

KANSAS CITY DISTRICT'S NEWS MAGAZINE

HEARTLAND ENGINEER



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JANUARY - MARCH 2014

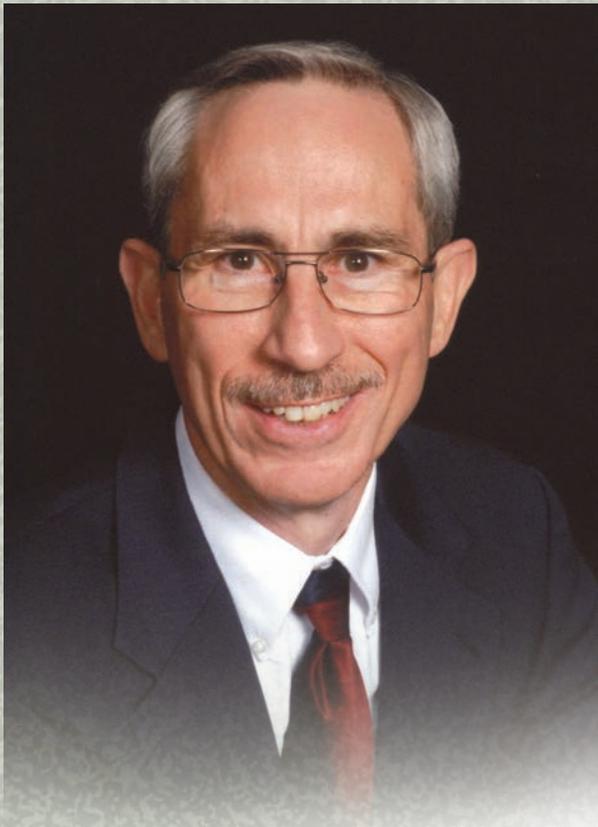
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Tons of Good News



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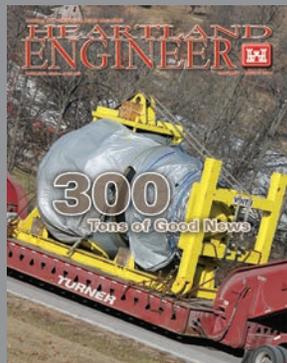


Michael Whitacre, Retiree Club president,
Photo provided

Employee Profile

Michael Whitacre is the new Retirees' Club president. He joined the Kansas City District in October 1976 and retired from the district in September 2005. During his time with the Corps, he was assigned to the Europe Division in Frankfurt, Germany, from March 1981 through December 1986 in the Planning Branch for military installations. He has served as a project manager for various military programs throughout his career and was chief of the Military Branch, Planning and Programming Division at the time of his retirement.

The Corps of Engineers' Kansas City District Retirees' Club is a social group that invites all retirees to join. They meet for lunch four times a year at various restaurants. Each meeting begins with a social hour that allows retirees to gather, catch up and keep in touch with former co-workers and friends. Your membership ensures you are on the mailing list to receive notices of the lunches. They look forward to seeing you at the next lunch. If you are interested, please contact Treasurer Dianne Maddi, 816-741-2276, or President Mike Whitacre, 913-782-8244.



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ON THE COVER: The 144-ton turbine runner was delivered to the Stockton Power Plant in December. Photo by David S. Kolarik

Happy New Year, Team!



COL Andrew Sexton

We've started a New Year and 2014 is upon us. It was wonderful to take some time away and enjoy family and friends over the holidays. I hope you were able to do the same and enjoy your well-deserved time off. With the challenges of last year behind us, we should look forward in excitement to what we are set to accomplish this year.

I'd like to begin by thanking the district for another successful Combined Federal Campaign. We once again made a great contribution to those in need. Thank you for making a positive difference. In addition to all those who contributed to the campaign, I'd like to thank Stuart Cook and our CFC team who made the success possible.

This year, 2014, will be a fantastic year for the district as we strive to complete the single largest construction project in the history of the Kansas City District, the Fort Riley Hospital project. When it goes into operation, this state of the art medical facility will provide first class health care to our Soldiers, their families and retirees of the Fort Riley community.

Another installation we serve, McConnell Air Force Base, will see some major changes as it prepares for the 2016 arrival of the Air Force's newest refueling tanker, the KC-46A. The district will begin the construction of this \$260 million program over the next three years to build eight separate facilities. The new KC-46A will replace the aging KC-135 and provide a safe and more efficient aircraft used to refuel and transport military personnel across the armed services.

The Stockton Power Plant received its new \$30 million turbine last December and is scheduled to be fully functional this summer. When operational, this 200+ ton turbine will help the power plant to restore clean, renewable energy to more than 2.6 million end-users throughout the state of Missouri.

Harlan County Lake will begin the process of repairing 18 tainter gates. The district awarded the first contract last summer and plans on awarding approximately \$9 million this year and an additional \$27 million more to finish. Repairing these gates will restore the full flood storage capacity and ensure protection to the citizens and vital infrastructure downstream of the dam.

The district will move forward with its mandate by the 2003 Fish and Wildlife Service's Biological Opinion to construct Shallow Water Habitat in Missouri and Kansas. This construction helps to foster a more natural environment for endangered species such as the Pallid Sturgeon, Least Tern and Piping Plover.

We will continue with our robust environmental mission of identifying, remediating and restoring former and current hazardous, toxic and radioactive waste sites protecting those impacted in both EPA Region 7 and 2.

None of this should be news to the team. I highlight these projects and efforts to demonstrate some of the great work the KC District is doing this year. These projects are a small sample of the more than 680 projects that we are working to deliver each and every day.

Keep up the phenomenal effort as we work every day to take care of the team, deliver our projects and support our partners. Together the Kansas City District is building a better future for the Heartland.

Chief visits Kansas City District

By David S. Kolarik

The U. S. Army Corps of Engineers Commanding General and Chief of Engineers visited the Kansas City District in November and conducted a Town Hall at the district headquarters to a jam-packed room of more than 200 employees.

“It’s going to be okay,” Lt. Gen. Thomas P. Bostick said of the current fiscal climate and concerns regarding the potential for additional furloughs and reduction in force. Bostick apologized to all that were affected by the furloughs due to sequestration stating, “We didn’t think it was going to actually happen.”

Bostick said that it’s great to get out and thank the troops and the great civilians that keep the history of our Corps going. He further went on to state that the work we’re doing is truly a value to the nation. His message that we, as an organization, need to work smarter, we’ve got the time to plan and we’ve got the support. “It all comes down to communication and trust, and we’re all going to be okay.”

Bostick later reinforced the USACE campaign plan goals of Support the Warfighter, Transform Civil Works, Reduce Disaster Risks and Prepare for Tomorrow. He asserted that by concentrating and meeting these four initiatives as an organization we would achieve and even exceed our campaign plan goals.

The Chief was engaged in numerous events while in the Kansas City area. The district hosted its inaugural District Commander’s Course for approximately 40 current or soon to be commanders and finally, Bostick served as host to the annual Society of American Military Engineers conference.

