

Public Works *Digest*

In this issue:

The Environment



*Special Section on
Fire and Emergency Services Awards
see pages 36–37*





U.S. Army Installation Management Agency

2511 Jefferson Davis Highway
Arlington, Virginia 22202-3926

Public Works Digest is an unofficial publication of the U.S. Army Installation Management Agency, under AR 360-1, The Army Public Affairs Program. Method of reproduction: photo-offset; press run: 1,500; estimated readership: 40,000. Editorial views and opinions expressed are not necessarily those of the Department of the Army.

Address mail to:


U.S. Army Installation Management Agency
2511 Jefferson Davis Highway
Arlington, VA 22202-3926
Attn: Editor, *Public Works Digest*
Telephone: (202) 761-0022 DSN 763
FAX: (202) 761-4169
e-mail:
Mary.B.Thompson@HQ02.usace.army.mil

Donald G. LaRocque
Public Works Program Manager,
Installation Management Agency

Mary Beth Thompson
Managing Editor
U.S. Army Corps of Engineers

Layout:
Corporate Visions, Inc.
Washington, DC

On the cover:
Fire Chief Billy Cannedy, second from the right, front row, presents Fort Bliss as the Army's large fire department of the year.

 Printed on recycled paper.

3 Letter from the Editor

Environmental Awards

- 4 Army environmental programs lauded by DoD *by Deborah Elliott*
- 5 Fort Campbell significantly reduces emissions, waste *by Deborah Elliott*
- 6 Fort Lewis cleanup projects ahead of schedule *by Deborah Elliott*
- 7 Tobyhanna Army Depot a leader in pollution prevention *by Deborah Elliott*
- 8-10 Pyramid Lake receives innovative cleanup *by David Killam*
- 10 Ecosystems thrive on Minnesota Army National Guard training lands *by Deborah Elliott*
- 11 Fort Stewart environmental program saves millions *by Deborah Elliott*
- 12 Land use and rehabilitation program at Fort Custer saves the soil *by Deborah Elliott*
- 12-13 Humvee cooling unit reduces greenhouse gases *by Deborah Elliott*
- 13 Fort Leonard Wood makes history and preserves it *by Deborah Elliott*

Environmental Management

- 14-15 Public involvement in building a sustainable Army *by Karen J. Baker*
- 16-17 Waste matters *by Edward G. Engbert*
- 18-19 New ACSIM C&D waste management policy requires 50 percent diversion *by Tom Napier*
- 19-20 Sustainability through historic preservation compliance *by Susan Thompson*
- 21 Use native plants to help sustain the environment *by Heidi R. Howard*
- 22-23 Seattle District employees 'LEED' the way in construction sustainability *by Ashlee Richie and Tom Tolman*
- 23 Time to take next step in sustainability: integration to individual daily lives *by Brendalyn Carpenter*
- 24-25 Military seeks partnerships to promote sustainability goals in Hawaii
- 26 Kelly brings experience to environmental programs at AEC

Water Support

- 27 Overcoming Iraq's desert *by Claude D. McKinney*
- 28-29 Regulatory specialists protect nation's wetlands *by Rashida Banks*
- 30-31 Dam restoration keeps military moving forward *by JoAnne Castagna*
- 32-33 Kirtland and Corps, first large system in state to meet new EPA water standards *by Torrie McAllister and Bruce Hill, Jr.*
- 33 Environmental cleanup team removes mercury from sewage treatment plant *by Patrick Bloodgood*

New Technology

- 34 Two new standards support Army installation sustainability *by Philip R. Columbus and Kelly M. Dilks*
- 35 New program standardizes Army financial management and accounting functions *by Brigid O'Connor*

Fire and Emergency Services Awards

- 36-37 IMA announces annual fire, emergency services award winners *by Charles Butler*

Facilities Engineering

- 38 New homes open for junior enlisted in Hawaii *by Ann Wharton*
- 39 Camp Walker dental clinic reopens *by Galen Putnam*

Professional Development

- 40 Deadline to apply for Army Congressional Fellowship Program approaches *by Esther H. Howard*
- 40 Work on the hill – a fascinating experience *by Patrick Batt*
- 41 2007 master planning course schedule set *by Jerry Zekert*
- 41 CP-18 training opportunities *by Ed Gauvreau*

Who's Who in IMA

- 42 Brig. Gen. Macdonald assumes leadership of IMA *by Melina Rodriguez*
- 43 Brig. Gen. John A. Macdonald

L E T T E R F R O M T H E E D I T O R



*G*uten tag, ciao, kon-nichiwa, bola, an-nyong ha-seyo, aksuni, aloha, howdy, bello. Those greetings are a sampling from the languages in the countries where 116 Army posts served by the Installation Management Agency are located. As the new editor of the *Public Works Digest*, I send my greetings to all you.

Allow me to introduce myself. My background is in public affairs, and I especially enjoy writing and editing. I came to the *Digest* from the Corps of Engineers' Baltimore District Public Affairs Office. There, I worked on several publications, including the *Constellation*, the district newsletter; the Corps' *pondent*, a newsletter for the residents of a large Formerly Used Defense Site; and the *Pentagon Memorial News*, which was for family members of those killed at the Pentagon on 9/11 about the memorial design selection process.

Prior to Baltimore, I worked in Hawaii in the Public Affairs Offices at U.S. Army Pacific, Oahu Consolidated Family Housing and for a short time at Naval Base Pearl Harbor. Those of you who have worked with family housing in years past may remember the *Aloha Ohana* (Hello Family), the OCFH newspaper. I wrote for and edited that publication for several years. While at Pearl Harbor, I started their family housing newsletter, the *Navy Ohana*.

The inevitable hiring process time lag has put the *Digest* behind schedule, and we are working to catch up. This should be the third issue you have received in the past month. Before long, we will be back to publication on a bi-monthly basis.

The *Digest* leads this environmental issue with articles on the winners of the Department of Defense and the Army environmental awards programs. It also features stories on topics such as the new Assistant Chief of Staff for Installation Management policy on construction and demolition waste management, using native plants for sustainability, public involvement, Leadership in Energy and Environmental Design and historic preservation.

There is also a section on the Army's Fire & Emergency Services award winners and another on new technology. The latter includes new standards for light emitting diode traffic signals and non-water urinals, as well as information about the General Fund Enterprise Business System, which will standardize all financial management and accounting functions across the Army.

The Professional Development section has been reinstated with information on upcoming classes and opportunities. *Who's Who* in IMA features Brig. Gen. John A. Macdonald, the new director of the Installation Management Agency.

Succeeding Alex Stakhiv, who did a remarkable job, and Debra Valine and Greg Tsukalas who filled in so admirably in the interim while also doing their regular jobs, is a tall order. Alex is back temporarily to show me the ropes. I am enjoying the time with her and am grateful for her counsel.

One of my goals is to continue to provide you with a publication that not only offers important information but also serves your needs in a dynamic world with articles that address the interests and concerns of the Directorate of Public Works community.

You can help — by sending articles and by letting me know what subjects you would like to see covered in the *Digest*. I am reachable at 202-761-0021, and by email at Mary.B.Thompson@usace.army.mil.

Mary Beth Thompson

Mary Beth Thompson, Managing Editor **PWD**



Army environmental programs lauded by DoD

by Deborah Elliott

Sustaining the environment for a secure future is the Army's theme for all things regarding the environment, and this year the Army took that commitment all the way to the Department of Defense.

In a ceremony at the Pentagon May 3, the Army received four out of the 10 Secretary of Defense Environmental Awards for excellence. Two awards were for environmental quality, and one each for environmental restoration and natural resources conservation.

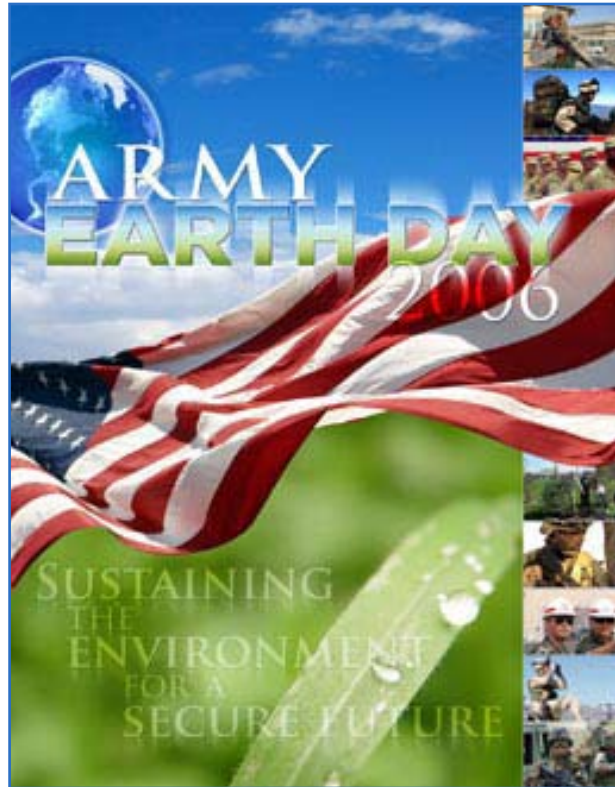
The Army winners and the categories in which they won were:

- **Fort Campbell, Ky.** — environmental quality, non-industrial installation
- **Fort Lewis, Wash.** — environmental restoration, installation
- **Sacramento District, U.S. Army Corps of Engineers' Pyramid Lake Torpedo and Bombing Range Site Restoration Project, Nev.** — environmental restoration, team
- **Minnesota Army National Guard Natural Resources Conservation Team, Minn.** — natural resources conservation, team

"By employing a strategy that reaches beyond mere compliance with environmental laws and regulations, we have transformed our business practices to enhance partnerships with communities, integrate environment into our acquisition process and implement management systems to ensure the long-term viability of these lands for future defense operations," said Philip W. Grone, deputy under secretary of defense for installations and environment.

"The department will continue to challenge our environmental professionals to do more to achieve a secure, sustainable future, one that contributes to the success of our armed forces, the environment and our nation," Grone said.

The Army's DoD winners were among five installations and four teams to receive the fiscal year 2005 Secretary of the Army Environmental Award for dedication to



Army Earth Day poster

environmental stewardship while sustaining the Army's mission. The other five Army awardees were:

- **Fort Stewart and Hunter Army Airfield sustainability and management team, Ga.** — environmental quality, team
- **Fort Leonard Wood, Mo.** — cultural resources management, installation
- **Fort Custer Training Center, Michigan Army National Guard, Mich.** — natural resources conservation, small installation
- **Tobyhanna Army Depot, Pa.** — pollution prevention, industrial installation
- **CO2 cooling development team, communications-electronics, Research, Development & Engineering Center, Fort Belvoir, Va.** — environmental excellence in weapon systems acquisition, team

The awardees enhanced wildlife habitat while improving training conditions, safely and successfully cleaned up contamina-

tion with significant cost savings, preserved valuable state cultural history, created innovative pollution prevention approaches and fielded weapon systems built with both the Soldier and the environment in mind.

"The Army is committed to good environmental stewardship and the long-term sustainability of its installations," said Tad Davis, deputy assistant secretary of the Army for the environment, safety and occupational health

"We can't send our Soldiers out to engage in the Global War on Terror without training them as they need to fight, but we don't have to sacrifice the environment to provide that training," Davis said. "As these awardees so ably show, we use innovation, dedication

and hard work to balance readiness with environmental sustainability."

The Secretary of the Army Environmental Awards represent the highest honor in the field of environmental science conferred by the Army.

Representatives from the Environmental Protection Agency, the Bureau of Land Management, the Fish and Wildlife Service, the Advisory Council on Historic Preservation, the National Conference of State Legislatures, and environmental management representatives from five states and the Office of the Federal Environmental Executive served as judges on the award panels.

POC is Deborah Elliott, (410) 436-1654, e-mail: Deborah.elliott4@us.army.mil.

Deborah Elliott is an outreach specialist with the U.S. Army Environmental Center Public Affairs Office. PWD



Fort Campbell significantly reduces emissions, waste

by Deborah Elliott

Fort Campbell, Ky., is on the forefront of integrating the environmental management system (EMS) into an already well-established and robust environmental program that has won awards from industry, local government, the Army and the White House.

Even so, fiscal year 2005 was a banner year for Fort Campbell's environmental program, which made strides in the areas of EMS implementation, hazardous materials management, air emissions reduction, recycling, National Environmental Policy Act (NEPA) and community outreach.

The following successes were realized:

- EMS milestones numbers four and five were met.
- Hazardous materials management resulted in a 25 percent increase in combat readiness.
- Volatile organic compound emissions were reduced by 75 percent, and hazardous air pollutant emissions were reduced by 95 percent.
- The Pollution Prevention Operation Center reduced hazardous waste disposal by 84.6 percent, realizing a 90.1 percent disposal cost reduction.
- Deconstruction on certain buildings reached a 95 percent salvage rate.
- The Range Division used Fort Campbell's NEPA web site to choose physical training routes.
- The Earth Day program celebrated its 35th year of community outreach.

Implementing the EMS is a high priority for Fort Campbell. In addition to meeting its milestones, the EMS team conducted auditor training and the first internal audit. The team found 100 percent conformance in several areas of the ISO 14001 standard, an environmental man-



The Pollution Prevention Operation Center packaged more than 1,100 different hazardous materials required for mass deployment of more than 20,000 personnel. Photo provided by Mike Davis, chief, Pollution Prevention Branch, Directorate of Public Works, Fort Campbell, Ky.

agement standard set by the International Organization for Standards, with an overall conformance of 83 percent.

Expansion of operational planning in the directorates, begun in fiscal year 2005 after the audit, is expected to boost the overall conformance score significantly, putting Fort Campbell well ahead of the curve on the DoD requirement of full conformance with the ISO 14001 standard by 2009.

"Fort Campbell has implemented one of the most progressive environmental management systems in the United States military and demonstrated an exemplary commitment to environmental improvements and sustainability," said judging panel member Gary Sondermeyer, chief of staff for the New Jersey Department of Environmental Protection.

Fort Campbell's Department of Public Works Environmental Division focuses on 11 priority aspects in the areas of compliance, pollution prevention and conservation. Aspects include meeting stringent Clean Air Act provisions, recycling regular and hazardous waste, and managing precious water resources.

These activities and more promote the health of the installation's natural environment and ensure that land critical for training at the Department of Defense's seventh largest power projection platform remains available.

POC is Deborah Elliott, (410) 436-1654, e-mail: Deborah.elliott4@us.army.mil. **PWD**



Fort Lewis cleanup projects ahead of schedule

by Deborah Elliott

Fort Lewis, Wash., has officially obtained remedy-in-place status (RIP) for 8 of 10 SuperFund sites over the past two years and will have RIP for all sites well ahead of deadlines. Fort Lewis has also obtained response complete (RC) status for two of its SuperFund sites, and a third site is slated to receive RC status in 2006.

This means that the number of non-RC sites and the amount of land those sites occupy on Fort Lewis have been dramatically reduced from 92 separate sites covering approximately 1,200 acres to 18 sites totaling only 80 acres.

These successes are the result of a change in the way Fort Lewis manages its environmental restoration program (ERP). For the past five years, the Fort Lewis ERP team has been responsible for both the Environmental Restoration and Compliance Cleanup Programs, but in fiscal year 2005 the team took a different approach.

Although the two cleanup programs are funded separately, Fort Lewis has found tremendous synergy in managing the two programs together, and instead of outside sources, a single in-house team is managing the work, which makes for a significantly more efficient – and less expensive – program.

“By creating the new ERP team, they showed a strong commitment to the environment. Fort Lewis has always gone beyond the minimal regulatory requirements – they don’t just do what’s necessary, they do what’s right,” said Bob Kievit, an



Groundwater monitoring wells are installed as part of an in-house site investigation at a Yakima Training Center environmental restoration program site.

officer at the U.S. Environmental Protection Agency.

The increased performance of Fort Lewis’ ERP has enabled the team to enhance the military and civil works mission at Fort Lewis by:

- decreasing the amount of Fort Lewis and Yakima Training Center lands with environmental restrictions;
- increasing funding for other Army programs by decreasing required funding for ERP and compliance cleanup sites;

- effectively implementing land use controls via a comprehensive land use plan that does not discourage appropriate redevelopment or training;
- championing sensible brownfield redevelopment projects, such as construction of a softball complex on top of a former landfill; and
- improving ERP outreach to other land use planning and training organizations at Fort Lewis through a dig permit process, land use “deconfliction” meetings and master planning coordination.

Greg Caron, an expert from the Washington Department of Ecology, is a fan of Fort Lewis’ environmental program.

“It’s heartening to look at Fort Lewis,” he said, “and be able to see real environmental benefits as a result of the new ERP program.”

POC is Deborah Elliott, (410) 436-1654, e-mail: Deborah.elliott4@us.army.mil. **PWD**

Coming Soon!

