



U.S. Army Corps  
of Engineers  
Honolulu District

# The Pacific Connection

Vol. 41, Nr. 4  
Fall 2007

A 53-Mile Engineering Marvel

# Palau Road



# Commander's Comments

## *Palau Road : A Marvel-ous Milestone*

Happy new (Fiscal) Year! As we look back on FY07, we have so much to be proud of and thankful for.

First, I want to recognize the outstanding job of the Palau Resident Office in accomplishing a monumental task. It was my distinct honor to attend the recent Ribbon Cutting and Turnover Ceremonies in Palau. These ceremonies were moving and gratifying.

The Palau Compact Road is an engineering marvel and a testament to the vision of those who dreamed about the road, the designers who spent years putting the plans together, the construction team that built it and the people of Palau.

The completion of the Compact Road is a great accomplishment for Palau and the United States. It celebrates the partnership between our two peoples and spotlights the excellent relationship between the Department of the Interior and the Corps. This historic event showcases the success of everyone who worked together to build a better future for the people of Palau.

## *FY07 Year-End*

I also want to congratulate everyone in the District on the fabulous year-end. This was truly one of the best year-ends in many years. Thanks to the tremendous efforts of so many, we awarded our top five projects – four MILCON and one Civil Works.

This is a great accomplishment for our entire District. We awarded numerous O&M and reimbursable projects. All of this work will be essential for us given the challenges of our FY08 budget.

We received an all time high of \$6 million in project orders, awarded more than \$26 million in Civil Works / IIS projects (largest amount in 10- plus years) and awarded more than \$201 million in military funded construction contracts.

We even awarded all possible prior year MILCON projects.

I'm very proud of the dedication and hard work put in by our entire District to achieve these impressive accomplishments.

## *NSPS transition*

As we presently finalize the end of our current rating period, I want to remind everyone that we need to be diligent with our employee self-assessments in the Performance Appraisal Application (PAA) and prepare our objectives for the next rating cycle.

Make sure that you read and heed the lessons learned that were previously sent out via email by Lou Muzzarini and carefully structure your self-assessments and rater-assessments accordingly. This will ensure employee accomplishments are adequately described so performance can be evaluated fairly and completely.

As was noted in the last OPLAN update, the District's conversion to NSPS has gone much smoother than anticipated. This is the result of your patience, perseverance and hard work to get us to where we are today. With your continued cooperation and support, we will complete the performance appraisal process in the most efficient manner for all, while ensuring that all employees are treated fairly and equitably.

As always, I am proud to be your Commander. Essayons!

## Honolulu District

The best place where the best people serve singularly focused on executing quality projects relevant, ready, responsive and reliable and having fun!



Lt. Col. Charles H. Klinge  
District Commander

## *Palau: "A Rewarding Experience..."*

I want to share with the entire District the experience my staff and I had in Palau at the ribbon cutting ceremony for the Compact Road. To put it simply it was humbling and rewarding. The Palauan speeches were filled with thanks and appreciation but they also included some much more meaningful comments. The road has improved the lives of so many in Palau and is the cornerstone of the continuing growth of this relatively new Republic. It seems every person feels a positive impact from the road.

To repeat what one of the high Chiefs said, people can visit family and friends without wondering if they can return home, access to shopping and hospitals is a given rather than a challenge, trips to marriages and traditional celebrations is now easy. There are many more examples but what is represented in every case is how much this road has improved the lives of Palauans.

The Compact Road Project has been a part of HED for more than 13 years. Hundreds of people inside the District, in the A/E community of Honolulu and in my office have contributed in some way.

I certainly feel proud to have been a part of this process and my message here is to all in the District. The Compact Road Project has made a difference to the people of Palau and we should all feel proud of what was accomplished.

*Alex Morrison, Palau Resident Engineer*

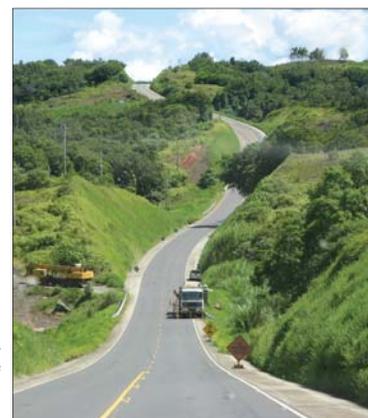
## The Pacific Connection

Palau

## ON THE COVER

A small section of the winding 53-mile-long Corps built road that circles the Pacific island nation of Palau.

Photo by Paul Mizue



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Honolulu District Commander..... Lt. Col. Charles H. Klinge  
Chief, Public Affairs ..... Joseph Bonfiglio  
Pacific Connection Editor ..... Dino W. Buchanan

# Honolulu District, Ed Yago Accept 2007 U.S. Air Force Design & Construction Awards

By Dino W. Buchanan  
Media Relations Specialist

The U.S. Air Force presented Honolulu District with the 2007 U.S. Air Force Construction Agent of the Year and the District's Edwin Yago with the 2007 Civilian Project Manager of the Year (Construction Category) awards during ceremonies held in Washington, D.C. August 2.

Honolulu District Commander Lt. Col. Charles H. Klinge accepted the award from Air Force Maj. Gen. Del Eulberg, Air Force Civil Engineer, Headquarters U.S. Air Force, Washington, D.C.

The Construction Agent of the Year Award recognizes the agency that provides the most professional management of construction projects for the U.S. Air Force. U.S. Pacific Air Forces (PACAF) nominated the Honolulu District for the Air Force-wide award for "its unique managerial ability, construction techniques and ability to complete projects below cost and ahead of schedule."

PACAF recognized the District for its success with Hickam Air Force Base's C-17 Beddown Project.

Yago, a civilian engineer, is being recognized for "his dynamic leadership, technical and managerial ability, fiscal resourcefulness and innovative engineering techniques."

Yago serves as the project manager for several Hickam AFB projects.

Honolulu District is responsible for the planning, design and construction of the \$153 million C-17 Beddown project, which includes: a state-of-the-art simulator building, a squadron operations building, a consolidated maintenance complex, historic hangar renovations, a hot cargo pad and several support facilities.