At the conference Bostick conducted a media interview with the Kansas City Business Journal. During the interview he said, “We do not do anything alone and that USACE has a longstanding history of commitment to utilizing small businesses.” He added that in 2013 USACE awarded \$5.6 billion to small firms of a total USACE obligation of \$13.3 billion.

Bostick also noted that as government budgets continue to decrease, small business will be forced to rely more heavily on their capability, experience and past performance—more than their small business—size and socio-economic designations. Competitive proposals and performance will be critical to the survival of small firms.

Lt. Gen. Thomas P. Bostick discusses the importance of USACE relationships with small business during an interview with the Kansas City Business Journal at the Annual Society of American Military Engineers conference in Kansas City, Mo.



Lt. Gen. Thomas P. Bostick recognizes and presents Jimmie Pulliam with a USACE Commander’s Coin for a job well done during a special town hall. Photos by Diana McCoy



Fort Leonard Wood stream bank repairs performed in record time

Crews move rock at Dry Creek at Fort Leonard Wood following the 500-year flood event. Emergency repairs were needed due to contamination concerns from a series of sanitary landfills. Photo provided

By Amy Phillips

In early August of 2013, record breaking flash flooding occurred in the Gasconade River Basin in south-central Missouri forcing Governor Jay Nixon to declare a state of emergency. Flood waters closed down portions of Interstate 44, flooded homes and caused deaths.

Those impacted by the record flood included Fort Leonard Wood causing damage to Dry Creek and creating a possible contamination from a series of five sanitary landfills that were constructed at the installation in the '50s and '60s era. The site is an active remediation site managed by the Department of Public Works Environmental Division with support from the Kansas City District.

The 500-year flood event was very destructive and made it necessary for some emergency repairs along the creek bed at the remediation site.

The creek bed is called Dry Creek because the wide channel receives high flows during rain events but then drains out really quickly. During the extreme event the channel was flooded causing erosion to the streambanks and to the adjacent landfills.

Because of the damage at the creek and the danger from the remediation site, Fort Leonard Wood officials asked the Kansas City District Corps of Engineers to help them with the repairs.

"This critical action contract was awarded in three weeks due to the nature of the erosion that occurred to the landfills," said Kale Horton, project manager. "Another flood could have caused serious contamination of the creek."

The plan was to repair the stream, provide emergency cover to the landfills, and withstand a future flood event due to the location near the environmental remediation site.

There were issues using the previous design because the flood changed the dynamics of the channel and some enhancements were needed, said Horton.

A multi-disciplinary team was pulled together to develop the plan and make the repairs to the site taking into consideration all of the dynamics of the project.

"Repairs included 5,600 tons of riprap installed, 1,500 linear feet of channel was repaired, spur dikes were

installed, willow stakes installed and the bank erosion was repaired," said Horton.

The Corps' proposed repairs to the channel needed rock that matched particular specifications. In an effort to keep the costs down, they wanted to be able to locate the rock in the local area. The team was able to locate the rock at a quarry near Rolla, Mo.

The emergency repair project cost approximately \$550,000 and was turned around quickly due to the important nature of the environmental concerns.

The multi-disciplinary team consisted of Horton; Josh Hill, contracting specialist; Chris Halterman, contracting officer; Charlie Deitrick, geo-tech engineer; Anthony Hall, H&H engineer; Dickson Boadi, cost estimator; Brad Trost, environmental engineer; Mark Lenox, Fort Leonard Wood program manager; and Brenda Adams, geology team member.

"To get a project awarded in three weeks, especially a project of this complexity, is just amazing. There was hard work of the district team to make this happen," said Horton.

Everyone worked together on this one, including the contractor said Horton. They went out into the field with the team and scoped it out to determine how much rock was needed and make determinations on other aspects of the project.

"This was an environmental project but had team members assigned from other branches that are not typically involved with our civil works program and that don't usually work on environmental projects. I think it was a very positive experience to see us respond as one Kansas City District team," said Horton.

There is still some minor reseeding that is needed in the area but the major work is complete. The customers, including the Environmental DPW and Army Environmental Command, are very pleased with the work and the response effort.

The district will now go into phase 2 of the project which is design analysis to make sure that it will withstand future flood events.

The district continues to work with the remediation site as a long-term monitoring operation.

Meeting energy consumption goals improves lake facilities

By Diana McCoy

Sustainability has been a part of the culture of the U.S. Army Corps of Engineers since March 2002, but execution of the sustainability and energy requirements for the Kansas City District did not get underway until 2012. This was due to a lack of funding in the budget for investments in facility energy/water efficiency.

Nearly two years later, after receiving funding in 2012, several sustainability projects have been completed around operations projects, and the district is meeting its overall goal.

“The Corps of Engineers is tasked to reduce our energy usage for our goal subject stationary energy consumption in our buildings by 23 percent,” said Charles Hall,

the district’s operations sustainability coordinator. “Right now, because of what we did in 2012 as well as all the lake projects looking at ways to reduce energy, we’ve met that goal for our operating projects.”

The district is basing its energy consumption by 2008 numbers for usage of electricity, natural gas and propane.

Projects have been completed at Truman, Smithville, Rathbun, Long Branch, Melvern, Pomona, Stockton and Perry lakes. In 2014, two sustainability projects have been lined up—an insulation project at Hillsdale Lake and a solar panel project at Wilson Lake. Hall said he expects those projects to be completed around mid summer.

Smithville Lake is one of the biggest success stories for the district. Sustainability projects have caused energy consumption in the visitor center and administrative office to be reduced by about 50 percent.

“It was somewhat easier for us to cut down on our energy consumption here because we only have the visitor center, and we don’t have to manage campgrounds and multiple facilities like other lake projects do,” said Lora Vacca, the operations project manager for Smithville Lake.

The biggest project completed at Smithville was a partial window replacement of the second story windows. The old windows were 30 years old and had become leaky and drafty. Vacca said the quality of materials have improved significantly since the original windows were installed, and staff at the lake noticed an immediate improvement.

Other projects at Smithville include switching florescent bulbs to light-emitting diode, commonly known as LED lighting, which uses less electricity and far outlasts florescent lights; installing occupancy sensors, which is basically a motion detector that senses when someone walks into a room and causes the lights to automatically turn off and on; and the installation of a daylighting system.

The daylighting system is a sensor that can measure the amount of natural light coming into a room and adjusts the light fixtures accordingly.

Vacca hopes to continue with more sustainability projects at the visitor center as funding permits.

“Out of our energy audit, we did the things that had the best cost benefit,” said Vacca. “Our main thing was that we wanted to reduce our footprint. We hope to continue doing as many things as possible that will have a bigger impact down the road.”

Several sustainability projects have been completed at Harry S. Truman Lake as well. Jason Hurley, an environmental specialist at the project, oversees all of the endeavors.

“A lot of our projects to date have been lighting unit upgrades. We’ve also done HVAC (heating, ventilation, and air conditioning) upgrades, put a new roof on an office building, and completed some plumbing upgrades,” said Hurley.

Dennis Wallace, operations project manager at the lake, said the improvements have had an effect on employee morale.

