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'Miracle on the Hudson'

USACE boats assist in response to U.S. Airways crash

New York City fire and police department boats gather around U.S. Airways Flight 1549 as it floats in the Hudson River.

Article and Photos
By Chris Gardner
New York District

The mayor of New York City called it "the miracle on the Hudson," and New York District boats were part of the miracle.

When U.S. Airways Flight 1549 crash-landed in the Hudson River on Jan. 15, the alert flashed over the marine radio band, and Capt. Joe Meyers of the *Hocking* knew where he would be heading. Sure enough, within minutes he had directions to go to the scene, picking up Col. Nello Tortora, New York District commander, on the way.

While the *Hocking* headed to the scene, crews of other USACE boats were told to drop everything and take their vessels to join the *Hocking*. "The main thing is to get ourselves there in case anyone needs help," said Brig. Gen. Todd Semonite, commander of North Atlantic Division.

By the time the USACE boats arrived, all 155 passengers were safe, taken from the jetliner by nearby commuter ferry boats and other first responders.

With the passengers safe, the major issue was what to do with the jetliner, which was floating in the Hudson River, a federal navigation channel. It was first towed out of the middle of the river to the Battery Park seawall.

The New York City Police Department (NYPD) then turned to the USACE drift collection vessel *Hayward* for assistance in stabilizing and mooring the jetliner to the seawall. Tortora and representatives from the police and fire departments met on the *Hayward* to discuss securing the jetliner. Police divers used the *Hayward's* lines and slings to secure it to the seawall.

"Fortunately, the *Hayward* crew got a sling on one of the wings before the tide and winds came up," said Tom Creamer, district operations chief. "They helped stabilize the jetliner at the seawall so it would not become a hazard to navigation again."

The USACE drift collection vessels *Hayward* and *Gelberman* remained on the scene on the first night to assist as needed and to capture the jetliner if it broke loose and started drifting back into the navigation channel.

The patrol and survey boats *Hocking* and *Moritz* stayed on the river looking for debris and possible evidence for the National Transportation Safety Board (NTSB) investigation and to offer any assistance as needed.

New York District is authorized and funded by Congress to remove drift, debris, and other navigational hazards from the New York and New Jersey harbors. Downed aircraft are always turned over to the NTSB for investigation. But in this instance the jetliner removal was handled by the airline's insurance company and its contractor, Weeks Marine Inc. USACE participated in the removal planning and provided advice, equipment, and assistance as needed.

"We worked as a team of teams with the Coast Guard, NTSB, Fire Department of New York, NYPD, and the New York City Office of Emergency Management to develop a final plan to safely remove the jetliner while maintaining the aircraft for NTSB investigators," Tortora said.

During the removal, the *Hayward* collected luggage and other pieces of the aircraft found in the water as the jetliner was moved to a transportation barge. Luggage was turned over to the police, and aircraft parts such as seat cushions were turned over to the NTSB.

The jetliner was mostly intact in the water when it was removed except for a missing engine that broke off and sank in the Hudson River. The search for the missing engine was difficult and spread over a large area due to the sediment, silt, and swift currents of the Hudson River.

The *Moritz*, one of the Corps' most advanced sur-

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Seattle District fights Jan. floods

By Casondra Brewster
Seattle District

It could be said that seasonal flooding is a way of life in western Washington state.

Flood fighting is certainly a way of life for Seattle District. Hit by the second flood in just two months, the district provided flood fighters to seven different river basins in western Washington, and the Yakima River basin in Eastern Washington. It also provided emergency flood operations for two municipal dams, and record-level flood control with Howard Hanson and Mud Mountain dams, along the Green and White rivers.

Beginning Jan. 6, an intense storm hit Seattle District's western Washington region, dumping up to 20 inches of rain in 24 hours. The rivers swelled and, even with dams and levee systems in place in many areas, flooding still occurred. Besides two days of heavy rainfall, warmer temperatures added snow melt to the run-off and tributary stream flooding.

Although the rain stopped on Jan. 9, it was only a lull. The weekend brought more precipitation, further taxing already saturated levees and dams. The district deployed levee inspectors to walk the levees, especially around the Green River, for an eyes-on watch almost around the clock.

Fortunately, damage to levees was minimal. The U.S. Army Corps of Engineers assisted the town of Orting, Wash., with repair to one of their levees, and closed a non-federal levee per local request in Snohomish County.

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Swamped homes show the widespread damage of the January floods in Washington state. (Photo courtesy of Seattle District)

Nation needs social, spiritual renewal

By Col. Hanson Boney
Chaplain, U.S. Army Corps of Engineers

We have recently seen an emphasis on repairing our nation's aging infrastructure as one way to stimulate our economy. Objective 3a of the USACE Campaign Plan focuses on just that – "Delivering a sustainable infrastructure to our Armed Forces and the Nation."

Stimulating the economy with domestic projects goes back to the Great Depression when President Franklin Roosevelt established the public works projects of the 1930s. We also witnessed this economic ideology flourish with the construction of the interstate highway system under President Dwight Eisenhower, and later in the 1960s with the Great Society programs under President Lyndon Johnson.

Periodic reconstruction is essential in a world where material decay diminishes the structural integrity of our roads, bridges, dams, and public buildings. Whenever possible, the total involvement of the citizenry is necessary to ensure the successful completion of the reconstruction efforts.

In a complex and diverse society such as ours, what we build and how we build will determine and impact the longevity and sustainability of our economy and our way of life. Many small businesses, which are the backbone of our ever-growing economy, will be essential in this reconstruction.

The work that they will be required to complete will impact local communities all over the nation, providing the matrix for an ever-increasing need for goods and services.

What many people fail to realize is the notion that revitalizing a community also includes managing spiritual decay. Spiritual decay is perhaps the most pernicious type of decay. It is often subtle and eats at the heart of the community and ultimately the nation.

Spiritual decay impacts how we feel about our communities, our workplaces, and determine the amount of human capital we invest in making our local and national landscape a place that we wish to bequeath to future generations.

King Solomon got the message about the need for spiritual renewal in Second Chronicles. After Solomon dedicates the new temple in a week-long ceremony, God visits him in a vision. God tells the king that He has heard Solomon's prayer and has chosen the temple for a place to receive sacrifices.

Then in 2 Chron. 7: 13-14 God adds, "When I shut up the heavens so there is no rain, or command locusts to devour the land, or send a plague among my people, if my people who are called by my name will humble themselves and pray and seek my face and turn from their wicked ways, then will I hear from heaven and forgive their sin and will heal their land."

One sees this passage quoted lately. We don't have locusts and plagues, but we certainly have droughts, a Global War on Terror, and economic challenges. I believe that the American people recognize the need for spiritual renewal.

We must, in our rebuilding and reconstruction, emphasize the need to build sound spiritual communities based on shared values and common goals. This community-wide effort must begin in the home and on our jobs, the places we spend most of our time. We in the engineering community know that if you build well, you will have a solid foundation for future construction.