Look for the Jul/Aug Issue of the **Public Works Digest**

on **Facilities Engineering**

Deadline for call for articles: July 7, 2006



Tobyhanna Army Depot a leader in pollution prevention

by Deborah Elliott

Tobyhanna Army Depot, Pa., has one of the most effective pollution prevention programs in the U.S. Army. Last year, its environmental management division recycled over 40 percent of its solid waste; reduced surface coating air emissions by almost 50 percent; conserved over 25 million gallons of water annually; and recycled 10.8 million gallons more – all during a period when it experienced a 60 percent workload surge as the largest, most progressive electronics maintenance facility in the Department of Defense.

Two particular pollution prevention initiatives at Tobyhanna Army Depot enabled the success in fiscal year 2005. These included operations at the wastewater recycling plant and hazardous waste management.

The Industrial Wastewater Recycling Plant objective and target (O&T) team at Tobyhanna Army Depot (TYAD) focused on reducing metal discharges from plating operations. This team oversaw the commissioning of the pollution prevention projects associated with the Industrial Operations Facility (IOF) plating shop. Projects included implementing microfiltration of acid baths to extend bath life, and recycling of rinse waters using reverse osmosis and other filtration methods. Concentration on water conservation included installation of a water chiller at the IOF, so that hot byproduct water may be reused.

The Air Emissions O&T team is managing the installation of a new hazardous material (HM) pharmacy at the large item paint facility to reduce HM usage and reduce volatile organic compound (VOC) emissions by intensively managing shelf-life materials. Low VOC-containing paints are being used to reduce surface emissions and low nitrogen oxides natural gas burners in boilers further reduced emissions. Under this system, HM is delivered to a storage facility and receives a bar-coded tracking label via 14 HM pharmacies. Authorized Use Lists are prepared for each organiza-



Tobyhanna Army Depot is a leader both in communications-electronics systems and pollution prevention.

tion, which inform HM pharmacy operators what HM each employee is trained to use and warn of possible unauthorized transactions. TYAD is partnering with DoD, Oracle, Intel, and others to develop Radio Frequency Identification technology for hazardous material application. This technology can have far-reaching impacts in public safety, incident response, automation and more. Phase II of the ChemSecure project will include an automated hazardous material pharmacy/hazardous waste generation point at TYAD.

With an annual economic impact of \$1.8 billion, Tobyhanna Army Depot is not only part of the light industry Pocono area community, it is the region's leading industrial center and employer. To its credit, TYAD is known for sharing its successes with the community on both a local and state level. The depot coordinated a massive "Clean Your Files Week" paper recycling program with Monroe County and local businesses, and sits on the Monroe County

Solid Waste Advisory Committee. TYAD also participates in the regional Pocono Mountain Chamber of Commerce environmental council and state Pollution Prevention/Energy Efficiency Round Table of the Pennsylvania Association of Environmental Professionals, among several others.

"Since 1996, Tobyhanna Army Depot was a founding member and strong supporter of Pennsylvania's Northeast Pollution Prevention and Energy Efficiency Roundtable," said Janet Warnick, Pennsylvania Department of Environmental Protection, Northeast Regional Office, Office of Energy and Technology Deployment. "Their continuing efforts to promote environmental awareness and environmental progress, not only for the sake of their own organization, but for the benefit of the region as a whole, makes them an asset to the northeast region."

POC is Deborah Elliott, (410) 436-1654, e-mail: Deborah.elliott4@us.army.mil. PWD



Pyramid Lake receives innovative cleanup

by David Killam

It's 1945. The war is over and you have a lot of ammunition to get rid of. What do you do? Simple – you dump it into the lake. That's the way people used to think.

Sixty years later, that ammunition is still at the bottom of the lake. The U.S. Army Corps of Engineers will clean up the ammunition, but it's no easy task: the deep lake covers more than 110,000 acres, nobody knows exactly where the ammo is, and the Paiute Indians, who own the lake, have concerns of their own.

The lake, which is in eastern Nevada, is home to two species of fish – cutthroat trout, which supply tourism money for the tribe through sport fishing, and the cui-ui, a federally endangered fish that was the main source of food for the tribe. The tribe wanted no harm to come to the fish.

The Corps informed the tribe that funding for a cleanup was available through NALEMP, or Native American Land Environmental Mitigation Program, a program that addresses the impacts of past military operations on Indian lands.

The tribe hired David Evans and Associates (DEA) to begin the initial field work. DEA mapped the lake bed and analyzed



Pyramid Lake from the air. Photo by Cindy Vincent

lake sediment for contamination. DEA conducted a bathymetric lake survey and located over 200 hundred anomalies.

“This project has made it possible for the tribe to undertake a lake mapping project with a wide range of uses for the fisheries, water quality control and economic development,” said Anna Keyzers, Pyramid Lake tribe environmental department project manager.

Meanwhile, Vincent, formerly used defense sites program manager for the Sacramento District of the Corps of Engineers, led a team to conduct investigations. In the 1980s an aircraft crashed into the lake. Tribe members wanted it removed. Corps investigators discovered that government officials had removed the

airplane without informing the tribe. Investigations also led to Navy contacts at nearby Fallon Naval Air Station. The Corps team found out that they could use Navy divers to remove debris from the lake, instead of commercial divers, and eventually save tens of millions of dollars in diving costs. The Navy divers would benefit because it would be unusual training for them.

“We felt that it was very important to establish trust with the tribe,” said Vincent. “Through newsletters, visits to the tribal board of directors and information to the local media, tribal members constantly knew what was going on.”

At first, the divers found no ordnance. This was not surprising since visibility below 100 feet in depth was nonexistent in the murky waters of the lake. Next, DEA used a remotely operated vehicle (ROV) equipped with SONAR. The ROV located high-velocity aircraft rockets, ammunition crates, 55-gallon drums and other debris, after an investigation of 158 square miles of the lake bottom. The material was at depths of 46 to 220 feet.

In early August 2004, divers removed ➤



Ammunition recovered from Pyramid Lake is blown up. Photo by Cindy Vincent



(continued from previous page)

207 rockets and 500 pounds of small arms ammunition during a 12-day effort in the shallow portions of the lake.

The deep diving phase of the removal action took almost 9 months of planning to implement. Pyramid Lake is at 3,800 feet elevation. It was the first time in history that Navy divers had dived at this altitude. Other factors were the poor visibility in the lake below 100 feet, the cold temperature of the water and arriving at a method for removing the ordnance from the bottom of the lake.

The Navy dive master, with the assistance of Naval Sea Systems Command, developed logarithms for high altitude decompression dive tables and acquired the MK 16 Mod 1 closed-circuit breathing system, which provides and reuses both oxygen and helium while filtering out carbon dioxide.

“We had never done this type of diving before,” said Master Diver Boy Katano, of the U.S. Navy’s dive team. “Naval Sea Systems Command in Washington, D.C., had to give us permission to dive and designed the dive tables. Normally, at sea level, divers will use a mixture of 88 percent helium and 12 percent oxygen. It might seem to some people that more oxygen should be used, but too much oxygen at depth can actually

be toxic. For this dive, we used a mixture of 84 percent helium and 16 percent oxygen.”

Each diver was allowed to spend only 10 minutes on the bottom of the lake. Then the diver had to decompress twice for 10 minutes on the way up to the lake surface. Divers fought boredom by having music piped into their headsets. Because the visibility was essentially zero at the bottom of the lake, the SONAR operator had to guide each diver to the ordnance. The diver’s image appeared on the SONAR screen – the operator would then tell the diver where to go (step left, right, forwards or backwards) to reach the ordnance. It took divers and associated personnel three months of daily dives to remove 243 rockets and 27,000 pounds of ammunition. Each item had to be hand picked and placed in a basket tied to a rope for removal to the surface.

“It was a tremendous learning experience for us,” said Katano. “Divers also had to have total confidence in their equipment. With zero visibility so far down into the water, any equipment malfunctions could have been fatal.”

Navy divers spent a total of 186 hours on the bottom of the lake. The dive team consisted of 26 divers plus support elements.

In a ceremony in San Francisco on May

1, 2006, the assistant deputy under secretary of defense for environment, safety, occupation and health presented the FUDS team with the 2006 Secretary of Defense Environmental Restoration Award. This award is one of the highest honors in the field of environmental science conferred by the Department of Defense.

“By forging a synergistic partnership, the U.S. Army Corps of Engineers, the U.S. Navy and the Pyramid Lake Paiute Tribe developed innovative solutions to a complex environmental restoration problem,” said Alex Beehler, assistant deputy under secretary of defense for environment, safety, occupation and health. “The Corps of Engineers took the lead by seeking assistance from Navy divers, thereby saving tens of millions of dollars that would have been spent for professional divers. The Navy rose to this challenge to develop and test diving protocols for use at high altitudes. The Pyramid Lake Paiute Tribe also did its part by providing technical assistance to locate the ordnance.”

“This project was a success because we had the right people for the right jobs,” said Vincent. “We also had excellent support from other agencies: the Paiute Tribe assigned their project manager, Anna Keyser. The U.S. Navy brought in their expertise in diving and marine operations. The contractors David Evans and



Navy divers, working with the U.S. Army Corps of Engineers, examine ordnance retrieved from the bottom of Pyramid Lake. Photo by Cindy Vincent



A diver from Naval Air Station Fallon braves high altitude and deep water to recover ordnance from Pyramid Lake. Photo by Tim Chapman



Ecosystems thrive on Minnesota Army National Guard training lands

by Deborah Elliott

Sedimentation rates have been returned to pre-settlement conditions and endangered species are flourishing at Camp Ripley, Minn., the training ground of the Minnesota Army National Guard. At the same time, the guard's environmental program there is realizing a cost savings of more than 50 percent.

At the center of these successes is the Minnesota Army National Guard's natural resource conservation team. The team restores land damaged from training activities and corrects erosion areas; plans, designs and implements monitoring programs for flora and fauna; and makes efficient use of both its internal and outside human resources.

Challenged with maintaining varied ecosystems and essential training activities, the team approaches its mission with a focus on long-term conservation solutions and is supported by the considerable experience of program partners. The partners include the Minnesota Department of Natural Resources, the U.S. Fish and Wildlife Service and St. Cloud State University.

One example of the team's success is the presence of the endangered gray wolf, which is thriving in the heart of an active training area.

"Camp Ripley is home for two federally listed species, including the bald eagle and the gray wolf," said Dan P. Stinnett, a field supervisor with the U.S. Fish and Wildlife Service. "Both of these species are thriving on the base, in large part due to the work of your environmental staff working with all



Two packs of wolves, like this gray wolf, are thriving at Camp Ripley, Minn., and coexisting with troops in training. Photo provided by Marty Skoglund, environmental supervisor, Minnesota Army National Guard

people that use the camp for training."

In addition to strides made in the area of endangered species protection, the Minnesota Army National Guard natural resources team has achieved other successes:

Integrated Natural Resource Management Plans (LRAM) were developed in concert with the installations site development plans, which assures optimum future training conditions. This effort appealed to Soldiers training at Camp Ripley and the Arden Hills Army Training Site and has enhanced community relations by showing a scientifically-based plan for natural resources management compatible with a larger landscape.

Savings of more than 50 percent were

achieved by conducting the land rehabilitation and erosion work in-house, enabling the natural resources team to accomplish more landscape repairs under the LRAM program and make significant progress in the implementation of Camp Ripley's Sustainable Range Program.

Students and interest groups from throughout the state travel to Camp Ripley to learn about protecting and managing the environment. Hundreds of school and community groups use the camp each year to learn about the environment through guided tours and bird watching adventures. An environmental learning center was expanded and updated in fiscal year 2005 and now contains

about 200 bird and 60 mammal specimens, plus collections of fish, butterflies and dragonflies. Between 10,000 and 15,000 people visit the classroom each year, where they learn more about the National Guard, Camp Ripley and the environment.

Throughout the growth and diversification of the team's activities, the link to its military mission has never been forgotten. Sustainability of natural vegetative cover has been a top priority in all planning efforts to ensure a realistic training environment and quality wildlife habitat.

All natural resources conservation activities are designed to maintain and enhance training areas for Soldiers, thus serving the military mission. By creating training area options, the team also allowed for relief to over-used areas. Planning ensured that no adverse environmental impacts occurred due to landscaping changes.

POC is Deborah Elliott, (410) 436-1654, e-mail: Deborah.elliott4@us.army.mil. **PWD**

"Each person's contribution enabled the other team members to do their part."

The team will receive the award from the Secretary of Defense at a later date.

POC is David Killam, (916) 557-5104, e-mail: David.G.Killam@spk01.usace.army.mil. **PWD**

(continued from previous page)

Environmental Management Assist provided their in-depth knowledge in salvage operations. And the Corps of Engineers lent expertise to the project in the form of project management. It was like a row of falling dominoes," Vincent added.



Fort Stewart environmental program saves millions

by Deborah Elliott

Proactively mitigating potential environmental impacts and anticipating environmental obstacles to training activities saved Fort Stewart and Hunter Army Airfield, Ga., \$14 million in mitigation costs and millions more in hazardous waste management last year.

The savings were realized by the installation's sustainability and management team through environmental planning and waste management initiatives that support Fort Stewart's commitment to environmental stewardship while maintaining an intense, year-round Soldier training program.

The team's strategy to locate a new digital multi-purpose range complex where it did not impact a sensitive wetland area enabled the team to justify development of an environmental assessment versus a more time-consuming and expensive environmental impact statement. In addition, pollution prevention measures that recovered nearly \$2 million of excess material, reduced hazardous waste by \$24,000 per unit, and reallocated hundreds of thousands of dollars in serviceable items also contributed to the savings.

"I was very impressed with the breadth of the Fort Stewart and Hunter Army Airfield (HAAF) team's environmental protection and improvement program, and the impressive list of accomplishments and ongoing activities that mark a highly integrated effort to environmental stewardship," said Secretary of the Army Environmental Award judging panel member Michael Bird, who is the federal affairs counsel for the National Conference of State Legislatures.

Fort Stewart and Hunter Army Airfield's award-winning Environmental Sustainability Management team proves that environmental stewardship and military readiness objectives go together. As the home of the 3rd Infantry Division (ID), the installation serves as the U.S. Army's premier power



Environmental programs at Fort Stewart, Ga., ensure the viability of training lands for Soldiers both now and in the future.

projection platform on the Eastern Seaboard of the United States.

Through intense, year-round training on seven drop zones and seven tank and armored fighting ranges, two airfields and one landing strip, the 3rd ID, the "Rock of the Marne," is among the best-equipped divisions within the U.S. Army.


The mission of Fort Stewart's environmental sustainability management team is to sustain the readiness mission of the 3rd ID through environmental stewardship. Robust hazardous materials management, pollution prevention, conservation efforts and more mark the installation's commitment to ensuring that Soldiers of the future have the land, water and air resources they need to train; a healthy environment in which to live, and the support of the local community.

Fort Stewart's environmental stewardship successes were profiled on the Turner South Network's program The Natural

South in 2004. More recently, in July 2005 the team's environmental quality efforts were a major contributor to Fort Stewart/HAAF's winning the Army Communities of Excellence Award and the Commander in Chief's Award for Installation Excellence for the second consecutive year.

Both honors were awarded to Fort Stewart/HAAF for superb performance using its resources to sustain the mission, increase the productivity of its workforce and enhance the Fort Stewart/HAAF community's quality of life.

The Fort Stewart and Hunter Army Airfield environmental sustainability management team has garnered over 17 honors in the past 10 years, demonstrating that not only is the installation a premier power projection platform for the U.S. Army, it is also a premier environmental organization.

POC is Deborah Elliott, (410) 436-1654, e-mail: Deborah.elliott4@us.army.mil. 



Land use and rehabilitation program at Fort Custer saves the soil

by Deborah Elliott

Fort Custer, Mich., reduced soil erosion by more than 100 tons during fiscal year 2005, even with daily, heavy duty vehicle training use. Fort Custer manages soil erosion by monitoring training sites, roads and trails, especially road-creek crossing locations, and applying stabilization measures as soon as erosion is detected.

The Michigan National Guard's implementation of the Army's Land Use and Rehabilitation program, a natural resources management initiative, is at the core of Fort Custer's success. Erosion control techniques are an integral part of the program.

The Land Rehabilitation and Maintenance (LRAM) program was developed by the U.S. Army as a three-pronged natural resources conservation effort to:

- repair landscapes damaged by training activities,
- design landscapes that provide realistic training operation and
- prevent long-term impacts to the environment as a result of training.

"Fort Custer Training Center continually demonstrates how a military training base can serve as a 'laboratory' for exploring, testing and evaluating alternatives for environmental management," said Dr.



Fort Custer annually assesses the effects of training activities on the population of sensitive species such as the cerulean warbler: Photo provided by John Mitchell, Fort Custer environmental manager

Katherine Gross, director of the W. K. Kellogg Biological Station at Michigan University.

