



US Army Corps  
of Engineers®  
San Francisco District

# SPN Surveyor

June/July 2012

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[www.spn.usace.army.mil](http://www.spn.usace.army.mil)



## SPN removes SF pier

*Sets stage for new wharf project*

### Also inside this issue . . .

*Project at SFVA Medical Center, page 5*

*SPN partners with STRAW, page 7*

*Golden Gate Bridge turns 75, page 10*

# COMMANDER'S CORNER

## *"It has been an absolute privilege serving with you"*

By Lt. Col. Torrey A. DiCiro  
San Francisco District Commander

This issue of *SPN Surveyor* marks my last column as your commander. It has been an absolute privilege serving with each and every one of you. The level of effort, commitment and professionalism I have seen since I took command on July 13, 2010, has been remarkable.

There are so many examples of how you have helped this district move from "Good to Great" that there is simply not enough column space to list them all.

Here are a few of the remarkable achievements I have witnessed over the last two years:

- At the start of Fiscal Year 2011, our district surpassed \$50 million in American Recovery and Reinvestment (ARRA) "stimulus" contracts. Of the 80 contracts awarded at that time, 61 of them had gone to small businesses for projects that included harbor and channel dredging, construction and upgrading of our major recreation areas.

- On Feb. 16, 2011, our Construction Branch celebrated the official opening of the 270,000-square-foot Armed Forces Reserve Center at Moffett Field. This state-of-the-art facility is now home to the men and women of the 63rd Regional Support Command.

- Also in 2011, our district engineers oversaw the completion of one of two 600-foot double-barrel culverts installed



below Main Street in downtown Napa, helping to reduce the risk of flooding from nearby Napa Creek.

- Our Regulatory Team responded quickly when disaster struck at the Santa Cruz Small Boat Harbor on March 11, 2011. That day, a tsunami triggered by the 9.0-magnitude earthquake in Japan ripped through the city's 821-slip harbor leaving behind more than \$26 million in damages. Our regulatory managers were able to issue a Regional General Permit 5 in less than six days allowing the harbor district to begin its recovery efforts.

- On Sept. 17, 2011, my family and I had the privilege of joining more than 50 district volunteers during the annual Cal-

ifornia Coastal Cleanup at Angel Island. Together, we hauled out over 900 pounds of trash that day!

- In February of this year, we hosted a public rededication and ribbon-cutting ceremony for the Bay Model Visitor Center in Sausalito. The event marked the completion of nearly two years of construction-related projects at this iconic museum and educational center. With the help of a \$15 million ARRA investment, we were able to fully refurbish this half-century old facility, adding, among many things, a 2,492-panel solar energy system, the largest of its kind in the South Pacific Division.

### **New leadership**

In looking ahead, I ask that you join me in welcoming LTC John K. Baker and his wife and two sons. LTC Baker comes to us from Fort Hood, Texas, serving as the Brigade Executive Officer for the 36th Engineer Brigade. He has outstanding professional credentials as well as prior USACE experience, having served for both the Baltimore and Afghanistan Engineer districts.

My next assignment will be at Joint Base Lewis-McChord, a garrison near Tacoma, Washington. I will serve as Deputy Brigade Commander for the 555th Engineer Brigade.

Finally, a big thank you from my family, myself, USACE, and most importantly, the nation for your dedicated hard work. I will truly miss all of the wonderful memories I had here at the San Francisco District.

### **District Commander**

LTC Torrey A. DiCiro

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## SPN **Surveyor**

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# TABLE OF CONTENTS

## PROJECTS & EVENTS

*Project Report:* SPN oversees demolition project at Pier 36 in San Francisco **4**

Electrical upgrades to improve safety, reliability at Veterans Affairs Medical Center in SF **5**

USACE researchers inspire next generation of innovators at expo in Washington, DC **6**

## PEOPLE & DEPARTMENTS

SPN partners with STRAW for planting event at the Hamilton Wetland Restoration Project **7**

District unveils new facility for endangered coho salmon **8**

*Photo Feature:* Fish squeezing at Lake Sonoma **8**

Corps rangers lead the way in defense training **9**

## SPN ACTIVITIES

*Photo Feature:* Happy 75th, Golden Gate Bridge! **10**

*USACE in History:* SPN approves use of federal land for Golden Gate Bridge construction **11**

Engineering Challenge **11**

*Postcard from Afghanistan:* J.D. Hardesty **12**

## Veterans tour SF Bay aboard Dillard



*SPN Commander Lt. Col. Torrey DiCiro, middle front, hosted several wounded warriors for some recreational therapy aboard the Dillard, one of the San Francisco District's vessels, May 29.*

**Story & photo by JC Delgadillo**  
*District Public Affairs Office*

Memorial Day may have passed, but U.S. Army Corps of Engineers San Francisco District Commander Lt. Col. Torrey DiCiro hosted several wounded warriors for some recreational therapy aboard The Dillard, one of the San Francisco District's vessels, May 29.

