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Engineer Update

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Corps team deploys to Africa flood

By Torrie McAllister
Europe District

A team of six dam safety and water management experts from the U.S. Army Corps of Engineers has deployed to southern Africa to support the U.S. European Command's Joint Task Force (JTF) Operation Atlas Response. The JTF is supporting the U.S. government's humanitarian aid efforts to the governments of Mozambique, Botswana, South Africa, and Zimbabwe in the wake of severe floods in the region.

The Corps' technical experts are advising the JTF and host nation officials on predictive flooding analysis and modeling. They are assessing dam safety and the potential impact on flooding of various rates of water release at hydroelectric dams on the Zambesi River.

The members of the Corps' African Response Force team are:

- Lee Campbell from North Atlantic Division's International Affairs Office. Campbell is the team leader.
- Andrea Shoulders, a geotechnical engineer from Europe District.
- Tim McClesky, a dam safety specialist from Nashville District.
- Mark Phillips, a hydrologist from Pittsburgh District.



The Corps' African Response Force assessed the Lake Cahora Bassa dam in Mozambique. (Photo courtesy of Europe District)

- Mark Jourdan, a civil engineer from the Engineering Research and Development Center (ERDC).
- William Roland, a tele-engineering expert from the Waterways Experiment Station.

The team visited Lake Cahora Bassa Dam in Mozambique on March 17-18 to look at the structural integrity of the dam, provide hydraulic modeling of the flood plain, and recommend release rates.

"The dam is in very good working order with no signs of any problems," said Campbell. "It was professionally operated and administered. The dam displays no signs of having problems in the near future."

The team is also planning to travel to Kariba Dam upriver in Zimbabwe to analyze the potential impact of water releases in Mozambique.

The team is equipped with tele-engineering technology, which Europe District uses to support military operations throughout Europe. Using real-time satellite communications and video teleconferencing, the Corps' small emergency response team in Africa can consult with world-renowned scientists and engineers at ERDC's Coastal and Hydraulics Laboratory all the way back in Vicksburg, Miss.

The team uses portable equipment to transmit data, photos, and live video of the conditions they encounter in the field. Experts at the hydraulics laboratory, using the latest in specialized equipment, can tap the Corps' computer modeling capabilities and provide their analysis.

The Coastal and Hydraulics Laboratory conducts research on flood control methods and structures to help redirect floodwaters as part of the Corps' civil works mission.

Contractor averts ecological disaster

By Dr. Fred-Otto Egeler
Los Angeles District

On Feb. 28 a double-trailer tanker truck carrying almost 8,000 gallons of diesel and light crude oil slid off a mountain road and crashed into one of the most sensitive wildlife habitats in Ventura County, Calif. Workers from Ogden Constructors, Inc., a U.S. Army Corps of Engineers contractor working in the area, sprang into action and helped avert an ecological disaster.

When the truck slammed into the ravine within yards of Santa Paula Creek, the tank trailers burst open, spilling what is thought to be thousands of gallons of crude oil into the creek. There it combined with storm runoff from the Las Padres National Forest leaving boulders, sandy shores, and willows along the creek covered with the crude oil. The stench of oil could be smelled for miles as it flowed down the creek toward the Santa Clara River.

"Shortly after the accident, a local petroleum company foreman drove onto our rockcrusher site near the junction of the creek and the Santa Clara

River, and notified our people that the spill had taken place and was headed our way," said Geno Jorgensen, senior project manager for Ogden Constructors, who have been working on Santa Paula Creek improvements since last April.

"This was our first experience with an oil slick," said Jorgensen. "John Kay, general superintendent, and I determined that we needed to do something to keep the oil from reaching the Santa Clara River. We had equipment in the creek 10 minutes after we were told about it and began building three earthen berms/underflow dams. The underflow dams have metal pipes through the bottom of them. Water flows under the dam and the oil stays on top of the water where it can be recovered. Unfortunately, some of the oil has seeped around our diversion dams, but local and state officials are hard at work capturing and cleaning it up.

"It was just luck that we were there, because we haven't been working in the creek the last three weeks because of the rains," Jorgensen continued. "We were crushing rock, getting ready



Ogden Constructors workers build a hasty berm across Santa Paula Creek. (Photo courtesy of Los Angeles District)

to place it, along with other river rock, to form grouted riprap along the banks of the Santa Paula Creek. We're building a flood control channel for the Corps of Engineers along 1.6 miles of the creek. We are also cleaning out 1.2 million tons of debris, placing the riprap along the slopes and building an access road into the creek and do-

ing some extensive landscaping.

"It was just fortunate that we were working when the spill happened, and we were glad to be able to help prevent or limit the loss of habitat for the least Bell's vireos and the willow flycatcher, both of which are on the threatened or endangered species list," Jorgensen concluded.

Insights

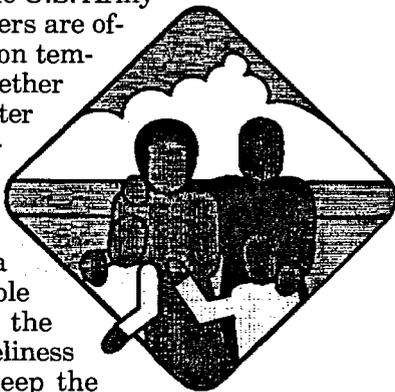
Hearts linked across the miles

By Lt. Col.(P) Tim Carlson
U.S. Army Corps of Engineers Chaplain

This edition of "Insights" is a little different. I didn't write most of it; my family did.

I've been thinking about families and how they are often the forgotten factor in the military equation. The attitude used to be, "If the Army wanted you to have a wife, they'd have issued you one!" That attitude has almost totally changed in this era, but the sacrifices that government families make are still often unrecognized.

Members of the U.S. Army Corps of Engineers are often deployed or on temporary duty. Whether one is a green-suiter or an Army civilian, those whom we leave behind, whether it's for a few days or a whole year, often bear the hardships of loneliness and trying to keep the home together with one member missing.



Back in 1986, my wife and six children lived on a farm in Beresford, S.D., while I attended the six-month Chaplains' Advanced Course at Fort Monmouth, N.J. This time became a seedbed for special reflections about being apart. Some poems which they wrote during that time inspired this month's "Insights" column, and I'd like to share them with you.

My second daughter, now Mrs. Elnora Lee Carlson

White, wrote the first one at the age of 11. My wife, Judy, wrote the other three. Together they give some perspective on what a family goes through while their soldier or Army civilian is away on government business.

I think you will easily identify with many of the feelings they express. I also hope that, as you read them, you will experience your own appreciation and affection for those special and dear who you must leave from time-to-time.

"Missing Daddy T."

Who will call me Norlaty,
And Anna, Dolly Cutie Poopie Pie?
Who will call Mom, Momma Jude,
And who will eat up all our food?
Who will call Kristian, Creast?
When Mom said stop, then it ceased!
Who will call Libby, Libabib,
And laugh at Anna in her crib?
Who will call Alida, Al-di-lida?
When most of us just call her Lida.
Who will call Nels Bubba Dee?
It happens to be our Daddy T!

"The Journey"

My love has gone on a journey long,
And with him my soul, my breath, and my song.
My love has gone on a journey brief,
With half o' my heart my lover, the thief.
My love has gone on a journey foul,
With foxholes and brambles and animal howls
To thwart and to frighten, to lengthen his passage,
To make it a journey that threatens our cottage.
My love has gone on a journey fair.

And with him I go, my spirit to share.
To pick for him flowers and follow the hart.
E'en tho' in my body I ne'er shall depart.
My love has gone on a journey long.
And with him I send my breath and my song.
We'll journey together, my lover and I,
With destiny near we'll meet by-and-by.

"Season of Sadness, Bed of Tears"

I do not feel his shoulder strong
But just pretend as I touch my own.
I do not feel his breathing fine
Nor his fair face pressed close to mine.
I do not touch his sleeping crown
But a lifeless thing of feather down.
I do not love him in the night
A hearty mix of knave and knight.
I do not hear his tender voice
But know by grace I am his choice.
I do not feel him by my side
But shall not fear; I am his bride.

"Yearning"

As one yearns for springtime, I'm yearning for you.
As summer's seduction, as winter's reflection,
As daybreak's injunction, I'm yearning.
Breath catching, heart skipping,
Face flushing, I'm yearning.
As one yearns for heaven, I'm yearning for you,
As autumn's cajoling, as twilight's beholding,
As sunset's unfolding, I'm yearning.
He comes, my beloved; he cometh to me.
The rush of all seasons, my husband is he!

Earth Day celebrates 30th anniversary

Earth Day 2000, on April 22, will mark the 30th anniversary of an international grass-roots effort to increase awareness of the Earth's limited natural resources and the need to clean up and protect our environment. Earth Day 2000 will also mark the first observance of this effort in this century. The health and well-being of our nation's people, our natural resources and of the planet as a whole will certainly be one of the greatest challenges of the new millennium.

This year's Army Earth Day theme is "Preserving the Past, Protecting the Future." This theme appropriately supports the concept and spirit of Earth Day 2000 by focusing on the progress that the Army has made in managing the environment and providing stewardship of the natural and cultural resources entrusted to our care. Preserving and protecting the environment is integral to the Army's mission of defending our national security, and providing for the well being of this and future generations. As stewards of our nation's natural resources, we are committed to maintaining healthy and sustainable environments – the foundation of the American dream.

We have established partnerships in both the pub-

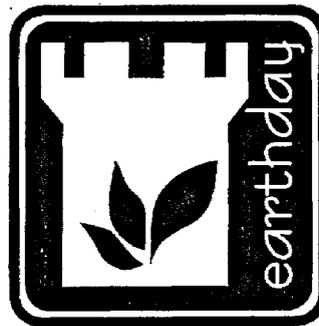
lic and private sectors to protect the health and safety of our communities on and around our installations and water resources projects. We are actively engaged in partnerships that are creating "Livable Communities" across the nation. Earth Day 2000 prompts us to make pledges to strengthen existing relationships and to establish new ones to accomplish those environmental priorities. In this effort, particular attention is encouraged to further develop relationships with young people who will inherit the future.

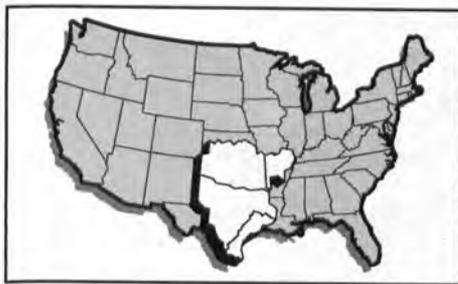
Though we are called upon to join our neighbors in the grassroots activities such as clean-ups, recycling and pollution prevention campaigns that are in our own backyards, Earth Day 2000 reminds us

that protecting and preserving land, air, and water goes beyond our homes and workplaces. Earth Day represents the commitment and significant investment this nation and more than 140 other countries around the world have made toward positive environmental security. We all succeed by meeting or exceeding compliance with all environmental laws, restoring previously contaminated sites, preventing pollution by reducing or eliminating it, and conserving natural and cultural resources.

Each member of the Corps of Engineers should embrace Earth Day as an opportunity to showcase our successes in preserving our environment and accomplishing our mission. It is important to remember that Earth Day 2000 represents more than just a one-day event. I encourage each of you be involved in Earth Day 2000 activities on April 22 and every day. It exemplifies our commitment to ensuring protection of the environment entrusted to our care – as an investment in our children, our future, and our nation's security.