The laboratory that is Fort Custer contains a unique array of natural features. The installation's natural areas include 5,000 acres of hardwood forest, 1,200 acres of wetlands and alkaline fens, 1,200 acres of open prairie lands and 100 acres of surface

water. The surface water comprises three small lakes and six creeks whose headwaters are located on the installation. These diverse landscapes provide habitats that support an array of flora and fauna, including 26 state and two federally threatened or endangered species.

This same environment also provides necessary training land for active military forces, local police departments, the Michigan State Police, the Federal Bureau of Investigation, the Central Intelligence Agency and Reserve Officer Training Corps students. In all, more than 300,000 people train at Fort Custer annually. The heavy use could result in serious damage to the sensitive environment, except for the Army's dedication to balancing the need to protect the nation with the commitment to sustain the environment.

Through environmental enhancement, land use controls, natural resources and pest management, and conservation education, Fort Custer is able to balance the need to prepare Soldiers to fight with the responsibility to sustain the environment.

POC is Deborah Elliott, (410) 436-1654, e-mail: Deborah.elliott4@us.army.mil. **PWD**

Humvee cooling unit reduces greenhouse gases

by Deborah Elliott

Soldiers and equipment are keeping cool on the battlefield with an air conditioner that also significantly reduces the amount of ozone-depleting and greenhouse gases emitted to the air. This is thanks to research conducted by the CO2 Cooling Development Team at the Communications-Electronics Research Development and Engineering Center, Fort Belvoir, Va. The team represented the successful collaboration of the Army, industry and academia to apply the latest technology on behalf of the American Soldier.

The Environment Control Unit (ECU) is a high performance, low emissions cooling system developed for the M1114 Up-Armored HMMWV. Members of the CO2 Cooling Development Team developed and tested several new systems before selecting the ECU as the best unit to directly benefit deployed Soldiers who were experiencing equipment failures due to the heat.



The environmentally friendly CO2 system installed in the Army's up-armored M1114 HMMWV keeps both Soldiers and equipment cool.



Fort Leonard Wood makes history and preserves it

by Deborah Elliott

Scientific and historical projects being undertaken at Fort Leonard Wood, Mo., initiated to protect cultural resources serve as the standard for cultural resources research in the northern Ozarks. Innovations include the use of less invasive methods for recovering artifacts and development of restoration guides for historical buildings, as well as the creation of a methodology to determine the historical significance of an archeological site.

The cultural resources program at Fort Leonard Wood protects a rich diversity of historical artifacts, including nearly 600 pre-Columbian and historical settler archaeological sites, prehistoric Native American caves, rock shelters, cairns and petroglyphs ranging from 8000 B.C. – A.D. 1400, as well as historical towns and farmsteads. With so much history in one place, Fort Leonard Wood has the delicate job of balancing the training needs of U.S. Army Soldiers on a 61,410 acre installation with the need to preserve our nation's cultural history. Fortunately, this is a job at which Fort Leonard Wood excels.

“The Fort Leonard Wood cultural resources team members not only developed effective strategies,” said judging panel member Robin Burgess, a senior archaeologist from the Bureau of Land Management. “They also applied them, accomplished their goals and ensured that the results were shared with the professional and local community.”

All historic buildings at Fort Leonard

Wood are still actively used in a variety of capacities, either in direct support of the mission or quality of life. The following examples detail the use of several of the historic buildings:

- The World War II Temporary Building National Register Eligible District (Museum Complex) contains 13 buildings. The chapel, one of the 13 buildings, is used every week by the 14th Military Police Brigade. The other buildings in the district (mess halls, barracks, administrative buildings) contain displays interpreting WWII, Korean and Vietnam eras.
- The World War II-era Garlington House, the Red Cross Building (the Ike Skelton House) and the Franklin Guest House are VIP guest quarters utilized by the Billeting Division, Directorate of Morale, Welfare and Recreation.
- The Rolling Heath School House, circa 1912, is the only pre-installation building on Fort Leonard Wood. It is used for educational programs throughout the year and is the primary venue for the Cultural Resources Management Program's annual Missouri Archaeology Month,



The archaeological foundation and chimney, circa 1900, remain at the Elkins-Gray farmstead on Fort Leonard Wood, Mo.

National Preservation Month and Earth Week activities.

Sixty-four caves have been recorded on Fort Leonard Wood property. All contain active ecological systems and many contain archaeological evidence and Pleistocene-age paleontological resources. Caves are highly vulnerable to vandalism and unintentional adverse impacts. The Fort Leonard Wood cultural resources division, the Illinois State Museum Society, the University of Illinois Natural History Survey and the Missouri Department of Conservation collaborate on efforts to protect the caves and preserve their history.

POC is Deborah Elliott, (410) 436-1654, e-mail: Deborah.elliott4@us.army.mil. **PWD**

(continued from previous page)

“This new environmental control system will help keep the increasing proliferation of complex electronics cool while deployed on patrol with our war fighters,” said Air Force Col. Bob Mattes, Director of the Comparative Testing Office for the Defense Acquisition Challenge Program. “Not only does it improve cooling capacity 25 to 50 percent and reduce the vehicle cab temperature by another 10 to 20 degrees below the current system, its use of CO2 eliminates complex maintenance requirements and the associated onerous

logistics trail. Works better, cheaper and is more maintainable using common materials. It doesn't get much better than this.”

For the last five years, the Army's CO2 Cooling Development Team has been helping to pioneer new technology focused on replacing environmentally harmful air conditioning refrigerants with much safer, naturally occurring carbon dioxide (CO2). In fiscal year 2004-2005, the team formed partnerships across the public sector, industry and academia to take this initiative from the laboratory to the field, building the first full-scale prototype CO2 cooling system on an

up-armored HMMWV. Currently being considered for the future fleet of Army Tactical Vehicles, CO2 technology has shown multiple benefits to the environment and to the warfighter.

The optimization of ECUs was part of the Army's response to the Montreal Protocol International Treaty and amendments to the Clean Air Act. Both were designed to reduce and eventually eliminate worldwide dependence on ozone-depleting and greenhouse gases.

POC is Deborah Elliott, (410) 436-1654, e-mail: Deborah.elliott4@us.army.mil. **PWD**



Public involvement in building a sustainable Army

by Karen J. Baker

"We are working aggressively to ensure that our Soldiers of today – and our Soldiers of the future – have the resources they need to accomplish their mission. These include land, water, and air resources needed to train and test systems; a healthy environment in which to live; and continued support of local communities, government officials, and the American people."

—The Army Game Plan 2006

The Army's sustainability vision, outlined in The Army Strategy for the Environment, *Sustain the Mission – Secure the Future*, is an essential part of the transformation of capabilities needed to ensure that the Army remains ready and relevant in the 21st Century. This vision provides the Army with long-term goals to sustain its mission in the midst of rapid and profound social change and the increasingly challenged and compromised capacity of natural systems to support society.

The Army, in adopting a sustainability strategy, recognizes that to continue to realistically train, it will have to find innovative approaches to address the limited amount of land, air, water and other resources necessary to achieving its mission. Installations will have to work collaboratively with their neighbors in order to forge solutions that allow the entire community to meet its needs.

The Army Strategy for the Environment defines sustainability for the Army in the following terms: "A sustainable Army simultaneously meets current as well as future mission requirements worldwide, safeguards human health, improves quality of life, and enhances the natural environment."

To further illustrate sustainability in an Army context, the Army developed its own "triple bottom line": Mission, Environment, and Community. The triple bottom line recognizes the interdependence of these three elements and the importance of taking a holistic, systems view of issues in order to develop solutions.

A critical component to develop lasting solutions is collaboration with the public. The strategy states, "We will strengthen

and build new community partnerships to achieve sustained and sound environmental stewardship and a ready military force through *communication, coordination, consultation and collaboration.*"

The concept addressed in this sentence has become known as "4C." The 4C concept recognizes the importance of employing each "C" in involving stakeholders, and increasing levels of involvement with the public from simply conveying information (communication) to the end-state of working together toward a common purpose (collaboration).

The 4C concept acknowledges that to truly "foresee" issues and potential solutions, the Army must strategically employ the full range of all four "Cs." However, to achieve sustainable partnerships and communities, it must strive to achieve the fourth "C" of collaboration in all its operations.

Organizations that set out to collaborate with stakeholders as an integral part of their operations have reported the following benefits:

- Increased understanding and trust among the organizations and its stakeholders.
- Access to a greater range of options and solutions.
- Reduction in risk – both the risk of public opposition to a specific course of action, as well as the risk brought about by uncertainty when making decisions that impact the future.



Currently no official Army training program exists that gives practitioners a complete set of skills necessary to conduct comprehensive public involvement. Public involvement calls on a wide range of activities including partnership building, risk communication, and basic tenants of two-way dialogue in combination with "traditional" public affairs activities, such as media and community relations.

To bridge the gap, the Army launched the "Army Public Involvement Tool Box" (www.asaie.army.mil/pitoolbox) in March. This is a web-based compilation of tools and guides that Army practitioners can download and customize to meet their program needs.

More recently, the Installation Management Agency's Southeast Regional Office released an unofficial "Installation Sustainability Guide" that documents lessons learned from Army staff at the headquarters, regional and installation level. ➤



(continued from previous page)

(http://www.sustainability.army.mil/resources/library_briefings.cfm)

As the Army continues to transform to meet the challenges of the future, the Army Strategy for the Environment offers a mechanism for change that is consistent with the Army's strategic context and Army leadership's call for systems thinking and innovation. Sustainability offers an opportunity to approach issues from a new perspective and demands that we review all our processes to maximize the benefits of the triple bottom line of Mission, Environment and Community.

The *Army Strategy for the Environment* recognizes that "the sustainable futures of our installations and our communities are inextricably connected." The "4Cs" outlined in the Strategy offer a means of achieving the goals of the *Army Strategy for the Environment* which support the overall Army mission.

While the Army has made a start in improving its public involvement practices, it still has much work to do. By taking a hard look at establishing greater collaboration with the public, the Army will be able to find innovative and effective ways to accomplish the mission, enhance our environment, and retain the public as a powerful ally as it navigates a complex and changing future.

POC is Karen J. Baker, (703) 604-2300. e-mail: Karen.Baker@us.army.mil.

Karen J. Baker is the senior fellow for strategic policy development and analysis at the Army Environmental Policy Institute. **PWD**



Tools You Can Use

A number of online tools exist to help Army personnel in developing a public involvement program. They include:

Army Public Involvement Toolbox

www.asaie.army.mil/pitoolbox

A compilation of tools and guides used by Army activities and other organizations. The "Leader's Guide" in the "Guides" section gives a comprehensive step-by-step primer to developing a viable involvement program. Click on the "Training" button to learn more about Army-sponsored and other opportunities for skills training.

Installation Sustainability Guide

www.sustainability.army.mil/resources/library_briefings.cfm

An unofficial guide on "how to build a sustainable installation in 25 years or less" based on the lessons learned of a variety of Army staff involved in sustainability planning. Includes basics on sustainability theory as well as practical suggestions for building a sustainability team. Includes templates that can be downloaded and customized for local purposes.

U.S. Environmental Protection Agency's Public Involvement web site

www.epa.gov/publicinvolvement/index.htm

The EPA is often considered a federal leader in public involvement policy and techniques. This web site offers basic definitions, techniques, technical papers, and case studies.



Waste matters

by Edward G. Engbert

Modern science and nutrition teach us that “we are what we eat.” But what the new Army Strategy for the Environment and the principles of sustainability are also teaching us is that “the Army is what it throws away.”

The management of waste at Army installations, for example, reflects the ability of its employees and contractors to incorporate the principles of sustainability into everyday activities. After many years of developing and demonstrating Best Management Practices at Army installations across the country, the Assistant Chief of Staff for Installation Management (ACSIM) issued a policy Feb. 6 requiring that the principles of sustainability be applied to the management of waste debris from military construction, renovation and demolition activities on Army installations worldwide.

The new ACSIM policy strongly encourages sustainable approaches to these activities by requiring that future projects include contracting performance requirements for a 50 percent minimum diversion of construction and demolition (C&D) waste by weight from landfill disposal.

As the Army continues to transform and recapitalize its assets through facility removal and new construction activities, there will be many opportunities to practice the techniques of sustainability. More than 1.4 million tons of C&D debris, for example, were generated by the Army in 2004.

Defined as the “triple bottom line,” the sustainability concept of the Army Strategy for the Environment promotes a long term systems approach to installation planning that considers operational impacts to its mission, community and environment.

Applying this concept to the new ACSIM waste management policy means that while the mission of facility construction, renovation and demolition activities should continue to be conducted in a safe, timely and cost effective manner, these operations should also maximize the opportunity to support the needs of surrounding



The deconstruction crew from the Austin, Texas, Habitat for Humanity poses next to their materials reuse store truck. Photo by Jeff Salmon, Fort Hood Department of Public Works, Environmental Division

communities and the natural environment that our installations depend on for tough, realistic training and a high quality of life for Soldiers and their families.

“Deconstruction is the most innovative thing that has happened in the infrastructure business since the pyramids. Maybe that’s a bit over the top, but it comes close,” said William Eng of the Facilities Policy Division, ACSIM Facilities and Housing Directorate.

“Deconstruction is a new approach to dealing with construction and demolition wastes that formerly were literally just swept under the carpet,” Eng explained. “Long standing practices where excess or old buildings were demolished and hauled off to inert dump sites at supposedly very low costs were in actuality very wasteful of our resources.”

Wood beams, metals, concrete masonry and other materials could have been recovered for reuse with little or no re-work if handled properly or reprocessed into usable

construction materials, he said. Reusing materials avoids using the energy required to mine, harvest and transport virgin stocks and raw materials to processing plants, mills or smelters.

Deconstruction also reduces the volume of materials that must be disposed of in a landfill or incinerator. By maximizing the amount diverted, we save valuable landfill space on our installations or reduce the cost of hauling and disposing of waste at off-post landfills.

Some questions may exist as to whether an innovative and new approach to a long standing problem can be performed in a cost effective or timely manner. While numerous examples of successful deconstruction projects have been demonstrated at Army installations across the country, the essential factors for success are to allow time for sufficient planning and a systems approach to problem solving.

For example, an integrated team approach to planning and implementa- ➤



(continued from previous page)

tion must be applied through a multi-team effort within an installation's Directorate of Public Works. The engineering and the environmental offices must be involved, and the garrison contracting office, the staff judge advocate general and the public affairs office should also be included.

It is probably not reasonable to expect that most traditional demolition companies will be able to specialize and cost effectively adapt to the more labor intensive techniques that are required for assessing and recovering valuable building materials from reuse operations.

And while a demolition company relying on heavy equipment and machinery can certainly "tweak" and improve the efficiencies of its existing processes, there is another more fundamental paradigm shift that is required for the new ACSIM policy to work effectively.

The recycling community is maturing to where non-traditional companies are increasingly entering the economy (food chain) of facility removal and C&D waste management services. Many of these new service providers have developed business models that specialize in various aspects of the labor, transportation, storage or the retail operations required for economically recovering used building materials for reuse or recycling.

These service providers operate with an awareness that not only is consumer demand for low cost and architectural salvage of used building materials increasing, so is the traditional cost of transporting and disposing of C&D waste in a commercial landfill.

Some of the newer businesses with deconstruction are nonprofit and are motivated by objectives completely different from a traditional demolition or waste management company, such as using used building materials as a valuable resource to provide essential job skill training in local



A crew of Habitat for Humanity volunteers salvages usable building materials from an excess Army barracks building at Fort Hood, Texas. Photo by Jeff Salmon, Fort Hood Department of Public Works, Environmental Division

communities. Other companies fulfill a special niche in their community by providing lower cost building materials to customers in enterprise business zones.

Other service providers may exist to market used building materials as a means for raising funds for other valuable initiatives, like the more than 300 Habitat for Humanity building "Re-Store" retail outlets in the United States.

Enterprising C&D waste management service providers also partner with one another. Each part of the system contributes what it does best, and, thereby, the total system is optimized. For example, the capability requirement of a traditional demolition company and their heavy equipment is likely to remain for a long time because local market conditions and other factors do not practically allow for the highest levels of reuse and recycling.

The Army is on a long-term journey towards sustainability. By requiring that its principles of sustainability be applied to

traditional methods of C&D waste management disposal, the Army will increase its understanding and ability to apply those same concepts into the rest of its operations as well.

More information on the Army's journey to sustainability is available at www.sustainability.army.mil

POC is Ed Engbert, 410-436-6866, e-mail: edward.engbert@us.army.mil

*Ed Engbert is an environmental engineer in the Acquisitions and Technology Division of the U.S. Army Environmental Center, Aberdeen Proving Grounds, Md. **PWD***



New ACSIM C&D waste management policy requires 50 percent diversion

by Tom Napier

Sustainability is the keystone of the Army's strategy for the environment, *Sustain the Mission, Secure the Future*. As part of the Army's commitment to Sustainable Design and Development (SDD), new military facilities are being designed to achieve at least a silver rating in the U.S. Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) system.