The Air Force Center for Engineering and the Environment (AFCEE) hosted the Design & Construction Awards luncheon. Formed in 1991, AFCEE is a field operating agency of the Office of the Air Force Civil Engineer in Washington, D.C.



*Honolulu District Commander Lt. Col. Charles H. Klinge (above) and civil engineer Edwin Yago (below) accepted the awards from Air Force Maj. Gen. Del Eulberg, Air Force Civil Engineer, Headquarters U.S. Air Force, Washington, D.C. Photos by Dave Duncan*



## District Commander Speaks at Honolulu S.A.M.E. Luncheon

Honolulu District Commander Lt. Col. Charles H. Klinge was the keynote speaker at the August 14 Society of American Military Engineers (SAME) Honolulu meeting held at Fort Shafter's Hale Ikena.

Lt. Col Klinge presented an overview of the Honolulu District and reviewed FY08 and FY09 program details to the 90 people attending.

The presentation included major construction projects to be awarded in FY07, FY08, FY08 A-E contracts and potential projects for FY09 and FY10. Also included in the presentation were current projects, including the \$1B Whole Barracks Renewal, \$1B Army Transformation and the \$127M C-17 Beddown at Hickam Air Force Base.



# Moanalua Valley Residents Sleeping Well Again Following District Rockfall Mitigation Project

By Dino W. Buchanan  
Media Relations Specialist

Several Moanalua Valley residents are now sleeping well at night after boulders that could have fallen on their homes were removed by a U.S. Army Corps of Engineers Honolulu District rockfall mitigation project in August.

Moanalua Valley resident Lisa Hall watched and smiled as a helicopter lifted more than 35 bags of boulder fragments from a hillside behind her home.

“It’s a relief,” Hall said.

The airlift concluded the \$309,000 rockfall mitigation project to remove five boulders - boulders that were up to five feet in diameter and weighing approximately three to 20 tons - above homes near 1615 Ala Mahina Place in Moanalua Valley.

The boulder that had sat precariously on the slope about 275 feet above street level and behind the home Hall rents, was about the size of a Volkswagen Beetle and weighed an estimated 20 tons. Since she moved into the house earlier in 2007, Hall worried that it could roll down the hill into her bedroom.

“It concerned us because the geologist had mentioned to me that particular big boulder could have come down and landed inside my home at any time,” Hall said. “We’ve were sleeping in the living room because we were afraid it would land in my bedroom. When we first noticed the boulder it was kind of scary because it looked like it would come down any moment.”

“That boulder in particular looked really unstable,” said Cliff Tillotson, vice president of Prometheus Construction, the Corps’ contractor for the project. “I have kind of a gut rating system on boulders and that one was a seven or eight. It was just sitting on two little rocks and if they were to move or give way, then the boulder could roll down.”

Removing the boulders involved placing temporary secure cable net drapery (fences) over the boulders and then breaking them into pieces using a pneumatic splitter. The drapery netting secured the boulders while crews split them into manageable pieces and placed them into heavy-duty bags.

“We built fences in front of the boulders



**Pacific Aviation and Prometheus Construction workers watch as a bag of boulder fragments is lowered to a field at Tripler Army Medical Center during the Corps 2005 rockfall mitigation project in Moanalua Valley.** (Honolulu District file photo)

and then broke them into small pieces and put them into heavy lifting bags,” said Tillotson.

The project was initiated by concerns from the Moanalua Valley residents to State Rep. Glenn Wakai, 31st District (Moanalua Valley, Moanalua, Salt Lake) and then an inquiry from U.S. Sen. Daniel K. Inouye’s office in February.

Honolulu District awarded the current rockfall mitigation contract on July 5, 2007 to Prometheus Construction for \$308,850 to remove five boulders located mainly in the area above 1615 Ala Mahina Place.

“This action was not us as a community crying that the sky is falling,” Rep. Wakai said. “Boulders actually fell and they continue to pose a danger to the residents.”

Rep. Wakai said he and Sen. Inouye worked together to secure funding for this project and according to a recent press re-

lease issued by Wakai’s office, \$6.5 million more to remove boulders on the Red Hill side of Moanalua Valley where the U.S. Navy has identified 49 sites as having dangerous boulders.

Prometheus began the project Aug. 14 and finished the job in about two weeks – weeks ahead of the contract’s October deadline. All of the boulders removed were just inside Tripler Army Medical Center’s property line at or above 260 feet.

Residents in homes near the five boulder sites were evacuated during the airlift, which took about 40 minutes, Tillotson said. Pacific Helicopters lifted the bags of chipped stone from the hillside to a field area at Tripler where they were later trucked away to a Mililani stone dealer for reuse.

See

**Moanalua Valley Rockfall Mitigation**

On Page 5

# OC's Masunaga Wins USACE "Judge" Kimbel Award

Jenny Matsunaga, an attorney in Honolulu District's Office of Counsel, was recently presented with the prestigious Joseph W. Kimbel Award by the U.S. Army Corps of Engineers Chief Counsel Earl H. Stockdale at the 12th Worldwide USACE Legal Services Conference Awards Banquet.

Masunaga, who was nominated by the District Office of Counsel, accepted the honorary award, which "recognizes the Corps of Engineers attorney who has demonstrated, over a period of one year or more, the highest potential for future legal achievement in the Corps' Legal Services Community of Practice."

The award is named for "Judge" Joseph W. Kimbel, who served with distinction in the Office of the Chief of Engineers for 43 years. Beginning his career there in July 1913, he progressed to the position of Special Counsel to the Chief of Engineers in 1946, where he served until his retirement in 1956.

As the head of a highly specialized group of legal experts, "Judge" Kimbel demonstrated the highest degree of ability to counsel and advise the Chief of Engineers on the various laws, rules and regulations governing the many complex phases of the civil works program. He made a major contribution to the successful operation of the Corps. The award symbolizes the continuing tradition of extraordinary professional



**Attorney Jenny Masunaga accepted the Joseph W. Kimbel (photo at right) Award from USACE Chief Counsel Earl H. Stockdale at the 12th Worldwide USACE Legal Services Conference Awards Banquet.** (Courtesy photos)

potential and performance exemplified by "Judge" Kimbel.