JOE N. BALLARD
Lieutenant General, U.S. Army
Commander





Focus on Southwestern Division

Fort Worth, Galveston, Little Rock, Tulsa

SWD's regional team opens 'One Door'

by Rhonda James
Southwestern Division

Southwestern Division, headquartered in Dallas, Texas, has served the Southwest and the nation since 1937 by overseeing hundreds of water resources development, and military design and construction projects.

Brig. Gen. Edwin Arnold Jr. commands SWD with its nearly \$1 billion in total programs, and leads a work force of about 2,900 civilian employees and 17 military personnel.

Although work is executed through four district offices in Little Rock, Ark.; Tulsa, Okla.; Fort Worth and Galveston, Texas, the division operates on a regional philosophy. No matter which district a customer deals with, the resources of all districts are available to them.

"This provides seamless access to Corps' resources for all our customers and truly opens 'One Door to the Corps,'" Arnold said. "It's all about regional teamwork; the ability to harness the experience and expertise of division (and potentially all USACE) resources to solve an individual customer's need.

"Our ability to satisfy the unfulfilled needs of our customers is limited when we fail to believe in and commit to meeting those expectations and desires. If you believe in things and commit to them, you will eventually see them

come to fruition."

Historically, SWD has been responsive to the needs of the region and the nation. Whether it was the design and construction of large-scale projects authorized by the Flood Control Act of 1936, support to the nation's military, developing and maintaining infrastructure or doing work for others, SWD has consistently met the needs of its customers.

Since its beginning, the division has grown in expertise and missions, and evolved into its present regional, corporate approach. SWD now encompasses all or part of seven states, and manages 29 percent of the Corps' public land and water.

SWD's McClellan-Kerr Arkansas River Navigation System is one of the most cost-efficient in the nation, as is the Gulf Intracoastal Waterway, which the division maintains from Brownsville, Texas, to the Texas-Louisiana state line. Three of the nation's top 10 ports rely on SWD for maintenance of their channels.

The division manages more than 11,400 miles of shoreline and 1,172 recreation sites.

SWD parks are the most visited in the Corps of Engineers, and they bring in more revenue than parks in any other division in the Corps. Of the revenue collected, 22 percent of the cost to run the recreation facilities were re-



SWD places a variety of experience at customer's disposal. (Clockwise from top left) Galveston's maintenance and operation of a deep-draft ship channel, Fort Worth's construction of Brooke Army Medical Center, Little Rock's construction of Montgomery Point Lock and Dam, and Tulsa's Mingo Creek flood protection project. (Photos courtesy of Southwestern Division)

Did you know?

SWD's 90 lakes have prevented some \$1.3 billion in average annual flood damage while providing 7.7 million acre-feet of water supply storage. The lakes provide 36 percent of potable water for Texas, 35 percent for Oklahoma and 20 percent for Kansas.

SWD ranks third in the Corps of Engineers for the number of hydropower projects. The division's 18 hydropower plants rank fourth in generating capacity, providing enough electricity to power more than three-quarters of a million homes. During fiscal year 1998, these plants produced 5.4 megawatt hours of electricity, and returned \$80 million in revenue to the U.S. Treasury.

More than one-half billion tons of commerce are shipped annually over SWD's 1,458 miles of channels, ranking it second in the Corps for navigation. Within the division are some 22 shallow-draft ports, 12 deep-draft ports, 22 lock chambers, and more than 700 dredged material placement areas, all meeting or exceeding environmental requirements.

As part of its Department of Defense environmental stewardship or improvement activities, SWD has 181 projects and 71 Formerly Used Defense Sites program locations.

SWD's regional team stands ready to respond when disasters strike, whether within or beyond division boundaries. Last year, division employees deployed to Oklahoma and Arkansas after tornadoes devastated the area. In 1998, SWD supported flood response activities in Del Rio, Texas, and cleanup efforts following Hurricane Georges' landfall in Puerto Rico.

turned to the U.S. Treasury in fiscal year 1998.

Nearly one-fifth of the U.S.'s military activities, covering an area of some 443,700 square miles, are located within SWD's boundaries. The division designs and builds new facilities, rehabs older ones, and assists with engineering problems at 12 Air Force and 11 Army installations.

One example, the Brooke Army Medical Center at Fort Sam Houston, Texas, is the largest new Army hospital in Corps history, providing services to more than one million patients each year.

Through its Support for Others Program, the division provides services to the Department of Justice, meeting the needs of the Immigration and Naturalization Service by providing facilities for detainment camps, border patrol stations, and other support struc-

tures, as well as the Environmental Protection Agency, Federal Emergency Management Agency, the Department of Transportation, Department of Energy and others.

District and division members work together through virtual teams to improve efficiency and break down regional and traditional boundaries.

"One Door to the Corps" is not just a vision statement, it's a business practice for the division.

SWD's resources, and the resources of the entire Corps of Engineers, are available to any customer, regardless of which district "door" they choose to open.

While proud of its past, SWD's regional team is focused on the future. The division is committed to being a good steward of federal resources, both funds and the environment, and to providing top-quality service to the people of the Southwest, and to providing seamless service to the entire nation.



Focus on Southwestern Division



The McClellan-Kerr Arkansas River Navigation System is a vital link from Kansas, Oklahoma, and other land-locked states to major shipping arteries. (Photo and map courtesy of Little Rock District)

Districts team up for navigation study

By Jennifer Wilson
Little Rock District

Little Rock and Tulsa districts have shared the operations and maintenance responsibilities on the Arkansas River Navigation System for more than 40 years. Teamwork between the districts is a way of life. It's what keeps the 442-mile navigation system working smoothly.

That teamwork is being taken to a new level with the completion of a project study plan and the start of the feasibility phase of the Arkansas River Navigation Study.

"This is a large-scale, regional study of the entire navigation system," said project manager Lee Bass of Little Rock District. "Our hope is to develop potential solutions that will help transport high water out of the reservoirs in Oklahoma and through the system as quickly as possible without causing extended periods of downstream flooding."

"This may require some adjustment to regulating plans, the development of storage procedures, or the construction of structures. We just don't know yet."

The navigation study didn't start out as a regional project. It was initially a Little Rock District reconnaissance study to look at flooding problems in the Lavaca and Fort Smith areas in western Arkansas.

Long-range concerns. "The reconnaissance study showed us how we could fix the immediate concerns of farmers by using Operations and Maintenance funds to repair some structures," said Renee Wright, Little Rock District study manager.

"But the farmers also shared their long-range concerns with us. They said they could handle flooding on their lands, as long as the water didn't stay high for a long time."

That's when the team realized that they needed to look at how the entire system was being operated.

"We noticed that there was a potential to significantly improve navigation if water could be evacuated quicker from the upstream reservoirs," Bass said. "By evacuating the water quickly, there would be fewer high-flow days on the navigation system."

"Less high-flow days help the navigation industry as well as farmers along the system. It also means that there would be fewer days of high lake levels in the upstream reservoirs, which would benefit the recreation industry in Oklahoma."

With the findings from the reconnaissance study

and support from the navigation industry, Arkansas Congressman Asa Hutchinson placed a congressional add for \$1 million in the 2000 budget to start the feasibility study.

New role. Once the reconnaissance report was complete, team members were able to see the full impact of the problem and that possible solutions would involve the upstream reservoirs as well as the navigation system. That's when Tulsa District took on a new role in the project.

"Much of the control of the Arkansas River lies in the upstream reservoirs that are in Oklahoma," said Ed Rossman, Tulsa District's study manager for the project. "If there was going to be any system-wide changes, Tulsa needed to be involved because we are the ones with control over the water."

While the project study plan is in its final approval stages, duties already have been divided between the two districts. Tulsa District will take the lead in hydraulics and hydrology work for the study, and Little Rock District will lead in project management, environmental and economic study areas.

"Southwestern Division has a computer model that simulates different operating conditions on the Arkansas River," Rossman said. "We have extensive experience using this model because we use it daily to manage reservoir releases. So, it was only natural for our hydraulics folks to take the lead."

Because the study is focused on improving navigation along the system, it will be 100 percent federally funded. If other cost-sharing issues are identified during the study, those projects will be addressed separately and sponsors will be identified.

Interest. A lot of people, including elected officials for surrounding states and users along the navigation system and the upstream reservoirs, are interested in the study.

"I see our most important challenge will be getting the interests and concerns of all affected groups documented at the beginning of the study," Bass said. "Wherever I go, I pass out comment cards for people to fill out and mail back. An e-mail box also has been established for people to send in their comments."

Wright, Little Rock District's study manager, Rossman and Bass all have access to the e-mail box.

"We will probably use more outside consultation in this study than in the past, just to make sure that we are looking at all aspects of the project,"

Rossman said.

"We also will seek more public comments and input than on a normal project. This project affects so many interests, we have to make sure we know and address the concerns of as many as possible."

Joint Meeting. Members of the Oklahoma Water Resource Board and the Arkansas Basin Development Association already have shown an intense interest in the study. The organizations are made up of people with interests in how the Arkansas River and its upstream reservoirs are managed.

Bass was invited to a joint meeting Jan. 26 in Tulsa of the two organizations to explain about the study.

"It went well," Bass said. "It was held on the day that a big snow storm hit the Tulsa area, but we still had a good, diverse crowd. Farmers, landowners on the reservoirs, shipping industry representatives, lobbyists, congressional staffers and even people from Kansas who use the navigation system attended."

Rossman agreed that the first meeting was productive, but noted some concerns from those in attendance.

"You can tell that some folks were reserving judgment until the study is further down the road," Rossman said. "The navigation interests seem to be happy about the study, but they are still concerned. One of their concerns is that this is just a Corps study that won't fix anything. They are interested in seeing results. It's a valid concern."

Time. Time is another challenge associated with this project. The first phase of the feasibility study is expected to take three years to complete. It will involve a major hydraulics study and modeling runs of the river system, an economics study to evaluate each scenario, and an environmental impact statement.

The second phase of the study, which will overlap the first phase by one year, will be directed at increasing the channel depth and modification of channel configurations.

"We divided the study into phases because of the complexity of the first part of the study," Wright said. "We knew it would be more labor intensive because of the large number of comments that need to be collected and the different interests to be addressed."

Users of the navigation system could see some of the easier fixes implemented fairly quickly after they are approved. Some actions that require construction could take several years to implement.

Focus on Southwestern Division

Virtual team gets results for customers

By Russell Holeman
Tulsa District

What do you do with old facilities once new ones have been constructed at an installation? Upon completion of their new hospital, Fort Sill, Okla., was faced with this dilemma.

Master planners at the installation looked at a number of options, including demolition. Then, an opportunity to use the facility was presented—and one of the first regional virtual teams was born.

The Defense Finance and Accounting Service (DFAS) was looking for locations to centralize their operations. Fort Sill presented a proposal to renovate their old hospital to accommodate the DFAS operations. The installation was considered along with several other sites, and Fort Sill was finally selected as a location for one of the new DFAS centers.

A project to renovate the hospital for the new DFAS operation was included as a congressional add in the 1997 military construction bills. Work was started to update the concept designs for the facility. It was determined that in-house forces would be used for this effort; however, Tulsa District could not support all of the design specialties required.

District personnel decided to develop a *virtual* design team made up of engineers and architects located in the Fort Sill Directorate of Public Works (DPW) as well as Tulsa, Fort Worth and Little Rock districts. The plan was to use this team to complete the concept drawings, then turn the package over to an architectural-engineering firm for final design.