A sustainable infrastructure is one where the material and the spiritual come together to forge a viable network for continued growth and development. What are you doing in your work area, your home, and your community to assist in the rebuilding effort?

Let us lead the way in securing for our people a future that is bright both materially and spiritually so that what President Abraham Lincoln called the "last best hope of the Earth" will continue to be a guiding light to the nations.

(The opinions expressed in this article are those of the writer and do not reflect the official policy or position of the U.S. Army Corps of Engineers, the Department of the Army, the Department of Defense, or the U.S. government.)

National levee safety report released

By Sam Riley Medlock

On Jan. 15 the National Committee on Levee Safety (NCLS) released its report calling for a national levee safety program in response to the levee failures experienced during the devastating 2005 hurricane season, and last year's Midwest floods.

The report includes recommendations to Congress for legislation, national engineering standards, and alignment of federal programs from the U.S. Army Corps of Engineers to the Federal Emergency Management Agency and others.

It has been sent to the Office of Management and Budget for review before going to Congress.

The report shows that we are at a critical juncture in our nation's history — a burgeoning growth of risk to people and infrastructure as a result of more than 100 years of inattention to levee infrastructure, combined with a particularly vulnerable economy and social fabric.

The long history of levees in the U.S. provides lessons from both successes and failures. The nation's relative complacency during numerous natural events in recent decades was shattered in 2005 in New Orleans. The loss of life associated with Hurricane Katrina refocused the nation and became the catalyst for the 2007 Levee Safety Act calling for recommendations for a national levee safety program.

"The committee performed four-and-a-half man-years of work in three-and-a-half months, evaluating a wide range of technical, policy, and regulatory strategies, with a public safety ethic guiding all decisions," said Steve Stockton, NCLS chairman. "We view the report as the beginning, not the final work, in a national dialogue leading to action among



The North Libertyville Estate Levee is a flood damage reduction project in Illinois. (Chicago District photo from the Digital Visual Library)

a broad range of stakeholders on our shared responsibilities in levee safety and flood risk management. As a group, we cannot over-emphasize the urgency of these recommendations."

Congress directed the formation of the NCLS, which worked from October to January to draft a set of recommendations and a strategic implementation plan for the creation of a national levee safety program.

The committee is a diverse group of professionals from federal, state, local/regional governments, and the private sector that has worked diligently to represent the nation's interests in levee safety.

The current levee safety reality for the U.S. is stark — a huge lack of knowledge regarding the location, performance and condition of levees, and a

lack of oversight, technical standards, and effective communication of risks.

A look to the future offers two distinct possibilities — one where we continue the status quo and await the certainty of more catastrophes, or one where we take reasonable actions and investments in a national levee safety program that would turn the tide on risk growth. In its report, the NCLS strongly recommends the latter.

The committee's recommendations are prefaced by recognition of a need for a broader national flood risk management approach, the benefits of integrating national dam safety and levee safety programs, and for leveraging levee safety as a critical first step in a national infrastructure investment.

The specific recommendations for a national levee safety program embrace three main concepts:

- The need for leadership via a National Levee Safety Commission that provides for state delegated programs, national technical standards, risk communication, and coordinating environmental and safety concerns;

- Building strong levee safety programs in and within all states that in turn provide oversight, regulation, and critical levee safety processes;

- A foundation of well-aligned federal agency programs and processes.

The committee's recommendations as a package will result in a meaningful, comprehensive levee safety program, placing levees in their appropriate place in an overall flood risk management context.

For more information, and to download the draft report, please visit the committee's Web site at <http://www.iwr.usace.army.mil/ncls/>.

(Sam Riley Medlock is a member of the National Committee on Levee Safety.)



USACE fields new safety manual

By Paul Davy
Headquarters

Safety in the workplace is always a top priority because employees and contractors in the U.S. Army Corps of Engineers are exposed to hazards every day.

In early October, the USACE Office of Safety and Occupational Health put the finishing touches on the new 2008 Safety and Health Requirements Manual, EM 385-1-1.

The safety manual is a major key to the success of the USACE safety program. The 1,050-page book is used during construction, operations, maintenance, research and development, and other daily operations by all USACE employees and contractors.

The manual was last revised in 2003, and the 2008 version parallels Occupational Safety and Health Administration (OSHA) regulations and other national standards. It deviates from these standards only when research and/or accident experience deem it necessary.

The new manual has been in effect since Jan. 12 when it was made available online. EM 385-1-1 will be available in bid packages, on the USACE Web site, and the Government Printing Office will stock quantities available for about \$27 each.

The Safety Office worked hard to make the new manual focused and well organized with a logical sequence of topic material. Primarily, EM 385-1-1 is much more clear and concise. Many of the appendices were put right into the text to minimize cross referencing.

"This updated manual has become a job enhancer, a tool to help in the safe performance of any task," said Maj. Gen. Merdith W.B. "Bo" Temple, deputy commanding general for civil and emergency operations. "It helps our folks get the job done without being an obstacle."

All of the improvements allow users of the EM 385-1-1 to move through the manual with relative ease. For example, all crane requirements are clearer, up to date, and most importantly, centrally located in one section, including information that was located



Operations at Ground Zero in New York City was just one of the USACE operations where safety was of paramount importance. (Photo by F.T. Eyre from the Digital Visual Library)

in appendices of past editions. In the same way, all fall protection requirements are now contained in Section 21 instead of scattered throughout the manual.

The teams that revised the new safety manual wanted to increase efficiency and production, and they also strove to set the safety standard for their profession. One goal of the updated safety manual is im-

proving the level of personnel training on construction sites. After recent, highly visible (non-USACE) construction accidents across the nation, the Safety Office wanted to place emphasis on the importance of a trained workforce from top to bottom.

With an organization as far-reaching as USACE, revising the safety manual was no small task. This was one of the largest revisions since the manual's original production, and has taken nearly two-and-a-half years.

Ellen Stewart, safety engineer and program manager for the safety manual, led a collaborative effort that involved many federal and non-federal organizations and relied heavily on feedback from those working in the field. The Safety Office received more than 4,000 comments during the manual's revision.

"This manual is the product of those who use it daily, from contractors, industry, and our employees on every level up to and including our commanders," Stewart said. "It's based on their contributions, their problems, their suggestions, and their questions. This is all valuable input that makes our requirements relevant to the hazards they face every day at their jobsites. That's buy-in, and that's what makes the USACE safety and health program so successful."

The new safety manual's clear, concise format makes it user friendly, but if any questions arise regarding EM 385-1-1, tools will be available on the Safety Office Web site at www.usace.army.mil/CESO/pages/home.aspx. Checklists, an index of changes, templates, training options, PowerPoint presentations, interpretations, and FAQs can all be found on the Web site. These tools will assist with implementing and understanding the new safety manual.

"We already have a very good safety program, but we are always striving for improvement," said Richard Wright, chief of the Office of Safety and Occupational Health. "This manual will assist us in getting to that next level of success. This improved tool will continue to focus our efforts to move our safety program from good to great!"