Any attorney in the Corps of Engineers in any Major Subordinate Command, District, Lab or FOA element of Counsel or Real Estate, or in the Office of the Chief Counsel or Directorate of Real Estate is eligible for the award. Each nomination is submitted in narrative form on how the nominee's performance has exemplified the qualities

and values inherent in the purpose and nature of the Joseph W. Kimbel Award. The Corps' Chief Counsel makes the final selection.

Jenny holds a B.A. degree from the University of Hawaii at Manoa and is a 2002 Honor Graduate from the University of Indiana Law School. She has worked for Pacific Ocean Division and the Honolulu District since June 2002.

## Moanalua Valley Rockfall Mitigation

*Continued from page 4*

In late 1995 Prometheus Construction completed a \$1.4 million Corps rockfall mitigation project along the Tripler AMC property line uphill of the Moanalua Valley residences on Ala Aolani Street and Ala Mahina Place, removing 50 boulders from 15 sites. That project followed heavy rains and landslides that had damaged properties near Tripler AMC in late 2003.

Watching the boulder chunks being flown away from the hillside in August was much more than a weight lifted off the minds of the Ala Mahina Place residents.

"Now we can move back into our bedroom and have a good night's sleep," Hall said.

"The whole hillside has been swept really thoroughly now," said Tillotson. "I feel this hillside is very safe."

For Lisa Hall knowing that means a good night's sleep.



**A Prometheus Construction crewman uses a pneumatic splitter to break a boulder on the Tripler slope of Moanalua Valley during the Corps' rockfall mitigation project in late 2005.** (Courtesy photo)

## ***New Meck Island Emergency Services Facility Opens***



*The Meck Island, Kwajalein Emergency Services Facility replaces a deteriorated structure and features a one company fire station with accommodations for a single crew fire department and an emergency services operation center. (Courtesy photo)*

***The new Emergency Services Facility, Meck Island, Kwajalein opened in early September with (left to right) Lt. Col. Harold Buhl, commander, Ronald Reagan Test Site; Larry Cotton, project manager, San Juan Construction, Tim Phillips, chief of Honolulu District's Fort Shafter Resident Office, Jerry Leverett, Meck Island assistant fire chief and Paul Lewis, USAKA DPW director, cutting the ceremonial ribbon. (Courtesy photo)***



## **District Awards Kikialoa Small Boat Harbor Contract**

The U.S. Army Corps of Engineers Honolulu District awarded a contract for \$18,771,500 to Kiewit Pacific Company of Kapolei, Oahu for the Kikialoa Light Draft Harbor Project located in Kekaha, Kauai, state of Hawaii.

The project is being cost shared between the Corps and the State of Hawaii Department of Land and Natural Resources (DLNR). The purpose of the project is to eliminate breaking waves and make the harbor safer for boaters.

The work will consist of dredging a 725-foot long entrance channel varying in width from 105 to 205 feet to a depth of 11 feet, dredging an 320-foot long access channel varying in width from 70 to 105 feet to a depth of seven feet, removing 150 feet of the existing outer east stub breakwater, raising the crest elevation and flattening the seaward slope of approximately 764 feet of the existing east breakwater, removing and reconstructing the 71-foot long inner east breakwater and modifying 245 feet of the existing west breakwater.

The contract has a 578 calendar day performance period following Notice to Proceed. Following that notification, the contractor will schedule work.

A public information meeting to explain the construction schedule and harbor operations during construction will be scheduled in the near future.

## **Maui Mirror Coating Facility Presents Numerous Building Challenges**

***This new facility uses a Design-Build contract for a pre-engineered building adequate for use as Mirror Coating Facility to support the adjacent Advanced Electro-Optical System (AEOS) telescopes on Maui.***

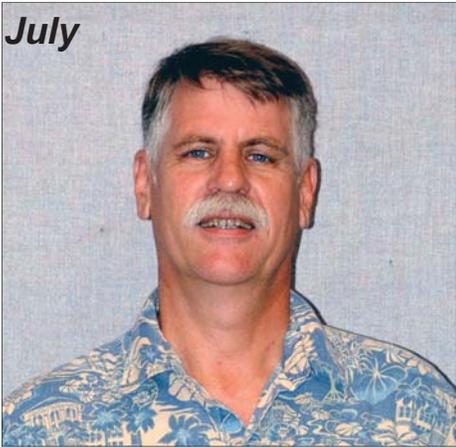
***The contract, expected to be finished in 2008, includes site work on government-leased land atop Haleakala, Maui. Customer is the Air Force Research Laboratory.***

***According to District project managers, this project presents numerous challenges including building the entire facility on-site at a remote location nearly two miles upslope atop an extinct volcano. (Courtesy photo)***



# Employees of the Month

July



**Greg Davis, Contractor/Design Branch**

Greg demonstrates the “Just Do It” mind set to ensure timely completion of duties; a case in point being his recent CADD design efforts on the Kikiaola Light Draft Harbor Project Modifications contract plans. He used InRoads civil design software to automate various drawing submittal requirements & his efforts enabled precision “quality control” over the previous manual CADD work and will facilitate potential changes as the project proceeds through construction. His InRoads work will benefit preparation of the project “as-built” drawings.

July



**Mike Wong, Hydraulic Engineer**

As the technical lead for Dam Break Studies in the State of Hawaii, Mike has been conducting monthly technical meetings with consultants and answering their questions on inundation studies for various dams within the State. He has been instrumental in providing review assistance to the Camp Humphries relocation project and was requested by Far East District and Pacific Ocean Division to visit South Korea and review the ongoing drainage design and flood damage reduction efforts of the Korean government. He is committed to his customers, the mission and the Corps.