With these initiatives and others, can the Army get any greener?

One way to enhance "green building" practice is to reduce construction waste and demolition debris as addressed in the ACSIM Policy Memorandum issued in February, *Requirements for Sustainable Management of Waste in Military Construction, Renovation, and Demolition Activities*.

This policy mandates that all new construction, renovation and demolition projects include contract performance requirements to divert a minimum 50 percent of non-hazardous construction and demolition (C&D) debris from landfill disposal.

Achievable goal

Most public works professionals agree that reducing waste is a good thing. However, some may question whether this requirement can be accomplished within the real world, given the constraints of budget, schedule and other issues. Others suggest that a higher diversion level should be required.

How realistic is it to expect that at least 50 percent of C&D debris materials can be diverted from Army projects? Some facts and figures should help reduce uncertainties about this requirement.

The Army's goal for C&D debris diversion is based partly on those levels considered achievable by other public agencies responsible for solid waste management. California requires diversion of at least 50 percent C&D waste. Beginning in 2007, Chicago will require a minimum of 50 percent C&D debris diversion from residen-



Concrete debris is recycled at Fort Campbell, Ky. Photo by Tom Napier

tial, non-residential, rehabilitation and demolition projects.

Many other jurisdictions have enacted ordinances to require C&D waste diversion or exclude C&D materials from landfill disposal. The Federal Leadership in High Performance and Sustainable Buildings Memorandum of Understanding and Guiding Principles requires that at least 50 percent C&D debris be recycled or salvaged. So, while the Army's C&D waste management policy is progressive, it is not without precedent in the public sector.

The commercial construction market is already achieving impressive diversion levels. The USGBC keeps data on all projects submitted for LEED certification. The data shows that diverting well over 50 percent of a project's C&D debris is commonplace.

Of all LEED projects submitted to the USGBC for the silver rating, more than 82 percent have achieved one point for 50 percent diversion, and more than 65 percent have ➤



Materials are salvaged for reuse during the deconstruction of a World War II era warehouse at Fort Carson, Colo. Photo by Tom Napier



Sustainability through historic preservation compliance

by Susan Thompson

With the unprecedented development of America's military infrastructure during World War II and the Cold War, the mid-20th century left the Department of Defense (DoD) a large inventory of historic real property and an aging infrastructure.

In the next 20 years, DoD will face a major compliance challenge as more than 100,000 buildings turn 50 years old or older, almost doubling the number of properties subject to the National Historic Preservation Act (NHPA). Increased consultation, mitigation costs and resulting project delays could have a serious impact on an installation's military mission. In response, DoD is seeking programmatic compliance alternatives to allocate resources in the most effective and efficient manner.

The Army's Strategy for the Environment promotes an ethic of sustainability to guide the service's environmental trusteeship in supporting the military mission. Simply put, sustainability means meeting present needs without com- ➤



In the next 20 years, the Department of Defense will face a major compliance challenge as more than 100,000 buildings become 50 years old or older. Photo by RC Goodwin & Associates

(continued from previous page)

achieved two points for 75 percent diversion. Of all LEED projects submitted to the USGBC for all rating levels, almost 80 percent have achieved one point for 50 percent diversion, and more than 58 percent have achieved two points for 75 percent diversion.

Meeting diversion challenges

Can the Army meet the 50 percent diversion requirement within budget and schedule challenges? Installations have already achieved significant C&D waste diversion in many cases.

The Army has been using the Sustainable Project Rating Tool (SPiRiT) for several years. About 70 percent of Army construction projects submitted for SPiRiT rating have achieved one point for 50 percent diversion.

The Engineer Research and Development Center's Construction Engineering Research Laboratory (ERDC-CERL) has recorded data on the deconstruction of roughly 2.5 million square feet of Army buildings. C&D waste diversion ranged from 60 to 85 percent.

One building cost 10 percent more to

deconstruct than conventional demolition because damaged framing lumber could not be sold, and one contract was awarded on a best-value basis where the level of diversion was high enough to justify a 10 percent higher contract cost. All other projects had a reduced cost of 25 to 40 percent from direct savings and cost avoidance, while none had any negative schedule impacts. Further, the wholesale value of material salvaged and recycled from these buildings, at one-half of retail price for similar materials, was estimated to be roughly \$4.4 million.

The U.S. Army Corps of Engineers Seattle District recently conducted a cost analysis of recycling waste materials from a \$45 million Whole Barracks Renewal project. It concluded that recycling 75 percent of the project's construction waste would cost the contractor about \$1,200, and that increasing this rate to 95 percent would cost an additional \$476.

Resources

The following organizations have resources available that help identify ways to meet the 50 percent diversion goal for construction, renovation and demolition projects: the Assistant Secretary of the Army for Installation Management

(ACSIM), ERDC-CERL, Army Environmental Center, the Corps' Huntsville Engineering and Support Center, state and county solid waste management agencies, regional recycling organizations, and installations and Corps districts that are now diverting C&D waste materials as standard practice.

Corps Public Works Technical Bulletins providing "how-to" guidance on C&D materials' recycling, salvage and reuse are available free at the TECHINFO website, www.hnd.usace.army.mil/techinfo.

The ACSIM Policy Memorandum Requirements for Sustainable Management of Waste in Military Construction, Renovation, and Demolition Activities, and accompanying guidance, are available at http://www.hqda.army.mil/acsimweb/fd/docs/Signed_c&d_memo.pdf and http://www.hqda.army.mil/acsimweb/fd/docs/c&d_encl.pdf.

POC is Tom Napier, (217) 373-3497, e-mail: Thomas.Napier@us.army.mil.

Tom Napier is a research architect at the Engineer Research and Development Center's Construction Engineering Research Laboratory in Champaign, Ill. **PWD**



(continued from previous page)

promising resources for the future. Sustainability encourages forethought to avoid future problems through present actions and judicious allocation of scarce resources.

One of the Strategy's six major goals is to enhance well-being. This includes responsible management of our cultural resources. Inherent in this goal is the objective of creating efficiencies to allow resources to be reinvested to support the well-being of Soldiers and their families.

The Army is striving to meet this goal through the Army Historic Preservation Campaign Plan, which seeks to identify emerging NHPA requirements that may impact the service's mission. Through this integrated planning process, the Army identified three categories of Cold War and World War II properties affected by current events and initiatives that could be addressed by programmatic compliance actions known as Program Comments.

Two of the categories – Cold War era (1946-74) unaccompanied personnel housing and World War II and Cold War era (1939-74) ammunition storage facilities – will be addressed on a DoD-wide level, while the third – World War II and Cold War era (1939-74) Army Ammunition Plants and ammunition production facilities – applies only to the Army.

There are 45,000 properties in these three categories; 35,000 belong to the Army alone.

Current events, including the Global War on Terrorism, agency initiatives, and the 2005 round of base closure and realignment, affect these properties daily. The need for ammunition and ammunition storage has increased with the wars in Afghanistan and Iraq, and existing ammunition storage facilities must be upgraded to accommodate current technology.

In addition, DoD is currently upgrading its barracks to meet current livability standards. The 2005 BRAC law will close, consolidate and realign installations that include these properties, as well as ammunition production facilities. Both the upgrade programs and BRAC will require compliance under Section 106 of the NHPA. That

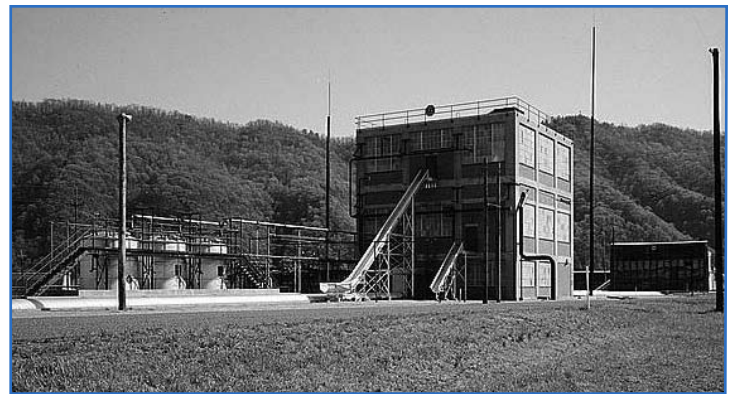
could be a large burden on individual installations in terms of time and resources.

The implementing regulations for NHPA, found in Title 36 of the U.S. Code of Federal Regulations, Part 800, provide federal agencies with the alternative of using Program Comments to address a category of undertakings like the renovation or demolition of a certain property type (e.g., World War II ammunition storage igloos). In 2003, the Army sought a Program Comment on Capehart and Wherry-era Army Family Housing from the Advisory Council on Historic Preservation (ACHP) that fulfilled compliance responsibilities under NHPA for more than 19,000 buildings Army-wide.

Program Comments are particularly appropriate for properties built according to standardized plans, such as Capehart-Wherry housing, or Cold War unaccompanied personnel housing, since effects of the same type of undertaking are likely to be similar. Historically, under the standard Section 106 compliance process, treatment measures for these standardized properties have varied widely between installations and states. Program Comments allow the mitigation to be standardized and on a national level.

Once Program Comments are issued, installations can proceed with actions that affect the covered properties without need for further Section 106 consultation or mitigation procedures.

In the case of Capehart-Wherry, one of the greatest beneficiaries was the Residential Communities Initiative program, because installations could proceed with privatization of Capehart-Wherry housing without further consultation and associated delays. Installations also benefit from Program Comments on a financial resources level as the compliance actions are centrally-funded and managed. Financial resources that



As its buildings continue to age, the Department of Defense will face major compliance challenges with the National Historic Preservation Act. Photo by RC Goodwin & Associates

would have been expended on the covered properties can be applied to other needs.

The Army and DoD benefit overall through economies of scale in the consultation and mitigation processes, as well as in the reduction in the NHPA compliance load for the future. In addition, the properties are placed in their proper nationwide context instead of only being viewed at the local and state levels.

In April, DoD sent the request for the Program Comments for unaccompanied personnel housing, ammunition storage facilities and Army Ammunition Plants to the ACHP; the ACHP is expected to issue the Comments in August. After the Program Comments are issued, all installation Section 106 compliance responsibilities will be fulfilled for the properties, saving installations both time and money.

Through innovative actions taken today, the Army is easing the compliance burden of tomorrow. This is a major element of the Army's environmental strategy. By understanding the interdependence of our mission, our environmental issues and the concerns of our community stakeholders, installations can free resources for other mission needs and create a more sustainable future.

POC is Susan Thompson, (410) 436-1580, e-mail: susan.l.thompson@us.army.mil.

Susan Thompson is chief, Preservation Branch, Base Operations Division, U.S. Army Environmental Center. PWD



Use native plants to help sustain the environment

by Heidi R. Howard

Because environmental sustainability is critical to the success of Soldiers and the longevity of installations, the Army Energy Strategy for Installations was developed. This strategy emphasizes both energy and natural resource awareness. Careful planning of landscape, restoration and rehabilitation projects to utilize plant species that are suited specifically to the region and have desirable attributes are ways to employ the Army Energy Strategy.

The use of locally adapted native plants that have evolved in the region will help increase success rates and may require less water during and after establishment. Site conditions may require low-growing species. This is the case on firing ranges, in high traffic areas or landscaped areas where one wants to reduce the cost of mowing.

Selecting species with desirable attributes can present a challenge. Tools have been developed at U.S. Army Engineer Research and Development Center's Construction Engineering Research Laboratory in Champaign, Ill., and the U.S. Department of Agriculture's Natural Resources Conservation Service to help land managers select native plant species appropriate for the ecoregion and site specific requirements.



Three months after seeding, native grasses are establishing themselves in the Camp Atterbury test plot, and mowing was not needed. Photo by Heidi R. Howard



A Camp Atterbury, Ind., test plot awaits seeding of a native stand of low-growing species that would reduce mowing requirements. Photo by Heidi R. Howard

VegSpec is a decision support tool that helps create a planting design using only native species. VegSpec can be used for numerous applications to help provide species most suited for the site conditions including species apt at water conservation. The recently updated and improved VegSpec now includes the new Riparian Buffer Practice and utilizes the Parameter-Elevation Regressions on Independent Slopes Model, usually referred to as PRISM, climate data on a four kilometer grid. The

tool is available online at <http://vegspec.nrcs.usda.gov/veg-spec/index.jsp>.

Acquiring the species generated in VegSpec can present an obstacle. To help land managers with vendor selection for native species, an interactive web database has been developed.

Called Plant Vendor Database, the nationwide vendor listing for native plants, seeds and sprigs is available at <http://www.cecer.army.mil/nativeplant/planhome.htm>.

VegSpec and the Plant Vendor Database have been developed with Army Regulations 200-2 and 200-3, Executive Order 13112, Federal Native Plant Conservation Memorandum of Understanding and the new Army Energy Strategy for Installations in mind. These directives contain policy that encourages the introduction of non-native invasive species or the use of native species for restoration and rehabilitation efforts on military lands.

VegSpec and the Plant Vendor Database were developed to help with the many difficulties faced in planning and implementing a land rehabilitation project and the procurement of appropriate plant materials for revegetating damaged lands.

POC is Heidi Howard, (217) 373-5865, e-mail: Heidi.R.Howard@erdc.usace.army.mil.

Heidi Howard is a researcher at the U.S. Army Engineer Research and Development Center's Construction Engineering Research Laboratory in Champaign, Ill. **PWD**



Seattle District employees 'LEED' the way in construction sustainability

by Ashlee Richie and Tom Tolman

With today's focus on building with sustainability and environmental stewardship in mind, Seattle District's designers approach each building project with careful consideration of how it will impact the environment and look to the LEED program to assist them.

Leadership in Energy and Environmental Design (LEED) is a green building rating system developed by the U.S. Green Building Council to give a national standard for "green buildings."

The U.S. Army Corps of Engineers strives to reach the "green" standards established by LEED as they build for the Army's future. The Army has demonstrated this commitment by requiring all military construction projects in fiscal year 2008 and beyond to be designed to the LEED silver standard.

The rating system includes the categories of certified, silver, gold and platinum. Buildings awarded a platinum rating have achieved the highest level of sustainability.

At Seattle District, employees who are in the first years of their federal career have paved the way by becoming accredited professionals (APs) under the LEED certification program.

"These young architects and engineers have shown real leadership in Seattle Dis-

trict, demonstrated by their pursuit for creating a bridge to the more environmentally friendly practice of designing and constructing buildings with the principles of sustainability in mind" said John Maciejewski, chief of Architecture/Structures section.

To become a LEED AP, employees must pass a test on sustainable design principles. To prepare, they study a LEED reference manual.

The District currently has four LEED APs in Engineering and Construction Division's Design Branch. APs include intern architects Yoni Melchert and Tom Tolman, mechanical engineer Anne Marie Moltenberndt and electrical engineer Jeanette Fiess.

Fiess sought the accreditation on her own but was quickly given the support of management.

"LEED certification was something that I wanted to do because I realized that it has quickly become the industry standard, and it was something that would allow me to do my job better," Fiess said.

Other APs found similar support and, along with Fiess, the opportunity to apply their green knowledge to projects at Fort Lewis, Wash. As a national leader in sustainability, Fort Lewis established a goal to have all facilities adhere to the LEED Platinum standard by 2025.

Designers have been challenged to apply sustainability in as many ways as possible despite the lack of additional funding for "green" features. Projects have included features



Mechanical engineer Anne Marie Moellenberndt, right, and Tom Tolman, architect, discuss Fort Lewis sustainable construction issues with electrical engineer Jeanette Fiess. All are accredited in green building design. Photo by Nola Leyde, U.S. Army Corps of Engineers, Seattle District

like waterless urinals, rainwater collection systems that use rainwater to flush toilets and for irrigation, and low-volatile organic compound paint finishes, carpeting and coatings.

Fort Lewis has recently turned its attention to reducing the amount of energy its facilities use. This effort is a critical component of the installation's goal to sustain all activities on post using renewable energy sources and generate all electricity on post by 2025.

To meet this challenge, APs, along with all designers at Seattle District, have used an integrated design process. At brainstorming sessions held early in the project's development, each discipline gives specific suggestions for how to maximize sustainability within their area of expertise. Then the whole team looks for synergies between the suggestions and ways to magnify the savings.

Using this approach, the design team for the fiscal year 2005 Whole Barracks Renewal Company Operations Facility was able to reduce the amount of energy the building uses by 37 percent. A big part of that savings came through providing natural light to the building and integrating it with daylight sensors that turn the



Soldier's Radio and Television reporter Jini Ryan prepares to interview Seattle District architect Tom Tolman. Ryan visited Fort Lewis to highlight the installation's efforts to build sustainable structures. Photo by Ashlee Richie



Time to take next step in sustainability: integration to individual daily lives

by Brendalyn Carpenter

“Ask the average person what they know about sustainability, and they’re likely to say, ‘very little,’” said Lana Leiding, Fort Lewis, Wash., installation sustainability team member.