“Not only do the new HVAC systems improve efficiency, we shouldn’t have any problems with long term maintenance for the next 15 years,” said Wallace. “We were able to get new lighting in a couple of our facilities. You don’t realize how convenient that is. The lighting was a great, great improvement.”

Many other projects have been completed



to include window frame repairs to the visitor center, Hi-R panel window and door replacements, skylights, window films, LED exterior lighting, super T8 interior lighting and tankless hot water heaters. According to Hall, the energy consumption at Truman Lake has been cut down to about 40 percent.

Like the Smithville Lake office, all of the lighting at Truman was upgraded with motion sensors on the lights and a daylighting system, and “smart” thermostats were installed to automatically adjust the temperature to heat up during the day when employees are present and lower overnight when the building is empty.

A project that’s currently in progress is the replacement of overhead doors in the maintenance building.

“We recently had an energy audit completed by an outside team, and we’re still waiting for the results on that audit,” said Hurley. “We had an internal audit done in 2011, but we were still considered a high energy user compared to the rest of the Corps.”

Hurley said they have multiple large buildings that require a significant amount of energy to operate and a large staff, so by nature, they are using a lot more energy. Also, technology has improved since the buildings were originally constructed.

Hall said the initial cost of sustainability improvements is expensive, but there is a payback after so many years—just as with any home improvement project.

To date, eight project offices in the district have completed 21 sustainability projects at a cost of just over \$1 million.

Lights around the Smithville Lake Visitor Center received an upgrade from fluorescent bulbs to LED bulbs. Photo by Amy Phillips

Contractors replace the lighting in the Harry S. Truman Lake Visitor Center. Photo by JD Kindle

Dusty Noland, an outside maintenance worker at Harry S. Truman Lake, installs an LED overhead light in the maintenance compound. Photo by JD Kindle



Whiteman AFB project complete

By Amy Phillips

The Kansas City District Whiteman Air Force Base project office has completed the construction of the 509th Force Support Squadron facility. A ribbon cutting ceremony was held on Nov. 13.

The approximately 12,000-square-foot facility will be an office building providing services to airman and their families, in/out processing, dependent information updates, sustainment operations, community services, manpower and personnel service, force development, and resource management.

The design-build military construction project, which started in the fall of 2012, was an approximately \$6 million contract which included several special features and a unique requirement from the Air Force.

"The customer required that we complete the project in one year and that goal was met," said Jeff Slater, project manager.

The contract was awarded on August 23, 2012, to Titan Construction Incorporated from Olathe, Kan., under a task order as a Multiple Award Task Order Contract for small businesses.

One of the special features was the use of precast technology.

"The construction of the exterior walls was precast panels that were constructed in Marshall, Mo.," said Stephanie Terry, office engineer/quality assurance representative for the Whiteman Air Force Base project office.

That meant that the panels were constructed at Core Slab's plant and then hauled to the site. The bricks were laid down and then concrete was placed on top of them.

"Another interesting feature in the facility was the use of the DIRTT wall system," said Kelly Eckhardt, contracting officer representative/quality assurance representative.

The DIRTT, Doing It Right This Time, system

makes it possible to move the walls around in case the building is ever repurposed and they need to relocate some of the walls.

"This is the first time that type of technology has been used at Whiteman," said Terry.

The building also has a special safety feature in case of severe weather that is available for the employees and customers of the facility.

"Another unique feature of the facility is that it has an interior shelter for severe weather for the occupants," said Terry.

The facility will receive Leadership in Energy & Environmental Design silver certification once construction is complete.

"The facility is operational but there is still some construction taking place on the outside of the building," said Terry.

Occupancy took place on September 30, 2013, even with some construction still ongoing.

"The Corps worked with the Air Force to complete the interior so that the offices could move into the facility and make it possible to begin other construction projects at the old locations," said Terry.

The 509th Force Support Squadron Commander, Maj. Chip Hollinger,

expressed his gratitude for the project during the ribbon-cutting ceremony.

"As a customer in this process, I am very grateful for the outstanding support from the Army Corps of Engineers, Titan Construction Incorporated, local contractors and the 509th CES," said Hollinger. "With their precise coordination, they facilitated a plan that permitted non-stop support to the mission and the customers we serve."

The final completion is projected for February of 2014.

Right: The contractor, Titan Construction Incorporated, placed the precast panels that were constructed at Core Slab's plant in Marshall, Mo. Photo by Stephanie Terry

Below: The 509th Force Support Squadron building was occupied in September 2013. The final completion date is projected for February 2014. Photo by Kelly Eckhardt



U.S. Air Force Brig. Gen. Thomas Bussiere, 509th Bomb Wing commander, right; Gary Shirley, base architect; Col. Christopher Darling, 509th Mission Support Group commander; Maj. Chip Hollinger, 509th Force Support Squadron commander; and Lt. Col. Aaron Wilt, 509th Civil Engineer Squadron commander, cut the ribbon for the 509th FSS building's grand opening at Whiteman Air Force Base, Mo., Nov. 13, 2013. U.S. Air Force. Photo by Airman 1st Class Keenan Berry/Released



District benefits from Handshake Partnership program

By Amy Phillips

The Corps of Engineers has a special program that was developed in 2004 for helping our lakes complete smaller projects that might not get funded otherwise.

The Handshake Partnership program allows Corps lakes to submit their projects for a grant of Corps money up to \$30,000 to complete projects around the lakes. The lakes have to complete the application process and describe their project and the benefits the project will have to the lake and its customers.

For the application process, you also have to pool your partners and outline the support that you will have for the project. Partners can be community members, schools, organizations or other government organizations that provide support to the projects.

"The partners can contribute money, in-kind services or supplies or materials for the project," said Scott Rice, natural resource specialist. "They get credit for the support that is provided."

Several of the lakes in the district have benefitted from the program in the past. For fiscal 2014, the Kansas City District has two projects that will benefit from the grant.

The approved projects for FY14 include an Old Mill Multi-Use Area kids fishing area and trail development at Stockton Lake and the Pomme de Terre Lake Archery Range.

Each year, the Corps approves \$300,000 worth of projects to benefit

from the program. There are usually 11 to 12 projects that get approved each year. For 2014, 13 projects were approved.

The Stockton Lake project will establish a one mile multi-use educational trail and a 4.5-acre kid's fishing/interpretive area. The area will be below Stockton Dam and will connect with the recently established Crabtree Cove Trail. Crabtree Cove was a previous project funded by the Handshake Partnership program.

"I believe the program means three things to projects within the district," said Brian Wright, natural resource manager at Stockton Lake. "It provides the opportunity to fund a project that might not otherwise come to fruition; the opportunity to work together with various agencies, groups and the community on a specific project that will benefit everyone involved; and, the opportunity to partner with those groups, agencies and the community to accomplish our mission objectives."

"The trail will serve as an opportunity to walk, run, bicycle, and fish and also serve as a method to display recreation opportunities on the lake and around the trails. It will expose children, who may not otherwise get the opportunity, to the sport of fishing and the enjoyment of the outdoors," said Wright.