The group toured the San Francisco Bay, saw famous engineering icons including the Golden Gate Bridge and Alcatraz and learned about the district's many missions, including keeping the bay navigable and safe.

Veterans from a Department of Veterans Affairs traumatic brain injury center in Martinez, Calif., and members of the board of directors of the Monterey Bay Veterans, a non-profit group whose mission is to provide wounded warriors marine diversion therapy programs, also participated.

Lt. Col. DiCiro met with various generations of wounded warriors who served in conflicts including World War II, Vietnam, Afghanistan and even veterans injured in basic training, like Chanel Ridley. At age 20, Ridley was injured during a training accident that resulted in a traumatic brain injury. She participates in recreational therapy as part of her healing

Continued page 5

## On the cover

*A construction worker helps direct two excavator operators in the demolition and removal of Pier 36 in San Francisco. In March of this year, the San Francisco District Corps of Engineers Construction Branch began supervision of the \$5 million demolition of the pier. The demolition work includes removing the entire 133,000-square-foot concrete deck of the pier, the pier's 35,000-square-foot warehouse building, which contains hazardous materials, and all of the supporting structures underneath, including 350-400 concrete and timber piles and caissons. (Photo by Ryan McClymont)*

June/July 2012



# PROJECT REPORT



An excavator operator pulls a large piling out of the water at Pier 36. The entire pier, located in San Francisco, is slated to be removed.

## SPN oversees demolition project at Pier 36 in SF

Story & photos by Ryan McClymont  
District Public Affairs Office

The demolition of Pier 36 along the Embarcadero in downtown San Francisco is coming to completion after unforeseen complications slowed progress. Two of the culprits were an aging Embarcadero seawall that needed to be repaired and the other was the discovery of large pieces of concrete, left after the original construction of Pier 36, on the floor of the bay that had to be removed. Neither of these hidden factors was included in the original demolition plan, but both were professionally addressed and added to the process as they were discovered.

In March of 2012 the San Francisco District Corps of Engineers Construction Branch began super-

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*It's making way for expansion and a new park for tourists and residents of the local area.*

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**Ricardo Galdamez**  
SPN Civil Engineer

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vision of the \$5 million demolition of Pier 36. The demolition included removing the entire 133,000-square-foot concrete deck of the pier, the pier's 35,000-square-foot warehouse building which contained hazardous materials and all of the supporting structures underneath, including 350-400 concrete and timber piles and caissons.

"This project is important because the pier was condemned, it was a hazard, it served no use and it was closed to the public," said Ricardo Galdamez, a Corps civil engineer. "It's making way for expansion and a new park for tourist and residents of the local area."

The demolition of pier 36 will allow for the creation of the Brannan Street Wharf which will create 57,000 square feet of new public open space including a waterside walkway with seating, a shade structure, a small-craft floating dock for kayaks and recreational water vessels, along with a one-half acre neighborhood lawn area expected to be completed in June of 2013.

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For more on this project, visit [www.spn.usace.army.mil/projects/project\\_listing/sanfranciscopier36.html](http://www.spn.usace.army.mil/projects/project_listing/sanfranciscopier36.html)

# Electrical upgrades to improve safety, reliability at VA medical center in SF

Story & photos by JC Delgadillo  
District Public Affairs Office

From imaging machines and life-saving devices to simply the lights overhead and computers on desks, hospitals need reliable energy. The San Francisco Veterans Affairs Medical Center is no different.

Despite energy-efficient retrofits which have saved enough electricity to power 400 homes each year, an aging electrical infrastructure at the nearly 80-year-old facility requires some repairs and upgrades to better serve the more than 400,000 veterans who use the center each year.