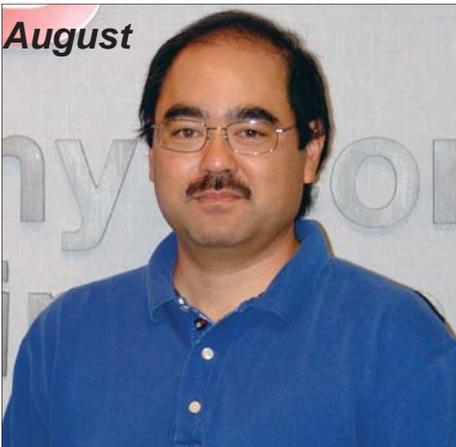
August



**Vickie Cleaver, EM OPS Coordinator**

As Hurricane Flossie was forming & moving towards Hawaii, Vickie deployed to conduct an ENGLink training class for POF and then support POF in Ulchi Focus Lens (UFL). After arriving in South Korea, she set up her computer, air card & Blackberry and was logged on to CEFMS and into ENGLink at her hotel and working as the POH EOC coordinator - only 4,000+ miles from the office. On Wednesday (a Korean National Holiday) she was able to devote 15 hours to her duties as the Honolulu District Emergency Operations Coordinator. She is dedicated, innovative, relentless & walks the walk.

August



**Mark Arakaki, Env. Prot. Specialist**

Mark’s unrelenting dedication to his work has enhanced the District’s reputation as the agency of choice in addressing environmental issues. Through his work on the EPA Region 9/State DOH joint venture State wide underground storage tank clean-up project, the district was paid the highest customer complement: request for continued support and expansion of responsibilities to include program management. Additionally, he is willing to “step outside of his box” & learn new areas of technical expertise, adapting to the ever changing regulatory landscape and customer requirements.

September



**Wayne Muraoka, Senior Mechanical Engineer**

POJ had requested support from the RTC to temporarily fill the vacant Supervisory Mechanical Engineer position, Mechanical Section, E&C Division, POJ, while they awaited arrival of the permanent chief. Without hesitation, Wayne stepped forward to assist for one month, serving from 16 June through 13 July. In addition, when RTC found that POF needed help in developing their FY08 RTC Work Plan due to the immense size of the Korea Relocation Program, he volunteered to perform TDY support. His efforts strengthened our partnerships.

September

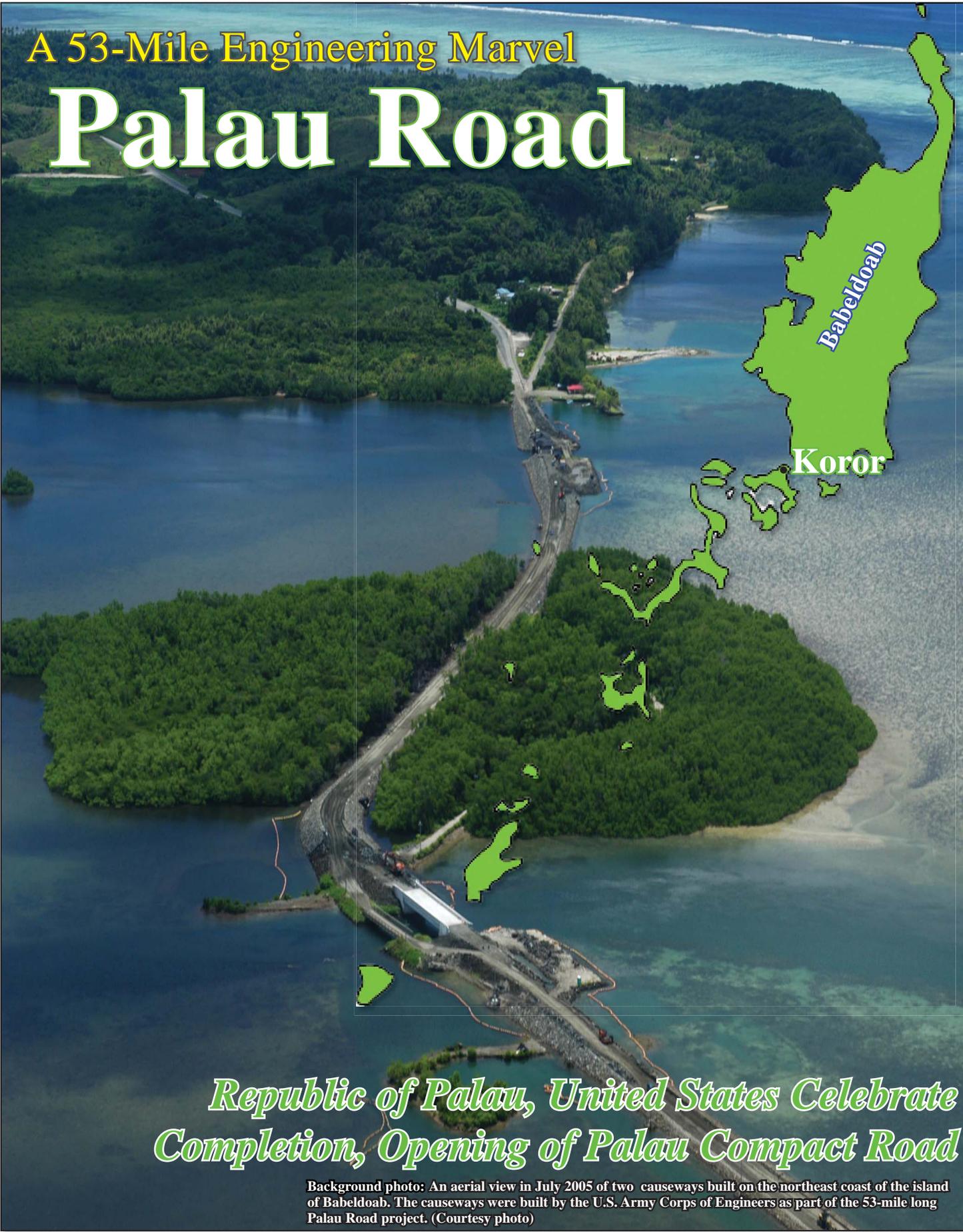


**James Hatashima, Senior Project Manager, Civil & Public Works Branch**

Nominated for excellence in managing the completion of the Kaunalapau Harbor Project, Lanai, which is a unique enterprise in many respects: the 1st construction project built in the nation utilizing the innovative 35-ton Core-Loc artificial armor unit, the largest cast to date; the 1st civil works construction project built in Hawaii without a positive benefit-to-cost ratio since that requirement was established in 1965. He is congratulated for excellent stewardship/management for a truly challenging & difficult project.