The other project funded this year, an archery range at Pomme de Terre Lake, is a unique project as handshake money has never been used on this type of project before.

A bench is installed close to the Crabtree Cove Trail at Stockton Lake. The project was funded by the Handshake Partnership program. Photo by Brian Wright

The archery range will consist of a half-acre enclosed shooting area complete with a covered shelter, six shooting lanes and a parking lot designed to accommodate 10 to 15 vehicles.

"The archery range design and construction will adhere to all guidelines set forth by the National Field Archery Association and will utilize sustainable principles," according to the application.

The hope is that it will be used by local school archery clubs, educational clinics and hunter education classes. The range will be wheelchair accessible.

"The handshake grant is very important to our lakes because without it we don't get to complete projects like the archery range, and it really brings communities together to accomplish great goals," said Devin Holt, natural resource specialist at Pomme de Terre Lake.

Since the Handshake Partnership program began, the district has benefited from 12 projects totaling \$224,600.



The Stockton turbine runner arrives on a 20-axel, 124-tire tractor trailer. Photo by Rachel Graves



The 144-ton turbine runner is delivered via remote carrier to the Stockton Power House. Photo by David S. Kolarik



Pictured are several of the 17,200-pound stainless steel blades that will be attached to the turbine. A total of seven blades will surround the 144-ton turbine adding an additional 60 tons of weight for a grand total of 204 tons.

Photo by David S. Kolarik

Stockton Runner set for major victory

By David S. Kolarik

A 144-ton “runner” recently tread 50 miles in about four hours beginning at the Burlington Northern Santa Fe rail yard in Springfield, Mo., and ending its epic journey at the Stockton Lake powerhouse.

“It’s finally here, yeah. Everybody was kind of relieved and glad to see it coming down the road,” said Rod Hendricks, operations project manager for the U.S. Army Corps of Engineers at Stockton Lake.

However, this massive runner was escorted by a 20-axle, 124 tire tractor trailer essential for the safe transport to its final destination as it prepares for perhaps its most important marathon of all.

After more than four years of intense work by a host of different agencies, the 144-ton Stockton turbine runner has found its home at the Stockton Lake Project.

According to Bruce Pettus, the Incident Management coordinator with the Missouri Department of Transportation’s Southwest Region, the movement of oversize loads through Missouri occurs every day and likely appears seamless to most, yet actually requires a lot of planning and coordination by different agencies and the carriers. MoDOT Motor Carrier Services is the key to ensuring these movements go smoothly. They verify the safe routes and issue permits in coordination with the Missouri State Highway Patrol.

This particular move posed numerous challenges simply due to the runner’s enormous height and weight. Pettus worked with the carrier as well as the Corps of Engineers to make sure the roadway was clear for the safe movement. Weather conditions also played a significant role in the delay of the movement.

“It’s a great accomplishment to get this turbine runner on site and get the plant back in service, hopefully this summer,” said Pete Hentschel, chief of the Maintenance Engineering section for the U.S. Army Corps of Engineers.

The Hydroelectric Power Plant is located in south central Missouri in Stockton. Authorized under the 1944 Flood Control Act, it is one of 24 hydroelectric plants included within the grid of hydroelectric power marketed through the U. S. Department of Energy, Southwestern Power Administration.

The Stockton Power Plant was placed in service in 1973. Rated at 45-megawatts, the plant provides \$8.3 million average annual energy benefits. There is 55,000,000 kilowatt-hour of average annual energy produced by the Stockton Power Plant.

Aging infrastructure and operational challenges, including the failure of one of the blades in February 2009, made the upgrades to this plant eligible for American Recovery and Reinvestment Act funds. In April 2010, a contract was awarded to Voith Hydro, Inc., for \$30.8 million to replace the turbine runner, rewind the generator, upgrade the governor system, and replace the excitation system. Supplemental funding of an additional \$6 million was provided by the Southwestern Power Administration for additional upgrades to the plant.

“We wouldn’t have got the full power plant rehabbed, probably would have just got the blade repaired and done some minor work to get us by for a while, so it was a great benefit for this project to receive those funds,” said Hentschel.

Robin Wankum, Stockton Turbine Replacement project manager said that upon commissioning of the new turbine runner, the plant’s new rated capacity will improve from 45 megawatts to 52 MW. With the amplified megawatts, the plant will operate with increased efficiency while utilizing less water to generate the 52 MW.

The U.S. Army Corps of Engineers is the largest producer of hydropower in the United States representing 24 percent of total U.S. hydro capability. Additionally, hydropower is the largest renewable energy source which offsets greenhouse gas emissions.

“Voith Hydro’s success in executing the Stockton project has been greatly facilitated by strong collaboration among the USACE, other state and federal agencies, and Voith Hydro,” said Voith Hydro Program Manager Rick Titmore. “Voith Hydro looks forward to the project’s completion which will then support increased supply of clean and low-cost hydropower to thousands of homes and businesses across Missouri.”

Current energy production at Stockton offsets the use of 29,400 tons of coal, 101,475 barrels of oil, or 440,000,000 cubic feet of natural gas annually.

The energy generated from the Stockton Power Plant is sold to SWPA who then markets the power to six states including: Arkansas, Kansas, Louisiana, Missouri, Oklahoma and Texas. SWPA’s customers include 22 cooperatives, 78 municipalities, three military bases – totaling more than 8,000,000 end users. Of that, Stockton Power Plant provides power to more than 2,644,000 end-users throughout the state of Missouri.

Approximately 130 jobs are estimated to be associated with this project.



Kansas City District

STEM efforts

By Amy Phillips

The U.S. Army Corps of Engineers, Kansas City District has taken the Science, Technology, Engineering and Mathematics efforts very seriously as they reach out to schools and organizations in an effort to inspire and inform the community about STEM by offering different informational booths and activities at several events.

When Lt. Gen. Thomas P. Bostick visited the district in November, he discussed how important of an initiative it is to our organization to prepare our workforce to be agile leaders to operate in the Army's complex environment.

"As a nation, when it comes to engineers, for every 100 college graduates, four are engineers," Bostick pointed out.

Because of the decline in STEM degree seekers, USACE is developing partnerships with schools and organizations to encourage students and show them that engineering can be a fun career choice.

The Fort Leonard Wood area office partnered with the Waynesville School District on several occasions to allow students the opportunity to ask questions, receive handouts, watch videos, demonstrations and attend sessions on specific topics. One of these events was held on Oct. 26, 2013, with the first STEM expo held at the Waynesville High School.

The Tomorrow Engineers' participants volunteered in mechanical advantage by means of the pulley system, teaching about aerodynamics using model planes, and by presenting the different types of engineering in 45 minute mini sessions.

The district is reaching out to schools and forming partnerships in an effort to engage with students and teachers. The Fort Leonard Wood Area Office continues to partner with the Waynesville School District to promote STEM activities through its "Tomorrows Engineers" program.

There is also a partnership agreement between the Kansas City District and the American Council of Engineering Companies to promote outreach and encouragement of engineering education and involvement of youth.