Space telescope facility built in Hawaii

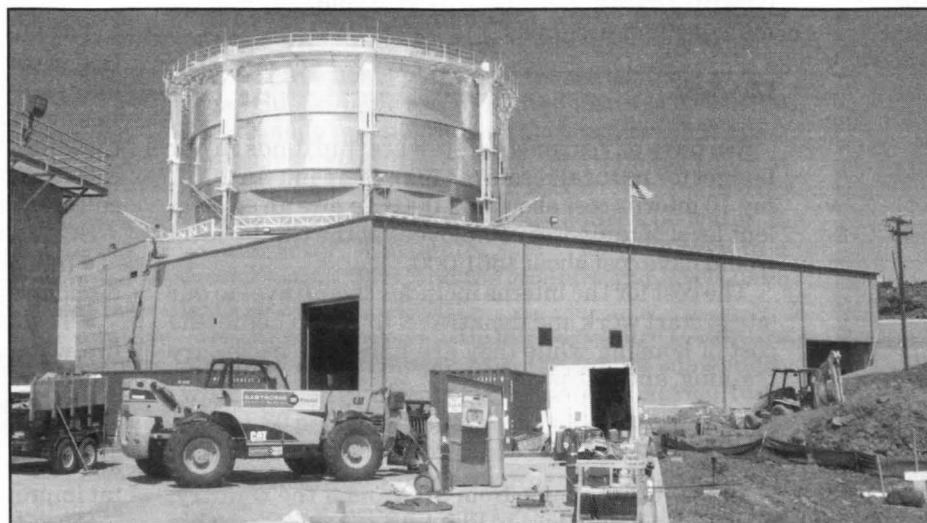
By Dino Buchanan
Honolulu District

The U.S. Army Corps of Engineers is best known for work that is rooted firmly on the ground – military and civil works projects, disaster recovery, war-zone support, and so on. But sometimes we support missions that reach into deep space.

The Corps' design-build construction of the Mirror Coating Facility will support the Advance Electro-Optical System (AEOS) telescope at the Maui Space Surveillance Complex (MSSSC). The facility is located in the observatory complex on the summit of Haleakala Mountain in Hawaii.

The project is a 7,314-square-foot, two-story facility that joins the existing AEOS telescope building. The first floor features an open bay that will be used as the recoating facility for the Air Force Research Laboratory's existing 3.67-meter (12-foot) telescope mirror. The second floor will house two science and technology rooms.

The Mirror Coating Facility will also be used by the University of Hawaii Institute for Astronomy to recoat its telescope mirrors, including one that



The Mirror Coating Facility as it looked while under construction. (Photo courtesy of Hawaii District)

is 4 meters (13 feet) in diameter. The facility can also recoat the National Science Foundation's proposed Advanced Technology Solar Telescope's 4.2-meter (13.75-foot) mirror.

On Oct. 25, 2004, Honolulu District received direction to prepare documents for a design-build contract with a program amount of \$7.5 million. The contract was awarded to San Juan Con-

struction, Inc. of Honolulu in December 2005 for the design and construction of the \$4.6 million facility. San Juan Construction began work April 10, 2006 and completed construction Oct. 1, 2007.

The contract entailed designing and building an on-site mirror coating facility that can transport, stage, remove, coat, and recoat mirrors up to 4.5

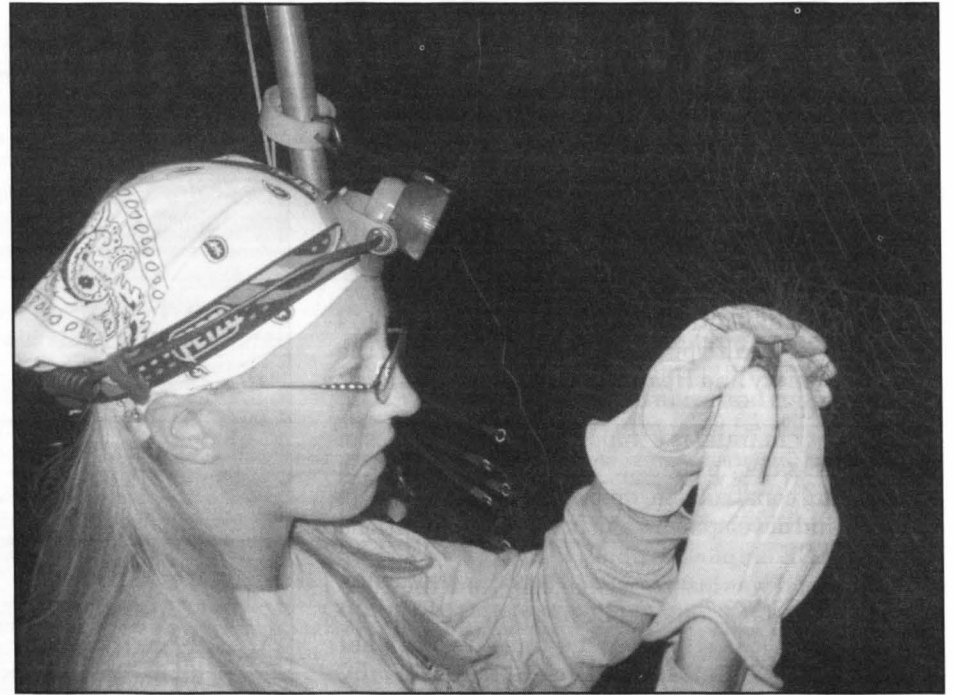
meters (14.7 feet) in diameter. Also included are spaces for science and technology laboratories. Construction was done at an elevation of 10,000 feet on the summit of Haleakala.

The Maui Space Surveillance System Complex is a state-of-the-art electro-optical facility combining operational satellite tracking facilities with a research and development facility, the only one of its kind in the world.

The MSSSC houses the largest telescope in the Department of Defense, the 3.67-meter (12-foot) AEOS, as well as several other telescopes ranging from 0.4 meter (15.7 inch) to 1.6 meter (5.2 feet).

The Maui Space Surveillance System, also known as AMOS (Air Force Maui Optical & Supercomputing Site), is routinely involved in numerous observing programs and has the capability of projecting lasers into the atmosphere, which is unusual at astronomical sites.

The Maui Space Surveillance System, through its primary mission for Air Force Command, combines large-aperture tracking optics with visible and infrared sensors to collect data on near-Earth and deep-space objects.



(Left) Scott Pelton and Sarah Travalio set up a mist net to catch bats. (Right) Elly Schmidt gently untangles a bat from the mist net. (Photos courtesy of New England District)

Student group big help in outdoors

By Gary Pelton
New England District

The U.S. Army Corps of Engineers is authorized through section 213 (a) of the Water Resources Development Act of 2000 to enter cooperative agreements with non-federal public and nonprofit entities like the Student Conservation Association (SCA) for service relating to natural resources conservation or recreation management at USACE civil works projects.

USACE and SCA first entered into a formal partnership in 2003. Under the agreement:

- USACE can use the services of the SCA through an existing cooperative agreement with the Department of the Army. No additional agreement is necessary.