Enter the U.S. Army Corps of Engineers San Francisco District. Through the Corps' Interagency and International Services, which provides technical assistance to



*A project that will repair the campus-wide electrical system at SF Veterans Affairs Medical Center is underway at the nearly 80-year-old facility that serves more than 400,000 veterans each year.*

*The electrical upgrade will benefit the entire campus.*

**Rachel Coyner**  
SPN Civil Engineer

non-Department of Defense federal agencies among others, district employees are working closely with their counterparts at the center as well as the contractors making the repairs and upgrades.

"Power quality is a big thing here. Our older equipment just doesn't provide that nice, smooth sine wave we're looking for, so this project is going to provide, overall, more functionality and better quality," said Travis Dilts, an electrical engineer

with the San Francisco Veterans Affairs Medical Center.

"No one is at risk, but I'd like to see a bit more redundancy for our intensive care units, operating rooms and hemodialysis units. It's just going to provide better quality for our Veterans," Dilts said.

In engineering, redundancy is the duplication of functions within a system to increase the reliability of the system.

"The electrical upgrade will benefit the entire campus," said Rachel Coyner, one of the San Francisco District's project engineers working on the electrical repair and upgrade project.

The work consists in general of:

- 120 manholes and pull boxes.
- 40,000 Low Frequency underground

conduits.

- 42,000 feet of Low Frequency medium voltage cable.
- 27,000 Low Frequency feeder conductors.
- 450 pieces of electrical equipment.
- 54 site poles and fixtures.
- In total, 62 miles of conduit and wire.

Since 1934, the San Francisco VA Medical Center has strived to improve the health of the men and women who have so proudly served the nation. It's also an important teaching hospital and has a long-standing relationship with the University of California San Francisco and others.

Improving and upgrading the safety and reliability of the campus-wide electrical system will help make sure the center will continue its mission to serve Veterans and teach medical leaders. The project is scheduled to be completed in 2014.

## Veterans continued ...

and recovery process.

"It's wonderful to get a break and just come out on a boat and tour the bay. It has been amazing. I've never been out on the bay like this before, and I appreciate all of it,

the bridges, Alcatraz, everything," said Ridley.

The district plans future opportunities to partner with veterans groups and recreational therapy programs where possible.



*A contractor adjusts an electrical switchboard at the medical center.*



# USACE researchers inspire next generation of innovators at expo

Story & photos by JC Delgadillo  
District Public Affairs Office

More than 100,000 curious participants descended upon the 2012 USA Science and Engineering Expo and Book Fair April 27-29 at the Walter E. Washington Convention Center. The event featured highly interactive displays targeting youth K-12 and brought together top-notch universities, government agencies, private-sector companies, and non-profit organizations all for one purpose: to influence children to become the next generation of innovators by making science and engineering fun.

For decades, the United States has been

the world's scientific and technological leader, yet between 1990 and 2005, worldwide higher education enrollment doubled while the U.S. share of those enrollments particularly in science and engineering fell rapidly. Should Americans be concerned about the decline in the U.S. share of higher education enrollment in science and engineering? Gopa Nair, a father of two little girls from Centreville, Va. said, "Yes." He brought his daughters Riya and Sreya Nair, ages eight and five to the expo.

"I tell my daughters that I love them very much and they can be anything they want to be when they grow up, but they must have a solid understanding of math and science."

In 2005, the National Academies published a report demanding more investment in science, technology, engineering, and mathematics education in America. "Rising Above the Gathering Storm," warned that for the United States to remain competitive in a global economy, the nation's leaders, both public and private, must make STEM-education a priority. According to conference organizers, given the dangerous down trends in American STEM education, the expo serves several important goals including inspiring more students to pursue science and engineering ca-

Continued next page



# SPN partners with STRAW at Hamilton

By Brandon Beach  
District Public Affairs Office

Students from Marin Horizon School in Mill Valley got a hands-on lesson in what it takes to restore wetlands during a field trip to Hamilton March 23.

More than 40 children from two second-third grade combined classes spent the day helping to plant an assortment of native trees and brush at one of the site's upland areas the U.S. Army Corps of Engineers is in the process of restoring.

The event was organized by the Students and Teachers Restoring a Watershed Project, an educational program offered by PRBO Conservation Science. Coordinators for the STRAW Project brought all of the potted plants, mulch, buckets, shovels and instruction needed to get things started. The school supplied the manpower.

