects Depot and the Armed Forces Medical Examiner System Facility, both currently under construction.

The two new facilities are being built on either side of the Mortuary Affairs Operations Center where military personnel oversee mortuary functions, including embalming and casketing.

The complex is part of the Corps' \$265 million military construction program at Dover Air Force Base. Philadelphia District maintains a resident office there with 18 employees.

"This is the largest program on base I've seen in the past 10 years," said Tom Lavender, project manager. "The mortuary complex is another example of the unique projects we've been involved with here."

Munitions clean-up

Sen. Daniel Inouye and Billy Kenoi, mayor of the Big Island, visited the Waimea area of Hawaii to recognize one of the largest ongoing environmental cleanups of unexploded ordnance in the U.S.

Funding for this cleanup comes from the formerly used defense site program managed by USACE. Kenoi was especially pleased because it makes the Waimea and Waikoloa communities safer, and has a significant economic impact on the area.

More than 65 years ago, the Waikoloa Maneuver Area was home to 50,000 U.S. servicemen who trained there during World War II. The training included artillery, mortar and other live fire in a 130,000 acre area.

USACE has been removing munitions and explosives since 2002, and has cleared about 13,600 acres, disposed of more than 2,100 items and recycled more than 250 tons of military and munitions debris.

New PMBP course

USACE has launched a new course that will teach the basics of the Project Management Business Process (PMBP). The 15-minute introductory course is mandatory for new employees, project managers, program managers and resource providers, but can help all employees gain a better understanding of the PMBP and how it facilitates USACE business.

In addition, there is an optional 50-minute self-paced course on the basics of PMBP. Employees must pass a 25-question test at the end of each module and provide a certificate of completion to their supervisor or training manager.

"The introductory course will eventually be part of Leadership Development Program 1 training," said Ar-

thur Martin, who led the development team. "Once the course is out, there will be a one-year period for it to be integrated into LDP 1. New employees, regardless of their role in USACE, will be required to review the course."

The free course will be available through the USACE Learning Network.

Honolulu District contracts

During fiscal 2010 Honolulu District awarded 685 contract actions totaling \$272 million, including more than \$147 million to small businesses. The district awarded 56 percent of its contracts to small businesses, exceeding annual district and USACE goals.

Significant Honolulu District contracts awarded include:

- Parking apron and taxiways at Hickam Air Force Base for \$8 million.
- Tactical equipment maintenance facility at Helemano Military Reservation for \$15.3 million.
- Repair of the Plumbing and Carpentry Shops Facility at Kwajalein Atoll for \$3.1 million.
- Repair G1B Electrical Unit Substation at Tripler Army Medical Center for \$9.6 million.
- Roof replacement and two photovoltaic systems at Aliamanu Military Reservation for \$1.5 million. This was an American Recovery and Reinvestment Act (ARRA) project.
- A \$2.7 million ARRA contract replaced the water treatment plant generator at Schofield Barracks.
- A \$27 million six-story barracks complex at Fort Shafter.
- The \$7 million rehabilitation of the Aloha Center at Fort Shafter.



Commander's Award

Jennifer McCarthy, chief of the Regulatory Division in New England District, received the Commander's Award for Civilian Service for her work with U.S. Forces-Iraq. Secretary of Defense Robert Gates is shaking McCarthy's hand, and Gen. Robert Odierno, commander of U.S. Forces-Iraq, is at the right.

Great Wonders of USACE

New fence guards Southwest border

By Jim Frisinger
Fort Worth District

The border fence between the U.S. and Mexico is an U.S. Army Corps of Engineers project in the tradition of building the Panama Canal or the Pentagon.

The U.S.-Mexico border stretches across California, Arizona, New Mexico and Texas. Much of it today is as remote and hostile as it was 200 years ago – 1,933 miles of deserts, rivers, plains, cactus, buffalo, antelope and snakes.

Cattle rustling earned the borderland its reputation; today smuggling people and narcotics challenge lawmen.

By 2005, only 137 miles of modern primary fence had been built along the Southwest border, but a national consensus emerged for a major fence construction program to secure the border. Congressmen asserted the need for 700 miles of fence, nearly 600 miles more than what was in place, and they wanted it fast.

Coalition

The first large-scale border fence construction project in U.S. history began Oct. 26, 2006, when President George W. Bush signed the Secure Fence Act. The Department of Homeland Security (DHS) tapped USACE as the lead executing agency.

USACE needed a coalition for this mission to succeed. At the controls was the Engineering and Construction Support Office (ECSO), a Southwestern Division program office in Fort Worth District. It worked hand-in-hand with DHS' U.S. Customs and Border Protection (CBP), which includes the Border Patrol.

With a little more than two years to build the fence, a goal set by Congress, USACE worked with CBP to find new ways to accelerate procurement and logistics to meet mission goals. The timetable compressed planning, environmental compliance, design, contracting and real estate acquisition, setting the table for a surge of construction in late 2008.

At the peak, a dozen prime contractors worked simultaneously across four states to meet the deadline. They met the congressional deadline by building two-and-a-half miles of fence a day during the final quarter of 2008.

The project required organizing a far-flung team of more than 500 USACE employees from 28 districts and laboratories across eight divisions.