A 53-Mile Engineering Marvel

# Palau Road



*Republic of Palau, United States Celebrate  
Completion, Opening of Palau Compact Road*

Background photo: An aerial view in July 2005 of two causeways built on the northeast coast of the island of Babeldoab. The causeways were built by the U.S. Army Corps of Engineers as part of the 53-mile long Palau Road project. (Courtesy photo)

## Road Builds A Better Future for People of Palau

By Joseph Bonfiglio  
Chief, Honolulu District Public Affairs

Officials from the Republic of Palau, the U.S. Army Corps of Engineers and the U. S. Department of the Interior participated in a ribbon cutting ceremony Oct. 1, to mark the formal completion and turnover of the Palau Compact Road.

The ceremony hosted by Palau President Tommy E. Remengesau, Jr. was part the republic's 13th Annual Independence Day celebration.

Attending the ceremony were: Deputy Assistant Secretary David Cohen and Program Manager Tom Bussanich from the Interior Department's Office of Insular Affairs; Mark Bezner, chargé d'affaires at the U.S. Embassy in Palau; Brig. Gen. John W. Peabody, commander, Corps of Engineers, Pacific Ocean Division; Lt. Col. Charles H. Klinge, commander Corps of Engineers, Honolulu District and Rear Adm. William D. French, commander, U.S. Naval Forces Marianas and U.S. Pacific Command defense representative to Palau.

According to Brig. Gen. Peabody, "the completion of the Compact Road is a great day for Palau and the United States. It celebrates a partnership between the people of Palau and the United States represented by the Department of the Interior and the Corps of Engineers."

"Today marks the success of all those who have worked together to overcome challenges in order to build a better future for the people of Palau. The Palau Compact Road is a marvel and a testament to the vision of those who dreamed about the road, the designers who spent years putting the plans together, the construction team that built it and to the people of Palau," Brig. Gen. Peabody said.

See  
**Reshaping A Way of Life**  
On Page 10



Vehicles (Above) traverse a partially completed section of the Palau Road in 2005. The completed 53-mile, two lane 24-foot wide road took eight years to build. (Courtesy photo)



(Left) Resident Engineer for the Palau Road project Alex Morrison speaks at the official Palau Road Ribbon-Cutting ceremonies held Oct. 1 on Palau.

"This road will fundamentally change Palau's future and I appreciate the chance to be part of such an important effort."

Photo By Joseph Bonfiglio



A small portion of the more than 5,000 pieces of ordnance left on the island by the Japanese during World War II. Corps contractor Daewoo hired former U.S. military personnel to remove and destroy the stockpiled ordnance prior to the earth work. (Courtesy photo)

## Reshaping A Way of Life

*Continued from page 9*

The United States' involvement with Palau (the westernmost of Micronesia's Caroline Islands) dates back to World War II when American forces liberated the islands.

After the war, the United Nations created the Trust Territory of the Pacific Islands (which included Palau) and the United States became the administering authority.

Palau and the U.S. signed a Compact of Free Association in 1994.

Palau became a sovereign state under the Compact and the U.S. continued to be responsible for its defense.

As part of the Compact, the United States promised to build a 53-mile-long paved road on Babeldaob, the largest of Palau's more than 300 islands with 153 square miles of virtually undeveloped land. Palau's total land area is 188 square miles.

About two-thirds of Palau's approximately 20,000 people are located in the capital of Koror, which has only about four percent of the nation's land.

It is hoped that the road, built under the Corps' design and supervision, will change the island nation's future and foster Palau's economic development.

Palauans who own land in Babeldaob, for example, will be able to commute from their homes rather than to live in rented apartments to work in Koror.

Likewise, Palauans living in villages on Babeldaob will have access to the hospital, college, and other facilities in Koror.

Greater accessibility to Babeldaob will provide the room and the opportunity for Palau and its people to grow.

The road was badly needed, according to Alex Morrison, the Honolulu District's resident engineer and administrative contracting officer for the project since its inception.

"Even though it is larger than all the other Palau islands combined, Babeldaob had almost no paved roads," he said. "It was impossible to drive from north to south if there had been any rain at all, and if you could drive, it was an eight to 10-hour trek. So most of the travel around the island was by boat."



(Top) A road crew grades an isolated section of the Palau Road in 2004. (Courtesy photo)

(Above) Honolulu District's Palau Road PDT poses with Pacific Ocean Division Commander Brig. Gen. John W. Peabody (left center front) on Oct. 1, 2007. (l to r) Vince Faggioli; Gordon Kuioka; Ralph Graves; Selma August; Jeff Honeycutt; Masubed Skebong; Cathy Gill; Tom Bussanich, Director of Budget, Office of Insular Affairs; Honolulu District Commander Lt. Col. Charles H. Klinge; Alex Morrison; Assistant Secretary of the Interior for Insular Affairs David Cohen; Al Mathis; David Kern; Patricia Billington; Paul Bowen; Nabuko Bowen; Richard Abe; Heidi Quinn and Bill Quinn. Photo by Joseph Bonfiglio

## A 53-Mile Engineering Marvel

# Palau Road

*"From an engineering and construction standpoint, this is as challenging as a road project could possibly be. The journey that used to take an entire day now takes two hours."*

*- Alex Morrison, Resident Engineer Palau Road*

The road meets U.S. Department of Transportation standards and includes access to the new capital site at Melekeok. The road is 24-foot-wide, with an asphalt-concrete surface and shoulders.

The Department of the Interior “hired” the Corps of Engineers to manage the road’s design and construction. DOI had overall responsibility, while the Corps’ Honolulu Engineer District did the planning and design of the road and managed its construction and completion.