It was decided that technical management responsibilities needed to rest in the same district, so Tulsa retained project management and project engineering responsibilities. Tulsa also handled electrical and cost engineering, specifications and contracting duties.

Fort Worth handled civil engineering, landscape and interior design, structural engineering, mechanical engineering, and fire protection. Little Rock District handled the architectural design for the project.

"This was a great project that involved several outstanding individuals working together to create one exceptional team. I was fortunate to be the project

manager, but the team was really a self-led group," said Burl Ragland of Tulsa District.

When it came time to turn the project over for completion of design, the team asked to continue working together to complete the project's final design. They were committed to developing a quality project on time and within budget. Based on this commitment, it was determined that the most effective way to complete the design and maintain the schedule would be to allow the team to proceed.

"Initially the team was established in order to provide quick and expert concept plans. They then came to me to ask if they could continue to work on this project. A truly integrated team involving three districts, an A-E, plus the Fort Sill DPW had developed, and they enjoyed working on this challenging project. It was a pleasure to work with this team," Ragland said.

Sandra Egan of Tulsa District's Design Branch was the team leader.

"This first virtual design, while not without its unique set of problems to overcome, was very successful and opened up a new way of doing business in the division," Egan said.

Each team member provided exceptional effort on this project. They were able to effectively work together outside of the traditional organizational structure to complete the design, and they found ways to overcome the challenges encountered, she said.

"Members of the DFAS virtual team have gone out of their way at every turn to guarantee their customer the best possible service," said Tom Verdel, retired assistant chief of Engineering and Construction Division and original team member.

"The team's commitment reflects a recognition that Corps designers and technical personnel work in a competitive environment where reinvention and a change in culture are essential for their continued professional growth and service to the Army."

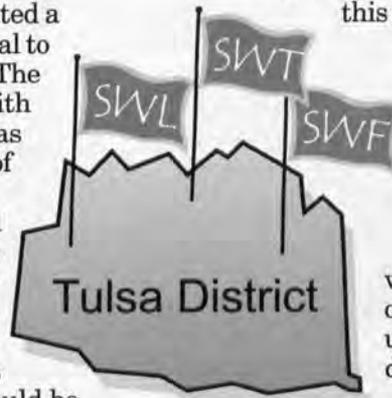
This virtual design team had an exceptional working relationship. They developed processes for sharing Computer Aided Drafting/Design files among all of the districts and the Fort Sill DPW. This file sharing allowed one district to make changes in the floor plan while ensuring that all other disciplines were able to incorporate the changes into their portion of the design.

"At the onset of this project, I think most of the team members were skeptical of exactly how this was going to work, but once we started, things just seemed to fall into place," said Brinda Jackson, lead architect from Little Rock District.

"Being on a pioneer team, there were some things that were worked out as we progressed, but we pulled together as a team to solve any unforeseen problems."

The team was able to complete this critical project on schedule and within the established budget. The final design documents received high praise from DFAS personnel at the local, regional and national level.

When the project was advertised in the summer of 1998, contractors indicated that these documents were the best set of solicitation documents that they had



This is a remodeled training room in the new DFAS facility. (Photo courtesy of Tulsa District)

seen for a project. They noted that the packet addressed the numerous questions that arise in a renovation project. The bids for the project were exceptional with the contract being awarded at approximately 80 percent of the programmed amount.

The team has continued to provide oversight and support through the construction phase of the project. As construction nears completion, DFAS personnel are eager to move into their new facilities. This project will provide an exceptional working environment for them.

"I think it's coming together well. The selection of materials to make a good office environment is there, and the whole package is coming together," said Jack Haynes, DFAS coordinator. He also commented on the cooperation displayed by the team members.

"I think the whole package of putting the thing together through Tulsa, Little Rock, Fort Worth, and the base has worked surprisingly well," he said. "I'm surprised there weren't any conflicts, but it worked."

Col. Billy Barker, DFAS Director, praised the regional team.

"I've been in command here since the June 4, and more or less came in on the tail-end of the renovation process; however, my experience with the Corps of Engineers is that the process has been really outstanding. They have partnered with us to ensure excellence in that renovation process, and their value added has been enormous because of the talents that have lent to that process."

Barker said that as the renovation draws to an end, the Corps' determination to provide a quality product continues.

"I have monitored the progress and quality of this project from the start to now -- after all, the building still *does* belong to us. I believe all credit for this great success story belongs to Burl Ragland and the members of the Corps of Engineers design team," said Dennis Hergenrether, Fort Sill DPW installation engineer.

The regional teamwork concept that was pioneered in part by the SWD DFAS team has continued to spread. The successes of this virtual design team will be used in the future on projects where adequate resources do not exist in a single location.

"The experience gained working with designers from several districts, on a concept that would prove to be a way of the future, was well worth any problems we encountered along the way," Jackson said.

Several members of this team have gone on to lead other virtual teams in their districts, sharing work and resources not only within our division, but also throughout the Corps, Egan said.

(Russell Holeman is Tulsa District's Assistant Chief of Engineering and Construction Division.)



The Corps of Engineers construction team at Fort Sill inspects a mechanical room at the DFAS facility. They are, from left to right, Don Price, Chief of Engineering for Fort Sill DPW; Scotty Hughes, Corps quality assurance representative; and James Snyder from Construction Management Section. (Photo courtesy of Tulsa District)

Focus on Southwestern Division

Across boundaries

Fort Worth heads national quality effort for Army command

By Patricia Simoes
Fort Worth District

The U.S. Army Medical Command can get quality assurance service with one call to Fort Worth District.

The MEDCOM Quality Assurance Program was developed by the U.S. Army Corps of Engineers in partnership with MEDCOM and at their request.

The program places quality assurance representatives who are familiar with the work, the people and the locations in the MEDCOM facility managers' offices.

Kay Gregory, the facility manager for Blanchfield Army Community Hospital at Fort Campbell, Ky., said she is very happy with the service.

"It takes the workload off of our staff," Gregory said.

William Johnson, the Corps' quality assurance evaluator, or QAE, at Blanchfield, said he has a very good relationship with the people at the hospital.

"They keep me busy. They would never let me go. I'm good for them, and they're good for me," Johnson said.

Teamwork counts

The success of the QA program is the result of a Corps-wide team effort that started in the summer of 1998 when MEDCOM asked Fort Worth District about providing quality assurance.

A team made up of representatives

from throughout the Corps assembled to conduct research and write a corporate proposal for MEDCOM.

This Corps-wide participation in the initial proposal was a key to its success. Team members knew it would take several districts across the Corps to implement and support this program, not just one.

MEDCOM accepted the corporate proposal from the Corps, and in April 1999, the Corps placed quality assurance evaluators at eight Army medical facilities across the nation.

One door

While the on-site work is carried out by QAEs from Fort Worth and other districts across the Corps, the program is managed by Mike Zalesak in Fort Worth. He manages all task orders, funding, reporting, and customer care issues while ensuring that qualified personnel are on the job.

The Corps' costs for the services it provides are competitive with other service providers.

"A Corps QAE costs MEDCOM an average of \$66 per hour, while the previous contractor was costing an average of \$70.28 per hour," Zalesak said.

The program emphasizes the Corps' flexibility and the flexibility of the quality assurance personnel. The QAE staff is available 40 hours per week and also during non-standard hours when necessary.

Electronic reporting and the single point of contact provided by the pro-



Corps employees provide quality assurance at Army medical facilities across the nation, like Darnell Army Community Hospital, as part of the new MEDCOM QA program. (Photo courtesy of Fort Worth District)

gram save MEDCOM time and money, Zalesak said.

Building relationships

The MEDCOM facilities help choose the QAEs, who are usually from the nearest Corps office and are already familiar with the installation, director of public works, and facility manager.

The QAE's work leader is the MEDCOM facility manager, but his supervision and career ties remain with the local Corps office.

"The arrangement gives MEDCOM access to an experienced group of construction representatives and field engineers without having to perform several short-term personnel actions," Zalesak said.

MEDCOM facilities request the Corps' services through R. B. Maynor, chief of the MEDCOM Technical Assistance Team. Maynor determines if there is sufficient need for a QAE at the facility.

When facility managers decide they don't need the QAE, the representative returns to the Corps office for their next project assignment.

While Fort Worth is the point of contact for the Army MEDCOM Quality Assurance Program, many other Corps offices provide QAEs for their local MEDCOM facilities. Currently seven districts are providing QAEs for eight facilities.

The districts and facilities include Fort Worth District working with Fort Hood, Texas; Savannah District working with Fort Jackson, S.C.; and Fort Gordon, Ga; Los Angeles District working with Fort Huachuca, Ariz.; Kansas City District working with Fort Leonard Wood, Mo.; Louisville District working with Fort Campbell, Kyn.; Omaha District working with Fort Carson, Colo.; and New York District working with West Point, N.Y.

The QA program benefits MEDCOM by providing one-stop shopping for a needed service. The local district and project offices benefit by sharing in the workload and building local contacts with facilities managers.

At the same time, the Corps is able to develop a good working relationship with a major Army command. That relationship could develop into more work in the future for the Corps of Engineers.

Galveston, Tulsa, EPA clean up Brio site

By Marilyn Uhrich
Galveston District

A 58-acre site sitting approximately 20 miles southeast of Houston is the target of intensive efforts by the Environmental Protection Agency (EPA) and, acting as its oversight agents, Galveston and Tulsa Districts of the U.S. Army Corps of Engineers.

The Brio site, designated by EPA as a Superfund Site, reportedly holds more than half a million cubic yards of measurably contaminated soil.

Between 1957 and 1982, the site was used for refining crude oil and styrene tars to produce toluene, ethylbenzene, solvents, naphthalene, diesel fuel, and kerosene.

EPA's Region 6 is the lead agency for the site cleanup. They came to the Corps of Engineers' Southwestern Division, asking for help at the Brio site.

Tulsa District, designated as a hazardous, toxic and radioactive waste cen-

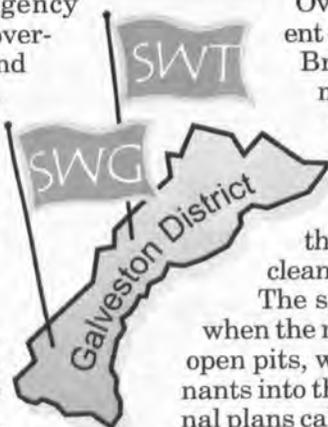
ter of expertise, is working with Galveston, the geographic district. Galveston District took on developing a scope of work which includes the oversight of a contract to contain the contaminants on the site.

Over the years several different companies have owned the Brio refinery. The government has determined 10 companies as principal responsible parties. These 10 form the Brio Site Task Force that carries the responsibility for the Brio cleanup.

The site became contaminated when the refinery stored products in open pits, which leaked the contaminants into the ground. Although original plans called for excavation and incineration or biological treatment of the on-site soils, the EPA now calls for a containment remedy.

An underground wall with a clay cap will be used to surround and contain the contaminated soils.

Tulsa District holds the indefinite delivery, indefinite quantity contract



The Chief of Engineers Design and Environmental Awards Program entries were judged Feb. 28-29 at the U.S. Army Corps of Engineers Headquarters. Sixty-nine projects and professional works were presented for this biannual awards program and 20 were selected for awards.

In addition, the Design Team of the Year has been selected. The award goes to the Corps in-house design team which won the highest ranking award in the Chief of Engineers Design and Environmental Awards Program. This year the winner is Fort Worth District, for the San Antonio River Tunnel, which was the Chief of Engineers Award of Excellence in Environmental Design.