- USACE partners with SCA through a cost-share agreement.

- Funds are transferred to SCA through an agreement with the U.S. Army Medical Research Acquisition Activity (USAMRAA) at Fort Detrick, Md.

- The SCA submits cost quotes for requested interns and crews to the requesting district. Housing can be included in the cost quote.

- The district prepares and submits MIPR to the USACE Finance Center in Millington, Tenn.

- USAMRAA issues a task order to SCA.

To date, the Upper Connecticut River Basin in New England District has worked with 52 SCA conservation interns and six SCA high school conservation crews.

Conservation intern program

In 2003, I hired two SCA interns for three months to find out what interns could accomplish on USACE land. As the summer progressed, I found I had two motivated young people collecting data that I would need three-to-five years to collect because I could not dedicate my time to just data collection.

They were collecting species and habitat data at one flood risk reduction project, and I worked at seven projects. I could see the need to expand, and the work was definitely there.

From two interns for three months, I expanded the program to 10 interns for the three summer months, with two or three interns staying six-to-12 months. They collected data on wildlife species, assessed and removed invasive plants, surveyed and mapped vegetative cover, developed brochures and posters for outreach, created geographic information system (GIS) layers, and wrote reports.



An SCA work crew builds a brushpile to shelter wildlife. (Photo courtesy of New England District)

The data they collected helped fill blanks in our Operations & Maintenance Business Information Link (OMBIL) data and has been used to guide our habitat management programs.

Money

We have environmental stewardship funds in our budget for natural resources management. In 2007, my 10 interns cost about \$52,000. To hire an equivalent level of temporary employees at the GS-4/5 level would have cost about \$561,000.

The cost for the interns includes their travel to our site to start work and their travel to return home, the cost of housing while they are here, any necessary training, and a stipend.

Housing

These interns come from all around the country, and they need a place to live while at the site. This could be a tent, a trailer, or an apartment. We use ski condos for summer interns, and houses for year-long interns.

A lack of housing is a problem, but one that can be overcome. You just need to specify what the housing will be so that prospective interns can decide if it is a sticking point for them. For us, the housing is rented by the SCA and included in our intern costs.

USACE benefits

The partnership is mutually beneficial. USACE collects data on species and habitats for natural re-

sources management. Some of the data goes into OMBIL to fulfill requirements there. We accomplish natural resources management work at low costs.

The interns gain experience in field survey methods and field work. They receive training in GIS, cardiopulmonary resuscitation, first aid, and defensive driving.

High school crews

From 2004 to the present, I have hired six SCA high school conservation crews to bolster our natural resources management work. They have lopped and pulled invasive plants, searched for new infestations of invasive plants, installed water bars on management roads, cleared trails, pulled vegetation from the rock faces of our dams to reduce herbicide use, and built wildlife brush piles.

SCA

The mission of the SCA is to build the next generation of conservation service leaders and inspire lifelong stewardship of our environment and communities by engaging young people in hands-on service to the land. The SCA is the nation's leading provider of conservation service, and has assisted natural and cultural resource managers since 1957.

SCA can provide:

- Individual interns (3-12 months) in more than 50 disciplines.

- Teams of interns (3-12 months) that can handle fire, watershed monitoring, exotic plant management, and boundary survey.

- High school crews (3-5 weeks) that can do trail work, revegetation and site restoration, riparian zone and stream restoration, and wildlife and fisheries habitat improvement.

Since USACE first entered into a partnership in 2003 through fiscal 2008, SCA has placed 18 high school conservation crews and 126 conservation interns (12-52 week positions) with 32 USACE partners in 16 states.

To learn more about the USACE/SCA partnership, please visit the national partners section at <http://corpslakes.usace.army.mil/partners/sca/sca.html>

To discuss how SCA can assist you in meeting your natural or cultural resource management needs, contact Ray Auger, SCA partnership accounts director, 603-543-1700 ext. 144, rauger@thesca.org.

(Gary Pelton is an environmental resource specialist in the Upper Connecticut River Basin.)

'Water in Afghanistan is like gold.'

Article by Brenda Beasley
Photos by Jon Allen
Afghanistan Engineer District

It's a dry region, bleak even by Afghanistan standards.

There are few trees. Rugged mountains make travel difficult. It's about 7,600 feet above sea level, nearly a half-mile higher than Denver. The terrain looks like a cross between the Badlands of South Dakota and the Painted Desert of Arizona.

But things are changing in Gardez, the capital of Paktia Province. Afghanistan Engineer District (AED) has established a successful water conservation program that will help sustain the environment, with a horticulture and reforestation program on the horizon that could help further economic growth.

At the Afghan National Army (ANA) garrison in Gardez, AED worked with the U.S. Agency for International Development to collect and treat wastewater on the base for reuse in some applications to conserve clean treated groundwater. Instead of drawing down the aquifer, whose current status and health is unknown, recycled water is now used over and over for watering gardens, washing vehicles, and flushing toilets.

"Fresh water in Afghanistan is like gold," said Jon Allen, the AED operations and maintenance manager of region five. "It's a precious commodity that needs to be protected."

Completed in October 2007, the program has four components – a sand filter, a wastewater retention reservoir, a vehicle wash rack, and a recycling station. By reusing treated wastewater to irrigate plants and shrubs, the ANA realized huge savings. Then reusing the water for washing vehicles instead of fresh water from their wells almost doubled their savings.

"Altogether, we conserved two million liters of fresh water a month," Allen said.

First, the sand filter purifies wastewater from the ANA base. All wastewater flows to a master lift station where it is pumped into the first stage of a four-stage wastewater treatment facility with eight large lagoons. These lagoons are equipped with aerators that add oxygen to the water and accelerate the process of separating solids that go to the bottom of the lagoons.

Second, a wastewater retention reservoir captures the water for storage until needed. This is a valuable resource in the arid Gardez where wastewater evaporates quickly. Previously the water simply exited the last stage of the wastewater lagoons, entered underground piping, and flowed outside the base where it was forgotten.