That is the typical reaction among community members, but, with closer examination, they are always surprised by what they really know, she said.

A pledge drive conducted during Armed Forces Day revealed that many people engage in sustainable behavior every day without thinking about it.

“It is the inevitable direction our culture is taking. Society, the economy, our environment now dictate that we look at the way we manage our resources and choose the least harmful practices in conducting our daily lives,” said Paul Steucke, chief of the Environmental and Natural Resources Division in Fort Lewis’s Directorate of Public Works.

Since 2002, the Fort Lewis program has developed and launched a number of initiatives designed to help achieve 12 strategic sustainability goals by the year 2025.

Among those goals are efforts to achieve zero net waste, to reduce traffic congestion and air emissions by 85 percent, and to sustain activities on post using renewable energy. The program’s success, both as an Army installation and trusted partner in the Puget Sound community, has positioned

Fort Lewis as a leader in installation sustainability.

“Still, it is time to take a critical next step,” said Terry Austin, Installation Sustainability Program coordinator.

“We want to remove the perception of sustainability as an environmental program and integrate it into the daily activities of every individual,” Austin said.

On Armed Forces Day, the Installation Sustainability Program team asked about 60 people to sign cards pledging to help make their communities better places to live and to work. The pledge cards offered eight choices of sustainable activities that help reduce, reuse or recycle materials; conserve water; conserve energy; and improve quality of life. Pledge takers were asked to choose at least two that they will commit to do over the next year.

“I think that people are more interested today than ever before in how little changes can have a significant impact on our communities, our environment and our wallets,” Austin said. “Whether they’re calling it sustainable or not, they’re looking for alternatives to the way we’ve managed our resources in the past.”

“I cannot reduce Fort Lewis’ energy consumption by myself,” said Kevin Viss-



The recycling game drew a steady audience at Fort Lewis’s Armed Forces Day as each competitor raced against the clock to get all the recyclables sorted in one minute.

cher, Public Works program manager for energy. “For conservation to occur, every Soldier, civilian and family member needs to be a contributing member of the team.”

For more information about Fort Lewis’s Installation Sustainability Program, visit www.lewis.army.mil/publicworks.

POC is Brendalyn Carpenter, (253) 966-1734, e-mail: brendalyn.carpenter@us.army.mil.

Brendalyn Carpenter is a sustainability outreach coordinator in the Directorate of Public Works at Fort Lewis, Wash.

Reprinted with permission from the Northwest Guardian. **PWID**

(continued from previous page)

lights off when adequate natural light is present.

The design team also reduced energy requirements by 32 percent for the fiscal year 2006 Whole Barracks Renewal Barracks Complex. APs Melchert and Moellenberndt used energy modeling software to help decide issues such as the quantity of insulation that would be cost effective and the placement of motion sensors to control the lighting. The barracks also feature high-efficiency boilers and heat

recovery on the return air system.

Fort Lewis is now in the process of certifying their first buildings under the LEED green building rating system.

Seattle District’s leaders understand the importance of building greener and having employees who are LEED APs.

“LEED and sustainability are just the right things to do,” said Olton Swanson, Seattle District’s chief of Design Branch.

The recurring lesson Seattle District and Fort Lewis have learned through this

process is that education is key. Education of designers to become APs, education of contractors on how to build sustainably along with education of building users are all critical components of a greener built environment.

POC is Tom Tolman, (206) 764-6762, e-mail: tom.s.tolman@usace.army.mil.

Ashlee Richie is a Department of the Army intern in the Public Affairs Office of the U.S. Army Corps of Engineers, Seattle District. Tom Tolman is an architect with the Seattle District. **PWID**



Military seeks partnerships to promote sustainability goals in Hawaii

The Army reaffirmed its commitment to protecting residents and preserving the environment by hosting a workshop to promote sustainability initiatives throughout Hawaii.

The Pacific Region of the U.S. Army Installation Management Agency hosted the Department of Defense Sustainability Partnerships and Planning Workshop June 6 and 7 at Fort Shafter.

The workshop brought together for the first time a broad range of stakeholders and experts, including more than 80 representatives from all branches of the military, federal and state leaders, local and internationally recognized sustainability experts and conservation groups.

Presenters and panelists focused on enhancing relationships and sharing ideas on ways to balance growth, protect the environment and ensure the military's mission while maintaining the quality of life for



all residents and visitors now and in the future.

“It is these kinds of cooperative efforts that will make not only our military installations, but our surrounding communities sustainable into the future,” noted Stanley E. Sokoloski, director of the Pacific Region, whose agency facilitated the workshop and manages all Army Installations in Hawaii, Alaska and Japan.



Stan Sokoloski, director of the Pacific Region, IMA; Maj. Gen. Robert Lee, Hawaii adjutant general; and Lt. Gen. John Brown III, U.S. Army Pacific commanding general; discuss an issue during a break in the Department of Defense Sustainability Partnerships and Planning Workshop hosted by the Pacific Region of the U.S. Army Installation Management Agency.

The event was sponsored by the National Defense Center for Environmental Excellence through the office of the deputy assistant secretary of the Army for environment, safety, and

“It is these kinds of cooperative efforts that will make not only our military installations, but our surrounding communities sustainable into the future.”

— Stanley E. Sokoloski,
director, Pacific Region,
Installation Management Agency

occupational health.

Topics included strategies involving land management and military training lands, energy and infrastructure, procurement and transportation. The keynote speaker was Alex Beehler, assistant deputy under secretary of Defense for environment, safety and occupational health.

Other speakers included Maj. Gen. Robert Lee, the Adjutant General, State of Hawaii Department of Defense; Lt. Gen. John M. Brown III, commander, U.S. Army, Pacific; Dr. Brian Nattrass, author, speaker, lawyer and senior corporate advisor on the strategy and execution of sustainability initiatives; Ramsay Taum and Dr. Karl Kim representing the University of Hawaii; and Hawaii State Sen. Russell Kokubun, chairman of the Hawaii 2050 Sustainability Task Force.

The state task force is charged with developing a sustainability plan that will guide state planning to the year 2050 and future long-term development in the areas of environment, education, employment, health, housing, human services, agriculture, conservation lands, energy, historic and cultural preservation, natural resources, recreation, tourism and transportation.

“I am pleased with the growing momentum that the concept of sustainability is gaining throughout the community and the enthusiasm demonstrated by the military and particularly the Army,” Kokubun said after the workshop. He hopes to include a military representative on the 2050



(continued from previous page)

Sustainability Task Force during the next legislative session.

In recent years the Department of Defense has adopted an ethic of continuous improvement, moving beyond cleanup and compliance toward true sustainability of the environment.

“Each of the military services is implementing programs to make our installations sustainable into the 21st century, and meetings like this one are becoming common place at our bases,” noted Beehler. “Today we have active programs in place in many areas to protect our military mission while working with our surrounding communities to mutually support the greater community mission.”

Recently, Beehler’s office brought rep-

“That is why we are here, to start work on building the right programs, in the right places, with the right partners to build the capacity to sustain all of our missions into the future.”

— Alex Beehler,
assistant deputy under secretary
of Defense for environment,
safety and occupational healthy

resentatives of national environmental groups to Hawaii to show them the natural resources that the military is protecting.

“They were amazed by the work being done, not only in Hawaii, but throughout the military,” Beehler said. “Many of our installations now participate in ongoing conservation forums that work to preserve open space near our training areas, this gives the community a

better environment by protecting cultural, recreation and open space areas and relieves the effects of our training on nearby neighbors.”

Beehler said one of the most successful programs is in Hawaii, the Oahu Conservation Partnership Forum initiated in 2004 by the U.S. Army Garrison Hawaii. The partnership is co-chaired by the Trust for Public Land and the Office of Hawaiian Affairs, and at least 15 other partners.

“The partnership has achieved amazing results” Beehler said. “All are working together to protect the natural areas that nurture Oahu by purchasing easements on property to maintain permanent open space.”

During the conference Beehler spoke to workshop participants.

“That is why we are here, to start work on building the right programs, in the right places, with the right partners to build the capacity to sustain all of our missions into the future,” he said.

For more information, please contact the U.S. Army IMA Pacific Region Public Affairs Office at (808) 438-0650 or (808) 438-6352. **PWD**



Christina Kemmer, Hawaii civilian aide to the Secretary of the Army, discusses sustainability issues with Alex Beehler, assistant deputy under secretary of defense for environment, safety and occupational health. Beehler was the keynote speaker at the Department of Defense Sustainability Partnerships and Planning Workshop hosted by the Pacific Region of the U.S. Army Installation Management Agency.

Showcase your installation

Would you like to see your installation featured in the **Public Works Digest**?

If you have an interesting story to tell, call us at 703-761-0022 or e-mail: Mary.B.Thompson@usace.army.mil and you may be on our next cover.



Kelly brings experience to environmental programs at AEC

Mike Kelly is currently the chief of the Oversight South/Hawaii Branch in the U.S. Army Environmental Center's (USAEC) Cleanup Division. He has more than 20 years of experience planning and directing environmental investigation, remediation and compliance projects. Kelly has provided technical assistance to active and BRAC installations and served as a restoration manager for installations in the southeast and southwest regions of the United States.

Before joining USAEC, Kelly worked as a consultant for two architectural/engineering firms, where he specialized in environmental restoration, infrastructure and compliance issues. Kelly received his master's and bachelor's degrees in Civil Engineering from Virginia Tech, and he is a registered professional engineer in Virginia.



Mike Kelly

What duties do you have in your new position? In the Oversight South/Hawaii Branch, we oversee the execution of the Installation Restoration Program (IRP) and Military Munitions Response Program (MMRP) at active and excess installations. This includes installations located in EPA Regions 4, 6 and 9. Each Army installation has a USAEC restoration manager, and it's my responsibility to make sure restoration managers are actively involved in prioritizing projects for execution, monitoring progress, identifying/addressing issues hindering progress, and providing technical and financial guidance to their assigned installations.

What are your goals? My primary goal is to achieve the organizational goals outlined in USAEC's annual Program Management Plan and achieve planned milestones for closing sites and installations. Achieving these milestones means we'll soon be working ourselves out of jobs involving IRP cleanup, but with the transition from IRP to MMRP, there is plenty of work to be accomplished

What do you see as your challenges? In the short term, the Army has program objectives for achieving RIP/RC for our high relative risks site by FY07. Completing this work in the next 12-16 months requires a motivated Army team and support from regulatory agencies so appropriate staff are available to review our work. As the Army's IRP winds down over the next 5-6 years, we need to cross-train staff so they can support the growing MMRP initiative.

The BRAC 2005 law brings considerable change to installations and organizations with the Department of Defense. As part of BRAC 2005, the USAEC is being realigned to Fort Sam Houston, where we will merge with other field operating activities (FOAs) under the Assistant Chief of Installation Management (ACSIM). There will likely be some attrition in the work force as we get closer to our move to San Antonio. Managing personnel during times of change and uncertainty will be a big challenge for the coming years.

Do you have any career advice for Army environmental managers? People are our most important asset. Take the time to

learn new skills to improve or diversify your own skill set. Having a solid understanding of the regulatory framework where our IRP and MMRP projects fall under is also important so that we can ensure projects are moving in the right direction. Finally, I'd recommend finding time to celebrate success with the individuals with whom you work. Take time to have fun.

Any message to installations? For cleanup issues, please take the time to communicate issues to your restoration manager. Many installations are affected in one way or another by BRAC 2005. We need to make sure our goals and objectives are aligned so we can efficiently and safely implement remedies that are protective of our environmental resources. I'd like to see installations continue to advocate risk-based, legally sound, and cost-effective remedies for every project that we undertake in the cleanup program. **PWD**

Look us up on the web

For an electronic copy of the latest **Public Works Digest**,

go to:

<http://www.ima.army.mil/sites/news/default.asp>

For back issues, click on:

<http://www.ima.army.mil/sites/pw/digest.asp>



Overcoming Iraq's desert

by Claude D. McKinney

Iraq is a desert. That should come as no surprise to anyone. However, Iraq is blessed with much water. Between the Tigris and Euphrates Rivers, Iraq has more surface water than many of its neighbors.

As wonderful as this location is to people living along those rivers, and most of Iraq's population lives along the rivers, this water is of little benefit to Iraqis who live away from those life giving flows.

But there is another water source in Northern Iraq, which is just now being tapped. An underground aquifer is providing water to small villages which have not had flowing water before.

When the current well drilling initiative is completed in mid-summer, there will be 49 wells servicing 37 communities.

Each well project consists of a pump house, a reservoir, a supply pipe to the village and, where needed, a tap-stand. The pump house encloses the well head, a pump and a generator to run the pump, and a chlorinator, together with associated gages and instruments. The reservoir is a 500-800 gallon tank placed either on high ground or on stilts to provide the needed pressure at the tap.

Most of these villages have never had flowing water available within their boundaries before, so they had no tap-stand. Where a tap-stand was needed, one was built consisting of a shut-off tap, and a catch basin with a runoff drain, all surrounded by a masonry decking of stone.

The local citizens still need to carry the water from the tap-stand to their homes, but it is a big improvement over trucking in water or having individuals carry water in containers in their cars for many miles. And there is no question about the purity of this new water.

"I don't know where they got their water from before this well was here," said Bill Hood, the program engineer for the U.S. Army Corps of Engineers Gulf Region North, who manages water project con-



The operations technician checks gauges in the Al Maman pump house. In the foreground is the generator engine and pump, center is the well-head and water pipe running through the wall to the water tank, in the corner is the chlorinator.



As children do around the world when there is a hose with running water, these children of Shikhan village now can play in water available near to their homes.

tracts for the Corps. "There was no river or stream that I could see anywhere near the well sites I visited."

Just as valuable as having a source of water available locally, is the fact that this new water is fit to drink without additional processing. The wells, many as deep as 600 feet and some as shallow as 200 feet, tap directly into an aquifer of nearly pure water. It receives chlorination as an assurance to kill any bacteria that may invade the system.

"Of the various types of projects I manage, which include water, medical facilities, police and other security buildings, and airport facilities, I think these water projects do about as much to win the hearts and minds of the local Iraqi than anything else we can do," said Sheryl Leeper, the area engineer who manages the contractors and monitors quality assurance at the work sites. "Their quality of life is improved dramatically, almost instantly."

"We can complete one of these well projects within several months," she said.

Whether it be a large water project, like the treatment plant being built in Ifraz, which will provide water to 600,000 people in Erbil, 31 kilometers away, or these wells, which supply water to villages of 500 to

1,000 people, providing water is a most important task to building a workable infrastructure for Iraq.

POC is Claude McKinney, (540) 665-2614, e-mail: clauded.mckinney@tac01.usace.army.mil.

Claude McKinney is the Public Affairs Officer at the U.S. Army Corps of Engineers, Gulf Region North. **PWID**

CALL FOR

ARTICLES

The July/August 2006 issue of the **Public Works Digest** will feature

Facilities Engineering

Please submit all articles to mary.b.thompson@usace.army.mil

with POC (name, phone, e-mail) and author (name, title, office) information no later than **July 7, 2006**.



Regulatory specialists protect nation's wetlands

by Rashida Banks

A typical day for Shaun Blocker, Alan Miller and Joel Strange involves following up on enforcement allegations, verifying jurisdictional determinations, assessing impacts, reviewing mitigation plans and, sometimes, slogging through creeks.

Blocker and Strange, who are regulatory specialists, and Miller, a project manager, work for the U.S. Army Corps of Engineers' Savannah (Ga.) District's Northern Section Regulatory Office in Morrow, Ga.

'Jacks of all trades'

Charged with protecting the nation's wetlands, regulatory specialists have to be knowledgeable in a wide variety of areas.

"We have to do delineations, which require some knowledge of hydrology, soil science, botany and engineering," Miller said. "We also need to have some knowledge of civil and environmental engineering to review mitigation banks. We are really jacks-of-all-trades."

Regulatory specialists also have to interpret federal laws. Miller said that many laws must be researched as a permit application is evaluated.



Joel Strange, left, and Shaun Blocker, right, of the Corps' Savannah District review plans with Ray P. Lambert Jr., of the Lambert Company, in Clayton County, Ga. Lambert is returning a cow pasture to its original wetland state. Photo by Jonas Jordan, photographer, Savannah District

"Part of the job is playing paralegal with lawyers if we go to court," Miller said.

Another aspect of a regulatory specialist's job is mitigating or restoring wetlands.

On this day, the three make their first stop in Clayton County, Ga., at a 75-acre mitigation site known as the Big Cotton Indian Creek Mitigation Bank. The former cow pasture is being restored to its previous wetland state.