Honorable Mention awards went to St. Louis District for Micro Modeling, Sacramento District for the Vic Fazio

Yolo Wildlife Area, Galveston District for the Aransas National Wildlife Refuge, and Tulsa District for the Mingo Creek Local Protection Project.

The program is organized with two categories of competition, Design and Environmental. The Design Jury judged military construction projects and works, while the Environmental Jury judged the civil works and environmental restoration projects. Projects in the two categories were judged independently by interdisciplinary juries of six members each.

The Chief of Engineers Design and Environmental Awards presents three types of honors. The Award of Excellence is the highest. Only two Awards of Excellence are given, one for a design project and one for an environmental project. The Award of Excel-

lence can be given only by a unanimous decision of the jury, and they have the option of deciding that no project deserves the award. This year, an Award of Excellence went to both design and environmental projects.

Honor Awards are given to projects that demonstrate excellence in multiple design disciplines, and they are given by majority vote of the jury. Merit Awards are given for projects that demonstrate excellence in single or multiple design disciplines, and are also given by majority vote of the jury.

The Chief of Engineers Design and Environmental Awards Program began in 1965 to recognize and promote excellence in design and environmental achievement by U.S. Army Corps of Engineers and its professional contractors.



The Rodman Materials Research Laboratory at Aberdeen Proving Grounds, Md., is designed to be both beautiful and practical. (Above) Inside, the laboratory offers state-of-the-art facilities and equipment.



Design Winners

Award of Excellence: *The Rodman Materials Research Laboratory, Aberdeen Proving Ground, Md.*

This is a world-class center of excellence for materials research and development, providing a state-of-the-art research environment in 149 laboratories. The layout fosters teamwork by emphasizing the visibility of people moving within the building. A secure exterior courtyard between administrative and research space allows personnel to discuss classified work outside while remaining in a secure environment. The facility was designed in 60 percent of the time normally required for a project of this type. It was built on schedule and seven percent below the \$80 million budget. The new facility will save the federal government about \$20 million annually. The lab has fostered successful recruitment of top research staff, and technologies emerging from its research programs are critical to the capabilities needed for the Army of the 21st century.

Jury comments: *A unanimous choice as the best project. Jurors saw excellence from the initial site plan-*

ning to the detailing of the receptionist desk. A clear expression of a complete program expressed in discreet forms connected by a circulation spine. Excellent integration with the site, amenities, choice of materials, and varied massing help provide a wonderful facility.

Honor Award: *910th Wing Headquarters, Youngstown Air Reserve Center, Ohio.*

The two-story 36,000-square-foot Wing Headquarters Building supports the management and training of the C-130 wing.

It consolidates the required support organizations into a flexible facility that combines open office efficiency with the required privacy and security for each occupant. The interior curved wall, in a metallic finish, is the principal visual design feature. A large second floor window in this curved wall, centered on the axis of the boulevard outside, enables the command section to literally and figuratively oversee the lobby, the spine of the base, and the airfield beyond.

Jury comments: *The jury chose this project because it addresses the larger context of the installation. The siting of this building provides an excellent solution to the larger context of the base, a terminus to an important boulevard. The skillful use of modest materials and overall composition elevates this building's contribution to a high level. Glazing opens up the space with light and air. Workstation design eliminates sharp edges, and personal harbors give occupants space for storing personal belongings.*

Honor Award: *Brigade Area Barracks Revitalization, Fort Bragg, N.C.*

The \$74 million new brigade area includes housing for 900 single enlisted soldiers, five administrative headquarters buildings, 17 company operations facilities, and an 800-person dining facility. The aesthetic calls upon the classic design of military architecture of the 1920s and '30s found throughout Fort Bragg. It is considered the Demonstration Project for the new barracks standards promoted by Forces

2000 Design and Environmental Awards

Special Insert



An elevated pedestrian walkway is just one of many innovative features in the Brigade Area Barracks Revitalization at Fort Bragg, N.C.

Command's "Barracks Revitalization Alternatives Study."

Jury comments: The elevations demonstrate excellent proportions and overcome the long horizontal lines normally associated with exterior circulation. The design of the buildings made this the strongest statement of the for Unaccompanied Enlisted Personnel Housing (UEPH) projects in the program. Nice residential appearance. Takes a standard UEPH floor plan and elevation and shows what can be done with creative architecture.

Merit Award: Renovation of Building 68, Rock Island Arsenal, Rock Island, Ill.

This was one of several buildings selected to house Defense Finance and Accounting Service personnel. The building (built in 1878 and listed on the National Register of Historic Places) had to be renovated and modernized. The main challenges were to maintain historical integrity while satisfying modern technical requirements, and to phase the project while the building remained more than two-thirds occupied. The final construction was more than \$900,000, and completed six months ahead of schedule.

Jury comments: Jurors appreciated the restoration of the attic as a pleasant office environment. Indirect lighting of the exposed steel structure provides an honest appreciation of the building's structure. Modern lighting was tastefully selected to compliment the historic integrity of the project.

Merit Award: Renovation of Barracks Building 47, Fort McNair, District of Columbia.

Barracks Building 47, built in 1903, defines the north edge of the historic Parade Ground. It had to be totally renovated and modernized to the new 1+1 living standard inside, while retaining its historic appearance. The design team did this in part by creating symmetrical, geometrically regular interior spaces, by using natural finished wood trim, millwork and cabinetry, and by developing a vibrant but historically accurate color palette.

Jury comments: Beautifully understated. The design shows excellent restraint. Jurors appreciated the "crossing" of the plan with a hierarchy of material and color. Modern lighting was tastefully

selected to compliment the historic integrity of the overall project.

Merit Award: KC-10 Maintenance Hangar Complex, McGuire Air Force Base, N.J.

The 153,131-square-foot hangar complex is a state-of-the-art military aircraft maintenance facility supporting the local KC-10 fleet. The design consists of three 102-foot-high aircraft servicing bays, each dedicated to a distinct aircraft operation, which wrap around a central shop and support core. The exte-

rior is composed of different bands of color and texture which add interest and visually shorten this facility. The curved profiled metal panels across the hangar nose bay and warehouse and the sloped deep rib metal panel canopy above the entry doors clearly define the main points of access and let the building be perceived in a more human scale.

Jury comments: The exterior design effectively reduced the apparent height of a 10-story structure. The interior design created an upscale office appearance within an industrial project. The development of new fire protection criteria for maintenance hangars was outstanding. Overall, the design team took what could have been a generic maintenance facility and created a building meeting the highest professional standards.

Merit Award: Whole Neighborhood Replacement, Harrison Villa, Phase 1, Fort Lee, Va.

The existing Harrison Villa was junior NCO housing built in the late 1950s. It had barracks-like townhouses with up to 10 units per building and parking in uncovered paved lots. This Phase 1 project demolished half the existing buildings and replaced them with new energy efficient housing. The 135 three-, four-, and five-bedroom units were built as two-story townhouse duplexes. The area extended into an adjacent undeveloped site allowing the new community to be built at a lesser density. New roads, utilities, recreation facilities, and pedestrian routes were incorporated into the design.

Jury comments: Duplexes provide a suburban residential environment for military families. Garages offset in adjacent units provide separation and feeling of privacy. Front porches promote a community feel and interaction potential. A dining/living area delineated by personal furniture placement gives choice to occupants. A half-wall in the hall opens up space to the living/dining area for a less closed-in feeling.

Merit Award: Summary Development Plan, 280th Base Support Battalion, Schweinfurt, Germany.

The Summary Development Plan (SDP) is a new Army master planning tool, and the SDP Schweinfurt is one of the first to be completed. It represents an innovative approach to master planning in that it



The Recreational Pool Area/Water Spout Aquatic Center will benefit both soldiers and their families at Fort Buchanan in Puerto Rico.

streamlines the process to where practical for communities to participate in long-range planning. The SDP Schweinfurt enables the command staff to better understand community issues by presenting a large volume of valuable information in one concise document. It acts as a guideline for long-range development that gives continuity to base planning despite personnel changes and is a way to introduce new personnel to the community.

Jury comments: *The process generates a very workable document, clearly presented, with strong recommendations. The process demonstrates excellent value for USACE and the user; keep up the good work. The charts of collected information will be instrumental in future planning.*

Merit Award: U.S. Army Information Systems Facility, Fort Carson, Colo.

The ISF is the center of post communications. The 65,000-square-foot facility has two floors. The first

floor contains the public entry, printing plant, mail room, computer room, and telephone switch. The second floor houses the commander's suite, training rooms, and staff offices. This simple layout uses a front-door/back-door arrangement, with the parking lot and main entry adjacent to the public access, and the loading dock and mail deliveries in back.

Jury comments: *This project integrated mechanical and electrical engineering. The siting of the project demonstrates consideration of the larger area beyond the building itself. Great voice/data flexibility with raised floor and trench duct installation. Artwork in lobby is relative to the geographic location. Sunlight streams in to provide natural light by good use of glass. Glass front on conference room provides open feeling.*

Merit Award: Recreational Pool Area / Water Spout Aquatic Center, Fort Buchanan, Puerto Rico. The 6,000-square-foot Aquatic Center provides a

resort-like area for all ages within the security of the base. It includes a 25-meter lap pool with a water polo area, a water recreation area with water slides, and a zero-depth-entry family pool area. Pool areas are zoned for different age groups, and include large shaded areas both in and out of the water, and various water features. Additional amenities include picnic areas, a volleyball court, and landscaping which provides a scenic environment. The entry building is fully functional and provides controlled entry and exit, space for a snack bar, game room, locker, toilets, showers, a multipurpose room, and administration areas, plus spaces for mechanical/electrical and pump systems equipment.

Jury comments: *Overall the project is playful. Not all disciplines are involved in the design and execution; nevertheless the project deserves recognition as a meritorious project in specialized discipline. It provides family areas for various age groups to relax and enjoy the community.*

Environmental Winners



The San Antonio River Tunnel provides flood protection for San Antonio, Texas. The tunnel itself is 24 feet wide and 140 feet below ground. (Below) The above-ground portions of the project are designed to provide areas for pedestrians to enjoy the river.



Award of Excellence: *The San Antonio River Tunnel, San Antonio, Texas.*

The San Antonio River Tunnel is part of the San Antonio Channel Improvement flood protection project. The tunnel is about 140 feet below the surface and 3.1 miles long. The tunnel is about 24 feet in diameter and provides protection from a 100-year flood event. The San Antonio Tunnel, and its sister tunnel on San Pedro Creek, are inverted siphons. This is the first known use of a tunnel siphon for a major urban flood control project. In October 1998, just months after the tunnel was finished, a record flood threatened to devastate the downtown and Riverwalk areas. Without the tunnel, the downtown would have been under about six feet of water. It is estimated the San Antonio River Tunnel paid for itself in damages prevented in this one event.

Jury comments: *This is an innovative project to retrofit a built-out urban area while providing flood control, economic, environmental, recreation, aesthetic, and historic preservation benefits. The project had excellent local support and cooperation, and it successfully managed a flood event of record in its first year, paying for itself.*

Honor Award: *Micro-Modeling, St. Louis District.*

This modeling technology was designed to facilitate all phases of river engineering. The physical, moveable-bed sediment models are used to define master plan programming parameters, develop installation/construction plans and specifications, forecast construction costs, and accomplish real-time analysis of channel response to river engineering and environmental applications, while being cost- and time-effective and efficient.