"They're absolutely loving being out here," said Lois Sheridan, a teacher at the school. "No one has asked, 'Are we having lunch yet?'"

Students worked in two-person teams shoveling mulch



*A staff member from the Students and Teachers Restoring a Watershed Project helps a student get a plant into the ground during an educational outreach event at the Hamilton Wetland Restoration Project March 23.*

into buckets, digging holes at designated locations, and calling on STRAW coordinators by yelling, "Plant Inspection!" when they had finished.

The Corps is focusing its initial planting efforts on a 27-acre transitional area in the southwest corner of the project site referred to as a wild-

life corridor. More planting events like this are scheduled to take place throughout the year. In addition to organizing these outreach opportunities for schools, the STRAW Project also provides maintenance of the plants for the next three years.

"We will weed and hand

water," said Emily Allen of the STRAW Project. "We will do plant survival counts and monitoring. It's great to come out to a place like this [Hamilton] that will have so many changes over the years."

*Learn more about STRAW at [www.prbo.org/cms/192](http://www.prbo.org/cms/192).*

## Expo continued ...

reers and educating the nation on the opportunities for employment in the science and technology sector.

More than 3,000 exhibitors sought to ignite children's interest in such topics as preventing global warming, advancing medicine and health, unraveling how the brain works, and developing innovations that keep us safe. Among the thousands of exhibitors was research engineer Kelley MacDonald from the Cold Regions Research and Engineering Laboratory in Hanover, N.H. The laboratory is part of the Engineer Research and Development Center of the U.S. Army Corps of Engineers. MacDonald, 25, is

one of the laboratory's youngest engineers and said a great math teacher in junior high as well as her dad, sparked her interest in science. MacDonald showcased the Synthetic Automotive Virtual Environment or SAVE at the expo. SAVE's goal is to save lives, she explained. About one third as many Soldiers are killed in vehicle accidents as in combat, so SAVE was developed to teach military drivers how to control their vehicles, avoid accidents, and drive on rough terrain, including road conditions in warzones. Engineers like MacDonald, computer programmers, expert drivers and other professionals worked together to develop the simulator and accompanying virtual world that allows drivers to prepare for real

world road conditions. While children were not allowed to take the simulator for a spin, adults were. So with a waiver signed, seatbelt buckled, and instructions issued, MacDonald began the simulation for Gopa Nair. Riya and Sreya Nair cheered for their daddy as he maneuvered over ice, gravel, sand, rock and even negotiated around a roadside bomb. After completing the simulation, Nair, a computer scientist, said he was impressed by SAVE.

As the conference came to a close, nearly 200 participants took SAVE for a spin, hundreds more learned about its mission to save troops' lives and countless children may have been inspired to become the next generation of innovators and problem solvers.



## AROUND THE DISTRICT

# SPN unveils new facility for endangered salmon

*District Public Affairs Office*

Federal, state and local officials opened a new \$4 million building housing an innovative program to help bring coho salmon back to the Russian River watershed in May.

Funded by American Recovery and Reinvestment Act funds, the 25,000-square-foot facility at the base of Warm Springs Dam will help sustain and improve the Russian River Coho Salmon Captive Broodstock Program.

The coho broodstock building is one of several ARRA-funded improvements constructed at Lake Sonoma. In total, more than \$13 million was spent on a variety of projects including dam safety improvements, the new broodstock building and the renovation of the Milt Brandt Visitor Center.

"The coho building, the visitor center renovations and other improvements at Lake Sonoma are prime examples

of what recovery funds were intended to do. Jobs were created, key public investments were rehabilitated and a species on the brink of extinction is being helped," said First Congressional District Representative Mike Thompson, who spoke at the ribbon cutting ceremony.

The broodstock program was created in 2001, when coho in the Russian River were teetering on the brink of extinction. Remaining Russian River coho were captured by California Department of Fish and Game biologists, in coordination with biologists from other agencies, and brought to the Don Clausen Fish Hatchery at Lake Sonoma, where they were spawned based on a genetic matrix developed to mimic natural spawning.

This initial effort to save the last remaining Russian River coho led to the formation of a multi-agency broodstock program. Partnership agencies



include the Army Corps of Engineers, National Marine Fisheries Service,

California Department of Fish and Game, University of California Cooperative Extension, and the Sonoma County Water Agency.