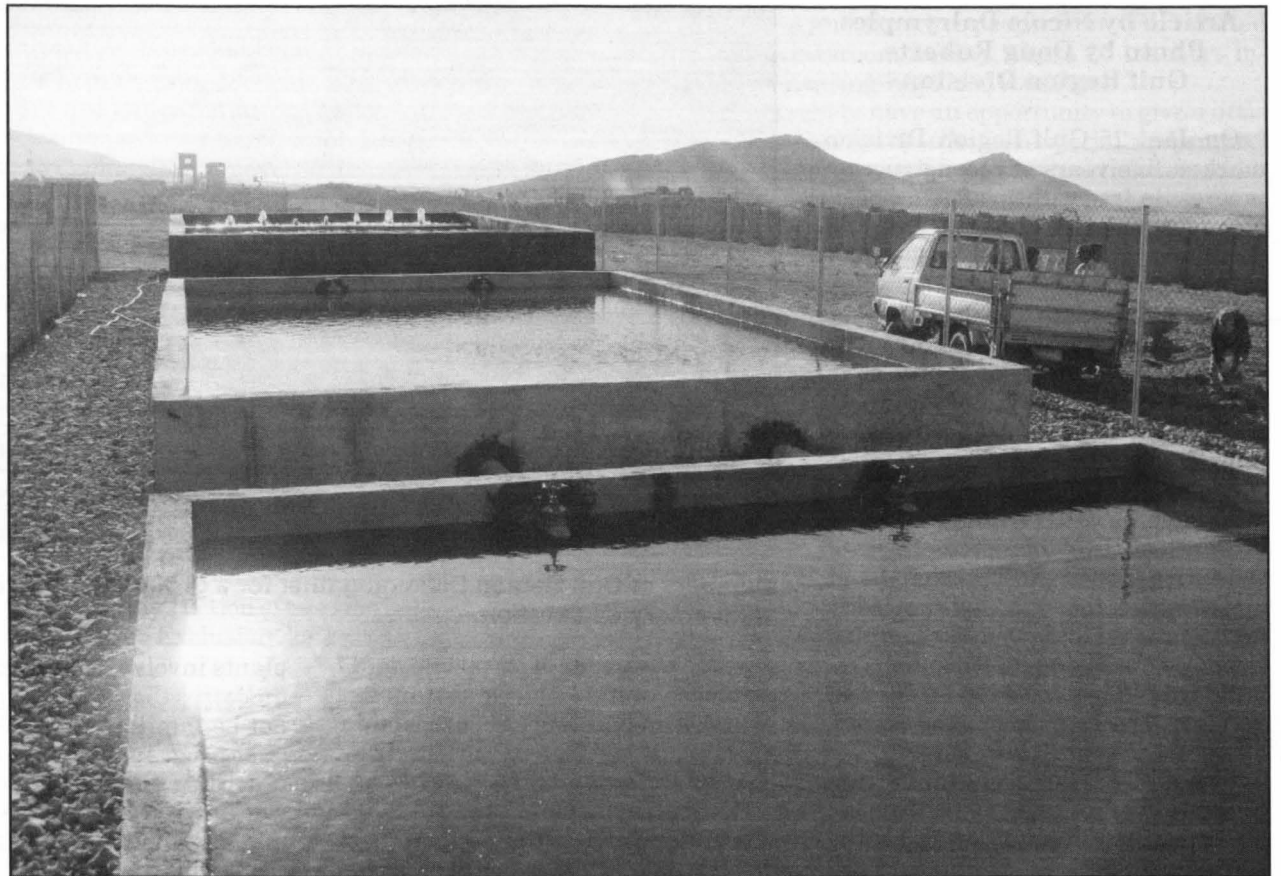
The third component, a vehicle wash rack, is a closed-loop system. Excess water is captured, directed through an oil/water separator, and then pumped into the first stage of the wastewater treatment lagoons.

"The closed loop system helps make efficient use of the wastewater by preventing an outlet for evaporation," said Kathryn Carpenter, the program manager for water resources in AED's Water and Infrastructure Branch.

The fourth and last component is a recycling station near the water reclamation project. The ANA uses a burn pit to incinerate garbage and other undesirable materials. They took the program a step further and turned the pit into a recycling center where materials are segregated and then sold to the community in Gardez.

"This not only brings useful materials back to the community, but drastically reduces the amount of materials being incinerated," Allen said. "It also resulted in a marked decrease of air pollution."

With the four components in place and functioning, there is a proposal that focuses on the next step, which is establishing a horticulture and reforesta-



A three-cell sand filter provides clean water at the Afghan National Army garrison in Gardez.

tion program. This will require the support of all organizations involved in the ownership and authority of the real estate inside and around ANA Garrison Base Gardez. It will include non-government organizations that have expressed an interest in being involved in an agriculture project at Gardez.

If supported, the proposed benefits would include:

- Educating University of Gardez students on the complete growing cycle of plants from germination to harvest.

- Sustainability of not only food crops but also crops that can be harvested, processed, packaged, and sold on the market to provide income to the community.

- Turning a brown, desolate piece of land into a lush, nutrient-rich source of food and income-producing agriculture.

Like the rest of Afghanistan, Gardez has suffered from a decade-long drought. Even the heavy rains of winter have not replenished the water table in this area. Sustainable use of limited natural resources is extremely important to an arid country that averages only 250 millimeters (about 10 inches) of rain per year.

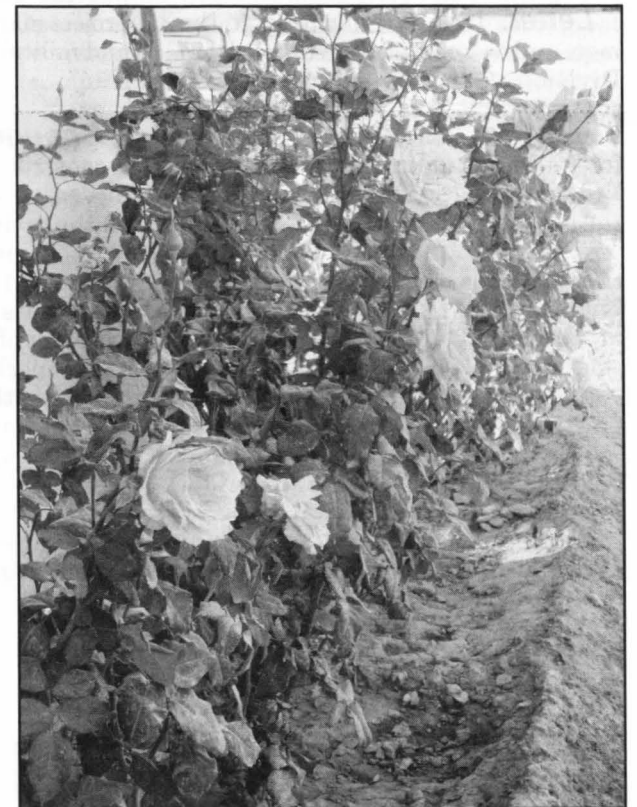
"The most readily available source of water is groundwater," Carpenter said. "They've been in a drought since 1999, and the groundwater levels have been steadily declining."

Right now there is little infrastructure to capture and hold water coming from the spring snow melt, which directly affects Afghanistan's agriculture. About 80 percent of Afghanistan's economy is based on agriculture, which relies on irrigation. Proper management of water resources supports irrigation, which in turn drives agriculture, which in turn boosts the local economy.

"Water is the base of all life," Carpenter said. "You're not going to have a sustainable economy unless you manage your water resources."

Since Gardez is also a major lumber market, many of its natural forests are being cut. The proposed reforestation project will grow from seedlings and produce forest products that will help provide food, wood, shelter, and wildlife habitat. It will also help to bring the aquifer levels up and reduce soil erosion.