Jury comments: *Micro modeling, developed together with the University of Missouri Rolla, is an extremely small-scale physical sediment transport and flow modeling system for streams. Revolutionary in scope, it was awarded a U.S. Patent in 1997. It has reduced the cost of scale model studies by 96 percent and study time by 70 percent. The Corps saves \$125 for every dollar spent.*

Honor Award: *Vic Fazio Yolo Wildlife Area, Yolo County, Calif.*

This project restores wetlands lost during creation of the Sacramento River Flood Control Project and Yolo Bypass floodway system, which built more than 1,000 miles of levees along the Sacramento River. The goal was to restore wetlands while meeting flood control, agricultural, and wildlife objectives and criteria. The solution evolved into a cooperative resto-

ration project involving more than 20 organizations including federal, state, and local governments, private organizations, and agricultural landowners.

Jury comments: *Broad partnering resulted in the largest wetlands restoration in the western U.S. (3,600 acres). It accomplishes shared water use with agriculture, habitat restoration, recreation for metropolitan Sacramento, flood control, and improved water quality.*

Honor Award: *Aransas National Wildlife Refuge, Aransas and Calhoun Counties, Texas.*

The project is a 31-mile stretch of the Gulf Intracoastal Waterway. It addresses the serious bank erosion problem at the Aransas National Wildlife Refuge, the wintering grounds for the endangered whooping crane. Articulated concrete mats mold to the shoreline, and the open spaces in the blocks allow plant growth throughout. Geotextile tubes are used as a breakwater. These features did not change the terrain, protected the shoreline, and the preserved the whooping crane habitat.

Jury comment: *Innovative methods stabilize the shoreline which also promote waters edge vegetative habitat for crane feeding. Construction was phased due to incremental funding and did not interfere with the crane rookery. A marsh was cre-*

Special Insert

2000 Design and Environmental Awards



The shoreline protection project at the Aransas National Wildlife Refuge using geotextile tubes as a breakwater, articulated concrete mats, and other features to protect a 31-mile stretch of the Gulf Intracoastal Waterway from erosion without changing the shoreline contours or endangering whooping crane habitat.

ated from reclaimed materials.

Honor Award: *Mingo Creek Local Protection Project, Tulsa, Okla.*

Tulsa led the nation in federal flood disaster declarations, two-thirds from Mingo Creek. This project provides flood control with 23 floodwater detention sites and 10 miles of channel improvements. Many of the flood control areas are popular places to jog, bicycle, fish, picnic, or play soccer. The design preserved 17 acres of hardwood bottomland in the Mingo Creek basin. About 870 new trees were planted in and around the detention sites, and the lakes are stocked with fish.

Jury comments: *Mingo Creek epitomizes multi-objective floodplain management incorporating recreation, habitat preservation, water quality improvement, and storm water management. The project has already reduced flood losses.*

Merit Award: *Local Protection Project, Matewan, West Va.*

Matewan has had repeated devastating floods. This project will reduce damages with a concrete floodwall, pumping station, and all necessary facilities. The design included relocating utilities, highways, and railroad facilities, providing sites for business and residential redevelopment, and new structures to house the town hall and fire station. Graphics cast into the floodwall depict local architecture, natural scenes, and history. The words "Welcome to Matewan" are also cast into the wall.

Jury comments: *Flood protection for a historic town resulted not only in mitigation for recurrent flooding, but also in support of local development. Murals cast in the floodwall communicate the town's history.*

Merit Award: *Souris River Basin*

Flood Control Project, North Dakota and Saskatchewan, Canada.

Throughout history, the Souris River Basin has endured flood-related tragedies. The Souris River Basin Project is a multifaceted approach to flood control that gives 100-year flood protection to Minot, N.D., and the entire Souris River Basin by successfully integrating floodwater storage with other Federal and Canadian multipurpose projects.

Jury comments: *The project is a successful multi-faceted and coordinated approach to flood control. It is impressive for its 24,000-square-mile area and for its multi-national and agency coordination between the U.S., Canada, North Dakota, Saskatchewan, SaskPower, North Dakota State Water Commission, the Corps, U.S. Fish and Wildlife Service, and the Souis River Joint Water Resources Board.*

Merit Award: *The Yazoo Basin, Channel Improvement Item 3B-1, Laflore County, Miss.*

Channel Improvement Item 3B-1 consisted primarily of five miles of channel improvements. The problems were performing the needed excavation, and placing the large volume of dredged material. Channel excavation was accomplished using a floating hydraulic dredge to reduce the impact on bank vegetation. The excavated material was pumped into a large confined disposal facilities (CDF), and project mitigation included a design to operate the CDF as waterfowl foraging area.

Jury comments: *The project is an innovative approach using dredged material to create wetland habitat on former agricultural land. Broad multi-disciplinary input avoided adverse impacts to forest, wetlands, and cultural resources. This resulted in a wildlife haven along a nationally sig-*

nificant migratory bird flyway.

Merit Award: *NAPL Recovery Skimmer, Philadelphia, Penn.*

The Defense Supply Center Philadelphia was scheduled for closure. Environmental investigations found Non-Aqueous Phase Liquid (NAPL) petroleum in the groundwater. The volume of NAPL was estimated to exceed one million gallons. Baltimore District used two types of skimmers. Pneumatically activated skimmers which recover only NAPL and no groundwater are very energy efficient. Passive skimmers, which consume no electricity, were installed at wells where NAPL recovery was slow.

Jury comments: *This resulted in a responsive, efficient process, which has removed 220,000 gallons of NAPL for only 35 cents per gallon.*

Merit Award: *Benedictine Bottoms Site, Missouri River Fish and Wildlife Mitigation Project, Atchinson County, Kan.*

The Missouri River Fish and Wildlife Mitigation Project restores fish and wildlife habitat lost to the construction and maintenance of the Missouri River Bank Stabilization and Navigation Project between 1912 and 1980. At Benedictine Bottoms, Kansas City District restored a wetland-bottomland-timber-wetland-prairie complex in the floodplain and created diversity in the aquatic habitat of the adjacent channel without disturbing navigation or the continuing operation of Missouri River Levee Unit R440.

Jury comments: *The Benedictine Bottoms Project is an innovative and productive habitat restoration. The project includes four major wetland systems and shoreline habitat areas. During design and construction, the Corps formed a team with four state fish and wildlife agencies.*

Focus on Southwestern Division

Regional center pleases INS customers

By Marilyn Uhrich
Galveston District

Galveston District, located along the Texas Gulf Coast, found itself on the front lines in support of a challenging construction program for the U.S. Immigration and Naturalization Service (INS) following the inception of the chief of engineers' Regional Business Center policy.

Southwestern Division became the account manager and nationwide point of contact in support of the INS program that utilizes the Corps expertise and sends work to the geographic districts—for INS work in south and coastal Texas, that means Galveston District.

Galveston District was already engaged in INS work when, in 1997, the Corps developed an Architectural and Engineering Resource Center (A-ERC) co-located with the Fort Worth District. A memorandum of understanding was signed by the INS and the Corps.

The "One Door to the Corps" policy eased the way for the customer to get their work done. The Regional Business Center provides one contact point for the customers, rather than forcing them to deal with individual districts.

Ron Timmermans, with his staff of two, heads up the A-E Resource Center in Fort Worth.

"We do the overall program management," Timmermans said. "It's an opportunity for INS to plug in with the Corps in one place, and be able to utilize all of the Corps' abilities."

"INS provides \$50 million-plus in projects each year, and the A-E Resource Center acts as an extension of the INS staff. We understand the scope of work and pass this along to the dis-

tricts."

The center works across district and division boundaries to fit the work to a district's geographic location and its unique expertise. Projects are going on now in many districts: Alaska, Seattle, Sacramento, Albuquerque, Jacksonville, Buffalo, and as far away as Guam, to name a few.

"We try to be exactly what INS wants—one door to the Corps," Timmermans said.

George Alcalá, INS project manager for Galveston District, said that the A-ERC is the first contact for all INS work.

"They coordinate and interface with INS program managers, obtain project funds and scopes-of-work from INS, and coordinate with the district that will perform the work," Alcalá said.

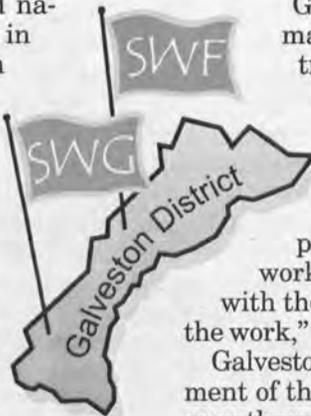
Galveston District oversees development of the plans and specifications, goes through the bidding process for the customer, awards contracts, and provides the contract administration.

Expanded roles

Galveston District has been involved with the INS since 1996 when it expanded its role to include a mushrooming part in construction and rehabilitation of facilities for the Port Isabel Service Processing Center in south Texas. Buildings at the site dated from the 1960s when the site first served as an Army Air and Artillery Training Station.

The INS took over the site for border patrol training in 1971, and it became a detention deportation facility in 1981.

Ongoing work at this Port Isabel facility includes construction of three additional dormitories (one has already been completed), an armory, and other



The first of three 200-bed secure dormitories has been completed at the Port Isabel site by Galveston District. An armory and several other small projects also are being built at the site. Fort Worth's Architecture-Engineering Resource Center chose Galveston District for the project because they could best meet the customer's needs. (Photo courtesy of Galveston District)

small projects.

Future projects that are currently being designed include a multi-purpose administration building that includes new courts, a processing building, a medical clinic and a new security system. Development of a master plan for this site also became the responsibility of the Galveston District.

The Corps could advertise its work as "no job too big or too little."

"We have done repair and alterations jobs from replacing an existing eight-inch water line to constructing new dormitories," Alcalá reports. "We are working towards completing three 200-bed dormitories and a new armory facility. We have completed one dormitory, and the INS has it in use."

Customer service

Galveston District's man on the scene is Ralph Rubalcaba, a civil engineer, who transferred to Port Isabel to head up the INS Resident Office. He stays in touch with the local customer, briefing them on the status of current construction, security concerns, contract administration, payments and warranties, and gets the customer involved in project decisions.

"The customer often wants things that are not in the contract," Rubalcaba said. "I see to the change orders and modifications to assure customer satisfaction."

"INS likes the regional business concept," he said. "It makes the process much less complicated for them." The customer goes to the A-E Resource Center. The center, in turn, contacts the district that can handle the job.

"Every day brings up different issues, both good and bad," Rubalcaba said. "It is very challenging but this is 'where the rubber meets the road.' You name it, we've done it."

Along with the other projects, Galveston District is working with

Lucent Technologies on a turn-key project to upgrade or replace the existing telephone system at the Port Isabel site.

In the works is the repair of emergency power backup generators located throughout the facility and upgrade of the equipment in the existing sewage treatment plant.

The master plan for the Port Isabel site is divided into five construction phases that continue through fiscal year 2006. The construction of each part depends on the budget.

The Port Isabel new construction budget for fiscal year 2000 was not approved, delaying the building of a 200-bed secure dormitory and the first phase of the multi-purpose facility until fiscal year 2001.

Galveston District also is working on three new stations for the U.S. Border Patrol, a division of the INS, in Rio Grande City, Falfurrias, and Hebbbronville, all in Texas.

Construction has started on the stations in Rio Grande City and Falfurrias while the site work and demolition contract has been awarded for the Hebbbronville site. The two sites under construction have similar designs, adapted to the individual sites.

The Rio Grande City and Falfurrias stations are scheduled for occupancy by late 2000 and early 2001.

The original border patrol station in Rio Grande City was built in 1954 for 12 agents. A double-wide trailer was moved in and the population grew to more than 40 agents.