The Fort Leonard Wood staff is also working with 3rd to 5th graders in the Odyssey of the Mind Club. They are helping students to develop projects that will then be presented in regional and state tournaments in spring of 2014.

STEM efforts will continue to be a focus area for the Kansas City District, USACE and the Army as a whole.

As Bostick encouraged during the town hall meeting, "We have a role in inspiring and encouraging in one of the STEM areas to help shape the workforce of the future."

Members of the Fort Leonard Wood Area Office volunteer at the Waynesville School District STEM expo on October 26, 2013.
Photos provided by Sandra Wolfe

Inset: A student watches a pulley system demonstration at the STEM expo held in October at the Waynesville School District.

The winds of change

By Diana McCoy

At a lake project that boasts of wind surfing, sailing, kite boarding and scale model airplane flying, a wind turbine makes a lot of sense—especially if it can provide for all the energy needs at its administration building.

After the U.S. Army Corps of Engineers Headquarters came out with its sustainability and “green” initiatives, management at the Wilson Lake Project Office thought the best way to support those initiatives would be to install a wind turbine.

“It was looked upon favorably by Headquarters,” said Daniel Hays, operations project manager at Wilson Lake. “We did have wind turbines in the early ‘90s. We had two. But technology wasn’t what it is today, and the maintenance on them was quite cumbersome.”

The power generated by the wind turbines was sold back to the rural electric company at the wholesale rate of 3¢ per kilowatt hour, and the project was buying it back for about 8-9¢ per kilowatt hour.

With technology improving since the 1990s, management discussed wind power during the American Recovery and Reinvestment Act stimulus period as a means of supporting infrastructure investment and energy efficiency.

“A package was prepared, and OD-TM helped us with a wind efficiency study to help us understand if there was enough wind at Wilson to make it cost effective to construct a wind turbine,” said Hays. “Even though the result of the study was favorable, we weren’t able to secure funding during the ARRA period.”

When funding for sustainability was added to the Corps of Engineers’ budget in 2012, management saw their opportunity to revisit a wind turbine at the lake project. As they started researching the wind turbine industry, they found that the placement and size of the wind turbine was important to the cost of the project.

Hays said they learned that every foot they placed the unit away from the administration building, the

higher the cost would be for the project. Also, standard sized, “off the shelf” wind turbines are available, but none of those would meet the needs of the administration building.

“The issue is that the administration building is located on the downstream portion of the embankment, which is sheltered from the wind,” said Hays. The ideal spot would be on top of the embankment, but placing the wind turbine so far away from the building causes the cost effectiveness of the project to plummet.”

Hays said with this new information, they have shifted gears away from a wind turbine and are now focusing on solar panels, or a solar voltaic system. It will be much easier to size the unit for their energy needs.

“It becomes a matter of adding or subtracting a few panels,” said Hays.

They have reached out to Science Applications International Corporation, a subcontractor to the Defense Logistics Agency, who is gathering proposals from vendors. Hays hopes to have a site visit scheduled in the near future so that vendors can take a look at the facility and ready their proposals.

Finding an ideal spot for the placement of the solar panels will be much easier than the placement of a wind turbine.

The solar array could be mounted on the ground or on the roof of the administration facility or any of the other existing buildings.

“It seems the experts are supporting this project and really feel that solar is the way to go,” said Hays. “I see wind at this point as being quite unlikely.”

The intent of the solar system is to make the administration building completely self-sufficient when it comes to energy. The current heating system runs on propane, and with the switch to solar, it could be possible to change from propane to electric.

Wind at Wilson Lake is in steady demand, but experts believe a different source of energy would be more cost effective when it comes to providing power to the administration facility. Photos provided



Special tools for special jobs

By Diana McCoy

The U.S. Army Corps of Engineers does many interesting things every day to solve the nation's problems. Sometimes these tasks require the use of special tools—tools that are pretty fun to operate. One person in the Operations Division has the task of managing these special tools.

Allen Stratton is the special tools team coordinator for the Kansas City District. He and 14 other people are trained in the use of the tools, which are stored at lake project offices around the district.

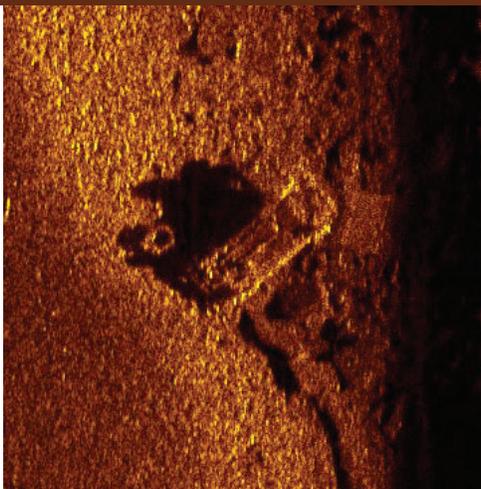
"When you need to look at your problem from a different point of view, our specialized inspection tools can be used to gain a new perspective about the size, location and source of some problems," said Stratton. "Our machines can document difficult to view areas, reduce human risk and limit the need for exploration in maintenance or service contracts."

Stratton said that by owning these tools and using them on our own civil works projects, it saves the district about 70 percent of the cost it would take to contract these services out.

"There's been a lot of interest in our tools lately because of budget constraints," said Stratton. "Anytime we can do it ourselves it saves us money."

There are two underwater remotely operated vehicles, otherwise known as ROVs. One is kept at Tuttle Creek Lake and the other at Stockton Lake. They are used for the visual inspection of underwater structural features at lake projects such as trash racks, sill plates, gates and concrete.

"Recently, we used the ROV at Tuttle Creek to re-inspect a drainage conduit that had been patched because of a leak," said Stratton. "We determined through the use of the ROV that we didn't need to hire



Screen shot of a scan from the side-scan sonar. It depicts a submerged vehicle which was found upside down in Tuttle Creek Lake. Several stolen vehicles have been found using the sonar. Photo courtesy of Allen Stratton

a dive team for a more thorough inspection. There was very little, if any, flow getting around the patch."

The pipe inspection crawler is kept at Smithville Lake and gets the most use out of all the special tools. It helps engineers determine the condition of concrete joints, locate debris in conduits, and monitor corrosion.

One of the places the crawler was used recently was at Kanopolis Lake. The use of the tool helped determine the condition of a 50-year-old system by noting areas of deterioration and potential problem areas.

Stratton said they videotaped the entire system for future point of reference in tracking corrosion.

The third tool, the side-scan sonar, is used for identifying things in the water.

"It looks like a giant missile, which is hooked up to a boat and dragged behind it in the water," said Stratton. "It is stored at Tuttle Creek Lake."

The side-scan sonar aids in the search for underwater features. It can identify underwater sloughs and underwater obstructions. It can also locate sunken habitat and identify severe concrete damage.

The side-scan sonar has been used for several things, but finding stolen vehicles submerged in water seems to be a recurring event.