"Plants hold soil in place, which slows water down so it won't run off as quickly," Carpenter said. "It percolates down into the ground and recharges the



Thanks to water conservation, rose gardens bloom in Gardez, one of the bleakest, driest regions of Afghanistan.

groundwater aquifer."

AED is continually bringing Western technology and ideas to Afghanistan. The Afghans have been able to embrace some of them, while others are slower to take hold. Because it has been a struggle just to survive in the past 30 years, the Afghan culture has never really embraced the idea of conserving natural resources. But the concept of treating and reusing wastewater is low-tech technology that they can easily keep using.

"What we're doing with this wastewater is simple," Allen said. "They'll be able to sustain use of this system after we leave. We're helping them develop their water resources, which is a cornerstone of living for the future."

GRD celebrates fifth anniversary

Article by Nicole Dalrymple
Photo by Doug Roberts
Gulf Region Division

On Jan. 25 Gulf Region Division marked five years of reconstruction progress in Iraq with an afternoon ceremony at the GRD headquarters in the International Zone.

"As we mark five years of building strong foundations together with the people of Iraq, I am humbled to be part of this historic effort," said Maj. Gen. Michael Eyre, GRD commanding general. "With more than 4,400 projects completed and turned over to the Government of Iraq, and several hundred more ongoing, GRD is seeing concrete evidence of the committed efforts of the entire team."

Eyre commended the multi-service, multi-national team that has invested five years in the mission to help rebuild Iraq. They have not focused on individual recognition, but on accomplishing the overall mission.

To date, GRD has overseen the construction of nearly \$7 billion in projects in 11 different programs, the largest being the Iraq Relief and Reconstruction Fund.

Letter. In a letter written to the men and women of the Gulf Region Division, Gen. Raymond Odierno, commanding general of Multi-National Force – Iraq, thanked the team for its "outstanding hard work and tireless dedication to this mission and the people of Iraq."

"Through hundreds of reconstruction projects, you have made dramatic improvements to Iraq's physical infrastructure," Odierno wrote. "And through your diligent efforts to share your knowledge and expertise, you have helped Iraq make great progress in developing the human capital and technical skills necessary to build a vibrant and modern state."

"You have significantly enhanced the ability of the Government of Iraq



Members of Gulf Region Division gather for a group photo during their fifth anniversary celebration.

to serve the needs of its people, and I cannot overstate the importance of your role in building a secure, stable, and prosperous future for the Iraqi people," Odierno added.

GRD activated on Jan. 25, 2004. The division and its three subordinate districts, Gulf Region South, Gulf Region Central, and Gulf Region North, provide engineering, program, and project management in support of civil and military construction throughout Iraq.

Changes. Many of GRD's major reconstruction programs are concluding, so increased focus is being placed on the division's operations, maintenance, and sustainment program, aimed at supporting the U.S. Embassy's goals to ensure the Government of Iraq and the Iraqi people are properly prepared to operate and maintain the new infrastructure.

"From our perspective, the project is not complete just because it has been accepted by the Government of Iraq, at the local or national level," said Richard Hancock, GRD's director of programs. "Many of the new

plants involve modern, more efficient processes that the local operators may not be familiar with. We have a robust program dedicated to instilling training and knowledge to the workforce at all levels, from mid-level managers to technicians."

Iraqi workers. The progress made so far is largely due to the Iraqi contractors and workers who choose daily to contribute to the betterment of Iraq's future and the lives of fellow citizens.

As many as 25,000 to 30,000 Iraqis are employed daily at GRD construction project sites. In fact, 74 percent of GRD's current contracts, valued at \$1.12 billion, are awarded to Iraqi companies.

Eyre emphasized that Gulf Region Division remains committed to the mission and to delivering quality projects to the Iraqi people in support of the security agreement.

Eyre commended recent developments like the memorandum of understanding signed earlier this month with the governor of Baghdad as an example of continued cooperation and

coordination with the government of Iraq.

"GRD is committed to helping meet the basic needs of the Iraqi people with essential services like electricity generation, clean water, sewage treatment, schools, and medical facilities," Eyre said.

Projects. Included among the more than 4,400 projects GRD has completed are:

- 583 electricity projects
- 120 oil-related projects
- 849 water projects
- 132 primary health care centers
- 41 hospital renovations
- 1,102 schools
- 112 railroad renovation projects
- Eight port projects
- Improvements to eight airports
- 155 border posts
- 14 entry points along Iraq's Syrian, Turkish, and Iranian borders
- 97 fire station projects
- 55 courthouse projects

There are still several hundred more projects in various stages of planning, construction, and completion.

The future. Looking ahead, GRD is preparing its Iraqi counterparts to assume more responsibility for the nation's continued rebuilding.

"2009 is going to be a year of great transition for GRD," Eyre said. "We are planning our headquarters' relocation from the International Zone to a new location at Victory Base Complex, and we are seeing projects turned over to the Government of Iraq on a weekly basis."

"We have seen much progress, but there is still work to do," Eyre added. "Our mission remains the same, only the operating environment is changing. GRD will continue to stand side-by-side with the Iraqi people to continue building strong foundations for essential services that should not be just for the select few but for all of Iraq's citizens."

HR Corner

Recruiting push continues in USACE

The U.S. Army Corps of Engineers is seeing an unprecedented surge in work due to our continued support to the Global War on Terror. At the same time, retirement projections indicate that at least 25 percent of our workforce will be eligible to retire in a few years.

This increase in work, the projected retirements and potential loss of technical expertise of senior employees, and normal attrition have led USACE to develop initiatives to address the large number of vacancies in key positions nationwide, and the difficulties we have in recruiting and retaining talent for the long term.

One of these initiatives is the National Recruitment Pilot Program. This pilot program focuses on using national recruitment teams (NRT) to recruit and fill vacancies in four career fields identified by the communities of practice (CoPs) and the major

subordinate commands (MSCs) that have severe recruitment shortages.

The four career fields are contracting, construction management, geotechnical, and hydraulics and hydrology.

The main focus of this pilot program is to recruit well-qualified, mid-level journeymen to fill district positions, which have traditionally been difficult to fill, through national recruitment efforts. This pilot program is intended to complement rather than replace local hiring efforts.

Each NRT includes members of the CoP and/or sub-CoP and a human resources representative. In coordination with the MSCs and districts, the NRT:

- Coordinates vacancy announcements with the Civilian Personnel Advisory Centers
- Conducts outreach activities
- Identifies, executes, and refines the candidate

selection process

- Receives input on identified recruitment needs from the MSCs and districts
- Develops a recruitment plan specific to the discipline, using appropriate recruitment sources and available recruitment and retention incentives to fill these critical vacancies.

The teams target both internal and external recruitment sources. Their recruitment efforts are intended to strike a balance between advancement opportunities for internal candidates while also finding well-qualified external candidates with the critical skills and technical expertise necessary to build the bench.

This pilot program began in November and runs through this month. The team will conduct a comprehensive after-action report in March and brief the MSC commanders at the next appropriate event.

Around the Corps



Col. Janice Dombi is the first woman to command a USACE division.