The new stations at Rio Grande City and Falfurrias are each designed for 125 agents at Rio Grande City, and the station at Hebbbronville is designed for 100 agents.

Whether it's building border patrol stations or developing master plans for INS processing centers, the A-E Resource Center is working for the district, the division and the customers.



This is a monitoring and communications room inside the completed Port Isabel dormitory. (Photo courtesy of Galveston District)

Focus on Southwestern Division

Reese Air Force Base

Tulsa, Fort Worth finish fastest cleanup in DoD history

By Tim Brecheen
and Dennis Thomas

Five years and millions of dollars—that's just part of the savings realized from the environmental cleanup at Reese Air Force Base in west Texas.

A focused regional effort there resulted in the Department of Defense's fastest base closure cleanup ever, and it was no small task given the history of contamination at the base and the monumental requirements that had to be met.

Those involved with the project credit its success to many factors including the unique project management approach employed and the teamwork and sharing of resources among the Environmental Protection Agency (EPA), contractors, base personnel and districts within Southwestern Division.

Tulsa District provided project management and contracting services while Fort Worth District handled the challenging real estate portion of the project.

The Reese cleanup was unusual from the beginning. The Air Force Base Conversion Agency became an active player in the process in October 1996 even though the base did not close until September 1997. The Air Force's decision to move in early paid huge dividends.

One of the first decisions made by the AFBCA was to select Tulsa District as service agent, even though that role was typically handled by the Air Force Center for Environmental Excellence. The base environmental coordinator believed that the district was best suited to expedite the program and appreciated the mutual trust and openness which existed between the Corps and the state's regulatory agency, the Texas Natural Resource Conservation Commission.

Regional teamwork

Tulsa District managed the environmental cleanup process and mastered the art of procurement management.

Programming documents and contracting actions were thought out to ensure the necessary flexibility needed to expedite the installation clean up. The district provided maximum flexibility in the contracting process to allow for quick changes inherent in the site investigation process.

All investigations were completed under firm-fixed price contracts (Radian International) and the remedial design/construction phase was completed under the Corps Total Environmental Restoration Contract (The IT Group). It would have taken longer to meet the last remedy in place deadline if the TERC had not been used.

With more than \$40 million executed in two years, all actions were expedited, including scope definitions and contract negotiations. The key feature was the flexibility inherent in the contracts.

A typical scenario would be for the BRAC Cleanup Team (BCT) to decide to drill an additional well at a site. The drilling subcontractor would be drilling within the week with the well installed, sampled, and results available for the next BCT monthly meeting. This process continued for both soil and groundwater data until the investigations were complete.

While Tulsa was handling its part of the work, Fort Worth District was furnishing the real estate support to make it all possible.



Drilling teams, like this one, worked all over the property at Reese Air Force Base to drill 50 monitoring well clusters that will take samples to be analyzed. (Photo courtesy of Tulsa District)

A groundwater plume at Reese extends more than two miles off base. After the investigation and preliminary design efforts were completed, Fort Worth was left with little time to obtain more than 70 real estate actions. In addition to individual landowners, negotiations were conducted with Lubbock County and the state of Texas.

As the contractor was installing production wells and the associated pipelines, Fort Worth District continued obtaining the easements ahead of the pipeline.

"The work could not have been accomplished in such a short time if it weren't for the total team effort," said Michael Britt of Fort Worth's Real Estate Division.

"As construction began, only a few actions were in place. We worked closely with the project manager and contractors to ensure we had agreements in place. As our deadline approached, we worked closely with the Air Force's conversion staff and expedited the entire process even further. It was a great experience."

Project management was paramount

A successful BRAC cleanup team needs open communication and information exchange. The Reese team had that and much more. It succeeded because each member understood his role and influence on the final decision. At Reese, the cleanup team's decisions were real-time and resulted in significant time and cost savings.

"Reese is different from any base I've ever been exposed to. Because issues were discussed and the team made decisions, we did not have to continually

revisit them," said Gary Miller, senior project manager and EPA team representative.

The team met monthly and spent about a day reviewing projects and focusing on the next step of the process. Because of this strategy, the regulator's review and approval time for written reports was 65 percent less than the typical regulatory review cycle. Furthermore, 95 percent of all decisions were made in the meetings and involved no interim reports.

"One of the products of a successful BCT is that we've already discussed the details of reports Prior to the submittal of the written report. This helps me expedite my review because I've already seen the results, and I know what to expect," said Mark Weegar, senior project manager and Texas Natural Resource Conservation Commission representative.

All contractors clearly understood that, although the BCT made the final decisions, the contractors' technical expertise was an important component. Before the monthly team meetings, short, concise data packages were distributed to better leverage the time of each member. At the meeting, each site was discussed, and the next steps of the decision matrix were outlined.

To further enhance communications, the cleanup team used an internal web site for instant communications, to expedite decision-making, for report reviews and site tracking. The site kept the players informed about the progress of the investigations and other activities taking place.

"I've been able to gather important site investigation information from the web site that I've used in developing remedial design work plans—at both a time and cost savings," said Vara Prasad, the IT Group project manager.

The final word

The Air Force currently averages seven years from the closure of a base to the completion of site investigations and remediation. At Reese, the BRAC cleanup team completed everything in two years.

Not only did the team provide the local reuse agency full access to the former installation five years earlier than the average, but DoD also has avoided hundreds of thousands of additional dollars in manpower which would have been required using the traditional path.

Reese AFB was the only Air Force installation to utilize the Corps of Engineers as a Service Center on a virtually exclusive role.

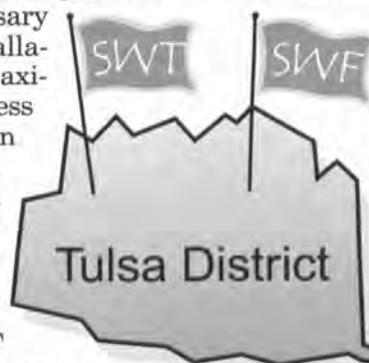
(Tim Brecheen is the Reese BRAC environmental coordinator; Dennis Thomas is Tulsa District's senior project manager.)

Teamwork sets the standard

▣ The Reese BRAC Cleanup Team achieved the fastest Last Remedy In Place in DoD history. It was the first major closure base to complete investigations and remedial construction within 24 months.

▣ Team members have presented at regional and national conferences on using partnering and project management skills to expedite the environmental remediation process.

▣ Construction was complete in 88 work days.



Focus on Southwestern Division

Four districts serve Army Reserve unit

By Anita Horky
Fort Worth District

Some of the Corps' customers don't have a choice. For certain jobs; they *must* use the U.S. Army Corps of Engineers. But for others, the Corps is an option. For the Army Reserve's 90th Regional Support Command, the Corps has proven to be the best option for its maintenance and repair projects.

"I'm real pleased that the 90th RSC continues to come back to us year after year," said Fort Worth District's Steve Wright, who until recently was the Corps' project manager for the 90th RSC. "There's no contract. When they get their funds for the year, they can go where they want. We have to deliver every year."

And deliver the Corps does, despite the challenges of serving a military organization headquartered in North Little Rock, Ark., with isolated facilities in five states needing everything from interior painting and new roofs to electrical upgrades and new flooring.

"The 90th RSC chooses to come to the Corps, and a lot of their choice is based on the fact that we provide full service—project management, design expertise, construction management, and contracting and financial management," Wright said.

"If they go to an outside vendor, such as an architect-engineering firm to do the construction management, they still have to handle a lot of the work themselves," Wright said. "The Corps offers them a single step, cradle to grave. We'll take the simplest scope of work, complete the work and turn it over to them. We can handle it all from start to finish."

The Corps' 90th RSC work is managed by the lead project manager in Fort Worth District (because the majority of the facilities are within the district's military boundaries) and performed by four different districts: Fort Worth, Little Rock, Tulsa and Albuquerque.

To get the projects completed, the lead project manager (PM) works with his own district's staff as well as three project managers in the other districts, who in turn work with designers, construction management field offices and contractors.

There are usually 50 projects, which range from a few thousand dollars to \$500,000 each, under construction at any given time.

With so many different people in different locations involved, it's difficult

to provide a consistent level of quality with minimal management costs, Wright said.

A Southwestern Division-wide job order contract (JOC), which is used for 90 percent of the 90th RSC work, helps with that problem. By using the JOC, the Corps works repeatedly with the same general contractors who understand the Corps' and the customer's expectations for quality and construction management.

"I feel like this is the classic example of the 'One Door to the Corps' concept," said Jim Pfeifer, PM for the 90th RSC at Little Rock District, which manages the JOC.

"Different districts have different tools, and we're working together to satisfy the customer. It's been an excellent experience working with other districts and building trust. It's the way things ought to work."

JOC helps the 90th throughout the year, but it especially comes

in handy when it comes time to spend year-end money quickly.

At the end of fiscal year 1998 the 90th opted to use the JOC for year-end obligations. They were able to get \$1.6 million worth of task orders issued on Oct. 29 and 30.

"I tried to do the same amount of work the year before without the JOC, and it was difficult," Wright said.

Another challenge in serving the 90th RSC is the geographic location of the facilities involved.

"The 90th RSC chooses to come to the Corps, and a lot of their choice is based on the fact that we provide full service."



Tommy Grizzle from the Fort Sill DPW (sitting) and Bud Lewis from the 90th RSC evaluate a roof as part of the 90th RSC maintenance and repair program. The Corps expects to award \$10 million in maintenance and repair work for the 90th RSC in fiscal year 2000. (Photo courtesy of Little Rock District)

"Nobody has as many offices as the Corps does in that five-state area, but we're still 150 miles away from some of the Reserve centers," Wright said.

"We're closer than anyone else, but we're still not close enough," Wright continued. "It makes it very difficult to oversee the work. It makes us very dependent on the contractors, and from a design standpoint, it makes that difficult. We can't afford to spend that much money on travel."

Despite the difficulties, the Corps manages to perform. In fiscal year 1996, the Corps designed and awarded \$2 million for the 90th RSC work. In FY99, the Corps designed \$8 million but due to funding restraints, awarded only \$5 million. This fiscal year, the Corps expects to award \$10 million.

"Overall, things are good," said Lt. Col. Nick Flannery, special project officer for the 90th RSC. "It's like any cooperative work between two agencies. There are little glitches, but we can get them worked out."

Flannery said the 90th RSC especially likes having the lead PM in Fort Worth as the main point of contact for construction issues.