Beach

*[Top] SPN's Ben White, right, shows Congressman Mike Thompson a coho rearing tank. [Above] The new coho building officially opened during a May 2 ceremony.*



## Fish squeezing at Lake Sonoma

*In April, senior leaders from a multitude of agencies visited Lake Sonoma for a hands-on tour of the Don Clausen Fish Hatchery. The "fish squeezing" event was a chance to pair senior leaders with hatchery technicians to highlight the spawning process of steelhead.*

*[Left] Beth Nelson, wife of Col. Andrew Nelson, SPD deputy commander, steadies a female steelhead as it deposits eggs into a cloth-lined tray.*

*[Above Left] Cameron Johnson, right, chief of SPN Regulatory South Branch, and Tom Kendall, chief of SPN Planning Branch, work together to squeeze milt from a male steelhead.*

*[Above Right] Maria Crary, wife of Maj Christopher Crary, SPN deputy commander, gets some help from Danny Garcia, a CDFG hatchery technician, on handling an adult steelhead.*

*- All photos taken by Brandon Beach*





U.S. Army Corps of Engineers Park Ranger Alyson Strickland lands a strike on a perpetrator during defensive tactics training for rangers April 4.

## Corps rangers lead the way in defense training

Story & photos by JC Delgadillo  
District Public Affairs Office

Some say U.S. Army Corps of Engineers park rangers are among the Corps' most versatile employees. They go from smiling and educating visitors at approximately 140 recreation sites to hand-to-hand combat if need be. Nearly 16 million visitors come out to recreation sites within the Corps' South Pacific Division, an area encompassing 10 states in the Southwest. (Five are shared with other divisions.)

South Pacific Division rangers labor, often alone, throughout 140 thousand acres of land, 61 thousand acres of water and 330 miles of shoreline. Their duties are varied and include educating swimmers and boaters about injury prevention, leading interpretive programs about threatened and endangered species, and developing partnerships with groups who focus on environmental stewardship. Most recreationists are peaceful, but astounding events, like when Albuquerque District Ranger Alfred Chavez was shot and injured while on duty in 2007, serve



Chavez

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*What you're learning  
here could save  
your life or the life  
of someone else.*

**Miki Fujitsubo**  
**Lake Sonoma Park Ranger**

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as a solemn reminder that the work rangers do can be dangerous.

To guard against visitors who may seek to harm personnel, rangers participated in defensive tactics training during a ranger conference held in Santa Rosa in April.

Among the trainers was Miki Fujitsubo of Sacramento District's Planning Division. In addition to being a senior landscape architect and water resources planner for the Corps, Fujitsubo is a martial artist and defensive tactics instructor. The training rangers experienced included a combination of physical, mental, and spiritual tactics. The goal was for rangers to

develop personal confidence and genuine empowerment while also learning how to dominate an aggressor if need be.

"What you're learning here could save your life or the life of someone else," said Fujitsubo, who also led a discussion about the Army values which are loyalty, duty, respect, selfless service, honor, integrity and personal courage. "It's not about creating conflict, it's about protecting life," he said.

Sacramento District's senior ranger, Jon Friedman, added it's also about using all the tools available to de-escalate a situation. Tools include correct wear of the uniform to promote respect and authority, verbal communication such as issuing oral warnings, and written citations. Other tactics include using radios to get backup, pepper spray, and escape maneuvers, not just the physical defensive tactics like striking, he said. Understanding regulations, policies and laws as well as developing good relationships with visitors are important methods to prevent the need to use physical force, he said.

"You are only going to be as good as you practice," said Friedman, who encouraged rangers to spend equal time honing knowledge about regulations and laws as they do physical maneuvers.



The Golden Gate Bridge 75th Anniversary Festival was capped off on Sunday May 27, with a spectacular fireworks display and grand finale. The bridge was honored with two full days of music, dance, entertainment, art and exhibits held at various locations including Fort Point, Crissy Field, The Presidio, Marina Green, Fort Mason Center, Ghirardelli Square, San Francisco Maritime Historical National Park, Fisherman's Wharf and Pier 39.

The crew of the San Francisco District's *John A. B Dillard, Jr.* took part in the celebration by working with the U.S. Coast Guard as part of their security zone during the fireworks to prevent vessels from entering the Golden Gate during the show.

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- All photographs were taken by SPN Surveyor's Ryan McClymont while aboard the *Dillard*.