Four Honolulu-based architectural-engineering firms collaborated on the design between 1994 and 1998 and the construction contract was awarded to prime contractor Daewoo Engineering and Construction of Seoul, Korea, March 30, 1999.

Building the road presented a number of challenges, Morrison said, starting with the island itself.

“Palau is not as mountainous as, say, Hawaii. But it is hilly, with very steep terrain features,” he said. “It’s very heavily vegetated, and because it’s tropical rainfall is common and often heavy. That means there are also a lot of streams and rivers. So it’s a challenging place from an engineering point of view.”

Another very real concern, Morrison said, was the substantial amount of World War II ordnance still on the island.

“There was a lot of fighting here during the war, and since this job started we’ve picked up more than 5,000 pieces of ordnance,” he said.

Once the jungle was cleared and any ordnance removed, the alignment was graded and the construction crews begin what Morrison called a “cut and fill” operation.

“That’s basically where you cut the hills down and fill the valleys up,” he said. “We’ve also had to deal with some 400 stream crossings, so there are a lot of drainage issues to deal with.”

Seven major bridges had to be built along the road’s route, Morrison said. Two cross ocean inlets, and the others cross streams or rivers.

Given the extent of the construction and the pristine land and coastal environment, the Corps was very careful to enforce strict environmental standards.



*A dump truck prepares to deliver a load of crushed rock for use as a roadbed during construction of the Palau Road in 2004. (Courtesy photo)*

“In terms of environmental planning and impacts, this road was built to the same standards we would use if we were building it in California or Kansas,” Morrison said. “The U.S. Environmental Protection Agency, the U.S. Fish and Wildlife Service and the National Marine Fisheries Service were all involved in the design phase, and their involvement continued during the construction phase.”

That same care and concern went into every aspect of the project, Morrison said.

“Everyone involved with this takes great pride in it, both because we want to build the best road possible and be-

cause we were working against some tremendous odds,” he said. “From an engineering and construction standpoint, this is as challenging as a road project could possibly be. The journey that used to take an entire day now takes two hours.”

“And that’s one of the reasons why I found this project so fascinating. This road will give the people of Palau a level of access to their own land that they’ve never before had,” he added. “This road will fundamentally change Palau’s future, and I appreciate the chance to be part of such an important effort.”



## A Road to Marvel ...

*Palau and U.S. officials cut the ceremonial ribbon officially opening the Palau Road. From left to right: Mark Bezner, chargé d'affaires at the U.S. Embassy in Palau, Pacific Ocean Division Commander Brig. Gen. John W. Peabody, Staff Director of the House Subcommittee on Insular Affairs Tony Babauta (4th from left), Tom Bussanich, Director of Budget, Office of Insular Affairs and Palau Road Resident Engineer Alex Morrison.*

*Photo by Joseph Bonfiglio*



## C-17 Support Project Breaks Ground at Hickam AFB



*Honolulu District Commander Lt. Col. Charles H. Klinge makes his remarks during the ground-breaking ceremonies for the Corps' C-17 Fuel Cell Nose Dock project at Hickam AFB in September. The nearly \$21M project contract entails creating an entirely new Hangar #19 featuring a reinforced concrete foundation, floor slabs on pilings, structural steel frame, masonry walls and roof plus maintenance hangar space, fire protection/suppression system, mechanical areas, storage space, fuel cell air-handling equipment, renewable energy measures, soil remediation, archaeological monitoring, antiterrorism/force protection measures and supporting facilities.*

Photo by Dino W. Buchanan

## Hydraulic Engineer Presents Lanai Project Data to International Engineering Forum

By Jessica Podoski  
Environmental Technical Branch

In July 2007, I attended the Coastal Structures 2007 Conference sponsored by the American Society of Civil Engineers (ASCE) and Coasts, Oceans, Ports, and Rivers Institute (COPRI), as well as the 32nd Congress of the International Association of Hydraulic Engineering and Research (IAHR) held in Venice, Italy to present an oral paper titled, "Initial Monitoring Results Following Completion of a Core-Loc® Breakwater at Kaunapau Harbor, Lanai, Hawaii" as part of the Corps of Engineers' Monitoring of Completed Navigation Program (MCNP).

The presentation was co-authored by Thomas Smith of the Honolulu District and Steven Hughes of the U.S. Army Corps of Engineers (USACE) Engineering Research and Development Center's Coastal Hydraulics Lab.

The presentation and a written paper included in the Coastal Structures conference proceedings discussed the breakwater recently constructed by the Honolulu District and contractor Traylor Brothers (Pacific) at Kaunapau Harbor on the island of Lanai.

This project is of considerable interest to the international coastal engineering community because the Kaunapau breakwater was built using 35-ton Core-Locs®, some of the largest concrete armor units to be constructed to date anywhere in the world. The deep water at the entrance to the harbor, as well as the need for the new breakwater to withstand waves generated by hurricane conditions, required the use of these very large and robust interlocking armor units including the development of state-of-the-art methods for the construction of the breakwater.

Ongoing post-construction monitoring of the breakwater, being done as part of the MCNP Program, will provide invaluable data on the performance of the structure over time. The presentation detailed many of the methods being used to track breakwater performance including strength testing of a prototype Core-Loc®, wave data collection at Kaunapau Harbor and the use of a state-of-the-art surveying technique called Tripod-LiDAR to monitor settling and movement of the armor units to an accuracy of 0.5 inches.

The discussion of the project's advanced construction methods, the challenges faced during construction, the successful completion of the breakwater, and the post-

construction monitoring techniques are an excellent learning tool for coastal engineers working on similar structures in all parts of the world.

I received a great deal of interest and questions on the presentation throughout the conference. The presentation was also a great opportunity to showcase the innovative and proficient work being done by the USACE and the Honolulu District in particular in an international forum.

My attendance at the conference was also an incredibly valuable learning experience as I listened to presentations by engineers from Japan, Spain, The Netherlands, Australia, England, Italy and many other coastal countries discussing the research, challenges, successes, and lessons learned from the work being done on coastal structures around the world. Many of the papers concerned topics that are directly relevant to coastal projects within the Honolulu District, such as the use of armor units for structure repair, wave transformation over reefs, and the survey and monitoring techniques being used to track the performance of completed coastal structures.