First female division commander

Col. Janice Dombi became the first woman to command a USACE division when Lt. Gen. Robert Van Antwerp, chief of engineers, passed the colors of South Pacific Division to her during a change of command ceremony on Jan. 15 in San Francisco.

Before taking command, Dombi served as the SPD deputy commander. She has also commanded Far East District.

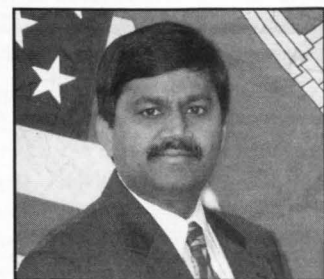
General officer news

Brig. Gen. Mark Yenter, commander of Pacific Ocean Division, received his star during a ceremony at the state capitol in Carson City, Nev., on Jan. 9. Yenter was also inducted into the University of Nevada - Reno ROTC Hall of Fame. The Hall of Fame recognizes UNR ROTC graduates who have excelled in their military careers.

Brig. Gen. John McMahon, former commander of South Pacific Division, is now with U.S. Forces Afghanistan where he will work closely with NATO allies to integrate a broad range of engineering services.

Engineer award winners

The USACE Federal Engineer of the Year for 2009 is Dr. Kirankumar Topudurti, deputy director of the Construction and Engineering Research Laboratory in Champaign, Ill. The nomination package highlighted his engineering accomplishments and his contributions and leadership in the academic, research, professional, and civic areas. His accomplishments in innovative hazardous waste technologies will enhance USACE's ability to carry out its mission.



Dr. Kirankumar Topudurti.

The New Faces in Engineering for USACE in 2009 are:

• Timothy Ernster, an engineer manager in GRD Central District. Ernster is managing electrical distribution projects in East Baghdad, and a training center project for the Iraq Ministry of Electricity.

Ernster has executed more than \$47.3 million in U.S. funded electrical projects in Iraq.

• Erin Duffy of Jacksonville District, who is coordinating construction on the complex and sensitive Kissimmee River Restoration Project.

• Carmen Noltemeyer-Williams of Louisville District, who uses analytical methodologies recently developed by USACE to perform comprehensive risk analyses required for dam safety projects in Louisville District.

• Steven McKay of the Environmental Lab in Vicksburg, Miss., whose work includes research that examines critical linkages between physical processes and ecological outcomes supporting the USACE \$650 million ecosystem restoration mission.

• Elizabeth Burg of the Coastal and Hydraulics Lab, currently serving in Iraq. The award commended Burg's design of water systems for a women's ministry complex in Uganda, and her work in Iraq that includes a number of military construction projects, construction of two Iraqi police stations, and the Pipeline Exclusion Zone project.

Shaiba Location Command

About 1,000 Iraqi soldiers will be based at the new Shaiba Location Command in Al-Basra. The \$39 million project is 55 percent finished and scheduled to be complete this spring.

The project includes dozens of new structures including barracks, warehouses, a headquarters, fueling depot, ammunition supply point, a dining facility, bakery, ice plant, laundry, barber shop, medical clinic, and fire station.

About 350 local Iraqis work on the construction crew. "We're pleased with their efforts and the quality construction we're seeing," said Lt. Col. Mazin Mohamed, Shaiba's deputy commander. "The new facility will expand our logistic capabilities in Basra. Our staff will ensure Iraqi army units operating here get the supplies they need so they can achieve their mission of safeguarding local neighborhoods."

Judicial institute

The Judicial Education and Development Institute in Baghdad will train qualified, educated workers for Iraq's judiciary. The \$8.4 million institute is 10 percent complete with an expected finish of June 5.

The plan is to design and build a judicial education complex to train, develop, and equip about 1,500 students each year. Individual classes of 160 students each will last from one to six weeks, depending on the specialty. Built on land beside the Central Criminal Court of Iraq, the institute includes living quarters, training facilities, administrative buildings, and all supporting infrastructure.

Correction

Taggatz is the correct spelling of St. Paul District's new quarters boat.

Dar Al-Mal school

There is more to rebuilding Iraq than bricks and mortar. Americans serving with Gulf Region Division delivered toys and soccer balls to students attending Dar Al-Amal, a hearing-impaired school in Basra, Jan. 19.

The school's headmaster, Wafaa Mohammed, said, "Today is special for them. The kids are happy to see you. We get few such visits and your kind gesture means a lot to them. It tells them they are important and people really care."

"Seeing their smiles was wonderful," said Elizabeth Anderson, a construction representative. "They were well behaved and so appreciative."

Anderson and six other people from GRD visited the eight-classroom facility where 25 teachers instruct 130 hearing-impaired students.

"It was great to have an opportunity to give a little joy to these youngsters who have special challenges," said Loyd McClinton, also a construction representative. "It was great to see their joy - each class gave us such a warm reception."

Georgia Lewis, an administrative assistant, said, "When we first arrived, you could see that the students were wondering why we were there, and when we brought out the toys, their eyes got so big. It was a special moment. I'm grateful to the school for allowing us to touch their lives."

Blankets

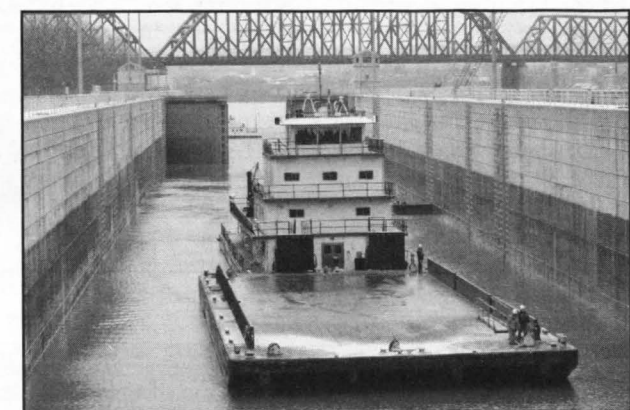
Staff Sgt. Ginelda Lyons and Sgt. Danielle Colson are supplying warmth to Iraqi children with nearly 500 blankets donated by military service members, Department of Defense civilians, contractors, and organizations.

While deployed with Gulf Region Division, Lyons and Colson have visited schools, hospitals, and other GRD projects. These visits sparked their desire to lend a hand.

"We saw that children in many areas lacked sufficient means to stay warm," Colson said. "We agreed that if there was any way we could help out, we would. Just by reaching out in a little way, we were confident we could make a difference."

Lyons and Colson placed flyers at Contingency Operating Base Adder in Tallil. "We have some great people over here and we had no doubt they'd be interested. We started getting responses the same day."

Nearly 500 blankets have been collected in only two weeks and more are coming in every day.



The J.C. Thomas passes through the new 1,200-foot lock chamber of McAlpine Lock and Dam.

ASA(CW) visit

On Dec. 16 Louisville District hosted John Paul Woodley Jr., the Assistant Secretary of the Army for Civil Works, aboard the motor vessel J.C. Thomas for the first lock-through of McAlpine Lock and Dam's new 1,200-foot lock chamber.