"If you have an environmental impact, you need to pay the impact back," Miller said.

"When people say they are going to build on a wetland, we make them go to another wetland that has been drained through agricultural

or timber activity and restore it back to its natural function," he explained. "We can't stop all of the impacts, but we can try to preserve the overall function of aquatic resources within a watershed scale."

The Corps has developed a standard operating procedure for assessing how many mitigation credits are owed or how many debits are generated by unavoidable impacts, Miller said.

"This is how we get compensation for the environmental impacts that we sustain from the permitting that we do," he said. The owner of this site chose to mitigate a large site in anticipation of selling the credits and making a profit from the investment.

It will take several months for the process to be completed, Miller said. Under the agreement, the Corps requires the owner to monitor the site for seven years to ensure that it is thriving.

What constitutes a wetland

Regulatory specialists also make wetland delineations. This determination is



Joel Strange, center, a regulatory specialist with the Corps' Savannah District, talks with John Brooks, left, land owner, and Julian Campbell, right, an environmental technician with Fayette County, Ga. Photo by Jonas Jordan, photographer, Savannah District



(continued from previous page)

accomplished by examining the soil, vegetation and hydrology of an area, Blocker said.

“Soil samples are taken, and the Munsell Soil Determination color chart is used to determine the hue, value and chroma of the soil,” Blocker said. “An analysis of the plant life in the area is then taken.

Certain plant types are common in wetland areas.”

All three indicators must be present for the area to be deemed a wetland, he said.

“No site is the same, but after you have been doing this for years, you can easily tell if it’s a wetland or not,” Blocker said.

If a site is determined to be a wetland, and the owner plans to construct or place fill on the site, then it is within the Corps’ jurisdiction and is subject to Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act. Both acts require the owner to get a permit before proceeding with any type of work in or over navigable waters of the United States.

Handling violators

Enforcement is the most interesting and the toughest part of their job, Blocker and Strange agreed.

“When we do enforcements, it gets very controversial,” Blocker said. “The most common way for violations to be reported is through neighbors.”

When a violation is reported to the Corps, a site visit is mandatory. Some property owners are not aware of the regulations about filling in wetlands and don’t always fill in or develop these areas intentionally, Miller said.

“These are very delicate situations,” he said. “You get a lot of shock and confusion from the property owners.”

After it is determined that a site is in violation, the property owner is issued a cease-and-desist letter. The next step is to try to get the owner in compliance with the regulations by issuing a restoration plan. The owner has a time limit to comply.



Determining where a wetland begins and ends requires experience and training. Shaun Blocker, Joel Strange and Alan Miller, all of the Corps’ Savannah District, compare samples to the Munsell Soil Determination color charts to decide the delineation of a wetland in Fayette County, Ga. Photo by Jonas Jordan, photographer, Savannah District




Ray P. Lambert Jr., of the Lambert Company, and Alan Miller, a project manager with the Corps’ Savannah District, view wetland mitigation efforts in Clayton County, Ga. Photo by Jonas Jordan, photographer, Savannah District

The reward

Miller, Blocker and Strange find fulfillment in their jobs. They know that the work they do everyday helps to secure a legacy of important resources for future generations.

POC is Rashida Banks, (912)596-9591, e-mail: rashida.u.ahmed@usace.army.mil.

Rashida Banks is a public affairs specialist with the U.S. Army Corps of Engineers Savannah District Public Affairs Office. 



Dam restoration keeps military moving forward

by JoAnne Castagna, Ed.D.

This past winter, the Corps' New York District began restoring a historic dam and reservoir, near the shore of the Hudson River on the grounds of the U.S. Military Academy, West Point, to ensure a continuous fresh water supply and to prevent a potential flooding hazard.

Since 1802, the tradition at the academy has been to graduate highly trained military officers. For just as long, the U.S. Army Corps of Engineers began its roots at West Point and has worked with the academy ensuring the Army's officers are prepared for their important missions by providing optimum training and living facilities.

In the late 1800s, the academy needed an additional source of drinking water. The Corps augmented the academy's drinking water system by constructing the Lusk Dam and Reservoir in 1895 under the direction of Capt. James L. Lusk, a West Point graduate. They are now considered significant elements within the academy's National Historic Landmark property.

A large, arched masonry block structure – 225-feet long and 35-feet high – the Lusk Reservoir Dam serves the academy with fresh water. A few years ago, a Corps inspection detected leaks behind a build-up of efflorescence, raising concerns that there could be a more serious future problem down the road if the dam was left unmonitored.

To date, water is piped in from area ponds, creeks and brooks into this reservoir and purified by the academy's water treat-

ment plant.

Since the dam is located upstream and adjacent to several high-occupancy academy facilities, such as the Association of Graduates building, any potential structural problems in the dam are unacceptable.

During the winter of 2005, the New York District performed the dam's first cleaning in its 100 years of service.

The joints on the downstream face of the dam were cleaned of efflorescence, or crystallization that had accumulated on its surface. Leaks that were covered by crystallization crust were located, cleaned and sealed, providing the Corps a "fresh face" to observe and categorize leaks currently present at the dam and determine any further repairs that might be needed.

"Efflorescence is caused by the dissolving calcium carbonate in the dam's mortar with the reservoir water. The water up there is slightly acidic so it reacts chemically with the mortar between the dam's stones," said Marty Goff, project engineer.



New York State map showing project area and Hudson River.

"When efflorescence builds up over the stones, it becomes difficult to determine the location of leaks because the water from the leak is diverted. The water from the leak is moving under the efflorescence crust and away from the leak source. By cleaning away the efflorescence, we will be able to see the actual location of the leak," said Goff.

Goff said that it took a month to clean the dam and that the cleaning technique they used was like cleaning a shower stall that has lime build-up.

The dam's stones were cleaned by sand-blasting with small coarse grained silica, glass-like particles, under water pressure to remove the calcite build-up along the seams of the dam's masonry stones.

Workers performed the cleaning by standing on a platform, similar to those used by high-rise building window washers, which were lowered over the side of the dam's stone balustrade and eight-foot wide brick walkway.

The cleaning exposed the leaks, which are being monitored.

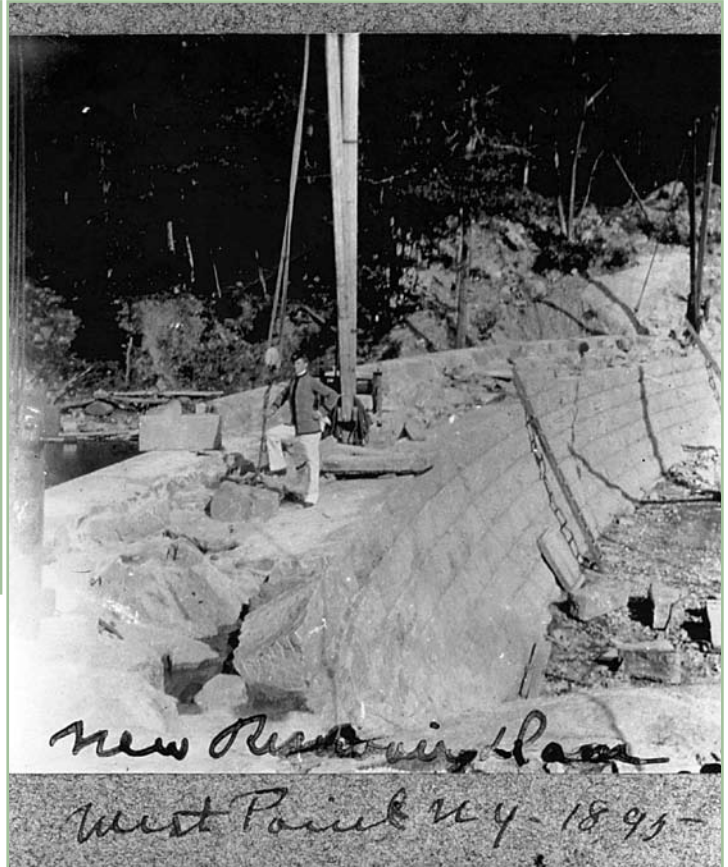
In the near future, plans include inspections of the structural condition of the dam's upstream face using a dive team because this portion of the structure

Suggestions for engineers who plan on performing similar dam restoration work

- Work closely with your environmental and cultural resources staff on the project because they can be invaluable in the selection of the proper cleaning method. Even though the main focus of the project is dam safety, it's important to keep aware of the cultural and environmental resource impacts of the work being performed.
- Ensure you have enough time to perform the project. For example, if the dam is located in a cold climate region, avoid the fall timeframe that may cut your restoration time short.



A worker cleans the calcite build-up on the dam's masonry stones by sandblasting them with small coarse grained silica, glass-like particles, under water pressure. Photo by Milton N. Ricks, project engineer, U.S. Army Corps of Engineers, New York District



1895 photo of Corps engineer standing on recently constructed Lusk Reservoir Dam.

(continued from previous page)

needs to be visually examined.

Goff says that he hopes to correlate the leak locations on the downstream face with the upstream face cracks, which will allow them to determine future work.

“If we didn’t clean the dam we would not be aware of the severity of the seepage problem which could be the result of a more significant problem,” said Goff. “The location and hazard classification of this dam makes it essential that we monitor and maintain it on a regular basis. If the dam were to ever experience a breach the potential for loss of life would be high.”

POC is Dr. JoAnne Castagna, (917) 790-8219, e-mail: joanne.castagna@usace.army.mil.

Dr. JoAnne Castagna is a technical writer-editor for the U.S. Army Corps of Engineers, New York District. PWD



The walkway at Lusk Reservoir Dam. Photo by Milton N. Ricks, Project Engineer, U.S. Army Corps of Engineers, New York District



Kirtland and Corps, first large system in state to meet new EPA water standards

by Torrie McAllister and Bruce Hill, Jr.

Arsenic — once infamously known as the poison of kings and the king of poisons — conjures visions of murder and mystery.

It's a chemical element that occurs naturally in soil and enters water from wind-blown dust and from runoff and leaching. No one wants it in their drinking water, including Air Force families at Kirtland Air Force Base, N.M.

In 1996, Congress directed EPA to create new drinking water standards for arsenic. In January 2001, the agency adopted a new 10 parts per billion (ppb) standard and set January 23, 2006, as the deadline for water systems to comply with the new standard. That's why the Air Force Materiel Command moved swiftly to comply with the new standard, which is well below the World Health Organization's and prior U.S. standard of 50 ppb.

"I remain very concerned about the ability of New Mexico's communities to meet the new arsenic standard," said U.S. Sen. Pete V. Domenici, New Mexico. "I recently met with the EPA Administrator to discuss the problem, and over the last few months have called for extensions to be granted for communities that are struggling to comply. Most communities do not have the access to federal funds that Kirtland does, so the cost of this project is likely prohibitive for rural areas."

"However, we must keep developing technology like the Corps is putting to work at Kirtland, and continue our work to find low-cost solutions to meet the arsenic standard," he said.

The groundwater at Kirtland Air Force Base contains trace amounts of arsenic, like thousands of municipal water systems across the country. The levels have always been well below the previous Environmental Protection Agency's drinking water standard of 50 ppb for arsenic, and Kirtland officials have placed a high priority on staying in compliance.

Reducing arsenic from 50 to 10 ppb will prevent approximately 19-31 cases of bladder cancer and five to eight deaths due to bladder cancer per year, according to EPA literature. The change is also expected to prevent approximately 19-25 cases of lung cancer and 16-22 deaths due to lung cancer.

"The change in the maximum limits is a huge reduction in the levels of arsenic that people were drinking," said Raul Moreno, the Army Corps of Engineers project manager who managed the multi-million dollar modifications to the base's drinking water system.

"The base's groundwater production wells drew more than 1.2 billion gallons of water annually," said Pat Montano, Kirtland Air Force Base Water Quality program manager. "Average daily production is 3.5 million from seven groundwater wells." Arsenic levels in five of the seven wells range from 1.0 to 4.0 ppb with the remaining two wells ranging from 10 ppb to 16 ppb and 12.8 ppb to 24 ppb respectively.

The best way to reduce the arsenic, according to a study by environmental contractor CH2MHill, was to combine the water from the seven wells into a two million gallon "blending" tank to dilute the arsenic at the point where water enters the distribution system, and create the ideal drinking water. The Air Force asked the Corps to manage the construction.

Engineering the perfect blend was challenging, said Moreno. The antiquated water infrastructure included a labyrinth of



The Corps and Kirtland AFB worked together to produce the water treatment facility on base that now reduces arsenic levels to new EPA standards. Photos by Bruce Hill, Jr.

pipings to the various wells that crisscrossed the 51,000 acre base.

"The distribution system basically remained intact," said Montano. "With the only main addition of the new Supervisory Control and Data Acquisition (SCADA) system, the transmission system which conveys water from all wells to the blending tank was the portion of the system that underwent major modification."

"By pumping all the water to the central blending tank, we were able to create much needed redundancy so if a well or pipeline is down, the water supply may continue uninterrupted to everyone on base," said Moreno.

We added new pipe and modernized the distribution system by adding new computer-based controls and radio switches that turn on specific pumps at set times based on a 'recipe' that mixes the water to ensure the maximum arsenic limit is not reached, he said.

"The SCADA system allows the water system operators to remotely operate and monitor the drinking water system components, wells, pumps, tanks, ...etc.," said Montano. A component of the SCADA system calculates a continuous running



Environmental cleanup team removes mercury from sewage treatment plant

by Patrick Bloodgood

In the woods just off the runway at the Wallops Flight Facility on Virginia's Eastern Shore, the sound of a Navy E-2 Hawkeye's engines roar as it performs touch-and-go landings. Down a cleared path in the brush, Norfolk District site engineer Robert Reali looks at an old concrete basin with a rusting pipe running through it to a concrete pillar in the center. Two contractors wearing white protective suits, like a scene from "ET," are in the basin meticulously sweeping with handheld brooms and depositing the swept items into sealed containers.

The basin is actually a trickling filter from an old sewage treatment plant built in 1942. Mercury, a molecularly heavy metal that is liquid at room temperature, was used from the late 1930s through the 1940s as a sealant on the rotating heads of the treatment plant's trickling filter.

"At one time there were probably thousands of these," Reali said. "It was standard practice for trickling filters during that era. Every small community that had a sewage treatment plant like this one had the same set up."

Over time many of these plants were retrofitted, and the mercury was removed. The Wallops Flight Facility treatment plant went off line in 1959, before any retrofitting or removal process occurred and was

left to sit in the elements, allowing the mercury to leak. The site is now being cleaned up under the Formerly Used Defense Site program.

"It's kind of a slow process," Reali said. "We would have been done faster, but we realized there was a leak, and we have to remove everything piece by piece, containerize it and take samples to be analyzed."

The cleanup team rotates in and out of the tank. Two members of the four-person team spend a maximum of two hours in the tyvek hazard suits and air filtration masks before being relieved by the other two.

The work is slow and painstaking. The crews first spray the area with a compound that will help the vaporized mercury bond and clump together. Then, they sweep it up and, finally, remove it in sealed containers for proper disposal.

Mercury still in its liquid form is literally vacuumed up by a special vacuum with a carbon filter, which stops any vapors from escaping and deposits the metal in a special container for proper removal.

The Wallops trickling filter was originally sealed with 11.5 pounds of mercury. The team doing the removal estimates they have reclaimed seven pounds of the metal in its liquid form. The rest, according to Reali,



Contractors using a special vacuum collect liquid mercury that leaked out of a distribution head while being placed in a hazardous materials container. Photo by Patrick Bloodgood

turned to a vapor over the past 40 years and has adhered to the rocks in the filter or to the concrete walls of the filter.

During the process of removal, samples of the rocks, concrete, sludge and soil are being collected for testing to ensure that all mercury is removed.

"Once the concrete is broken up, we get chip samples, and then we wait to find out the results to see if there is going to be further action taken, or if the area is clean," he said.

POC is Patrick Bloodgood, (757) 201-7606, e-mail patrick.j.bloodgood@usace.army.mil

Patrick Bloodgood is a public affairs specialist with the Norfolk District of the U.S. Army Corps of Engineers. **PWD**

(continued from previous page)

arsenic level by utilizing historic arsenic lab results and actual production volumes in gallons per minute for each well contributing water to the blending tank. An alarm is triggered if a given blend of water from various wells exceeds the 10 ppb arsenic standard.

"The operators are required to determine what wells deliver water to the blending tank based on a blending planning worksheet developed by KAFB personnel," he said.

Construction of the project occurred

mostly underground with nearly 22,000 linear feet of new pipe installed and hundreds of feet of old pipe rerouted. The only significant above-ground construction was the two-million-gallon mixing tank, new pump station, and chlorination building.

"The people who live and work on Kirtland are better off today than a year ago thanks to the new system," said Moreno.

The Corps completed construction in December, more than a month ahead of the EPA deadline for compliance. Kirtland

Air Force Base isn't alone in its quest to comply with the new EPA regulations.