# District Awards \$133M in Fiscal Year-End Construction Contracts

Honolulu District recently completed a successful Fiscal Year 2007 during which more than \$228.84 million in contracts were awarded.

Significant military construction and civil works contracts recently awarded at the end of the FY07 include:

FY06 Drum Road Upgrade Phase 2, Helemano Military Reservation, was awarded Sept. 20 to Kiewit Pacific Co. for \$38,031,886.

FY07 Pkg. A-002 Repair to Bldg. 123, Fort Shafter, was awarded Sept. 23 to Alutiiq-Mele, LLC for \$2,118,339.

FY07 Launch Control Facility, Meck Island, U.S. Army Kwajalein Atoll, was awarded Sept. 24 to San Juan Triton JV for \$6,399,800.

FY07 Pkg. A-009 Renovate Bldgs. 1543/1547, Fort Shafter was awarded Sept. 26 to Nan, Inc. for \$3,410,000.

FY07 Whole Barracks Renewal Phase 2F2, Schofield Barracks, was awarded Sept. 27 to Nan, Inc. dba Ocean House Builders for \$18,373,600.

FY07 Whole Barracks Renewal Phase 2G, Schofield Barracks, was awarded Sept. 27 to Nan, Inc. dba Ocean House Builders for \$37,683,700.

FY08 DCGS Intel Squad Ops, Hickam Air Force Base, was awarded Sept. 27 to Watts Constructors LLC for \$13,325,000.

FY07 Pkg. A-0003 Repair MP HQ Bldg. 3010, Schofield Barracks, was awarded Sept. 27 to Dawson-DBS JV for \$3,173,180.

FY07 Pkg. A-007 Demo Bldgs. Area 2131, Schofield Barracks, was awarded Sept. 27 to SNM Builders for \$1,072,299.

FY07 Pkg. A-014 Repair B405, Fort Shafter, was awarded Sept. 28 to Pacific Tech Construction for \$1,259,046.

FY07 Pkg. A-125 Repair/Expand Rear Parking Lot Fernandez Hall, Schofield Barracks was awarded Sept. 28 to Pacific Tech Construction for \$1,800,147.

FY07 Repair Windows/Doors Hangars 111,114, Wheeler Army Airfield, was awarded Sept. 30 to Nan, Inc. for \$2,626,100.

Rota Harbor Dredging and Revetment Repair, Saipan, was awarded Sept. 28 to Reliable Builders, Inc. for \$1,858,075.



## U.S. Army Engineering Intern Graduation

Four of the five Honolulu District U.S. Army Engineering Interns graduated from their internship during a ceremony held in late September. Posing with District Commander Lt. Col. Charles H. Klinge (center) at the ceremony were (l to r) Nadine Miyahira, Army Interns Iris Hew, Keane Nishimoto, Jarrett Hara and Jennelle Kim, with program coordinator Ed Yoshimura. Not pictured was Army Intern Svetlana O'Malley. Photo by Dino W. Buchanan

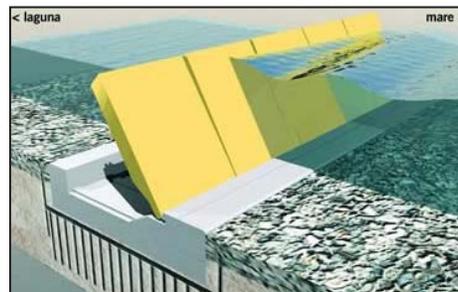
## Kaumalapau Data

Continued from page 13

There were also many conference topics that, although not directly applicable to the work that I do, were truly fascinating from an engineering perspective. One example is the MOSE (Modulo Sperimentale Elettromeccanico) system currently under construction in the Venice lagoon. This massive three billion Euro project consists of several coastal structures and a system of submerged and mobile gates that will be periodically closed to combat the persistent flooding that is increasingly experienced in the low-lying city during extreme high tides.

With the increasing awareness of global sea-level rise and the need to incorporate this trend into coastal engineering design

and analysis, the location of Venice as a conference venue seemed very appropriate.



The MOSE Module involves construction of 79 gates at three lagoon inlets in Venice. When waters rise 1.1 meters [43 inches] above "normal," air will be injected into the hollow gates, causing them to rise, blocking seawater from entering the lagoon and thereby preventing the flooding of Venice. Photo by Venice Water Authority

I also had many opportunities to talk with other conference attendees about the various coastal topics presented and the coastal environment surrounding us, and I found that although the majority of us work in different coastal settings and with varying ocean conditions, we face many of the same challenges and are interested in solving many of the same engineering problems. The opportunity to interact with other engineers in a multi-national gathering, and to do so in a city that itself is considered an engineering marvel, was the experience of a lifetime.

As the Italian saying goes, "Tutto sapere è niente sapere"... "To know everything is to know nothing (compared to all there is to know)."

## Veteran Corps Employees Take to the Road of Retirement



Eleven smiling Honolulu District retirees display the Hawaiian “shaka” with District Commander Lt. Col. Charles H. Klinge (Center, back row) during their farewell luncheon held in September. Celebrating their retirement are (l to r) Don Yorimoto, Sam Ng, Paul Kim, Charlene Hasegawa, Ernesto Guerrero, Anne Chang, Lenora Okubo, Sally Minami, Paul Mizue, Howard Murakami, Richard Yoshimura. Not pictured is retiree Janet Kojima. Photo by Dino W. Buchanan

## RVC Sponsors National Public Lands Day Cleanup in Waikiki



Twenty-four JROTC Cadets from Punahou School participated in a Corps-sponsored Hale Koa beach berm cleanup behind the Honolulu District’s Pacific Regional Visitor Center on Sep. 29 as part of National Public Lands Day.

The Cadets removed excess trash and weeds around the Visitor Center and later plucked trash from within the berm rocks - filling 12 trash bags in two hours.