Innovation

"We had to reinvent every aspect of the way we deliver projects," said Todd Smith, ECSO's program manager for the main pedestrian fence portion called PF225. "There is no business-as-usual anywhere in the fence program. We had to continuously challenge people to think outside the norm and not fall into the old ways of doing business."

Other key building blocks:

Contracts. USACE created 15 multiple award task order contract pools with 52 contractors and \$3.4 billion in contract capacity to streamline task order awards and construction.

PF70. Even as the main Pedestrian Fence 225 (PF225) and Vehicle Fence 300 (VF300) projects were planned, the first fence project, Pedestrian Fence 70 (PF70), added



Photo by Ben Vik, U.S. Border Patrol

A Border Patrol vehicle drives along the new border fence in the Imperial Sand Dunes region. This section of the fence, built in 2008 in Southern California, cut off a smuggling corridor.

more than 70 miles of primary fence in fiscal 2007, making it the most aggressive fence program up to that time. PF70 became a valuable learning laboratory for the ambitious cross-district, cross-agency effort that followed. But the mileage goals for PF225 and VF300 were far steeper -- to build, in 15 months, more than 400 miles of new fence, nearly six times longer than PF70.

Surveying. The national architect-engineer firm of Michael Baker Jr. Inc. assisted the government representatives as program integrators. Survey crews flew the entire border zone so the fence footprint could be plotted.

Op order. An operating order codified the relationships between all of the USACE districts and with ECSO.

Urgency. This was not just a job, it was a national security mission. DHS Secretary Michael Chertoff personally asked the Chief of Engineers, Lt. Gen. Robert Van Antwerp, for a full commitment of USACE resources to ensure project delivery. Van Antwerp agreed and communicated it throughout his command.

New designs. After decades of fashioning fence out of military surplus aircraft landing mat, the Fence Lab Project tested new low-cost fencing solutions that met operational requirements and could be built quickly. Designers developed a full "tool kit" of fence designs. All of the fences are see-through, giving Border Patrol agents clear sight lines and early warning of those preparing to cross.

Contractors modified tool kit designs to meet local conditions. The rugged A-1 Pack Trail fence in California uses 16 fences based on two tool kit designs. Another innovation is a 15-foot fence that floats atop dunes and can be adjusted as the sand shifts.

Smuggler's Gulch. 1.3 million cubic yards of earth were used to build a berm across Smuggler's Gulch, a notorious canyon along the San Diego-Tijuana border. The berm is topped with secondary fence and patrol roads that fortify the last 3.5 border fence miles at the Pacific Ocean.

Real estate. The USACE real estate team dealt with a maze of international, federal, Native American, local government and private owners. Tracts in Texas had vague title histories and poor land maps.

Nearly 150 USACE real estate professionals nationwide helped. Retired real estate personnel fresh from Hurricane Katrina duty came to work at Fort Worth District. A 30-person real estate office went up in McAllen, Texas,

and many Fort Worth staffers were put on evening and weekend duty – some for two years.

Legal. An interagency legal team, aided with new technology and a model condemnation package, shared, processed and won approval for legal documents quickly.

Environment. Chertoff, using his authority under Section 102(c) of the Illegal Immigration Reform and Immigrant Responsibility Act, waived more than 30 environmental and land management laws to speed construction of fence, roads and detection equipment across 470 border miles, but insisted the government hue to the spirit of the National Environmental Policy Act.

In coordination with CBP, ECSO developed "Environmental Stewardship Plans" to comply. USACE helped complete eight environmental assessments, two biological opinions, 25 environmental stewardship plans, 10 biological resource plans and more than 100 environmental site assessments.

USACE spent \$41 million for environmental planning for PF225 and VF300, developed information on 75 threatened and endangered species and critical habitats, and surveyed more than 600 cultural/archaeological sites.

Stakeholders. Consultation with stakeholders was constant. "Critter holes" allow small animals to pass through the fence. Workers relocated saguaro cacti and sabal palms; elsewhere they realigned the fence to minimize impact. DHS pledged \$50 million to the Department of the Interior to mitigate adverse effects of the fence.

Contracting team. ECSO organized a virtual contracting team from four USACE districts for procurement -- Los Angeles, Albuquerque, Fort Worth and Galveston. This eliminated differences in procurement procedures across the districts.

The USACE Engineer Research and Development Center in Champaign, Ill., created a request for proposal (RFP) "wizard" to streamline mass development of RFPs for separate fence segments.

Steel. Government purchases of wire mesh, panels and bollard avoided bottlenecks from steel suppliers. Fence construction for most of 2008 consumed more than 120,000 tons of steel of the 145,000 tons purchased.

Communications. An extensive communications system fed information from the field to ECSO in Fort Worth and CBP offices in Washington, D.C., via satellite and a Web-based shared project-tracking database called the Tactical Infrastructure Program Overview. Teamwork was crucial. This was new and different work, and no one was used to this pace.

One team, one fight

"By taking it all on as 'one team, one fight,' the bumps all of us faced became a lot smaller," said Eric Viewers, ECSO director. "It's one of the Army's virtues. Everybody bent over backward to help, to cross boundaries. There was no parochialism, no one saying 'Mine, mine, mine!' It was always 'How can we help?'"

While a few miles of difficult terrain remain to be finished, as of Sept. 24 the border fence extends across 649 miles of the border with Mexico, out of nearly 652 miles planned. There are 350 miles of pedestrian fence and 299 miles of vehicle barriers.