The agency estimates that roughly 3,000 systems were affected by the new standard. Those systems serve an estimated 11 million people.

POC is Raul Moreno, (505) 342-3316, e-mail: raul.j.moreno@usace.army.mil.

Torrie McAllister is the chief of the Public Affairs Office for South Pacific Division and Bruce Hill, Jr., is the chief of public affairs for Albuquerque District. **PWD**



Two new standards support Army installation sustainability

by Philip R. Columbus and Kelly M. Dilks

In past *Public Works Digest* articles, we have written about the Technology Standards Group and its mission to solve Army installation problems through technology and business process changes. As this issue focuses on the environment, we are pleased to announce two new Army standards that support the Army's dedication towards energy, water and sewer utilization reduction.

On March 27, the Army Facility Standardization Subcommittee, comprised of Col. Mark Loring, director, Facilities and Housing Directorate, Assistant Chief of Staff for Installation Management (ACSIM); Mr. Philip Sakowitz, deputy director, Installation Management Agency (IMA); and Mr. Donald Basham, chief, Engineering and Construction, U.S. Army Corps of Engineers (USACE); approved the two new standards to be put forth for signature by the ACSIM. On April 5, Ms. Jan Menig, then deputy assistant chief of staff for installation management, signed both documents, making the light emitting diode traffic signals and non-water using urinals Army facility standards.

Light emitting diode (LED) traffic signals

Conventional traffic signals are typically illuminated by turning on an incandescent (135-150 watt) bulb behind a colored lens. These traditional bulbs when replaced with light emitting diodes (LEDs) consume less

than 17 watts for the same function. LEDs benefit the Army by using less electricity, lasting longer and not failing catastrophically.

The Army standard for traffic signals is effective immediately and must be applied to new construction, major repairs, and normal maintenance. Retrofits are to be based on an economic life cycle cost analysis with implementation occurring either as whole project retrofits or during normal maintenance cycles as described in the implementation approach paragraph of the LED Traffic Signals Technical Evaluation, January 2005 (available on the Technology Standards Group Forum on AKO).

The Army Installation Design Standards entry in Chapter 4.7.1 will be amended to read "Traffic Signals. Light emitting diode (LED) traffic signals are required for new construction, major repairs, and normal maintenance IAW the LED Traffic Signals Technical Evaluation, January 2005."

Non-water urinals

Non-water urinals reduce the Army's footprint by reducing water and energy utilization. They also reduce septic system load and treatment time for sewage as well as the maintenance and repair costs of valves, water supply piping, etc.

The Army standard for non-water using urinals is effectively immediately for FY07 and beyond MILCON projects or major

repairs not yet solicited. Retrofits will replace urinals using more than 1 gpf if criteria in the March 2005 technical evaluation are met.

The Army Installation Design Standard entry in Chapter 3.1.3 will be changed to read "Urinals. Non-water using urinals are an Army standard for new construction and major repairs. It is a best practice to replace existing urinals using more than 1 gpf if retrofit criteria are met in accordance with Waterless Urinals, Technical Evaluation, March 2005."

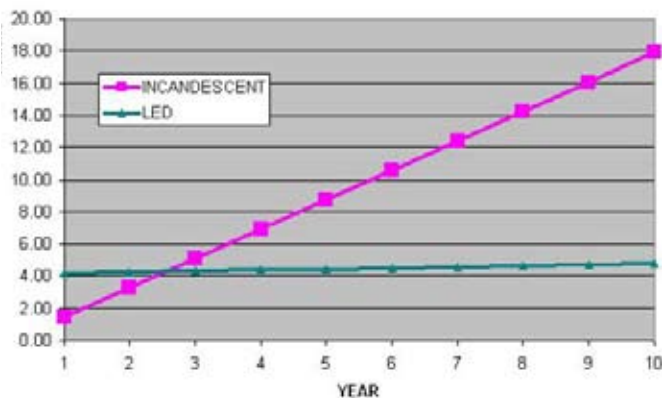
Conclusion

The Facilities Standardization Committee and its subordinate element, the Technology Standards Group and the Facility Design Teams, continue to put resource saving technology into the hands of installation users. These resource reductions are in support of the Army's Energy Campaign Plan and the Army's Environmental Strategy.

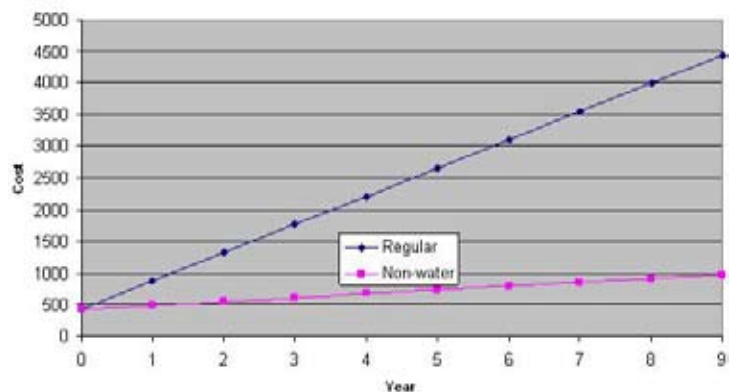
POC is Philip R. Columbus, (703) 604-2470 DSN 664, e-mail: Philip.Columbus@hqda.army.mil.

Philip R. Columbus works in the Facilities Policy Division, Office of the Assistant Chief of Staff for Installation Management and Kelly M. Dilks works at the Engineer Research and Development Center, Construction Engineering Research Laboratory. PWD

INCANDESCENT-LED (ARMY-WIDE ESTIMATE)



Replacement Of Existing Failed Unit





New program standardizes Army financial management and accounting functions

by Brigid O'Connor

An Army initiative to transform its business and financial management functions is the establishment of General Fund Enterprise Business System (GFEBS).

GFEBS will standardize all financial management and accounting functions across the Army. The functions included will be: General Ledger; Accounts Receivable; Accounts Payable; Funds Management; Cost Management; Financial Reporting; and Property, Plant, and Equipment (PP&E) Inventory.

GFEBS will replace many older financial systems such as the Standard Finance System (STANFINS), Defense Joint Accounting System (DJAS) and The Standard Operation and Maintenance Army Research and Development System (SOMARDS). It will ultimately become one of the world's largest financial enterprise systems. Army financial professionals will have access to more timely, reliable and accurate information, which will improve cost management and control and allow more time to perform financial analysis.

GFEBS comprises integration of multiple non-financial functions including work management, real property accountability and human resources.

A web-based program using SAP commercial-off-the-shelf (COTS) Enterprise Resource Planning (ERP) software, GFEBS will allow the Army to access and share accurate, up-to-date resource management data across the Army. The system is real time and will feed up-to-date, accurate information to senior Army and DoD leadership that will enable them to make sound business decisions. GFEBS will give the Army the level of financial accountability mandated by Congress in the Chief Financial Officer Act of 1990.

The Army's approach is incremental. The first test of performance will be held at Fort Jackson, S.C. The user test at Fort Jackson will focus on the financial manage-

ment and accounting functions as well as the Army's General Fund Real Property inventory.

The Army utilizes three different systems to track its Real Property inventory. Active Army and Army Reserve installations use the Integrated Facilities System (IFS), the Army National Guard uses Planning Resource for Infrastructure Development and Evaluation (PRIDE) and the U.S. Army Corps of Engineers uses Real Estate Management Information System (REMIS).

Army Real Property systems link to several different financial systems through the use of interface files. GFEBS will create a single database for the Army's Real Property inventory and its related financial information. Except for working capital funded real property, GFEBS will fully integrate the Real Property Inventory with financial functions and provide visibility of total Sustainment, Restoration and Modernization (SRM) or Base Operations Support (BOS) dollars spent by individual facilities. GFEBS will facilitate a more accurate understanding of the value and location of Army property.

Incorporating the Army Real Property Inventory in GFEBS creates many challenges such as:

- Complying with the Chief Financial Officer Act of 1990.
- Complying with the Federal Financial Management Improvement Act of 1996.
- Meeting the requirements identified by the Joint Financial Management Improvement Program (JFMIP).
- Deciding whether the software can handle integrating the complexities of financials, real property inventory management and work classification.
- Configuring the system to the functionality required by the garrison's business.
- Addressing the financial issues related to Army Real Property inventory for Work-

ing Capital Fund Army Installations not included in the General Fund (GFEBS).

- Integration of the commercial products and government facilities management modeling tools utilized to support installation management activities.
- Ensuring the 420 Series of Army Regulations and Pamphlets requirements will be met and synchronized with GFEBS.
- Training all affected personnel in the Installation Management community.
- Ensuring the Installation Management Agency Standard Service Levels are captured.

Ultimately, the goal of GFEBS is to minimize data entry and errors, enable financials and work reporting to be asset driven, provide live data available to potentially any user, minimize the need for data calls and allow flexible reporting.

GFEBS will have a tremendous impact on the garrisons. Training all affected personnel at Army Installations, regions, HQ and Army Command staffs will be a huge effort. Use of commercial terms for management and reporting will require extensive training and reorientation.

GFEBS is in the product testing phase for release 1.1, a proof of concept to be conducted at Fort Jackson in June 2006. The demonstration must be successful for the GFEBS program to continue development. Once GFEBS passes this user test at Fort Jackson, development of release 1.2 will begin. This will include expanding the Real Property Inventory to include the full work management function in support of the inventory. This phase is expected to last 18 months. Full deployment Army-wide is scheduled to be phased in by 2009.

POC is Brigid O'Connor, (703) 601-0716, e-mail: brigid.oconnor@hqda.army.mil.

Brigid O'Connor is a senior systems analyst for Electronic Data Systems, supporting the Army Housing Division of the Office of the Assistant Chief of Staff for Installation Management. PWD



IMA announces annual fire, emergency services award winners

by Charles Butler



Fire Chief Lester Porter, third from the left front row, presents Fort Gordon as the Army's small fire department of the year. Also lending support are Col. Karen Adams, garrison commander; fourth from the left, front row; Brig. Gen. Randolph P. Strong, commanding general, U.S. Army Signal Center; fourth from the right, front row; and Lt. Col. Richard Karlsson, director of Emergency Services, third from the right, front row.

The Army's top fire departments and fire fighters for 2005 were announced by the Installation Management Agency. The winners and runners up are:

Small fire department of the year

Winner: *Fort Gordon Fire & Emergency Services Department, Ga.*

Runner-Up: *Fort Riley Fire & Emergency Services Department, Kan.*

Among its many accomplishments, the Fort Gordon Fire & Emergency Services Department responded to 1,022 emergency incidents ranging from structural firefighting, to medical emergencies, hazardous materials incidents, and chemical, biological, radiological, nuclear and explosives events; and educated more than 2,300 Soldiers and family members in safety and fire prevention, a catalyst to zero reportable fire related incidents in 2005.

Large fire department of the year

Winner: *Fort Bliss Fire & Emergency Services Department, Texas. (This is the second year in a row that Fort Bliss has won this award.)*

Runner-Up: *Fort Drum Fire & Emergency Services Department, N.Y.*

In addition to many other achievements,

the Fort Bliss Fire & Emergency Services Department responded to 2,409 emergencies — including three arson fires and the successful apprehension of a suspect — that resulted in only a 0.1 percent fire loss; and supported Hurricanes Katrina and Rita evacuations during which more than 3,000 displaced evacuees were processed for shelters and more than 200 aircraft were relocated from the storms path to Fort Bliss.

Fire prevention program of the year

Winner: *Fort Lewis Fire & Emergency Services Department, Wash.*

Runner-Up: *Fort Drum Fire & Emergency Services Department, N.Y.*

Among several innovative endeavors, the Fort Lewis Fire & Emergency Services Department partnered with the city of Olympia's KGY radio to reach 100,000 area residents with fire safety messages, an effort that has increased fire safety awareness and enhanced community relations; and employed an aggressive fire safety program that teamed with contractors to establish mandatory housing fire safety briefings before issuing keys, including classes using live stove fires, which helped reduce cooking fire loss by 20 percent.

Military fire fighter of the year

Winner: *Sgt. Scott P. Hankins, Fort Lewis Fire & Emergency Services, Wash.*

Runner-Up: *Sgt. Stephanie A. Slater, Fort Hood Fire & Emergency Services, Texas.*

Along with his many other accomplishments, Hankins assisted in medical aid and extrication at motor vehicle accidents and boating accidents, and prevented the spread of multiple wild land fires that covered more than 70 acres and threatened both Yuma Proving Ground and the BLM areas.



Sgt. Scott P. Hankins, Fort Lewis Fire Department, was named the Army's military firefighter of the year.

Civilian fire fighter of the year

Winner: *Fire Fighter Aaron Z. Hunter, Fort Leonard Wood Fire & Emergency Services, Mo.*

Runner-Up: *Fire Fighter Ronald F. Harness, Fort Knox Fire & Emergency Services, Ky.*

Special Recognition (posthumous): *Fire Fighter Chad E. Wessels, Fort Hood Fire and Emergency Services, Texas.*

In addition to other deeds, Hunter saved the department thousands of dollars in training costs



Fire Fighter Aaron Z. Hunter, Fort Leonard Wood Fire Department, was named the Army's civilian firefighter of the year.



(continued from previous page)

by developing, implementing and training personnel in swift water rescue tactics and trench rescue techniques; procuring training materials and aids for little or no cost; and instructing medical personnel assigned to range control in swift water rescue tactics.

Military fire officer of the year

Winner: *Staff Sgt. Chylciale Washington, Fort Hood Fire & Emergency Services, Texas.*

Runner-Up: *None*

Among other achievements, Washington trained and assured all active duty firefighters were trained on the Army's newest Tactical Firefighting Truck for use in Operation Iraqi Freedom and was instrumental in assuring that each firefighter was trained and prepared to deploy to Operation Iraqi Freedom with the newest tactical firefighting equipment.



Staff Sgt. Chylciale Washington, Fort Hood Fire Department, is the Army's military fire officer of the year.

Civilian fire officer of the year

Winner: *Assistant Fire Chief Christopher McGuire, Fort Bliss Fire & Emergency Services, Texas.*

Runner-Up: *Assistant Fire Chief Gert Fuchs, U.S. Army Garrison, Hohenfels, Germany.*

McGuire served as the incident commander during: the Hurricanes Katrina and Rita evacuations to Fort Bliss, including evacuation flights with more than 100 critically ill patients who required immediate triage and transport to local hospitals and shelters; at a major vehicle accident involving coordination among numerous first responders and the transport of critically injured victims; at the site of an Army helicopter crash; and a natural gas line rupture and ensuing fire.



Assistant Fire Chief Christopher McGuire, Fort Bliss Fire Department, is the Army's civilian fire officer of the year.

Heroism award (team)

Winner: *Fire Cpt. William Donabue, Firefighter Jason Brown, Firefighter William Chyzik and Firefighter Paul Win; Fort Monmouth Fire & Emergency Services, N.J.*

Runner-Up: *Assistant Fire Chief Jay D. Skaggs, Assistant Fire Chief Donald W. Hansen, Fire Cpt. Jeffrey J. Gassmann, Fire Cpt. Santino Maestas, Fire Lt. Kenneth D. Skaggs, Fire Lt. Christian A. Howell, Firefighter Robert E. Allen, Firefighter Daniel D. Doyle, Firefighter Jason A. Picklesimer, Firefighter Brian Valdez, Firefighter James T. Herken, and Firefighter Richard T. Baggett; Fort Leavenworth Fire & Emergency Services, Kan.*

On March 4, 2005, at 11:40 a.m., the Fort Monmouth Fire & Emergency Services was dispatched to neighboring Eatontown in response to an explosion and collapse of a large commercial structure with known multiple entrapments. With disregard of their own personal safety, the crew worked two and one-half hours, saving the lives of three entangled and trapped victims, all of whom were in critical condition and required life saving trauma surgery.

The winners will be recognized at the Army awards luncheon, scheduled for Sept. 13, during the annual DoD Fire and Emergency Services Training Conference in Dallas.

POC is Charles Butler, (703) 602-4697, e-mail: charles.butler@hqda.army.mil

Charles Butler is a fire protection specialist with Headquarters, Installation Management Agency.

PWD



Fire Chief Billy Cannedy, second from the right, front row, presents Fort Bliss as the Army's large fire department of the year.



Jim Sorenson, assistant fire chief for prevention, fourth from the right, presents Fort Lewis as the Army's fire prevention program of the year winner.



New homes open for junior enlisted in Hawaii

by Ann Wharton

Army Hawaii Family Housing (AHFH), the 50-year partnership created between the Department of the Army and Actus Lend Lease, unveiled the first of more than 5,300 homes to be built at U.S. Army Garrison, Hawaii, at a ceremony May 31.

Turnover of new homes to service members and their families began June 1.