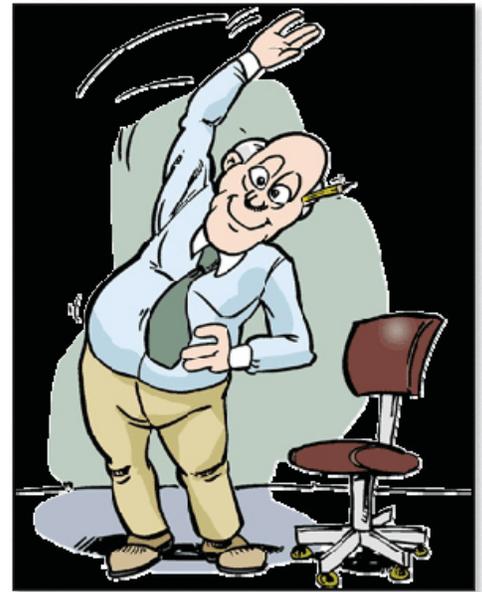
Photos by  
Corps Park Ranger Garland Ireland

# Making Time For Wellness That Adds Life to Your Years

Making time for wellness won't necessarily add more years to your life, but it could add more life to your years. Taking good care of yourself can help you avoid or at least delay chronic illnesses such as heart disease, cancer, diabetes and others. Good health practices can also boost your energy so you get more enjoyment out of life.

These are some basics of a healthy lifestyle:

- Exercise briskly for at least 20 minutes three or more times a week.
- Drink plenty of water.
- Build your diet around a variety of fruits, vegetables, and whole grains.
- Eat lightly.
- Limit your consumption of fats, sugar, salt and chemical additives.
- Maintain a healthy weight for your height.
- Have your blood pressure checked regularly, and learn to manage any blood pressure problems.
- Avoid excessive exposure to the sun. Cover up and use a sunscreen.
- Choose to take responsibility for your own lifestyle and be willing to accept the consequences - both negative and positive.
- Get enough sleep.
- Practice keeping things in perspective. Try to look at the big picture when you get bogged down with small details.
- Learn to handle stress so it does not cause physical illnesses.
- Spend some time thinking about what makes life meaningful for you. Are you doing the things you want to be doing? If not, what is holding you back?
- Don't smoke.
- Drink moderately if at all.
- Do not take drugs except those prescribed by your doctor, and ask your pharmacist about precautions with the drugs you do take.
- Have the periodic tests and exams for major illnesses as recommended by your doctor for your age group and your sex. Also do the recommended self-exams for early detection of diseases such as skin cancer, breast cancer or testicular cancer.
- Learn positive ways of dealing with conflict and change.
- Develop a wellness mindset which includes critical thinking skills. Don't believe everything you read or be gullible to products or gimmicks that have not been proven effective. Learn how to separate fact from fiction when it comes to wellness information.



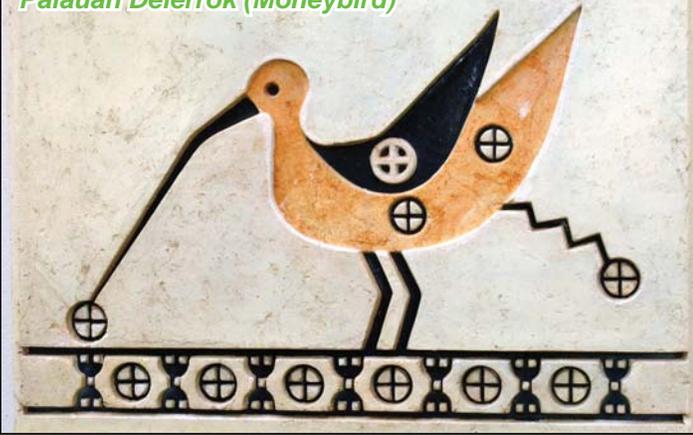
## ***Republic of Palau, U.S., Celebrate Completion of Palau Compact Road***

***Deputy Assistant Secretary of the Interior for Insular Affairs David Cohen (left) and Palau Minister of Resource and Development Fritz Koshiba sign the transfer documents officially turning over possession of the Palau Road to the Republic of Palau on Oct. 1, 2007. The signing event was part of Palau's 13th Independence Day celebration held in Melekeok.***

Photo by Joseph Bonfiglio



*Palauan Delerrok (Moneybird)*



According to Palauan traditional legend, Delerrok (Moneybirds), laid Palauan coins instead of bird eggs. Traditional meeting houses, Bai, are adorned with the Moneybird symbol. The symbol stands for prosperity and perseverance. This image is one of many found on the new Palauan capitol building in Melekeok.

# Aloha



## RETIREES

- Anne Chang
- Ernesto Guerrero
- Charlene Hasegawa
- Paul Kim
- Janet Kojima
- Sally Minami
- Paul Mizue
- Howard Murakami
- Samuel Ng
- Lenora Okubo
- Don Yorimoto
- Richard Yoshimura

### GWOT Volunteers

Wayne Birgado and "Ike Borja" -  
 Serving in Iraq  
 Matthew Rowe returned from  
 Afghanistan - September 2007

### Welcome

Maj. Corey Spencer  
 Lora Bennet  
 Fortunato "Sonny" Sapida, Jr.  
 Robert Finch  
 Karen Tomoyasu

Rick McKittrick  
 Kevin Nishimura  
 Anthony Reyes  
 Stephen Stello  
 Jarrett Hara

Keane Nishimoto  
 Un Yong "Jin" Onuma  
 Robert Tom  
 Alexandra Gomez

# Aloha

### Good-bye

Dave Kern  
 Barry Mischler  
 Nicholas Morikawa  
 Lester Lau  
 Lindy Kunishima  
 Douglas Symes  
 Connie Ramsey  
 Michael Carroll  
 Richard Carlile  
 Svetlana O'Malley  
 Allyn Tabata  
 Calvin "Ken" Mashita

**U.S. Army Engineer District, Honolulu**  
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**Building 230, CEPOH-PA**  
**Fort Shafter, HI 96858-5440**