Brian McNulty uses the side scan sonar the most and has found several vehicles just off the boat ramp at Tuttle Creek Lake. Usually when lake levels go down and the water is shallow enough, boats will start to run into them.

"We got a request from the Pottawatomie County Sheriff to look for a stolen vehicle in the river downstream of the lake," said McNulty. "We found it almost immediately."

He also said they have used it to search for drowning victims.

Other districts have benefitted from the use of this special equipment as well. The side scan sonar was used at the John Redmond Lake in the Tulsa District.

"The side-scan sonar was used at Gavins Point Dam to find trash that had been sucked into their trash gates upstream of the power plant," said Stratton. "The pipe crawler was used in the St. Paul District to help inspect some of the levees they had never been able to get through before."

Stratton said he is planning to hold training sometime in the spring as a refresher for individuals who are already trained on it, and he is hoping to garner interest from people who are new to the equipment. Some of the people who were trained in the past have retired, and Stratton and McNulty would like to get the "younger generation folks" who are more tech savvy involved in using the equipment.

"We're going to present it to the attendees of the Park Ranger/Natural Resource Management Workshop and drum up interest in developing more operators for the equipment," said McNulty.

Winter visitors at district lakes

By Amy Phillips

When winter sets in, the lakes in the Kansas City District have fewer visitors but they become home to several migratory birds seeking warmer temperatures.

When it is warm, the lake is busy with visitors skiing, boating, and other recreation activities. But with the still of the water in the winter months, you can see white birds covering the lakes and ducks and geese floating in bliss.

There is the occasional bald eagle and people come from miles away to view the visiting birds.

January is the month that several of the lakes in the district hold their annual eagle day events. Lakes that typically hold eagle day events include: Clinton, Perry, Milford, Smithville, Stockton, Truman and Tuttle Creek lakes.

When the mission started years ago, the bald eagle was on the endangered species list. "It started as a response to provide quality wildlife habitat to our nation's symbol," said Mike Watkins, wildlife biologist.

The Kansas City District has 12 lakes with nesting populations. During the winter months, there are 2,000 to 3,000 eagles in Kansas and 3,000 to 4,000 eagles in Missouri. The eagles come to the area during this time of year due to the movement of their main food sources during the winter months.

The types of birds that are typically seen in the area during the winter months include: waterfowl, snow geese, Canadian Geese, Great Horned Owl, snowy owls, Whooping Cranes and eagles.

In 2011, there was a large invasion of snowy owls in the lower 48 states and a significant number of the birds ended up spending several days/weeks at the lake projects in the Kansas City District, said Mike Watkins, wildlife biologist.

There has been a significant influx of the snowy owls again this year with confirmed reports at Smithville and Long Branch and a possible sighting at Milford Lake.

Snowy owls are very beautiful, white birds with golden eyes. The average owl is about two feet in height and weighs about four pounds. They live on average about 9 ½ years in the wild. The male is whiter than the female.

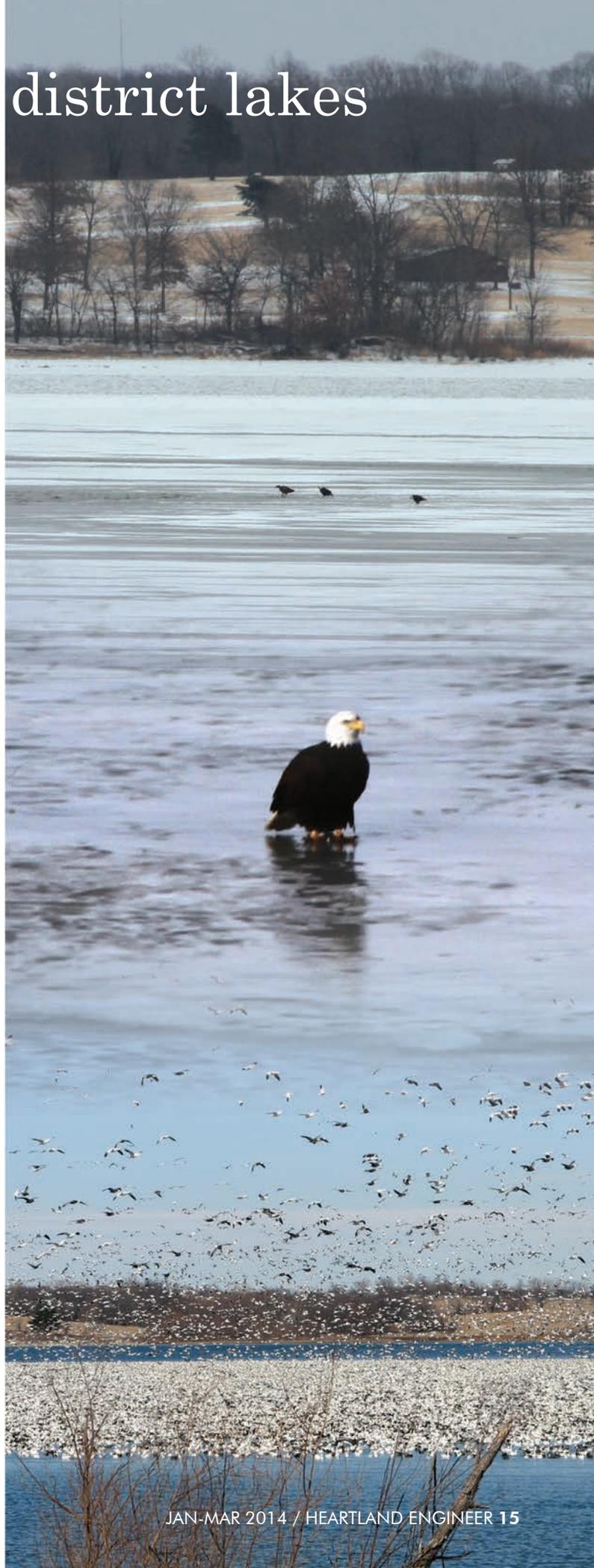
It is also this time of year that the Great Horned Owl makes an appearance at the area lakes. In 2012, a young horned owl, named Tutt, was rescued at Tuttle Creek Lake. This year, it has been reported that there are again Great Horned Owls in the same area around the lake.

These birds are protected by the Migratory Bird Treaty Act.

Smithville Lake has many migratory visitors this time of year. The bald eagles, pictured sitting on the ice, is just one of the many migratory birds that can be found at the area lakes. Photo by Amy Phillips

A bald eagle sits on the ice at Milford Lake in December. Photo by Amy Phillips

During the winter months, snow geese, like these, can be found at the area lakes. These were some of the migratory visitors at Smithville Lake. Photo by Derek Dorsey



Missouri River Habitat Restoration in Kansas Benedictine Bottoms

By the Missouri River Recovery Program

The Benedictine Bottoms Shallow Water Habitat Restoration Project, located near Atchison, Kan., is a component of the U.S. Army Corps of Engineers' overall Missouri River Recovery Program. The MRRP was established in 2007 by combining the Missouri River Bank Stabilization and Navigation Fish and Wildlife Mitigation Project and a Biological Opinion issued by the U.S. Fish and Wildlife Service in 2000 (amended in 2003). The restoration of SWH contributes toward meeting the requirements of the BiOp on the Operation of the Missouri River Main Stem Reservoir System, Operation and Maintenance of the Missouri River Bank Stabilization and Navigation Project, and Operation of the Kansas River Reservoir System.