The group boarded the J.C. Thomas, part of Louisville District's repair fleet, and locked through the new chamber both upstream and downstream to get an up-close view of the entire project, including the new obelisk marking the floods of record.

During the tour of the McAlpine control tower, the group saw the latest digital controls and high-tech display monitors that synchronize industry lockages.

Woodley said he was pleased to see the project nearly complete. The project has taken more than 10 years to build, with more than two million man-hours worked without an accident.

"I'm proud of you all," Woodley said. "This is a project that will endure for many generations."

USACE builds new home for carrier

By Glenn Arakaki
Japan Engineer District

Amid the fanfare of the *USS George Washington's* arrival at Yokosuka Naval Base, a unique group of engineers felt the personal satisfaction of a mission accomplished.

The ship's berthing marked the culmination of a multi-year effort by the U.S. and Japan to assure that all technical, political, and environmental concerns were addressed in the planning, engineering, and construction to prepare Yokosuka Naval Base for the U.S. Navy's only nuclear-powered aircraft carrier forward-deployed outside the U.S.

The *USS George Washington* (CVN73) contributes to peace and stability in the Pacific and gives the 7th Fleet greater range and strike capability. (CVN stands for "carrier, vessel, nuclear.")

Japan District is DoD's construction agent for Japan. To meet the demanding schedule, the district partnered with the U.S. Navy to execute extensive military construction (MILCON) and utility upgrades. The district also provided engineering and construction surveillance for dredging more than 700,000 cubic meters of material from Truman Bay under the Host Nation Funded Construction Program.

Project managers for the program, designated P-998, were an inter-service, international team of representatives from USACE, U.S. Forces Japan, the Government of Japan, Naval Facilities Engineering Command Far East, Puget Sound Naval Shipyard



The *USS George Washington* berthed at its new home at Yokosuka Naval Base in Japan. (Photo courtesy of Japan Engineer District)

& Intermediate Maintenance Facility (PSNS & IMF), and Naval Sea Systems Command. PSNS & IMF, the subject matter expert for CVN support, provided

a tremendous amount of specialized technical input during the design and construction phases.

Japan District executed three P-998 MILCON contracts under the \$67 million program:

The P-998 Wharf Upgrades project retrofitted Yokosuka's Berth 12 utilities for operation and maintenance of CVN vessels, provided a facility used to produce grade-A water, retrofitted Berth 13 to provide "hotel" utilities for additional vessels, and built CVN maintenance barge berthing at Berth 10/11 along an existing seawall.

The P-998 Power Upgrades project built a new switchgear facility for Yokosuka Naval Base to expand the existing 60 Hz power grid, and installed digital Supervisory Controls and Data Acquisition equipment. Japan District and the Honolulu District Regional Technical Center collaborated to see the project through.

The P-998 Building 3128 Second Floor Addition project provided workspace for the Commander Submarine Group Seven and was the first project completed.

The projects achieved outstanding safety records with no recordable lost time accidents, notably 282,914 contact man hours for the wharf upgrade and 114,660 contact man hours for the power upgrade.

Upon arrival, the *USS George Washington* was connected to shore-to-ship support systems in its forward deployed berth — the final result of a complex, multi-contract project delivered on-time and within budget.

January floods

Continued from page one

The district deployed more than 60 flood fighters. In the Olympic Peninsula the team used more than 6,000 tons of rock in a 35-hour nonstop effort to build a berm more than 1,320 feet long to help protect the Quileute Tribe property in La Push, Wash.

"The Quileute tribe was extremely happy with our work," said Steve Horne, flood-fight team member for the Olympic Peninsula. "Many tribal members thanked us for building the berm."

More than 200,000 sandbags were distributed to communities, and USACE provided almost \$2 million worth of assistance, including four pumps to divert water from Interstate 5 at the cities of Centralia and Fife, Wash.

Howard Hanson Dam on the Green River received peak inflows of 30,500 cubic feet per second (cfs), and USACE held outflow to zero during the flood. Without the operation of Howard Hanson Dam, floods on the Green River at the city of Auburn, Wash., would have been greater than 72 feet. The reservoir at the dam reached a record pool level of 1,189 feet, and it held there for nearly 48 hours.

This record-breaking effort seems to have damaged the dam, and engineers are now assessing a 6-foot deep, 10-foot-wide depression in the dam's right abutment. Engineers are making assessments and running tests to determine the level and cause of the damage.

"The damage could be caused by many things, and that's what we're investigating," said Richard Smith, hydro-geologist with Seattle District.

Meanwhile, Mud Mountain Dam's flood control efforts were just as impressive. This dam sits on the White River that feeds into the Puyallup River, a valley that is home to more than 400,000 people and millions of dollars of businesses and industry. Mud Mountain Dam reduced the flood stage in the Puyallup River by more than 3 feet. Peak inflows to the dam were measured at 30,500 cfs, while it reduced outflows during the storm to zero, keeping flows in the Puyallup from reaching 70,000 cfs, which would have overwhelmed the valley with a wall of



Citizens of Yakima, Wash., use a boat to get around their town after the Yakima River flooded. (Photo courtesy of Seattle District)

water.

Even with that, Pacific, Wash., on the White River sustained some damage. The reservoir reached 80 percent capacity and the forecast called for yet more rain. So releases from the dam were necessary. Similar releases in previous storms had not flooded Pacific, but the White River had apparently shifted.

Miracle

(Continued from page one)

vey vessels, worked with other agencies to search the Hudson River for the sunken engine. After days of searching, surveyors found an object that was potentially the engine.

With that information, the *Hayward* crew worked with police divers to find and mark the object at the bottom of the river using a 1,500-pound marker with a line attached to a buoy. Using that line, divers moved safely down to the target and positively identified the engine.

The lift job was then the responsibility of the NTSB, the insurance company, and the salvage contract divers, with the *Hayward* standing by to offer assistance as needed.

"As with past disasters in our area of operations, USACE was again ready to assist in every respect, and we'll be ready to help in the future when the need arises," Tortora said.

That, coupled with new sediment levels and the release flows, pushed the White River over its banks at Pacific.

"We deeply regret the flood damages in the town of Pacific," said Col. Anthony Wright, Seattle District commander, to residents of Pacific during a town hall meeting. "We will work with the local community and county to prevent this from happening again."

During the storm and ensuing floods, Seattle District's Reservoir Control Center regulated the locally-owned Upper Baker and Ross dams in the Skagit River Basin. The Skagit River at Concrete, Wash., peaked at 62,500 cfs and the district held the outflows to a minimum, reducing the flood stage downstream at Concrete by about 2 feet.

The district also took over operations temporarily at the Wynoochee Dam to keep flows on that river down to 3 feet.

(Andrea Takash contributed to this article.)



Members of the New York City Police Department scuba team hand a piece of engine cowling to the crew of the drift collection vessel *Hayward*. The cowling was recovered while divers were identifying the missing engine from the jetliner.