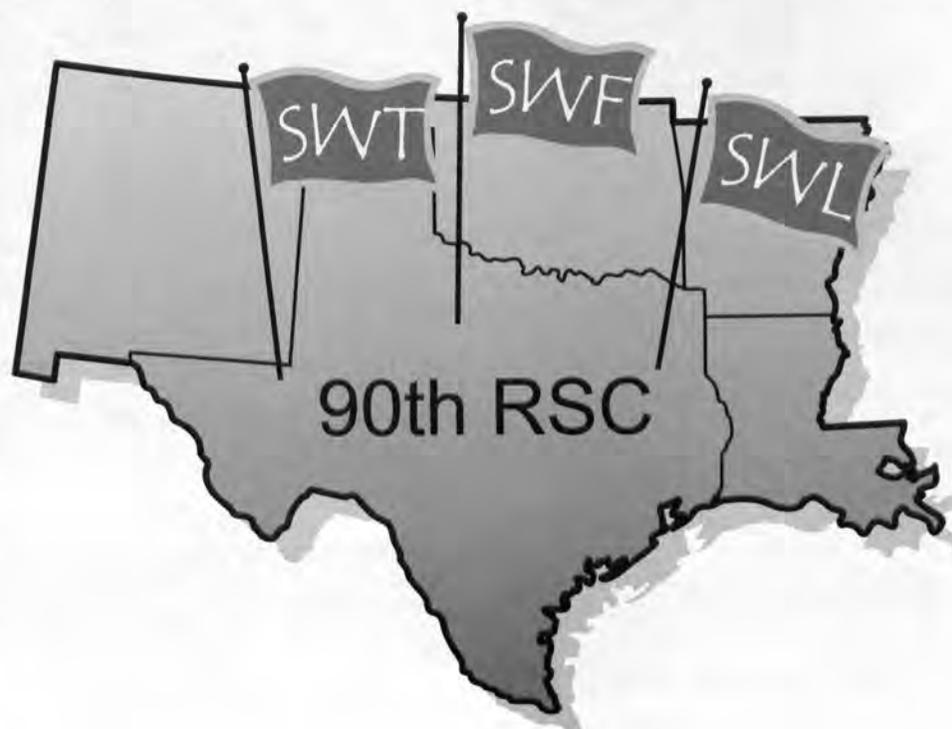
"Having a liaison-type person has made a big difference," Flannery said. "It saves us a lot of time because he gets the right person to work the action, whatever it may be. It has made life a lot easier for us and the Corps has become a lot easier to work with."

The success of the program belongs more to the individuals involved than to the lead PM, Wright said.

"In making this thing work, we're very dependent on all of the players doing their personal best to take care of their piece and to look after the customer's interest," he said.

"There's no way to write a defined, detailed, programmatic plan that would encompass all of the variables that go into each of these projects," said Wright. "There are different representatives from all of the different organizations—90th RSC, the Corps and others—pulling together. A lot of professional courtesies are necessary to ensure what we're doing is adding value to the facilities for the customer."

"The credit belongs to the individual designers, the construction management field offices, customer representatives and the contractor," Wright concluded. "To make this regional thing work, we work together to make sure we're approaching this in the best view of the technical and management arenas, but it's not going to work without individual players to do the work."



JOC puts money where service is

By Jennifer Wilson
Little Rock District

Little Rock District is re-procuring the regional job order contracts (JOC) it manages. This time, the district is asking the customers who used the first JOC to help foot the bill for the second JOC.

It's a big move for the district and the division, but one that has paid off so far.

"We've gotten great response from our customers," said Ray Russo, acting project manager for JOC. "They have no problem supporting a contracting vehicle that helps them get their work done better, faster, and cheaper."

When the first regional JOC was awarded in March 1998, Little Rock District paid for the contract procurement mainly out of overhead funds.

Traditionally JOCs are awarded by installations, and the procurement costs are funded by those installations. The SWD Regional JOC had the capability to have multiple customers in a six-state area. This made it difficult to determine who should pay for the procurement of the first SWD regional JOC.

Now that the SWD Regional JOC has been in place, the Corps has a customer base who is being asked to fund the procurement of the next JOC.

Many funding options were explored consisting of various up-front funding or surcharge scenarios. Southwestern Division's Resource Management Board made the decision that the existing customers would be asked to fund the majority of the procurement costs for the new JOC.

Customer support

Customers already are stepping up and supporting the new JOC with their money.

The 90th Reserve Support Command, a big user of the last JOC, has committed to fund a substantial portion of the procurement cost. In addition to funding provided by Little Rock District for the JOC re-procurement effort, other commitments have been received from Pine Bluff Arsenal, Department of Energy, and Vicksburg District.

The JOC is a competitively bid, indefinite delivery, indefinite quantity contract that task orders are issued against. The JOC can be used to accomplish both military and civil projects in Arkansas, Missouri, Louisiana, Oklahoma, Texas and New Mexico.

"We've done a great job with the first JOC contracts," said Janet Holmes, JOC contracting specialist. "There were a lot of unknowns when we started, and a lot of things that had to be worked out. We got everyone on board and tackled the challenges, and it has become a great tool for the whole region."

A regional tool

The first regional JOC contracts were issued by Little Rock District in 1998 with two contractors, Del-Jen, Inc. and Rayco Construction, Inc. To date, 133 task orders have been awarded to the contractors for a total of \$17 million in work.

Project managers throughout the region use the JOC as one of their contracting tools to meet the needs of their customers.

Tulsa, Little Rock, and Vicksburg districts have successfully used the JOC to do in-house operations and maintenance work as well as small parts of very

large civil works projects. Fort Polk, Fort Chaffee, the Department of Energy and the Bureau of Prisons also have used the JOC.

New customers are continually interested in JOC. After the second JOC is awarded, new customers will still be eligible to use the JOC on a cost-reimbursable basis.

"New customers can use the JOC just like our existing customers use it," Russo said. "When we re-procure the next JOC five years from now, they will be asked to fund the costs based on their usage, just like our existing customers."

Asking for suggestions

The JOC team isn't just asking customers for money. They also are asking the JOC users for suggestions that would improve the contract.

"We are in the process of getting our Unit Price Book updated," Russo said. "Now is the time to go out and ask our customers if they have any special needs that aren't currently included in the UPB."

"This gives us a chance to build in services that will meet our customer's needs and help us fully utilize the JOC."

One of the changes suggested by a customer was to increase the number of contractors for the new JOC, bringing the total from two to three.

"With the previous JOC, we found that our contractors were performing the majority of their work in Texas. But we still have customers in Arkansas and Missouri who use the JOC," said Paris Embree, the JOC's project manager.

This JOC will have one 8A contractor in Arkansas and Missouri. A traditional contractor and another 8A contractor will handle the rest of the region.

"By adding a contractor and restricting their area, we hope to provide better response to our customer's

needs," Holmes said. "This will assure service to our customers in Arkansas and Missouri while freeing up two contractors to work in other areas."

"It also will give an 8A contractor some experience on a smaller JOC contract so that they can eventually compete for a larger one."

Another difference in the new JOC and the existing JOC will be the contract amount.

The existing JOC was for \$30 million, divided evenly between the two contractors. The new JOC will be for \$55 million. The restricted-area 8A contract will be \$5 million. The non-restricted 8A contract and the traditional contract each will be \$25 million.

Continued service

Customer service has always been a priority since the regional JOC began.

"We've had JOC partnering sessions at least once a year since the contract was awarded," Embree said. "It's a chance for the contractors, the major customers, and their Corps contacts to get together and exchange ideas."

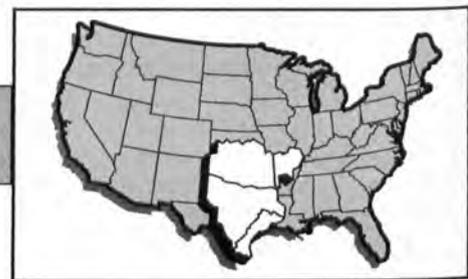
Each of the meetings has proven to be productive for the customers, contractors, and the Corps. It gives the Corps and contract representatives a chance to get feedback and to fully explain how JOC works.

"Some customers are confused about the type of work that is ideal for the JOC," Embree said. "JOC is different because you develop a scope of work, not plans and specifications. It takes people a while to get used to it, but once they do, they usually like it."

A pre-solicitation notice for the JOC was published in *Commerce Business Daily* March 1. The JOCs are scheduled to be advertised by May 1 and awarded later this year.



The JOC is perfect for operation and maintenance projects because you develop a scope of work, not plans and specifications. Rayco Construction, Inc. completed JOC work at Dierks Lake in Arkansas. One of the jobs involved placing more rip-rap to the existing drainage ditch to stabilize the area. (Photo courtesy of Little Rock District)



Focus on Southwestern Division

Fort Worth, Galveston, Little Rock, Tulsa

Around the Corps

Black engineer winners

Two Corps engineers received awards in the 14th Black Engineer of the Year Awards Conference held recently in Baltimore.

Lt. Gen. Joe Ballard, Chief of Engineers, received the Dean's Award conferred by the Council of Engineering Deans of the Historically Black Colleges and Universities. (In 1998, Ballard received the Black Engineer of the Year Award.) Gen. Eric Shinseki, Chief of Staff of the Army, presented the award.

A short time later, Ballard returned to the stage to present the Award for Professional Achievement in Government to William Brown, Principal Assistant to the Corps' Deputy Commanding General for Military Programs. Brown is the Corps' highest-ranking civilian officer and the first African-American engineer in the Department of Defense in the Senior Executive Service.

ASCE award

David Pezza of Norfolk District received the Zone II 1999 Government Civil Engineer of the Year Award from the American Society of Civil Engineers. The award recognizes contributions by civil engineers in public service. Zone II includes the South and Mid-west U.S. and Puerto Rico. Pezza was the only Corps employee to achieve this level of national recognition. He is responsible for Norfolk District's geotechnical and environmental engineering programs.

Flood insurance lifted

Federal and Los Angeles County officials assembled recently in Long Beach, Calif., to announce that the Federal Emergency Management Agency (FEMA) has lifted mandatory flood insurance for more than 100,000 residents along the Los Angeles River due to improvements made by Los Angeles District.

The completed portion of the restoration project extends along the L.A. River and a nine-mile stretch up Compton Creek. When the entire project (which spans 22 miles and 13 communities) is completed, more than 330,000 residents will save \$33 million in annual flood insurance premiums. In the completed areas, L.A. District has raised the levees and also built parapet walls, widened the existing bike path, and provided landscaping.

"This is a significant milestone in this 10-year project," said L.A. County Supervisor Don Knabe. "We've worked shoulder-to-shoulder at the federal, state, and local level to keep this project fully funded and on time. In fact, we're about five years ahead of schedule because of some of the innovations the Corps has come up with."

"We've completed about 70 percent of our construction," said South Pacific Division Commander Brig. Gen. Peter Madsen. "We're proud to be part of this milestone, but we're really looking forward to coming back in 2001 for the final ribbon-cutting ceremony."

British officer

In May, Capt. Jim Yearsley, a British army officer, will arrive in Los Angeles District for a year of practical experience. His wife Julie will accompany him. Yearsley is fresh from post-graduate studies at the Royal School of Military Engineering. On his return to the United Kingdom, Yearsley expects to take The Institution of Civil Engineers Member's Professional Review (equal to America's professional engineer exam), and also present his final masters degree paper to a learned audience. Yearsley is tentatively considering the pier nose extensions on the LACDA project for his final master's thesis.

Russian triumph

Joey Luebbert, adopted as an infant five years ago in Russia by Jim and Mary Ann Luebbert of St. Louis, Mo., has experienced an All-American triumph.

Jim Luebbert is a historian in the Ordnance and Technical Support Branch of St. Louis District. He is also an avid football fan, and Joey has been watching the St. Louis Rams on TV with his Dad for years. At a young age, Joey became adept at performing the Ram's victory dance, the Bob & Weave. When Luebbert learned of the children's Bob & Weave contest at Union Station in St. Louis, Joey became a contestant.

A pair of free tickets to the Rams/Buccaneer game went to the winner, so the five-year-old danced his heart out, and won. Naturally he chose to take his best friend, Dad, as his guest.

CERL acting director

Dr. Alan Moore will be Acting Director of the Construction Engineering Research Laboratory (CERL). In this position he will direct a \$70 million research program that creates and fields technologies to ensure military installations can project power through an adequate infrastructure and support Army readiness through a sustainable training environment. CERL is one of eight laboratories in the Corps' U.S. Army Engineer Research and Development Center.