The Corps' first major land acquisition of the Mitigation Project was the Benedictine Bottoms Site. The first land tract was acquired from willing sellers in 1993 and the second tract in 1994, providing a total of 2,138 acres of publicly available land. The Kansas Department of Wildlife Parks and Tourism is the Corps' onsite natural resource management agency partner. KDWP has completed the terrestrial habitat restoration at Benedictine Bottoms and conducts normal operation, maintenance activities and wildlife management on the site. Since those initial habitat restoration efforts were completed, the Corps has identified additional opportunities to restore SWH at the site.

The primary features of the project will include the construction of a single flow-through chute, an Independence Creek flow-through chute, secondary chute tiebacks, and bench cuts at Benedictine Bottoms. This project will result in approximately 33.7 acres of SWH at completion of construction; which should eventually develop to approximately 65 total acres of SWH through natural river processes.

Design Constraints

During project design and construction, the Corps must consider certain constraints that may limit or shape the final habitat restoration at each project. Identifying constraints ensures the Corps' habitat restoration efforts avoid adversely impacting other resources and maintain the social and economic benefits associated with the eight congressionally authorized purposes of the Missouri River. Benedictine Bottoms site constraints included: existing flood risk management systems (levees); navigation; and water supply. The Corps has given careful consideration in the design to maintain the existing level of flood risk management of nearby levee systems. Missouri River Levee System Unit 440-R, a federal levee unit owned, operated and maintained by Drainage District No. 15-45 of Atchison-Doniphan counties, runs through Benedictine Bottoms. The non-federal levee of the Rushville-Sugar Lake Levee Association and Platte County Drainage District No.1 is located across the river, opposite the project area.

With these units in place, the Corps has coordinated closely with these levee districts concerning the proposed design and findings. As authorized by Congress, the Corps maintains the navigation channel with a 9-foot depth on the lower Missouri River. To ensure the SWH restoration won't impede navigation, hydrographic inspections were completed prior to construction and will continue until the project is complete.

Water Quality Monitoring

Because the city of Atchison receives its water supply solely from the Missouri River, water quality monitoring is critical at Benedictine Bottoms during chute construction. The MRRP Water Quality Program will study any impacts of chute construction to water quality and bed sediment. Significant coordination and planning has occurred between the MRRP staff, the city of Atchison and the Atchison Water Treatment Plant to ensure that proper water quality monitoring efforts will take place and that the quality of municipal water is not negatively affected. Monitoring efforts include comparing bi-weekly nutrients, sediment, pesticide and metals samples collected from upstream and downstream of the project site, during active dredging. Similar monitoring efforts are in process, or planned, at other construction projects in cooperation with the U.S. Geological Survey.

To complete the chute at Benedictine Bottoms, a small business contract was awarded to Commercial Contractors Equipment, Incorporated based in Lincoln, Neb. Construction began in November 2013 and is estimated to be complete in the fall of 2014.

Benedictine Bottoms is situated between the MRRP sites of Elwood, a 1,417-acre site, and Dalbey Bottoms, a 1,601-acre site. Combined, these three wildlife areas span nearly 5,156 acres in close proximity to each other providing major blocks of important fish and wildlife habitat in Kansas. Additionally, these project sites provide high quality recreation opportunities for local wildlife enthusiasts and those from the major metropolitan areas to hunt, fish, hike and view wildlife.

*Learn more about Benedictine Bottoms online: <http://www.youtube.com/watch?v=frW4Uk1vRrE>.

Benedictine Bottoms Shallow Water Habitat Restoration Project, pictured, is located near Atchison, Kan. Photo provided by the Missouri River Recover Program

SAME conference provides opportunities for veterans

By Amy Phillips

On November 19, the Kansas City District U.S. Army Corps of Engineers participated in the 2013 Hiring Our Heroes Veterans Event – Building Futures at the Kansas City Convention Center. The career fair focused on engineering, construction, architecture, environmental and related service providers seeking to hire qualified veterans and military spouses.

The event was hosted by the Society of American Military Engineers. More than 60 interested veterans and spouses visited the booth to get information about the Corps and the hiring process. Staff from the district Civilian Personnel Advisory Center along with other district employees manned the booth at the SAME conference.

“The Corps staff did a good job of engaging the job seekers, signing them up and explaining to them what jobs may be available,” said Kevin Lynch, claims manager for the Construction Support Branch.

The SAME Small Business Conference for Department of Defense Engineering, Construction and Environmental programs is held annually, and USACE participates in the event. This year the conference was held at the Kansas City Convention Center from Nov. 19 through 21.

“USACE leads a multi-billion dollar Small Business Program, and has educated and interfaced with small firms at an annual Small Business Conference for the past 17 years,” said Arthur Saulsberry deputy for the Office of Small Business Programs.

“Specific goals are to communicate small business and contracting policy and procedures, educate small firms on how to do business with USACE, and provide information about upcoming USACE programs, projects and contract opportunities,” said Saulsberry.



Kansas City District employees work at one of the district's booths at the SAME Small Business Conference on Nov. 20, 2013. The district had several booths set up at the event to include one for the Hiring Our Heroes Veterans Event. Photo by Jennie Wilson

The Hiring our Heroes program was one of the many outreach booths designed to communicate forecasts and small business opportunities at the division, district and center levels through briefing sessions, networking throughout the conference, networking counseling sessions and other luncheons.

According to the website, “Hiring Our Heroes is a program of the U.S. Chamber of Commerce Foundation. The program was launched in March 2011 as a nationwide initiative to help veterans, transitioning service members, and military spouses find meaningful employment. The group works with the U.S. Chamber of Commerce’s vast network of state and local chambers and other strategic partners from the public, private, and non-profit sectors. They have a goal to create a movement across America in hundreds of communities where veterans and military families return every day. They have hosted more than 650 hiring fairs in all 50 states, Puerto Rico, and the District of Columbia. Through June 30th, 2013 – 21,600 veterans and military spouses had obtained jobs.”

For more information on the program, visit the website at hiringourheroes.org.

USACE civilians introduced to Army life

Story and photos by
Dawn Arden, assistant editor, *Guidon*

The U. S. Army Corps of Engineers conducted their annual Leadership Development Program training Dec. 4 through 5, using various ranges and training areas throughout Fort Leonard Wood.

This program was developed by USACE to give their civilian employees an introduction to Army culture as well as leadership training, but it actually goes further than that, it also gives them a better understanding of the importance of their jobs and just where they fit into the big picture.

"This is an annual event sponsored by the Kansas City District. The intent is to provide the LDP participants with a team building exercise while introducing them to the Army experience, so they can better support the Corps of Engineers," said Capt. Garrett Haddad, USACE project engineer. "Annually, we conduct this program bringing down civilian employees from the Kansas City District and introduce them to Army culture, as well as leadership training."