The \$2.33 billion project calls for the construction of 5,388 new homes and nine new community centers, and the renovation and restoration of 2,506 existing homes during the 10-year development period.

The new AHFH homes will rival those

found in the private sector both aesthetically and environmentally. They are plantation-style homes that range in size from 1,600 to 3,000 square feet, and they will have at least three bedrooms and a lanai.

"Turning over the first homes to our families is truly a momentous event for all of us at AHFH," said Mark Menhinnitt, president of Actus Lend Lease.

A major improvement featured in the new housing is energy efficiency. AHFH boasts the world's largest solar-powered community, providing about 30 percent of the communities' electrical needs through photovoltaic panels, in addition to completing the largest government privatization

project to date in the United States.

Plans call for the installation of seven megawatts of photovoltaic paneling on these homes and incorporating solar water heaters and other efficiency improvements.

"It will be the largest solar-powered community in the world using photovoltaic panels," said William Armbruster, deputy assistant secretary of the Army for privatization and partnerships and one of the guest speakers at the dedication ceremony.

The ceremony ushered in the new era in military home development that will provide a better quality of life for service members and their families. According to

the office of the under-secretary of defense, Soldier retention is 15 percent higher for those stationed on installations with superior housing and community life.

"We got the housing our military deserves, and we're going to take pressure off our rental market out in the civilian section, so it's going to be a winner for everybody," said U.S. Rep. Neil Abercrombie at the ceremony.

Ann Wharton is with Army Hawaii Family Housing.

PWD



Spc. Aaron Compton, left, D Company, 2-25 Aviation Brigade, and Rachel Lawton watch movers carry items into their new house at Schofield Barracks, Hawaii. The family received the keys to their new Residential Communities Initiative home just one hour before the movers brought their furniture. Neighbor, Sidney Bell, second from left, looks on. Photo by Christa B. Thomas



Camp Walker dental clinic reopens

by Galen Putnam

Sure to put smiles on the faces of Daegu, Korea, Enclave Soldiers and their family members was the reopening of the Camp Walker Dental Clinic after a year of extensive renovation. The refurbished clinic was newly named the Bodine Dental Clinic.

About 95 percent of the original structure was replaced in the year-long, \$2.3 million top-to-bottom renovation. The original facility was built in 1959 as an outpatient dental clinic. The one-story building measured 4,800 square feet.

The renovation expanded the clinic to 8,000 square feet. Two dental chairs were added, increasing the number of treatment bays from 10 to 12.

The project replaced dilapidated infrastructure and brought the clinic up to current code compliance. New, state-of-the-art equipment was installed as well to help improve staff efficiency and effectiveness, according to Lt. Col. Gen B. Paek, clinic officer-in-charge.

“The new facility will improve our efficiency in providing care to the patients, which will bring a higher level of satisfaction from the patients,” he said. “Also, with the increased space, we will be able to have more dental staff members to serve more patients, resulting in less waiting time.”

One of the major improvements is a larger dental laboratory unit. Previously the clinic was unable to provide in-house ceramic support to the community, and all porcelain crown cases had to be sent to the Army Dental Lab at Fort Gordon, Ga. Since the renovation, staff members are able to perform those tasks on site, reducing turn-around time significantly.



Ron Gaumer, a contractor with Austin Dental Equipment Company, ensures newly installed cabinets are in alignment during the final phase of renovation at the Camp Walker Dental Clinic. Photo by Galen Putnam

Another noteworthy upgrade is the new digital X-ray system that is quicker, safer to operate and more cost effective than previous X-ray systems.

“It provides images immediately to the chair – before the patient even returns from the X-ray room,” said Capt. Paul Graves, executive officer, 618th Dental Company, 18th Medical Command at Yongsan Garrison. “Also, there are no dangerous chemicals, and patients receive one-tenth the radiation because the digital system is much more sensitive than film.”

While the building was undergoing its face-lift, the Camp Walker Dental Clinic was relocated inside Wood Medical Clinic on Camp Walker.

“This is a big change. Now we are one of the biggest dental clinics in Korea,” said Korean Augmentee to the U.S. Army Soldier Cpl. Seo Dong-min, a dental assistant at the clinic. “It is nice because now we

have all new equipment – but that is not for us – it is for the patients. The new equipment will allow us to provide better treatment.”

The clinic was dedicated in honor of the late Dr. Roy L. Bodine Jr., who, as a major in the Army Dental Corps became a prisoner of war of the Japanese April 9, 1942, when Bataan fell. He spent the next three and-one-half years in captivity in the Philippines and Japan before being liberated by the American Seventh Infantry Division in 1945. Bodine was awarded the Silver Star Medal for gallantry on April 7, 1942, while serving with the 101st Medical Collecting Company in the Philippines.

POC is K.E. Jackson, 0505-768-7604, e-mail: JacksonKE@usfk.korea.army.mil.

Galen Putnam is a public affairs specialist with the U.S. Army Installation Management Agency, Korea Region Office, Area IV Public Affairs. **PWD**



Deadline to apply for Army Congressional Fellowship Program approaches

by Esther H. Howard

Nominations are now being accepted for the upcoming Army Congressional Fellowship Program (ACFP). This program is designed to provide congressional training to Army officers and civilians.

The ACFP is conducted in two phases over a 15-month period that will start in August 2007 and end in December 2008. The first phase consists of an orientation, 40-hour force integration course and six to eight one-day seminars. Each fellow is then assigned to serve the second phase on a full-time assignment on the staff of a member of Congress, congressional committee or support agency of Congress.

The ACFP is open to Department of the Army civilian employees at the GS-12

through 15 levels who have a career status and are serving in permanent competitive positions. Interested applicants should access the fiscal year 2006 ACTEDS Training Catalog on the Civilian Personnel on-line webpage at www.cpol.army.mil for a description of the program, eligibility requirements, and application forms.

It is crucial that nominees prepare their nomination packages carefully and use only the forms available on the website. The applications must be sent through command channels and be received by the close of business Aug. 4

The address for overnight/express mail for U.S. Army Corps of Engineers civilians is: Headquarters, U.S. Army Corps of Engineers; CEHR-D, ATTN: E. Howard

(3Y36); 441 G Street NW; Washington, DC 20314-1000.

Other Army civilians must submit their applications through their respective command channels.

POC for Corps of Engineers employees is Esther Howard, (202) 761-5004, e-mail: esther.h.howard@usace.army.mil.

POC for other Army civilians is Valerie Peyton, (703) 325-2456 (DSN 221), email: valerie.peyton@us.army.mil.

Esther Howard is an administrative support specialist in the Human Resources Directorate at Headquarters, U.S. Army Corps of Engineers.

PWD

Work on the hill – a fascinating experience

by Patrick Batt

Last year, I had the opportunity to serve in the Army Congressional Fellowship Program. This unique program allows military and Department of Defense civilian personnel to spend one session working on Capitol Hill. Some fellows worked on committee staffs, and some worked on the personal staffs of senators or representatives.

I worked on the staff of Rep. Vic Snyder, a Democrat from Little Rock, Ark. Rep. Snyder is the ranking member on the military personnel subcommittee of the House Armed Services Committee. As such, he is very interested in military personnel policy and benefits.

Working on the hill was a fascinating experience. It was not like working for government, and it was not like working in the private sector. Although every office is different, congressional offices are generally divided into a district office that works to resolve individual constituent problems (for example, "I can't get my veteran's benefits), and a Washington office that works on

policy issues (for example, "What should veterans' benefits be?").

A Washington congressional office usually has about six legislative assistants who handle different portfolios. Generally, a fellow would work with the military legislative assistant.

During my year on the hill, I helped Rep. Snyder prepare for hearings on the war in Iraq and the equipment provided to our service members. I researched and made recommendations to the congressman on the 2006 National Defense Authorization Act as it went through committee and mark-up, and, of course, I helped research and follow up many other issues of interest to the congressman.

The Army has been very kind to me during my professional career, allowing me to serve in meaningful jobs in interesting places. I believe that all my fellow fellows would agree that serving in the Army Congressional Fellowship Program was one of the most fascinating and gratifying experi-

ences of my career, and I believe the experience will allow me additional opportunities in the future.

I encourage every Army civilian to regularly check the ACTEDS catalogue in the training and leader development section of the Army's Civilian Personnel web site, <http://cpol.army.mil>. There are many training opportunities, including the Army Congressional Fellowship Program.

It is worth your time to apply. You may be more competitive for the fellowship program and other opportunities than you think. If you don't apply, you certainly won't be selected. I will be happy to chat with you about the Congressional Fellowship or other training programs in the Army.

POC is Patrick Batt, 202-761-4239, e-mail batt@usace.army.mil.

Patrick Batt is the deputy for Military Programs on the South Atlantic Division Regional Integration Team at Headquarters, U.S. Army Corps of Engineers. **PWD**



SIGN UP NOW

2007 master planning course schedule set

by Jerry Zekert

The U.S. Army Corps of Engineers' Professional Development Support Center in Huntsville, Ala., has established the schedule for the fiscal year 2007 master planning training, and it is time to enroll.

There are two courses offered for master planners: the Real Property Master Planning course and the Advanced Master Planning class.

The Real Property Master Planning course provides a broad overview of using master planning principles in the planning and development of installations. The course is an introduction to Real Property Master Planning for planners and real property specialists at Army installations and Corps of Engineers districts. The goal is to make planners more effective by providing them with the information, understanding and tools they need to operate within the Army Real Property Master Planning process.

The course covers: Army master planning policy, the planning process/methodology; the role and relationship of real property planning to the structure of the

Army and its installations and how and where the planner fits into it; establishing and managing the Real Property Planning Board, real-time understanding of how to complete charrettes and an overview of sustainable development concepts.

The class consists of lectures, exercises and a field trip.

Three classes are scheduled. They include a class in Portland, Ore., Dec. 7-10; one in Norfolk, Va., in March; and another in Denver in June.

The Advanced Master Planning Course has been developed to provide advanced planning techniques for planning professionals. Course 962, is an applied training course, where the students, will actually work in teams on a real-world planning project on an installation. The participants will obtain hands-on training on assembling an Area Development Plan, use various software tools to publish the document and present the findings to the installation staff. It is scheduled as a two-week effort at installation to be selected.

With the planned stationing actions

affecting Army installations, the requirement for comprehensive master planning is more important than ever. In 2006, two sessions of the Real Property Master Planning class were filled, so early enrollment is recommended.

Offices interested in sending personnel to this course should notify Sherry Whitaker in the Registrar Division of the Professional Development Training Center, Huntsville, by e-mail, sherry.m.whitaker@hnd01.usace.army.mil, or by calling (256) 895-7425.

The course title is Real Property Master Planning, CRS # 075, and the tuition is \$1,500. The other class is Advanced Master Planning, CRS # 962, and the tuition is \$1,500.

POCs are Beverly Carr, (256) 895-7432, e-mail: beverly.carr@hnd01.usace.army.mil; and Jerry Zekert (202) 761-7525; e-mail: jerry.c.zekert@usace.army.mil.

Jerry Zekert is the course proponent with Headquarters, U.S. Army Corps of Engineers.

PWD

CP-18 training opportunities

by Ed Gauvreau

Career Program 18, Engineers & Scientists (Construction), has sent its annual call for training requests to receive funding through Army Civilian Training, Education and Development System (ACTEDS) funds. More than 125 CP-18 careerists availed themselves last year of funds for technical and management train-

ing opportunities to improve their performance and increase their value to the Army.

If you have not yet received the announcement, please contact your local or regional career program manager for compiling your activity's requirements. The due date for submissions is July 10.

Specific programs available for CP-18 employees are located at: <http://cpol.army.mil/library/train/catalog/ch03cp18.html>.

POC is Ed Gauvreau, AIA, 202-761-0936 (DSN 763), e-mail: ed.gauvreau@us.army.mil.

Ed Gauvreau is with Headquarters, U.S. Army Corps of Engineers.

PWD



Brig. Gen. Macdonald assumes leadership of IMA

by Melina Rodriguez

The directorship of the U.S. Army Installation Management Agency changed hands May 30 in a ceremony on the front steps of Fort Belvoir's Abbot Hall.

Maj. Gen. Michael Rochelle relinquished the duties he's held since Nov. 1, 2005, to Brig. Gen. John A. Macdonald.

"I think [Rochelle] united the staff and encouraged everyone he met to give 100 percent," said Jack Anderson, director of religious education at IMA.

Rochelle, who has been in the military for 34 years, is leaving IMA to become the Army's Deputy chief of staff, G-1.

Lt. Gen. James Campbell, director of the Army staff, hosted the ceremony and introduced Rochelle and Macdonald.

"If one were to review all of the accomplishments of Maj. Gen. Rochelle they would see how he nurtured the organization," said Campbell.

Rochelle's accomplishments are numerous. As IMA director, he was responsible for oversight of 117 Army installations. During his tenure, Rochelle oversaw a period of change which was marked by the common levels of support and the standard garrison organization, which contribute to more effective and efficient installations.

"He focused on resources and doing the right thing," said Arnie Cole, chief of Morale, Welfare and Recreation for IMA.

Rochelle expressed gratitude to the IMA employees who helped him achieve success.

"I am honored to have represented the colors of this agency," said Rochelle.

In his speech, Campbell looked to IMA's future under Macdonald with optimism.

"He is the ideal pick for IMA," said Campbell, "He has a general love for Soldiers and their families."

IMA employees look forward to working under Macdonald.

"He's been on the level of the people

we're supposed to be taking care of," said Elaine Durden-Hunter, strategic planner with IMA. "He will bring a hands-on type of experience."

The ceremony ended with Macdonald's bright outlook for the future of IMA.

"I look forward to serving in this position," said Macdonald, who is joining IMA after serving as the commanding general of U.S. Army Community and Family Support Center.

Melina Rodriguez is a Belvoir Eagle staff writer.

Reprinted with permission from the Belvoir Eagle. PWD



New IMA Director Brig. Gen. John A. Macdonald addresses the crowd during the change of command ceremony.



Brig. Gen. John A. Macdonald (left) accepts the Installation Management Agency colors as incoming director from Lt. Gen. James L. Campbell, director of the Army staff, during the change of director ceremony May 30 at Fort Belvoir, Va. Maj. Gen. Michael D. Rochelle (right), outgoing IMA director, will become the Army's deputy chief of staff for G-1. Command Sgt. Maj. Debra L. Strickland (right center) carried the IMA colors during the ceremony. Photo by Stephen Oertwig



Brig. Gen. John A. Macdonald

Brig. Gen. John A. Macdonald is director of the U.S. Army Installation Management Agency, Arlington, Va.

Before becoming the fourth director of MA May 30, Macdonald was commanding general of the Community and Family Support Center, Alexandria, Va., since Dec. 8, 2004. Prior to that, he was the director of IMA's Korea Region, Yongsan Army Garrison, South Korea. He served in this position from July 2002 to December 2004.

An Army brat born in Frankfurt, Germany, Macdonald graduated from West Point in 1979. His first duty assignment was with the first M1 battalion, the 2-5 Cavalry, 1st Cavalry Division, as a platoon leader and tank company executive officer.

After graduating from flight school as the distinguished honor graduate in December 1982, he was a scout and attack platoon leader and operations officer in the 82d Airborne Division's Attack Helicopter Company, Fort Bragg, N.C. Upon graduation from the Armor Advanced Course as the Draper Award Winner in September 1986, he commanded C Troop 3rd Squadron 7th Cavalry, 8th Infantry Division, Coleman Barracks, Germany.

From April 1988 to January 1992, Macdonald commanded Quickstrike Troop and was S3 for 30 months in 4th Squadron, 2nd Armored Cavalry Regiment, Fuecht Army Airfield, Germany. From January to June 1992, he was the regimental S3 of the 2nd ACR. After attending the U.S. Army Command and General Staff College, Macdonald served as one of the commander's duty watch team-leaders and C4I branch chief in the Command and Control branch, CJ3, Combined Forces Command, Yongsan.

From July 1995 to 1997, he commanded the 3rd Attack Battalion of the 229th (Fly-



Brig. Gen. John A. Macdonald

ing Tigers) Attack Regiment at Fort Bragg. After eight months as the deputy G3 of the 101st Airborne Division (Air Assault) and the Family Support Group Leader of 6th Battalion and 101st Aviation Regiment, he attended the Naval War College at Newport, R.I. He was sequentially the G3, the Aviation Brigade commander, and chief of staff for the 2nd Infantry Division, Camps Red Cloud and Stanley, South Korea, from

April 1999 to July 2002.

Macdonald has master's degrees from Central Michigan University and the Naval War College. His awards include the Legion of Merit with two Oak Leaf Clusters, the Bronze Star with Oak Leaf Cluster, and the Air Medal with V device. He is a master aviator, master parachutist and is Ranger qualified. **PWD**



Installation Management Agency
2511 Jefferson Davis Highway
Arlington, Virginia 22202-3926

<http://www.ima.army.mil>