Moore replaces Dr. Michael O'Connor, who left in January to become Chief of the Geotechnical Laboratory in Vicksburg, Miss. Moore will fill the CERL Director position while the Corps recruits a permanent Director in the Senior Executive Service.

Wheelhouse perception

Memphis and Vicksburg districts hosted Pilot's Day on Feb. 23 at Ensley Engineer Yard and Marine Maintenance Center. The working conference, an annual event since 1992, involved the districts, Mississippi Valley Division, and the river towing and navigation industry.

"We presented Memphis District's program of work for the next two years," said River Engineering Team Leader Darian Chasteen. "It lets the towing and navigation industry know where we're going to work, and lets them give us their input."

"This meeting gave the Corps the wheelhouse per-

ception," said Capt. Steve Crowley, assistant vice president of Operations at Ingram Barge Company. "And the pilots can provide information as to situations out on the river that the Corps is not aware of."

For example, the pilots gave the Corps input on some other sites where no work had been proposed that were causing them problems.

"They let us know we had extreme low water condition at Armstrong that our hydrographic surveys didn't alert us to," said Chasteen. "If they hadn't told us exactly what happened in low water, we wouldn't have known the problem existed."

But the education did not all flow one way.

"We're required maintain a nine-foot-deep, 300-foot-wide navigable channel," said Chasteen. "This meeting helped us educate a few river pilots so that they can understand how we do our business. To do what some of them wanted, we'd need five or six dredges out there. We're constrained by our authorities and also by our resources, and they weren't thrilled."

"But I had several pilots approach me and say we were within a foot of the all-time record low water and they were still running 30 barge tows up and down the river," Chasteen said. "In a lot of places, they didn't have two-way traffic, but in 1988 they were running smaller tows and had to light-load their barges. We have a better river than in 1988, and they expressed that."

Special achievement award

Stuart Appelbaum, Chief of Ecosystem Restoration Section in Jacksonville District, received a special achievement award on Jan. 7 for leading the inter-agency team which produced the \$7.8 billion Comprehensive Everglades Restoration Plan. Appelbaum received the award at the Everglades Coalition's 15th annual conference in Naples, Fla.

Appelbaum's group consolidated all the information on the vast, complex effort. The plan is designed to restore the South Florida ecosystem and simultaneously provide other water-related needs of the region, including urban and agricultural water supply and flood protection.

"This is indeed a great honor and I was very surprised," said Appelbaum. "What excited me the most is that the award celebrates the efforts of the entire team, and I was pleased to learn that every team member will get a certificate. We had 150 members of the Restudy Team. They all worked hard and should be recognized."

225 years

Engineer saved NY City

(This is another in a continuing series of true stories from the history of the U.S. Army Corps of Engineers to commemorate the Corps' 225th year. All material is from the History Office publication, "Historical Vignettes - Volume 2," EP 870-1-1, available on-line under USACE Publications, Engineer Pamphlets, Historical.)

Long before the U.S. Army Corps of Engineers was charged with aiding victims of natural disasters, individual Army engineers lent a helping hand to fellow citizens in time of trouble.

As early example is Brig. Gen. (ret.) Joseph Swift, former Chief of Engineers, during the great New York City fire of 1835. Fire broke out in lower Manhattan on Dec. 16 and spread rapidly, consuming houses and stores, threatening to devour the entire city.

Alarmed and desperate, the mayor of New York City turned to Swift, a municipal hero since 1814

when he directed the city's defense against threatened British attack. At the time of the fire, Swift was retired from the Army and working as a civilian for the Corps on harbor improvements.

Swift decided to contain the blaze behind a line of demolished buildings. Working quickly, he calculated how much gunpowder he would need to "shake down" a house without damaging neighboring properties. Then he directed the placement of charges to create "a globe of compression." When the powder went off, walls toppled inward and houses collapsed upon themselves, leaving adjacent structures unharmed. (This technique was a novelty at the time, but it is now standard practice in urban demolition.)

At great personal risk, Swift set off charge after charge, arresting the fire's advance on Dec. 17 and saving countless lives and millions of dollars in property.

Interns find hard work, fun in Kuwait

By Joan Kibler
Transatlantic Programs Center

Architect and engineer interns have a unique opportunity to broaden their skills in overseas installation support. Transatlantic Programs Center (TAC) has asked divisions and districts across the U.S. Army Corps of Engineers to give their interns the opportunity to work at Army and Air Force facilities in Kuwait.

The first intern from outside of TAC, Michael Yu from Fort Worth District, recently completed a four-month tour in the Installation Support Office (ISO) in Kuwait.

"This experience was incredibly rewarding," Yu said. "The ISO in Kuwait has a fast-paced environment where I saw projects from inception through completion. While I worked in design and quality assurance under the guidance of seasoned professionals, they relied on me to perform my tasks correctly and in a timely manner that always met the customer's needs."

"This tour provided broad exposure to the various engineering processes and functions, in an international environment, where I worked directly with U.S. military members and with foreign contractors," Yu continued. "I wanted to expand my engineering experience beyond the continental U.S. because of my belief that we must think and act globally. This assignment gave me an opportunity I wouldn't have gotten stateside."

When TAC commander Col. Tim Wynn solicited Corps offices last summer, he said this intern training experience would provide "great value in terms of the variety of work experience, real-time and real-world tasks, and exposure to a foreign culture."

"It is unfortunate but a fact that Army and Air Force installations in Kuwait are generally understaffed," Wynn said. "They don't have the continuity of permanent staff generally found at U.S. installations. Recognizing this need, the Installation Support Office performs a variety of engineering and contracting tasks to help meet their quality of life and operational needs."

ISO impact

The Army uses Camp Doha, a former industrial warehouse complex converted to an Army installation after Kuwait's liberation from Iraq. Air Force units operate in two sectors at Ali Al-Salem and Ahmed Al-Jaber air bases. U.S. forces are in Kuwait as a result of country-to-country agreements, with the host nation involved in providing and funding the facilities.

The Installation Support Office, at Camp Doha with about a dozen permanent people, is a relatively new organization formed in January 1998. The staff of engineers, construction representatives, and contracting officers provides a full range of services to the Army Director of Public Works and the Air Force Base Civil Engineers.

"Interns assigned to Kuwait provide us with an excellent personnel source to supplement our quality assurance efforts, especially at the air bases," said Col. Larry Ghormley, TAC's Gulf Regional Engineer. "Interns also have the opportunity to work in our design branch and to work with our contracting specialists who manage the job order contract (JOC) that provides most of the construction services for projects managed by the Corps at Camp Doha and the air bases. This work has a direct impact on the conditions for U.S. soldiers and airmen in Kuwait."

Ron Rhodes, a TAC senior engineer on assignment in Kuwait, echoed this theme. "Our installation support business is on the front lines of U.S. military strategy in this region. We're supporting airmen who fly combat missions *every day*. We're supporting soldiers who are here in defense of Kuwait. Our



A stint in Kuwait isn't all hard work, as Amanda Benes finds out with two new friends. (Photo courtesy of Transatlantic Programs Center)

installation support business has a sense of urgency that differs from a stateside installation."

Amanda Benes, a TAC architect intern, has spent time in Kuwait twice. "The conditions are austere at the air bases. For instance, in the tent camps where airmen live and work, they have to walk to the latrines. The installation of a prefabricated building or a trailer unit dramatically improves conditions. Even small projects, like adding walls and air conditioning, go a long way toward making these military members a little more comfortable when the temperature reaches 130 degrees in the summer."

What to expect

Interns who sign up for Kuwait can expect to be involved in all phases of design, contracting, and construction.

"For small projects, it is entirely possible that the intern will see it from start to finish," said Yashpal Kainth, ISO design team leader. "In the design process, they participate in discussions with the customer, and they may be involved in all design phases. Then interns will get involved in the contracting process where they learn to prepare the request for proposal package that is sent to the JOC contractor, and they will learn to prepare estimates. Once the project gets to construction, they review shop drawings, participate in the field surveys, and provide quality assurance oversight."

When the project transitions to construction, they go through a similar orientation with the quality assurance staff and are given specific responsibilities.

"With the rainy season this past fall, we had an urgent project to design and install a temporary drainage system in the housing area at the Air Force camp on Al-Jaber," Yu said. "I worked on this project from start to finish, with resolution required quickly. And we had to tie in the solution with the ongoing upgrade to the water and sewer systems."

What the work involves

"Our installation support office operates almost entirely on operations and maintenance appropriations provided by the customers," said project manager Ron Tomechko. "Project workload is driven by the availability of funds, military actions, and anticipated needs. Installation Support Office operations can be affected by increases to the operational

tempo of the military units."

The JOC, awarded in May 1998 to Kuwait Dynamics Ltd., calls for maintenance and repair, minor construction, utility and infrastructure upgrades, and base operations. "The work is accomplished via task orders, generally ranging between \$100,000 and \$300,000 each," said Robert Strom, project manager. "Right now we have 35 quality assurance projects and 77 design projects."

Typical projects include offices, dining facilities, cold storage, water and sewer upgrades, access roads, power supply, trailers, pads, maintenance facilities, shops, aprons, and force protection measures.

"The enormous amount of work at the air bases has prompted the Air Force's request for a separate JOC for their work," Strom added. "This contract will likely be for five years, based on the Air Force's facility improvement plans."

While the installation support business in Kuwait started with its share of uncertainties, this engineering tool is now heavily relied on. "With the frequency of the Air Force rotations, we have become *the* continuity for helping the Air Force with its facility needs," Strom said. "We are delighted to have this responsibility."

Why?

"I'd recommend that interns sign up for a tour in Kuwait for two reasons — to get career experience and to get international experience and exposure," Benes said. The professional opportunity is unparalleled. When I compare my work experiences to those of my college classmates, mine have been so much broader at this early stage of my career. The Corps' intern program is invaluable because of its exposure to all the engineering disciplines, as well as the project management and contracting processes.

"I thoroughly enjoyed immersing myself in the culture, as well," Benes continued. "Where else can you get off from work and go watch the camel races? You can take advantage of the MWR (morale, welfare, and recreation) activities offered on Camp Doha — a weekend trip to Bahrain, or go boating, fishing, or snorkeling. Plus the traditional shopping areas are renowned for the rugs and gold, and Kuwait City has several upscale malls. When I get tired of eating at the Camp Doha mess hall, there are plenty of good restaurants of all types, with reasonably priced food."

Interns assigned to Kuwait live at Camp Doha where housing and all basic amenities are provided.

"I had never had this degree of exposure to life on an Army installation," Yu said. "I was pleasantly surprised by the Army's efforts to take care of its forces."

Interns live in a trailer where they share bath facilities with another occupant. Food, laundry facilities, and transportation are provided. Like others assigned to Camp Doha, they're paid a modest amount of per diem (\$3.50 per day). Of course, they're paid overtime.

"Money wasn't an issue for me," Yu said. "I wanted the international experience and everything that came with it. I'm grateful to my mentor in Fort Worth District who encouraged me to do this."

Interns interested in working in Kuwait should contact Philip Dinello, TAC's intern coordinator, at (540) 665-3636 or Philip.l.dinello@usace.army.mil.

"The enthusiasm these interns bring is refreshing," Rhodes said. "Their assignment is a learning experience. When they come in, we promise them exposure to design, construction, and contracting processes. We guide them, teach them, and endeavor to broaden their experience, while giving them substantive work that contributes directly to the Corps' mission in Kuwait. The intern program is good for the intern, good for us, and good for the Corps."