Robert Johnson, Kansas City district USACE contract specialist and program participant, came to USACE from the Marine Corps and said this program is helping him feel more of a connection to the Army.

"We have class every month, we have books to read, reports to write, mentoring sessions and shadowing sessions," Johnson said. "It's making me understand leadership a little better, and I think my favorite part about the program so far has been the self-reflection that we have to do

to understand who we are as a person, as an employee and as a potential leader."

The annual trip to Fort Leonard Wood is the kickoff to the program every year, bringing the group together with the exercises before they continue on.

"The Army recognizes the importance of leadership training," said Jill Fraley, USACE Kansas City program coordinator. "Typically I'll see 30 applicants a year, this year we only took eight because of budget concerns. We also try to take from across the various programs in the district to make sure it's diverse."

Corps employees conducted training on Range 31 (the Grenade Assault Course), Engagement Skills Trainer, TA 136 (Rappel Wall), TA137 (Leader Development Course), and the Shoot House on Range 33.

According to Haddad, also on their agenda was a museum tour to talk about the history of

Members of the Kansas City District's LDP receive instruction on the Grenade Range during the visit to Fort Leonard Wood.

Photos by Jill Fraley

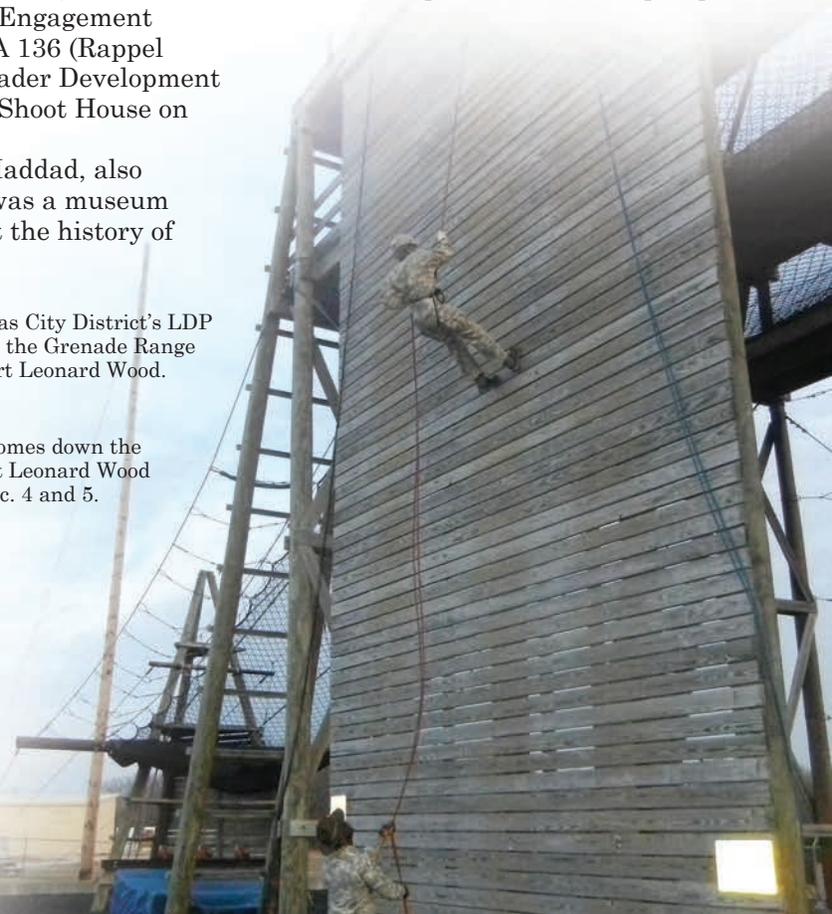
An LDP participant comes down the Rappel Tower at Fort Leonard Wood during training on Dec. 4 and 5.



the Engineers and the history of the Corps of Engineers giving them a better understanding of the evolution of the Engineers throughout history.

"It's not every day you get into a program whose sole objective is to make you a better person," said Brian Thompson, USACE park ranger and program participant. "Teambuilding, getting to encourage other people, have other people encourage you and having a better understanding of the Army way of life, which is what we do — we serve the Army with the Corps of Engineers as civilian contractors."

The group's next trip will be out to Washington, D.C. in the spring.



CHIEF OF ENGINEERS COIN PRESENTATION

Carol Lammering	Pauline Lehman	Kale Horton
David Best	Dale Bestgen	David Hoover
Molly Boughan	James Childers	Jimmie Pulliam
John Shelley	Patti Richardson	Cody Wheeler
Kacy Campbell-Patti	Karen Turner	Matt Beckman

2013 USACE CP-18 JOURNEYMAN OF THE YEAR

Joshua Lix

NWK VE TEAM

FY13 DOD Value Engineering Achievement Award -Category: Organization.

COIN PRESENTATIONS

NWK Fairfax BPU Structural Modification Team

Dave Roberts - Cost Engineering
Ron Jansen - Civil Engineering
Clint Mason- Structural Engineering
Jim Mehnert - Geotechnical Engineering
Paul Muller- AED Reachback
Jennifer Sciarra - Civil Engineering

Engineering Technical Lead for Fairfax BPU

Eddie Fernandez

Managers Internal Control Program

Lelani Banks

ARMY ACHIEVEMENT MEDAL FOR CIVILIAN SERVICE

David Hoover for support of the design and construction contract award for Jameson Island shallow water habitat project.

Scott Mensing as the technical lead and project manager for a number of in-house design and construction teams for the Turkey Creek Flood Damage Reduction Project.

Kristine Stein as the project manager for the Former Naval Ammunition Depot.

ARMY COMMANDER'S AWARD FOR CIVILIAN SERVICE

David Manka for his contributions to NWD from July 2012 to Oct. 2013 as senior regional construction engineer.

ARMY SUPERIOR CIVILIAN SERVICE AWARD

Eric Lynn as the acting project manager for the NWK levees system Phase 1 design and construction, and Phase II feasibility study; the Missouri River Levee System and the Topeka Levee System.

Eric Omundson as the program manager for Reachback Afghan National Security Force projects.

Kelly Miller as the project manager in Afghanistan in Support of Operation Enduring Freedom. Miller also received the USACE Afghanistan Engineer District Civilian Combat Service Pin.

Thomas Graff as the senior program manager in Afghanistan in support of Operation Enduring Freedom.

Crane operators work with divers to remove a heat exchanger from Long Branch Lake during a two day project in early December to repair the unit. The project is on-going. Photo by Allen Stratton

Smithville Lake held their annual managed deer hunt in November. Photo by Trisha Dorsey

Around the District

Lt. Gen. Thomas P. Bostick visited the district in November to attend the Annual Society of Military Engineers conference and conduct a town hall with district employees. Photo by Jennie Wilson

Don Cleaver, Mitch Green, Jim Dickerson and Arlo Rupke (left to right) assist with removal of carp from the Longview Stilling Basin during the November periodic inspection. Photo by Allen Stratton