# SPN approves use of federal land for bridge construction

**O**n April 9, 1924, the San Francisco District Engineer, Col. Herbert Deakyne, wrote Washington that the San Francisco Board of Supervisors had requested approval of plans for a bridge across the Golden Gate. Deakyne noted that Washington's approval was necessary because the federal government owned the land at both ends, the Presidio and Fort Baker.



Deakyne

In December, Secretary of War John W. Weeks issued a provisional permit authorizing the newly-formed Golden Gate Bridge & Highway District (GGB&HD) to proceed with the planning. A special army board of high-ranking Engineer officers held a public hearing in San Francisco on June 30, 1930. Some opposition surfaced and raised concerns about the effects of a bridge on military defense, scenery, and earthquakes.

The Department of War was concerned that the bridge would interfere with ship traffic; the navy feared that a ship collision or sabotage to the bridge could block the entrance to one of its main harbors. Southern Pacific Railroad, one of the most powerful business interests in California, opposed the bridge as competition to its ferry fleet and filed a lawsuit against the project, leading to a mass boycott of the ferry service.

Nonetheless, Deakyne recommended approval of the concept and approved the transfer of land needed for the bridge structure and leading roads to the "Bridging the Golden Gate Association" and both SF County and Marin County, noting, by the way, that cars would probably cross the bridge at fifteen miles per hour. Finally, on Aug. 11, 1930, the War Department issued a permit for GGB&HD to proceed with construction.

*Excerpt and Deakyne photo taken from [www.constructionknowledge.net](http://www.constructionknowledge.net).*



*Picture taken in 1935 of the Golden Gate Bridge during its construction. Construction began on Jan. 5, 1933, and the bridge was inaugurated May 27, 1937, by Franklin Delano Roosevelt, who pushed a button in Washington, DC, signaling the official start of vehicle traffic over the bridge. At the time, it was the largest suspension bridge in the world. (Photo courtesy of OFF/AFP/Getty Images)*

## ENGINEERING CHALLENGE

Take on the engineering challenge in this month's SPN Surveyor. The first to solve this problem will receive a commander's coin, with the results being published in the Aug/Sept 2012 issue.

### The Problem

**A fish ladder has 100 steps. A biologist observes an intriguing pattern: one fish is at the top step, two are on the second, three are on the third, and so on for every step down to the hundredth.**

**In two statements and without using a calculator, explain how many fish are using the ladder at the moment this pattern is observed.**



Margaret Killjoy

*A fish ladder at the base of Bonneville Dam in Oregon.*

**Submit your answers via e-mail to Brandon Beach at [brandon-a.beach@usace.army.mil](mailto:brandon-a.beach@usace.army.mil).**

*(This challenge was submitted by Tom Kendall, Chief of SPN Planning Branch.)*





## Postcard from Afghanistan

J.D. Hardesty - San Francisco District -- Chief, Public Affairs

Greetings to all my friends, colleagues and family, whose support from which makes my current deployment to Operation Enduring Freedom possible.

Telling our Soldiers, service members and civilian volunteers story of building military bases, police stations, roads, air strips and other infrastructure projects in Afghanistan to increase the country's stability, security and economy has truly been my honor.

When I arrived here in April 2011, I was told I was joining the "Best District" in USACE.

The people here are tremendous, dedicated and willing to work in Harm's Way to bring peace to the region. All have volunteered to do their part to help build a more secure America with every day they remain deployed.

First, please know that I couldn't be here without the sacrifice and support of my wife and family. They understand how important this is to me. They understand I always volunteer to do my part. They understand our combined sacrifice will reap future rewards for generations. They understand freedom is not free.

Second, San Francisco District has true patriots - Carmen, Legese, Kevin, Mike, Daren, Irene and others - all who answered our nation's call. I have been proud to service with each of them.

Finally, while I enjoy the fast pace work and feel I am making a valuable contribution, I know everyone working in the district has to do a little more to cover those deployed downrange. For Public Affairs, a personal thank you to Scott, Brandon, Ryan and Jasmine for backfilling in my absence with professionalism, passion and dedication.

For 30 years serving in the Army, Army Reserve and the U.S. Army Corps of Engineers, I've always said I had the best job in the world. I look forward to returning to the best district in the U.S. Army Corps of Engineers - the San Francisco District - and continuing my career with all of you telling your great stories.

